

Revitalise Centuripe

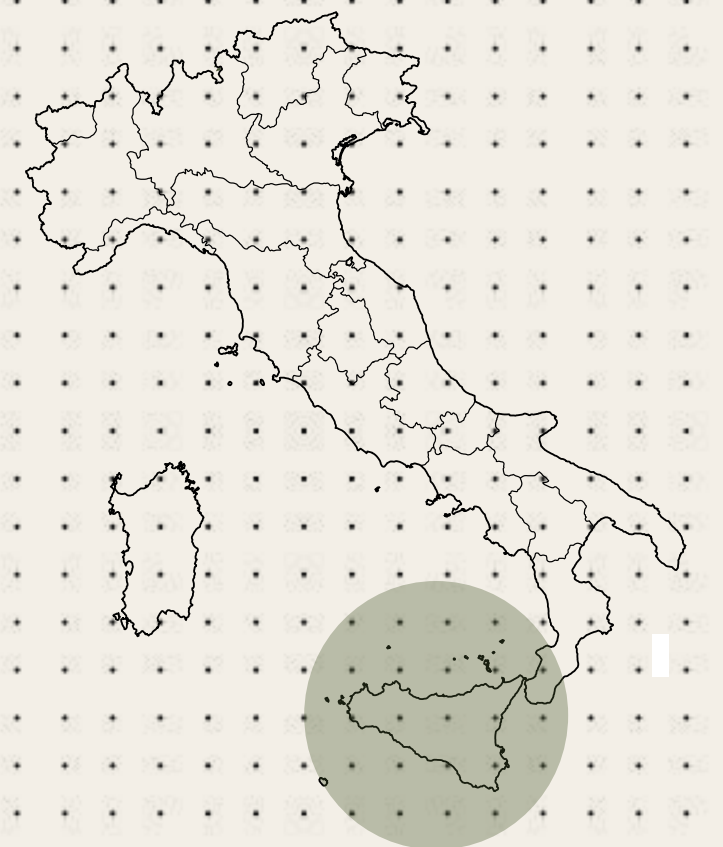
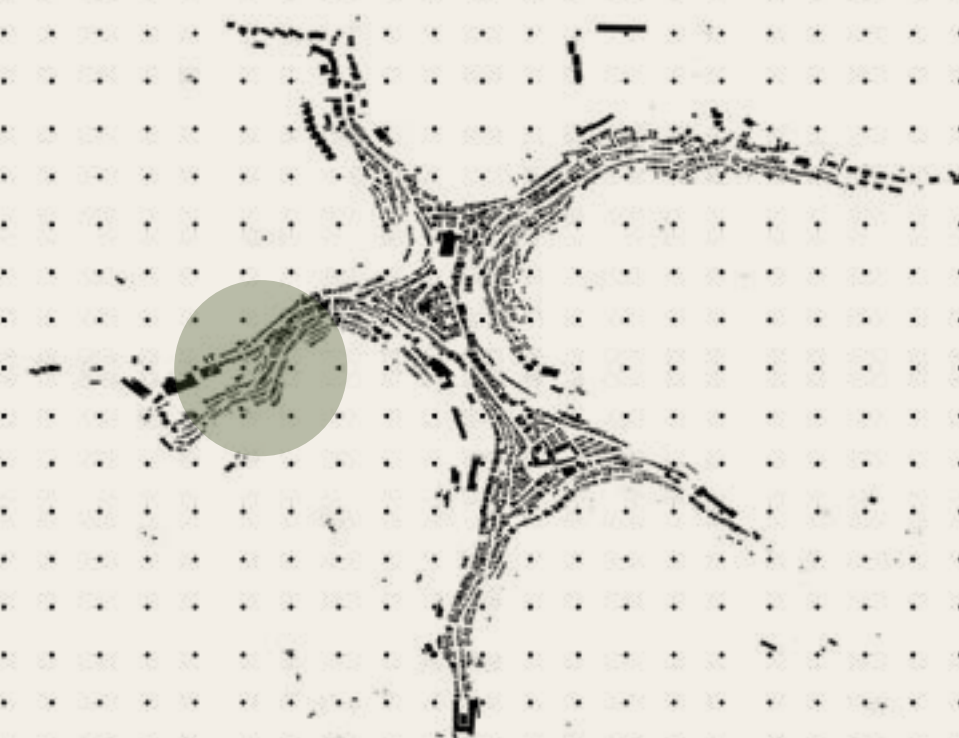
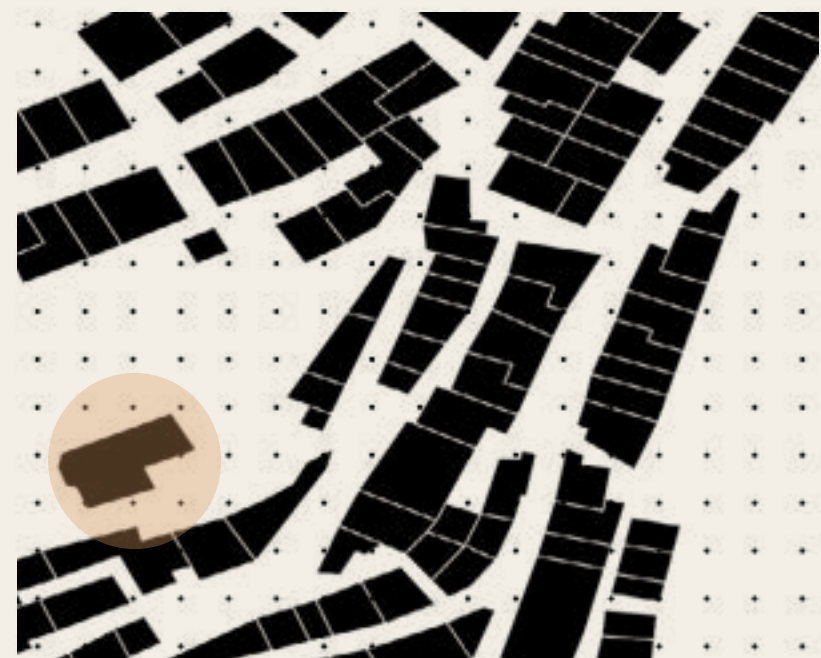


Italy is facing a growing problem of rising building vacancy



Scales of shrinkage

1. A declining population and increased emigration has led to the abandonment of several small rural Italian villages (20% decline by 2070, almost a 14.6% vacancy rate in Sicily)
2. National, territorial and local agencies are yet to survey existing building stock to identify the exact rate of vacancy (ISTAT)
3. Italy is spending a vast majority of \$100 billion EU sanctioned funds to help revitalise shrinking villages (2022)



Profiling building occupancy



S. B. Ryan

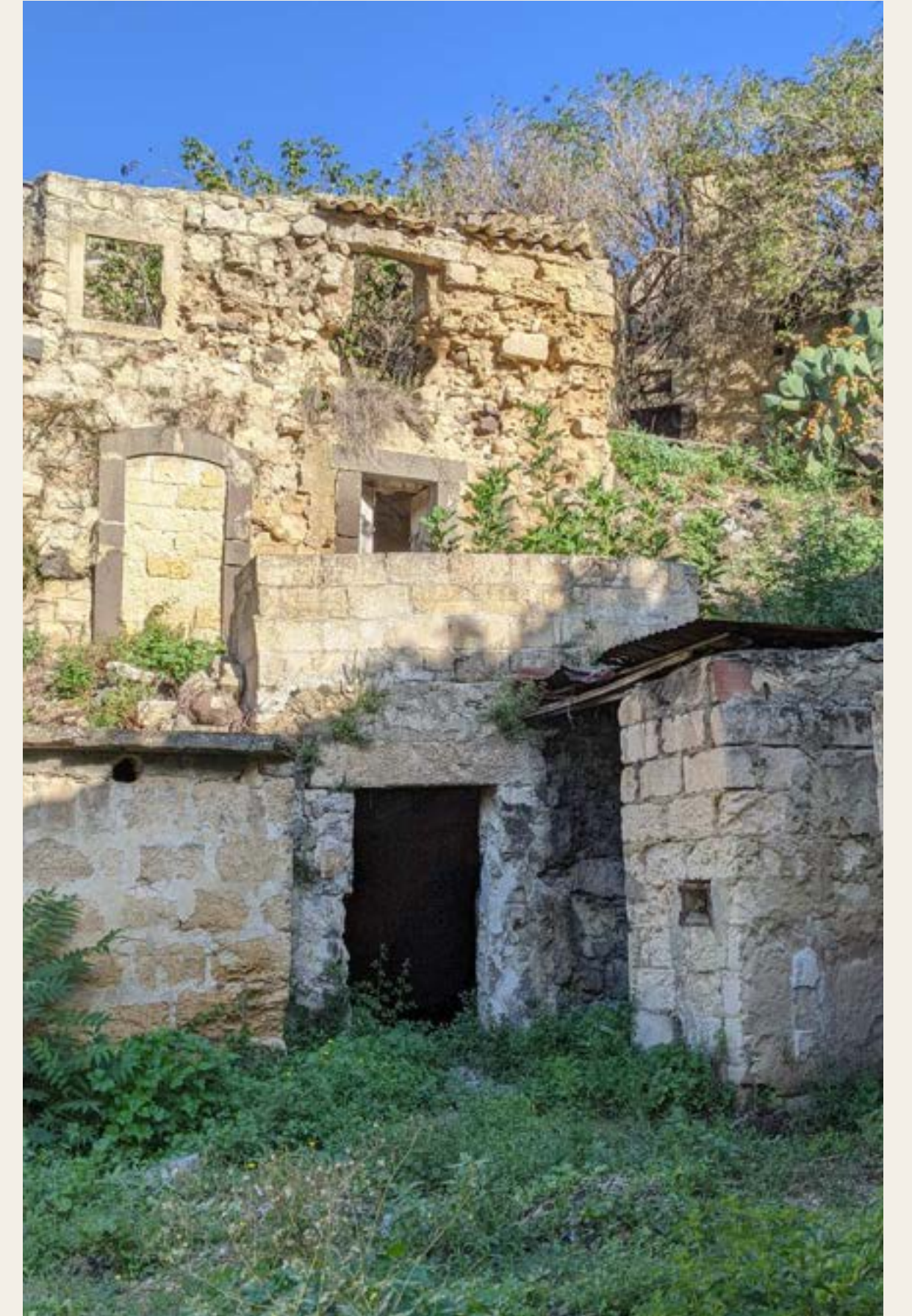
Second homes in Valtellina



Seasonal Air BnBs in Favara



Restored buildings in Teglio



Completely abandoned settlements in Vizzini

Why contribute?

Lack of staff capacity -

Existing small town local governments lack the administrative capacity to do door to door surveys

Buildings are high value -

Any building has a use and exchange value which remains uncaptured when property lies abandoned

Abandonment is a hazard -

Vacant buildings are not maintained, and that causes a risk of collapse to adjacent buildings

Opportunity lost-

Abandonment is a detriment to the collective. Identifying abandonment also opens up opportunities for collective ownership of land for public use

Research Questions



S: S.Jeong, 360 Camera, Centuripe

1. Can image recognition techniques be used to identify profiles of abandonment and occupation of housing in inner area towns of Italy, particularly principal component analysis for visual indicators?
2. Can civic engagement be encouraged for crowdsourcing data on vacancy, solicit ideas and sustain long term push for policy change?



Designing the Process

1. Identifying inner towns in Italy which most benefit from policy intervention, have high potential for impact, and lack the administrative capacity to classify building occupation.
2. Establishing relationships with the City Council and other institutional actors to deploy building occupation survey
3. Crowdsourcing data by developing civic engagement and advocacy tools
4. Analysing quantitative and qualitative data and developing a substantive interpretation of building occupancy in the town
5. Creating an interactive, constantly updating map of vacancy

Data Gap



Google Street Views, Centuripe



Handheld Image, Centuripe

Visual AI requires a standardisation of image quality across the board to work.

Relying solely on quantitative methods and machine learning will lead to bias and error.

Digital accessibility in many small towns is very low.

We will therefore need to create our own standardised dataset and variables to lead towards our research question.

Survey Design

for Visual AI library

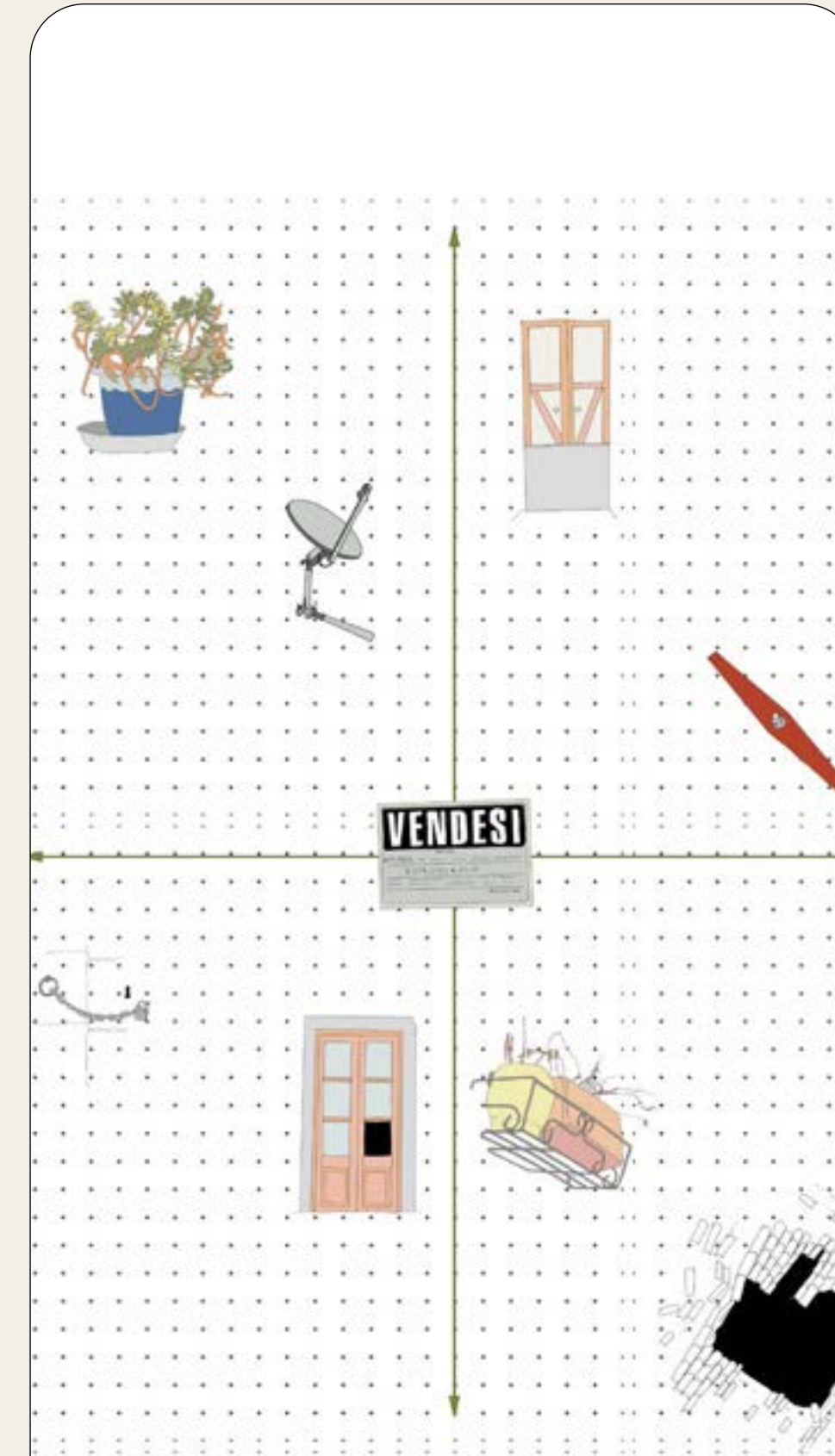


Capture

for Interactive map



Geolocation



Survey

18 dichotomous variables for principal component analysis

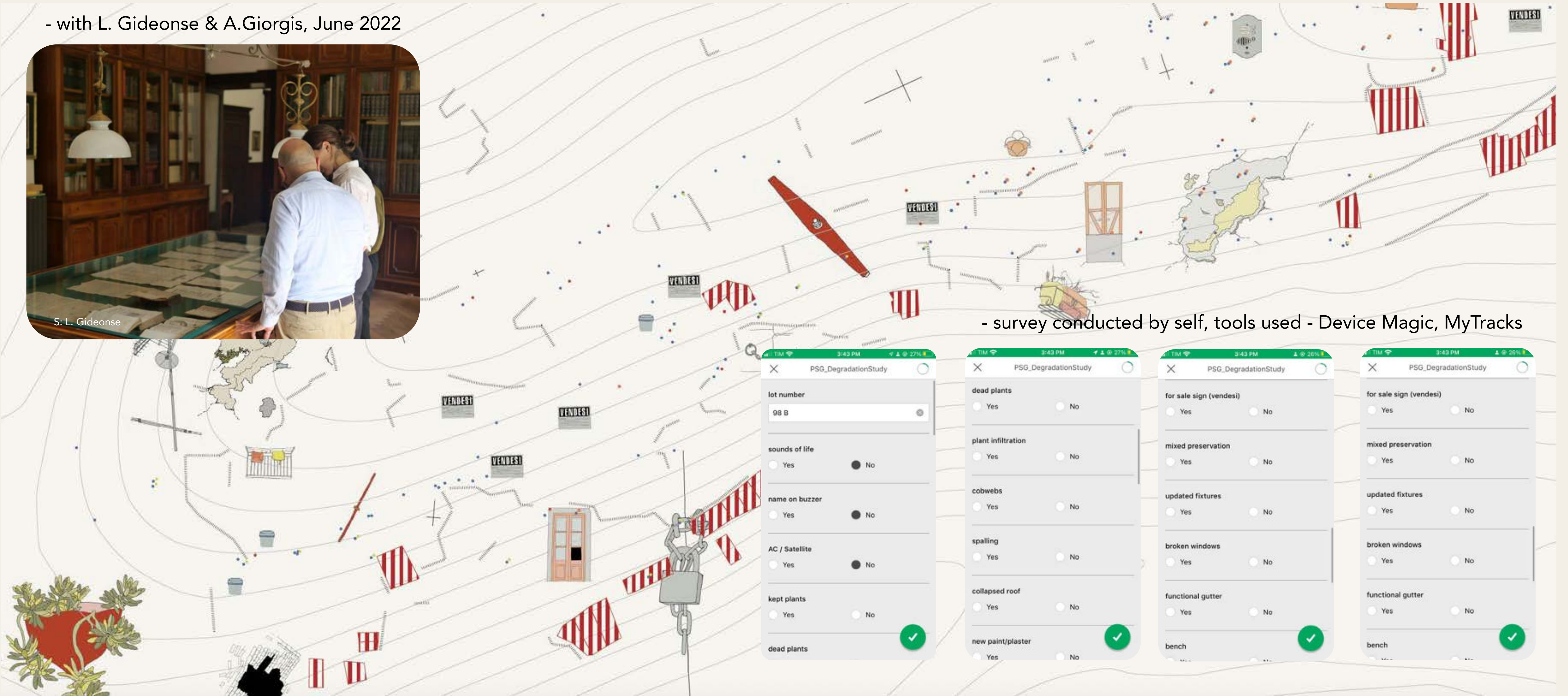
- Collapsed Roof*
- Dead Plants*
- Tension Tie*
- Spalling*
- Broken Doors*
- Plant Infiltration*
- For Sale Signs*
- Half Board*
- Pad lock*
- Restored fixtures*
- New Paint/Plaster*
- Kept Plants*
- AC/Satellite*
- Names on Buzzer*
- Mail/Newspapers*
- Laundry*
- Trashcans*

Pilot Study: Pettorano Sul Gizio

- with L. Gideonse & A. Giorgis, June 2022



S: L. Gideonse



- survey conducted by self, tools used - Device Magic, MyTracks

Survey User Research

Pilot study reproduced in 4 towns in Lazio, near Rome

Survey conducted by 20 first year architecture students from U Miami, with N. Delgado, L.Gideonse, A.Giorgis

Tools used -
Device Magic, Qgis

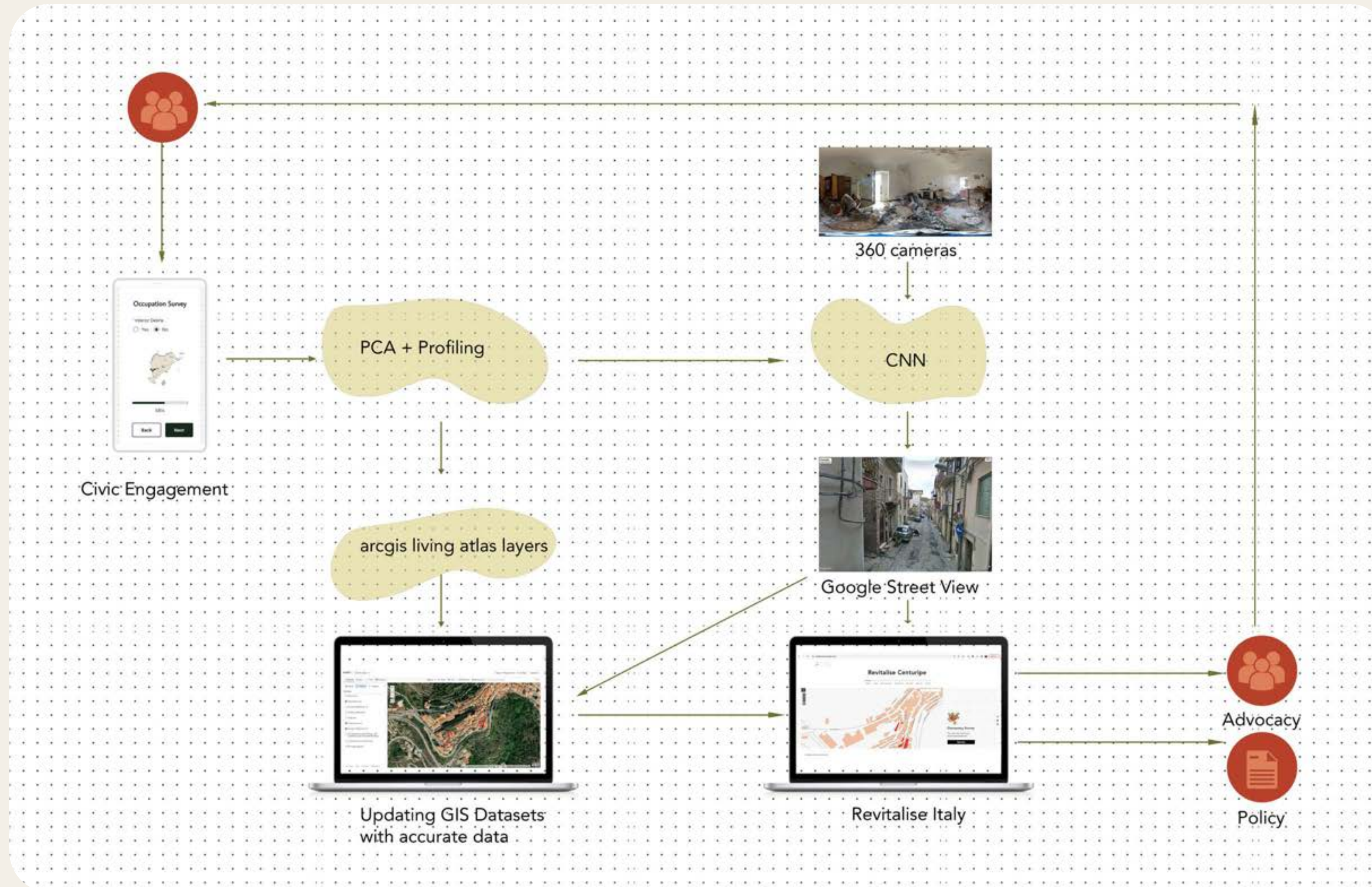
(University of Miami, Liminal, Gideonse, Giorgis and Karmakar,
October 2022)

Questions asked of surveyors:

1. What were the questions on the survey that were not replicable to the towns you surveyed?
2. What were the other parameters you would add to the survey according to the context?
3. Were locals interested in being part of the survey; was there curiosity or apprehension?
4. Was digital access a problem?
5. Was the survey easy to understand and use?



Designing the Method



Site: Centuripe, Sicily



S: B. Ryan

Location: Enna, Sicily

The town lies at an elevation of 2,402 feet (732 m) on a ridge between the Simeto and Dittaino rivers, northwest of Catania.

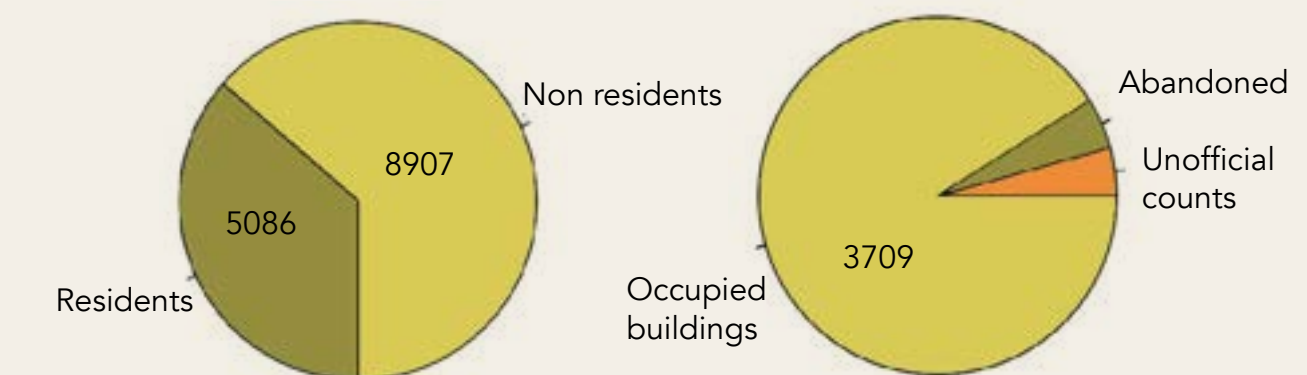
Institutional Presence: High Schools, Museums, Vocational Training

City Council: Mayor Salvatore La Spina, Comune di Centuripe

Grants: Eligible for the Covid recovery fund grant, borghi più belli d'italia

Data Available: 360 camera, Google Street Views

Official Counts: 191 abandoned houses



Engagement : Centuripe



S: F. Puglisi

Pilot study

Name: Francesco Puglisi, Regional Archaeological Museum

Location: 50 sample surveys of the southwest arm of Centuripe -- 50 plots

Site chosen after a walking tour was conducted to profile neighbourhoods with abandonment

Timeline: Pre survey workshop + training -- 30 mins

Time spent on field -- 4 hours

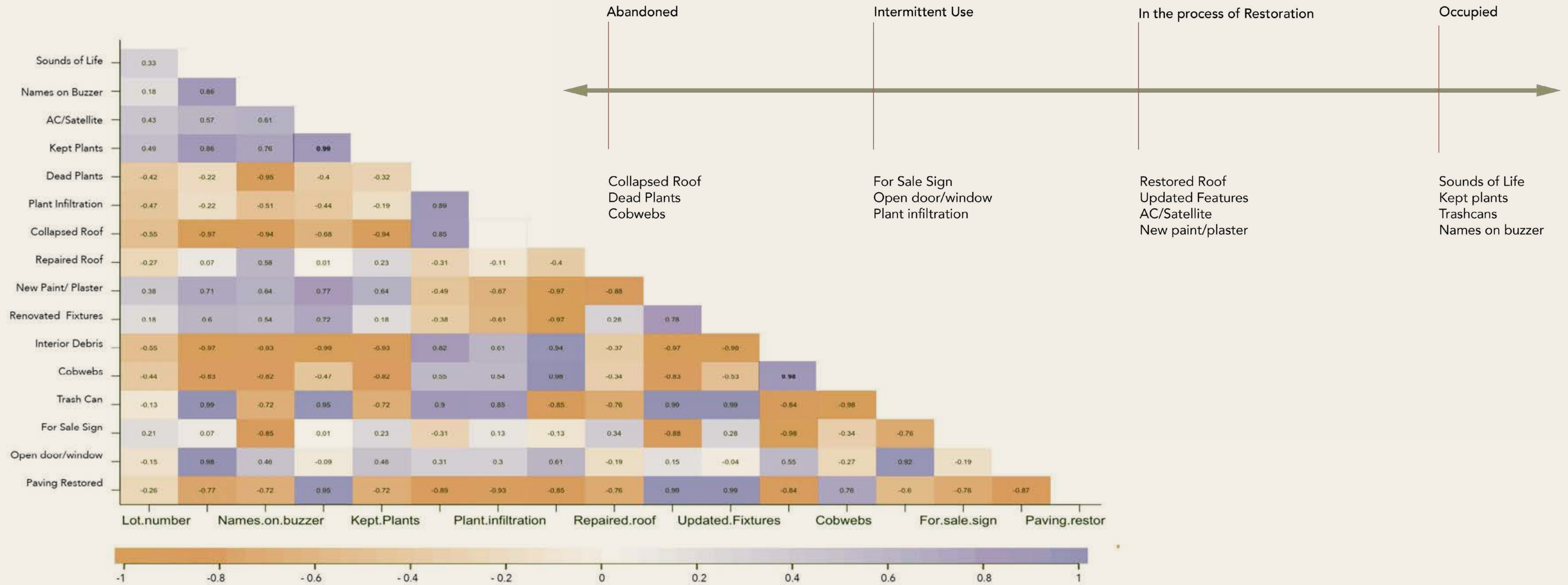
Survey Design: Variables dropped and modified for Centuripe -- Interior Debris/ Restored Paving, 5 additional images, 13 variables to reduce noise

Qualitative verification: Contextual information as a local, on site interviews

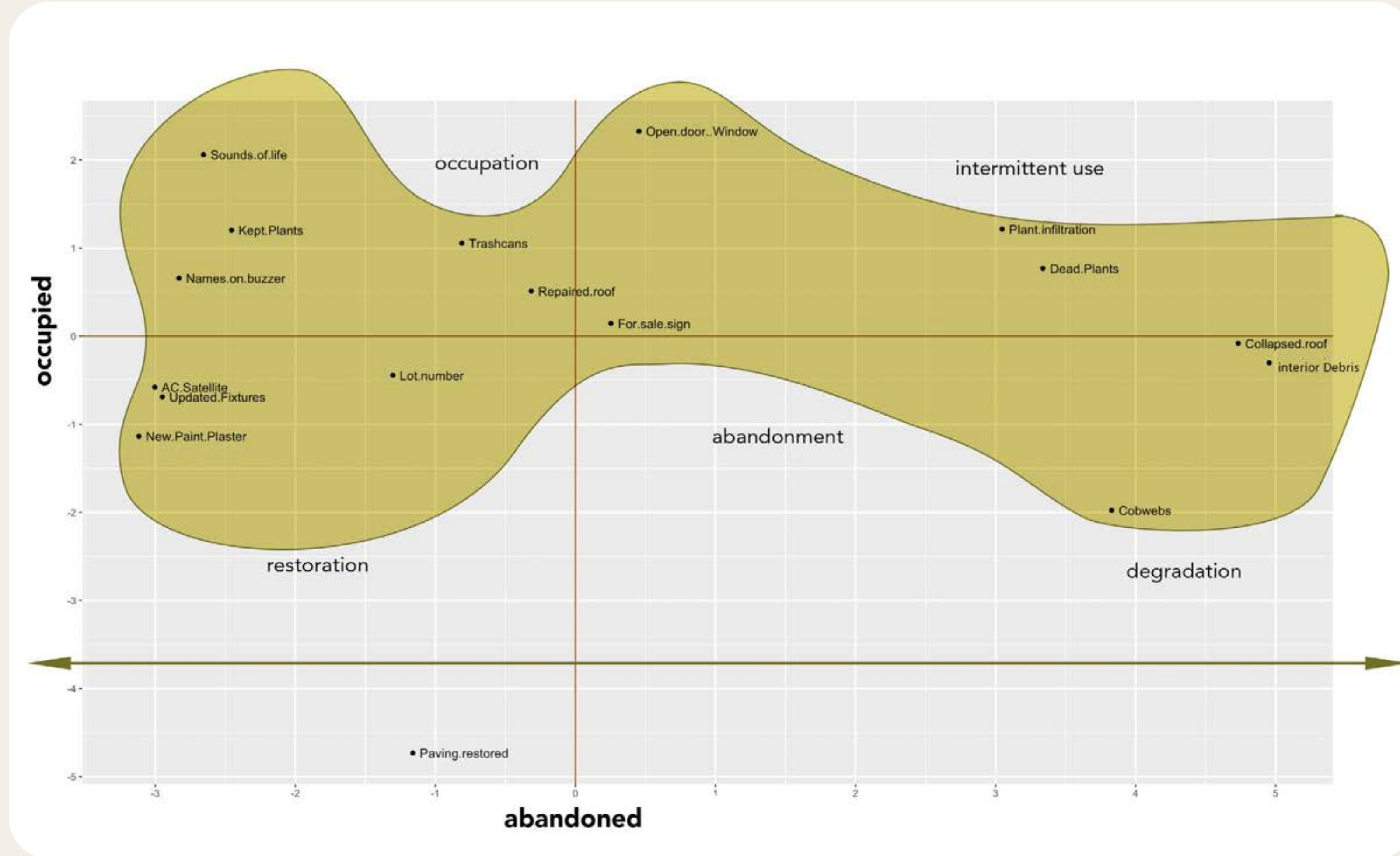


www.revitalisecenturipe.com

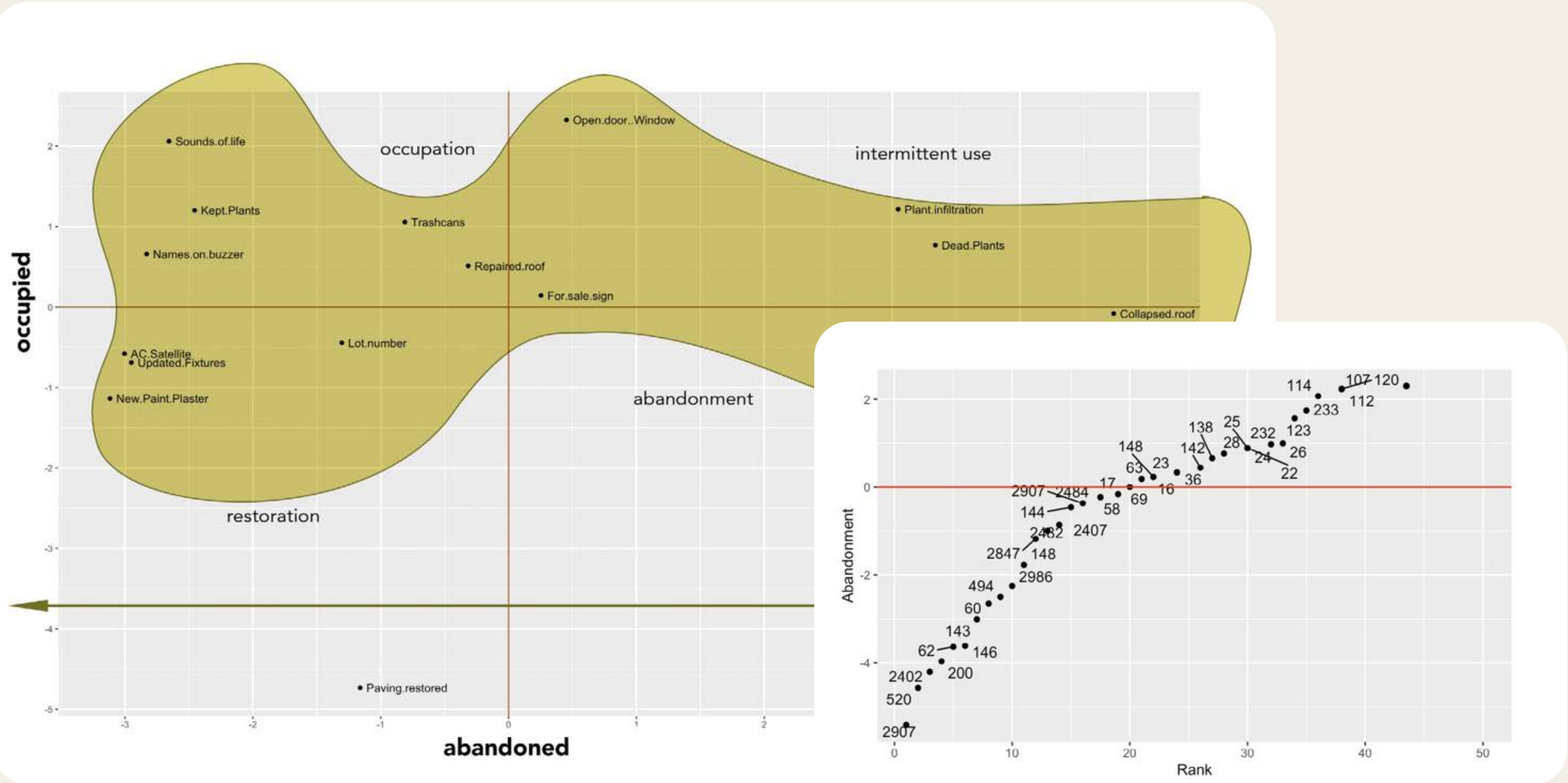
Results



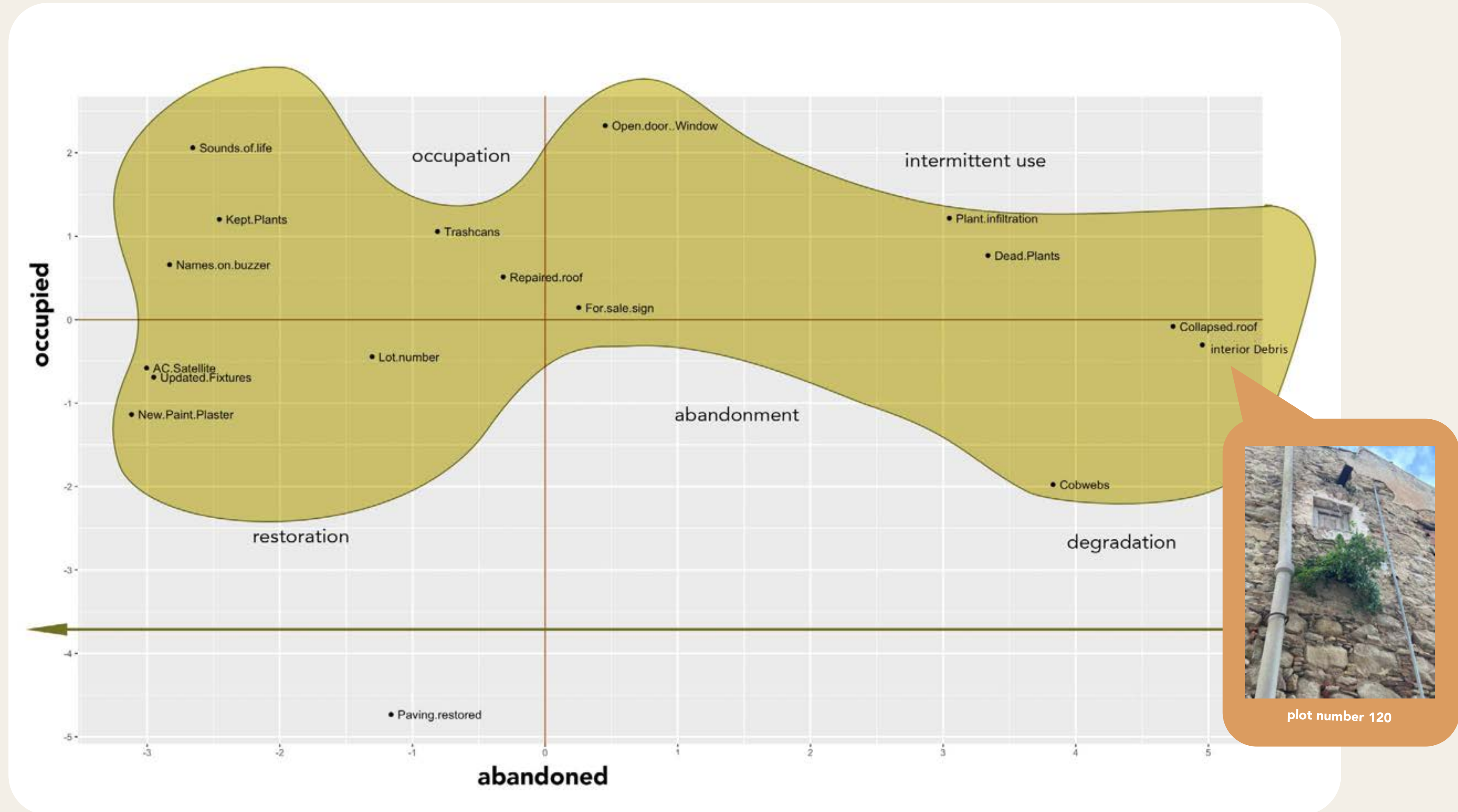
Results



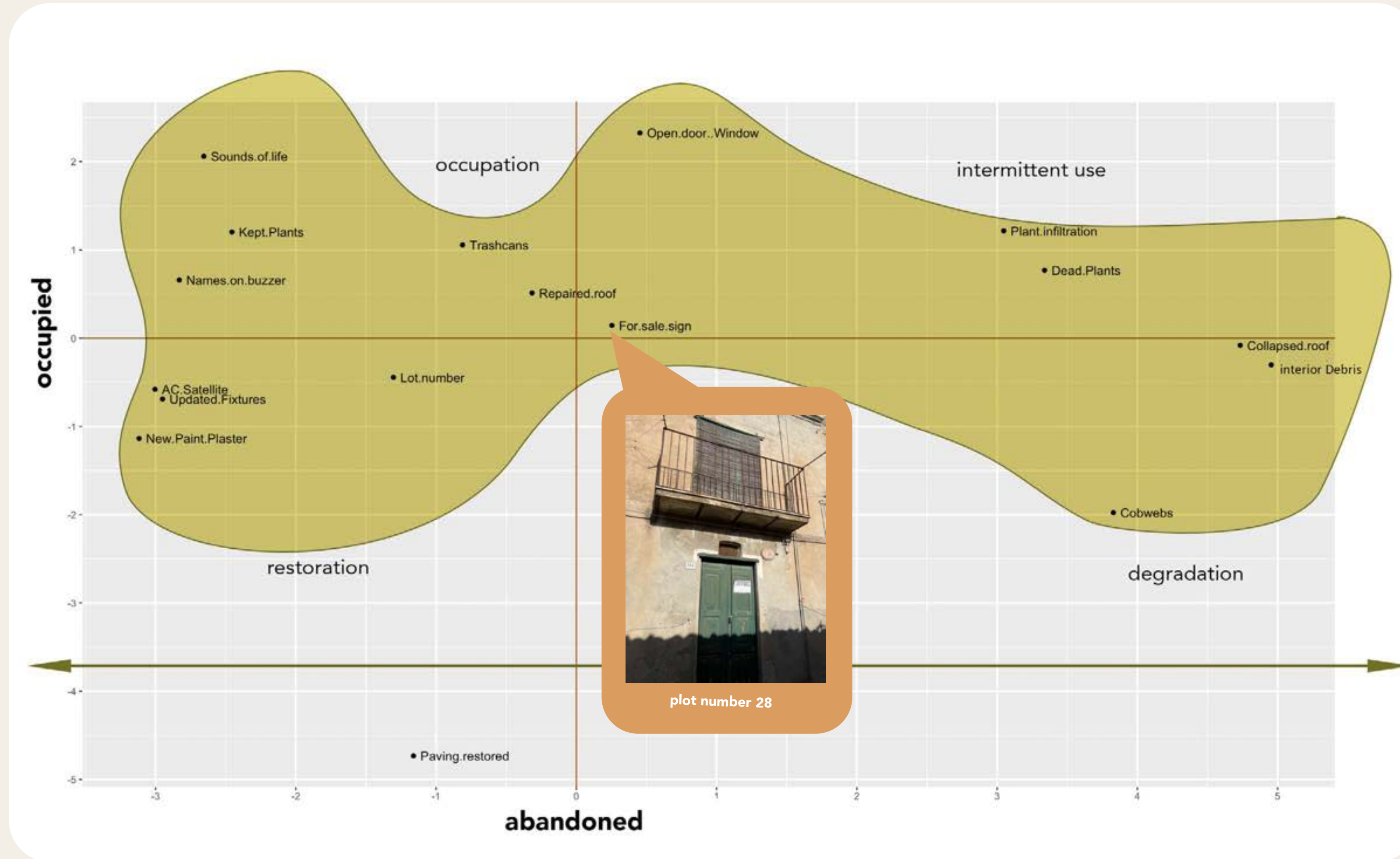
Results



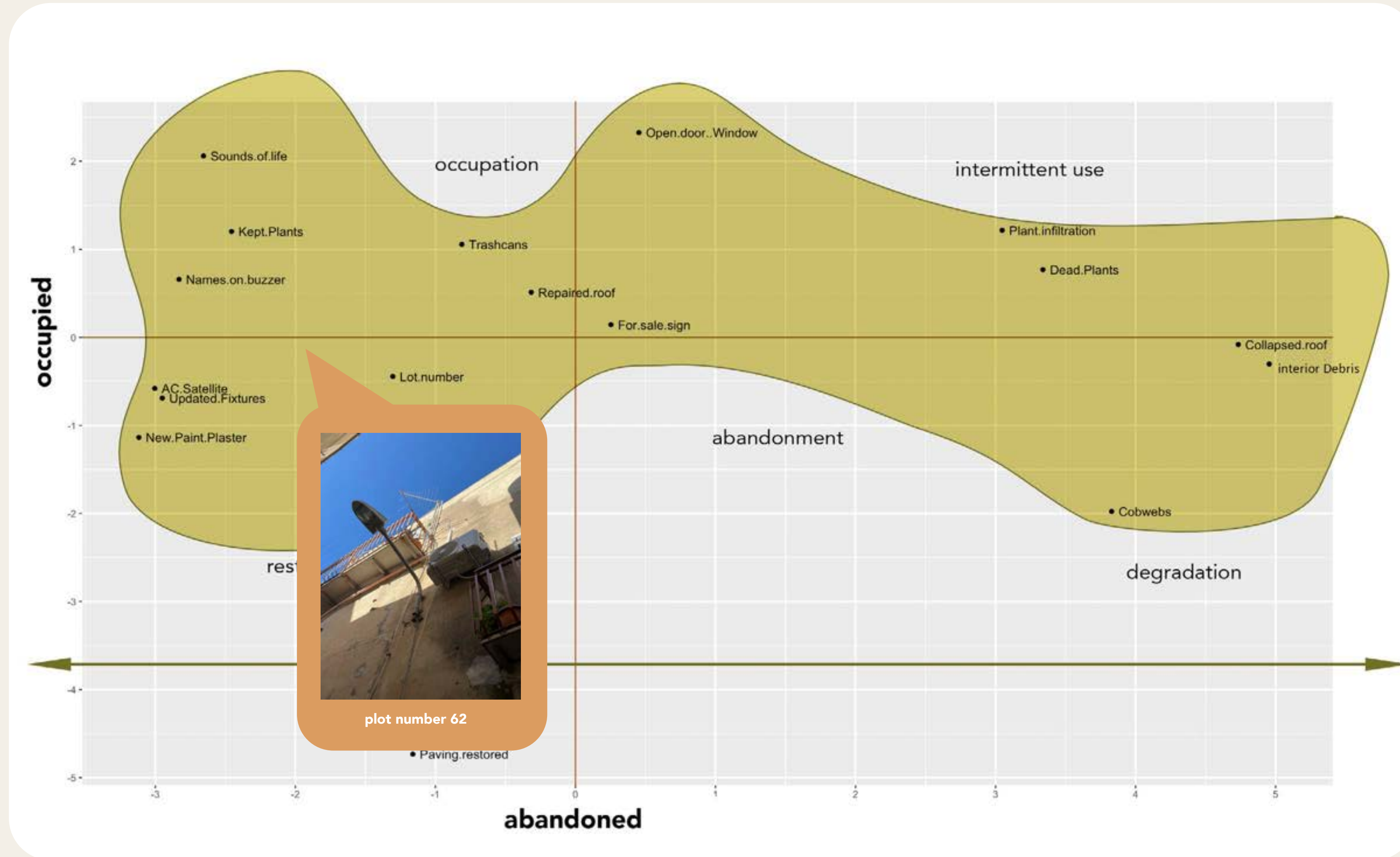
Identifying at risk buildings



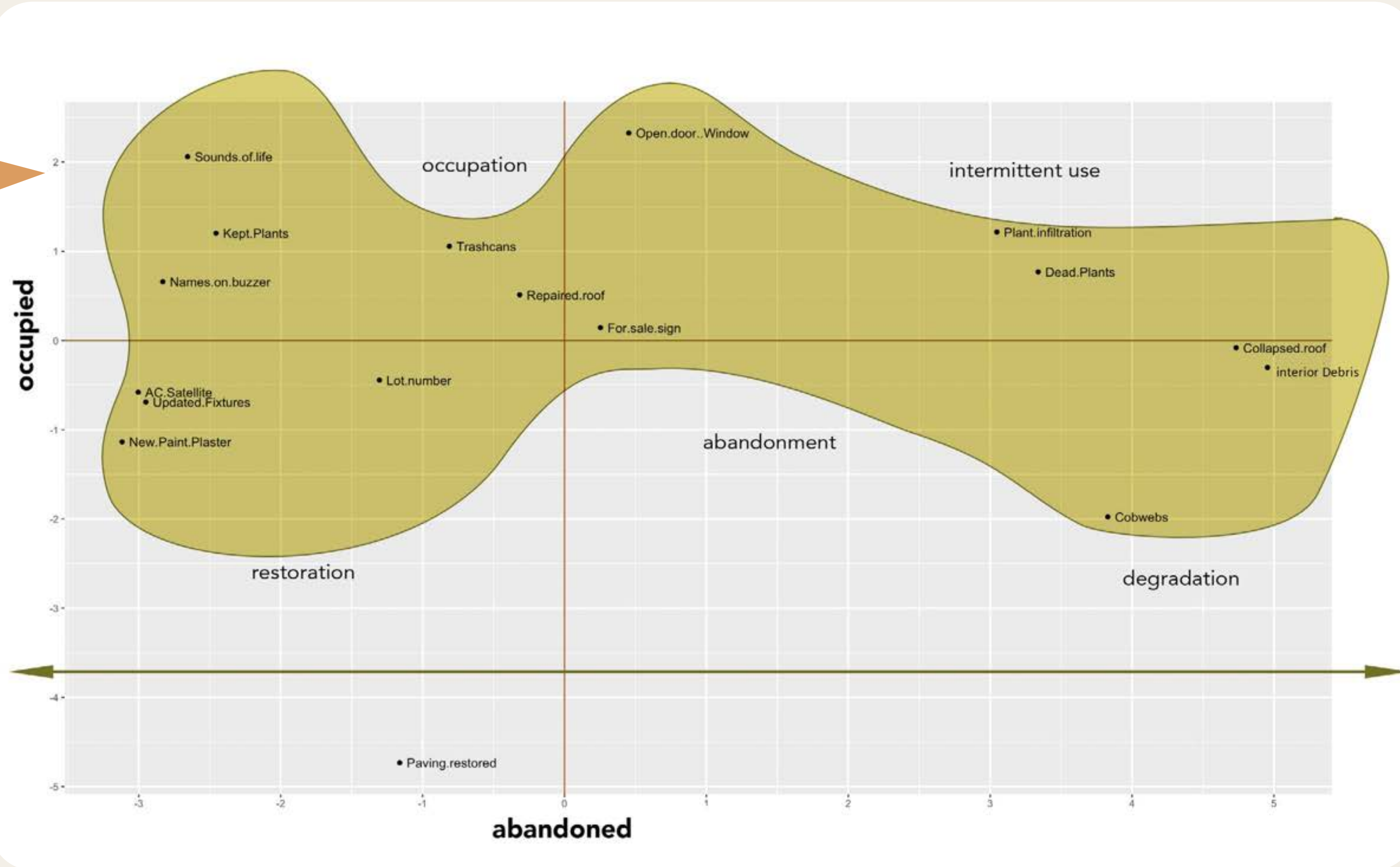
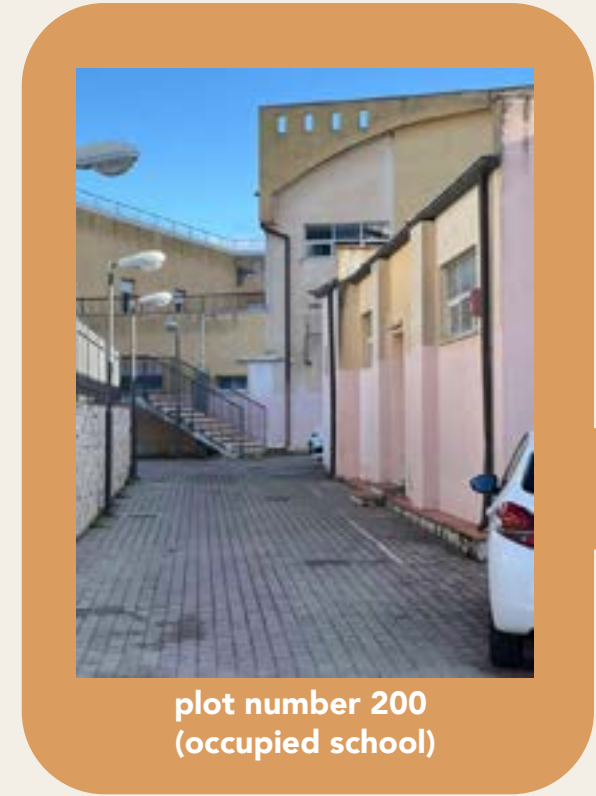
Identifying at risk buildings



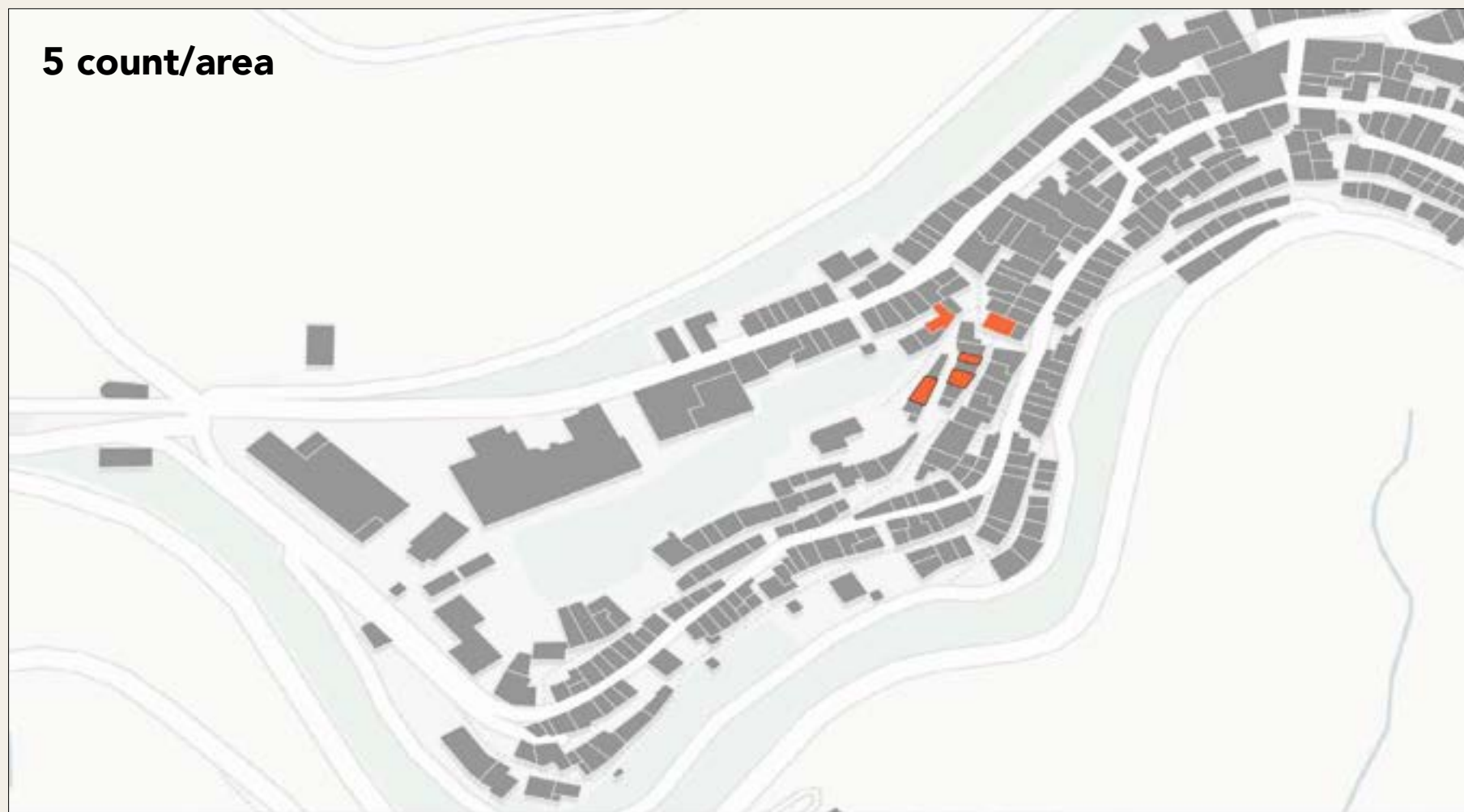
Identifying at risk buildings



Identifying at risk buildings




Profiles of Occupation



Propositional


1. Revitalise Centuripe can become a constantly updating roster of building vacancy within the town, and can be used by city authorities to regulate property taxes, civic amenities and expropriate for public use
2. This information can be used for further scientific research to find patterns of correlation between vacancy and mobility, demographic decline and spatial autocorrelation
3. Revitalise Centuripe can help generate ideas for abandoned lots
4. It can help municipalities direct resources towards at risk buildings in a structured way

Analog Applications (make it fun!)




9

What do you see?



10

What do you see?



For more information:

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Survey Details:

Your Name

Your Contact Number

Plot Number


Address


Latitude/ Longitude

abbandonato! transitorio! occupato!

puoi monitorare l'abbandono nella tua città?





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How many signs can you spot?

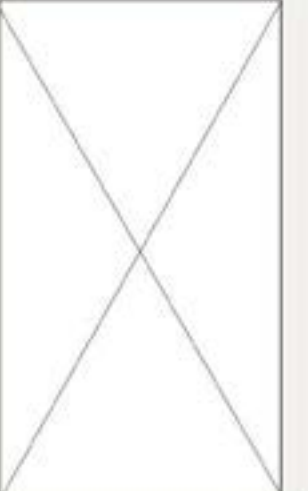
Color in yes for as many signs as you can see for your building!

<input type="radio"/> Y	<input type="radio"/> N	<input type="radio"/> PADLOCK	
<input type="radio"/>	<input type="radio"/>	<input type="radio"/> BROKEN WINDOW	
<input type="radio"/>	<input type="radio"/>	<input type="radio"/> SALE SIGN	
<input type="radio"/>	<input type="radio"/>	<input type="radio"/> CLOTHES LINE	
<input type="radio"/>	<input type="radio"/>	<input type="radio"/> SPALLING	
<input type="radio"/>	<input type="radio"/>	<input type="radio"/> TRASH CAN	

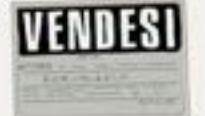


2

What do you see?




What do you see?



3


VENDESI

What do you see?




4

What do you see?



6



5

Further Engagement



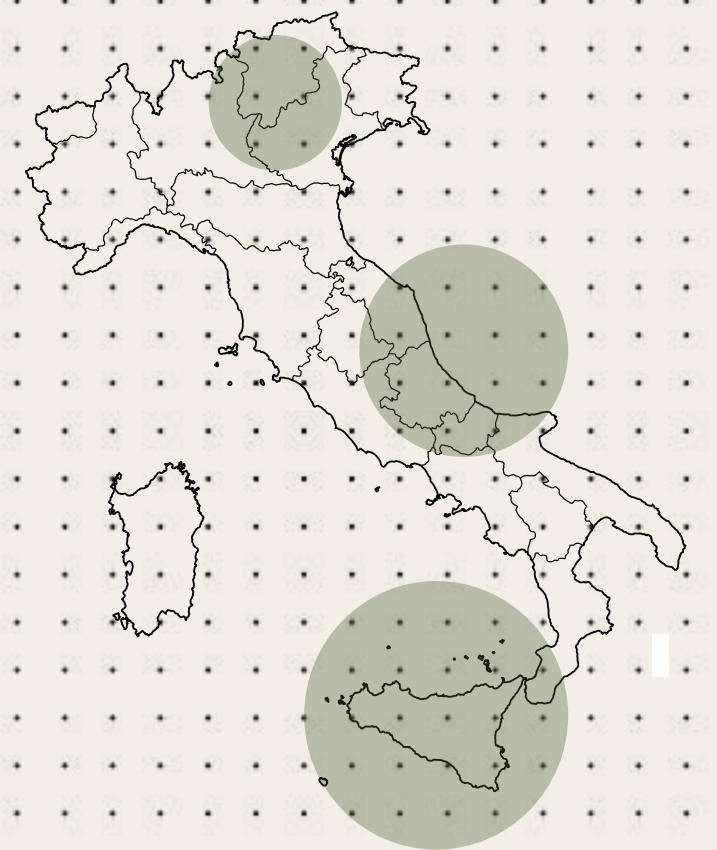
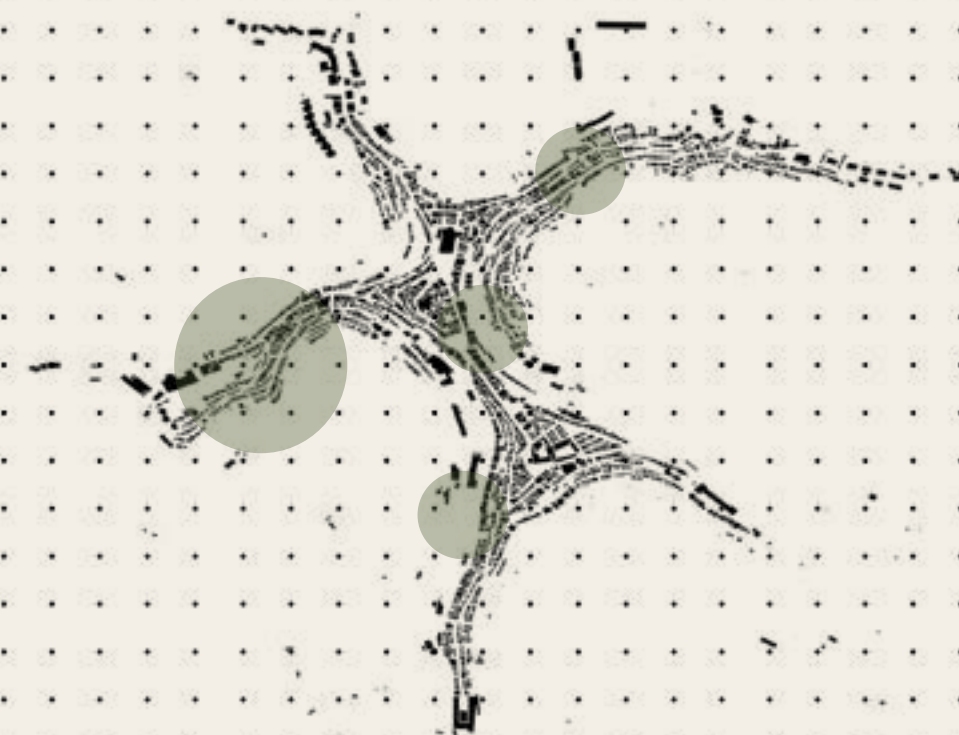
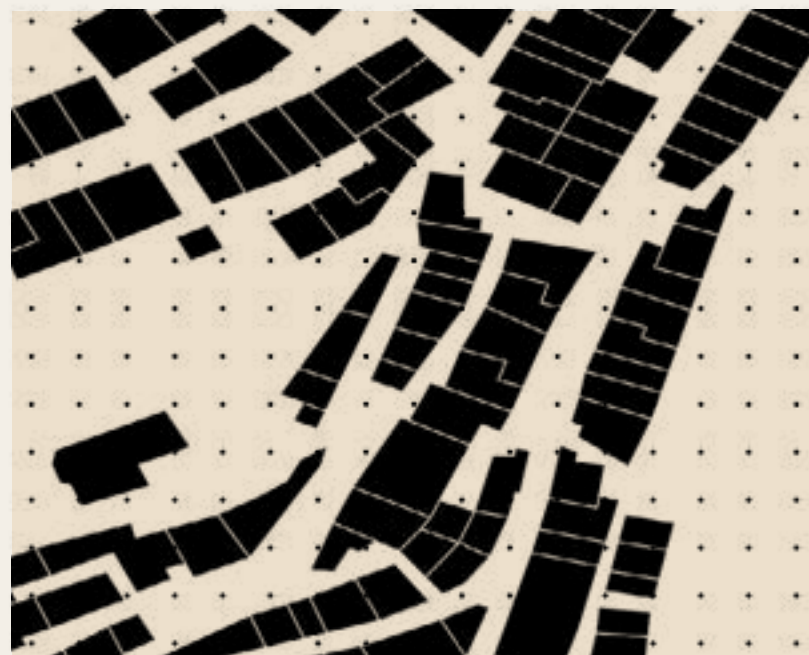
Centuripe High School



Modicaltra, Sicily



Regional Archaeological Museum



Scalability



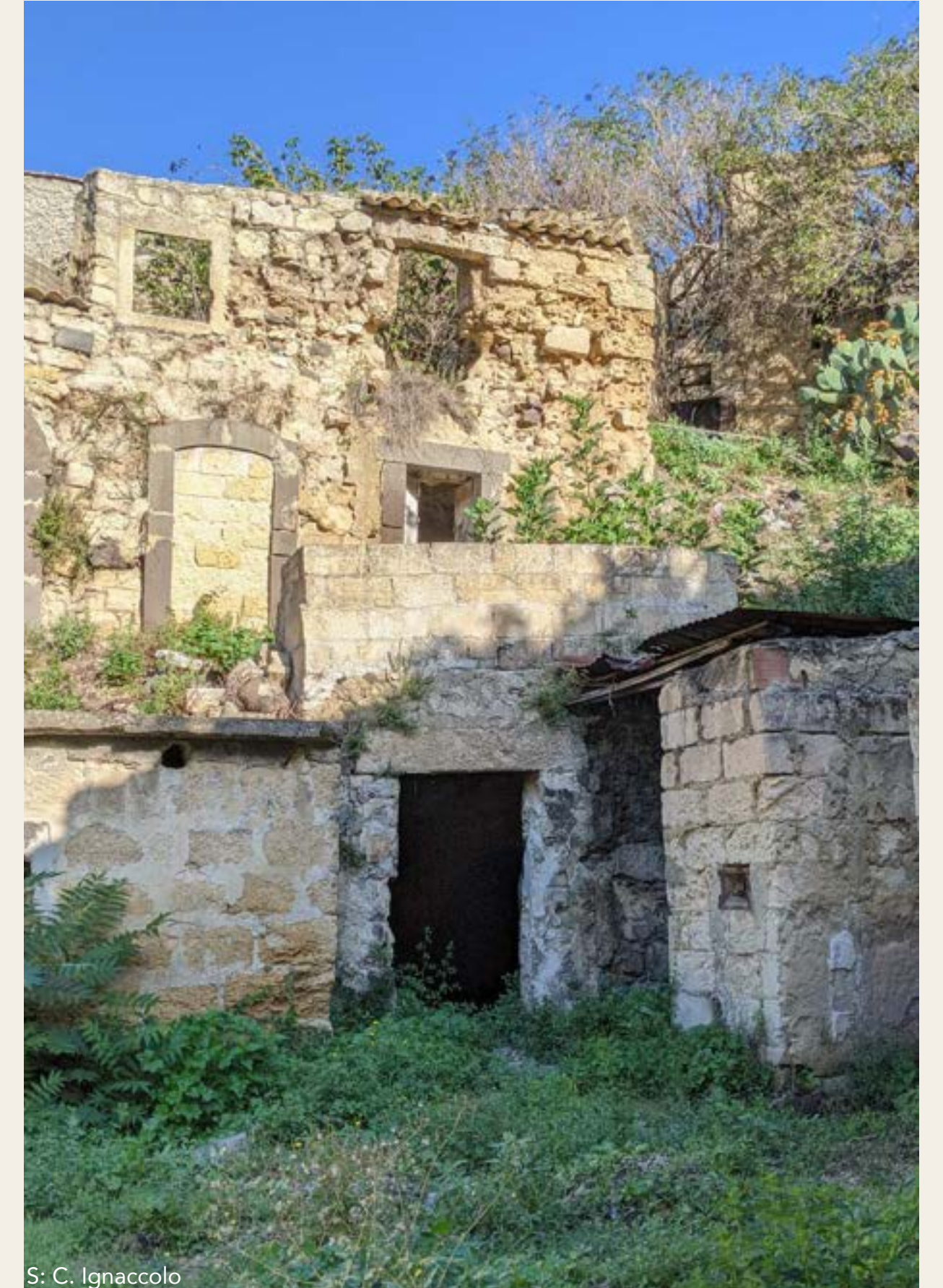
S: Italia Rail

Lazio



S: Paesi online

Pettorano



S: C. Ignaccolo

Vizzini