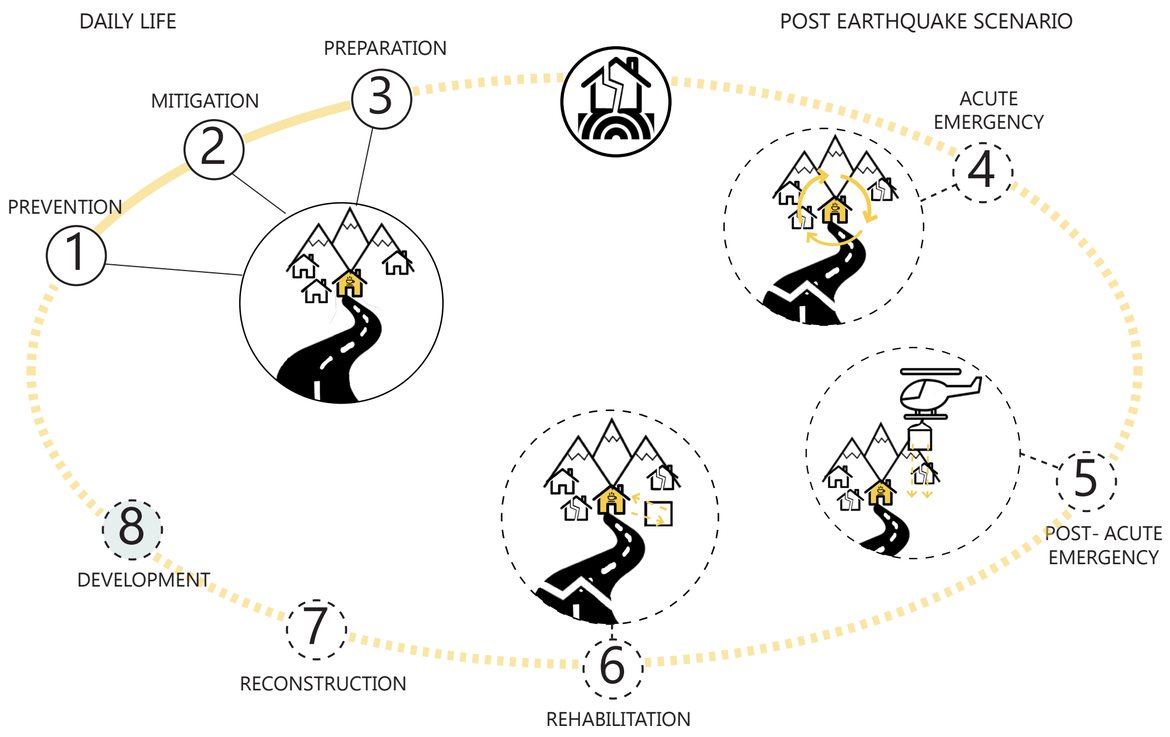
# Stand Strong - Social practices as resilience-makers

8th ICBR Lisbon | Nov 2018
**Building 4Humanity** Category 3:
DESIGN COMPETITION Resilient Projects (**Student Teams**)
Team Members: *Giovanna Gaioni, Esaiy Valdenebro Galaz*
Supervisor: *Emilio Da Cruz Brandao*
University/School: *Gothenburg University, HafenCity University, Chalmers University*
Project Location: *Camerino, Italy*
Team Code: **B4H-DC3153**

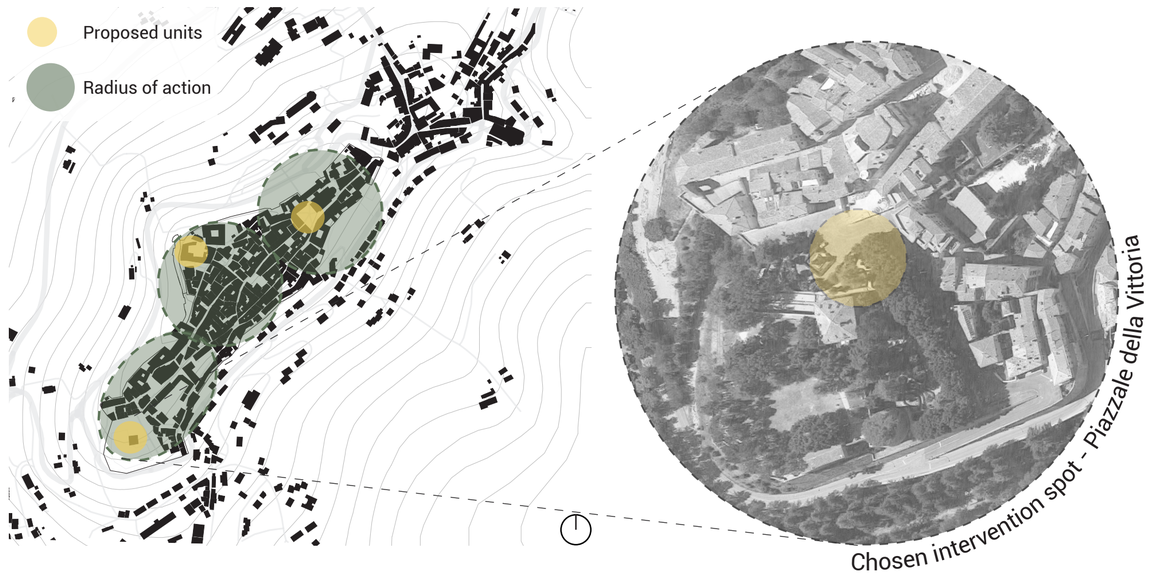
## HOW DOES IT FUNCTION WITHIN THE DRR FRAMEWORK?

A replicable measure that can be applied to similar territories/ cases in order to intervene in the prevention phase, but having effects on the later stages. Interventions to increase safety, security, and resilience of the territory and the towns themselves.



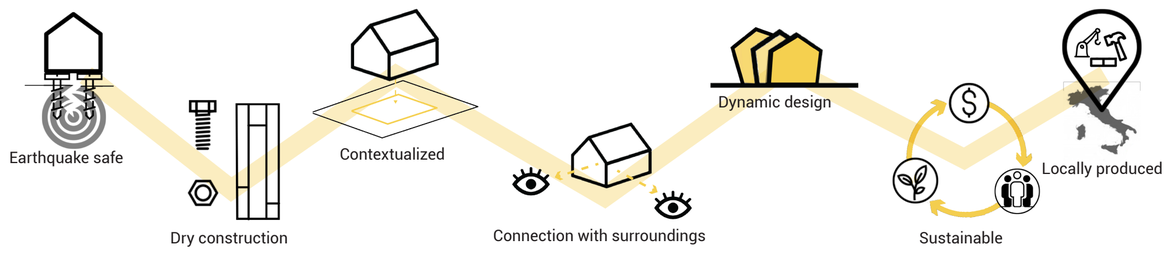

## POSSIBLE IMPLEMENTATION SPOTS

The possible implementation spots were choosen for fulfilling the characteristics of being close/inside an earthquake safe space, being near public spaces in the dense town fabric. Three possible locations for these interventions were selected, but the final proposal is focusing on one of them.



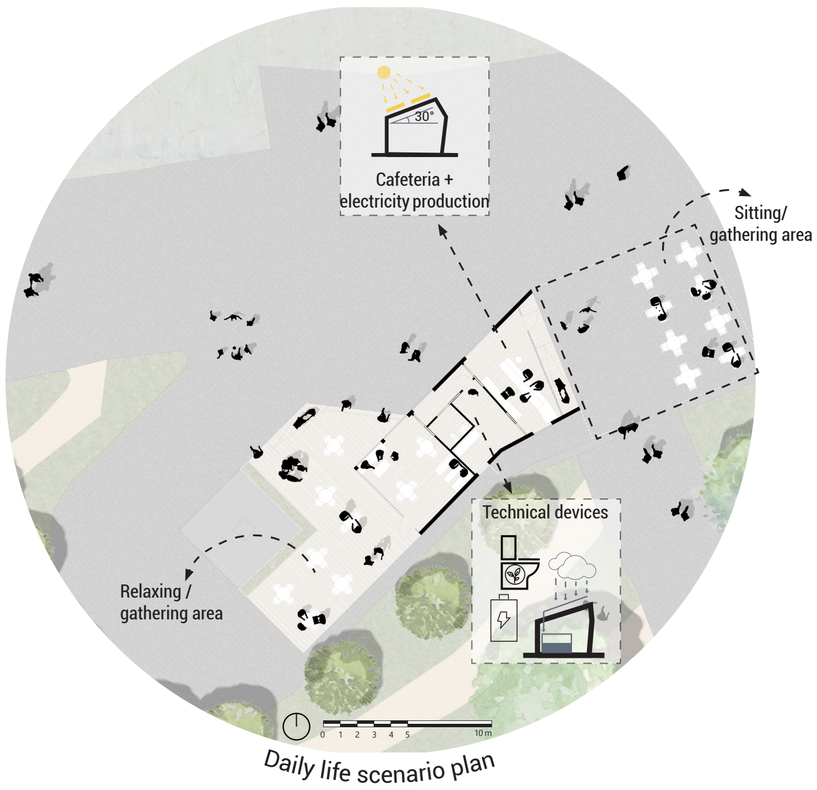

## DESIGN PARAMETERS

The study of references and the analysis of the context, lead to the definition of seven main design parameters that the design should potentially be based on.

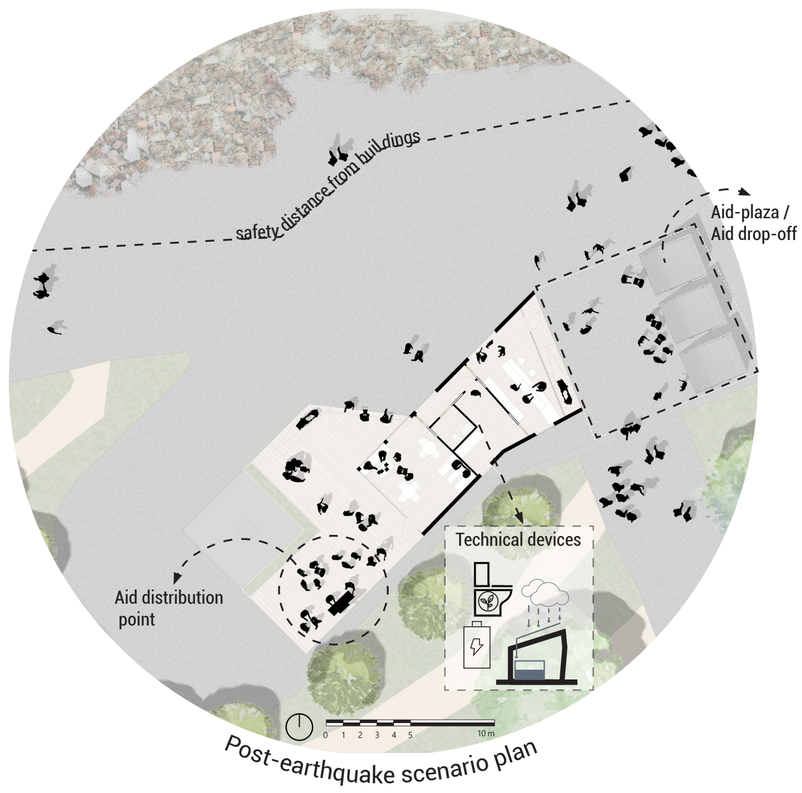



## THE PROPOSAL

The intervention is a unit that host functions that adapt to the scenario (daily life vs. post-earthquake). The core of these units is the function of the cafeteria, that, as seen, is an anchor point for these communities.



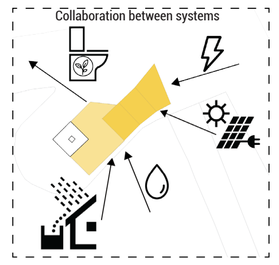
Daily life scenario plan



Post-earthquake scenario plan

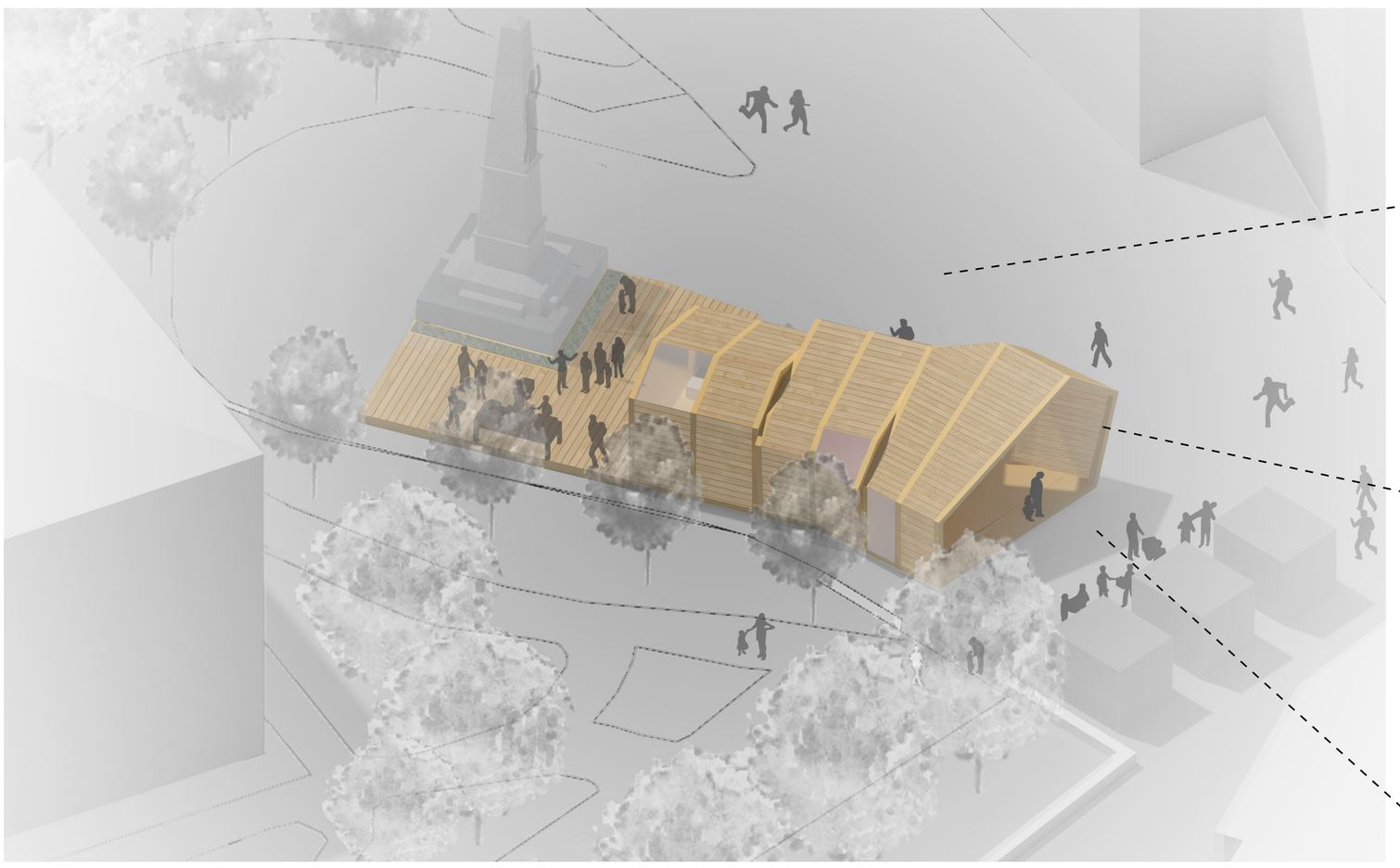
### Technical systems

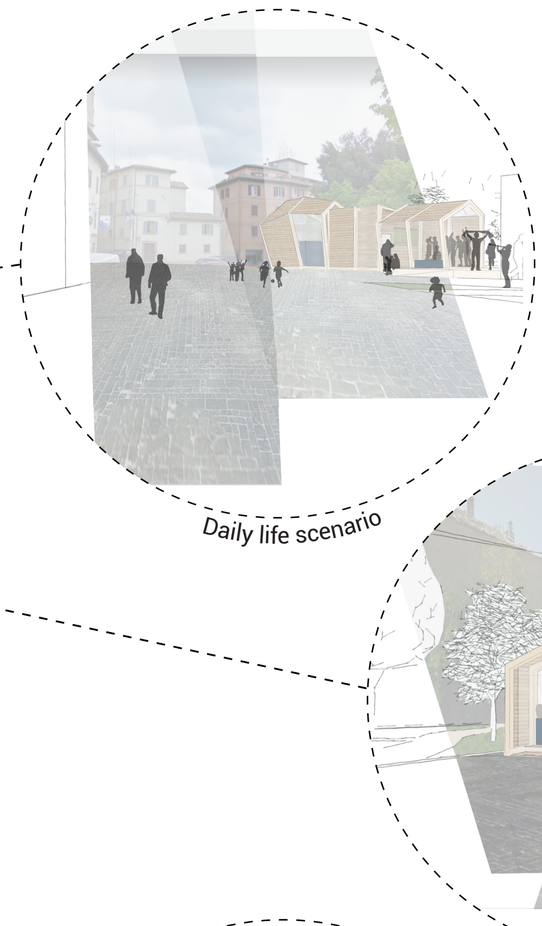
The building is equipped with two installation systems: one is the electricity and water supply from the city grid/infrastructure and the other consists of technical devices such as the compost toilet, the rainwater collection & purification system, and the pv panels + storage battery.

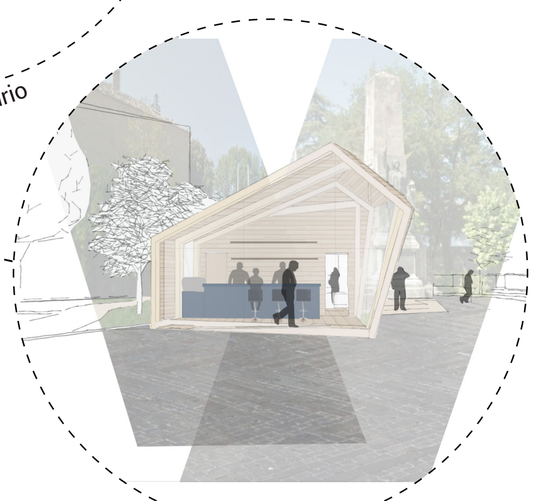


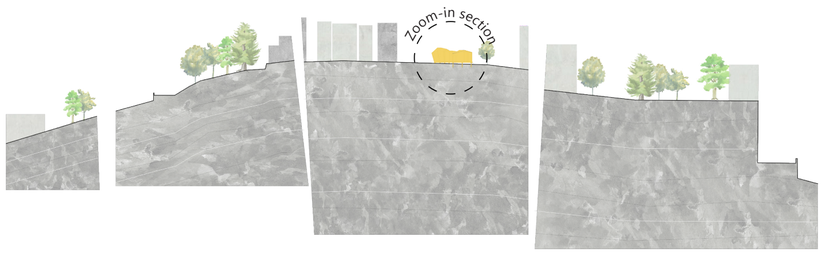
In a "daily life" scenario, the two systems work together.

In a "post-earthquake" scenario, in case of a failure of the city infrastructure, the building becomes self-sustained, thanks to its technical devices.

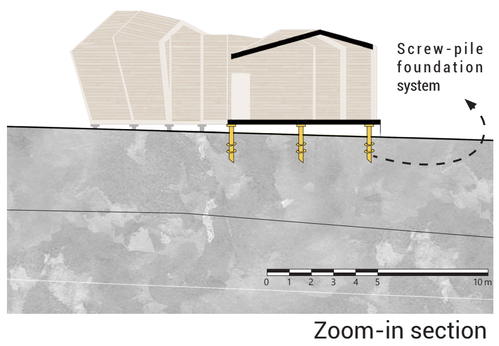

Post-earthquake scenario


Daily life scenario


Daily life scenario




*"When the earth breaks, these are the things that STAND STRONG"*



Zoom-in section


Post-earthquake scenario

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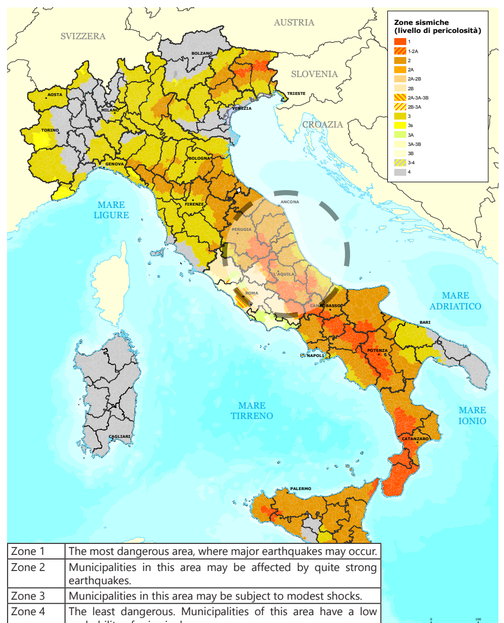
## AREA IDENTIFICATION

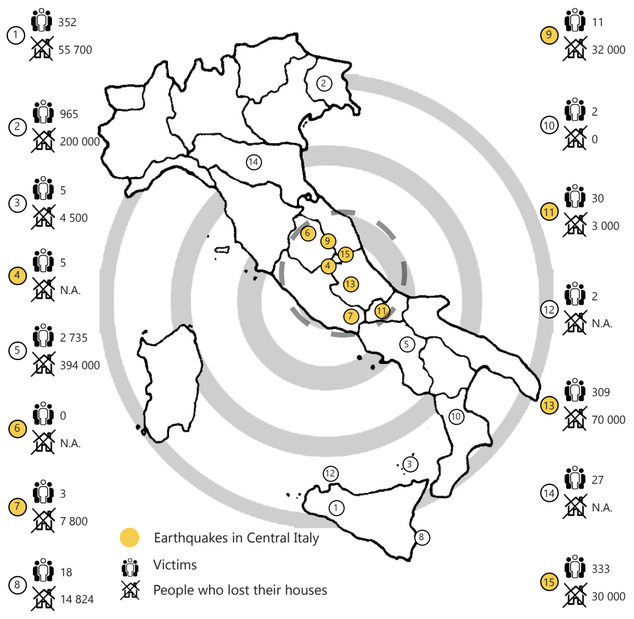
The project aims to tackle the risk of earthquake in Central Italy. More specifically, the area that was recently hit by a seismic sequence, which started in 2016 and continued until the first months of 2018. Central Italy is historically a seismic zone. In fact, only in the last 50 years, 7 out of 15 major earthquakes (Magnitude 5.0 and above) that shook the Italian territory, happened in this area. After every earthquake the legislation have been updated, but this was still not enough to protect the people and the architectural heritage of the affected zones.



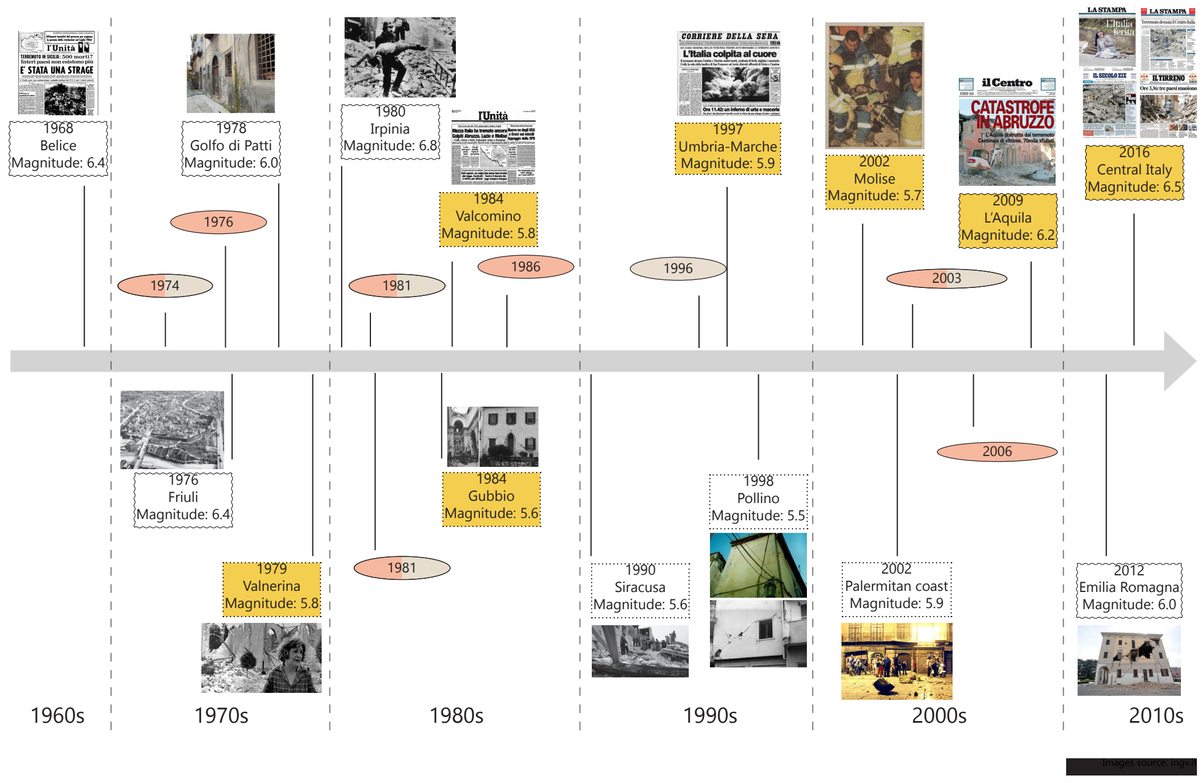

| | |
|---|---|
| Zone 1 | The most dangerous area, where major earthquakes may occur. |
| Zone 2 | Municipalities in this area may be affected by quite strong earthquakes. |
| Zone 3 | Municipalities in this area may be subject to modest shocks. |
| Zone 4 | The least dangerous. Municipalities of this area have a low probability of seismic damages. |

Image source: ingv.it

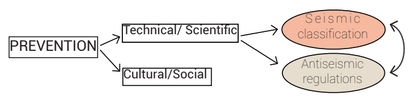
Seismic classification




Major earthquakes in the past 50 years




Images source: ingv.it




Earthquake history 1968-2018

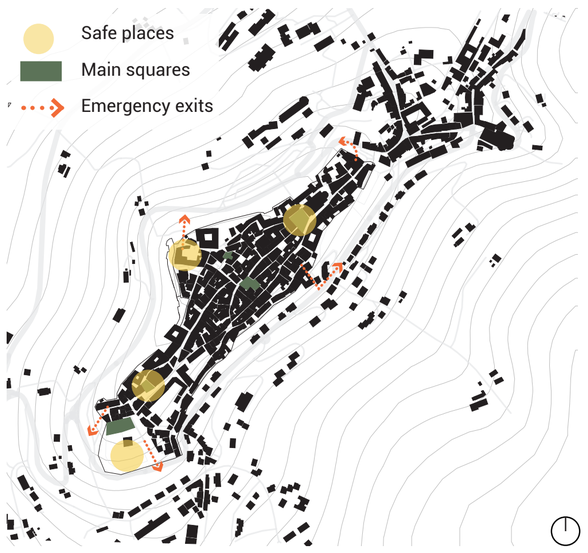
## FOCUS AREA POTENTIALS


*"... as soon as you take a step, everybody already knows, even before you move... The hunger for gossip, that the people from the villages have in their DNA, gets satisfied in that mystic and almost transcendental place: the bar/cafeteria..."* *Unknown*

*"... You can go out to the [local] bar only for a coffee, knowing that you will certainly find somebody you know and with whom you can have a chat [starting from the bar owner himself]..."* *Unknown*

## CHOSEN TESTBED TOWN

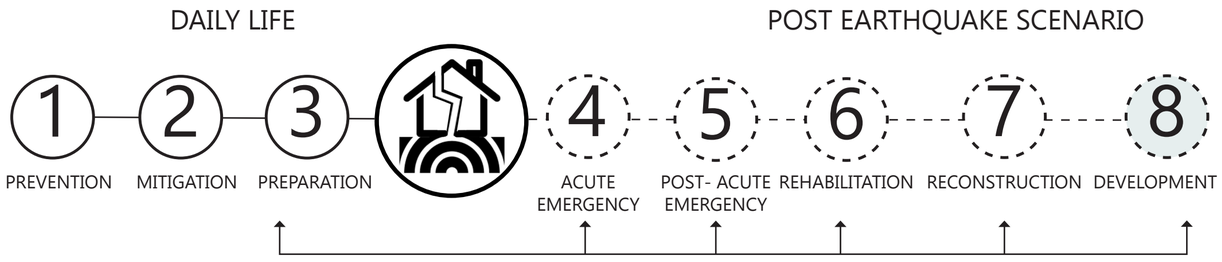

Aerial view of the town of Camerino
Image source: google.com



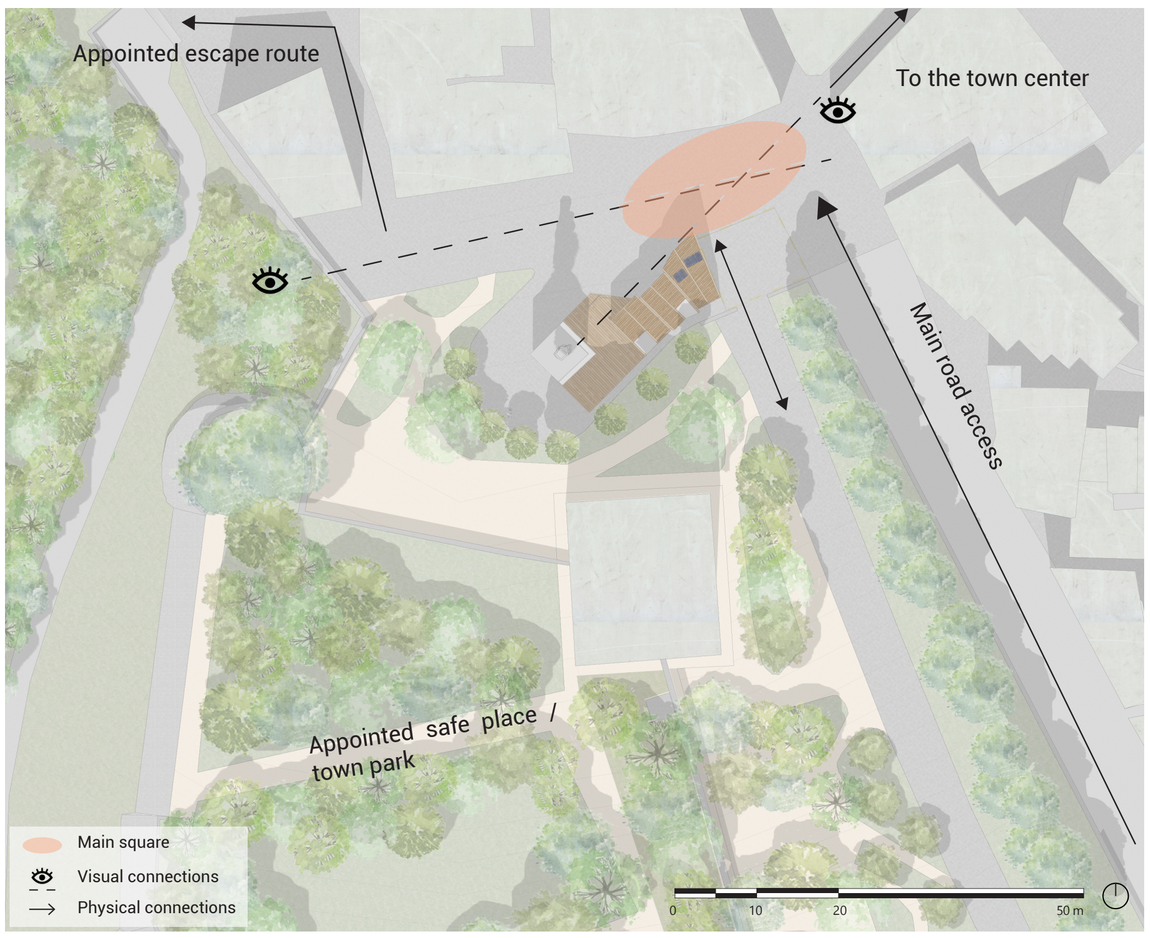

## DRR OVERVIEW

*National procedure.* The current national procedure is use by the Civil Protection Department and it is a 7 steps distasters risk management strategy. A linear strategy, based on consecutive actions.


*Adaptive strategy.* Strategic plan, proposed by Cucinella Architects, with 8 steps for the management of earthquakes and risks. Same linear configuration as National Procedure, but with the addition of one step, that connects with the precedent phases of the process. A strategy that adapts to the context and to the reaction of the community to the first interventions. A combination of immediate actions (even teporary ones) and visions for future development.




## SITE ANALYSIS




Site Analysis/Plan