

The Dangers of Urban Decline and the Role of Facility Management in Reducing Associated Safety and Health Risks

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ABSTRACT

Background and aim – This paper studies urban decline, the process in which the built environment suddenly or gradually loses its practical, technical and economic functionality, resulting in it being abandoned by its legitimate occupants and neglected by its owners for an extended period of time. Recent European examples of urban decline from around the globe as well as five German examples were studied. This is followed by a reflection on the risks for public safety and public health that these examples show and the possible role of facility managers in diminishing these risks.

Methods / Methodology – Data were collected by means of desk research and direct observations

Results – At all locations public safety and public health risks were considerable. Direct observations at five German locations show extensive urban decline.

Originality – Identifying safety and health risks in abandoned buildings and connecting these issues to the facility management profession offers a new perspective on dealing with urban decay.

Practical or social implications – Abandoned buildings that are easily accessible to the public generate considerable risks for public safety and health. This paper calls for a debate about how to deal with these risks. Part of the debate should be whether or not such situations should be allowed to continue. Moreover, this paper suggests a prominent role for the facility management profession in order to deal with these safety and health issues.

Type of paper – Research paper.

KEYWORDS

Abandoned buildings, city decay, facility management, healthy cities, public health, public safety, urban decline.

INTRODUCTION

Cities rise, cities fall. This has happened since ancient times and is still happening today. Troy, Babylon, Persepolis, and Pompeii are iconic examples of once thriving cities that fell into an irreparable condition and have now been reduced to ruins. In some cases, it is easy to establish what exactly led to their downfall, while in other cases this is impossible. For Pompeii it was clear that the cause was a volcanic eruption. But for Troy there are several theories stating that a war, an earthquake, or a massive fire has led to its downfall (Maher, 2011). Regardless of the exact causes, all four of the aforementioned historic cities were subject to a process that is called ‘urban decline’ or ‘urban decay’. Danish scholar Hans Skifter Andersen defines ‘urban decay’ as:

“...a result of the interaction between social, economic and physical changes in cities...” [leading to] “...complicated mechanisms that draw the areas into a downward spiral from which they rarely recover unaided.” (Andersen, 2003).

However, with his definition Anderson neglects disasters and other external causes such as the ones that hit Pompeii, Nagasaki, and Chernobyl. Buildings in these cities may be abandoned for long periods, perhaps even forever, depending on the capabilities to build trust, to carry a promise, and restart human life. Moreover, some of the iconic historical examples from above have witnessed repeated cycles of rise

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and fall. Eventually leading to decline that now has lasted for centuries. Although the aforementioned historic examples are declined far beyond repair, some of them have aesthetic appearance as such. Their remains attract tourists from all over the world. Their function has shifted from inhabitants to tourists. In other cases, policies and measures can be put into place to reverse processes of urban decline (Grogan, 2002) and revive the city.

As there are so many well-known examples of declined and abandoned cities from ancient times, one might think that urban decline is a phenomenon that is not prominently present in today's world. However, recent history tells us otherwise, as the twentieth and twenty-first century also show a multitude of declined and even totally destroyed and abandoned urban areas. In this context, this paper describes recent examples of urban decline in various countries and subsequently scrutinizes five German sites by means of location visits and direct observations. This is followed by a reflection on the risks for public safety and public health that these examples show.

For this specific purpose, studying urban decline in a contemporary environment, urban decline is defined as:

The process in which the built environment suddenly or gradually loses its practical, technical, and economic functionality, resulting in it being abandoned by its legitimate occupants and being neglected by its owners for an extended period of time.

The focus on urban decline should be seen in the broader light of our research into healthy cities, which is one of the main research themes of our research group. Hancock and Duhl (1988), who are the initiators of the UN Healthy Cities programme, mention eleven qualities that a healthy city should have, the three qualities that are most relevant in the context of city decline are: 1) a clean, safe, high-quality physical environment; 2) an encouragement of connectedness with the past, heritage, and other groups and individuals; and 3) a high positive health status and low disease status for all.

METHODS

Two sorts of data have been collected for the micro-case descriptions in this paper. First, this paper uses desk research to study five cities suffering from urban decline in various countries around the globe. These cases were selected in interaction with students, appeared in iconic movies, and/or described in the media. Second, five German cities were scrutinized with location visits and direct observations. These cases were a convenience sample, ease of access, proximity, and recent history being the main reasons for them being selected. Be reminded that the former German Democratic Republic (GDR), experienced a major regime change in 1989. With the Berlin wall coming down, the GDR also fell, generating thousands of vacant buildings (Richter, 2015). Moreover, the German cases were also chosen to demonstrate the existence of extensive urban decline in the developed world.

Ten German locations were pre-selected with Google Street View. Five locations were excluded because these were inaccessible due to legal or physical reasons. The remaining five locations were visited. The objective of this first visit was to establish their actual accessibility and their risks regarding public safety and public health. No fence or wall was climbed and no door or gate was forced or even opened to access these locations. All five sites were easily accessible for the public. However, the exact locations of the cases will remain undisclosed in order to prevent urban decline 'tourism'.

RESULTS

Desk research

The desk research of this paper revealed five notable examples of contemporary urban decline in the USA, (former) Yugoslavia, Ukraine, China, and France. Examples are described to explore the reasons of decline and the current state of the studied cities.

The Rust Belt is a region in the Midwest of the United States that fell victim to a structural economic downfall starting in the 1970's and continuing till present day (Alder, 2014). Earlier, the economy of the Rust Belt grew exponentially when the major American car manufacturers Ford, Chrysler, and General

Motors decided to locate their plants and headquarters in and around Detroit. It caused the population and the economy of the Rust Belt to explode, with Detroit at the heart of these developments. But with the subsequent rise and influence of German, Japanese, South-Korean, and Chinese car industries, the Detroit car industry failed to compete on a global scale. Thousands of jobs were lost and the population of Detroit shrank. Tens of thousands of commercial and residential buildings were abandoned. Many of them being collapsed, burnt down, or demolished now (The Guardian, 2013). Some parts of the city have been taken over by gangs and abandoned buildings are used for criminal activities (Terry, 2019). These developments have made Detroit a modern 'icon' of urban decline. Up to a point where the decline of Detroit forms the major backdrop for prominent Hollywood movies, such as Robocop (1987), 8 mile (2002) and It follows (2014). This clearly shows that complete social, economic, and physical collapse of cities is not just a thing of the past.

After the fall of the Soviet Union in 1991, many former communist states experienced peaceful transitions into democracies with a market economy. But former Yugoslavia was a complex construct of ethnicities, religions, political movements, and paramilitary organizations that were tied together by Tito and held together by the strict leadership of the communist regime. In 1991, former Yugoslavia broke up into 5 countries, leading to the Yugoslav wars (Anderson, 1995). A very bloody series of conflicts took place, resulting in an estimated death toll of 130,000-140,000. Dozens of major cities were partly destroyed. Cities like Belgrade, Sarajevo, and Zagreb suffered from major destruction. Many buildings in the centres of these cities are still abandoned today.

Pripyat is located in the Northern Ukraine at a 2 kilometres distance from nuclear reactor number 4 in Chernobyl that exploded on April 26th, 1986. Pripyat was evacuated the day after the explosion and has been abandoned till present day. After 34 years of neglect, Pripyat's buildings have collapsed, wild animals like boars inhabit the city, and highly contaminated items and materials are still lying in and around buildings (Dobraszczyk, 2010). Although Pripyat is part of a forbidden exclusion zone, more and more tourists and adventure seekers manage to reach the town and stay there for a while. The situation in Pripyat is in some ways comparable to the contaminated exclusion zone surrounding Fukushima in Japan.

For the past decade, the Chinese government has initiated a building boom that has never been seen before in world history. The objective was to bring people from rural areas to the cities in order to work in mostly production facilities. However, this internal mass migration is structurally lagging behind the building process, having left millions of apartments in China unoccupied for years now, leading to the emergence of so-called 'ghost cities' (Mingye, 2017). The same goes for many shopping centres and offices in these areas. In many cases there is an additional problem because of rushed construction methods and low-quality building materials. This has resulted in millions of empty buildings that are deteriorating rapidly.

After the second World War most of the French colonies became independent. Many people from those former colonies, especially people from African nations, settled in France. In order to deal with this sudden influx of immigrants, and for other social-economic reasons, France built 'banlieues' (suburbs) at the edges of major cities like Paris, Lyon and Marseille. Some of these banlieues transformed into problematic areas, giving the word 'banlieue' a bad name (Horvath, 2014). The media reported clashes between immigrants and natives, rising crime levels, poverty, drug trafficking, and prostitution. During the past decade, some banlieues have been repeatedly in the news because of riots and civil unrest. Reason for which they are labelled by the media as 'no-go areas'. This has led to major urban decline in some of the largest banlieues of the country.

Every case of the above-mentioned examples of urban decline appears to have its own specific set of underlying causes and catalysts. Therefore, it seems to be impossible to identify a universal cause of urban decline. The variety of causes of urban decline that appear from these five examples include global economic competition (American Rust Belt), war (former Yugoslavia), human-induced environmental disaster (Pripyat), overdevelopment (Chinese Ghost Cities), and social unrest (The French Banlieues). This paper continues with direct observations and site visits in Germany.

Direct observations

After having been selected by means of Google Street View, five contemporary locations were visited in order to make direct observations: Leipzig (site visit in November 2019), Bernau, Wunsdorf Waltstadt, Berlin, and Fürstenberg (all site visits in December 2019).

Leipzig is a major German city with a population of approximately 600,000 residents. It is located in the German state of Saxony. Especially for the past decade, Leipzig is known for its rapid growth in population and economy. Despite being one of the fastest growing cities in Germany, Leipzig shows clear signs of urban decline throughout the city. One of the most notable examples is a stretch of land of about 200 meters wide and 1,000 meters long filled with abandoned buildings. The area contains a group of 10-20 abandoned and decayed buildings. Most of them far beyond repair, completely accessible to the public, including children, and providing an extremely dangerous and hazardous environment at the same time. Dangerous materials were lying around unattended, collapsed buildings were freely accessible, and many of the buildings showed the signs of human defecation. In some of the buildings young people were inside, exploring the building and climbing unstable parts of the construction.

Bernau is a municipality in the German state of Brandenburg. It is located about 20 kilometres north of central Berlin and has a population of about 36,000 residents. It is home to a huge former military complex, both used by the Nazi's and the former communist regime. After being abandoned in 1990, the complex has remained empty and has not seen any significant maintenance or repair. During the site visit, most of the buildings were easily accessible to the public and providing an extremely dangerous and hazardous environment at the same time. Some building parts were close to collapsing, there were holes in floors at unexpected places and in some buildings drugs paraphernalia were lying on the ground.

Wunsdorf-Waltstadt is a municipality about 30 kilometres south of Berlin city centre. Although Wunsdorf is known for its former military facilities, it is also home to many abandoned residential buildings that are scattered around town. In several buildings, roofs looked like they could collapse any moment, severe cracks in walls were visible, floors were covered with dangerous materials like sharp metal objects and broken glass and railings from staircases were missing. Some of the buildings seemed to be inhabited. In some parts of the premises, small groups of men were gathering and consuming alcoholic drinks.

The case in Berlin concerns almost an entire abandoned city with close to a hundred buildings south of the city centre. The streets and surroundings of the buildings were fully overgrown with bushes and branches of trees, making strolling around the area difficult and in some places dangerous. The buildings contained collapsed floors and roofs and there were objects that looked like chemical storing units. Some of the buildings were apartment buildings with up to 10 floors. Some of the roofs were freely accessible and there were no railings or fences to prevent people from falling down.

The Fürstenberg location concerns a former military facility. Some parts of the premises were used as a dumpster for all kinds of equipment and chemical waste. Some buildings appeared to be close to collapse. Dark and apparently flooded basements were accessible and piles of materials looking like asbestos were stacked in open air.

These five locations have in common that an important cause for the decline of the respective places appears to be obsolescence of buildings after the termination of the communist regime. The situations as assessed, imply significant risks to public safety and public health, such as getting injured by collapsing constructions; sinking through unstable roofs and floors; falling into holes in the ground; falling from roofs or staircases, or into elevator shafts; getting stuck or drowning in flooded basements; getting injured because of sharp items and other dangerous objects like shattered glass; getting poisoned by hazardous materials such as asbestos, possibly resulting in disease; getting infected with germs that are spread by mould, vermin, dead animals and defecation; falling on slippery floors; tripping over objects lying on the floor; potentially being attacked by animals such as rats, swines, wolves, and wasps; and being harassed or attacked by people.

Nowhere at any of the visited sites, the researchers observed visible signs of facility management related activities, which could have contributed to reducing safety and health risks. For example, the researchers did not observe any security or supervision personnel or their vehicles, surveillance cameras, functioning lighting, recently applied notices, fencing, locking or boarding-up, or any signs of building maintenance, greenery management, repair work, road work, waste management or cleaning and clean-up activities. Nor were there any visible signs of regeneration or regulated alternative use of the sites. It should also be noted that online research prior to the site visits did not reveal any official warnings against visiting and entering these sites. Local authorities do not appear to actively, or at least effectively, engage in public communications activities in order to discourage site visits.

DISCUSSION

This explorative research clearly confirms the existence of major examples of contemporary urban decline. The desk research showed that causes of urban decline varied from global economic competition to war, human-induced environmental disaster, overdevelopment, and social unrest. The site visits and direct observations showed that even in a highly developed country like Germany urban decay is vividly present. Scattered around several German states, examples of groups of abandoned buildings have been found that were both very hazardous and easily accessible to the public at the same time.

As these risks for public safety and public health are considerable, a relevant question that arises is how situations like the cases presented above should be dealt with. At the time of the visits, notwithstanding the risks it was remarkable that in none of these locations there was visible presence of security, police, local authorities, owners, or caretakers. No one seemed to take any responsibility or control of the situation.

Therefore, this paper calls for a debate about how to handle situations and locations like the ones described. Part of the debate should be whether situations like these should be allowed to continue. This paper would suggest a more prominent role for the facility management profession in order to deal with the various safety and health issues. Although facility management is a discipline that basically focusses on supporting processes in functioning buildings, this paper would like to make a case for letting facility managers also support processes concerning non-functioning buildings.

Instead of the usual activities that would normally be applied in the context of functioning buildings, facility managers could now focus on a specific set of activities that would better suit a situation of urban decline, in order to contribute to reducing health and safety risks in and around abandoned buildings. Such a set could consist of for example risk assessment, security management, supervision, communications management, applying lighting, notices and signage, fencing, locking, boarding-up, building maintenance, greenery management, repair work, road work, waste management, cleaning and clean-up activities.

Architects design buildings and contractors erect buildings, but facility managers understand the use of buildings during their entire lifecycle. Why not extend the portfolio of the facility manager into the non-functional era of a building's existence? The observations that have been made for this paper show that that part of a building's lifecycle could take years, if not decades and deserves more attention than which is currently provided.

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Deltapremie

The 'Deltapremie' or Delta Prize is a new leading research prize in the Netherlands focusing on practice-oriented research by professors. The prize is developed for professors who have managed to repeatedly make a special difference with the social impact of their research over the years. It shows where practice and research can come together in an innovative way. Practice-oriented research has acquired a solid place in Dutch society. Almost 700 professors and more than 3,000 teacher-researchers are currently involved. The starting point of the research is always to find solutions for practice-based problems, also by partnering with practice. In this way, practice-oriented research provides applicable solutions to societal challenges.



An independent selection committee selected the winners. The committee consisted of six experts from Erasmus University Rotterdam, Innofest, Delft University of Technology, Netherlands Study Centre for Technology Trends, and the Association of Netherlands Municipalities. In the report the selection committee tributes Mark Mobach and his research group for the impact that they have on the crossroads of various domains from public transport to mental health. Mobach: "We see the prize as enormous encouragement to continue our research into space and organisation in healthcare, education, offices, and cities together with our partners. We extend our research to areas where there are perhaps fewer financial possibilities, such as research with the arts and frailty."

Research focus area

With his research group, Prof. Mobach wants to contribute to the best buildings for people and organisations. He does so by devising better space and services in a multidisciplinary setting together with students, lecturer-researchers, Ph.D.-students, and postdocs. Better spaces and services for education, offices, and even cities that stimulate healthy behaviour, better healthcare buildings that reduce stress, but also prisons and stations that better meet the needs of society.