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Contents

Introduction 7

Jacek Sołtys: Sub-regional service centres in reality and regional planning in Poland / Podregionalne ośrodki obsługi w sferze realnej i planowaniu regionalnym w Polsce 9

Andrzej Raszkowski: PEST analysis of Piechowice Municipality – power and future impact direction of environmental factors / Analiza PEST gminy miejskiej Piechowice – siła i przyszły kierunek oddziaływania czynników otoczenia 18

Andrzej Sztando: Barriers in strategic governance of local development in Poland at the beginning of the 21st century / Bariery zarządzania strategicznego rozwojem lokalnym w Polsce na początku XXI wieku 27

Jacek Welc: Reversion toward the mean of regional economic growth – a Polish experience / Rewersja do średniej regionalnego wzrostu gospodarczego – doświadczenia polskie 49

Marek Goleń: Cross subsidization in Polish municipal waste management fees / Subsydiowanie skrośne w ramach opłat stosowanych w Polsce za zagospodarowanie odpadów komunalnych 57

Grzegorz Maśloch: The importance of renewable energy sources for sustainable development of Polish regions / Znaczenie odnawialnych źródeł energii dla zrównoważonego rozwoju regionów Polski 65

Andrzej Raszkowski: The assessment of Dzierżoniów City selected functional areas in the eyes of entrepreneurs – a research report / Ocena wybranych obszarów funkcjonalnych miasta Dzierżoniów w oczach przedsiębiorców – raport z badań 75

Marcelina Zapotoczna, Joanna Cymerman: Effect of property tax on voivodeship capital residents' housing market decisions / Wpływ polityki podatkowej miast wojewódzkich w zakresie podatku od nieruchomości na decyzje zakupowe na rynku nieruchomości mieszkaniowych 84

Magdalena Wiśniewska: The suitability of Living Lab concept in the implementation of municipal projects / Przydatność koncepcji Living Lab w realizacji projektów komunalnych 98

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Introduction

The Department of Regional Economy at the Faculty of Economics, Management and Tourism of Wrocław University of Economics organized yet another scientific conference entitled: "Local and regional economy in theory and practice". It was already the 23rd conference held on 23-25th September 2015 in "Chata za wsią" hotel in Mysłakowice near Jelenia Góra.

The conference was attended by the representatives of national and international scientific circles, regional and local government structures, and also other entities representing business practice and interested in the problems of local and regional economy, as well as PhD students. Over 80 participants of the conference arrived from over 30 national and foreign scientific centres and institutions to present papers and posters.

The subject matter of the conference covered the following areas: local and regional development, local and regional governance, application of quantitative methods in regional studies, partnership in local and regional development, directions of research in local and regional development, cooperation between academic centres and local government units.

The conference contributed to establishing more extensive and stronger relationships, created within the framework of the constructed platform for the exchange of scientific and practical experiences (the conference has been held cyclically since 1992) at the local, regional, national and international forum. The discussions were focused on the dissemination of research results, the exchange of experiences and the establishment of a discussion forum covering both theoretical and practical aspects of local and regional development. They also resulted in more extensive cooperation between academic centres, local government units as well as research and development centres, including the cross-border ones.

The conference is cyclically attended by the representatives of science from Poland and abroad. So far we have hosted e.g. the research workers representing academic centres from Ukraine, the Czech Republic, Italy, Sweden, Germany, Austria, Denmark, Slovakia and also the representatives of business practice, e.g. city presidents and mayors, village heads, county governors, presidents of regional development agencies or of local enterprises, etc.

As a result of the organized conference, the hereby publication presents the collection of thematically selected articles in English covering the broadly understood problems of local and regional economy. Its authors represent the following scientific centres: Warsaw School of Economics, University of Łódź, Gdańsk University of Technology, Koszalin University of Technology, University of Warmia and Mazury in Olsztyn and Wrocław University of Economics.

We are most grateful to the conference participants for the joint meeting and we do hope for further cooperation.

Elżbieta Sobczak, Andrzej Raszkowski, Andrzej Sztando

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SUB-REGIONAL SERVICE CENTRES IN REALITY AND REGIONAL PLANNING IN POLAND

PODREGIONALNE OŚRODKI OBSŁUGI W SFERZE REALNEJ I PLANOWANIU REGIONALNYM W POLSCE

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Summary: Sub-regional centres are defined as towns where the services of the sub-regional level are concentrated. In Poland these are such services that can be located in several towns in a voivodeship (region), but not in every capital of a poviat (county). The transformation of civilization has influenced changes in Christaller's model of settlement network, but regularities are still valid. Models derived from Christaller's Central Place Theory have been used not only in describing reality, but also in planning, e.g. in Germany. In Poland, centres established in the spatial development plans for voivodeships are not used as a tool for the localization of services. The issue of sub-regional centres in Poland defined by sets of services has not been researched recently. Also, the role of a hierarchical service model in regional policy has not yet been researched. Thus, the objectives of the presented research were to verify: 1) whether any regularities of a hierarchical model for the localization of services exist at the sub-regional level in Poland, 2) to what extent regional planning in Poland operates according to a hierarchical model of service. Methods of research included: identification and classification of sub-regional centres (apart from metropolitan areas), which were examined on the basis of four kinds of services, and analysis of spatial development plans for voivodeships. Research shows that some towns can be identified as complete or incomplete sub-regional centres (depending on the extent of equipment provided), and that the levels of hierarchical centres established in the regional plans fail to specify whether those centres are in fact service centres.

Keywords: regional planning, regional policy, sub-regional service centres, service location, settlement network.

Sreszczenie: Przez podregionalne ośrodki obsługi rozumie się miasta, w których koncentrują się usługi poziomu podregionalnego, czyli takie, które w Polsce mogą być w kilku miastach województwa, ale nie w każdym mieście powiatowym. Przemiany cywilizacyjne wpłynęły na zmiany w hierarchicznym modelu sieci osadniczej Christallera, ale wiele prawidłowości zachowuje aktualność. Powstaje pytanie, w jakim stopniu prawidłowości nadal dotyczą koncentracji usług w ośrodkach hierarchicznych. Modele pochodne od teorii Christallera wykorzy-

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stywane są nie tylko do opisu rzeczywistości, ale i w planowaniu, np. w Niemczech. W Polsce ośrodki ustalane w planach zagospodarowania przestrzennego województw nie są narzędziem lokalizacji usług. Problematyka ośrodków podregionalnych w Polsce definiowanych poprzez zestawy usług nie była współcześnie badana. Nie była też badana rola hierarchicznego modelu obsługi w polityce regionalnej. Zatem celem prezentowanych badań było sprawdzenie: 1) czy prawidłowości hierarchicznego modelu lokalizacji usług nadal są aktualne na poziomie podregionalnym w Polsce, 2) w jakim stopniu planowanie regionalne operuje tu modelem obsługi. Metody badań obejmowały identyfikację i klasyfikację ośrodków podregionalnych poza obszarami metropolitalnymi na podstawie czterech rodzajów usług oraz analizę planów zagospodarowania przestrzennego województw. Badania wykazały, że są miasta, które można nazwać ośrodkami podregionalnymi pełnymi i niepełnymi. Hierarchiczne ośrodki ustalane w planowaniu regionalnym są częściej ośrodkami rozwoju niż obsługi.

Słowa kluczowe: lokalizacja usług, ośrodki obsługi, planowanie regionalne, polityka regionalna, sieć osadnicza, usługi podregionalne.

1. Introduction

Sub-regional centres are defined as cities and towns where sub-regional services are concentrated. Under the Polish administration system due to the economic, technical or organizational indivisibility these services may be located in several towns within a voivodeship (region, province), but not in every capital of a poviat (county).

Services have always had a tendency to concentrate, creating systems of different levels of service centres, which led to a hierarchy of settlement network. The oldest and best-known model of this network has been described in Christaller's Central Place Theory. The transformation of civilization influenced changes in this model [Domański 2006]. New models were formulated, but the conceptual apparatus and the regularities are still valid [Fujita et al. 1999; Zaborowski 2014]. Thus the question appears as to what extent the regularity relates to the concentration of services in hierarchical centres? This question especially concerns post-socialist countries because of systemic changes in the year 1989 and the acquisition of European Union funds, which had influenced the localization of services. This question in particular concerns the sub-regional level in Poland because of administrative changes that occurred twice – first in 1975 and then in 1999.

Settlement network and its hierarchy were studied mainly as growth centres – as the concentration of population, jobs, and economic activities [Krugman 1996; Parr 2002]. Relations existing in connection with the surroundings were studied mainly in terms of commutes and migrations. Connections between the localization of services and the settlement network were studied infrequently, especially concerning specific services.

In Poland, sub-regional growth centres were investigated both in connection with the reform of territorial organization that occurred when some cities lost their status as the capital of a voivodeship [Dziemianowicz (eds.) 2011], and also within

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the framework for development of the National Spatial Development Concept 2030 (NSDC) [Korcelli et al. 2010]. Zaborowski [2014] studied the settlement network limited to the regional centres in the NSDC, but questions about the serviced areas considering those centres were left outside the subject of the article. Sub-regional centres were the subject of the research project *Sub-regional growth poles in the context of economic transition, the administrative reform and the knowledge-based economy* [Dziemianowicz et al. (eds.) 2011] in which centres were identified according to several criteria, although service equipment had not been among them. Sokołowski [2005] classified cities and medium-sized towns according to indicators of nodality and centrality, and based on employment. Settlement networks of voivodeships have been studied within the framework for work done on strategies and Spatial Development Plans for Voivodeships (SDPV). Delimitations in the areas serviced by the sub-regional centres were examined by gravity and potential method in Malopolskie and Pomeranian voivodeships [Guzik et al. 2012]. Suchta, Drońska and Celmer [2007] researched the role of big and middle cities in regional development taking into account statistical analysis. Most of the publications concerning research on services focus on the various types of services. Comprehensive research is undertaken less frequently concerning inter alia, equipment services [Ilnicki 2014]. The above review shows that the issue of sub-regional centres in Poland as defined by the actual or desired location of sets of services has not been researched recently.

Models derived from Christaller's Central Place Theory are used not only in describing reality, but also in planning. In Germany, simple criteria of population and distance determine the planning rank of centres and localization of public services [Zaborowski 2014]. It is otherwise in Poland. In some regional plans (SDPV) centres of different levels are not considered service centres, but centres of development. Another question appears here as to whether the rank of towns in the SDPV may affect the location of services. The establishment of sub-regional centres (or their equivalent differently named) in SDPV and the role of a hierarchical service model in both regional policy and urban policy in Poland have not yet been analysed. Therefore, the **objectives** of the presented research are to verify:

1. Whether any regularities of a hierarchical model for the localization of services exist at the sub-regional level in Poland?
2. To what extent Polish regional planning operates according to a service hierarchical model?

Methods of this research included: identification and classification of sub-regional centres on the basis of four kinds of services located in towns, analysis of spatial development plans for voivodeships and interviews with planners. The presented study excludes metropolitan area centres and the capitals of voivodeships.

2. Identification and classification of sub-regional centres

Comparing sets of services located in various towns allowed the author to formulate the following list of typical sub-regional services:

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1. Courts of second instance.

2. Universities, academies, colleges or other institutions of higher education including organizational units (subsidiaries, departments) of institutions in another location (in short they will be called colleges).

3. Hospitals of the second reference level, defined according to the decree [Rozporządzenie… 1998] – having more than 9 wards, mostly specialized (this decree is no valid, but it is still a convenient source of information).

4. Multiplexes.

5. Specialized hypermarkets (e.g. with home furnishings, furniture, gardening articles).

6. Cultural, sport and leisure facilities, e.g. arenas and medium-sized halls.

7. Water parks.

8. Schools (some specific).

In the presented research the author took into account the four kinds of services that were easy to identify (numbers 1-4 on the aforementioned list). The number of and particular sets of services formed the basis for identification of sub-regional centres and their grouping into types with a simple classification as seen in Table 1.

Table 1. Sub-regional centres and their types

Type	Name of centre and extent of equipment in services		Number of towns	Population in thousands		
				Minimum	Average	Maximum
1	**Complete** – fully equipped with the set of all 4 analysed services		16	59	115	230
2	**Incomplete –** not fully equipped, only 3 services		16	28	65	117
2a	College, hospital of second reference level	Second instance court	8	43	64	111
2b		Multiplex	8	28	65	117
3	**Incomplete –** not fully equipped, with 2 services		27	17	62	140
3a	College, hospital of second level reference		20	17	49	75
3b	College, multiplex		5	32	62	140
3c	Hospital of second level reference, multiplex		1			63
3d	College, second instance court		1			48

Sources: [Lista sądów…; Rozporządzenie… 1998; *Sieci multipleksów*...; Local Data…].

Analysis shows that the concentration of services is too small. If the courts of second instance and the multiplexes in the centres of Type 2 were in the same towns, there would be 24 complete sub-regional centres. Towns with only one kind of analysed service were not classified as sub-regional centres. They included: two towns with multiplexes, nine with hospitals of the second level reference, 76 with colleges (including 45 with only an organisational unit). If the services in these towns

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and in the centres of Type 3 were concentrated in towns with other sub-regional services, there would be one more complete sub-regional centre, seven more centres of sub-type 2b and seven more of sub-type 3a.

The population numbers are the most diverse and the highest in Type 1 (nine towns have a population above 100 thousand) and the least diverse with the lowest populations in Type 3a (12 towns have a population below 50 thousand). There are eight towns with a population of 50-100 thousand that were unclassified as sub-regional centres because they had less than two analysed servises, with the highest populations in Grudziądz and Jastrzębie Zdrój (90-100 thousand). However, if other sub-regional services were taken into account it would be possible to classify some of them as sub-regional centres (e.g. Grudziądz, Gniezno, Mielec, Tczew). Jastrzębie Zdrój, Żory, Lubin, Tomaszów Mazowiecki are located close to sub-regional centres, so perhaps no other sub-regional service centres are needed.

Equipment provided in services of towns is changing. Multiplexes are appearing and they seem to be a typical sub-regional service. The number of multiplexes and the number of towns provided with them is growing. It can be predicted that those numbers will continue growing, while the number and typical location of second

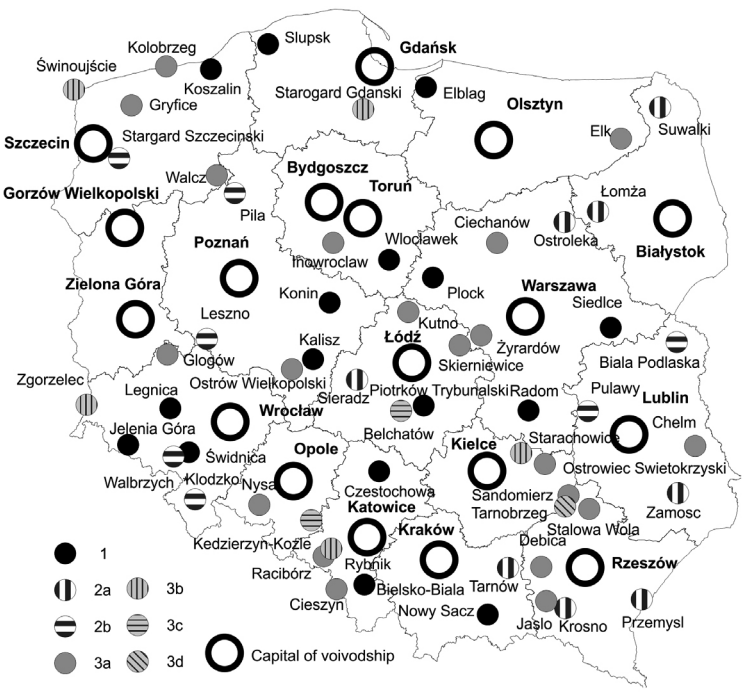

Figure 1. Types of sub-regional centres (described in text)

Sources: [Lista sądów…; Rozporządzenie 1998; *Sieci multipleksów*...; Local Data…].

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instance courts will be stable. As the number of students is decreasing due to changes in the demographic structure, it is possible that some educational institutions, mainly those private ones where students pay tuition, will also collapse.

All towns identified as Type 1 (apart from Świdnica) and all towns of sub-type 2a had been capitals of voivodeships between 1975-1999. Also, half the towns in sub--type 2b (namely Biała Podlaska, Leszno, Piła, Wałbrzych), four towns in sub-type 3a (Chełm, Ciechanów, Ełk, Skierniewice) and Tarnobrzeg, which alone comprises sub-type 3d, were also capitals in the past – this is the reason that in these towns there are more sub-regional services than in other towns.

The identified sub-regional centres are located irregularly (Fig. 1). They are more densely located in central, south and south-west Poland, while there is only one complete sub-regional centre located in eastern Poland. The largest area without a sub-regional centre is located in the south-west part of Pomeranian voivodeship. In this area the biggest town is Chojnice, which provides only one kind of analysed service.

3. Centres in regional plans

According to Polish law, regional plans for voivodeships (SDPV) establish the elements of a settlement network, which are variously named (Table 2). These names fail to indicate clearly whether the centres are service centres. Most of the centres are described in plans as centres of services or both services and development, even if they are referred to only as centres of development (for investment, entrepreneurship, innovation, transfer of technology, diffusion of development). Those names come from the National Spatial Development Plan of 1974 and the directions for the spatial planning of new voivodeships legislated in 1975 [Suliga 1976]; and some names were repeated in NSDC [Koncepcja 2011]. Sobolewski [1978] claimed that there was a need to distinguish between development centres and service centres. However, during the next forty years such a distinction was rarely made. It is not clear what the hierarchical level names (supra-regional, regional, local) mean with regard to centres of development, because in many cases the largest relation that exists between the centre and its surrounding is international (if some products are sold abroad), even though the role of the centre in development is local (sometimes sub-regional) as it relates to a commuting range.

In Małopolskie voivodeship, there are lists of services for every level of centre. In most voivodeships there is only general information about services that should be developed. One such service is higher education, despite the fact that the number of students is decreasing demographically. Therefore, most voivodeship centres established by Spatial Development Plans for Voivodeships (SDPV) do not provide a tool for the localization of public services.

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Table 2. Settlement nodes apart from metropolitan areas and capitals of voivodeships in spatial development plans for voivodeships

Levels of centres	Voivodeship according to names of settlement nodes	
	Centres of development or pole of growth	Centres (without object)
Supra-regional, regional	Podlaskie[a], Łódzkie[a]	Wielkopolskie
Regional, sub-regional	Kujawsko-pomorskie[a], Mazowieckie[a], Warmińsko-mazurskie[a]	Dolnośląskie
Regional I, II category	Pomorskie[a]	
Regional	Lubuskie, Zachodniopomorskie	Małopolskie, Śląskie
Sub-regional	Podkarpackie	Lubelskie, Opolskie, Świętokrzyskie

[a] In Polish: *równoważenia rozwoju*, which is similar to sustainable development or more harmonized development.

Sources: [Plan… 2002; 2003 a, b, c; 2004; 2010 a, b, c, d, e; 2014 a, b, c; 2015; Załącznik… 2012; Zmiana… 2014].

In SDPV there are 66-100[1] sub-regional centres or their differently named equivalents. 56 of them are the same as those that were analysed above in chapter 2.

4. Conclusions

There are towns that can be identified as either complete or incomplete sub-regional centres, depending on whether their typical set of sub-regional services is complete or incomplete. Overall the concentration of services is too small. If more kinds of services were located in the same town, there would be more complete sub-regional centres.

Names of hierarchical centres listed in the regional plans are unclear for interpretation. They are not tools for the localization of services. Spatial Development Plans for Voivodeships should determine two kinds of settlement nodes: centres of services (hierarchical) and centres of development (diverse according to other criteria than hierarchy).

Future research should take into consideration more kinds of services and answer the following questions:

- What factors have contributed to the localization of sub-regional services in Poland in the last 25 years?
- What are the size ranges of areas serviced by sub-regional centres and the population numbers being served in these areas? What are the correlations

[1] In some voivodeships it is difficult to identify the equivalence of sub-regional centres analysed in this paper.

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between sets of services, the population of a sub-regional centre, the population of serviced areas and the network ranges of these areas?

International comparative research would be interesting on the role of a model settlement network (defined by sets of services) in regional policy and urban policy.

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