

SPATIAL MANAGEMENT IN RURAL COMMUNES AROUND LARGE CONTEXT CITIES IN THE OF THE REGION'S DEVELOPMENT

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Purpose: The main goal of the research was to analyze the course of the spatial planning process in recent years and to identify errors that disrupt the processes related to spatial development.

Design/methodology/approach: The study is based on data on 8 communes, surrounding the Tri-City. The analyzes are carried out based on two types of data: statistical data reported by communes to the Central Statistical Office obtained from the Local Data Bank portal and data from the review of planning documents- the Study of the Conditions and Directions of the Spatial Development of all surveyed communes (8 documents) and binding local plans (537) published on the websites of communes.

Findings: The planning process in the surveyed communes is carried out quite regularly, however, the results of this process are very different, some municipalities have most of the area covered by local plans, in some the coverage percentage is already satisfactory, others should intensify planning processes. All communes should strive for a small number of plans covering large areas of land. This will allow the creation of a coherent vision of development, facilitate the assignment of appropriate functions to the areas, and prevent spatial conflicts caused by excluding function neighbourhoods e.g. housing and burdensome services. A problem is also the validity of local plans in relation to the applicable legal regulations – outdated documents need to be replaced with new ones, taking into account the current needs of communes.

Research limitations/implications: The problem with conducting a full analysis was the lack of data on the size of the area intended for spatial functions and the lack of separate functions in local plans.

Practical implications: The research offers support for local government units in more effective spatial management in municipalities' areas, primarily by avoiding errors in the planning process and reducing urban sprawl.

Originality/value: The study complements other studies on urban sprawl, and at the same time monitors current processes related to spatial management in the Tri-City agglomeration area.

Keywords: spatial planning, spatial management, rural communes, urban sprawl.

Category of the paper: Case study, Viewpoint.

1. Introduction

As in the case of any other management process, also in spatial management, planning plays a crucial role. It is from this stage that the local government units will develop properly. The main goal in the spatial planning process should be the region's sustainable development, considering the positive and negative internal and external factors. It is difficult to indicate a uniform spatial planning scheme for all municipalities because effective planning depends on many elements. It is determined by, among others, the size of the commune, its character - whether it is a rural or urban commune, location, tourist values, historical heritage, etc. When creating a vision of development, one should also consider factors such as demographic forecasts, migration trends of neighboring towns/regions, availability of services, and opportunities for development or efficiency of the existing communication and infrastructure networks. There is also a need to eliminate spatial conflicts that may arise when various functions are carried out in one space, e.g. housing in combination with industry or agriculture, tourism and nature protection, etc. (Wojewnik-Filipkowska, Koszarek-Cyra, 2022). It is also necessary to refer to a wider spectrum of conditions, such as voivodship or national plans. Practically the main goal of spatial policy, on a local scale, should be to create the best possible living conditions for the inhabitants of the commune. Correct assumptions in strategic plans (Study of the Conditions and Directions of Spatial Development of Municipalities (SUiKZ¹) and their successive implementation in local spatial development plans (MPZP²) determine successful economic development of the region, provide residents with a sense of security and create favorable conditions for the development of social ties (Szaja, 2016).

2. Spatial planning in Poland – instruments

Satisfying the needs of residents, especially those related to ensuring access to education and health care services, as well as to generally accessible green areas, leisure, and sports, is one of the basic tasks of local government units (Commune Self-government Act³). It is implemented, inter alia, through appropriate provisions in planning, strategic and financial documents created by local authorities (Gorzym-Wilkowski, 2019). In the field of spatial management, the responsibilities of local governments are set out in the Act of 27th March 2003 on spatial planning and development (hereinafter referred to as the abbreviation u. o p. & z. p⁴).

¹ Abbreviation of the Polish name of the document - Studium Uwarunkowań i Kierunków Zagospodarowania Przestrzennego.

² Abbreviation of the Polish name of the document – Miejscowy Plan Zagospodarowania Przestrzennego.

³ Ustawa o samorządzie gminnym.

⁴ Abbreviation of the Polish name of the document – ustawa o planowaniu i zagospodarowaniu przestrzennym.

The basic documents shaping the local spatial policy include Studies on the conditions and directions of spatial development in communes (SUiKZ), Local Spatial Development Plans (MZPZ), Decisions on Building Conditions and Land Development (WZiZT⁵) – where: the location of a public purpose investment is determined by an administrative document called *The decision on the location of a public purpose investment*, while the manner of land development and building conditions for other investments are determined by *The decision on development conditions* popularly known as ‘WZ’ (u. o p. i z. p). A brief description of the above documents is presented in the table below.

Table 1.
Basic instruments shaping the spatial policy

Document name	Level	Obligatory	Legal force	Area	Issues
Studies on the Conditions and Directions of Spatial Development in communes	Commune level	Obligatory	It is not an act of local law, but it provides legal effects when the MPZP is enacted	the entire area of the commune	directions of changes in the spatial structure of the commune and land use, areas and principles of environmental protection, areas and rules for the protection of cultural heritage, directions of development of communication systems and technical infrastructure; identification o areas where public purpose investments will be located, areas requiring mergers and divisions of real estate, areas for which the commune intends to prepare a local spatial development plan, directions and principles of shaping agricultural and forest production, areas of particular flood risks, facilities or areas for which a protective pillar is designated in the mineral deposit; areas in need of transformation, rehabilitation, or remediation; degraded areas; boundaries of the closed area;
Local Spatial Development Plan	Commune level	Optional	Act of local law	The scope depends on the decision of the commune council	the purpose of the areas and the lines delimiting areas of various functions, principles of protection and shaping of spatial order, protection of the environment, nature and landscape, protection of cultural heritage and monuments; principles of shaping the development and land development indicators (maximum and minimum intensity of development, minimum percentage of biologically active area, maximum building height, minimum number of parking spaces), boundaries and methods of development of mining areas, areas of particular flood risk, rules and conditions for merging and dividing real estate; principles of modernization, expansion and construction of communication systems and technical infrastructure; planning fee rates

⁵ Abbreviation of the Polish name of the document – decyzje decyzji o warunkach zabudowy i zagospodarowania terenu.

Cont. table 1.

Decisions on building conditions and land development (planning permission)	Commune level	Necessary for investments in areas without local development plans	Administrative decision	Issued for a particular investment	Determining the type of investment, conditions and rules for land development, conditions and requirements for the protection and shaping of spatial order, conditions for the protection of the environment and human health, conditions for the protection of cultural heritage and monuments, conditions for service in the field of technical infrastructure and communication, requirements for the protection of the interests of stakeholders, conditions for the protection of construction facilities in mining areas, lines delineating the investment area marked on the map
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Source: own elaboration based on u. o p. i z. p and Foryś, Nowak, 2014.

The study of the conditions and directions of the spatial development of the commune is a document of a conceptual nature - it has more of a strategic nature. Local plans are more operational - they affect investment activities and the shaping of space at the commune level directly (Nowak, 2013). For this reason, local plans are considered a key spatial management instrument. The effects of these planning works are translated into spatial development directly. The less urbanised area related local government is often forced to conduct spatial policy using decisions on building conditions and land development, which very often makes it difficult to maintain spatial order (SUiKZP Szemud). Because large areas are not covered by local plans, over 80% of all new construction investments in Poland are implemented based on the 'WZ' decisions (Kociuba, 2015).

The literature identifies (e.g. Śleszyński, 2015; Kowalewski, Markowski, Śleszyński, 2020), the most significant errors related to the adoption of local plans. They include: the preparation of plans for too small areas, significant overestimation of areas intended for housing development, very slow procedure of preparing local plans (on average 2-3 years for a document), high unit costs (on average 3.5-4 thousand PLN per 1 ha of local plan); abandoning the adoption of plans, which results in the lack of plans for a large area of the country. At the end of 2021, in Poland, local spatial development plans covered only 31.7% of the country. In the Pomeranian Voivodeship - 21.8%, but only some of them were drawn up based on the law in force from 2003, the rest were based on older documents (Local Data Bank, 2022).

3. Suburbanization

Lack of local plans and errors in the process of their creation lead to spatial chaos and could cause or intensify negative spatial phenomena, which include urban sprawl. The process of suburbanization defined as expansion into suburban areas is one of the most important spatial phenomena appearing in the vicinity of large cities. It has increased significantly during the last half-century (Zbierska, Zydrón, Szczepański, 2014). This process affects both the neighboring areas and the city itself, contributing to spatial and functional chaos (Wojewnik-Filipkowska, Gierusz, Krauze-Maślankowska, 2021). The most important related and intensifying factors of this process, have been identified (Wojewnik-Filipkowska, Rymarzak, Trojanowski, 2013; Świątkiewicz, Połom, Puzdrakiewicz, 2021; Pandas, 2020; SUiKZ Cedry Wielkie). These are, among others:

- increase in migration from cities to suburban communes, related to, for example, the deteriorating quality of life in cities (environmental quality, noise and light pollution),
- an increase in the supply of land for housing development in suburban communes and lower real estate prices on the outskirts of cities,
- locating production investments in the suburbs or relocating them from central to suburban areas,
- development of public transport related to the necessity to link suburbs with city,
- development of logistic functions related to the increased intensity of connections between large cities and other metropolitan centres,
- development of recreational and tourist functions related to the demand of metropolitan residents for tourist, sports and recreational infrastructure in the suburban area.

Due to the above-mentioned factors, the rural landscape is gradually transforming into suburban and even urban areas (Zuziak, 2005). Urbanization of a rural commune usually occurs in a very chaotic, unplanned and dispersed throughout its area manner (Paszkowski, Schneider-Skalska, Węclawowicz-Bilska, 2015). It leads to the destruction of historic spatial systems of villages, landscapes, and natural values. Instead, new buildings are created, which rarely have the form of a complex and are more often a cluster of single, scattered houses (SUiKZ Kolbudy). What is more, the location of housing estates outside dense urban development causes the need to allocate more and more land for technical and transport infrastructure and generates significant costs for municipalities related to the implementation of their own tasks, e.g. providing water to residents or transporting children to schools (Brzeziński, 2010). In addition, residential, agricultural and forest areas, in the region of urban sprawl, occur alternately, which affects the aesthetics of the landscape and intensifies the impression of chaos negatively (Stelmaszewska, 2020).

4. Methods

The area of municipalities bordering Gdynia and Gdańsk is subject of strong urban pressure related to the development of the Tri-City conurbation (SUiKZ Szemud). Factors causing suburbanization processes occurring in the area of communes surrounding the Tri-City are the cause of the wave of applications from residents to change the use of land for non-agricultural purposes (mainly related to the development of housing) (SUiKZ Cedry Wielkie).

Due to the process of urban sprawl and the need to reduce it, the research focus was on the analysis of planning documentation of municipalities within large cities. Rural and urban-rural communes within two large cities - Gdynia and Gdańsk - were selected as the subject of the research. The study was based on data from 7 rural communes: Kosakowo, Wejherowo, Szemud, Kolbudy, Pruszcz Gdański, Cedry Wielkie, Stegna, and 1 urban-rural commune - Żukowo, surrounding the Tri-City (Fig. 1).

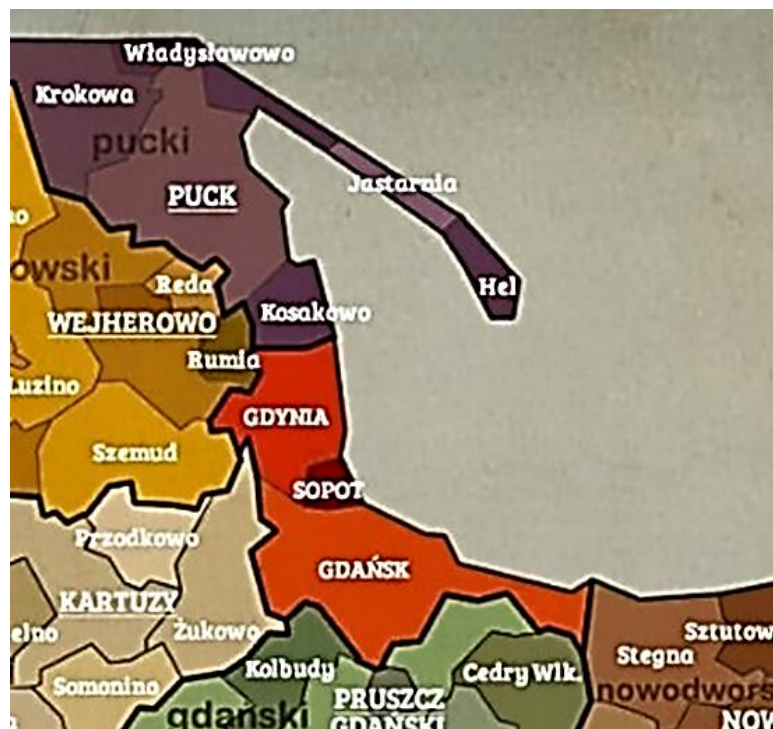


Figure 1. Surveyed communes – location.

Source: Pomorski Urząd Wojewódzki w Gdańsku, <https://www.gdansk.uw.gov.pl/aktywna-mapa-województwa-pomorskiego>, 20.09.2022.

Among the analyzed communes, the largest, in terms of area, are the communes of Wejherowo and Szemud, while the highest population density per 1 km² is in the Kosakowo and Żukowo. The data characterizing the studied units are summarized in Table 2.

Table 2.
Data characterizing communes

	Area	Population	Density of population	Number of localities	Village councils
Kosakowo	5014	16 826	342	10	Dębogórze, Dębogórze Wybudowanie, Kazimierz, Kosakowo, Mechelinki, Mosty, Pierwoszyń, Pogórze, Rewa, Suchy Dwór.
Pruszcz Gdański	14 380	32 532	229	33	Arciszewo, Będziszyn, Bogatka, Borkowo, Borzęcin, Bystra, Bystra-Osiedle, Ciepłowo, Dziewięć Włók, Goszyn, Jagatowo, Juszkowo, Krępiec, Lędowo, Łęgowo, Mokry Dwór, Przejazdowo, Radunica, Rekcin, Rokitnica, Roszkowo, Rotmanka, Rusocin, Straszyn, Świńcz, Wiślina, Wiślina, Wojanowo, Żukczyn, Żuława, Żuławka.
Kolbudy	8266	18 370	225	15	Babidół, Bąkowo, Bielkowo, Bielkówko, Buszkowy, Czapielsk, Jankowo Gdańskie, Kolbudy, Kowale, Lisewiec, Lublewo Gdańskie, Łapino, Otomin, Ostróżki, Pręgowo.
Wejherowo	19 425	27 501	144	30	Bieszkowice, Bolszewo, Gniewowo, Gościcino, Gowino, Góra, Kapino, Kniewo, Łężyce, Nowy Dwór Wejherowski, Orle, Reszki, Sopieszyno, Ustarbowo, Warszkowo, Zbychowo.
Szemud	17 691	18 840	108	29	Będargowo, Bojano, Częstkowo, Dobrzewino, Donimierz, Głazica, Grabowiec, Jeleńska Huta, Kamień, Kieleńska Huta, Kielno, Koleczkowo, Kowalewo, Leśno, Lebieńska Huta, Lebno, Przetoczyno, Rębiska, Szemud, Szemudzka Huta, Warzno, Zęblewo.
Stegna	17 009	6987	57	31	Bronowo, Chełmek, Chełmek-Osada, Chorążówka, Drewnica, Dworek-Niedźwiedzica, Głobica, Izbiska, Jantar, Jantar-Leśniczówka, Junoszyń, Mikoszewo, Nowotna, Popowo, Przemysław, Rybina, Stegienka, Stegienka-Osada, Stegna, Stobiec, Świerznica, Tujsk, Wiśniówka, Wybicko, Żuławki.
Cedry Wielkie	12 427	6987	56	14	Błotnik, Cedry Małe, Cedry Wielkie, Długie Pole, Giemlice, Kiezmąrk, Koszwały, Leszkowy, Miłocin, Stanisławowo, Trutnowy, Trzinisko, Wocławy.
Żukowo	16 404	43 232	268	30	City of Żukowo, Village councils: Babi Dół, Banino, Borkowo, Chwaszczyno, Czaple, Glinicz, Leżno, Łapino Kartuskie, Małkowo, Miszewo, Niestępowo, Nowy Świat, Otomino, Pępowo, Przyjaźń, Rębichowo, Rutki, Skrzyszewo, Sulmin, Tuchom, Widlino i Żukowo-Wieś

Source: own study based on data from the Local Data Bank (<https://bd1.stat.gov.pl/>) and municipal websites: <https://szemud.pl/>, <https://www.kolbudy.pl>, <https://www.pruszczgdanski.pl>, <https://ugwejherowo.pl>, <https://www.zukowo.pl>, <https://gminakosakowo.pl>, <https://www.cedry-wielkie.pl>, <https://stegna.pl>, 19.09.2020.

The research was aimed at checking what are the planning goals included in the municipal studies, analysing the course of the spatial planning process in recent years, and identifying errors that disrupt the processes related to spatial management. In practice, these studies can

help local government units in more effective spatial management in their areas, primarily by avoiding errors in the planning process. It is a pilot study on the process of urban sprawl, which may be extended to other urban centres in the future.

The analyses were carried out based on two types of data sources. Research is based on statistical data reported by communes to the Central Statistical Office obtained from the Local Data Bank portal (BDL – <https://bdl.stat.gov.pl>, 2022), and the review of planning documents – Study of the conditions and directions of the spatial development of all surveyed communes (8 documents) and binding local plans⁶ published on the websites of communes. At the stage of the documentation review, the size of the areas included in the local plans were examined, as well as spatial functions were determined in individual plans. Six functions were taken under examination. They are: residential (MW, excluding summer houses), housing and service (MNU), service (U- excluding sports and recreation services, because, in many cases, they were combined with the function of green areas), industrial (P), and industrial-service (UP). The purpose of this analysis was to investigate: how often local plans determine the residential function, whether municipalities also care for the development of services and industry or whether they are only ‘bedrooms’ of larger cities. 537 plans were studied but due to missing data, the detailed analysis of the area covered by the plans was carried out for 410 plans - Cedry Wielkie - 8, Pruszcz Gdański - 11 Commune, Wejherowo Commune - 49, Kolbudy - 42, Kosakowo - 86, Stegna - 26, Szemud - 11, Żukowo - 177). The time range covers the period 2009-2021 - because of availability of the BDL data. The analysis of local plans was extended to the period 1996-2021 - plans in force according to the Act o p. i z. p.

5. Results and discussion

Strategic goals included in the studies

The first stage of the research was to identify the goals that municipalities set themselves in the planning process. Through the analysis of spatial development studies for selected area, the following objectives related to spatial management were identified:

1. creating conditions for increasing the quality of life of the commune's inhabitants, increasing social integration and residents' satisfaction with their place of residence,
2. protection and preservation of the unique values of the natural environment, and limitation of deforestation,
3. preservation and display of the values of the heritage and cultural landscape in the area of the commune,

⁶ Only the original versions of the documents were analyzed, without any changes that were later adopted.

4. shaping individual and compatible with the tradition and character of the commune buildings, referring to traditional spatial systems,
5. preventing excessive and unjustified dispersion of buildings and stopping uncontrolled urbanization,
6. creating conditions for the development of service and industrial functions - creating a coherent system of public space, a complete set of services,
7. elimination of spatial conflicts arising at the junction of dynamically developing housing and entrepreneurship with agriculture and nature,
8. improvement of the functioning communication and transport system, linking the public transport system with higher rank centres,
9. improvement of the technical infrastructure condition,
10. rational development of tourist and recreational functions, including access roads and parking lots, and expansion of the network of bicycle paths,
11. creating coherent development visions for the commune area,
12. caring for the comprehensive development of the commune - preventing the 'bedroom syndrome'.

Local spatial plans - the number, systematic adoption of local plans, coverage of the commune area, the degree of validity

In the further part of the analysis, the following were examined: the number of valid local plans, the size of the area of municipalities they cover and the regularity of the planning process. The results of the analysis are summarized in tables 3 and 4 and graphs 1 and 2.

Table 3.

Number of local plans in force in 2009-2021

Commune	Number of local spatial development plans in force in the years												
	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Kosakowo	63	55	59	64	68	72	74	76	87	90	93	101	94
Pruszcz Gdański	8	8	8	12	9	14	14	17	18	19	21	23	27
Kolbudy	36	37	41	42	37	35	39	45	43	48	50	50	52
Wejherowo	44	46	54	58	56	65	69	74	76	76	88	93	98
Szemud	23	23	26	27	29	29	29	30	30	31	31	31	103 ⁷
Stegna	7	16	15	16	17	20	18	19	22	24	29	33	34
Cedry Wielkie	13	13	13	14	14	14	17	18	18	18	18	18	18
Żukowo	414	451	452	457	457	464	320	329	341	345	351	343	326

Source: BDL.

⁷ The BDL contained information that in 2021 there were 103 plans in force in the Szemud commune - considering that in 2021, according to the information on the commune's website, only 3 documents were adopted, probability of reporting errors, and this information was not taken into account in the analysis.

Table 4.
Percentage of the commune's area covered by local plans

	Share of the area covered by the valid local spatial development plans in the total area (%)												
	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Kosakowo	34.8	42.6	42.8	43.2	43.4	43.8	43.8	44.8	44.8	44.8	45.3	46.2	50.6
Pruszcz Gdański	86.6	86.6	86.6	86.6	97.9	97.9	97.9	97.9	97.9	97.9	97.9	97.9	97.9
Kolbudy	30.6	33.5	40.3	40.3	32.7	33.5	42.2	46.9	48.4	55.2	55.2	55.2	55.2
Wejherowo	11.6	11.6	11.6	12.2	12.2	15.4	16.7	27.4	27.4	27.5	28.2	29.5	29.7
Szemud	24.5	24.5	24.7	24.7	24.9	23.7	23.7	23.7	23.7	23.8	23.8	23.8	23.8
Stegna	1.7	9.9	11.9	11.9	11.9	13.4	13.4	13.4	13.9	13.9	14	15.6	15.6
Cedry Wielkie	100	100	100	100	100	100	100	100	100	100	100	100	100
Żukowo	7.6	13.8	14.2	14.2	14.3	14.3	14.4	16.4	17.8	18.4	18.5	19.4	20

Source: BDL.

Based on the data summarized above, it can be concluded that the planning process in the surveyed communes is carried out quite regularly, and both the number of plans and the area, in which these plans are valid, are increasing. However, the results of this process are very different. Some municipalities have most of the area covered by local plans and others are lagging. A special case is the Cedry Wielkie Commune, which is fully covered by the local development plan from the beginning of the period for which the study is conducted. It is unique not only in the region but also in the country. The activities of the Pruszcz Gdański Commune are also worth noting. In the last 10 years, it has increased the coverage of the commune's area with local plans, and at the moment it has reached the result of 97.9 percent of coverage. A negative example in the studied group is the Szemud Commune, where the number of plans has increased, but the area they refer to has decreased. In other communes the process of covering the commune's area with local plans is also progressing. In the communes of Kosakowo and Kolbudy the coverage percentage is already satisfactory, while the communes of Stegna, Żukowo and Wejherowo should intensify the planning processes.

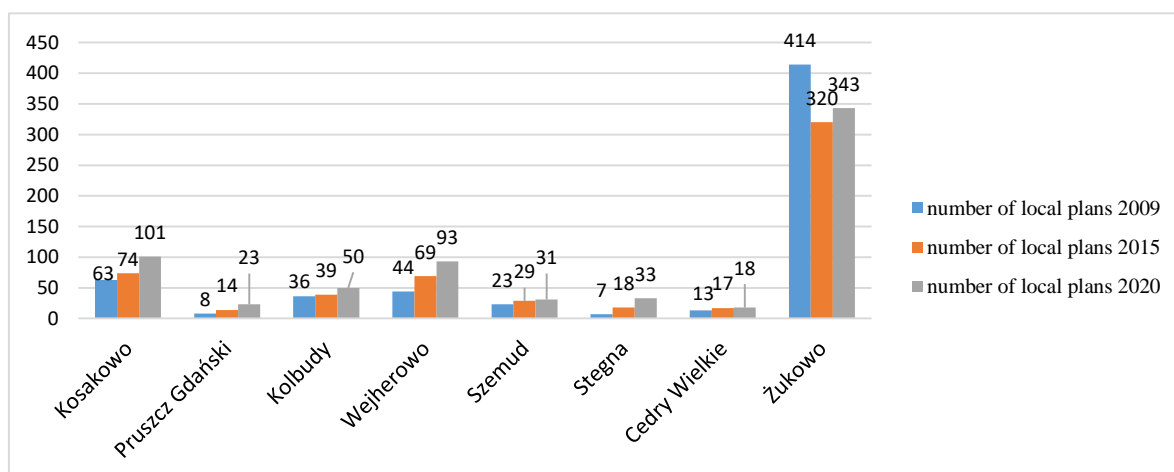


Figure 2. Number of local plans.

Source: own study based on BDL data.

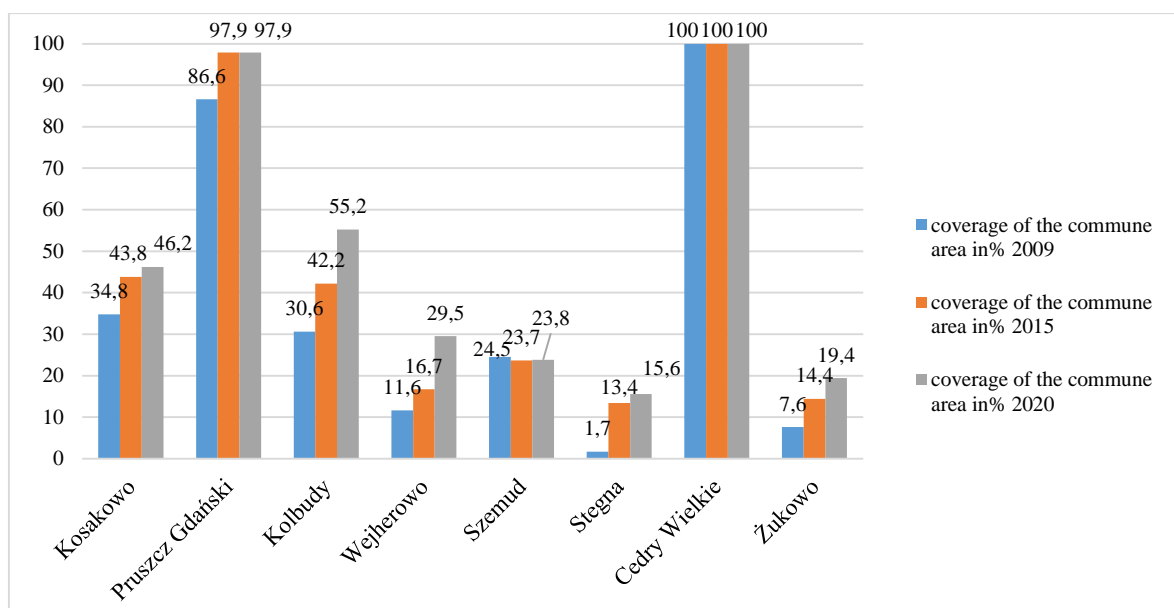


Figure 3. Percentage of the commune's area covered with local plans.

Source: own study based on BDL data.

It is worth pointing out that the number of binding plans in Żukowo commune is many times greater than in other communes. At the same time, the plan coverage of the commune is low - this indicates that the plans are made for small areas. It undoubtedly hampers general spatial management and the creation of a vision for the sustainable development of the commune. The situation is the opposite in the aforementioned Pruszcz Gdański Commune, where, despite a relatively small number of plans, a large percentage of the commune's area is plan covered. All municipalities should strive for such a situation - a small number of plans covering large areas. This should allow the creation of a coherent vision of development, facilitate the assignment of appropriate functions to the areas, and prevent spatial conflicts caused by neighbouring at the same time excluding functions, e.g. housing and burdensome services.

To investigate to what extent local plans relate to large areas and at the same time implement a wider vision of spatial management, and to what extent they only respond to current needs and are not part of the overall vision, the plans were analyzed in terms of the area they concern. Table 5 contains data on the number of plans concerning the area they relate to (left side of the table) and the percentage share of the range in relation to the total number of plans ($n = 410$) adopted for individual localities (right side of the table).

Table 5*The size of the area covered by individual local plans (into sections)*

area (ha)/ commune																
	less than 1	1-4,99	5-9,99	10-49,99	50-99,99	100-499,99	500 and more	total	less than 1	1-4,99	Up to 4,99	5-9,99	10-49,99	50-99,99	100- 499,99	500 and more
Cedry Wielkie	1			5	1		1	8	12.5 %	0	12.5%	0	62.5%	12.5%	0	12.5%
Gmina Pruszcz Gdański	2	3	1	3	1	1		11	18.2%	27.3%	45.5%	9.1%	27.3%	9.1%	9.1%	0
Gmina Wejherowo	2	8	5	16	9	8	1	49	4.1%	16.3%	20.4%	10.2%	32.7%	18.4%	16.3%	2.0%
Kolbudy		4	2	11	8	16	1	42	0	9.5%	9.5%	4.8%	26.2%	19.0%	38.1%	2.4%
Kosakowo	22	23	7	16	7	11		86	25.6%	26.7%	52.3%	8.1%	18.6%	8.1%	12.8%	0
Stegna	2	7	1	5	2	8	1	26	7.7%	26.9%	34.6%	3.8%	19.2%	7.7%	30.8%	3.8%
Szemud		3	4	3			1	11	0	27.3%	27.3%	36.4%	27.3%	0	0	9.1%
Żukowo	64	38	24	31	12	6	2	177	36.2%	21.5%	57.6%	13.6%	17.5%	6.8%	3.4%	1.1%
total	93	86	44	90	40	50	7	410	22.7%	21.0%	43.7%	10.7%	22.0%	9.8%	12.2%	1.7%

Source: own research - analysis for 410 local plans.

The analysis of individual local plans confirms the observations made earlier - over 43% of all plans are those for an area of less than 5 hectares. A particularly large share of such documents is in the communes of Żukowo and Kosakowo, which confirms previous concerns about the correctness of planning processes carried out in these units. Especially in the case of Żukowo, too fragmented areas (sometimes even single plots for which a separate plan has been drawn up) intensify the chaos. This increases the risk of spatial conflicts and makes it difficult to create a vision of the commune's development. In a broader perspective, it may have a negative impact on the development of the entire region.

A problem that is sometimes ignored in considerations of spatial management is the validity of local plans to the applicable legal regulations. It should be mentioned that some of the plans in force in the analyzed communes are also based on outdated legal provisions. The set of data for the year 2021 is presented in table 6.

Table 6.*Validity of local plans*

Plans were drawn up based on previous acts	Stegna	Pruszcz Gdański	Kolbudy	Wejherowo	Cedry Wielkie	Kosakowo	Żukowo	Szemud
2021	6	2	7	8	13	13	147	15 ⁸
% of all plans	18	7	13	8	72	14	45	48

Source: own study based on BDL data.

The above data shows that in the Cedry Wielkie commune, mentioned as a positive example, where 100% of the commune is covered by local plans, as many as 72% of them are not based on the current regulations. A significant number of plans are also based on the "old" law in the municipalities of Szemud and Żukowo. Therefore, it should be to replace old documents with new ones, taking into account the current needs of communes.

⁸ Data for year 2020.

Spatial functions

Additionally, analyses were carried out in terms of the terrain functions assigned to individual areas in local plans. The table below presents the frequencies of particular functions in the entire group of the examined local plans.

Table 7.
Frequencies of spatial functions in the local plans

Function	MN	MNU	MN and/or MNU	U	P	UP	UU, P and/or UP
number of appearances	330	262	427	164	35	91	223
% in N = 537	61	49	80	31	7	17	42

Source: own study.

The residential or residential-service function appears in 427 local plans - some plans include both functions, and others one of them. The service function was present in 164 plans (31% of the total), industrial only in 35, altogether these functions, along with the service-industrial function, are present in 42% of the documents examined. Such a high frequency of the housing function allows presuming that communes planned or are planning the expansion of housing estates, which is in line with the nationwide trend described in the literature (i.e., Kowalewski, Markowski, Śleszyński, 2020). The low percentage of plans with an industrial function indicates that these communes do not notice or notice to a lesser extent the need to allocate land for the construction of industrial plants in planning processes. Unfortunately, due to the lack of data, it was not possible to analyze individual functions also in the area context. Such an analysis would allow, for example, to indicate municipalities that allocate the largest areas in local plans for housing development, and to determine whether their size is correct or overestimated concerning demographic forecasts.

Decisions on building conditions and land development

These decisions are issued for areas where local plans are not in force. The fact is that their greatest number will occur in communes where the share of the area covered with local plans is the smallest. This is reflected in the data on decisions issued for the areas of the analysed communes.

Table 8.
Number of decisions on building conditions and land development

number of decisions on the location of a public purpose investment and decisions on building conditions														
	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	
Kosakowo	20	14	7	11	13	16	12	18	18	7	14	7	7	
Pruszcz Gdański	15	20	16	8	1	0	1	0	0	0	1	3	1	
Kolbudy	218	154	149	113	103	112	85	60	63	47	31	19	22	
Wejherowo	308	99	331	144	232	222	117	139	116	104	107	78	93	
Szemud	221	238	185	234	175	163	239	270	682	539	549	582	853	

Cont. table 8.

Stegna	153	131	127	108	83	91	88	100	86	90	88	108	110	
Cedry Wielkie	does not concern													
Żukowo	850	908	964	805	963	713	531	895	1029	943	1021	909	884	
Total:	1785	1564	1779	1423	1570	1317	1073	1482	1994	1730	1811	1706	1970	21204

Source: own study based on BDL data.

A particularly high level of issued decisions can be observed in the communes of Żukowo and Szemd. This intensifies the earlier doubts referring to the correctness of the management process carried out in these communes, certainly, such many decisions lead to an increase in spatial chaos and may generate spatial conflicts. On the other hand, these communes may deliberately not adopt local plans to have greater flexibility and not be bound by an act of local law. Such an approach increases the risk connected with stakeholders who might force the issuance of a decision for investments that will not necessarily be beneficial for the commune itself or its residents.

6. Conclusions and summary

The goals set in the studies are formulated correctly and their implementation will certainly result in the sustainable development of communes. However, the implementation of the assumptions contained in the above-mentioned documents raises several doubts. The situation in the study group is not uniform. In the case of Pruszcz Gdański and Cedry Wielkie, the communes decided to cover the entire area with local plans. It certainly helps to maintain the spatial order in these areas and makes the spatial management process easier. The case of the Żukowo commune is reverse. Not only has 1/5 of the area covered with local plans but also plans concerning often small areas of land. Moreover, this commune (compared to the others) issues a lot of 'WZ' decisions. The situation is similar in the Szemud commune, where a lot of WZ decisions are also issued. At the same time, it should be stated that too frequent allocation of land to housing, fosters spatial conflicts arising at the junction of dynamically developing housing, industry, and the environment, and hinders the comprehensive, sustainable development of the commune, as well as strengthens the formation of the "bedroom" syndrome.

The following actions can be indicated as recommendations for the surveyed communes: updating the existing plans, striving to increase the area covered with local plans, limiting the issue of WZ decisions, allocating areas for services, and limiting the areas designated for housing estates.

In the course of further research, analyzes will be carried out for rural communes surrounding other large cities. It is also planned to conduct interviews with employees of municipal offices in order to analyze the planning processes in the surveyed municipalities in more detail.

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