Areas with abandoned and vacant properties in Croatia

A Plea for Recognition, Research, Policies and the Development of Regeneration Strategies

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This paper explores the phenomenon of areas with a large number of abandoned and vacant properties that have a significant impact on the life of communities in economic, environmental and socio-cultural terms. Although the phenomenon has been present in some parts of Europe and the USA for a number of decades, it has become more prevalent in recent decades. The aim of this paper is to explore whether the phenomenon of abandonment is present in contemporary Croatia, as a complex network of negative demographic, social, economic and environmental causes and impacts. Furthermore, the aim is to create a theoretical framework for research into areas with a large number of abandoned or vacant properties in Croatia. Quantitative analyses of key indicators, content analysis of published media and official documents, and ethnographic field research show that abandoned areas are certainly present in Croatia, as are local initiatives to mitigate the negative situation. The recognition of this phenomenon at national, regional and local level needs to be accompanied by the development of an interdisciplinary research methodology, policies and regeneration strategies. Some guidelines on these matters are provided at the end of the paper.

Keywords: areas with abandoned and vacant properties, Croatia, deprivation, wellbeing, regeneration

Areas with abandoned and vacant properties: scale, causes, impacts and strategies

Areas with a large number of abandoned or vacant properties have been present in some parts of Europe and the USA for several decades, and they have had a significant impact on the life of communities there in economic, environmental, and socio-cultural terms. This phenomenon is present in different regions and countries, in urban and rural areas, with complex reasons underpinning it. In rural areas it is closely related to depopulation and deagrarrisation, and in urban areas to deindustri-
alisation, the failure of investments, and the housing market (Lončar 2016a; Lončar and Vellinga and 2020). Although the phenomenon of abandoned settlements and areas has been present throughout history in different parts of the world, in recent decades global processes – especially economic changes and crises, insecurity, and migrations – have caused its resurgence (Lowe 2012; Wu 2012; Eurostat 2018; ESPON 2020; Lončar 2016a). The data show millions of abandoned properties around Europe and the USA, as well as an increase in their number over the last few decades (PD&R 2014a; Neate 2014; Wilkinson 2011). The data show more than 11 million empty homes in Europe, which includes 3.4 m empty properties in Spain, 2.4 m in France, 2–2.7 m in Italy, 1.8 m in Germany, 735,000 in Portugal, 700,000 in the UK, 400,000 in Ireland (Neate 2014), and 18.6 m vacant homes and 500,000 brownfield sites in the USA (McElrath 2015; PD&R 2014a). According to Wilkinson, vacancy rates have been rising steadily for 40 years, and have increased dramatically since the year 2000 (Wilkinson 2011: 8). For example, the number of vacant residential units in the USA increased from 7 million in 2000 to 10 million in 2010, and in 2012 the number of vacant homes in the USA reached 7.4 million (PD&R 2014a). The increasing number of abandoned or empty properties has influenced contemporary aspects to property abandonment, namely, the existence of areas with as many as 10,000 vacant buildings or more. Some urban areas in the USA have more than 100,000 or even more than 200,000 empty properties (ibid.).

Abandoned or vacant properties can vary in type, size, shape and former use (PD&R 2014a) and can include residential, commercial, or industrial buildings or lots. Definitions can vary according to different variables such as vacancy duration, physical condition, building maintenance, property-tax payments, community impact, and so on (PD&R 2014a; Schilling n.d.). Some authors and policies (Accidino and Johnson 2000: 301; Hexter et al. 2008: 3; Schilling n.d.: 10; Wilkinson 2011: 1)1 define an abandoned or empty property as a property that has been vacant for a certain period of time, and is in a condition that causes a public nuisance.2 The lack of a universal definition and terminology when dealing with abandonment, vacancy

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1 Accordino and Johnson (2000: 301) define an abandoned or vacant property as “a building or lot that has been vacant for two years or more”. Wilkinson (2011: 1) defines vacant properties as “any residential, commercial, or industrial buildings or lots that pose a threat to public safety and thus meet the definition of a public nuisance”. Hexter et al. (2008: 3) define a vacant and abandoned property as a “chronically vacant and abandoned property for which the owner is taking no active steps to return the property to the market”. The National Vacant Properties Campaign in the USA defines vacant property as “vacant residential, commercial, and industrial buildings and lots that pose a threat to public safety or that exhibit trails of neglect on the behalf of the property owner” (Wilkinson 2011: 1). The issues of abandoned or empty buildings are often connected with issues of vacant land or lots, greyfields, or brownfield land (brownfields). A vacant piece of land or a vacant lot is usually undeveloped land with certain public nuisance conditions (Schilling n.d.: 10). Greyfields are “under-performing commercial properties”, such as “under-leased shopping malls and strip commercial properties” (Wilkinson 2011: 1). Brownfield land is land which has, or used to have, buildings or structures on it. Brownfields are often “abandoned and underused industrial properties that have environmental contamination (generally in the soil, groundwater, or both)” (Schilling n.d.: 10; cf. Wilkinson 2011: 1).

2 In terms of maintenance, there is a difference between vacant buildings that are on sale and have been vacant for a short time, and vacation homes that are vacant for part of the year. In both examples the buildings are maintained and do not present a problem for the neighbourhoods (PD&R 2014a).
or *shrinkage*,³ and therefore the lack of a universal data-gathering methodology, has caused difficulties in defining the precise number of abandoned or empty properties in particular countries or regions (Wilkinson 2011).⁴

Abandoned or vacant properties are the result of complex and intertwined global and local factors (Wilkinson 2011: 10). The *causes* are mainly related to economic forces and population decline, and more recently to natural disasters and population migrations (Nassauer 2014; Lowe 2012). Authors mostly stress the impact of the economic crisis, recession, disinvestment, and weak market economies, which have led to unemployment and consequently impacted the increase of vacant properties (Accrdino and Johnson 2000; PD&R 2014a; Lowe 2012; Nassauer 2014; Wilkinson 2011: 10). One example is the post-industrial cities, and other cities, affected by the economic crisis in the USA (PD&R 2014a; Nassauer 2014). Vacancies in these areas increased by more than 85 per cent between 2000 and 2010 (PD&R 2014a). Furthermore, one reason for such empty properties is the financial inability of the owner to invest in the property in order to sell it or let it out, and issues connected with inherited properties (Parkinson 2015). Another cause is investment manipulation, or a phenomenon known as “buy-to-leave”, when investors purchase a property and leave it empty waiting for an increase in the property value (ibid.).

The *impacts* of property abandonment could be described as economic, environmental and socio-cultural. In *economic terms*, abandoned or empty properties are costly and wasteful. They generate decline and disinvestment, and they prevent development (Schilling n.d.; Wilkinson 2011). The literature cites municipal costs connected with the maintenance and demolition of abandoned or empty properties (PD&R 2014a; Wilkinson 2011), a decrease in public revenue, and the influence of abandoned or empty properties on property values. Abandoned or empty properties are a burden on municipal services and funds (Wilkinson 2011: 2, 5–6). Maintenance work can include securing the doors and windows of vacant properties and putting up plywood, cutting lawns, removing trash, preventing a rodent presence, remediating toxic sites, cleaning vacant lots, or demolishing buildings (Crump 2012; PD&R 2014a; Wilkinson 2011: 5–6). Municipalities can also incur administrative costs when searching for owners or enforcing house codes and overseeing foreclosures (PD&R 2014a). Abandoned properties can cause other indirect costs connected with “the resources of local police, fire, building, and health departments” (Schilling n.d.: 4). Furthermore, abandoned or empty properties result in a decrease in public revenue (income tax, sales tax, and property tax) (PD&R 2014a; Wilkinson 2011: 11). The owners of abandoned properties may avoid or walk away from

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³ In professional or scientific discourse different terms are used to describe the areas with a large number of abandoned/vacant/empty properties or buildings, the complexity of phenomenon, or certain aspects and specificities that may overlap in meaning (abandonment/abandoned regions, shrinking regions, rural abandonment, rural flight, rural depopulation, urban abandonment, city abandonment, urban decline, neighbourhood decline, shrinking cities, urban shrinkage, housing abandonment, etc.).

⁴ Some countries gather data on abandoned or empty properties as part of the census, and in other countries this is done by agencies, charities, or local communities. Also, reports and documents use terms that are not identical in meaning (for example, empty properties and empty homes). For these reasons, making comparisons of data from different contexts should be done with caution.
their tax obligations (PD&R 2014a). Also, abandoned properties can impact the property value and tax assessment of nearby property, both of which reduce local government revenues (ibid.).

One of the most important economic impacts of abandoned properties is the decline in property values (Accidino and Johnson 2000; PD&R 2014a; Lowe 2012; Schilling n.d.: 3; Wilkinson 2011). Studies that deal with the effects of abandoned or empty properties on the price values of the surrounding properties show how these effects can differ depending on the type of abandonment (vacant properties or foreclosures), type of area (low poverty and medium poverty) or the duration of abandonment and distance from the abandoned property. For example, vacant properties can have a greater impact on surrounding properties than foreclosures, but foreclosures can also decrease the sales price of nearby properties (PD&R 2014a).

The condition of a few abandoned or empty properties can be contagious and spread, which generates decline and disinvestment in the surrounding blocks and neighbourhoods (Accidino and Johnson 2000; Lowe 2012: 4; Schilling n.d.: 3; Wilkinson 2011: 3). Apart from at the local level, abandoned or empty properties can have a broader economic influence at the national level. The example of the US shows how “the real-estate bubble” and the economic recession have influenced deficits at the state level, with less financial resources for local governments (Wilkinson 2011: 11).

The economic impacts of abandoned or empty properties cause further environmental impacts in the following areas: environmental degradation; air, water, and land quality; energy consumption; and the buildings’ carbon footprints. In areas in which the population is declining and the number of abandoned properties is increasing, the problem of maintaining the infrastructure, for example, stormwater management, or sanitary sewer and water supply, may appear. On a broader level, the abandonment of a water and sewer system can result in the pollution of downstream waters and groundwater hydrology (Nassauer 2014). Negative environmental consequences may occur during the demolition of abandoned or empty properties. The fate and transport of contaminants (asbestos, PCBs, lead, zinc, copper, etc.) from properties and brownfield sites (ibid.) may be especially dangerous.

Abandoned or empty properties can cause social issues that affect public safety and therefore increase the risk to health and welfare (Lowe 2012; PD&R 2014a). It is suggested that disorder and crime are linked with the physical environment at the community level (Schilling n.d.: 5). Vacant properties, especially those with unkempt lawns, broken windows and a lack of neighbourly monitoring, make these buildings attractive for vandalism and criminal activities, such as drug dealing, theft (of copper and appliances), prostitution and so on (Accidino and Johnson 2000; PD&R 2014a; Schilling n.d.: 3–5; Wilkinson 2011: 4–5). This is usually explained by the “broken windows theory” that posits that “one sign of abandonment or disorder (a broken window) will encourage further disorder” (PD&R 2014a). Furthermore, research shows that the distance of properties from vacant buildings, as well as vacancy duration, can have a positive effect on crime rates (ibid.). Several
conditions related to abandoned properties, such as fire hazards, leaking sewage, illegal dumping, etc. may pose a threat to public health and safety (Schilling n.d.: 4). One serious problem with abandoned buildings is arson and accidental fires (PD&R 2014a; Schilling n.d.; Wilkinson 2011), which often result in deaths or injuries, and are especially dangerous for firefighters because of the condition of the buildings (Wilkinson 2011).

Although less data are available on the other socio-cultural impacts of abandoned properties, the impacts on the reputation of the area, sense of community, and overall quality of life are stated. According to research done in Denmark, an increase in crime and vandalism may make some areas become less desirable and result in an exodus (Parkinson 2015). Schilling (n.d.: 4) and Lowe (2012: 5) warn that the squalor of vacant properties impacts the sense of community and overall quality of life and “leads to the collapse of once healthy communities” (Lowe 2012: 5). Foreclosures and neighbourhoods in crisis are often related with family stress (Lowe 2012).

The scale, number, and impacts of abandoned or empty properties on local communities around Europe and the USA have led to recent theories that connect these directly with revitalisation and growth. The consequences of traditional growth patterns, especially economic costs and environmental impacts, as well as a population increase, and a decrease in available land suitable for building on, have all brought to attention the existing infrastructure, vacant lots, and abandoned buildings. These are then seen as an opportunity to accommodate and manage new growth in communities and regions (cf. Schilling n.d.: 6). Local authorities, community organisations and local residents have realised that abandoned or empty properties may be used as raw material, and may be renovated and reoccupied permanently, temporarily, or seasonally for different purposes – as health facilities, community gardens, urban farms and other facilities (PD&R 2014a; Wilkinson 2011). In this way neighbourhoods can preserve resources and investments (Wilkinson 2011: 3) and increase their attractiveness (PD&R 2014a). Therefore, abandoned or empty properties should not be seen as liabilities but as assets in community stabilisation and revitalisation (PD&R 2014a; Dittmar 2014; Hexter et al. 2008; Mallach 2010; Way, McCarthy and Scott 2007), and also as an opportunity for productive reuse (PD&R 2014a).

Generally, a number of strategies and approaches that address abandoned or empty properties are discussed in the literature and used in practice. They show that policies and strategies for dealing with the issue of abandoned or empty properties are not universal and depend on the national and local context.\footnote{ Cf., for example, Kromer 2002; Friedman 2003; LGA 2013; López González 2015; Mallach 2010; Lončar 2016a; Paddison 2012; Power 2008; Schilling n.d.; Smith 2014; Way, McCarthy and Scott 2007; Lončar 2017a; Güler and Kâhya 2019; Lončar and Vellinga 2020; PD&R 2014a, 2014b, 2014c, 2014d. Authors classify them in different ways. Hexter et al. (2008) classified strategies as those that prevent abandonment and those that gain control over and foster the reuse of already abandoned properties. Smith classifies policy tools for addressing abandoned properties using the categories “Small interference” (Planning and Collaboration, Data Collection), “Medium interference” (Maintenance, Financial Incentives and Disincentives), and “Large interference” (Change in Ownership, Reuse, Demolition) (Smith 2014: 16). Wilkinson distinguishes between temporary and permanent interventions (Wilkinson 2011: 14; cf. PD&R 2014d).} This means that ap-
Approaches in different regions and towns and even in different neighbourhoods in the same town may differ (Accordino and Johnson 2000; PD&R 2014a). Authors agree on the necessity of new approaches to the reuse of abandoned or empty properties, which will address this issue within a broader and more comprehensive perspective (Hexter et al. 2008; Schilling n.d.; Wilkinson 2011). This entails leaving behind the “traditional strategies of the past” and the “project-by-project or deal-by-deal” approach, and finding new approaches that will include the “public, private, and ‘third’ (non-profit and philanthropy)” sectors, strategic thinking, innovative programmes and practices, creative financing, collaborations, partnerships, and so on (Hexter et al. 2008: 21; Schilling n.d.; Wilkinson 2011: 9). This means that local governments should, as Schilling (n.d.: 7) stresses, go “beyond dealing with individual vacant properties and beyond vacant properties initiatives only” and develop and adopt holistic strategies that address a range of challenges in local communities.

The causes behind abandoned or empty properties in Croatia are complex, but they mainly involve the emigration of the Croatian population to other countries for economic and political reasons, as well as the flight of the rural population to major Croatian cities (urbanisation) caused by modernisation, especially during the second part of the twentieth century. The process of depopulation was also accentuated by the forced wartime migrations in the 1990s and the secular trend in falling fertility rates. Parallel processes concerning changes in state structure, transformation and privatisation, combined with deindustrialisation, have influenced changes to the built environment (cf. Spatial Development Strategy of the Republic of Croatia 2017).

Emigration from Croatia is not a recent phenomenon alone – it has been occurring throughout the twentieth and twenty-first century. It has been estimated that during the twentieth century 2.3 million inhabitants of Croatia have moved to other countries, the net migration totalling -1.2 million (Nejašmić 2014). The latter figure accounts for 27% of the total population of Croatia in 2001. The emigration has its roots in the first half of the twentieth century, with 415,000 people leaving Croatia for overseas countries, with an additional 25,000 people emigrating to European countries over the same period (ibid.). The First and the Second World War incurred heavy losses not only in lives, but also in the number of people leaving Croatia. From the 1960s onwards, around 300,000 people emigrated to West Europe as “guest workers”, most of them extending their temporary stay to a permanent one (ibid.). The inner economic dynamic in Yugoslavia resulted in approximately 350,000 people leaving Croatia to work in other federal units (ibid.).

The number of internally displaced persons in Croatia during the 1991–1995 war in the former Yugoslavia was around 550,000 in 1991, falling steadily to 11,904 in 2003. The number of refugees from Croatia was around 150,000 in 1991, falling to 5,000 in 1996 (Živić and Pokos 2004). The greatest loss of Croatian population occurred between 1995 and 1997, when more than 300,000 persons (mostly Serbs from the occupied Croatian territories) left for Serbia, Montenegro and Bosnia and Herzegovina. In 2003, the number of those individuals in these countries was still more than 230,000 (ibid.). The war in Bosnia and Herzegovina resulted in around
150,000 people from that country (mostly Croats) permanently settling in Croatia (data from 1998; Gelo 1999). Nejašmić (2014) concludes that from 1991 to 2001, Croatia lost 500,000 people due to war-induced migrations.

The economic crisis of 2008 and the accession of Croatia to the EU caused a significant number of its inhabitants to leave the country. The number of emigrants is difficult to estimate given the different modes of migrant registration within the EU (Pavić and Ivanović 2019). For instance, the average annual inflow of Croatian citizens to Germany from 2013 to 2018 according to German data is around 50,000 people, while the corresponding number of emigrants from Croatia to Germany according to Croatian data is approximately 20,000 (ibid.). Nevertheless, it can be concluded that a significant number of Croatian citizens left the country, who headed mostly to Germany, Scandinavian countries, Ireland and Austria.

Negative demographic trends in Croatia have been researched from different perspectives during recent decades, but more complex linkages and interfaces between demographics, the built and natural environment and quality of life, have still not been included in broader research. Previous research on abandoned and vacant properties was focused mostly on issues that relate to certain groups of properties, among which former military, industrial, hospitality and tourist buildings and complexes predominated, whose number has increased during and after the 1990s (e.g. Berc et al. 2010; Kardov and Tabak 2014; PSD 2015; Spatial Development Strategy of the Republic of Croatia 2017, etc.). Also, albeit to a lesser extent, studies have been conducted on abandoned and empty dwellings and (rural) settlements in certain Croatian microregions (for example Kocijan 2019; Kovač 2019; Lončar 2017a, 2017b, 2017c; Žic-Teklin 2020), some in the context of secondary housing (Mišetić and Zimmermann 2006; Opačić 2012; Rogić and Zimmermann 2006). Some studies indicate changes in the natural (Jogun, Lukić and Gašparović 2019) and built environment, as well as the impact of abandonment on people's lives (Lončar 2015; Orlić 2017). The untapped potential of abandoned or empty properties in helping develop urban or rural areas that have a need for regeneration strategies and new uses for buildings has been stressed in several studies (Berc et al. 2010; Ramić-Kovačić 2019; Lončar 2017a, 2017b, 2017c; Mrduljaš 2010: 89, etc.). Recently, several different published and online databases and documents on abandoned or vacant buildings, complexes and settlements have been launched at the national and local level. These include, for example, the Register of Abandoned Military Objects launched in 2015, the webpage “Ghost towns in Croatia”, with the register of abandoned settlements launched in 2017 (http://gradovi-duhova.info), the Register of the Brownfield Spaces launched in 2019 by the Ministry of Physical Planning, Construction and State Assets (Habrun 2019), etc.

These studies and registers have recognised the existence and issues of abandoned and vacant properties with specific former purposes. However, they do not indicate the existence of geographical areas with a greater number of abandoned or empty properties at national level, i.e. more complex linkages or interfaces between demographics, the built and natural environment and quality of life, such as those already researched in Europe and the USA.
This paper aims to create a theoretical framework for researching areas with a large number of abandoned or vacant properties in Croatia, so as to identify geographical areas and connected issues (causes and impacts), and to establish the presence of the phenomenon of abandonment as part of a complex network of demographic, social and economic causes and impacts. This paper’s specific hypotheses are 1) that there exist areas in Croatia with high numbers of abandoned dwellings and properties, 2) that these areas are also areas with negative social, economic and demographic indicators, and 3) that the existence of the phenomenon of abandonment exerts a great burden on the normal functioning of the local communities and diminishes the wellbeing of its inhabitants. Accepting these hypotheses would entail the recognition of this phenomenon at national, regional and local level, which would need to be accompanied by the development of an interdisciplinary research methodology, as well as policies and regeneration strategies.

Data and methods

In general, research into abandoned and vacant properties implies different research methods and different combinations of research methods. The selection of research methods depends on the research purpose, specific research questions, and the level i.e. scope of the research (national, regional, local). Understanding the phenomenon of abandonment implies identifying abandoned or vacant properties and their characteristics. This includes official definition(s), types of properties, previous use, ownership, number, spatial distribution (mapping), the causes and impacts of abandonment, perceptions of abandonment, policies, approaches and tools to address the problem of abandonment etc. (cf. Accordino and Johnson 2000; Mallach 2010; Smith 2014; Wilkinson 2011).

Given that the phenomenon of abandonment is dynamic and multifaceted, and given the framework posed by our research questions, our research strategy consists of using both quantitative and qualitative methods. To our knowledge, this type of analysis has not been used to investigate abandoned properties and regions. To assess the geographical distribution of the abandoned dwellings, data from the 2011 census was used, available from the Croatian Bureau of Statistics. This data is the only reliable official record on abandoned and temporarily occupied dwellings and it is available at the county level (NUTS3) and the cities and municipalities level (LAU2). We opted for an analysis at the county (NUTS3) level for several reasons: some of the economic, social, demographic and cultural indicators that are described below and correlated with the data on abandoned properties are not all available at the LAU2 level. Also, our aim is to give a broad picture of abandoned regions in Croatia, and although the differences within counties are lost in this approach, an overall characterisation of the abandoned regions becomes possible. More granular data on the abandoned dwellings are available in other publications (Rogić and
Zimmermann 2006), albeit for the 2001 census. The other shortcoming of this approach is that only residential buildings (dwellings) are analysed, thus excluding industrial, military, commercial and other buildings. However, the abandonment of residential units can serve as a proxy for the general abandonment of properties, especially since the non-residential buildings are not uniformly distributed throughout Croatia. Data on other types of abandoned properties are available, as already noted (Habrun 2019; Berc et al. 2010; PSD 2015; Žic-Teklin 2020; Kocijan 2019).

To control for the number of inhabitants in each county, we calculated the rate of property (dwellings) abandonment for each county as the number of abandoned dwellings per 1000 inhabitants. To examine whether the measure of property abandonment correlates with social, economic and demographic measures we used or calculated nine additional indicators: the at-risk-of-poverty rate in 2011 per county, the share of minimum-guaranteed-income-benefit beneficiaries in the population in 2017 per county, the share of gross average salary per county compared with the average national gross salary in 2017, the share of the sale value of industrial products and the export (PRODCOM) of industrial local units in 2017 per county, the county’s vital index in 2017, the number of medical doctors per 1000 inhabitants in 2017 per county, the number of kindergartens per number of children aged 0–4 in 2017 per county, the teacher-to-pupil ratio in 2017 per county and the county’s spending on cultural activities as a proportion of total county spending in 2017. Where available, the data was used for the last year in which an official publication exists (2017) at the time of writing. Since the abandoned regions are characterised by negative demographic, economic, social and cultural situations, we assessed the link between these factors and property abandonment at the county level, by grouping similar counties into distinct clusters, using the k-means clustering algorithm on the above-described variables. Cluster analysis is often used in grouping the geographic regions in relation to different economic, social and demographic indicators (Lukić 2009; Gavurova, Soltes and Kovac 2017; Brauksa 2013; Mishchenko and Mishchenko 2018; Lombardo and Falcone 2011).

The qualitative research consisted of content analysis of media and public documents, and ethnographic field research. A total of 150 media reports (newspaper articles and TV reportages) from national and local media between 2010 and 2020 were selected and analysed. The criteria for the search and selection were the keywords that describe causes of, impacts and reactions to abandonment in Croatia, in line with the previously completed literature review. The analysed public documents (laws, public tenders, official announcements etc.) were selected in the same way. A small written survey of the economic impact of property abandonment and municipalities’ reaction was conducted in the Sisak-Moslavina County (the City of Glina,
the City of Hrvatska Kostanjica, the City of Novska, the Majur Municipality, the City of Petrinja, the Topusko Municipality), using a questionnaire that consisted of a set of questions based on the literature review (Survey 2020). Moreover, the article presents some of the unpublished results of the wider research conducted in Croatia (in the Banovina/Banija region) from 2011 to 2020 (cf. Lončar 2015, 2016b, 2017a, 2017b, 2017c) and in England in 2016 (Lončar 2016a) and in 2019, all of which deals with areas of abandoned and vacant properties and with successful policies and strategies regarding the problem. It is important to note that, unlike the quantitative part of our analysis, this approach relates to all types of abandoned properties, rather than just residential ones.

Abandoned and vacant dwellings in Croatia – the contemporary situation and numbers

Croatian official statistics differentiate between occupied and unoccupied dwellings. These units are reported every ten years during the census. Occupied dwellings are those “that were used, at the time of the Census, for permanent habitation or for habitation and performing of an activity by one or more persons”, while unoccupied dwellings are those “that were not used, at the time of the Census, for permanent habitation. They include temporarily unoccupied dwellings, abandoned dwellings and dwellings in which only temporarily present persons were enumerated”. The temporarily unoccupied dwellings are “new dwellings not yet occupied, dwellings empty due to change of residence, construction works (reconstruction, repair etc.), dwellings for rent or sale, dwellings of households residing in another dwelling at the same or another address, in the same or another settlement, which are not being used or rented out”, while the abandoned dwellings are “dwellings not used for a longer period of time, due to the fact that the owner has moved (or has relocated) and does not use the dwelling either temporarily or for rent, or the owner died and the inheritors do not rent out the dwelling or even use it occasionally (as

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8 A large thanks to all colleagues and interlocutors in Croatia and England, including Prof M. Vellinga at Oxford Brookes University (Faculty of Technology, Design and Environment, School of Architecture) for supervising the research in England in 2016 and the dissertation "Abandonment as an Opportunity for Regeneration and Development in Local Communities: Example of Kent County Council’s “No Use Empty” Initiative (England, UK)" (Lončar 2016a); Prof T. Brittain-Catlin at the University of Kent (School of Architecture and Planning) for the opportunity to attend a short study visit in Canterbury in 2019, to Mr. S. Grimshaw (Kent County Council) and Mr. A. Lavender (Lavender & Wilson Housing Training and Consultancy Ltd.) for the short-term fieldwork in Kent County in 2019, to all interlocutors in Sisak-Moslavina County for their hospitality and conversations, and to mayors and staff of the municipalities in Sisak-Moslavina County for the official data about the municipalities’ work.

9 A dwelling is “any structurally unified whole intended for residence, with one or more rooms, with or without appropriate auxiliary spaces (kitchen, bathroom, toilet, hallway, larder, etc.) and with at least one separate entrance either from the staircase or directly from the street or yard” (Statistical Yearbook of the Republic of Croatia 2018: 315).

10 “A longer period of time” is not defined in the methodology section of the census.
a holiday house, for instance)" (Statistical Yearbook of the Republic of Croatia 2018: 316). The data on dwellings for permanent residence in line with the censuses are given in Table 1.

Table 1. The numbers of total, occupied, temporarily unoccupied and abandoned dwellings in Croatia as counted by the censuses every ten years (source: Statistical Yearbook of the Republic of Croatia 2018).

<table>
<thead>
<tr>
<th>Year</th>
<th>Total</th>
<th>Occupied</th>
<th>Temporarily unoccupied</th>
<th>Abandoned</th>
</tr>
</thead>
<tbody>
<tr>
<td>1971</td>
<td>1,188,743</td>
<td>1,157,542</td>
<td>9,583</td>
<td>21,618</td>
</tr>
<tr>
<td>1981</td>
<td>1,381,434</td>
<td>1,335,610</td>
<td>29,041</td>
<td>16,783</td>
</tr>
<tr>
<td>1991</td>
<td>1,575,644</td>
<td>1,457,370</td>
<td>96,425</td>
<td>21,849</td>
</tr>
<tr>
<td>2001</td>
<td>1,660,649</td>
<td>1,421,623</td>
<td>196,633</td>
<td>42,393</td>
</tr>
<tr>
<td>2011</td>
<td>1,912,901</td>
<td>1,496,558</td>
<td>342,349</td>
<td>73,994</td>
</tr>
</tbody>
</table>

The rise in temporarily unoccupied dwellings is the most pronounced feature of this data. It comprised only 0.8% of total dwellings for permanent residence in 1971, rising to almost 18% in 2011. The similar percentages for abandoned dwellings are 1.8% in 1971 and 3.87% in 2011. According to the 2011 census there are 150 settlements in Croatia without inhabitants (unsettled settlements), which is 2.2% of all settlements in Croatia.

The number of abandoned dwellings for each county from the 2011 census is shown in Figure 1. The county with the most abandoned dwellings is Sisak-Moslavina County (9,088), followed by Split-Dalmatia County (5,511), while the counties with the least abandoned dwellings are Međimurje County (1,414) and Požega-Slavonia County (1,702). To account for the number of inhabitants, the relative measure of abandoned dwellings was calculated, i.e. the number of abandoned dwellings per 1000 inhabitants for each county (the rate of property abandonment). These data are shown in Figures 2 and 3. The rate of property abandonment for the whole Republic of Croatia is 17.27 abandoned dwellings per 1000 inhabitants. The county with the highest rate of property abandonment is again Sisak-Moslavina County (52.7), followed by Lika-Senj County (46.4). The counties with the lowest rate of abandonment are City of Zagreb (4.67) and Primorje-Gorski Kotar County (8.7).

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11 Croatia is divided into 21 counties (NUTS3 level), including the City of Zagreb as a separate county. The counties are divided into municipalities and cities. There are 428 municipalities and 128 cities in Croatia (Statistical Yearbook of the Republic of Croatia 2018: 60). According to the 2011 census, there are 4,284,889 inhabitants of Croatia.
Figure 1. Number of abandoned dwellings by county from the 2011 official census (source: Statistical Yearbook of the Republic of Croatia 2018).

Figure 2. The rate of property (dwellings) abandonment of Croatian counties in comparison with the average Croatian rate of property (dwellings) abandonment (calculated from: Statistical Yearbook of the Republic of Croatia 2018).
We applied a k-means clustering algorithm to the ten indicator variables, which resulted in five distinct clusters of counties, with the explained variance in the data being 80.3%. As Figure 4 shows, the first cluster is composed of seven counties: Zadar, Varaždin, Koprivnica-Križevci, Požega-Slavonia, Slavonski Brod-Posavina, Osijek-Baranja and Vukovar-Sirmium, while City of Zagreb forms a distinct second cluster. The third cluster is composed of the neighbouring Istria and Primorje-Gorski Kotar Counties, and the fourth cluster is composed of seven counties: Šibenik-Knin, Lika-Senj, Krapina-Zagorje, Karlovac, Sisak-Moslavina, Bjelovar-Bilogora and Virovitica-Podravina. The fifth cluster is composed of Dubrovnik-Neretva, Split-Dalmatia, Zagreb and Međimurje counties.

The explained variance measures how much variation in the data is explained by a statistical model, in this case, how much variation in the data on property abandonment and other predictors are explained by grouping the counties in five clusters.
Figure 4. Clusters of Croatian counties based on the rate of property (dwellings) abandonment and nine additional variables.
Cluster 1 — Zadar, Varazdin, Koprivnica-Križevci, Požega-Slavonia, Slavonski Brod-Posavina, Osijek-Baranja, Vukovar-Sirmium.

The cluster means for the analysed variables are shown in Table 2. It is evident that the City of Zagreb (cluster 2) has the most favourable statistics compared with all other clusters. The rate of property (dwellings) abandonment is only 4.67 (number of abandoned dwellings per 1000 inhabitants), the lowest poverty risk, the highest PRODCOM share (37%) etc. It comes second best only in the share of minimum-guaranteed-income-benefit beneficiaries in the county population and the number of kindergartens per number of children aged 0–4. Conversely, the cluster with the highest property-abandonment rate (cluster 4), also has the worst share of minimum-guaranteed-income-benefit beneficiaries, kindergartens per number of children aged 0–4, teacher-to-pupil ratio, vital index, expenditure on culture share, and gross-salary share, and the second worst poverty-risk rate and number of medical doctors per 1000 inhabitants. The remaining three clusters (1, 3 and 5) have similar property-abandonment rates (17.4, 12.44 and 14.64, respectively), yet they differ in other factors. Cluster 3 has a low-poverty rate, the lowest share of minimum-guaranteed-income-benefit beneficiaries and the highest relative number of kindergartens, being the most similar to the City of Zagreb, apart from the PRODCOM share and vital index. Clusters 1 and 5 are similar in their property-abandonment rate and certain other factors, but dissimilar in their vital index, poverty-risk rate and gross-salary share.
Table 2. Cluster mean values for the ten variables used in cluster analysis: the rate of property abandonment, at-risk-of-poverty rate in 2011 per county, number of medical doctors per 1000 inhabitants in 2017 per county, share of minimum-guaranteed-income-benefit beneficiaries in population in 2017 per county, number of kindergartens per number of children aged 0–4 in 2017 per county, teacher-to-pupil ratio in 2017 per county, the county’s vital index in 2017, the share of the county’s spending on cultural activities in the total county’s spending in 2017, the share of sale value of industrial products and export (PRODCOM) of industrial local units in 2017 per county, the share of gross average salary per county in the average national gross salary in 2017.

<table>
<thead>
<tr>
<th>Cluster no.</th>
<th>Abandonment rate</th>
<th>Poverty-risk rate</th>
<th>MDs per 1000 inhabitants</th>
<th>Share of minimum-guaranteed-income-benefit beneficiaries</th>
<th>Kindergartens per number of children aged 0–4</th>
<th>Teacher-to-pupil ratio</th>
<th>Vital index</th>
<th>Expenditure on culture share</th>
<th>PRODCOM share</th>
<th>Gross-salary share</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>17.4</td>
<td>26.41</td>
<td>2.83</td>
<td>2.39</td>
<td>6.34</td>
<td>0.12</td>
<td>61.97</td>
<td>3.71</td>
<td>3.37</td>
<td>85.3</td>
</tr>
<tr>
<td>2</td>
<td>4.67</td>
<td>9.80</td>
<td>6.12</td>
<td>1.40</td>
<td>7.28</td>
<td>0.1</td>
<td>91.50</td>
<td>6.75</td>
<td>37</td>
<td>121.03</td>
</tr>
<tr>
<td>3</td>
<td>12.44</td>
<td>11.90</td>
<td>3.43</td>
<td>0.70</td>
<td>12.81</td>
<td>0.12</td>
<td>61.45</td>
<td>6.49</td>
<td>4.10</td>
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</tr>
<tr>
<td>4</td>
<td>37.6</td>
<td>23.37</td>
<td>2.69</td>
<td>3.07</td>
<td>5.55</td>
<td>0.12</td>
<td>51.84</td>
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</tr>
<tr>
<td>5</td>
<td>14.64</td>
<td>17.88</td>
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<td>0.11</td>
<td>82.95</td>
<td>5.67</td>
<td>4.25</td>
<td>93.1</td>
</tr>
</tbody>
</table>
Insights from the field

Empty villages, dying cities, desolated and apocalyptic regions

In recent years media reports about the situation in rural areas have been dramatic: “This village is devoid of inhabitants, only the cow farm has remained” (Balen 2017), “The villages are empty, the houses are neglected and without heirs” (D.H. 2017), “Everything is gone, the only thing that comes are the wolves” (Borovac 2016), etc. These headlines depict the life stories of the interviewed inhabitants and local authorities, and they also report on villages without inhabitants (“empty villages” or “ghost villages”), and on dying villages with numerous unwanted and slowly dilapidating houses without owners, but with properties for sale. Although both have been recorded in different Croatian regions (Istria, Žumberak, Lika, Banovina/Banija, Kordun, Slavonia, Međimurje, Lika, the Dalmatian Hinterland) (Vecernji.hr 2017; D.H. 2017; Fridl 2019; Mrkonjić 2017a, 2017b; Arbutina 2017; Malekoci-Oletić 2018; Index.hr 2018a–2018k, SBTV – BrodPortal 2019a, 2019b; S.D. 2018), more stories recently have been reported from Slavonia, Banovina/Banija, Lika and the Dalmatian Hinterland in which the depicted villages are sparsely inhabited, mostly by the old people, and left alongside the abandoned public infrastructure, e.g. abandoned schools, cemeteries, grocery stores, social clubs, municipal buildings, milk-collecting sites, etc. (Balen 2017; D.H. 2017; Benčik 2019; Borovac 2020; Arbutina 2017; HTV4 2017; Lončar 2015, 2017b, 2017c; Palijan 2013).

Figure 5. A series of empty buildings with residential and retail spaces in the center of the city of Knin, King Zvonimir Street (Region Dalmatian Hinterland, Zadar County). Photographed by Sanja Lončar, 8. 11. 2018.
Besides the situation in the rural areas, the newspaper and TV reports share the stories of a relatively new phenomenon – the emptying of Croatian cities, mostly the smaller, historic ones that were affected by the war activities of the 1990s, including Knin, Obrovac, Gračac, Slunj, Glina, Petrinja, Dvor na Uni, Hrvatska Kostajnica, Pakrac, Pleternica, Požega, Slatina, Županja, Vukovar, Ilok, Beli Manastir. The reports about the towns of Ilok (Slavonia), Obrovac and Knin (in the Dalmatian Hinterland) tell a story of “empty” and “dead” towns, “ghost towns” and “dying towns”, with rows of abandoned, empty and dilapidated houses, buildings, stores, commercial spaces, factories and banks, often with the signs “sale”, “lease” or “closed” (Bradarić 2018, 2020; Čirjak 2019; Kegelj 2015; Opačić 2018; Pilić 2018; Jurasić 2017; Jutar-nji.hr 2017). Ilok is depicted as one of the towns that “is dying and in need of help” (Čirjak 2019), and Obrovac as a town “disappearing in a depopulation plague”, with “too many derelict buildings [...] that turns it into apocalyptic movie scenography” (Opačić 2018).

Finally, the media report not only on the abandoned properties, villages and towns, but also on whole abandoned, “desolated” regions. Slavonia, which “is dying”, is called “the land of dead estates” (Bradarić 2018) and a “deserted land” (Mrkonjić 2017b). The Dalmatian Hinterland is depicted as “the apocalypse” “on a voyage without return”, being the ideal scenography for the children’s story “Palle alone in the world” (Pilić 2018). Some point out that the vistas of deserted towns are “seen
all over the country” and that Croatia “has become used to the ruining of towns and villages” (Čirjak 2019). One of the articles, indicatively titled “Our Empty”, suggests the scale of the emptiness, i.e. the depopulated areas (Arbutina 2019; cf. danas.hr 2016), and the scale of emigration, reported in a series of articles (Mrkonjić 2017b; Arbutina 2019; Agencija VLM 2013; Agroklub 2015, 2018; Al Jazeera Balkans 2018; HRT Labirint 2019a, 2019b; Maljevac 2018; Matković 2020; danas.hr 2017a, 2019a, 2019b; Bajruši 2020; Kaportal 2018; Korda 2019; Koretić 2019, 2020; Kuskunović 2016; Kutinanews 2017; Hrvatski krški pašnjaci 2020; Prerad 2010; Rudež 2019; Vpp/Hina 2019; Paraf 2020; R.I. 2019).

Abandoned and empty properties and their impact on communities

Several media or municipal reports and data, as well as ethnographic field data, confirm the impact of abandoned or vacant properties on the municipalities and communities. The municipalities do not possess exact records of abandoned and empty properties (cf. Survey 2020; Malekoci-Oletić 2018), and the greatest problems seem to be properties whose owners are known, but who do not take care of them, properties whose owners are unknown or unreachable, and properties without owners, which become the property of the city or municipality after the death of the last known owner. According to the media, the number in the latter category is increasing (Pilić 2018; Glas Slavonije 2017; D.H. 2017). Apart from legal-ownership issues, one problem for the municipalities concerns abandoned buildings that were damaged during the 1990s war, old industrial facilities, unused state-owned real estates, and listed historical buildings (Survey 2020; Korpoš and Getto 2018).

Mostly, municipalities point to municipal costs connected with the maintenance and demolition of abandoned or empty properties. The municipalities do not have the funds to invest in the properties as their owners, and the properties are a financial burden on municipal services and budgets because of these maintenance costs (Borovac 2019; Lider 2019). They state the costs of mowing grass and the removal of trees, bushes and weeds on abandoned and empty properties, especially on the properties adjacent to the roads (Knin, Đurđevac, Ilok, Majur, Novska) (Pilić 2018; Glas Slavonije 2017; Survey 2020; Malekoci-Oletić 2018), and the costs of financing the removal of abandoned buildings (Pakrac, Hrvatska Kostajnica, Novska) (Luksetić 2017; Hrvatska Kostajnica 2019; Survey 2020). Some towns and municipalities allocate financial resources for such activities in their annual budgets (Novska and Glina) (Survey 2020), some rely on the help of local fire service units and municipal utility firms (Majur and Novska) (Survey 2020), and some rely on help from the armed forces (Hrvatska Kostajnica) (Survey 2020). Some towns, like Petrinja, finance the erection of protective scaffolding for buildings adjacent to public roads in order to protect the lives of its inhabitants (Survey 2020). In Obrovac,

13 A paraphrasing of the title of Croatian national anthem – “Our Beautiful”. 
they point to an increase in costs that arise from the maintenance and introduction of new infrastructure due to large areas with a small number of inhabitants (Opačić 2018). One part of these costs is not explicit since the municipalities do not define them as costs of maintaining abandoned and empty properties (Survey 2020).

The conducted research shows that municipalities have other costs related to abandoned and empty properties, but they cannot list them precisely. For example, the City of Petrinja lists costs for litigation over the ownership of such properties (Survey 2020), and the Majur Municipality lists administrative costs (the cost of work of municipal employees and the postal service) in searching for the owners, or indirect costs for local fire departments and public works (Survey 2020). The municipalities are aware that they have a lack of income from local taxes for the buildings whose owners cannot be reached i.e. to whom they cannot charge these fees (Majur, Novska, Hrvatska Kostajnica) (Survey 2020). They don’t possess data on a decrease in public revenue (income tax, sales tax, and property tax), or on the influence of abandoned or empty properties on property values.

![Figure 7. Empty and dilapidated houses in the center of the city of Hrvatska Kostajnica, Davorin Trstenjak Street (Region Pounje, Sisak-Moslavina County). Photographed by Sanja Lončar, 26. 11. 2020.](image)

The impact of a big number of abandoned and empty properties on the real-estate market and property values has been discussed in several newspaper articles. It is reported that in Slavonia there are “a lot of houses on the market” and that houses in rural areas can be bought relatively cheaply, while in urban areas, where demand is higher, prices are also higher (Sutlić 2019). In 2019, Sutlić analysed the prices
of single-storey houses and stated that they can be bought in rural settlements for 10,000 euros, and in urban settlements for 35,000 euros (ibid.). In the same year, it was recorded in Ilok that the price of old “unwanted houses” with all the utilities provided ranged from 20,000 to 30,000 kunas (around 2700 to 4000 euros) (Borovac 2019). The price per square metre of an apartment in Vinkovci is between 500 and 700 euros, and in Obrovac the price per square metre of an apartment is between 700 and 800 euros (Opačić 2018). In Međimurje, a larger number of houses for sale was reported in 2018, and old habitable houses could be bought at a price of 10,000 euros (Malekoci-Oletić 2018).

Occasional texts discuss the impact of empty and abandoned properties on the environment. For example, the possibility of groundwater pollution due to the disposal of chemicals and unknown substances in the abandoned buildings is mentioned (Sekol 2015a). The reports are mainly about the impact of a lack of people on changes in the environment, such as arable land becoming overgrown, deforestation, and a reduction in the number of storks, i.e. the active nests of white storks (Ekovjesnik 2020; Agroklub 2020). The displacement of people and the abandonment of traditional agriculture means that areas that were once cultivated, such as the mowed meadows, as well as the small canals and ponds that are important for providing the storks

\[\text{In comparison, the price of a square metre of a newly built dwelling in Zagreb in the first half of 2019 was on average 1653 euros, and in the rest of Croatia the respective price was 1567 euros (CBS 2019).}\]
with food, are overgrowing and disappearing (I. I./Hina 2019; Ekovjesnik 2020). Reports also exist regarding illegal logging activities in some of the abandoned areas (Klaric 2020; Piškor 2015).

Media reports point to several socio-cultural consequences of empty and abandoned properties. In some cities (Osijek, Đurđenovac, Vukovar, etc.) they are recognised as public health and utility problems. These are mostly abandoned family homes and dilapidated industrial or educational buildings that become wild dumps or spaces that attract wild animals (Solar 2014), the homeless or curious children. Media and fire brigades report on dilapidated buildings that endanger passers-by due to falling plaster and brick, or on cases in which abandoned buildings have become places of fire requiring emergency intervention (Bandić 2010; Brajković 2015; icv.hr 2018; Glas Slavonije 2017; Lacić 2020; Malekoci-Oletić 2018; Sekol 2015b). Other forms of crime have also been reported, among which is the illegal use of abandoned residential buildings (Ljubičić 2019; Orlović Radić 2018; Petrović 2019), as well as the theft of traditional wooden buildings (Banija Online 2012; cf. Lončar 2017c).

Once beautiful historic towns and villages with traditional architecture have changed their appearance, and have lost an important layer of local cultural heritage and recognisable identity (cf. danas.hr 2018; Gršić 2020; Lončar 2016b, 2017b, 2017c; Šantek 2020). Abandoned and half-ruined buildings, and broken doors and windows, are all recognised as eyesores (Bubalo 2015; Glas Slavonije 2017; Zagorje.com 2013), and their large number affects the perception and image of the place, quality of life, but also human relationships and psychophysical conditions. A series of reports recall these now empty towns and villages as once pleasant and desirable places to live. Pre-war Obrovac is described as “once alive and full of people” (danas.hr 2018), and pre-war Petrinja is compared with the town of Peyton (Grozdanić 2018). Today’s pictures are completely different. They show a number of socio-economic problems such as unemployment, low labour costs, job insecurity, unresolved housing problems, poverty, weak purchasing power and a lack of basic amenities (Grozdanić 2018; HRT 2015; Tešija 2017; danas.hr 2018; D.K. 2018; Bradarić 2018; Novac.hr 2020b; Fišić 2017; Opačić 2018; Borovac 2019; Pilić 2018; Radoš 2015; Mahmutović 2018; Index.hr 2018a–2018k; Jurišić 2012; Lepan Štefančić 2019; Piškor 2009; Stapić 2019; Župan 2020). Several articles report on a reduction in the number of students and closing schools (G.Š. 2019; Jutarnji.hr 2019; Glas Slavonije 2016; Martinis Filković 2020; Patković 2020; Pauček Šljivak 2017; Poslovni.hr 2019a; PSD 2010; Telegram 2019; Cvrtlić 2019). For example, residents state that Obrovac does not have a public notary office, a pastry shop, a retail chain, an ambulance, any large companies, a cinema, a cultural and artistic society (danas.hr 2018), and that Ilok has become a “city where shoes can no longer be bought” (Tešija 2017). They tell the stories of people from deserted towns and villages and testify to loneliness, anxiety, and a sense of being left out (Lončar 2015; Arbutina 2017; HTV4 2017; Index.hr 2018a–2018k; N1 2015). It is not surprising, therefore, that in some of the media reports, Obrovac is called “the city of depression” (danas.hr 2018; Opačić 2018), and rural settlements are referred to as “death waiting rooms”
(Arbutina 2017; HRT 4 2017; RTS 2018). Some articles point to potentials, especially of preserved nature, cultural heritage (Devčić 2018; Opačić 2018; Patković 2017; Lider 2018), and empty military buildings (Tportal.hr/HINA 2015), or they point to people’s positive stories (Mahmutović 2018; Marinović 2018; Index.hr 2018a–2018k; Uzinić 2020).

Initiatives for combating abandoned and empty properties

Apart from individual renovation and revitalisation projects in rural and urban areas, the media and official documents report on the different reactions, approaches and tools that Croatian municipalities use to address the issue of abandoned and empty buildings and lots, such as data collection, financial incentives, maintenance, changes in ownership, reuse and demolition. The following section provides some examples.

Over the last few years several municipalities have organised public tenders for selling properties (houses and land for building on) owned by the city or municipality. There are differences in the tender criteria, as well as in the number and price of properties, additional measures etc. For example, the Legrad Municipality (Koprivnica-Križevci County) organised three public tenders aiming at selling empty properties, so as to attract young families with children and to stop negative demographic trends (Al Jazeera Balkans 2020; Dolenec 2020; Gotal 2020; Legrad 2015a, 2015b, 2015c; Novac.hr 2020a, 2020c; RTL 2020; PSD 2020; Vecernji.hr 2020). In 2020 the municipality launched a tender for 19 houses with a starting price of one Croatian kuna (for customers who meet certain criteria) or 5,000 Croatian kunas. Extra funds for building materials and documentation was available. The tender was presented in the media and attracted the attention of people from other Croatian regions and neighbouring countries (Al Jazeera Balkans 2020; Poslovni.hr 2020; Novac.hr 2020a, 2020c). A similar tender was organised in 2019 by the City of Ilok (Vukovar-Sirmium County) for 26 city properties, with prices from 1,000 to 118,000 Croatian kunas (Lider 2019; Poslovni.hr 2019b).

Some municipalities launched tenders for co-financing the purchase of properties. For example, in 2018 the City of Vrbovsko in Primorje-Gorski Kotar County launched a project to co-finance the purchase of empty houses with a maximum of 100,000 Croatian kunas. As a part of the project the City started to make a register of empty properties that owners were unable to sell, and identified the interest of young families willing to live in Vrbovsko (Jusić 2018; Lider 2018; Krmpotić 2018; Punkufer.hr 2019; Vijesti.hr 2018; Klancir 2018; Čiga 2018). The Sveti Ilija Municipality (Varaždin County) planned 170,000 kunas in their annual budget in 2019 as a co-financing fund for adopting existing houses as new housing or for demolishing houses on the plot in which a future house would be built (Dreven 2019). The Sve-

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15 One euro is c. 7.5 Croatian kunas.
ta Marija Municipality (Međimurje County) did something similar in 2017 (Betić 2017). The Kotoriba Municipality (Međimurje County) undertook a similar project and offered 20,000 Croatian kunas per family (Betić 2016; Grubić 2018; Malekoci-Oletić 2018) and the Magadenovac Municipality (Osijek-Baranja County) offered 25–30,000 kunas per family (Fuš 2018). Other municipalities have also encouraged the demolition of dilapidated buildings. For example, the City of Pakrac (Požega-Slavonia County), which was hardly damaged in the 1990s war, has – due to a problem with war ruins – launched initiatives and financed the demolition of buildings in the city centre (Širac 2016; Luksetić 2017; Staklarević 2019; MJS 2019). In 2020, the City of Hrvatska Kostajnica (Sisak-Moslavina County) organised help for owners of dilapidated buildings to demolish those buildings.

Several cities and municipalities have established tenders for renting or for offering building plots in order to keep young people in the locale, and to help them resolve housing issues (called “demographic renewal measures”). The City of Slavonski Brod (Slavonski Brod-Posavina County) launched two models in 2019, one that offers the leasing of land for construction for 99 years, and another that offers apartment rentals at a good price, both with the possibility of purchase after ten years (danas.hr 2019a). The Municipality of Klis (Split-Dalmatia County) launched a similar model in 2018 offering young families land for building on, with the possibility of purchase after 10 years and exempting them from paying bills for local utility ser-
vices (*komunalni doprinos*) (Popadić 2018). The Municipality of Bale (Istria County) launched the project “Building lot for one kuna” (“Parcela za jednu kunu”) that enabled plot leasing (danas.hr 2017b). The Municipality of Andrijaševci (Vukovar-Sirmium County) announced in 2020 a project that includes giving 152 building lots to young families (Novac.hr 2020a).

The example from Osijek (Osijek-Baranja County) confirmed the *shift in ownership* of properties towards the City, due to the plot or building not being maintained (Solar 2014). Individual examples (Obrovac, Zadar County) are given in which the municipality bought a dilapidated building, renovated it and sold it to the state for housing (Opačić 2018). Some mayors encourage the use of existing properties in the city’s commercial zone in order to avoid additional costs for the municipalities (Lider 2019; Poslovni.hr 2019b), or express their wishes to sell empty properties to people who would like to invest in developing continental tourism or who would like to live in the countryside (D.H. 2017).

![Abandoned and empty estates with traditional and new architecture in rural areas in Central Croatia, in the village of Utolica, the City of Hrvatska Kostajnica (Region Pounje, Sisak-Moslavina County). Photographed by Sanja Lončar, 26. 11. 2020.](image-url)
Discussion

Recognition of the scope of abandonment and the development of an appropriate methodology for identifying, registering and analysing the issues of areas with a large number of abandoned and vacant properties

The results of our analysis corroborate the existence of the theoretical concept and the phenomenon of abandonment in Croatia. Abandonment is characterised by a complex of phenomena in areas with abandoned and vacant properties, with all their negative economic, environmental and socio-cultural effects. The analysed data show that in Croatia, apart from a large number of certain groups of abandoned and empty buildings, there are whole regions with abandoned and vacant properties, i.e. the phenomenon is widely distributed across a number of counties and a wider state area. This phenomenon is a result of complex political, economic and demographic issues, especially a long-lasting process of depopulation and a rise in the rate of property abandonment. The 1990s war accelerated property abandonment because of the decline in population numbers in a very short time, especially in some smaller towns and rural areas. For example, the population of some towns has declined to one-third of its pre-war numbers, and in some areas the processes of deindustrialisation, transformation and privatisation, and economic crisis have prompted further abandonment.

In Croatia, the phenomenon of areas with a large number of abandoned or empty properties so far has not been recognised. The problems of abandoned and vacant properties have been recognised and researched as the problems of certain groups of properties. Brownfield sites, and especially former military, industrial and tourist buildings, have been discussed and registered (for example, Berc et al. 2010; Habrun 2019; Kardov and Tabak 2014; Spatial Development Strategy of the Republic of Croatia 2017). Even the newest national policy document, the Spatial Development Strategy of the Republic of Croatia, published in 2017, did not recognise the phenomenon of areas with abandoned or empty properties. It operated with the term “abandoned and overlooked areas” (Spatial Development Strategy of the Republic of Croatia 2017: 92), but only with a focus on abandoned military complexes, industrial complexes and hospitality and tourist spaces. Since these buildings and complexes have an unequal distribution across Croatia, their counting and mapping could not indicate and identify areas with a high concentration of abandoned and vacant properties. Also, other groups of abandoned and vacant properties (e.g. dwellings, school buildings, community buildings, historic buildings and cultural goods, etc.) that seem to be important for local communities, and that require special attention and approaches, have been excluded from the focus on a broader (national) level.

The unrecognised and unaccepted nature of the phenomenon of abandonment results in a lack of knowledge that prevents the phenomenon of abandonment from
being classified as such, thus making it unmeasurable. Currently, there is no system for keeping up-to-date and accurate records of all abandoned and vacant properties, regardless of their previous purpose. This is well illustrated by the data from the local authorities and the media. Although the local authorities are aware of the problem of abandoned and vacant properties in their jurisdiction, and spend resources on them, they do not know their exact number, nor the exact costs of their maintenance, removal etc. This raises the question of the need to recognise and accept the phenomenon of abandonment in Croatia. Acknowledging the phenomenon as a national problem and priority would lead to the establishment of a system with an adequate data gathering and analytical methodology, which could be applied to all abandoned and empty properties at the national, regional or local level. This would be a prerequisite for developing national legislation, policy making, as well as developing and implementing regeneration strategies.

As our research shows, the methodology should be based on an interdisciplinary approach that includes quantitative and qualitative methods. The definitions in the official statistics are imprecise, and the only reliable data are gathered during the census every ten years. It is evident that demographic and economic changes are happening fast, and that the period of ten years is too long to accommodate this dynamic. Because of this, more frequent revision of the data is necessary. Also, the registers of specific types of abandoned properties (industrial, military, commercial etc.) should be established and properly maintained.

A deeper understanding of local specifics, and of the interface of the built environment with economic, socio-cultural and environmental aspects

Although the phenomenon of abandonment is present across Croatia, regional and local specifics can be seen in the number and rate of abandoned and vacant properties as well as in the economic, social, cultural, and environmental aspects. These are crucial to understand in order to create adequate policies and strategies for combating the problem. The results of the geographical distribution of the abandonment rate indicate that the most abandoned areas are those that have been affected most severely by the war activities during the 1990s. These are also the areas from which the Serbian population was displaced during the final operations by the Croatian armed forces in 1995. The cluster analysis revealed that these counties form a separate cluster (cluster 4) and that, as expected, this area is characterised by negative demographic, economic, social and cultural circumstances. The results do not posit that there is a unidirectional causal link between the abandonment rate and other factors. Instead, they only help establish the syndrome of abandoned areas, in which dynamic and interrelated causal links sustain each other and make the situation worse. However, we believe that among these causal links there are those that flow
from the abandonment rate to other areas, and exacerbate the negative demographic, economic, social and cultural tendencies.

The results of the other clusters are also instructive. The second-most-abandoned cluster (cluster 1) is composed of four eastern Croatian counties, two northern Croatian counties and Zadar County. The latter was also heavily involved in the war activities, but has not experienced a significant rate of property abandonment, possibly because of the developed tourism and the fact that the city of Zadar is a regional centre. The eastern counties also experienced war activities to a lesser degree, and some of them were peacefully reintegrated into Croatia in 1998. However, this cluster of counties exhibits negative characteristics like cluster 4, and has the highest poverty-risk rate of all. The absence of the higher rate of abandonment in this cluster could be attributed to several factors, most notably to the high levels of agricultural activities in these counties. For this reason, the inhabitants are more bound to their dwellings, which form parts of their estates used for agricultural production. It should be noted that recent emigration from these areas is pronounced, especially after Croatia’s accession to the EU in 2013. However, the data on property abandonment are from the 2011 census, which does not capture this migration dynamic. Even with the newer data there would still be a problem of the emigration not having a larger impact on the rate of abandonment since most emigrees do not leave permanently, i.e. they do not abandon the dwellings, but rather they sell them, rent them or do not inhabit them only temporarily.

Cluster 3 (Istria and Primorje-Gorski Kotar Counties) is characterised by a strong economy and tourism, so it is not a surprise that the rate of abandonment is relatively low, second only to the City of Zagreb. Cluster 5 is the most disparate cluster, and it consists of two southern Croatian counties, Zagreb County, and the northernmost Međimurje County. This cluster resembles both cluster 3 (strong tourism, a similar gross-salary rate) and the City of Zagreb (a relatively high vital index), but it also exhibits a not-so-negligible poverty rate and low quality of healthcare. An interesting fact about this cluster is that its constituent counties Split-Dalmatia and Zagreb have a large number of abandoned dwellings in absolute terms (second and third to Sisak-Moslavina County, respectively), yet their rates of property abandonment (per 1000 inhabitants) are below the national average. We cannot provide a definitive explanation of this phenomenon, but the tentative one could be the inflow of inhabitants to Zagreb County from other counties (because of the proximity to the city of Zagreb), and the accompanying real-estate development, and the migration of inhabitants within Split-Dalmatia County from the hinterland to the coast and the city of Split, also accompanied by the real-estate development. In this way the large number of abandoned dwellings remains, but the denominator in the property-abandonment rate formula increases or stays approximately the same, thus making the property-abandonment rate relatively low.

Initial analysis of the correlation between the rate of property abandonment and the economic, demographic and socio-cultural aspects of life shows that the abandoned areas are characterised by poverty and a lower quality of life. The data from
the media and from the local authorities point to several phenomena that correspond with the data from abandoned regions in Europe and the USA, i.e. the number of villages and towns with a high number of abandoned and vacant properties. These buildings and properties present an economic burden for the municipalities and cities. They lower the real-estate prices, have a negative impact on the environment, and often present a danger to their inhabitants as public health and utility problems (cf. Accordino and Johnson 2000; Lowe 2012; Wilkinson 2011, etc.). They also result in a perception of villages, towns and regions as abandoned, dilapidated and as undesirable for living. Due to economic reasons, they deprive their inhabitants of basic amenities, which negatively impacts their wellbeing, and causes further emigration.

This testifies to negative phenomena that local communities face and it raises the question of the attitude of the state and state policies and strategies towards these areas. Currently, there is no widespread consciousness or official national or regional initiatives regarding the problem of areas with a high number of abandoned and vacant properties in the Republic of Croatia. There is no network of official bodies, NGOs, initiatives, or a developed legal framework, targeted policies and strategies that would indicate a systematic approach to the problem. Deeper research and understanding of the interface between the built environment and economic and socio-cultural aspects – i.e. characteristics and differences between areas with a large number of abandoned and vacant properties – seem to be crucial to effective policy approaches.

Towards developing and implementing strategic, holistic and effective approaches for combating the issues of areas with a large number of abandoned and vacant properties

Individual and scattered examples of the regeneration of abandoned and empty buildings and complexes exist in all parts of Croatia, in urban and rural areas. However, the holistic approaches that aim to regenerate areas and settlements by involving larger numbers of abandoned and empty buildings and complexes have yet to be developed. Preliminary research into existing initiatives for combating abandoned and empty properties in Croatia, presented in this study, indicates certain characteristics that should be further researched and discussed. These initiatives have been launched in recent years by local municipalities in different Croatian regions and counties (Koprivnica-Križevci County, Vukovar-Sirmium County, Primorje-Gorski Kotar County, Krapina-Zagorje County, Osijek-Baranja County, Požega-Slavonia County, Sisak-Moslavina County, Brod-Posavina County). They have been focused on a smaller number of properties (houses, construction lots) each year, often owned by the municipalities. Among several approaches, few include demolition. The dominant approaches are those that include different models of the ownership change (selling and buying abandoned and empty properties, renting building
plots) and financial aid (e.g. incentivising and subsidising the acquisition of privately owned properties). The positive aspect seems to involve solving the problem of abandoned and vacant properties in conjunction with other local problems, mainly demographic and housing ones. Specifically, most of the municipalities have tried to solve the problem of a housing shortage for young families with children, and to attract and retain inhabitants by advertising the low unemployment rate, low kindergarten costs, subsidies for newborns, stipends for students etc.

Although these initiatives present positive steps in creating practical solutions for combating the large number of abandoned or empty properties, they show certain shortcomings that seem to relate to a lack of resources, knowledge and partnerships (cf. Lončar 2016a; Schilling n.d.). Unfortunately, these initiatives have appeared less in the counties with the highest number and rate of abandoned and empty properties and have been mostly launched by single local municipalities. However, successful examples show that partnerships and networks of stakeholders are crucial in approaching this complex problem (ibid.). This should especially include partnerships with other local municipalities and counties, as well as with other sectors, especially local businesses. This seems to be necessary because a lot of local municipalities in Croatia are small and poor, and employ only a small number of professionals and experts. This was confirmed in our research in which mayors and municipality staff confirmed a lack of time, staff and specific knowledge needed to deal with the issues of abandoned or empty properties. The media coverage also seems to indicate that numerous local authorities need aid. The successful examples show how collaborations between the county and municipalities, combined with investing in staff education, training and shared learning is necessary to gain staff knowledgeable in specific areas that relate to abandoned and empty properties (cf. Lončar 2016a: 57). Certainly, solving these problems cannot be done without the help of the state.

Furthermore, current initiatives are focused on what is the most obvious and easiest option for municipalities. A more holistic approach would include solutions that recognise differences between different groups of abandoned and empty properties and the specifics of local economic, socio-cultural and environmental issues. This would lead to the development of a more unique response to the local situation with different models and approaches that have not yet been used (cf. Hexter et al. 2008; Smith 2014). This might help in finding solutions for abandoned and empty properties owned by private owners or the state – these kinds of properties seem to be the most numerous and are those that cause maintenance and other costs to municipalities. Moreover, this approach would lead to different target groups in the population. This could include Croatian war veterans’ families and socially endangered families in the need of a home, and different groups that would prefer a change in living place as part of their lifestyle, or generally different investors (cf. Lončar and Vellinga 2020).
Conclusion

The study presented in this article is the first study that confirms the phenomenon of abandonment is present in contemporary Croatia, as a complex network of negative demographic, social, economic and environmental causes and impacts, by using a combination of quantitative and qualitative research methods and different data, namely the 2011 census, media, public documents, survey on economic impacts, and ethnographic data. It is evident that in Croatia there is an increase in the number and rate of abandoned dwellings from 1971 to 2011. The results of the geographical distribution of the property-abandonment rate indicate that the most abandoned areas are those that have been affected most severely by the war activities during the 1990s.

Moreover, initial analysis shows the correlation between the rate of property abandonment and the economic, demographic and socio-cultural aspects of life. This presents an economic burden for the municipalities and cities, lowers the real-estate prices, has a negative impact on the environment, and often presents a danger to its inhabitants as a public health and utility problem. Abandoned and vacant properties also cause a perception of villages, towns and regions as abandoned, dilapidated and undesirable for living. Due to economic reasons, they deprive its inhabitants of basic amenities, which negatively impacts their wellbeing, and causes further emigration. The research has confirmed initiatives for combating abandoned and empty properties that have been developed by local authorities in recent years, which include approaches such as data collection, financial incentives, maintenance, change in ownership, reuse and demolition. Apart from their positive aspects, there are certain shortcomings that seem to relate to a lack of resources, knowledge and partnerships.

To conclude, the given data indicate that the issues of areas with a large number of abandoned and empty properties should be recognised on the national level as one of the national priorities. This should be accompanied by widespread consciousness and official initiatives that would encourage specific policy development, development and implementation of regeneration strategies to use abandoned and empty properties as an opportunity for the regeneration of areas and communities (cf. PD&R 2014a; Mallach 2010, etc.). Establishing a legal framework, a network of stakeholders, recommendations and measures would be needed to encourage and support initiatives developed by local authorities, organisations and charities, and residents. This would ensure the parallel development of top-down and bottom-up approaches, and of the conditions in which to develop a holistic strategic approach to addressing the problem of abandoned and vacant properties (cf. Lončar 2016a: 63). Approaching the complex problem of many abandoned or empty properties holistically inevitably requires a strategic approach and the serious commitment of local authorities, which includes long-term plans, resources and management (ibid.: 55).

The development of an interdisciplinary scientific and professional methodology, should accompany this process, as should research. This should include meth-
odology for identifying and frequently updating the real number of all abandoned and vacant properties, for presenting their spatial distribution on local, regional and national levels, and for identifying different and complex economic, socio-cultural and environmental aspects and characteristics. Moreover, specific methodology and procedures should be developed to solve specific issues of abandoned or empty properties and to develop and implement regeneration strategies in certain areas. Serious insights and research into local circumstances are a prerequisite for addressing a range of local problems holistically, comprehensively and effectively, since examples and models from other European countries and the USA show that uniform solutions do not exist. Instead, successful models should be adopted and modified in accordance with the specific local situation. We propose the use of mixed-method approach similar to that employed in this study as a starting point to establish a nuanced view of abandoned areas.

This study has shown that characteristics of the phenomena of property abandonment in Croatia correspond with data on abandoned areas in Europe and the USA. Positive experiences, creative and successful examples from European countries and the United States may be helpful in using abandoned and vacant properties as a resource and as assets for productive reuse i.e. for community stabilisation and revitalisation.

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MEDIA (NEWSPAPER AND TV REPORTS)


SANJA LONČAR, DARIO PAVIĆ. Areas with Abandoned and Vacant Properties in Croatia…


ARTICLES


Područja s napuštenim i praznim nekretninama u Hrvatskoj. Pledoaje za prepoznavanje, istraživanje, politike i razvoj regeneracijskih strategija

U radu se istražuje fenomen područja s velikim brojem napuštenih i praznih nekretnina koja značajno utječu na život zajednica u ekonomskom, okolišnom i socio-kulturnom smislu. Premda je taj fenomen prisutan u nekim dijelovima Europe i SAD-a već niz desetljeća, posljednjih desetljeća bilježi se njegovo jačanje. Cilj je ovog rada istražiti je li fenomen napuštenosti prisutan u suvremenoj Hrvatskoj kao složena mreža negativnih demografskih, socijalnih, ekonomskih i okolišnih uzroka i utjecaja. Nadalje, cilj je stvoriti teorijski okvir za istraživanje područja s velikim brojem napuštenih ili praznih nekretnina u Hrvatskoj. Kvantitativne analize ključnih pokazatelja, analiza medijskih sadržaja i službenih dokumenata te etnografska terenska istraživanja pokazuju da su napuštena područja zasigurno prisutna u Hrvatskoj, a isto tako i lokalne inicijative za ublažavanje negativne situacije. Prepoznavanje tog fenomena na nacionalnoj, regionalnoj i lokalnoj razini treba pratiti razvoj interdisciplinarnih istraživačkih metodologija, politika i strategija regeneracije. Neke smjernice o tim pitanjima iznose se na kraju rada.

Ključne riječi: područja s napuštenim i praznim nekretninama, Hrvatska, depravacija, blagostanje, regeneracija