Searching for a Model for the Development of Social Housing in the Post-war Transformation Period in Poland

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Abstract. The article deals with issues of social housing and designing of residential buildings, implemented as part of social programs. The general development of the concept of social housing in the post-war period - from 1945 up to modern times, is presented. Area limits are shrunk to Polish conditions. The scope of the research covered the primary, completed architectural objects created in the above-mentioned period. Such a time frame shows the dynamics of building development and presents the concept of social housing in the so-called "late industrialization" in Central and Eastern Europe and the specific housing development situation in this part of Europe. The results of the research lead to the formulation of the basic idea that, in Polish conditions, there is a significant shortage of housing designed for poorer sections of the population - easily accessible, meeting the criteria for flexibility of housing systems for different users. This is a necessary background to the contemporary understanding of this issue, especially in the countries undergoing political transformation after 1989, covering the area of Central and Eastern European countries, especially Poland. There are visible attempts to change the model of use of social, urban, residential and private space. The problems of social housing development in Poland are supplemented with knowledge about the activities of new entities for creating the organizational framework of this type of construction (such as: Social Building Societies – “TBS” and others appointed by municipalities, social organizations and associations in urban and extra-urban areas) Poland in 1996 - now. Their participation in the creation of this type of architecture implies design and organizational solutions for the implementation of desirable residential buildings. Attention is also paid to the environmental effects of the designed architecture and adaptation to local conditions. It is important to recognize the current state of development of the design of this type of residential buildings to generate the form of such architecture in the conditions of transformation (social, political and economic, etc.) The emphasis here is on understanding the principles and specificity of designing a residential social architecture. The article calls for a wider application of new technologies and methods for the use of renewable energy sources in Polish conditions for social housing solutions. This approach to the design of environmentally sensitive architecture, in which new technologies for obtaining energy for social purposes play a key role, are becoming desirable in Polish conditions. The question of eco-efficiency in social housing solutions in Polish conditions is raised as an inseparable mechanism of organizational, design and implementation activities. The buildings and social estates currently designed in Poland are an example of searching for a pattern adapted to the new conditions in the 21st century.
1. Introduction
The article discusses issues related to the development of housing policy as well as the concept of development of social housing in Poland in the period after World War II, including the search for a model of housing transformation period after 1989. Such an analysis gives the opportunity to assess the historical situation as well as the current and future situation regarding the development of social housing in Poland. The scope of this study limits the attitude to many threads that could be presented as relevant to the presentation of the achievements of Polish architecture and urban planning regarding social settlements in Poland after 1945.

2. Development of social housing in Poland after the Second World War

2.1. Period of the Polish People's Republic (1945-1989)
As a result of the Second World War, Poland, being essentially the first victim of German and Soviet aggression in 1939, paid a very high price for both huge human losses (differently estimated - from 6-12 million victims), as well as for the destruction of material resources, including buildings (residential). The destruction of war concerned a number of Polish cities. The symbol of these destructions was Warsaw, which was virtually annihilated by the Germans in 1944. For obvious reasons, Warsaw became a kind of "laboratory" of post-war social construction after the war. It also remained a specific "case study" of resurrecting the entire urban organism from the ruins, constituting a unique test of this type in Europe. The issue of reconstruction of the city layout also included the necessity to design and implement new housing estates.

The following factors influenced the housing situation in Poland after World War II:
- change of the territory of the Republic of Poland with a shift to the west, with the simultaneous loss of the eastern territories of the Second Polish Republic;
- huge destruction of national assets as a result of German actions, loss of housing substance;
- destruction and change of population through war and post-war activities (repression, murder, repatriation, migration, etc.);
- the imposition of the communist system by the soviets and the reasons for conducting the so-called "Planned economy" along with the preferred model of socio-economic development [1].

Nevertheless, speaking about architectural and formal searches in the field of social housing development, world wars "did not constitute a breakthrough in terms of architectural concepts and forms" [2]. The described processes conditioned the shaping of the housing policy in the post-war period (1944-1989) in Poland, with distinction of the following stages:
- reconstruction of the country (1944-1949) in the new political system and the resulting changes in the housing system;
- subsequent phases of industrialization of the country (1950-1970) with distinction:
  - 1950-1956, with a centralized housing policy by financing housing from state resources and their implementation by industrial investors;
  - 1956-1970, using the own resources of the society and the development of housing cooperatives;
- period after 1971, related to the economic development policy, characterized by increased resources, intended for housing [1].

The last of the periods described is related to the bankruptcy of the so-called planned economy (1980-1989), which significantly translated into the practice of housing policy.

2.2. The period of the country's reconstruction (1944-1949)
In the post-war period (1940s), a three-year recovery plan was implemented, with new investments in the housing construction sector, based mainly on existing industrial facilities: coal and steel industry (Upper Silesia) and reconstructed Warsaw. In 1947, housing standards were introduced that determined
the areas and equipment of apartments made of public funds [1]. The estimated number of apartments erected in the state construction sector is estimated at around 130,000. The housing situation was very difficult, with a small housing stock, poorly equipped and not adapted to the "social rules of use" [1].

In the post-war period, due to the "conceptual continuity" for the implementation of the Warsaw Housing Cooperative (WSM), which resumed its activity in 1946. In the post-war period, the WSM started to implement new housing estates in Warsaw [3].

One of the leading housing estates - the Zoliborz district was supplemented with the residential construction of the colony buildings XI (beginning of construction - 1946), where the smaller flats were the representative type of housing. The adopted types and number of flats resulted from the analysis of the needs of future colony residents [3]. The project of the last (XIII) settlement colony, programmatically differs in the social composition of tenants. These apartments were intended for lonely people. Thus, a four-storey building was created, connected with a canteen for 100 people and a spacious common room.

Two types of rooms were designed: single rooms with an area of 15 square meters and double rooms with an area of 22 square meters, which in total made up 130 apartments. On each floor there are 3 bathrooms with bathtubs. The construction of the XIII colony was carried out in 1948 [3].

The Polish avant-garde architectural trend of the interwar period was expressed by combining the design of housing architecture with a social issue and found its solution in the following areas: "the low level of social housing and integration programs covering a number of rooms of general use, housing programs" [3].

The WSM estate in Zoliborz is a model solution symbolically linking the implementation of social housing construction in the pre-war and post-war period. The description of the Zoliborz housing estate with the presentation of the hierarchy of collective units was presented by Barbara Brukalska [4], dividing the city. In her view, the city includes several districts. Districts live in 25,000 up to 40,000 people, the district consists of several housing estates. The settlement, consisting of several colonies (5-6 colonies), lives around 5,000 people. The colony constitutes a group of 200-250 apartments inhabited by about 800 people. In the hierarchical perspective of Brukalska, there is also a collective house for lonely and couples without children (25 to 100 apartments) inhabited by about 100 to 150 people. Apartments with an individual farm are classified as "most-needed apartments" (up to 4 people) and "large apartments" (over 4 people) [4].

2.3 The period of industrialization of the country (1950-1970)
The economic policy of the time, aimed at industrialization of the country, was associated with its urbanization. The economic and social policy pursued also concerned the issue of the location of housing construction, related to: reconstruction of existing cities, development of existing cities, implementation of new cities and housing estates [5].

Issues related to the design and implementation of new social housing resources seem to be crucial for the indicated locations. Within the first specified group, we can indicate the replenishment of the inner city areas with new housing development. The examples of such solutions are Warsaw (Marszałkowska Dzielnica Mieszkaniowa -MDM), Gdańsk (Grunwaldzka Dzielnica Mieszkaniowa in Wrzeszcz) and examples of reconstruction / extension of the city centers of: Poznan, Kielce, Częstochowa and Gdynia [5].

Representative investments are also realizations of housing estates of newly established cities (Nowa Huta, Nowe Tychy). These investments were implemented taking into account the assumptions of the
country's industrialization. The planning concept of Nowa Huta, located near Krakow, was designed as an independent city project modeled on the new cities of Great Britain. The plan of Nowa Huta was part of the plan for the development of a new Krakow industrial complex associated with mineral resources of Upper Silesia [6]. Nowa Huta, represents urban tendencies, implemented based on the principles of socialist realism, the current ideological trend in the so-called People's democracy characteristic of the 1950s.

Nowa Huta was to be a city of a working class, which should have apartments equipped in social and living facilities. The city plan is clear and simple: laid out on a radial-concentric plan. The structural scheme of the city takes a semicircular form, with the center in the form of a central square located at the bank of the Vistula River [6]. The construction of Nowa Huta began in the quarter of the construction of the nearest metallurgical plant's location, in order to settle the city's builders there, then the buildings moved towards Krakow [6].

2.4 Period after 1956
After 1956 in the countries of Central and Eastern Europe, including Poland - in the face of the so-called "De-Stalinization" - the so-called "A new housing policy" programme was implemented [1]. It consisted in using the financial resources of the population for financing housing in the cooperative / individual dimension.

The possibility of social initiatives in housing construction was allowed and the scope of activities of the cooperative self-government was broadened. A new concept and the role of state-owned construction were formulated, with preference for the poor population [1]. The introduction of the "new housing policy" principle was aimed at relieving the state from maintaining and investing in housing resources. Organizational forms of various types of construction were developed: co-operative, ownership and tenant construction, as well as individual construction (1957-1958). The role of national councils in the investment sector has been strengthened. National councils have become the largest public investor in the field of housing [1].

Since 1966, housing cooperatives have been recognized as the most important investor in housing construction. Housing cooperatives also took over investment duties in the area of erecting flats in the factory and departmental systems (Figure 1,2). These measures resulted in the relief of state expenditure for the housing policy [1].

Construction investments aimed at the poorest have also been limited (the second half of the 1960s). The demographic trends observed at that time related to the entry into the adult life of the Polish post-war baby boom generation (Polish "baby boom") adversely affected the economic situation at the time. This contributed to the political solstice which occurred in Poland at the end of the 1960s [1]. The location of new housing resources in the discussed period concerns urban centers characterized by the dynamics of urban population growth (and growth dynamics of housing resources): Warsaw, Silesia and the Gdansk voivodeship [1].
Figure 1. Juliusz Słowacki housing estate in Lublin designed by Oskar and Zofia Hansens (1960–1963)

Figure 2. Juliusz Słowacki housing estate in Lublin designed by Oskar and Zofia Hansens (1960–1963)
2.5 Period after 1970
The political crisis of 1968 in Poland caused the modification of economic and social assumptions by the Polish workers party. The solution to the housing problem was an element to offset socio-political tensions in the country. This was related to the demographic dynamics and growing up of the young post-war population and, consequently, the demand for new housing estates, especially in cities. The perceptible pace of population aging delayed generational renewal in existing resources. The necessity to adjust housing needs for older people (including building special housing) was noticed. The demand for new housing has increased as a result of industrialization and urbanization processes in existing and newly erected industrial areas. An increase in the wealth of the society resulted in an increase in demand and preferred quality standards for apartments. Therefore, a multi-annual program was developed - in force until 1990 - to improve housing conditions, which, however, was not implemented in the face of the growing economic crisis [1]. It was also accepted improvement of widely understood project standards, including urban standards, aimed at increasing the requirements for the quality of solutions as well as the factor of the development of individual motorisation [1]. It should be noted, however, that in the period 1971-1975, 1 million 125,000 apartments were built.

The introduction of new standards for the design of apartments and the urban planning norm (1974) has brought improvements in the standards of flats and designed housing estates. In 1975, 264,000 apartments were commissioned. The average size of the apartment increases in the 1970s from 54 square meters of usable space to 62 square meters of usable space [1].

Summing up, the decade of housing policy in the period 1970-1980, it should be added that in the 1970s, a significant part of the housing stock that was created in the post-war People's Poland was implemented. The possibility of constructing such a number of flats is seen in the existence of the expanded potential of construction industry (including so-called "house factories" representing more than 100 "house factories" completed in 1975) [1].

The 1970s is the period of building multi-family buildings in large-panel technologies, in which a remedy was sought to solve the housing problem in Poland. However, the "rigidity" of the implemented housing systems offered in these technologies was not satisfactory. This concerned in particular changes in the family development cycle, especially the so-called "developmental" young, which required a different approach to the space needed for them [7].

2.6 The period 1980-1989
The decade of the 1980s is a period of bankruptcy of the "command and distribution" economy in Poland. Housing construction in the 1980s, however, showed a certain continuity both in the location, program, standard and technological dimensions. The proposed solutions for making the housing structures more flexible as part of the research and development programs they undertook [8] related to attempts to implement new, modified, multi-panel, "leading" technologies (from the 1970s). New structural and spatial solutions were also sought for buildings and housing estates. Descriptions of investment activities and housing policy in this decade are difficult. The same problems are visible in the case of economic and political issues characterizing the time of political breakthrough (1989) as well as in the period of political and economic transformation.

3. Sovereignty after 1990
The political and economic transformation in Poland after 1989 was a process of difficult social and economic changes. It has reduced the State's financial aid to meet the needs of the population, including in the field of housing [9]. The withdrawal of the State from the task of financing housing investments was connected with a very difficult budgetary situation of Poland after 1989. In 1995, the possibility of obtaining a flat in the system of flats for rent (financed by the National Housing Fund) was built by "Towarzystwo Budownictwa Społecznego" (TBS, Social Housing Associations) or housing
cooperatives. There has also been a decline in the financing of housing investments, carried out with credit supported by the State. With the simultaneous change of the borrower, the co-operative ceased to be it, and the individual investor became an investor. The flat was available for people with at least secondary income, to whom co-operative members do not belong [10].

The issue of housing in Polish conditions, therefore, began to be subject to new mechanisms - including free-market ones, losing largely the status of "communist welfare state" [11]. Considering the extremely difficult economic and social transformation period (first half of the 1990s) in accordance with the doctrine of monetarism and neoliberalism, it was decided to subject housing to the principles of the free market influence, thus losing the possibility of housing development in its "social dimension". The number of completed dwellings dropped (in 1994, 70,000 completed dwellings), including in multi-family buildings: 35.5 thousand [12].

An attempt to reactivate social housing has become the introduction of the "Act on certain forms of supporting housing construction" in 1995 (Journal of Laws No. 133 item 654 of October 26, 1995). The result was the formation of Social Housing Associations (TBS), using the principles of low-interest loans and being a new formula for continuing investment in social housing under new political conditions.

The first residential buildings completed in this system (1996) were, to some extent, an attempt to search for a residential building model in new system conditions. It was an archetype of a multi-family building, characterized by a strengthened energy-saving regime. New design solutions preferred to impose energy efficiency, which should be met by residential buildings designed as part of Social Housing Societies [13]. Examples of residential construction solutions that represent TBS standards are presented in the accompanying illustrative materials (Figure 3, 4, 5).

Figure 3. Implementation of the TBS housing estate in the "Północ" residential area in Częstochowa (after the S.A.R.P. competition, organizer: S.A.R.P., Częstochowa Branch)
Figure 4. TBS housing estate in Szczecin

Figure 5. TBS housing estate in Szczecin
In the literature on the subject, attention is drawn to the key issue of insufficient supply of housing resources in Poland, with a limited demand for housing resources [14]. For this reason, the scientific and design communities are monitoring current issues related to the development of this segment of construction. It should be noted that the development of social housing construction, which was reactivated in Poland after 1995, resulted in successful settlement solutions and their implementation. However, it was retained in 2009. Despite the insufficient number of flats that were offered from the pool of social housing, this type of investment model was successful and resulted in the creation of a new type of small housing estates / housing estates for the poorer. Currently, practically from 2018, a new formula is created for acquiring this type of rental apartments, referred to as: "Flat +". It seems that currently, due to the limited scale of information and knowledge about this type of investment, it is not possible to refer to the assessment of investment, organizational, design and implementation activities described.

4. Results and discussions
The functional program of flats and their standardization has changed in particular stages of residential development in Poland. One can notice a certain standard continuity, visible in the first place, in determining the size and the program of flat areas. The housing standard and the size of residential premises reached their optimum in normative regulations from 1974. The standard of housing design in the "social system" introduced in the 1990s of the last century shows a clear convergence and parametric continuity, basing basically on the parametric findings of the standard of designing apartments from 1974.

The size of the social housing in Poland in the analyzed period did not reach the size / scale of construction carried out in Western European countries. The search for solutions and formal and structural patterns of social housing in Polish conditions was additionally connected with the urgent need of a dynamic development of the social housing sector in the face of a significant shortage of existing housing resources. In the post-war period, the construction of Silesian housing estates - a leading industrial center in the Polish lands, along with the industrialized areas of Warsaw and the Gdansk or Lodz provinces, were the pioneer / leading projects and implementations constituting a model for national solutions.

5. Conclusions
The article discusses aspects of social housing in Poland after World War II, paying attention to the period of political and economic changes after 1990. Under Polish conditions, the attempt to industrialize the country in the years after World War II remained in relation to the attempt to shape the patterns and standards of housing social. The housing policy conducted in the post-war period was connected with the new social system - socialism. It was characterized by meanders of the housing policy and the existing standard and program arrangements for apartments, buildings and housing estates.

In the formal, stylistic and program sphere, in the post-war period, reference was made to the achievements of the residential architecture of the interwar period. One should indicate here the leading projects and realizations, for example, the Warsaw estates implemented by Polish avant-garde modernist architects associated with the CIAM movement.

Political changes in Europe after 1990 were a turning point in the creation of new rules regarding the housing environment in Poland. The settlements implemented in Poland, with their "community" policy, ceased to be obligatory and adhered to the principle of the housing policy being pursued. There were, however, "closed" housing estates as a kind of counterweight to previously applicable solutions.
The reactivation of housing in the social dimension in Poland - from the end of the 1990s (through the introduction of the "Act on certain forms of supporting housing construction" in 1995), created hopes of continuing the "social form of housing". The result of these activities was the emergence of Social Housing Associations, which are a new formula for the continuation of housing social housing in the world of liberal economy. Social construction, implemented by the Social Housing Associations, are in Polish conditions intended for the middle class / poorer people. Patterns of "new" social housing are sought, being in a certain "preliminary" phase (the solution of the so-called "Flat +" program, 2017). It seems that there are now symptoms indicating the ambiguity of the formula for the development of "social" housing in Poland. It seems that the above question requires further analysis.

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