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MORE SUSTAINABLE THAN IT SEEMS – THE SOCIAL SUSTAINABILITY OF WARSAW'S MULTI-RESIDENTIAL PREFABRICATED HOUSING FROM THE 1970s AND 80s

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ABSTRACT

After the fall of communism in 1989, Warsaw's large-panel housing estates became an unwanted legacy of the previous era. Frequently, they were characterised by poor quality of workmanship, deficiencies in the surrounding infrastructure and the monotony of the urban space. However, in the second decade of the 21st century, their potential has become increasingly appreciated. Unlike other European capitals, large housing estates from the 1970s and 80s have not become isolated poor districts of the city, but rather an integrated part of Warsaw with a socio-economically diverse community. This research analyses this phenomenon to explain how spaces that were doomed to failure 30 years ago can inform building a sustainable city. Despite the several flaws in the large-panel estates, they are characterised by features that are currently unattainable, such as apartment size, layout and public spaces. The way these estates function today forces us to consider sources of positive social reception and differences in relation to housing developments implemented under the current free market conditions.

Keywords: panel building, multifamily housing, social sustainability, Poland

INTRODUCTION

Over the last decades, it has been observed that large-scale multifamily housing projects have failed to address the housing shortage and growing socio-economic challenges in Europe. This paper investigates selected prefabricated housing projects in Warsaw, Poland, that seem to be surviving well despite the changing social environment. This investigation aims to provide insights into the drivers behind the survival of such schemes and intends to inform decision-making, especially in other European countries facing housing crises and where multiple deprivation is frequently linked to urban form (Vassileva-Karagyozova & Wood, 2012).

Large-scale prefabrication technology in housing construction in Poland was driven by the post-WWII demographic boom and resulted from the acute shortage of housing. It started in the early 1960s, when major parts of larger cities were subjected to central government planning. This is when the pre-war left-wing idea of social estates was turned into the idea of workers' estates or, more realistically, into the minimum existence housing (Kiciński, 2004). The central plans determined the housing standards and models, and prefabrication has

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become the solution for rapid housing production. By now, there are 4 million prefabricated apartments making up some 25% of all housing in Poland (Kaźmierczak, 2021). These planned-from-scratch large-scale urbanisation projects followed the theoretical concepts of the Congrès Internationaux d'Architecture Moderne (CIAM). Hence, these developments were naturally similar to what has been developed in the western side of the Iron Curtain. In Poland, prefabricated housing evolved from using predominantly large block technologies in the early 1970s to large panels dominating from the mid-1970s till the late 1980s (Radziszewska-Zielina & Gleń, 2014).

The reception of prefabricated housing was mixed, and despite design similarities, these developments instigated different social and cultural reactions, leading to the long-term success or failure of these social experiments (Crowley & Reid, 2002). In developed economies, many of these estates have not withstood the test of time, and some were even completely demolished, like Pruitt-Igoe in St. Louis, the United States (Jencks, 1977; Gąsowska-Kramarz, 2019) and Les Minguettes in Lyon, France (Blanc & Stebe, 2004) or their existence was challenged, like the *Plattenbau* in Berlin (van der Hoorn, 2004). Contrary to that in Poland, despite the bleak predictions (Vassileva-Karagyozova & Wood, 2012), prefabricated multifamily block estates still seem to serve their inhabitants well and are not a major driver for deprivation, e.g. in Kraków and Jędrzejów "these buildings have obtained a satisfactory social rating and can certainly serve their residents well for many years" (Radziejowska & Sobotka, 2021, p. 106).

To explain the phenomenon of social survival of such schemes, this research identified examples of large-scale prefabricated housing schemes in Warsaw, which today still address the purpose they were built for. We then look into its urban structure, architectural form, amenities and other parameters to explain how they perform in terms of their social sustainability.

The rest of this paper is structured as follows: The next section, *Material and methods,* describes our methodological approach. *Social sustainability and social value in housing* explores the social, economic, and political justification for large-scale prefabricated technology in housing projects developed in the 1970s and 80s. *The construction of prefabricated housing estates in Warsaw in the 1970s and 80s* looks into the urban and architectural principles to achieve the social aims of these projects. *The current state of prefabricated housing estates in Warsaw* provides an overview of our methodological approach. The paper ends with conclusions suggesting relying on these schemes as spaces that not only provide accommodation, but more importantly, deliver social value.

MATERIAL AND METHODS

This paper uses qualitative research methods, including, in the first stage, archival research of the literature discussing social value and the historical context (Krippendorff, 2019), as well as visual landscape surveys of Warsaw's housing estates from the 1970s and 80s, and in the second stage, a comparative analysis of 1970s and 80s stock versus post-1989 housing developments. Thus, the first stage focuses on the sustainability features of the 1970s and 80s residential estates. These are not narrow case studies, as the main objective is to capture the general phenomena of well-functioning housing estates within the structure of the entire city of Warsaw. The second stage, aiming to situate the studied architecture and urbanism of prefabricated estates, provides a critical reflection on the current state of 1970s and 80s residential estates in the context of their social sustainability and social value in relation to wider changes in the city driven by the post-1989 housing stock. This approach allows for interpreting the architecture in different ways, well beyond pure environmental sustainability.

Although the title of this paper suggests that Warsaw's prefabricated housing estates built before 1989 would have been sustainable, their production methods and characteristic urban planning were far from what we would nowadays refer to as sustainable developments. The key factor in this case is the very fact of their presence within the much larger structure of the city. Avoiding their demolition and ensuring their efficient functioning

in harmony with other parts of the city built after 1989 seems to be the greatest challenge. Hence, this research explores the concept of sustainable development and presents perspectives on how selected large-scale estates function within the capital city. The selection of large-scale estates considered their characteristics such as: (1) location in Warsaw, (2) period of construction (1970s and 80s), (3) size of the developed area, and (4) number of apartments. While the first and second criteria served to identify specific estates, the third and fourth criteria were used to identify estates of distinctive characteristics to illustrate various perspectives on their social sustainability and, where applicable, changes since their completion (Fig. 1, Table 1).

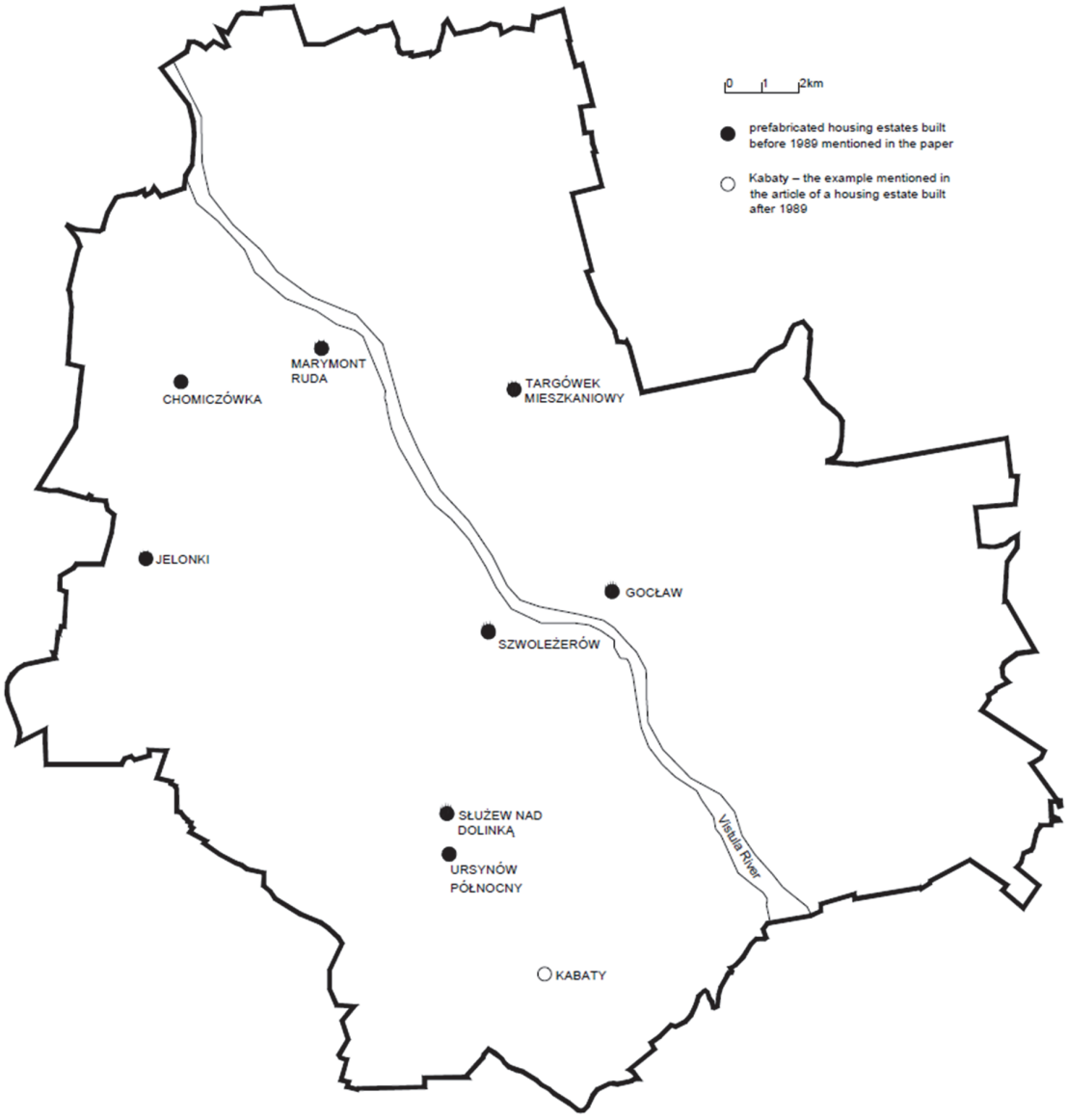

Fig. 1. Location of analysed housing estates

Source: own work.

Table 1. Analysed housing estates

Residential estate	Development period[a]	Area [ha]	Number of apartments
Marymont Ruda	late 1970s	36	~3,200
Chomiczówka	1975–1980	103	~5,600
Jelonki	1974–1977	51	~4,400
Szwoleżerów	1971–1974	4	~450
Służew nad Dolinką	1975–1979	42	~5,400
Ursynów Północny	1975–1978	195	~9,600
Kabaty	1987–early 1990s (majority of buildings) and 2000–2002	13	~2,500
Targówek Mieszkaniowy	1974–1978	78	~6,400
Gocław	1976–1979 (first section)–1990 (last building)	119	~11,000

[a]Where no further details were provided, the development period relates to the period when the majority of residential buildings were completed. In the 1970s and 80s, social infrastructure in large housing estates was frequently completed towards the end of construction of the residential buildings or within a few years after.

Source: Burczynski (2017), Żylski (2019), Orchowska and Klimowicz (2023), Korusiewicz (2025), Spółdzielnia Mieszkaniowa "Służew nad Dolinką" (2025), Spółdzielnia Mieszkaniowa "Szwoleżerów" (2025).

SOCIAL SUSTAINABILITY AND SOCIAL VALUE IN HOUSING

Close to 30 years ago, Choguill (1994) established the multidimensionality of sustainability in housing, including ecological, economic, technological, cultural and social sustainability. Despite extensive debates over the past years, social sustainability is still subject to interpretation (Dixon, 2019), be it in the context of sustainability dimensions such as economic or environmental or in the context of place, ranging from a single building to towns or cities. The 'place' dimension has been subject to extensive research by Dempsey, Bramley, Power and Brown (2011), Woodcraft, Bacon, Caistor-Arendar and Hackett et al. (2011), and Dixon and Woodcraft (2013). A detailed account of this can be found in a paper by Dixon (2019). On the other hand, terms such as 'social' or 'community' together with 'inclusion', 'cohesion', 'equity', 'wellbeing' or simply 'safety' or 'security' are often associated with social sustainability. However, such terms are more often used in the context of new housing projects, urban regeneration, or the assessment of reasonably recent projects rather than for older stock (Khor & Abu Bakar, 2012; Wiesel et al., 2012; Dixon & Woodcraft, 2013). While many evaluation systems are in existence, each offers a slightly different focus.

Similarly, the issue of 'social value' has been subject to an intensive debate over at least the last two decades by various researchers and institutions from across disciplines such as economics, sociology and politics (Raiden, Losemore, King & Gorse, 2018). Yet still, there is some confusion about what constitutes social value. Emerson (2000) defines social value as the generation of improvements to the lives of individuals or society through resources, processes and policies. Social Enterprise UK simplifies that to "positive externalities or social, economic and environmental wellbeing above and beyond the 'core' value of the good, service or work" (Nicholls, 2023, p. 5). Many countries have their own definitions. The UK's Social Value (Public Services) Act 2012 defines it as maximisation of additional benefits beyond the benefit of the goods and services themselves.

Many researchers have attempted to quantify or at least to propose measurable parameters for social sustainability in housing, pointing out mostly the quality of the environment and other aspects such as land uses and urban design, transportation, architectural design and layout (Ding, 2008; Brandon & Lombardi, 2011; Soo Cheen & Abu Bakar, 2012; Kalfaoglu Hatipoğlu, 2017).

Given the above, various models address different perspectives. The Affordable and Socially Sustainable Housing Assessment (ASHA) tool is based on social sustainability's positive externalities, including reducing health expenses, improving employment and enterprise, improving educational outcomes, improving safety and security, increasing social capital, reducing commuting impacts, and increasing housing stability (International Finance Corporation [IFC], 2015). Bearing in mind the lack of consistency or disagreement on criteria, the ASHA tool seems to be an attempt to address both the qualitative criteria (affordability, design quality, local economy, health, safety and security) and project stages (project definition, planning and design, construction and operation) but not larger estates or self-contained urban areas (IFC, 2015). On the other hand, the Geneva UN Charter on Sustainable Housing (United Nations Economic Commission for Europe [UNECE], 2015) suggests a narrower perspective of environmental protection, economic effectiveness, social inclusion and participation, and cultural adequacy. Yet another approach is taken for the Housing Sustainability Assessment Tool (Adamec, Janoušková & Hák, 2021), which is based on four sustainability dimensions (economic, environmental, institutional and social) and three housing components (building, locality and community). Further, Kalfaoglu Hatipoğlu (2017), in the Sustainable Housing Quality Framework, adds dimensions such as needs-oriented design and participation, as well as the flexibility and diversity of buildings and apartments. However, none of these models comprehensively addresses the urban and architectural design in an intertemporal context.

There is no uniform definition of sustainable space. In construction, a sustainable built environment may sometimes be seen as an oxymoron, such as the promotion of shorter-life wooden constructions to avoid the use of fossil fuels and materials (Starzyk, Cortiços, Duarte & Łacek, 2025). On the other hand, solid (stone or brick) structures lasting for several hundred years can also be interpreted as sustainable, as exemplified by historic city centres (European Environment Agency [EEA], 2024). Similar assumptions also apply to space in a broader context. Housing estates are part of a larger urban organism that is embedded in a specific social context. Treating them in a laboratory-like manner may be misleading. The approach taken in this research, focusing on a large city, fits within social sustainability understood as "development (and/or growth) that is compatible with the harmonious evolution of civil society, fostering an environment conducive to the compatible cohabitation of culturally and socially diverse groups while at the same time encouraging social integration, with improvements in the quality of life for all segments of the population" (Polèse & Stren, 2000, p. 15).

Researchers focusing on Polish towns and large-scale centrally planned estates touch on social conditions and threats, and the survival potential for such estates, and highlight the relevance of the physical space and social changes occurring in the specific estates (Table 2).

Table 2. Selected research on large-scale centrally planned estates in Poland

Town level	Estate level
Warszawa (Musterd & van Kempen, 2005; Fuhrmann, 2010; Kozłowski, 2010) Białystok (Baum, 2018) Gdańsk (Rzyski & Mędrzycka, 2010) Kraków and Jędrzejów (Radziejowska & Sobotka, 2021) Łódź (Szafrańska 2009; 2014; Marcińczak & Sagan, 2011; Galuszka, 2022) Poznań, Kraków, Tarnów, Dzierżoniów, and Żyrardów (Gorczyca, 2016)	Ursynów and Wrzeciono in Warsaw (Węcławowicz, 2003) Stegny and Sadyba in Warsaw (Fuhrmann, 2010) Olechów-Janów in Łódź (Galuszka, 2022) Kaliny and Przyjaźń in Szczecin (Wojtkun, 2011) Tysiąclecia in Katowice (Komar, 2012) Mickiewicza in Lublin (Rodzoś & Flaga, 2010) Nowa Huta in Kraków (Stenning, 2005; Gądecki, 2012) Gaj and Sobieskiego in Wrocław (Borowik, 2003)

Source: own work.

THE CONSTRUCTION OF PREFABRICATED HOUSING ESTATES IN WARSAW IN THE 1970s AND 80s

The large-scale delivery of prefabrication housing was only possible due to the variety of methods and designs (Chyliński, 1965; Rębowska, 2006; Wojtkun 2008; Słodczyk 2010, 2012). Quintessential to that was the Prototype Estate established in 1959 in the Służew area of Warsaw, which by 1965 included over 20 examples of designs that were used later to master the full new estates and wider new neighbourhoods (Chyliński, 1965). PBU, WUF-T, OW-T, the Szczecin system, W-70, Wk-70, and H-frame were the most popular systems (Chomątowska, 2021).

In 1965–1970, the central plans determined the housing standards and designs, and prefabrication became a widespread solution for rapid housing production. By the late 1970s, there were 180 prefabrication plants – 'house factories' (Kiciński, 2004). The 1980s – despite the political and economic tensions – still saw mass implementation of several projects (Trybuś, 2018). For Warsaw, this meant large-scale greenfield developments in the farming outskirts and no barriers to access large land parcels that were easily nationalised under central planning conditions (Fig. 2). However, due to economic and land management deregulation, hyper-inflation and political changes, by the late 1980s, large-scale housing prefabrication was practically over. This opened the construction scene for private developers.

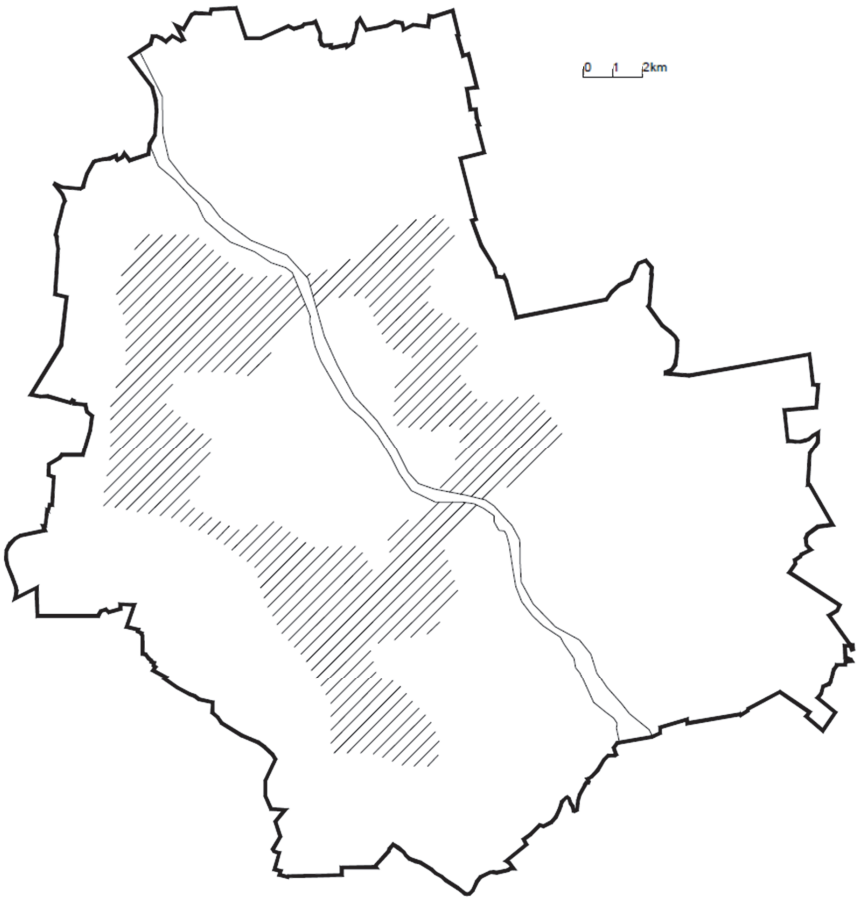

Fig. 2. Warsaw's areas developed with 1970s and 80s housing estates (marked by a hatched pattern)

Source: own work.

In Poland, there are around 60,000 prefabricated residential buildings inhabited by approximately 12 million people (Ministerstwo Funduszy i Polityki Regionalnej, 2019a, 2019b). Prefabricated apartments make up about 20% of the total housing stock (Heritage Real Estate [HRE] & United Nations Global Compact [UNGC], 2018). Most prefabricated estates are located in cities and larger towns. In Warsaw, they constitute some 22% of the whole stock, which is used by some 600,000 inhabitants (Wojtczuk, 2021). Many of Warsaw's projects are special for their scale, distinctive urban design, architectural form, and layout of individual multifamily buildings.

Prefabricated housing estates are typically viewed through the lens of their distinctive architectural form (Turkington, van Kempen & Wassenberg, 2004). However, there is more to it. Such estates are based on completely different urban planning assumptions than those applied to traditional urban patterns. From the 1960s, Polish architects and urban planners were able to fully implement the Athens Charter manifesto (CIAM, 1933). In the 1970s, as a result of the increased production of prefabricated housing, the shaping of large-scale free urban layouts on greenfield sites became virtually the only way of planning. In 1980, prefabricated units constituted 79% of all new completions (Radziszewska-Zielina & Gleń, 2014). New urban layouts were mainly designed with the aim of providing the minimum yet fully functional residential accommodation (Kiciński, 2004). The urban plans of residential estates demonstrate individual features of a compositional nature. The often-invisible relationships between the buildings were shaped by specific urban plan geometrical arrangements (Fig. 3) and ample provision of interconnected green spaces (Fig. 4). In many cases, these compositions, instead of being dictated by functional considerations, were an artistic manifestation of the concept's authors (Trybuś, 2018). Thus, the 1970s and 80s prefabricated projects are distinct from four perspectives: (1) urban design; (2) green space; (3) social infrastructure; and (4) architectural form and layout.

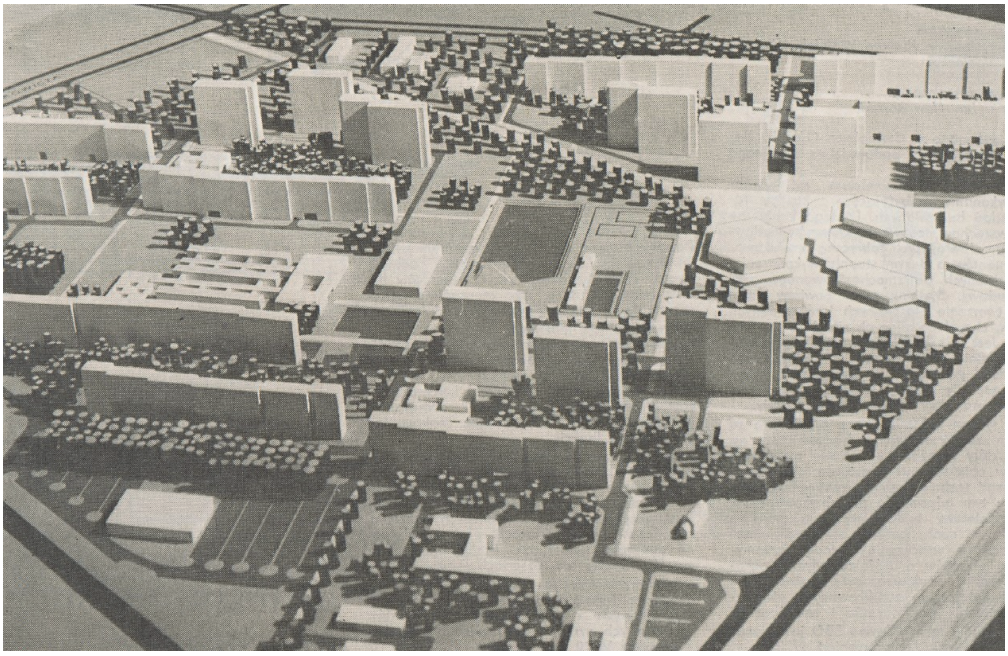

Fig. 3. Chomiczówka

Source: Dyteniecki and Steller (1973).

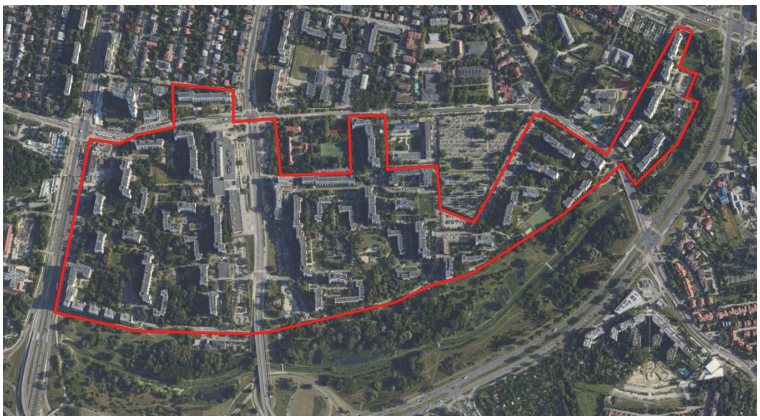

Fig. 4. Służew nad Dolinką

Source: Orthophotomap (Główny Urząd Geodezji i Kartografii [GUGiK], 2023).

Urban design

Warsaw's prefabricated housing estates were of a large scale, in excess of 100 ha. Thus, such estates, including Targówek Mieszkaniowy, Gocław, Jelonki, Marymont Ruda and Ursynów, are distinguished by carefully designed urban layouts and well-thought-out functional solutions. Ursynów Północny, designed by a team led by Marek Budzyński, is quintessential of it. Ursynów Północny was the largest single-phase residential complex in Poland (~40,000 residents), showcasing the level and capabilities of construction during that period (Ilmurzyńska, 2018). Here, apart from careful handling of the scale of the buildings and their form, the road layout and greenery provide critical compositional elements. Moreover, in some parts of Ursynów, the designers managed to combine the scale and atmosphere of a small town with lavish greenery for every resident (Fig. 5). Hence, the irony of history is that these large-scale estates delivered some of the pre-WWII ambitions for a concept known as Functional Warsaw (Różański, 1930; Kohlrausch, 2014).

Fig. 5. Ursynów Północny. After close to five decades, the estate is dominated by the diverse greenery

Source: landscape survey (own photo).

Green space

The greatest strength of urban design in the 1970s and 80s was the abundance of biologically active areas that were fully open to the public. This was possible due to the use of vast, formerly predominantly agricultural greenfield land (Mioduszewska, 2009). The greenery somewhat accidentally delivered a large chunk of the 'airing corridors' planned for Warsaw in 1928 (Różański, 1930). Green areas were developed with various types of greenery, ranging from simple plantings of birches, poplars and conifers to complex, carefully designed parks such as in the Szwoleżerów housing estate. This estate was designed by the leading architect of the time – Halina Skibniewska – with greenery and ornamental features designed by a renowned landscape architect, Alina Scholz (Fig. 6). While the Szwoleżerów estate has been designed on a smaller scale, it has been considered as a reference for other larger developments where such a high aesthetic level could not be fully achieved. Irrespective of the degree to which the green areas were developed, their capacity to absorb rainwater and moderate the urban heat island effect, as well as the availability of suitable space for especially tall tree species, proved to be a major benefit for the current residents. This is of particular importance, as such features stand in contrast to the very intensive developments carried out after 1989, in which access to greenery is significantly restricted (Fig. 7).

Fig. 6. Szwoleżerów. The park designed by Alina Scholtz plays a key role in the urban composition

Source: landscape survey (own photo).

Fig. 7. Kabaty – the southern part of the Ursynów District, developed in the 1990s, refers to classic frontage urbanism with limited public green space

Source: landscape survey (own photo).

Social infrastructure

The major problem with the urban planning assumptions of the 1970s and 80s in Poland was that they were hardly ever fully completed (Trybuś, 2018). Implementation usually started with residential buildings, which improved the housing production statistics and fulfilled the pent-up demand. This was then followed by associated services such as schools, shops and social venues such as clubs and cultural centres. In some cases, the expansion of some social infrastructure buildings was abandoned due to the lack of funds, or they were added after several years (Kiciński, 2004; Trybuś, 2018). In Ursynów Północny, the cinema and cultural centre was opened to the public in 1984, close to a decade after the completion of the first residential building (Dom Sztuki, 2023; Fig. 8). Similar situations also applied to road infrastructure and landscaping. The first Warsaw underground line is quintessential of that, with construction spreading between the early 1980s and mid-1990s and the construction sites cutting through the prefabricated Służew nad Dolinką and the whole Ursynów District, with many areas along the underground line only developed after its completion in the mid-1990s. Overall, the feeling of temporality, in many cases, was to accompany the new residents, often until the end of the 1980s. The lack of basic services and traditional urban forms such as streets with frontages and squares further hindered the formation of social ties (Mioduszewska, 2009).

Fig. 8. Dom Sztuki in Ursynów Północny

Source: GoogleMaps – Street view (Google, n.d.).

Architectural form and layout

The 1970s and 80s prefabricated architectural form, in individual cases, depended on the type of production of the nearest prefabrication factory. The role of architects during this period was to glue together ready-made large-scale elements. Hence, the major drawback of prefabricated housing architecture in Poland was its monotony (Kiciński, 2004; Mioduszewska, 2009; Trybuś, 2018). The façades of buildings usually looked very similar throughout. Exceptional solutions were rare. However, interesting solutions such as large balconies and generous green areas can also be found, e.g. in Służew nad Dolinką, designed by Janusz Nowak, Jerzy Kuźmienko and Piotr Sembrat and constructed using the then-newest H-frame technology (Chomątowska, 2021; Fig. 9).

Fig. 9. Służew nad Dolinką. Each apartment includes a square balcony of 4 m^2. Now, these balconies frequently serve as winter gardens. Ample green areas allow for the generous provision of playgrounds, while the greenery provides shade and noise reduction

Source: landscape survey (own photo).

Most often, prefabricated concrete façade elements with wooden windows were used, while the staircases were finished with a terrazzo floor, and the interior walls were plastered and painted with washable paint. With a construction scale of more than 200,000 dwellings per year, building repetitiveness had a major impact on the urban landscape. Thus, Warsaw, in the areas of new housing estates, was losing its unique character. Moreover, given the limited variation of prefabricated elements, there was little scope for creative innovation in housing. Frequently, apartments included small rooms, windowless kitchens or dysfunctional bathrooms (Basista, 2001; Szafrańska, 2017). Despite these deficiencies, the housing layouts were distinguished by consistency and economy of space with an ergonomic functional layout. The size of dwellings was determined by government norms. Following the 1959 residential development norm, according to which the size of dwellings in Poland was the smallest in Europe, the 1974 residential development norm was again updated, bringing dwelling size closer to the European average. For one-room dwellings for one person the norm was 25–28 m^2, two-room apartments for two people was 30–35 m^2, apartments for three people was 44–48 m^2, apartments for a four-person family was 56–61 m^2, apartments for a five-person family was 65–70 m^2, and apartments for a six-person family was 75–85 m^2 (Korzeniewski, 1980). With such a small footprint, ensuring an adequate number of rooms and windows has been a difficult design task. However, designing according to such demanding guidelines resulted in efficient layouts. Although the apartments were larger in Western Europe, the carefully designed apartments were delivered as fully finished. This stands in contrast with the post-1989 private developer-built apartments completed to the so-called developer standard, i.e. with kitchen, toilet, bathroom, and floor finishes to be installed by the purchaser. Currently, multifamily housing is not burdened by any norms, except for the minimum area of the apartment of 25 m^2 (Obwieszczenie Ministra Rozwoju i Technologii z dnia 15 kwietnia 2022 r.). This significantly reduces the quality of the living space. It is also worth noting that in the multifamily buildings of the 1970s and 80s, apartments were accompanied by pram/bike rooms, clothes dryer rooms and individual storage units in the basements. In some cases, art studios were provided on the top floors.

As presented above, the 1970s and 80s residential prefabricated housing estates, while delivered during austerity times, were designed to serve society in many ways beyond just the pure-housing function, with many features that are frequently more appreciated now than when they were designed and delivered (Table 3).

Table 3. Key social sustainability features of Warsaw's residential prefabricated housing estates from the 1970s and 80s

Category	1970s and 80s
Green space	Large and frequently contiguous greenery, fully open green spaces, a large reserve of land for future green development, and green areas generating positive externalities for other parts of the city
Architectural form and layout	Convenient and compact apartments with common amenities, the highest availability of housing in Poland's history, and social diversity (economic and educational)
Social infrastructure	Availability of social infrastructure such as nurseries, kindergartens, schools and community centres, convenient transportation links with other parts of the city

Source: own work.

Since the 1990s, when the mass prefabrication was practically abandoned, many architects and researchers saw a bleak future for these estates in Warsaw (Kiciński, 2004; Trybuś, 2018). Trybuś (2018) suggested that one would have to decide what to do by choosing between demolishing; following what is done in Germany or the United States by large-scale top-down transformation (attempts of this have not been successful); bottom-up, smaller-scale activities; or simply waiting till the buildings fall apart. To that, Kiciński (2004) focused more on the need to keep upgrading. Many researchers also feared or predicted social decay (Jałowiecki, 1995; Czepczyński, 1999; Gaczek & Rykiel, 1999; Rykiel, 1999; Kiciński, 2004) to the extent that Rembarz (2010) coined the term 'large housing estate syndrome' to describe the social and physical degradation.

THE CURRENT STATE OF PREFABRICATED HOUSING ESTATES IN WARSAW

This section provides an overview of the current situation in Warsaw and highlights the major challenges for 1970s and 80s prefabricated housing estates, with particular focus on the implications of social and economic changes since the early 1990s, the changing perceptions of these types of developments, threats to green spaces, and differences between the 1970s and 80s housing estates and post-1989 estates.

Social and economic changes following the Iron Curtain

After 1989, Warsaw's inhabitants regarded prefabricated housing estates as a relic of the communist system. Moving to new buildings constructed by private developers or to single-family houses built mostly in the suburbs was a proof of social advancement (Szafrańska, 2016). The Ursynów District was an exceptionally good example, as it was largely transformed by urban planning. The main road artery, Aleja KEN, was built up with western-style commercial frontages. The main impetus for the expansion and development of the wider Ursynów District was the opening of the first underground line in 1995 (Żylski, 2019). While the 1980s Ursynów Północny is a clear example of prefabricated housing, Kabaty – the southern part of Ursynów – completed in the 1990s, is a compact and more densely developed area (Żylski, 2019), but at least with respect to the original 1980s road layout (Fig. 7).

In the 2010s, when housing prices skyrocketed, the estates of the 1970s and 80s regained their popularity (Szafrańska, 2016). The convenient location, lower price and transport links to the city centre were of major benefit in the rapidly growing housing market. The increasing residents' appreciation for green spaces and openness of estates meant that the maintenance of areas around the buildings improved, and they were landscaped to new standards (Musterd & van Kempen, 2005). However, with the growing economic diversification of the society, many new housing estates attempted to fence off (Wojtkun, 2007), often spiralling into spatial chaos. Despite new private developments, large-scale prefabricated housing projects managed to avoid being fenced off and remain open to all. Increasingly well-maintained green areas with tall greenery, which in the 21st century have reached their target height, further enhance public spaces. Typically,

cooperatives managing these housing estates implemented well-planned changes to ensure the long-term liveability of such places. As noted by Szafrańska (2014), many authors refer to that as 'modernisation', 'restructuring', 're-urbanisation', 'regeneration', 'rehabilitation' or just 'humanisation' (Chmielewski & Mirecka, 2001; Borowik, 2003, 2007; Węcławowicz, 2003; Rębowska et al., 2006; Gruszecka, Gzell & Rembarz, 2009; Ostańska, 2009; Kozłowski, 2010; Rembarz, 2010).

Prefabricated housing projects, when developed, were not expected to last forever but for just some 50 years (Szulc et al., 2018). By the early 21st century, the stock was deteriorating but still in reasonable shape, with major defects including scratches, leaks, damage to balconies, loggias, attics, the textured layer of wall panels, and utility installations (Szulc et al., 2018). Given these and observations of technical obsolescence of multifamily buildings in Western Europe (Musterd & van Kempen, 2005), in the 1990s, owners of large-scale prefabricated estates (predominantly housing cooperatives) started a debate on the technical condition of their stock. This frequently resulted in setting up long-term refurbishment programmes to increase the lifespan of the developments by thermal insulation, asbestos removal, window replacement, and upgrades to heating, electrical and ventilation systems (Szulc & Piekarczuk, 2022). This eventually resulted in government interventions such as the current Act on Supporting Thermal Insulation and Refurbishment (Ustawa z dnia 23 stycznia 2020 r.). The upgrade processes were accompanied by several technical surveys, which have proven that with rather limited improvements, the buildings are generally structurally sound. Thus, their lifespan has been redefined. According to a report on the technical condition of prefabricated buildings prepared in 2018 by the Polish Institute of Building Technology (ITB), the service life of these buildings can be extended to some 120 years, making them usable until the 2090s–2100s (Szulc et al., 2018). Thus, the buildings are continuously modernised, with a focus on thermal insulation to minimise residents' costs of living. However, new façades clad in polystyrene foam pose a major aesthetic problem. The original form of façades is transformed and often painted in colours that are not in harmony with the surroundings, resulting in an odd-coloured chaos which Filip Springer labelled as *pastelosis* (Springer, 2013). Fortunately, the growing awareness of Warsaw's residents means that after a wave in the late 1990s and early 21st century, this phenomenon is slowly fading. Moreover, the current interest in modernist architecture means that contemporary modernisations are still incorporating the aesthetic assumptions of architects from the 1970s and 80s.

Social perception of prefabricated housing estates in Warsaw

The functional and aesthetic assumptions on both sides of the Iron Curtain before the complete collapse of the Warsaw Pact in 1991 were not fundamentally different, as they were mainly defined before the division between the two political zones. As Moravčíková (2018) notes, all manifestations of the Modern Movement discovered or rediscovered behind the former Iron Curtain confirm the position of the Modern Movement as a solid and very European phenomenon. Contrary to earlier opinions about the drastic differences between the eastern and western parts of the Iron Curtain, the prevailing view today is the one in which universal elements emerge regardless of the political system (Dragostinova & Fidelis, 2018). Still, it is worth looking at the differences to understand the essence of the functioning of prefabricated housing in Warsaw. The nature of the space of these housing estates can appear to be almost the same regardless of geographical location, which can also lead to erroneous conclusions in assessing this space. There are two key issues here: social – determining the functioning of the estate and the neighbourhood, and environmental – access to green spaces and their impact on wellbeing.

The reception of modernist large-scale prefabricated housing estates on the western side of the Iron Curtain is often linked to class segregation (Hess, Tammaru & van Ham, 2018). In a post-communist, virtually classless society, the prefabricated estates were inhabited by representatives of different professions and incomes. In Warsaw's large-scale prefabricated housing estates, one can still find lawyers, workers, or doctors harmoniously living in the same building (Szafrańska, 2014). Despite an outflow of the wealthiest inhabitants,

this social diversity is still largely maintained, and these estates remain as safe as the gated communities, including even the significantly less affluent ones such as Wrzeciono in the Bielany District (Musterd & van Kempen, 2005; Szafrańska, 2017). Critics of Pruitt Igoe and of other similar projects in Western Europe blamed modernist architecture for the projects' failure (Montgomery, 1985). A new look at the estates' demise, however, includes a critical approach to the social aspect of the projects that resisted racial segregation, combined with the problem of unemployment. Ghettos similar to Pruitt-Igoe still exist today, even in more affluent areas, e.g. in the UK (Turkington, van Kempen & Wassenberg, 2004). The suburbs north of Paris are fraught with the same issues relating primarily to social policy (Blanc & Stebe, 2004). Given Warsaw's experience, blaming modernist prefabricated architecture for failures in social terms, therefore, seems to be debatable.

While the prefabricated housing estates in Warsaw can hardly be described as perfect, decades later, they are functioning as required. As summarised by Szafrańska (2016), across Poland, despite some symptoms of social separation and outflow of the wealthiest inhabitants, the social degradation predicted in the 1990s has not occurred. In Warsaw, this is clearly visible, e.g. in the Ursynów District (Węcławowicz, 2003; Musterd & van Kempen, 2005). Research done by Realizacja sp. z o.o. (2017) regarding the identity of Warsaw's residents further confirmed that the prefabricated housing is not stigmatised but part of the city's identity. More recently, Omyła-Rudzka (2022), reporting on the Public Opinion Research Centre (CBOS) national housing preference survey, observed that for the residents of major cities, the social infrastructure – such as schools, nurseries, shops, services and safety – was top-ranked. These were followed by access to green spaces, apartment size, public transport, transportation time to work or educational facilities and access to parking spaces. In the case of Warsaw, all these criteria cannot be easily met by newer developments, which explains the success of the 1970s and 80s estates.

The role of public green space in large-scale prefabricated housing estates in Warsaw

Another important issue that differentiates the prefabricated housing developments in Warsaw and other cities on the eastern side of the Iron Curtain relates to the easy access to land in the 1970s and 80s. In the Eastern bloc, the communist authorities, frequently following expropriation (effectively through forced land nationalisation), were able to provide sites for large-scale developments, allowing for vast amounts of green spaces for active recreation, parks and rainwater management. Contrary to the current regulations, the 1974 residential development norm prescribed the minimum green and social open spaces of 8 m^2 per person (Korzeniewski, 1980), providing what would now be seen as ample open space (Baum, 2018). Also, the incomparably slower development of car transportation in central and eastern European countries contributed to the abandonment of the construction of underground car parks, which made it possible to preserve even more biologically active areas. However, the increasing car ownership, financial constraints of the cooperatives managing the estates and increasing land values frequently lead to densification (Żylski, 2019), which is a major threat to the existing green areas.

Prefabricated housing estates vis-à-vis new private developer housing estates in Warsaw

After 1989, the government and cooperative housing production slowed down dramatically and started to be gradually replaced by multifamily estates provided by private developers. In these new projects, urban and architectural form changed towards postmodernism, which turned more towards traditional solutions, breaking away from 40 years of communism. These privately financed investments have been built on much smaller plots with severely restricted access to green space. The private profit-seeking housing developers maximised the density to its physical limits (Gyurkovich & Sotoca, 2019), resulting in green space set at the minimum specified, which was mostly far lower than the past norm.

The rapid growth of car ownership meant that most of the land outside the buildings needed to be dedicated to parking. Further, the increasing availability of housing loans led to an unprecedented real estate boom

in the first years of the 21st century, with forms and aesthetics determined by developers' profit maximisation with little attention to delivering social value to the estates. Paradoxically, the financial crisis of 2008, limiting access to mortgage funding, pushed the developers towards more attractive solutions for functionality over size and reversing back to simplified forms (Trębacz & Mazur, 2020). At the same time, several of the new housing projects were delivered as part of gated communities, of which, in Poland, most are located in Warsaw. Even very prestigious projects, such as APA Kuryłowicz & Associates' Marina Mokotów of 21 ha, turned out to be a closed fortress rather than a well-integrated estate. The fencing off of housing estates was not an architectural idea, but a marketing requirement, driven largely by the increase in crime in the 1990s and the perception of the problem persisting. This proved to be overconservative, as now Warsaw is the eighth safest capital city in Europe (Numbeo, 2025).

Residential development since the 1990s has been closely linked to the number of parking spaces, which has had a significant impact on the building form and on the layout of the apartments themselves, resulting in, for example, replacing basements and other common spaces with underground parking. Apartments built in the large-panel system were designed without this impediment, which facilitated the creation of functional yet small apartments. On the other hand, the lack of previously planned parking spaces has resulted in the use of public land for car parks, which has significantly reduced the original attractiveness of green spaces (Fig. 10). This change has often resulted from grassroots action by the residents themselves (Nóżka & Smagacz-Poziemska, 2018). In the longer term, reclaiming these areas for public use and a well-maintained urban green space is possible. However, that requires further improvements to the public transport system.

Fig. 10. Gocław. Public space that used to be a safe and green place for residents is being turned into a car park

Source: landscape survey (own photo).

In addition to the differences related to access to land for construction, the apartments' layout evolved. Currently, typically the living room and kitchen are combined in one room, which leaves more space for bedrooms and other areas. Unfortunately, the economics of construction also determined the increased width of the buildings, which means that access to natural light in the central parts of the apartments is more limited than in the 1970s and 80s apartments. While the on-site reinforced concrete technology has contributed to the freedom to design functional layouts, frequently these are less logical than in the prefabricated pre-1989 apartments. In favour of the new apartments is undoubtedly their standard of construction and technological solutions, far superior to the prefabrication designed in a communist country struggling with the economic crisis.

CONCLUSION

Despite the many flaws that characterised Warsaw's prefabricated housing estates, it should be noted that they have stood the test of time. Today, they are a point of reference for contemporary buildings. The greatest advantage of these estates is the fairly well-designed layout of the estates and apartments, which also function well in the 21st century. On an urban scale, the assessment seems ambivalent. On the one hand, the rapid construction of estates devastated the urban character of Warsaw. On the other hand, it provided green spaces that would not have been possible to achieve in free market conditions. In this context, prefabricated housing estates can be considered sustainable, with newer developments relying on the 1970s and 80s provision of green spaces.

Should these estates be treated as a model for development? Surely not. The number of defects that are an inseparable part of them excludes such an understanding – prefabricated buildings are difficult to adapt to new functions, which limits their future life to residential uses. However, the way in which the urban living environment is shaped in the current conditions seems irrational. Hence, the heritage of the 1970s and 80s estate should be relied on because, in the context of the existing urban public infrastructure, they moderate the impact of the development densification.

Prefabricated housing estates from the 1970s and 80s – despite not being sustainable spaces – can influence the sustainable development of the entire city in a broader urban context. Their location, forming a ring around the city centre, provides a reserve of green areas. It seems that these housing estates should be given similar protection to that applied to historical monuments. The best example of this is the Szwoleżerów housing estate, which has been entered in the heritage register (Order No. 1336/2016 of the Mayor of Warsaw). This type of protection may prevent the densification of buildings within the estates, which will ensure that the most valuable element of this space, i.e. greenery, remains in the overall structure of the city.

It is expected that the observations made in this research will help policymakers, planners, architects and developers in promoting suitable improvements to similar prefabricated housing estates in other parts of Poland and across Central and Eastern Europe and elsewhere, where city housing is dominated by similar types of developments.

Authors' contributions

Conceptualisation: G.W.R. and R.M.; methodology: G.W.R. and R.M.; validation: G.W.R. and R.M.; formal analysis: G.W.R. and R.M.; investigation: G.W.R. and R.M.; resources: G.W.R. and R.M.; writing – original draft preparation: G.W.R. and R.M.; writing – review and editing: G.W.R. and R.M.; visualisation: G.W.R. and R.M.; supervision: G.W.R. and R.M.; project administration: G.W.R. and R.M.

All authors have read and agreed to the published version of the manuscript.

REFERENCES

Adamec, J., Janoušková, S. & Hák, T. (2021). How to Measure Sustainable Housing: A Proposal for an Indicator-Based Assessment Tool. *Sustainability*, *13* (3), 1152. https://doi.org/10.3390/su13031152

Basista, A. (2001). *Betonowe dziedzictwo*. Warszawa: Wydawnictwo Naukowe PWN.

Baum, M. (2018). The 1974 Urban Planning Norms in the Shaping of Green Areas on the Example of Białystok. *Architektura Krajobrazu*, *3*, 38–49. https://doi.org/10.30825/5.ak.158.2018.60.3

Blanc, M. & Stebe, J-M. (2004). France – From dreams to dillusion. In R. Turkington, van R. Kempen & F. Wassenberg (Eds), *High-rise housing in Europe: current trends and future prospects*. Delf: DUP Science.

Borowik, I. (2003). *Blokowiska: miejski habitat w oglądzie socjologicznym: studium jakości wrocławskich środowisk mieszkaniowych.* Wrocław: Arboretum.

Borowik, I. (2007). Kierunki przemian współczesnego miasta – suburbanizacja oraz humanizacja blokowisk. In I. Borowik & K. Sztalt (Eds), *Współczesna socjologia miasta. Wielość oglądów i kierunków badawczych dyscypliny* (pp. 97–104). Wrocław: Wydawnictwo Uniwersytetu Wrocławskiego.

Brandon, P. S. & Lombardi, P. (2011). *Evaluating Sustainable Development in the Built Environment* (2nd ed.). Chichester: John Wiley.

Burczynski, D. (2017, November 6). *Czas na czterdziestolatka. Osiedle Ruda odżyje*. Retrieved from: https://tustolica.pl/czas-na-czterdziestolatka-osiedle-ruda-odzyje_76251 [accessed: 19.08.2025].

Chmielewski, J. M. & Mirecka, M. (2001). *Modernizacja osiedli mieszkaniowych*. Warszawa: Oficyna Wydawnicza Politechniki Warszawskiej.

Choguill, C. L. (1994). Sustainable housing programme in a world of adjustment. *Habitat International*, *18* (2), 1–11. https://doi.org/10.1016/0197-3975(94)90047-7

Chomątowska, B. (2021). *Betonia. Dom dla każdego* (2nd ed.). Wołowiec: Wydawnictwo Czarne.

Chyliński, B. (1965). Osiedle Prototypów na Służewcu w Warszawie. *Architektura*, *8–9*, 213–214.

Congrès international d'architecture modern [CIAM]. (1933). *La Charte d'Athenes*. Retrieved from: https://designmanifestos.org/congres-internationaux-darchitecture-moderne-ciam-the-athens-charter/ [accessed: 05.07.2025].

Crowley, D. & Reid, S. E. (Eds) (2002). *Socialist Spaces: Sites of Everyday Life in the Eastern Bloc*k. Bloomsbury Publishing Plc. https://doi.org/10.5040/9781350057692

Czepczyński M. (1999). Rozwój i upadek koncepcji osiedli blokowych. *Biuletyn PAN – Komitet Przestrzennego Zagospodarowania Kraju*, *190*, 49–67.

Dempsey, N., Bramley, G., Power, S. & Brown, C. (2011). The Social Dimension of Sustainable Development: Defining Urban Social Sustainability. *Sustainable Development*, *19* (5), 289–300. https://doi.org/10.1002/sd.417

Ding, G. K. C. (2008). Sustainable construction – The role of environmental assessment tools. *Journal of Environmental Management*, *86* (3), 451–464. https://doi.org/10.1016/j.jenvman.2006.12.025

Dixon, T. (2019). Measuring the Social Sustainability of New Housing Development: A Critical Review of Assessment Methods. *Journal of Sustainable Real Estate*, *11* (1), 16–39. https://doi.org/10.22300/1949-8276.11.1.16

Dixon, T. & Woodcraft, S. (2013). Creating Strong Communities: Measuring Social Sustainability in New Housing Development. *Town and Country Planning*, *82*, 473–480.

Dom Sztuki (2023). *Archiwum*. Retrieved from: https://tinyurl.com/yc7rup6h [accessed: 19.08.2025].

Dragostinova, T. & Fidelis, M. (2018). Introduction. *Slavic Review*, *77* (3), 577–587. https://www.jstor.org/stable/26565649

Dyteniecki, Z. & Steller, S. (1973). Osiedla Wawrzyszew-Chomiczówka w Warszawie. *Architektura*, *10*, 383–385. Retrieved from: https://mbc.cyfrowemazowsze.pl/dlibra/publication/84038/edition/85959?language=en [accessed: 05.07.2025].

European Environment Agency [EEA] (2024). *Addressing the environmental and climate footprint of buildings* (EEA Report 09/2024). Retrieved from: https://www.eea.europa.eu/en/analysis/publications/addressing-the-environmental-and-climate-footprint-of-buildings [accessed: 20.08.2025].

Emerson, J. (2000). *The Nature of Returns: The Nature of Returns: A Social Capital Markets Inquiry into Elements of Investment and The Blended Value Proposition*. Boston: Division of Research, Harvard Business School. Retrieved from: https://www.fi-compass.eu/sites/default/files/publications/the-nature-of-returns-a-social-capitla-market-inquiry-into-elements-of-investment-and-the-blended-value-proposition.pdf [accessed: 05.07.2025].

Fuhrmann, M. (2010). Residents' Relationship with the Territory and the Spatial Planning of Residential Housing Developments. *Miscellanea Geographica*, *14* (1), 265–272. https://doi.org/10.2478/mgrsd-2010-0025

Gaczek, W. & Rykiel, Z. (1999). Nowe lokalizacje mieszkaniowe w przestrzeni miasta (New residential location within the urban area. *Biuletyn PAN – Komitet Przestrzennego Zagospodarowania Kraju*, *190*, 29–47.

Gądecki, J. (2012). *Gentryfikacja starej części Nowej Huty*. Warszawa: Instytut Filozofii i Socjologii Polskiej Akademii Nauk.

Galuszka, J. (2022). Beyond the decay? Positive patterns in the development of a large housing estate: the case of Olechów-Janów district in Łódź, Poland. *Urban Research & Practice*, *15* (2), 169–193. https://doi.org/10.1080/17535069.2020.1782459

Gąsowska-Kramarz, A. (2019). Pruitt Igoe vs City of the Future. *Architecture, Civil Engineering, Environment*, *12* (4), 15–21. https://doi.org/10.21307/acee-2019-048

Główny Urząd Geodezji i Kartografii [GUGiK] (2023). Retrieved from: Geoportal.gov.pl [accessed: 19.08.2025].

Google (n.d.). *Google Map*. Retrieved from: https://maps.google.com [accessed: 19.08.2023].

Gorczyca, K. (2016). The Social Transformation of Large Housing Estates in Poland at the Turn of the 21st Century. *Sociologický Časopis / Czech Sociological Review*, *52* (6), 861–892. https://www.jstor.org/stable/44817688

Gruszecka, K., Gzell, S. & Rembarz, G. (2009). Osiedle: Reurbanizacja [Residential estate: Reurbanisation]. *Urbanistyka – Międzyuczelniane Zeszyty Naukowe*, *14.*

Gyurkovich, M. & Sotoca, A. (2019). Quality of Social Space in selected contemporary multifamily housing complexes in Poland's three biggest cities. *IOP Conference Series: Materials Science and Engineering*, *471* (9), 1–9. https://iopscience.iop.org/article/10.1088/1757-899X/471/9/092009

Hess, D. B., Tammaru, T. & Ham, M. van (2018). *Housing Estates in Europe: Poverty, Ethnic Segregation and Policy Challenges*. Springer.

Heritage Real Estate [HRE] & United Nations Global Compact [UNGC] (2018). *Ile mieszkań brakuje w Polsce?* Retrieved from: https://bank.pl/wp-content/uploads/2018/12/Heritage-Raport-04-12-justowany.pdf [accessed: 05.07.2025].

Hoorn, M. van der (2004). Consuming the "Platte" in East Berlin: the new popularity of former GDR architecture. *Home Cultures*, *1* (2), 89–126. Retrieved from: https://dvqlxo2m2q99q.cloudfront.net/000_clients/481243/file/4812432AaKlHLG.pdf [accessed: 05.07.2025].

International Finance Corporation [IFC] (2015). *Affordable Housing is Good, Socially Sustainable is Even Better*. Retrieved from: https://ifc-org.medium.com/a-new-tool-to-make-your-housing-project-more-inclusive-and-resilient-5e076a96c1cd [accessed: 05.07.2025].

Ilmurzyńska, K. (2018). Ewolucja przestrzenna Ursynowa Północnego [Spatial evolution of Northern Ursynów in Warsaw]. *Przestrzeń – Urbanistyka – Architektura*, *1*, 203–218. https://doi.org/10.4467/00000000PUA.18.015.8623

Jałowiecki, B. (1995). Miasto polskie – między utopią a rzeczywistością. In P. Starosta (Ed.), *Zbiorowości terytorialne i więzi społeczne* (pp. 36–43). Łódź: Wydawnictwo Uniwersytetu Łódzkiego.

Jencks, Ch. (1977). *The language of post-modern architecture*. London: Rizzoli.

Kalfaoglu Hatipoğlu, H. (2017). Understanding social sustainability in housing from the case study 'Wohnen mit uns' in Vienna and adaptibility to Turkey. *ICONARP International Journal of Architecture and Planning*, *5* (1), 87–109. https://doi.org/10.15320/ICONARP.2017.19

Kaźmierczak, M. (2021, July 22). *Rynkowy renesans mieszkań z wielkiej płyty. Drożeją szybciej od nowszych lokali i kamienic.* Retrieved from: https://www.bankier.pl/wiadomosc/Rynkowy-renesans-mieszkan-z-wielkiej-plyty-Drozeja-szybciej-od-nowszych-lokali-8157015.html [accessed: 05.07.2025].

Khor, S. C. S. & Abu Bakar, A. H. B. (2012). Incorporating sustainable management system into housing development practice in Malaysia. *International Journal of Sustainable Development*, *15* (3), 277–291. https://doi.org/10.1504/IJSD.2012.047754

Kiciński, A. (2004). Poland – A future for the 'blokowisko'? In R. Turkington, van R. Kempen, F. Wassenberg (Eds), *High-rise housing in Europe: current trends and future prospects* (pp. 187–202). Delf: DUP Science.

Kohlrausch, M. (2014). Warszawa Funkcjonalna: Radical Urbanism and the International Discourse on Planning in the Interwar Period. In J. C. Behrends & M. Kohlrausch (Eds), *Races to Modernity: Metropolitan Aspirations in Eastern Europe, 1890–1940* (pp. 205–232). Budapest: Central European University Press.

Komar, B. (2012). Analiza historyczna rozwoju osiedli mieszkaniowych na podstawie wybranych przykładów: Grünau w Lipsku i im. Tysiąclecia w Katowicach na tle wzorcowych koncepcji mieszkalnictwa XX wieku [Historical analysis of development of housing estates: Grünau in Leipzig and Millennium in Katowice in connection with the background of the 20th century standard concept of housing]. *Architecturae et Artibus*, *2*, 13–25. Retrieved from: http://aeawa.pb.edu.pl/wp-content/uploads/2018/08/2-Komar.pdf [accessed: 05.07.2025].

Korusiewicz, J. (2025). *Warszawskie Blokowiska*. Retrieved from: https://www.blokowiska.waw.pl/dane [accessed: 19.08.2025].

Korzeniewski, W. (1980). *Normatyw urbanistyczny i mieszkaniowy*. Warszawa: Centralny Ośrodek Informacji Budownictwa.

Kozłowski, S. (2010). Przeszkody i bariery na drodze humanizacji osiedli. In I. Jażdżewska (Ed.), *Osiedla blokowe w strukturze przestrzennej miast* (pp. 73–87). Łódź: Wydawnictwo Uniwersytetu Łódzkiego.

Krippendorff, K. (2019). *Content analysis* (4th ed.). SAGE Publications. https://doi.org/10.4135/9781071878781

Marcińczak, S. & Sagan, I. (2011). The Socio-spatial Restructuring of Łódź, Poland. *Urban Studies*, *48* (9), 1789–1809. https://doi.org/10.1177/0042098010379276

Ministerstwo Funduszy i Polityki Regionalnej (2019a, 10 September). *Z Funduszem Termomodernizacji i Remontów do "wielkiej płyty" i samorządów*. Retrieved from: https://www.gov.pl/web/fundusze-regiony/z-funduszem-termomodernizacji-i-remontow-do-wielkiej-plyty-i-samorzadow [accessed: 05.07.2025].

Ministerstwo Funduszy i Polityki Regionalnej (2019b, 30 January). *Wielka płyta jest bezpieczna.* Retrieved from: https://www.gov.pl/web/fundusze-regiony/wielka-plyta-jest-bezpieczna [accessed: 05.07.2025].

Mioduszewska, Z. (2009). Historia bloku mieszkalnego jako koncepcji antropologicznej [History of an apartment block as an anthropological concept]. *Kultura i Społeczeństwo*, *53* (2), 3–19. https://doi.org/10.35757/KiS.2009.53.2.1

Montgomery, R. (1985). Pruitt-Igoe: Policy Failure or Societal Symptom. In *The metropolitan Midwest: policy problems and prospects for change* (pp. 229–243). Chicago: Urbana.

Moravčíková, H. (2018). Is there something behind the Iron Curtain? Documentation and conservation of Modernism in former Eastern Europe. *Docomomo Journal*, *59*, 4–5. https://doi.org/10.52200/59.A.CRLKS56S

Musterd, S. & Kempen, R. van (2005). *Large housing estates in European Cities – Opinions of residents on recent developments*. Utrecht: Urban and Regional research centre Utrecht, Faculty of Geosciences, Utrecht University.

Nicholls, J. (2023). *Social Value 2023. The Future of Social Value in The United Kingdom*. Social Enterprise UK. Retrieved from: https://www.socialenterprise.org.uk/seuk-report/the-future-of-social-value-in-the-united-kingdom/ [accessed: 05.07.2025].

Nóżka, M. & Smagacz-Poziemska, M. (2018). Różnice i granice z perspektywy relacyjnej koncepcji kultury i teorii praktyk społecznych. Przypadek wielkomiejskiego osiedla [On borders and differentiations in housing settlements,through the prism of social practices]. *Kultura i Społeczeństwo*, *62* (3), 121–141. https://doi.org/10.35757/KiS.2018.62.3.7

Numbeo (2025). *Europe: Current Safety Index by City.* Retrieved from: https://www.numbeo.com/crime/region_rankings_current.jsp?displayColumn=1&region=150 [accessed: 05.07.2025].

Obwieszczenie Ministra Rozwoju i Technologii z dnia 15 kwietnia 2022 r. w sprawie ogłoszenia jednolitego tekstu rozporządzenia Ministra Infrastruktury w sprawie warunków technicznych, jakim powinny odpowiadać budynki i ich usytuowanie. Dz.U. 2022 poz. 1225. Retrieved from: https://isap.sejm.gov.pl/isap.nsf/download.xsp/WDU20220001225/O/D20221225.pdf [accessed: 05.07.2025].

Omyła-Rudzka, M. (2022). Jak Polacy chcieliby mieszkać? *Komunikat z Badań CBOS*, *108*. Retrieved from: https://www.cbos.pl/SPISKOM.POL/2022/K_108_22.PDF [accessed: 05.07.2025].

Orchowska, A. & Klimowicz, J. (2023). Osiedle Gocław – aspekt przyrodniczy w środowisku mieszkaniowym [Gocław Estate – A natural aspect in the residential environment]. *Housing Environment*, *43*, 66–77. https://yadda.icm.edu.pl/baztech/element/bwmeta1.element.baztech-745dcbdf-9e0e-40f4-8e2e-7db34a226bcf/c/SM2023_43_66_OrchowskaA.pdf [accessed: 19.08.2025].

Ostańska, A. (2009). Problemy rewitalizacji zespołów prefabrykowanej zabudowy mieszkaniowej na przykładzie osiedla im. S. Moniuszki w Lublinie [Problems of regeneration of prefabricated residential estate based on a case study of the im. S. Moniuszki estate in Lublin]. *Budownictwo i Architektura*, *4* (1), 85–104. https://yadda.icm.edu.pl/baztech/element/bwmeta1.element.baztech-article-BPL2-0015-0006/c/httpwibis_pollub_plfilesplikikonferencje46.pdf [accessed: 19.08.2025].

Polèse, R. & Stren, M. (2000). *The social sustainability of cities: diversity and the management of change.* Toronto: University of Toronto Press. https://doi.org/10.3138/9781442682399

Public Services (Social Value) Act 2012. Retrieved from: http://www.legislation.gov.uk/ukpga/2012/3/pdfs/ukpga_20120003_en.pdf [accessed: 05.07.2025].

Radziejowska, A. & Sobotka, A. (2021). Assessment of large-panel prefabricated buildings in the social aspect of sustainable construction. *Archives of Civil Engineering*, *67* (3), 93–108. https://doi.org/10.24425/ace.2021.138045

Radziszewska-Zielina, E. & Gleń, M. (2014). Studies of the Prefabricated Housing Construction Market in Poland. *Journal of Civil Engineering*, *9* (2), 13–26. https://doi.org/10.2478/sspjce-2014-0012

Raiden, A., Losemore, M., King, A. & Gorse, C. (2018). *Social value in construction*. Routledge. https://doi.org/10.1201/9781315100807

Realizacja sp. z.o.o. (2017, February 16). *Tożsamość Warszawy i jej mieszkańców*. Retrieved from: https://tinyurl.com/bdhp2wv5 [accessed: 05.07.2025].

Rembarz, G. (2010). Rola przestrzeni publicznej w odnowie i kształtowaniu miejskiego środowiska mieszkaniowego. In P. Lorens & J. Martyniuk-Pęczek (Eds), *Zarządzanie rozwojem przestrzennym miast* (pp. 138–156). Gdańsk: Urbanista.

Rębowska, A. (Ed.) (2006). *Strategia rehabilitacji blokowisk – osiedli miejskich wznoszonych metodami uprzemysłowionymi*. Warszawa: Instytut Rozwoju Miast.

Rodzoś, J. & Flaga, M. (2010). Nowa sytuacja społeczna starych osiedli mieszkaniowych na przykładzie osiedla im. A. Mickiewicza w Lublinie. In I. Jażdżewska (Ed.), *Osiedla blokowe w strukturze przestrzennej miast* (pp. 101–118). Łódź: Wydawnictwo Uniwersytetu Łódzkiego.

Różański, S. (1930). Plan ogólny zabudowania m.st. Warszawy. *Kronika Warszawy*, *12*(VI).

Rykiel, Z. (1999). Przemiany struktury społeczno-przestrzennej miasta polskiego a świadomość terytorialna jego mieszkańców [The transformation of the socio-spatial structure of the Polish city versus the territorial consciousness of its inhabitants]. *Prace Geograficzne*, *170*. Retrieved from: https://rcin.org.pl/igipz/Content/600/Wa51_3580_r1999-nr170_Prace-Geogr.pdf [accessed: 19.08.2025].

Rzyski, S. & Mędrzycka, K. (2010). Osiedla blokowe versus inne formy zabudowy mieszkaniowej w Gdańsku – percepcja i waloryzacja warunków zamieszkania. In I. Jażdżewska (Ed.), *Osiedla blokowe w strukturze przestrzennej miast* (pp. 251–259). Łódź: Wydawnictwo Uniwersytetu Łódzkiego.

Słodczyk, J. (2010). Geneza i rozwój osiedli blokowych. In I. Jażdżewska (Ed.), *Osiedla blokowe w strukturze przestrzennej miast* (pp. 11–25). Łódź: Wydawnictwo Uniwersytetu Łódzkiego.

Słodczyk, J. (2012). *Historia planowania i budowy miast*. Opole: Wydawnictwo Uniwersytetu Opolskiego. Retrieved from: https://janusz-slodczyk.eu/wp-content/uploads/2020/03/J.S%C5%82odczyk-Historia-planowania.pdf [accessed: 19.08.2025].

Soo Cheen, S. K. & Abu Bakar, A. H. (2012). Incorporating sustainable management system into housing development practice in Malaysia. *Journal of Sustainable Development*, *15* (3), 277–291. https://doi.org/10.1504/IJSD.2012.047754

Spółdzielnia Mieszkaniowa "SM Szwoleżerów" (2025). Homepage smszwolezerow.pl. Retrieved from: http://www.smszwolezerow.pl/ [accessed: 19.08.2025].

Spółdzielnia Mieszkaniowa „Służew nad Dolinką" (2025). Homepage smsnd.pl. Retrieved from: https://www.smsnd.pl/ [accessed: 19.08.2025].

Springer, F. (2013). *Wanna z kolumnadą. Reportaże o polskiej przestrzeni.* Warszawa: Czarne, Warsaw.

Starzyk, A., Cortiços, N. D., Duarte, C. C., & Łacek, P. (2025). Timber Architecture for Sustainable Futures: A Critical Review of Design and Research Challenges in the Era of Environmental and Social Transition. *Buildings*, *15* (15), 2774. https://doi.org/10.3390/buildings15152774

Stenning, A. (2005). Transformation of Life, Work and Community in Post-socialist Europe: A Westerner Studies Nowa Huta, Poland. *Geographia Polonica*, *78* (1), 9–22.

Szafrańska, E. (2009). Atrakcyjność mieszkaniowa blokowiska w opinii mieszkańców na przykładzie zespołu mieszkaniowego Retkinia-Północ w Łodzi. In I. Jażdżewska (Ed.), *Duże i średnie miasta polskie w okresie transformacji* (pp. 197–210). Łódź: Wydawnictwo Uniwersytetu Łódzkiego, Łódź.

Szafrańska, E. (2014). Transformations of large housing estates in post-socialist city: The case of Łódź, Poland. *Geographia Polonica*, *87* (1), 77–94.

Szafrańska, E. (2016). *Wielkie osiedla mieszkaniowe w mieście postsocjalistycznym: geneza, rozwój, przemiany, percepcja*. Łódź: Wydawnictwo Uniwersytetu Łódzkiego.

Szafrańska, E. (2017). Zmiany w strukturze społecznej i demograficznej wielkich osiedli mieszkaniowych w postsocjalistycznej Polsce i ich główne determinanty [The changes in social and demographic structure of large housing estates in post-socialist Poland and their main determinants]. *Acta Universitatis Lodziensis. Folia Geographica Socio-Oeconomica*, *30*, 7–26. https://doi.org/10.18778/1508-1117.30.01

Szulc, J., Geryło, R., Możaryn, T., Piekarczuk, A., Wójtowicz, M., Lamenta, A., Mazurek, A., Sieczkowski, J., Strąk, A., Warsicka, D., Wojnowski, D. & Zięba, W. (2018). *Budownictwo wielkopłytowe. Raport o stanie technicznym.* Warszawa: Instytut Techniki Budowlanej. Retrieved from: https://budowlaneabc.gov.pl/budownictwo-wielkoplytoweraport-o-stanie-technicznym [accessed: 05.07.2025].

Szulc, J. & Piekarczuk, A. (2022). Diagnostics and technical condition assessment of large-panel residential buildings in Poland. *Journal of Building Engineering*, *50* (1), 104144. https://doi.org/10.1016/j.jobe.2022.104144

Trębacz, P. & Mazur, R. (2020). Typologia zabudowy mieszkaniowej wielorodzinnej w Polsce w latach 2010–2019 [Typology of multi-family residential developments in Poland in 2010–2019]. *Housing Environment*, *30*, 37–46. https://doi.org/10.4467/25438700SM.20.004.12207

Trybuś, J. (2018). *Przewodnik po warszawskich blokowiskach*. Łódź: Księży Młyn.

Turkington, R., Kempen, R. van & Wassenberg, F. (2004). *High-rise housing in Europe: current trends and future prospects*. Delf: DUP Science.

United Nations Economic Commission for Europe [UNECE] (2015). *Geneva UN Charter on Sustainable Housing*. Retrieved from: https://unece.org/DAM/hlm/documents/Publications/EN_Geneva_UN_Charter_on_Sustainable_Housing.pdf [accessed: 05.07.2025].

Ustawa z dnia 23 stycznia 2020 r. o zmianie ustawy o wspieraniu termomodernizacji i remontów. Dz.U. 2020 poz. 412. Retrieved from: https://isap.sejm.gov.pl/isap.nsf/DocDetails.xsp?id=WDU20200000412 [accessed: 05.07.2025].

Vassileva-Karagyozova, S. & Wood, N. D. (2012). The Socialist Prefabs after Utopia: "Non-places" or "Something Like Happiness"? *East European Politics and Societies*, *26* (3), 447–453. https://doi.org/10.1177/0888325412441825

Węcławowicz, G. (2003). Restrukturyzacja wielkich osiedli mieszkaniowych w miastach europejskich. Opis projektu badawczego [Restructuring of European residential neighbourhoods. Description of a research project]. *Przegląd Geograficzny*, *75* (3), 469–477.

Wiesel, I., Davison, G., Milligan, V., Phibbs, P., Judd, B. & Zanardo, M. (2012). *Developing sustainable affordable housing: A project level analysis. Australian Housing and Urban Research Institute & UNSW-UWS Research Centre* (Final Report 183). Retrieved from: https://www.ahuri.edu.au/research/final-reports/183 [accessed: 05.07.2025].

Wojtczuk, M. (2021, July 11). *Mieszkania w blokach z wielkiej płyty w Warszawie błyskawicznie znikają z rynku. Ceny? Nawet 17 tys. zł za metr.* Retrieved from: https://tinyurl.com/227ujkzb [accessed: 05.07.2025].

Wojtkun, G. (2007). Zamknięte społeczności – wybór czy konieczność? [Closed communities – choice or necessity?]. *Architektura Mieszkaniowa*, *7* (5), 154–162.

Wojtkun, G. (2008). Wielorodzinne budownictwo mieszkaniowe w Polsce. W cieniu wielkiej płyty [Multifamily residential construction in Poland. In the shadow of the large plate]. *Przestrzeń i Forma*, *10*, 175–194.

Wojtkun, G. (2011). Osiedla Kaliny i Przyjaźń w Szczecinie: „uniwersalna" wielorodzinna zabudowa mieszkaniowa [Kalina i Przyjaźń residential estates in Szczecin: "universal" residential development]. *Przestrzeń i Forma*, *16*, 609–622. https://yadda.icm.edu.pl/baztech/element/bwmeta1.element.baztech-article-BPS1-0047-0084

Woodcraft, S., Bacon, N., Caistor-Arendar, L. & Hackett, T. (2011). *Design for Social Sustainability: A Framework for Creating Thriving Communities*. London: The Young Foundation. Retrieved from: http://www.social-life.co/media/files/DESIGN_FOR_SOCIAL_SUSTAINABILITY_3.pdf [accessed: 05.07.2025].

Żylski, T. (2019, February 11). *Osiedla Warszawy*. Retrieved from: https://architektura.um.warszawa.pl/-/publikacja-osiedla-warszawy [accessed: 05.07.2025].

BARDZIEJ ZRÓWNOWAŻONE NIŻ SIĘ WYDAJE – ROZWÓJ ZRÓWNOWAŻONY WARSZAWSKICH OSIEDLI MIESZKANIOWYCH Z LAT 1970–1980

STRESZCZENIE

Po upadku komunizmu, w 1989 roku, blokowiska w Warszawie stały się niechcianym dziedzictwem poprzedniej epoki. Niejednokrotnie charakteryzowały się one niską jakością wykonania, brakami w otaczającej infrastrukturze oraz monotonią przestrzeni miejskiej. Jednak od drugiej dekady XXI wieku są one coraz bardziej doceniane. W przeciwieństwie do innych stolic europejskich duże osiedla z lat 70. i 80. nie stały się odizolowanymi, biednymi dzielnicami miasta, ale raczej integralną częścią Warszawy, zróżnicowaną pod względem społeczno-ekonomicznym. Niniejsze badanie analizuje to zjawisko, aby wyjaśnić, w jaki sposób przestrzenie, które 30 lat temu były skazane na porażkę, mogą wpływać na budowanie miasta zrównoważonego. Pomimo wad blokowiska charakteryzują się nieosiągalnymi obecnie cechami, takimi jak: metraż i rozkład mieszkań oraz obszerne przestrzenie publiczne. Sposób, w jaki te osiedla funkcjonują dzisiaj, zmusza nas do zastanowienia się nad źródłami pozytywnego odbioru społecznego i różnicami w stosunku do inwestycji mieszkaniowych realizowanych w obecnych warunkach wolnorynkowych.

Słowa kluczowe: budownictwo wielkopłytowe, budownictwo wielorodzinne, zrównoważony rozwój społeczny, Polska