

# PROBLEMS OF ABANDONED BUILDINGS USE IN KAUNAS CITY

Vilma Sinkevičiūtė, Indrė Januškevičiūtė  
Aleksandras Stulginskis University

## Abstract

Economic and social problems and emerged threat to human life are the main reasons for abandonment of buildings or even the whole cities in different countries. Mainly abandoned buildings are found in the USA and in the countries of the former Soviet Union. Abandoned buildings in Kaunas city are analysed in the article; their condition is assessed and the ways for handling are proposed. The legal status and the purpose of use of abandoned buildings in Kaunas city are also defined. There are 46 abandoned buildings in Kaunas city. The majority of them are located in Šančiai neighbourhood, but the least amount – in Vilijampolė and Gričiupis neighbourhoods. As regards the purpose of the use, 85 percent of abandoned buildings in Kaunas city are attributed to non-residential buildings, and 44 percent of them are former industrial buildings. Due to the condition of constructions, threat to people and environment, as well as visual appearance, the state of 72 percent of abandoned buildings is poor. 52 percent of abandoned buildings are ascribed to be demolished, while the remaining 48 percent of buildings could be repaired or renovated.

Key words: abandoned building, derelict building, land plot

## Introduction

There are many abandoned buildings in both urban and rural areas all over the world. Detached abandoned buildings as well as totally derelict towns or cities can be found in various places of the world. The reasons of such abandonment are different: from changing economic or social structure to bankrupt of cities or nuclear catastrophes. However, two main reasons can be distinguished why people gradually or at once abandon the places of residence. They are: hazards and economic factors. It is not surprising to hear about abandoned buildings present in countries with long political history where economic and social problems dominate. However, it is strange to learn about so many abandoned buildings and places in such a country as the USA. Namely, the USA and the countries of the former Soviet Union are designated as the countries possessing the major part of abandoned buildings (Miles, 2013). Military bases and former medical institutions compose the major part of abandoned buildings in the USA. It can be observed that during the period of the Soviet Union aerodromes, shipyards were abandoned and left empty; cities were also abandoned after the change of economic conditions (Web Urbanist).

Due to the changes in the economic system of Lithuania two decades ago, a lot of industrial buildings and various other buildings that were no longer suitable for their intended purpose remained in the whole territory of the country. Quite often such buildings and constructions did not have owners and therefore they had been unattended for many years so they became a threat for both environment and people. Currently, there are more than nine thousand abandoned and derelict buildings in Lithuania; 80 percent of them are located in rural areas.

Abandoned and unused buildings cause huge harm for big cities. Important infrastructural projects, development of the cities are hampered because of abandoned buildings. These buildings also worsen the image of the cities. Many abandoned, collapsing, dangerous buildings are also present in Kaunas city. They are located not only in the city centre but also in remote districts. Abandoned buildings reduce the landscape attractivity, harm the image hampering tourism development which year by year is becoming more and more important for the city's economic development. Unattended environment also diminishes investment attraction. Thus, currently the issue of abandoned buildings become increasingly relevant for Kaunas city. This problem has been tried to be solved using the following means: introduction of higher real estate tax, maximum fines for the owners of abandoned buildings, adjusting legal base.

The problems of abandoned buildings in the biggest cities of Lithuania are not analysed in detail. As rural areas have a plenty of abandoned buildings, quite a few data is collected about these abandoned objects, their state, distribution and possibilities of further use are analysed. The tasks of handling of abandoned buildings and their environment must be solved according to sustainable social, economic and environmental development of the country. The work concerning the sale of these buildings for commercial use or their demolition and clearing should be included in the activity programmes of every municipality. Thereby, the prevention actions in order to ensure more qualitative natural and

residential environment could be liquidation, proper handling of abandoned buildings and decrease of harm for the environment.

There is not much Lithuanian scientific literature available analysing the questions and problems of abandoned buildings. However, the legal base of Lithuania analysing the issues of clearing, liquidation of abandoned buildings and decrease of visual landscape pollution includes more than 50 legal documents (laws, articles of the Civil Law, Government decrees and normative acts adopted by various state institutions) and is continually supplemented and amended. The legal base is being prepared and improved since 1998. Unfortunately, until now it is not efficient concerning clearing and liquidation of abandoned buildings. The description of abandoned buildings is provided in the programme for abandoned buildings' liquidation: these are mismanaged and (or) technically unattended buildings requiring immediate action for their processing or liquidation (Apleistų..., 2008). Tom Cochran in the conference of the USA mayors emphasized that abandoned buildings are considered as objects damaging the environment that despoil the landscape and are the threat for environment and human health and life. Abandoned buildings of commercial or residential purpose cause many problems for the cities. Firstly, it has a negative impact on a city's budget. They also decrease the living quality and economic possibilities of surrounding inhabitants (Vacant..., 2008).

It is stated in the publication of the USA National Association of Unclaimed Property Administrators (National..., 2005) that generally the reason for buildings' abandonment is fast cities' development, demographic changes, unemployment and changes of people needs. Abandoned buildings require the resources of local police, firefighters, construction and health department. Decreasing value of property results in lower income from real estate tax. Such buildings attract criminal and degraded part of the society and worsen the life quality of surrounding inhabitants.

Various means are used against the owners of abandoned, unused buildings in foreign countries. Lėka (2012) noticed that in the Western European countries land tax would be increased if abandoned buildings are present in the land plot, the owner does not receive construction permit, or he/she does not begin to use buildings during the set term after the purchase of the land plot in the developed area.

According to Atkocevičienė et al. (2013), abandoned buildings can be named as the objects of landscape visual pollution. Landscape is an important resource of the country which is like a guarantee of natural environment and life quality. Antuševičienė (2002) emphasized that abandoned buildings should be handled in the way that they would not worsen the country's landscape. **The aim of the research:** to perform the analysis of abandoned buildings in Kaunas city, to evaluate their condition and to provide the ways for their clearing. **The tasks** set for the achievement of the aim are as follows:

1. To analyse the distribution of abandoned buildings in Kaunas city;
2. To define the purpose of use and legal status of abandoned buildings in Kaunas city;
3. To determine the state of abandoned buildings in Kaunas city and to provide the priorities for their handling.

### **Methodology of research and materials**

The object of the research is abandoned (derelict) buildings located in Kaunas city. The analysis of literature sources was conducted; data were analysed using analysis and synthesis approaches, the field research was accomplished. The main information source used in this work was "The list of unused, used not under intended purpose, derelict or abandoned premises and buildings" approved by Kaunas city municipality in 2013.

For the purpose of obtaining the newest information and accurate data about abandoned buildings noted in the list, the field research was performed, and the territories, where listed buildings were located, were visited according to available data. These buildings were pictured; their state, caused damage and possible threats for both people and landscape were assessed. After the analysis and systemization of obtained data, abandoned buildings were classified according to neighbourhoods where buildings were located, their purpose of use (residential or non-residential) and types of owners (natural or legal entities). For distribution of these buildings in Kaunas city neighbourhoods the scheme was prepared where all abandoned unused buildings mentioned in the list were marked according to their location. Abandoned buildings were assessed according to their present state. An attention was also paid to possible threat, and handling possibilities of the buildings, their further use according to threat priorities were determined.

## Discussions and results

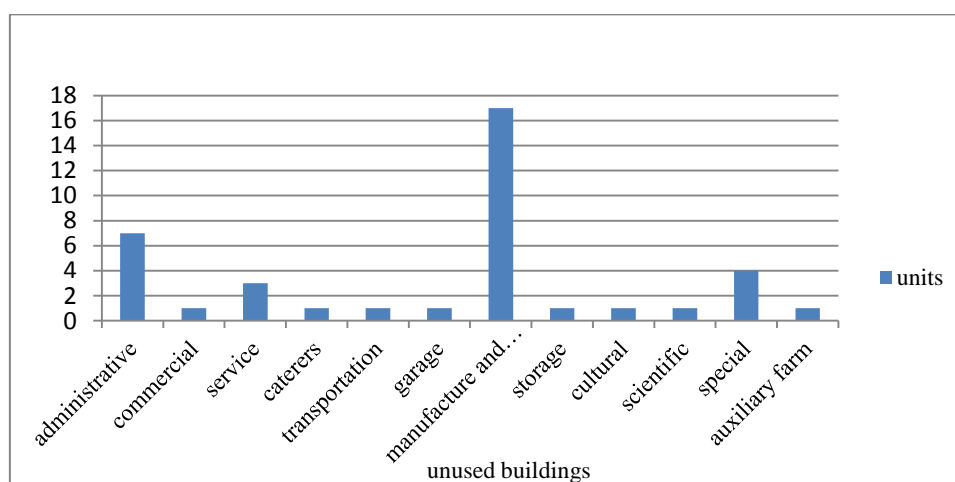
According to the list of Kaunas city Council of 2013 there are 46 abandoned buildings in Kaunas city. Comparing the list of 2014 with the list of 2013, it was supplemented with 4 abandoned unrepaired real estate objects in emergency condition.

The major part of abandoned buildings is located in Šančiai neighbourhood according to the data presented by Kaunas city municipality (Fig. 1).



**Fig. 1.** The distribution of abandoned buildings in Kaunas city neighbourhoods.

39 abandoned and unused buildings situated in Kaunas city are attributed to non-residential buildings, and 7 other buildings are attributable to the group of residential buildings. Non-residential buildings are further divided into subgroups (Fig. 2).



**Fig. 2.** The structure of abandoned non-residential buildings in Kaunas city according to intended purposes, units.

Manufacturing and industrial buildings compose the major part of abandoned (derelict) non-residential buildings. These buildings account for 44 percent of all abandoned non-residential buildings, and include buildings intended for production, factories, workshops, plants of production processing, energy buildings etc. Buildings of administrative purposes account for 18 percent, buildings of special purpose – 10 percent of all non-residential buildings present in the list. The number of buildings intended for other purposes is small and does not exceed 3 buildings.

All abandoned buildings in Kaunas city have owners but are improperly attended and technically inadequate. According to the list provided by Kaunas city municipality, 37 abandoned buildings in Kaunas city belong to legal entities and the remaining 9 buildings belong to one or several natural persons.

The research results show that the condition of buildings depends on several factors: construction of building, its age, maintenance or nature of operation, quality and also degree of renovation.

Due to environmental impact, improperly used buildings lose their mechanical stability and steadiness, resistance to fires, do not meet the requirements of hygiene, health and environmental protection and do not satisfy the provisions of safe operation. Decaying and crumbling constructions of unused and abandoned buildings might also influence the fall of other unused buildings that are situated nearby. It is particularly relevant while speaking about buildings located in densely populated and urbanized territories. Besides, surrounding buildings can flare up from the fire in an abandoned building in densely populated areas. One of the reasons that causes the increased strain of abandoned buildings' construction is the thieves of metal and construction products. Namely, insufficient stability and mechanical resistance of abandoned buildings' constructions cause the biggest hazard for the surroundings.

In order to avoid the tendency of deterioration of buildings' condition, it is provided that owners, users or tenants of the buildings must constantly administer and repair buildings, paint and maintain their facades and ensure aesthetically neat appearance of facades. Thus, all buildings including abandoned and unused buildings must be orderly and used according to their intended purpose.

Visual object's survey provides primary information about the condition of building and its constructions. Therefore, the condition of unused abandoned buildings was estimated not only according to the data of "The list of unused, used not under intended purpose, derelict or abandoned premises and buildings", but the field research was also performed to obtain an accurate and new information about these buildings. While doing this analysis, the data given in the list were compared to the data collected during the research. It should be noted that that the list of abandoned buildings was confirmed in the beginning of 2014, and therefore several discrepancies were found after the field research. There are 46 abandoned buildings mentioned in the official list but the condition was determined for six of these buildings. Thus these six buildings were not included into the assessment process when evaluating the state of abandoned buildings. The condition of abandoned buildings was assessed as poor, satisfactory or good. The main criteria taken into consideration when determining the present state of these buildings was as follows: exterior, technical and physical condition, environment where the building is located, safety measures ensuring proper safety of the structure.

A visual survey of buildings during the field research showed that the condition of the majority of abandoned buildings in Kaunas city is poor (Table 1). They compose 72 percent of all investigated abandoned buildings in Kaunas city. The state of 13 percent of abandoned buildings is satisfactory. Buildings whose main load-bearing structures can be strengthened, buildings can be used under their intended purpose or the purpose can be changed and building can be reconstructed are attributable to this group. The state of the rest 15 percent of abandoned buildings in Kaunas city is good. Generally simple repair is enough for the renovation of such buildings.

**Table 1**

Condition evaluation of abandoned buildings

Address	Construction	Walls	Windows	Safety measures	Total
1	2	3	4	5	6
Savanorių av. 321	1	1	-	1	3
Islandijos road 217	1	1	1	2	5
Šiaurės av. 44	3	3	1	1	8
H. and O. Minkovskių str. 71	2	2	1	1	6
Garšvės str. 12	2	3	1	3	9
Perlojos str. 81	1	1	1	3	6
Jonavos str. 220	3	3	2	1	9
Vydūno av. 13	2	1	2	1	6
Mosėdžio str. 67	1	1	1	1	4
Dujotiekio str. 30	3	2	3	3	11
Jonavos str. 3	3	3	2	2	10
Karaliaus Mindaugo av. 16 / Druskininkų str. 1	3	3	3	2	11
Nemuno str. 27	1	2	2	1	7
Gedimino str. 46	3	3	3	3	12

**Table 1 (continued)**

<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>
Kaunakiemio str. 9	1	1	1	3	6
Radvilėnų av. 1A	1	1	1	1	4
Žalioji str. 10	3	3	3	3	12
Europos av. 96	2	1	1	2	6
Vaidoto str. 127A	1	2	2	1	6
Perlojos str. 35A	2	1	2	1	6
V. Krėvės av. 4A	1	1	-	1	3
V. Krėvės av. 9C	1	1	2	1	5
V. Krėvės av. 9D	1	1	2	1	5
V. Krėvės av. 55A	1	1	3	1	6
Partizanų str. 50B	1	1	3	1	6
Partizanų str. 72A	1	1	2	1	5
T. Masiulio str. 9	3	3	3	1	10
Naglio str. 5	2	1	2	1	6
K. Griniaus str. 2	2	2	1	1	6
A. Juozapavičiaus av. 19	1	2	1	1	5
A. Juozapavičiaus av. 25D	1	1	1	1	4
A. Juozapavičiaus av. 3F	2	1	1	2	6
Švenčionių str. 12	1	1	1	1	4
Švenčionių str. 53	1	1	1	1	4
A. Juozapavičiaus av. 120	1	1	1	1	4
Ukrainiečių str. 4	3	3	1	1	8
Savanorių av. 277	1	1	1	1	4
Savanorių av. 279	1	1	1	1	4
Vilties str. 1	1	1	2	1	5
A. Juozapavičiaus av. 21B	2	2	2	1	7

*Explanations: 1 - poor, 2 - satisfactory, 3 - good; total 3-6 - poor, 7-9 - satisfactory, 10-12 - good.*

After accomplishing the analysis of abandoned buildings' condition it can be said that the majority of such buildings in Kaunas city are derelict or physically damaged, their territory is not ring-fenced. The condition of the large part of these buildings is poor or even wrecked. However, there are cases noticed when buildings are brushed up or readjusted for a new life.

Improper maintenance and necessity of liquidation of abandoned buildings are some of the major problems that should be noted currently. The main factors causing urgent liquidation and clearing of abandoned buildings are the threat for people, their life and health, and also damage for landscape.

If construction or its part did not meet essential requirements it must be either repaired or demolished. To determine the priorities of demolition of abandoned buildings, attention should be drawn to buildings' current condition, their location and potential threat for people and landscape. According to the present condition and possible threats, abandoned buildings in Kaunas city are grouped according to priorities of their arrangement. Three ways for clearing unused abandoned buildings were suggested: urgent demolition, demolition and renovation. Building should be urgently demolished in the case when it is heavily physically threadbare, worn-out and cause threat for people. It is appropriate to renovate the buildings in good condition and a possibility to reuse them after renovation. It was determined that almost half, i.e. 48 percent of abandoned buildings in Kaunas city can be renovated. These buildings have strong although damaged constructions, and these buildings could be further used if they were properly repaired or renovated. Further use of such a building can be based on its current purpose or it might be provided to change the intended purpose and to adjust it for a new activity.

32 percent of all abandoned and unused buildings should be demolished urgently. These buildings cause actual threat for people and damage the landscape. A considerable part of such buildings is wooden, and therefore the risk of fire increases. In case of fire the surrounding buildings and natural environment would suffer.

20 percent of abandoned buildings in Kaunas city could be demolished without urgency. These buildings cause less damage to environment and are less dangerous for people compared to those

attributed to urgently demolishable. However, it is advisable to liquidate these buildings eventually because their condition will continually grow worse. Besides, the possibility to adapt such buildings for reuse is very small.

According to a geographical position of abandoned buildings and the degree of their condition, the following methods for clearing abandoned buildings and decreasing their negative impact can be applied:

- Renovation and modernization of buildings changing their intended purpose or adjusting for further activity without changing the intended purpose;
- Clearing of garbage present in building zone and disposal of dangerous chemical and biological substances;
- Demolition of buildings and all infrastructure related to them, herewith ensuring restoration of landscape and good environmental condition;
- Surrounding buildings with quickly growing trees or pathless shrubbery. This method can be applied when a building or its remains does not cause any threat for human life or health.

However, one of the most beneficial methods for handling abandoned buildings is to adjust such buildings for further use. This method would also have a positive impact on the country's economic development. When abandoned buildings are adapted for reuse, the costs for demolition are reduced and increased income to the municipal budget is expected.

### Conclusions

1. In accordance with the purpose of the use, 85 percent of abandoned buildings in Kaunas city are attributed to non-residential buildings, and 44 percent of them are former industrial buildings. 80 percent of abandoned buildings in the city are administered by legal entities.
2. As regards the condition of constructions, threat to people and environment, visual appearance, the condition of 72 percent of abandoned buildings is considered as poor. The state of 15 percent of abandoned buildings is considered as good and 13 percent – as satisfactory.
3. The principle priority of clearing of poor condition abandoned buildings in Kaunas city should be their demolition. 52 percent of abandoned buildings are considered to be demolishable, while the remaining 48 percent of buildings could be repaired or renovated and adjusted for a new use.

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### Information about authors

**Vilma Sinkevičiūtė**. Lecturer. Aleksandras Stulginskis University. Address: Universiteto 10, LT-53067 Akademija, Kauno distr. Tel. +370377523372, e-mail: [vilma.sinkeviciute@gmail.com](mailto:vilma.sinkeviciute@gmail.com)

**Indrė Januškevičiūtė**. Student. Aleksandras Stulginskis University. Address: Universiteto 10, LT-53067 Akademija, Kauno distr. Tel. +370377523372, e-mail: [vilma.sinkeviciute@gmail.com](mailto:vilma.sinkeviciute@gmail.com)