

Mapping abandoned Industrial Buildings: the territory from Land use to Reuse

Alessia Movia, Maria Vittoria Santi

University of Udine, Department of Civil Engineering and Architecture

Keywords. Map, Industrial building, Abandonment

1. Introduction

The phenomenon of the abandonment of industrial sites is one of the most important events in the contemporary socio-economic dynamics, both in America and in Europe but especially in Italy. Nowadays the industrial area, on which a series of manufacturing building have developed over time, has lost contact with the surrounding environment and it has been deprived of its original function without acquiring a new one.

There is no a characterization of that areas: the brownfields or underutilized areas can be defined ad 'resilient areas' to be given new value, or areas that need to find new uses, through the recovery and the assignment of an active function, according to new policies acting on the whole territory (proposing them as potentially reusable).

Brownfield sites, meant as signs of the past but also of a recent abandonment, can be interpreted in a dynamic perspective, favouring their role of resource as an opportunity for the local development.

The prospective of re-use allows to minimize the consumption of new territory, through the knowledge and recycle of abandoned areas and buildings, as provided by some Italian Regional Plans. Indeed for planners and policy makers recycling of industrial abandoned areas is the best smart grow option.

In this context, through the interpretation of the industrial sites as elements of resilience for the territory, is possible to identify the most appropriate strategies for areas in crisis, in which intervention is a priority.

The extent of industrial abandoned buildings is unknown in many cities and only few research identify these areas.

A case study limited to the municipal level can guide the process of interpretation and formulation of proposals for a more efficient territory in transformation.

The purpose of this research is an evaluation of the abandonment of industrial sites in a municipality of Friuli Venezia Giulia, in Italy, through the identification and the assessment of the current condition of the industrial buildings in the area.

The case-study territory is analysed through the processing of databases imported in a GIS, followed by observations on the field.

2. Method

The phase of data collection has entailed the acquisition of the cartography of the municipality of Tavagnacco (CTR) and the use of open-source tools like Open Street Map, to import the data into the GIS software (Quantum GIS 2.10).

The overlapping of maps implies a first confirmation of the position and dimension of industrial building in the area. By direct investigation (surveys, interviews...) it has been possible to categorise the status of activities or disposal of each production facility.

The work of survey and mapping takes into account both the 'disused' building, meant as completely abandoned, that the 'underused' ones, interpreted as a percentage of abandonment.

The direct survey, to detect the characteristics of buildings and areas, allows an evaluation of the potential reuse also based on the typologies of buildings and infrastructures of the analysed district in order to promote sustainable urban development, sustainable placemaking and revitalization.

3. Results

GIS results provide a quantification and a localization of the industrial abandonment in the territory: the presence of abandoned or underutilised buildings is homogeneous in the entire district. In addition, data and maps show the abandoned industrial sites, also in their future perspective, and the possibilities of regeneration through the reuse, even partial, of the buildings.

The analysis highlights how the built environment to recycle is remarkable both in terms of size and quantity. The reuse emerges as a priority because the buildings partially or completely unused appear in good condition and are placed along infrastructures, which make them easily accessible.

4. Conclusion

The method developed can be a first attempt for future applications, extended to a wider area (regional scale), for the study of specific issues, such as the factors that influence the reuse of industrial buildings, or to establish parameters for future building or yet to assess the land use and the impact of the artificial landscape.

References

- Berens C. (2010) *Redeveloping industrial sites: a guide for architects, planners, and developers*. John Wiley & Sons, Hoboken
- Deplano G. (ed.) (2009) *La pianificazione urbanistica partecipativa nella società dell'informazione*. Edicom, Monfalcone
- Franz M., Gules O., Prey G. (2008) Place-making and 'green' reuses of brownfields in the Ruhr, *Tijdschrift Voor Economische En Sociale Geografie*, 99,316-328
- Gastaldi F. (2014) Crisi del Nord-Est, dismissioni produttive e nuova domanda di governo del territorio: possibili percorsi di ricerca. in Marini S., Santangelo V. (eds.). *Gli uffici tecnici delle grandi aziende italiane: progetti di esportazione di un fare collettivo*. Il Poligrafo, Venezia
- Hayek M., Novak M., Arku G., Gilliland J. (2010) Mapping Industrial Legacies: Building a Comprehensive Brownfield Database in Geographic Information Systems. *Planning Practice & Research*, Vol. 25, No. 4, pp.461-475, August 2010
- Heritage Council of Victoria (2013) *Adaptive reuse of industrial heritage: opportunities & challenges*. Heritage Council of Victoria, Melbourne
- Manigrasso M., Mastrodonardo L. (2014) *A.R.M.I. : Adattamento Resilienza Metabolismo Intelligenza*. Edicom, Monfalcone
- Sassi E., Vismara F., Ossanna Cavadini N., Acebillo J. (2007) *Edifici industriali: Rilievo, analisi e valutazione del potenziale di riconversione degli edifici industriali dismessi in Ticino*. i.CUP Accademia di Architettura USI, Mendrisio
- Spaziante A. (2008) *Patrimonio industriale e territorio*. in Ronchetta C., Trisciunglio M. (eds.). *Progettare per il patrimonio industriale*. Celid, Torino