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To cite this article: Alina Żróbek-Róžańska *et al* 2017 *IOP Conf. Ser.: Mater. Sci. Eng.* **245** 042006

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# Overview of Socio-economic Transformations Based on Residential Architecture in a Suburban Area – Case Study of Villages in the Polish Region of Warmia

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**Abstract.** Poland has a turbulent and rich history. Partitions, wars, a centrally planned economy of the socialist era and the rapid transition to a market economy left visible marks on the Polish landscape. The changes that took place in the 20<sup>th</sup> century and the early 21<sup>st</sup> century have vastly influenced the country's architecture. Residential buildings in rural suburbs bear witness to turbulent historical events and change processes. This study analyzed residential buildings in two villages situated in the historical district of Warmia (north-eastern Poland) which is now a part of the Region of Warmia and Mazury. The results of the observations were used to review the social, economic, legal and planning factors that influenced residential architecture between 1900 and 2017. The traditional layout of Warmian villages is well preserved in the analyzed locations where pre-war architectural design mingles with buildings erected in the socialist era when construction materials were scarce. Many buildings in the surveyed villages are reminiscent of collective farms, the prescribed architectural style of the 1970s as well as the stylistic diversity of the early transformation period when customized building plans and construction materials became available. The local landscape also features buildings erected in successive decades which brought a significant increase in the price of land and maintenance costs.

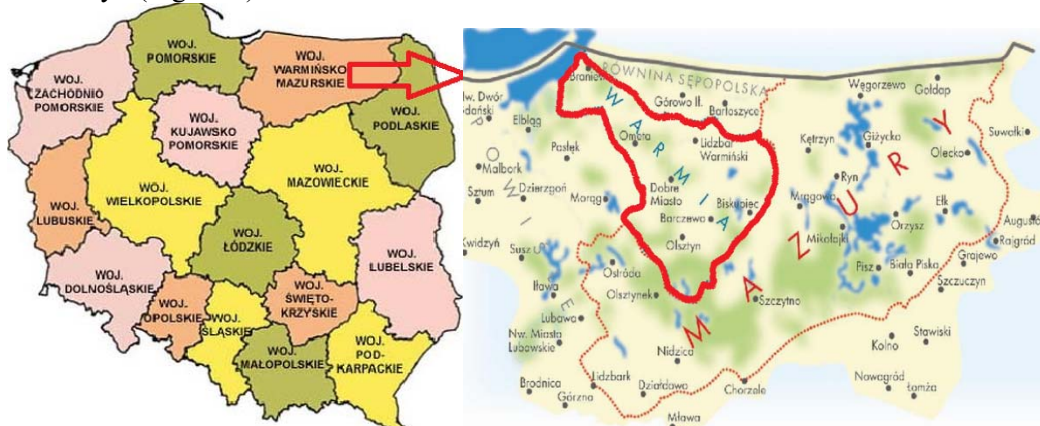
## 1. Introduction

People have been striving to improve their living conditions and meet their housing needs since the beginning of mankind. Housing needs have evolved over time due to changes in expectations, social trends, financial capabilities and legal regulations. Such changes also took place in Poland. Despite Poland's turbulent history of invasions, wars and partitions, many buildings reminiscent of the era in which they were erected have survived to this day. The architectural style and building design carry valuable information about historical trends and legal regulations.

Since 1999, the administrative division of Poland has been based on a three-tier system. Poland has 16 regions which are subdivided into counties and municipalities. The boundaries of historical districts can still be traced in the Polish landscape. Warmia is one of such historical districts. Today, Warmia is



part of the Region of Warmia and Mazury in north-eastern Poland, and it hosts the region's capital city of Olsztyn (Figure 1).



**Figure 1.** A map of Poland and the boundaries of the historical district of Warmia.

Source: Own elaboration based on [1, 2]

Warmia takes its name from the pagan tribe of Prussians or Warmians who had inhabited the district before East Prussia and the present territory of Latvia and Estonia were conquered by the Teutonic Knights. In 1243, Pope Innocent IV ordained the creation of four dioceses in the region, including the Diocese of **Warmia**. The colonization of territories covered by primeval forests began in the 13<sup>th</sup> century. The settlers opted for areas that offered protection against invaders. A watch tower built in the bend of the Łyna River gave rise to the city of Olsztyn [3]. Military considerations significantly influenced the location and layout of human settlements [4, 5, 6, 7]. Urban growth contributed to the development of suburban villages which paid rent to municipal authorities and supplied towns and cities with food and other commodities. The first villages surrounding the watch tower in Olsztyn were established already in 1337. The Warmian Chapter founded the village of **Bartąg** in 1342 and **Kieźliny** in 1348. By the 14<sup>th</sup> century, Olsztyn was surrounded by a dense network of suburban villages and towns.

Today, the plan of Olsztyn and suburban villages is highly reminiscent of the historical layout, but the internal layout of towns and villages has undergone considerable change. Every historical era, every social and economic transformation contributed new elements to the urban identity and created layouts bearing witness to previous architectural styles. The most profound changes took place in the most populated urban areas. Towns literally competed for space to accommodate various and often contradictory urban functions. Land and space became highly valuable commodities on local markets. Buildings erected in the previous decades and centuries were often refurbished, demolished and reconstructed, which significantly depleted historical architectural resources. The changes in urban architecture have been extensively researched by historians, monument conservators, urban planners, economists and sociologists. Despite considerable variations, the urban identity of cities has been effectively preserved. The situation in suburban villages is quite different. Those settlements were established 700 years ago, but they were still weakly connected with the urban core in the 20<sup>th</sup> century, which petrified their rural character. Due to progressing urban sprawl, many villages presently occupy the peri-urban interface where rural and urban land use types coincide. Analyses of individual villages facilitate the search for signs of architectural transformations that took place in Warmia in the 20<sup>th</sup> and 21<sup>st</sup> century.

This study analyzed the villages of Bartąg and Kieźliny which were founded in the 14<sup>th</sup> century and are presently a part of the Olsztyn suburban zone. The local architecture was analyzed, and the results were used to review the social, economic, legal and planning factors that influenced residential architecture in the region between 1900 and 2017. The observations were presented in this monographic study. The architectural style and building design of the examined villages were

reminiscent of the analyzed periods in history. The authors postulated a research hypothesis that *changes in the determinants of residential development can be traced in suburban villages* where the primary rural functions mingle with urban or pre-urban functions. Traces of historical settlements and residential architecture characteristic of pre-war Warmia have been preserved in both villages. Residential buildings erected after Warmia had been incorporated into Polish territory can still be found in both surveyed locations. The study covered the period of 1990 to 2017 which was divided into intervals characterized by distinctive architectural styles and break-through events in the Polish construction industry: the pre-war period, 1945-1949, 1950s – 1960s, 1970s, 1980s, 1990s and the beginning of the 21<sup>st</sup> century. Every period was described based on socio-economic criteria and legal regulations. Photographs illustrating characteristic buildings were taken by authors.

## 2. Evidence of changes in the architectural style of Warmia in successive decades of the 20<sup>th</sup> and 21<sup>st</sup> century

### 2.1. Years between 1900 and 1945



**Figure 2.** Typical farm buildings erected before 1945 in Kieźliny (left) and Bartąg (right)

The buildings shown in Figure 2 are characteristic of Warmia's pre-war residential architecture. Most single-family houses were built of red brick. The use of plaster on the external walls became popular with time. According to regional scientists from the Dom Warmiński Association, Warmian architecture is characterized by a number of highly unique features [8]. The villages founded in the 14<sup>th</sup> century were compact settlements of buildings arranged along a short main street which was generally planned parallel to an existing watercourse. Warmian villages featured variously sized religious buildings and objects of worship such as churches, chapels, cemeteries, wayside shrines and crosses. Residential buildings were generally erected parallel to the main street, and farm buildings typically encircled a square yard. In the 19<sup>th</sup> century, wooden houses were gradually replaced by brick structures. The architectural design and structure of traditional Warmian buildings dates back to the period of Prussian rule. Buildings were made predominantly of red brick, sometimes on stone foundations. They were ground floor structures with a habitable attic, tiled gable roof with 30-45° pitch, sometimes supported by a knee wall. Between 1772 and 1945, Warmia was a part of East Prussia, and the structure and architectural design of East Prussian settlements have been widely documented by A. Muennich in 1934 [9]. In line with planning regulations, a residential building had a floor plan of 8x9 m, it was composed of two rooms, one utility room, a kitchen, a corridor and an attic with the option of adding another room.

A farm building had maximum floor dimensions of 10x23 m, and it comprised a stable and a barn. Planning regulations were strict due to financial considerations – the construction of settlements



was a costly process, whereas the demand for housing in Warmia was relatively low on account of its poor soils and severe climate.

### 2.2. *Just after the war - years between 1945 and 1949*



**Figure 3.** The example of the use of various building materials on pre-war building, Bartąg

Residential buildings erected in rural areas before 1945 changed their owners after World War II. Warmian villages emerged physically unscathed from the war because military operations had not been conducted in the region. Despite the above, Warmia had witnessed mass migration of settlers. Most households were abandoned by Prussian residents, mostly German nationals, who escaped or were expelled from East Prussia. The region was colonized by repatriates or people resettling from other liberated parts of Poland. The memoirs of Eleonora Gałażewicz give a detailed account of the recolonization process in Warmia: *“As the front line retreated, people were free to settle in abandoned farms. When leaving their households, most Prussians believed that this was only a temporary measure and they would be able to return in the near future. Meanwhile, their homes and farms became inhabited by Poles who were resettled to Warmia after the war. There were no laws regulating the settlement process - those who came first were free to choose their new place of residence. Prussian homes were fully furnished and equipped with all the necessary amenities and farming machines. Despite the above, our lives hung in suspense because we did not know how long we would be allowed to stay”*. The feeling of suspense was exacerbated by Polish and Soviet troops stationed in the region. The new political and economic system, the creation of the State Land Fund, expropriation, the introduction of the right of temporary ownership [10, 11] and widespread poverty led to the gradual degradation of Prussian buildings and the construction of improvised housing with any materials at hand [12] (Figure 3).

### 2.3. *Collective farming policy - 1950s and 1960s*

After the war, rapid population growth led to a shortage of housing in Poland. Multi-generational households became the new standard, and larger single-family homes were inhabited by several families. The centrally planned economy was ineffective, new housing projects were scarce and fell short of meeting demand. In comparison with other Polish territories that were regained after the war, the colonization process was slower in Warmia which was characterized by a severe climate, poor soils, shortage of basic goods and a weakly developed transportation network [12]. Despite the above, housing was also in short supply in Warmia. After the war, the Polish authorities established State Agricultural Farms which operated between 1949 and 1993 as part of the collective farming policy.



**Figure 4.** Rural residential buildings adjusted for few families, Bartąg (right and bottom) and Kieźliny (left)

The farms took a heavy toll on the Warmian landscape. Most farm employees were migrants from other Polish regions [13]. The rapid inflow of hired labor increased the demand for housing, and due to the shortage of roads and means of transport, workers had to be housed near the workplace. As a result, Warmian villages witnessed the sprawl of unattractive, low-quality buildings which were occupied by farm workers and their families. Workers were initially housed in former Prussian farms composed of single-storey buildings which were occupied by two to four families. The buildings had separate entrances for each family, and with time, they were converted to small apartment blocks (Figure 4). The second wave of German migration from Poland began in 1956 as part of the family unification process. The abandoned households were quickly adapted to local needs. Meanwhile, the budding job market in Olsztyn (stimulated by the establishment of the Higher School of Agriculture in 1950, the Spomasz Machine Plant and the Food Processing Company in 1954, a railway junction and the Olsztyn Furniture Plant in 1956) discouraged young people from starting their own farms. A total of 351 Warmian residents commuted daily to Olsztyn in 1968, and the number of commuters increased to 500 by 1976.

#### 2.4. Modernity and minimalism -1970s

The 1970s witnessed the pursuit of industrial modernity in Poland's centrally planned economy. This decade was marked by a shortage of construction materials and economic austerity. State Agricultural Farms and agricultural cooperatives continued to develop in rural areas, and they significantly changed the local landscape. The new farm buildings had a highly-industrialized design. Low-cost, prefabricated apartment buildings were erected to address the shortage of housing for farm workers. This process was part of the *agrocit*y concept which was developed in the 1970s with the aim of gradually eliminating the rural identity [14]. The chronic shortage of construction materials<sup>1</sup>, the

<sup>1</sup> Due to chronic shortages, construction materials were sold on a consignment basis. In 1975, prospective property developers had to present a copy of the municipal zoning plan to receive a consignment and a purchase order. Private developers who were listed in the municipal zoning plan were entitled to purchase construction materials from official suppliers [19]. Developers who were not listed could obtain a construction permit, but

search for low-cost solutions, the lack of regard for aesthetic and architectural standards in local construction projects contributed to the popularity of “cubic” houses in Warmian villages (Figure 5).



**Figure 5.** *Agrocity's* cubic rural residential buildings dating back to the 1970s

In 1973-1976, an estate of 100 single-family homes was built in the village of Dywity (neighboring village of Kieźliny) for residents who were employed in Olsztyn and could not find housing in the city. The estate was composed of prefabricated buildings that were lacking in aesthetic value [15]. Apartment blocks, farms and cooperatives were often developed in random locations, mostly outside the village core. The resulting landscape was monotonous, the new buildings were not integrated into their surroundings, and there was a general absence of private and semi-public space [16]. Young people commuted to work or moved to Olsztyn, and older farmers donated their land to the State.

### 2.5. *On the way to the transition -1980s*

The architectural style characteristic of the 1980s is presented in Figure 6. The 1980s contributed new stylistic elements to residential construction in Warmian villages. 1980s marked the end of the socialist architecture and urban design and brought a slow transition to a market-oriented economy [17].



**Figure 6.** Homes built to accommodate multi-generational families were often developed “cubes”.

Left photo shows “cube” in its original version and “cube” transformed into house with steeply pitched roof (Kieźliny), and right photo presents typical house built in 1980s (Bartąg)

Private owners could purchase land from the State Land Fund, often with the involvement of worker housing cooperatives, and build homes. In 1985, 63 single-family homes were built for the employees of the Agricultural Production Cooperative in Kieźliny. There was a growing demand for

Were not entitled to official consignments, therefore, they had to purchase construction materials outside the official market [20].



allotments and building plots in suburban areas, but municipal residents and employees (civil officers, physicians, etc.) had the preemptive right to acquire property. In the 1980s, a typical single-family home was a large multi-storey building with a steeply pitched roof. This design was dictated by several factors. The real estate market was not effective, and the availability of building plots was limited. Homes were built to accommodate multi-generational families, where every generation occupied a separate storey. The popularity of “cubic” homes built in the 1970s dwindled, and houses with steeply pitched roofs became the new architectural trend (Figure 6). According to architect Tomasz Lipiński [18], steep roofs were also popular because they expanded a building’s usable area. Homes built in the 1980s had large cubic capacity because the social economy was not familiar with the concept of sustainable development. Energy was relatively cheap, and energy efficiency was not an important consideration in the construction industry. Most homes, in particular in rural areas, were built with hollow blocks of slag cement, and roofs were covered with highly toxic fibre cement cladding, tar board or corrugated metal panels.

## 2.6. *In the need for the individuality - 1990s*

The 1990s opened a completely new chapter in Poland’s economic history. Political and economic transformations led to the development of the property market, the construction industry and the market of mortgage loans. These changes significantly facilitated private construction. Legal regulations were considerably relaxed. The introduction of a free market economy increased land prices, which contributed to the density of residential development. After decades of collective thinking, the 1990s witnessed an explosion of individuality and diversity.



**Figure 7.** Individual sophisticated projects from 1990s (Kieźliny)

The most popular homes had steeply pitched, asymmetric roofs, numerous annexes and flat roof dormers (Figure 7). Stairs became an important element, in particular in cooperative housing, and the new buildings featured habitable attics or mezzanines [21]. State Agricultural Farms were officially closed down in 1993. Farm property went into the hands of the Agricultural Property Agency, and much of it was privatized.

## 2.7. *Economic first! Simplicity in the 21<sup>st</sup> century*

The beginning of the 21<sup>st</sup> century witnessed significant changes in the Polish rural landscape. The majority of previous local spatial development plans expired, and since then they have been gradually replaced by the modern ones. In 2004, Poland joined the European Union, which stimulated the real estate market and increased imports of used cars from Western Europe. The increase in incomes and the availability of means of transport contributed to the rapid migration from urban to rural areas. The



population of Kieźliny increased by 103 persons, and the population of Bartąg doubled (from 863 to 1664) in just 7 years (2010-2016)<sup>2</sup>.



**Figure 8.** Typical simple detached houses (on the top, Kieźliny and Bartąg), apartment building (built next to the traditional Warmian wayside shrine, Bartąg) and panoramic view (Bartąg)]

The beginning of the 21<sup>st</sup> century witnessed the rapid growth of the housing market and considerable advances in construction technology. A variety of architectural styles emerged in housing development. The new local zoning plans for suburban villages were modified to include single-family detached homes, terraced houses as well as apartment buildings (Figure 8). Maintenance costs became an important consideration in property development, which contributed to the popularity of relatively simple detached houses with an area of up to 150 m<sup>2</sup>. Terraced houses and apartment blocks were also built in suburban areas.

<sup>2</sup> Data from municipal records.

### 3. Conclusions

The authors hypothesized that changes in the determinants of residential development can be traced in suburban villages where the primary rural functions mingle with urban or pre-urban functions. The primary functions of suburban villages were modified over time, but due to lower prices of suburban land, the multitude of styles that were introduced across decades were preserved almost intact, creating an architectural mosaic. The observations conducted in two Warmian villages in the suburban area of Olsztyn, Kieźliny and Bartąg, supported an analysis of the processes and factors responsible for changes in Warmia's landscape and spatial structure in the past 117 years. The architectural styles that were introduced to the residential sector during that period provide historical evidence for evolution in the architectural identity of rural areas. The architectural plan, the building's cubic capacity and the type of construction and roofing materials testify to the owners' financial capabilities as well as their ability to freely shape their residential environment in the light of legal regulations. The rural residential sector also bears witness to the political goals of successive governments, which differed across Polish regions. Suburban villages are also a reflection on young people's residential preferences. The results of the study validate the research hypothesis and indicate that the applied research method can be effectively used to trace historical socio-economic transformations in a given area.

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