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TYPOLOGY OF SUBURBAN COMMUNITIES IN POLAND

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ABSTRACT. The paper presents an attempt to classify new and existing suburban communities in Poland based on spatial patterns and comparisons with suburbs in the United States. Fifteen types of Polish suburban communities are identified in the paper. As large-scale suburban development is a relatively new phenomenon in Poland, most Polish suburban communities will continue to evolve over time and make the transition from one community type to another. An understanding of each type of suburban community may help local governments assist the communities they serve in the process of creating infrastructure and jobs for a growing population.

KEY WORDS: Poland, suburbanization, suburban communities, cities, types, clusters.

INTRODUCTION

The purpose of the paper is to describe fifteen types of new and older suburban communities rising across Poland since the 1990s. The emergence of large suburban communities of virtually identical single-family homes is a relatively new phenomenon in Poland. Prior to 1990, small suburban communities did emerge on the outskirts of major cities in Poland (Jakóbczyk-Gryszkiewicz, 1998). However, the vast majority of suburban homes at the time were built by private individuals and usually did not involve a comprehensive community plan created by a developer. Furthermore, the overall quality of suburban homes built prior to 1990 was much lower than what is available today. In order to sensibly analyze suburban development in Poland, it is necessary to define what it means to be a city or suburb in Poland. While most large cities in the United States ceased to expand their administrative boundaries in the early 20th century (Winling, 2006), their counterparts in Poland continued to significantly expand their boundaries well into the 1980s (Szymańska et al., 2009). As a result, city limits in

Poland encompass former suburbs as well as large swaths of undeveloped land. This creates a fundamental problem when attempting to define ‘the suburbs’ in Poland. However, if it can be assumed that the administrative boundaries of cities in Poland are relatively fixed for the time being, then a tentative definition of ‘Polish suburbs’ may be formulated.

Large-scale ‘homogeneous’ suburban development is primarily a North American phenomenon. Large suburban communities of middle and upper class homes do exist in Western Europe, Australia and New Zealand, however, the sheer scale of suburbanization in North America remains unmatched. For this very reason, it is important to compare suburban development in Poland to that in North America – specifically the United States. Suburban communities in the United States have been evolving since the late 19th century. One of the better examples of this is the Philadelphia Main Line, which evolved as an affluent suburb in the 19th century along a key railroad line and has largely retained its privileged status until this day. It is important to note that early suburbs in the United States were built primarily for affluent families and not for mainstream society. The rate of suburban development in the United States increased rather rapidly following World War II and was driven by a number of factors including major government incentives (e.g., Servicemen’s Readjustment Act of 1944), the postwar baby boom, a steady increase in automobile ownership, the creation of the interstate highway system and a generally rising level of income in the United States due to an expanding postwar economy supplying war-ravaged European countries. Other key factors included the influx of African Americans from the largely rural South (Boustan, 2006) to historically ‘white’ cities in the North as well a rise in violent crime and illegal drug use in major cities. Some researchers argue that suburbanization in the United States in the 20th century was a much more complex process (Mieszkowski, Mills, 1993; Kim, 2007), while others argue that it was rather simple (Glaeser, Kahn, 2003). Suburbanization may also be viewed as an intrinsic stage of urban evolution regardless of geographic location (Anas et al., 1997). On a practical level, however, postwar suburbanization in the United States was unique in that it became available to the average American citizen. In addition to create a variety of tangible quality-of-life benefits, large-scale suburbanization has also created certain public sector costs including increased car-derived air pollution and loss of potential farmland, which have made it socially less desirable (Persky, Wiewel, 1996). Ultimately, in order to make meaningful comparisons between suburbanization in the United States and that in Poland, it is necessary to briefly review a few key issues in modern Polish history.

The year 1989 is important in the history of modern Poland, as it was the starting point for the nation’s politically challenging transition from

a centrally-planned economy to a free market economy. This fundamental economic and political shift is often termed a ‘system transformation’ in the Polish research literature (Zborowski, 2005). This shift helped stimulate what is known in the research literature as the decentralization of urbanization processes (Lisowski, Grochowski, 2008). Poland’s system transformation prompted the emergence of privately-owned construction companies, which began to build planned suburban communities that resemble American suburban communities. Prior to 1990, suburban communities in Poland emerged largely at random and included two types of residents: (a) affluent families that wished to have more space and amenities than what cooperative housing in large cities could offer; (b) average citizens who had built their own homes over the course of several years using their personal savings and the help of friends and family. However, most average Polish citizens at the time did not possess enough personal savings to build their own homes. As a result, most urban area residents were ‘forced’ to live in public housing built by socialist cooperatives that may be best described as large high-rise apartment communities – colloquially known as *blokowiska* in Polish (pronounced ‘blocko-veeskah’ in British English). The singular form of *blokowiska* is *blokowisko* (pronounced ‘blocko-veeskoh’ in British English). *Blokowiska* are often referred to as ‘large multi-family housing estates’ in the Polish research literature (Zborowski, 2005).

KEY DEFINITIONS

It is very difficult to formulate a universal definition of the city, the suburbs and rural areas. It is important to note that cities, suburbs and rural areas have evolved differently in Europe, North America and other parts of the world. Therefore, no standard definition of the city, the suburbs and rural areas may be reasonably believed to be applicable in every given geographic context. Reasonably unique definitions may be formulated for the following seven quasi-geographic regions: (a) Northwestern Europe; (b) Mediterranean Europe; (c) Central and Eastern Europe; (d) United States, Canada, Australia, and New Zealand; (e) Russian Federation; (f) People’s Republic of China; and (g) Japan, South Korea and other developed East Asian nations. Several additional definitions could be formulated for other parts of the world. Next, it is important to look at the language of the place being considered in order to understand it properly and compare it sensibly to other geographic contexts. In the United States and Canada, the term *village* is generally used to describe a small town that may or may not be incorporated (i.e., possess a legal status). In many cases, the term *village* has no legal meaning and may actually describe an upscale suburban community or shopping area.

In Europe – including Poland – the term *village* has a very long history and one usually associated with agriculture. In Poland, the word *village* is also an administrative term that identifies an arguably small developed and inhabited area with established boundaries. In the paper, the word *village* is used in the Polish sense.

In order to sensibly compare suburban development in Poland to that in the United States, the very concept of the city, the suburbs and rural areas must first be defined in each case. The definitions produced for the United States also largely apply to Canada, Australia and New Zealand. The definitions offered in this paper are based on demographics and morphology. Other types of definitions are also plausible (function-based, transportation-based, heat-based). A large city – as defined for Poland – is a contiguous developed and inhabited area featuring closely-spaced multi-family units housing most of its population and a mean population density of 2,600 inhabitants per square kilometre. The true mean population density is actually much larger, given that cities in Poland possess large uninhabited areas within their administrative boundaries. The suburbs are defined as a semi-contiguous developed and inhabited area featuring uniformly dispersed single-family units housing most of the population and a mean population density of 200 inhabitants per square kilometre. Rural areas are defined as developed and undeveloped inhabited areas featuring non-uniformly dispersed single-family units housing most of the population and a mean population density of 100 inhabitants per square kilometre. The population data were obtained from the Central Statistical Office of Poland (Polish acronym: GUS). Finally, it is important to note that the spatial distribution of the inhabitants of suburban and rural areas in Poland still revolves around the European/Polish concept of a village.

A large city – as defined for the United States – is a contiguous developed and inhabited area featuring closely-spaced and uniformly dispersed single-family units housing most of its population and a mean population density of 3,000 inhabitants per square kilometre. This definition deliberately ignores the few large *blokowiska* – called public housing projects in American English – that do exist in some American cities including New York and Chicago. The mean population density for the large American city reflects city limits that usually do not include large swaths of empty land. The suburbs are defined as a semi-contiguous developed and inhabited area featuring uniformly dispersed single-family units housing most of the population and a mean population density of 300 inhabitants per square kilometre. Rural areas are defined as developed and undeveloped inhabited areas featuring both non-uniformly and completely randomly dispersed single-family units housing most of the population and a mean population density of 10 inhabitants per square kilometre. It is important to note that the population densities for the United States are based on 1990 data for Connecticut – a state that

resembles many European countries in terms of population density (Berentsen et al., 2000, with changes). What the definitions do not show is scale. While so-called suburban sprawl can be observed virtually everywhere in the United States, the same cannot be said of Poland in 2011. Another meaningful difference is where people work. While American suburbanites usually commute to work, the same is not necessarily true in Poland. This is an area that deserves further study. Finally, a minor difference that is discussed later in the paper is the issue of ‘suburbs in the city’ in Poland.

DATA SOURCES AND METHODS

The paper is based on the visual inspection of aerial photographs and satellite images provided free of charge to all Internet users by the Google Corporation of Mountain View, CA (United States) and Grupa Onet.pl SA of Kraków (Poland). The online service offered by Google is called Google Maps. The online service offered by Onet is called Zumi. Both Google Maps and Zumi offer high quality aerial photographs and satellite images, however, Zumi tends to offer slightly higher resolution images for most major cities in Poland. This is advantageous when reviewing fine details such as suburban landscaping, street surface quality and roof geometry. High resolution is important when attempting to determine whether a given home is relatively new or not, whether a yard is carefully maintained or not, as well as other details that help in the classification of homes and entire communities. Google and Zumi images were visually inspected online for the following five large and midsize cities in Poland (2010 population data in parentheses – city population only): Warsaw (1,720,000), Kraków (750,000), Wrocław (630,000), Poznań (560,000), and Częstochowa (240,000).

Residential communities located both outside and inside city limits were designated as suburban or suburban-type based on the following types of observations: overall geometry of homes, types of landscaping, signs of agriculture, street patterns, street surface quality, distance to major roads, and distance to city hall. The approximate locations of the communities used as examples are provided in the paper. Homes – as shown on aerial photographs – were visually inspected for the following three features – roof geometry, roof colour and overall building geometry. Homes built before 1990 are usually box-shaped and feature either a flat square or rectangular roof or a simple gable or hip roof. Most pre-1990 roofs are either pale or dark grey and only occasionally red or orange. Most post-1990 roofs are orange, red, dark blue or brown. Homes built after 1990 are normally characterized by a variety of complex shapes (T-shaped, C-shaped, L-shaped, stair-shaped, cross-shaped, jagged rectangle) and usually

feature complex variations of gable and hip roofs. Roof geometry and overall building geometry were two key criteria used to identify the approximate age of homes. Current real estate data for Poland available online (oferty.net) were used to verify the geometric assumptions used in the paper.

Another key measure of suburban development in Poland is landscaping and general property maintenance. Lawns, trees, bushes, flowerbeds, hedgerows, driveways, and sidewalks are well-maintained in new suburban communities and virtually nowhere else. Yards and gardens were visually inspected for landscaping including mowed lawns and neat flowerbeds. Other spatial patterns were also examined including the spacing of homes, lot size, sidewalk quality, driveway geometry, and surface type. The explicit presence of agricultural activity was assumed to be a sign of ‘non-suburbanization’. Street networks were visually inspected for street length, width, curvature, connectedness as well as the presence of high quality sidewalks and street surfaces (i.e., free of visible structural defects). Other characteristic signs of suburbanization were also considered including the distance of homes to major roads and the distance of entire communities to city hall – a non-arbitrary central point in every city – called *urząd miasta* in Polish (pronounced ‘oozhohnt myahstah’ in American English). Finally, it is important to note that when the term *suburban community* is used in the paper, it is intended to mean *a community of single-family homes, row homes and twin homes*, unless multi-family housing (i.e., apartments) is explicitly mentioned.

TYPES OF SUBURBAN COMMUNITIES

Fifteen types of suburban communities were identified for five major cities in Poland. The cities studied ranged from 1.7 million inhabitants to just under a quarter million. Each city possesses a fairly different history of political and economic development. Warsaw, as the capital of Poland, enjoys a rather unique advantage in terms of attracting business investment and university-educated individuals. The city was completely destroyed during World War II. Kraków is considered the cultural capital of Poland and a major centre of learning. The city suffered little damage during the war. Wrocław and Poznań are both known for attracting major Polish and foreign corporations. Poznań suffered some damage during the war, while Wrocław was completely destroyed. Częstochowa is considered the spiritual capital of Poland thanks to the Roman Catholic Shrine of Jasna Góra. The city was not damaged during the war. The five cities possess one common characteristic – all five boast very large *blokowiska* built prior to 1990. In order to simplify nomenclature, the prefixes *macro* and *micro* are used in the paper to mean *large-scale* and *small-scale*. Fig. 1 and 2 show the fifteen types of new

and older suburban communities identified in Poland in 2011. Each community type is designated using the letter ‘T’ and an assigned number (e.g., T5).

The first type of suburban community (T1) identified in Poland is a new macro-community detached from existing towns and villages (Fig. 1). This type of suburban community is large by Polish standards, with an area of 20 to 40 hectares. T1 communities are built by developers, possess a regular street network, paved streets, sidewalks, a variety of home styles, and well-maintained yards and gardens. This type of suburban community is still quite rare in Poland – in part because of the costs associated with extending infrastructure (water, sewer, power, Internet). An example of a T1 community is a new triangle-shaped suburban community rising about 2 kilometres northeast of Smolec – a large village located 8 kilometres southwest of central Wrocław. This particular T1 community resembles what may be described as a New Urbanist design (Lewyn, 2006), with a variety of different types of homes and apartment buildings.

The second type of suburban community (T2) identified in Poland is a new macro-community attached to an existing town or village (Fig. 1). This type of suburban community is also large by Polish standards and its close proximity to a village or town is often driven by the need to easily connect to infrastructure. T2 communities are built by developers and possess most of the characteristics of T1 communities but are more numerous. One reason for this is that zoning laws tend to favour T2 communities. An example of a T2 community is a new rectangle-shaped suburban community in Skórzewo – a village located 11 kilometres southwest of central Poznań. Another example of a T2 community is a new rectangle-shaped suburban community in Suchy Las – a village located 8 kilometres northwest of central Poznań. The Suchy Las suburban community is a rather good example of what may be termed a Polish New Urbanist community and includes a variety of different home sizes and types (including apartments).

The third type of suburban community (T3) identified in Poland is a new midsize community (5–20 hectares) attached to an existing town or village (Fig. 1). T3 communities can be said to evolve from T4 communities into T2 communities over time, and are quite common in Poland. An example of a T3 community is a new square-shaped suburban community in northeastern Węgrzce – a village located 8 kilometres north of central Kraków. The fourth type of suburban community (T4) identified in Poland is a new micro-community attached to an existing town or village (Fig. 1). This type of suburban community is very small, with an area of less than five hectares. T4 communities are normally offshoots of existing towns and villages but are built by developers. This type of community usually consists of a single paved street with standard sidewalks as well as virtually identical homes and well-maintained yards and gardens. T4 communities are very common in Poland – in part because they can

easily connect to local infrastructure and can be built on small parcels of land. An example of a T4 community is a new linear suburban community in southern Bibice – a village located 8 kilometres north of central Kraków.

The fifth type of suburban community (T5) identified in Poland is a new micro-community in the form of an infill in an existing town or village (Fig. 1). This type of suburban community closely resembles a T4 suburban community. One simple reason for the existence of a T5 community – as opposed to a T4 community – is zoning laws. It is usually easier to create an infill simply because the land under the infill is already zoned for residential construction. There is, however, an inherent disadvantage with a T5 community. The new residents of a T5 community often have no choice but to look at older and usually poorly-maintained homes and yards, which lowers their general quality of life and the resale value of their property. An example of a T5 community is a new linear suburban community in western Zabierzów – a ‘town-sized’ village (5,000 inhabitants) located 13 kilometres northwest of central Kraków. While it is possible that a mosaic of T5 communities in a town or village will prompt older residents to upgrade their homes and yards, that possibility is merely a possibility and may take years to materialize.

The sixth type of suburbanization (T6) identified in Poland is technically not suburbanization at all (Fig. 2). It is the direct result of the shifting boundaries of cities in Poland. T6 macro-communities are found in large cities, which have annexed large swaths of empty land in the previous five or six decades. T6 homes are not all built by one developer and tend to be scattered across empty fields in small clusters. Each cluster tends to grow over time, which eventually leads to coalescence. A T6 community does not have the homogeneous appearance typical of a T1 or T2 suburban community. Examples of T6 communities include central and southern Białoleka in Warsaw. The seventh type of suburban community identified in Poland is a new dispersed macro-community attached to an existing town or village (T7). In spatial terms, a T7 community is virtually a mirror image of a T6 community but is located outside city limits. In other words, a T7 community fits the American definition of a suburban community, whereas a T6 community does not. An example of a T7 community is a new dispersed suburban community in Bobrowiec – a village located 19 kilometres south of central Warsaw.

The eighth type of suburbanization (T8) identified in Poland consists of new suburban homes randomly scattered across an existing town or village (Fig. 2). T8 communities are mosaic in appearance and tend to coalesce over time, which results in a T7 community in some instances. An example of a T8 community is Tyniec Mały – a village located 13 kilometres southwest of central Wrocław. New suburban homes scattered among older rural and box-shaped homes are

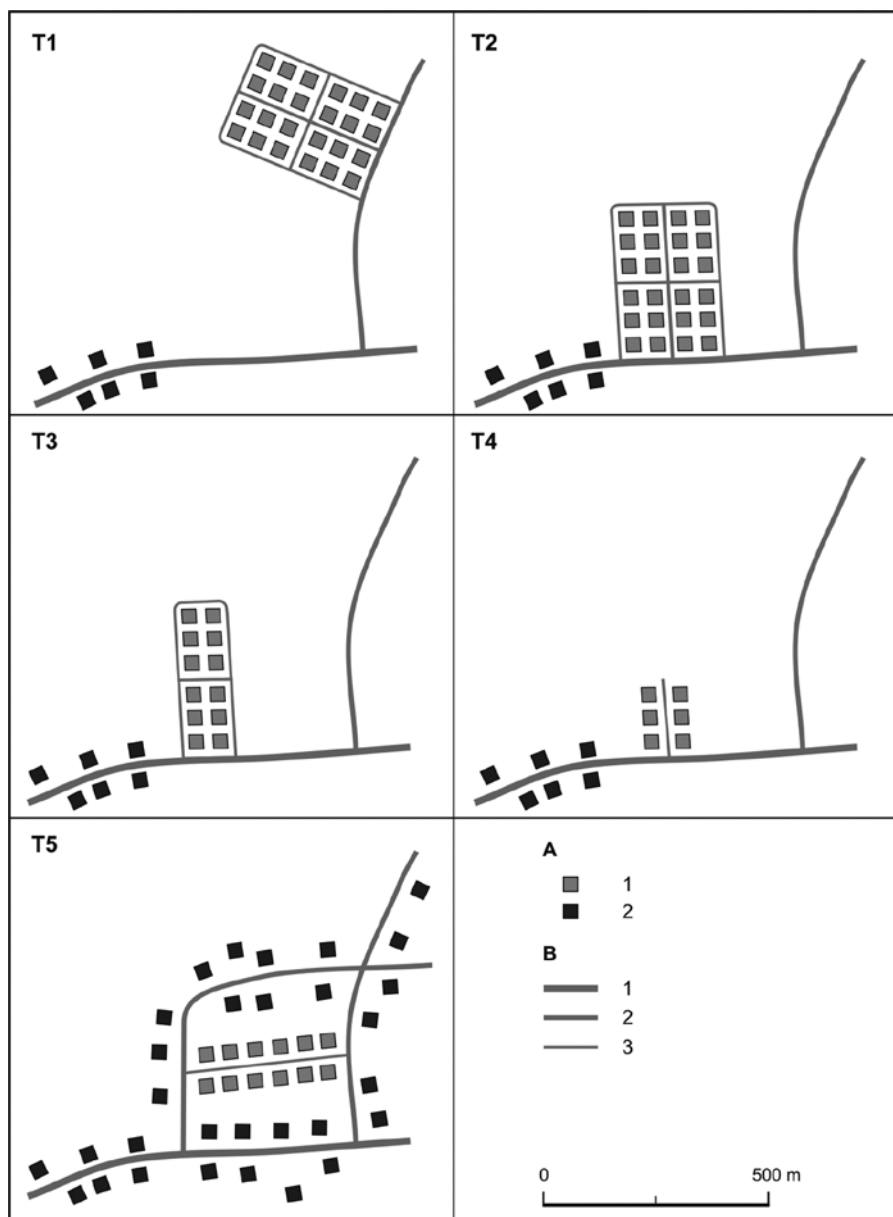


Fig. 1. Selected types of suburban communities in Poland

Explanation: A – types of building; 1 – new single-family homes; 2 – old single-family homes; B – road types; 1 – main roads; 2 – local roads; 3 – residential streets

Source: Author's work

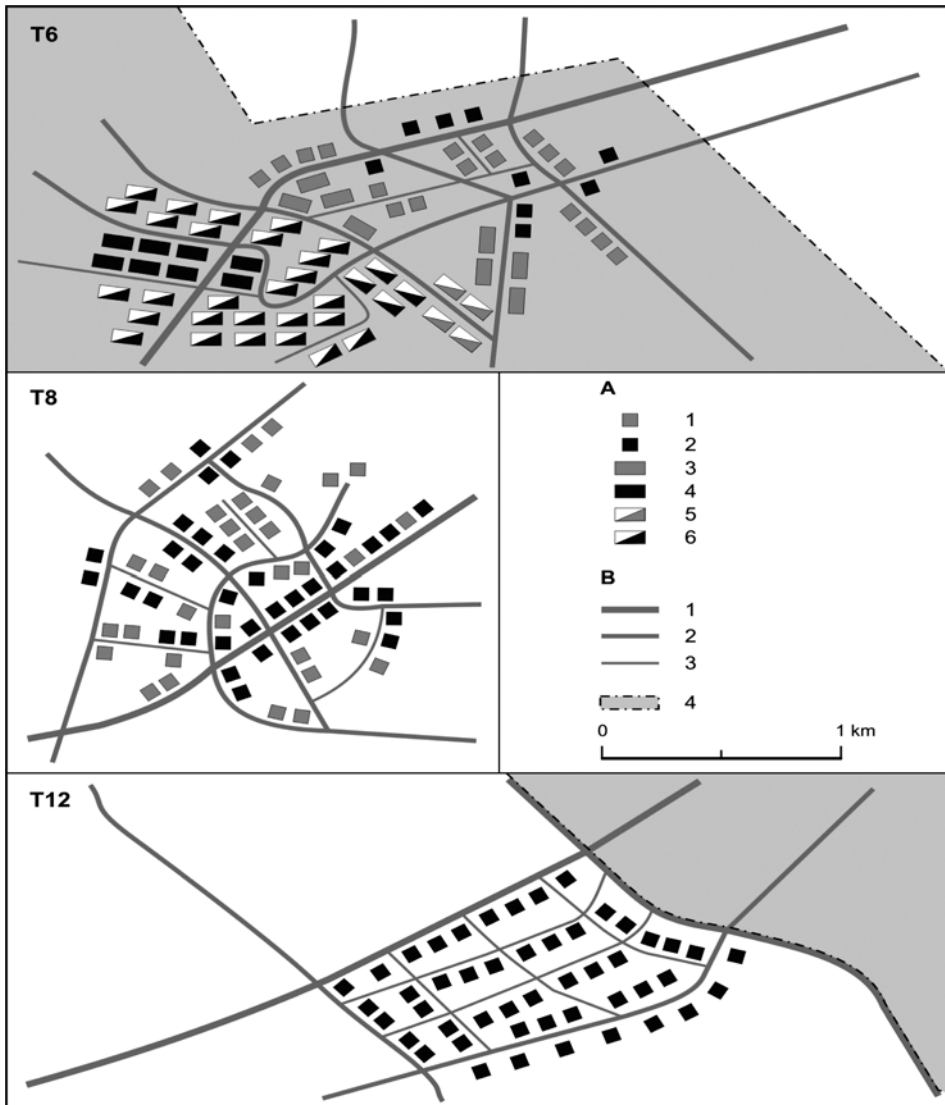


Fig. 2. Suburban communities in Poland – selected types

Explanation: A – types of buildings; 1 – new single-family homes; 2 – old single-family homes; 3 – new low-rise apartment buildings; 4 – old low-rise apartment buildings; 5 – new high-rise apartment buildings; 6 – old high-rise apartment buildings; B – road types; 1 – main roads; 2 – local roads; 3 – residential streets; 4 – the city

Source: Author's work

usually built by private individuals taking advantage of favourable residential zoning laws. Suburban communities T1 through T7 are the predominant types of suburban communities emerging in present-day Poland and tend to evolve in a manner analogous to that in the United States. One major difference with the United States is how T7 communities evolve at the earliest of stages. In Poland, T8 mosaics of suburban homes often coalesce to form T7 communities, while in the United States, T7-type communities generally arise from larger clusters of suburban homes built by several different developers. The remaining seven types of suburban communities identified in Poland (T9 through T15) are rare and usually do not fit the standard American definition of suburban communities.

The Polish countryside has changed substantially since 1990 both in terms of its role in agriculture and its role as the home of millions of rural families. Rural areas located within a 30 kilometre radius of large cities (over 200,000 inhabitants) are slowly transforming from agricultural areas to suburban areas – even if the suburbanization taking place there does not fit the standard American definition. Older rural-type homes are being renovated to meet or exceed American suburban housing quality standards defined as the ownership of single-family multi-bedroom homes featuring modern-day conveniences (hardwood floors, one or more full bathrooms, kitchen appliances, the Internet, insulated windows, entertainment systems) and surrounded by properly landscaped yards and gardens. This may be designated T9 suburbanization. As villages close to large cities abandon agriculture and their inhabitants pursue non-agricultural jobs, the traditional village lifestyle becomes a relic of the past (Gonda-Soroczyńska, 2009a, 2009b). Villages in Poland are slowly becoming small towns, at least based on the American definition of a small town as ‘any isolated cluster of homes with a general store or some other small business’.

One key difference between American small towns and Polish suburban area villages is the role of home renovation. Most American small towns feature a certain number of older homes and new suburban-type homes built by developers. Older homes in American small towns are usually well-maintained and do not need to be renovated. In Poland, on the other hand, rural-type homes close to large cities are being renovated to meet suburban quality standards. Many rural homes in Poland are making the transition from substandard housing to American suburban quality housing featuring large semi-luxury bathrooms, high quality floors and artistic landscaping. It is important to note that the term *American suburban quality* is not a reference to construction technology. A close relative of T9 suburbanization is T10 suburbanization, which is the emergence of ‘upgraded rural’ or ‘pseudo-suburban’ communities of renovated rural-type homes that do not meet American suburban quality housing standards. T10-type homes usually possess some modern features such as new wooden-type floors

instead of linoleum floors as well as new electrical wiring, Internet service and new exterior paint, however, their overall quality does not match that of American suburban homes.

One of the key issues complicating the classification of Polish residential communities as suburban or not suburban is the issue of changing city limits. Large cities in Poland had continued to significantly expand their boundaries as late as the 1980s. Many suburbs as well as empty areas were annexed by large cities. As a result, some parts of cities in Poland resemble American-type suburbs and other parts consist of wooded areas and meadows. For this reason, Polish geographers frequently tend to put forth a morphological argument to designate parts of Polish cities as ‘suburbs’ (Zborowski, 2005). The argument is based on the idea that suburbs are a new form of settlement that exists outside the central city and may or may not be located within present-day city limits. This certainly violates the American definition of suburbanization. What this argument does, however, is suggest that suburbanization processes are – to some degree – location-specific. Hence, former suburbs now located within city limits may be designated T11 suburbs. This type of ‘neo-suburban’ community includes rural-type homes as well as estate-type homes that tend to resemble – for example – those of the Main Line located west of Philadelphia. An example of a T11 community is the Wawer section of Warsaw – a formerly suburban community located 8 kilometres southeast of central Warsaw. However, the predominant type of home found in most T11 communities is a box-shaped home colloquially known as a *klocek* in Polish (pronounced ‘kloh-tsek’ in British English). The plural of *klocek* is *klocki* (pronounced ‘kloh-tskee’ in British English). The vast majority of *klocki* were built between 1945 and 1989 during Poland’s communist era when homes were designed by government architects for whom style was not exactly a top priority. The same is true of T12 communities – older suburban communities built prior to 1990 (Fig. 2). Today, T12 communities remain outside city limits and normally consist of different varieties of *klocki*. Street patterns in T12 communities resemble those in the United States, with regular grids or slightly curving parallel streets. An example of a T12 suburban community is Przeźmierowo – a ‘town-sized’ village (6,000 inhabitants) located 10 kilometres northwest of central Poznań.

A still fairly rare – but becoming more common – type of pseudo-suburbanization in Poland is a new low-rise apartment community located within city limits (T13). This new community type violates the American definition of suburbanization but it does reflect the reality in Poland – the reality being that cities annex suburban areas and suburban-type communities are then built ‘in the city’. T13 communities tend to resemble New Urbanist communities in the United States in terms of architectural style and amenities available (Ford, 2009). Most T13 communities lease ground floor space to service-oriented businesses, which

reduces the amount of driving for T13 residents. An example of a T13 community is a new rectangle-shaped apartment community in the southern Bronowice Małe, section of Kraków. The final two types of suburban communities are very rare in Poland. New macro-communities of suburban homes located more than 5 kilometres from the nearest cluster of metropolitan area suburban homes can be found at a small number of sites in Poland. This type of exurban community may be designated T14. It is important to note that the phrase *metropolitan area* is being used here in the American sense to mean the total inhabited area of any large or midsize city. In Poland, a *metropolitan area* is actually a legal term whose closest equivalent would be the American expression *large metropolitan statistical area*. T14 communities tend to consist of new American suburban quality homes that stand in stark contrast to any other homes found in their general vicinity. An example of a T14 community is a square-shaped exurban community of homes built in the middle of a forest located 5 kilometres east of the Wrzosowa suburb of Częstochowa. A closely related type of suburban development is the construction of estate homes across suburban areas and more distant rural-type areas. Homes of this type may be designated T15. Estate homes are normally custom-built for affluent families and do not form clusters. As the number of affluent families in Poland remains rather small, the number of estate homes remains rather small. Definitions of affluence vary but a net household worth of one million U.S. dollars may be assumed to be a reasonable minimum requirement.

CONCLUSIONS

A major difference between suburban communities in Poland and those found in the United States is the concept of the *suburban neighbourhood* or *subdivision* as it is called in American English. The equivalent Polish term for *subdivision* is *osiedle* (pronounced ‘oh-shed-leh’ in American English). It is important to note that the term *osiedle* is often used as a synonym for *blokowisko*. The majority of American suburbs are between twenty and sixty years old. The majority of Polish suburbs are less than twenty years old, which may be considered an early growth stage. Consequently, the average Polish suburban subdivision is at least five times smaller than the average American suburban subdivision. Most suburban areas in Poland do not feature large subdivisions but merely fragments that may coalesce over time. Most new suburban communities in Poland consist of several short streets. Hence, the very concept of a *suburban neighbourhood* or *suburban subdivision* is still new in Poland. In fact, the term *suburbs* is still rarely used in Poland outside of academic circles. Most suburbanites in Poland insist they live in a village or in the countryside. The small size of new suburban communities

in Poland makes it difficult for most individuals to mentally connect them into a larger whole.

Another key consequence of the highly fragmented nature of new suburban communities in Poland is the issue of quality of life. When small suburban communities are built next to much older *klocki* or old rural-type homes, the quality of life for the new suburban residents is lower than it would be if new suburban communities were much larger. A child cannot ride a bicycle to school through a new suburban community in Poland because the community is not large enough to have its own school. Further research is needed to calculate rates of suburban development for key metropolitan areas in Poland, which would help local governments anticipate infrastructure needs and job market trends (Glaeser, Kahn, 2001). This type of forward-looking data could also be used in the planning of transit oriented development (Zwick, 2009; Goodwill, Hendricks, 2002).

In summary, fifteen types of suburban communities have been identified in Poland – most of which are new types of communities. The three most common types of new suburban communities in Poland (T2, T3, T4) are macro- and micro-communities as well as midsize communities of single-family homes, row homes and twin homes attached to suburban area villages that provide a link to infrastructure. Local zoning laws tend to favour ‘attached communities’ rather than ‘greenfield communities’ for a variety of different reasons including environmental considerations (i.e., altered surface runoff patterns, Burns et al., 2005) and the fear of suburban sprawl. Mosaic-type suburban communities are also quite common in Poland (T6, T7, T8) and are expected to coalesce over time into T3 and T2 communities. In fact, mosaic-type suburban communities may be labeled as ‘typical’ Polish suburban communities as of 2011. This may change over time. The type of suburban development that has not yet taken root in Poland is transit oriented development. This is an area that needs further study. The key challenge for local governments is to create infrastructure in order to facilitate the spatial growth of nascent suburban communities. If local governments are able to spend enough money on new infrastructure, the resulting benefits will be a more affluent tax base and a modern society setting social and economic standards for Poland as a whole.

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