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METHODS OF SUSTAINABLE SPACE MANAGEMENT IN REVITALISATION PROCESSES – COMPARATIVE ANALYSIS OF URBAN OPERATING TOOLS USED IN THE POLISH CITIES

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ABSTRACT: The paper attempts to analyse the instruments of urban operating tools used for spatial management in the urban regeneration processes. A comparative analysis of planning documents prepared for the implementation of revitalisation policy, i.e. spatial development concepts and Local Revitalisation Plans, was carried out. These instruments were juxtaposed with master plans, commonly used in the revitalisation practice by German cities but by some Polish cities as well. The article presents mechanisms of the impact of urban operating tools on the scope and nature of the urban regeneration processes. The scale of the impact understood as the pace of the implementation of the sustainable development goals in degraded urban areas was also assessed.

KEYWORDS: sustainable development, planning models, planning policy

Introduction

As Ziobrowski et al. (2010) points out, a notion of a city includes a system of functions, institutions and corresponding permanent material devices created as a result of the efforts to achieve a balanced state at a specific level of selectivity of needs and an established system of mutual spatial accessibility. In this approach, the “natural” target state of a city is sustainable development, which enables modification of the need patterns, availability and quantitative features of individual elements (Ibid, p. 41). Urban planning is responsible for steering the cities’ development and building structures that support urban life (Zuziak, 2008, p. 32). Spatial policy, on the other hand, is the activity of public authorities aimed at transforming or maintaining the spatial development of these structures. Urban operating planning serves to implement effective plans and concepts regarding the creation of space (Ossowicz, 2019, p. 5).

The International Guidelines on Urban and Territorial Planning (2015), the 2030 Agenda for Sustainable Development (Agenda, 2017), and the New Urban Agenda (2016) emphasise the importance for including sustainable urban development goals in city planning processes. Whereas C40 Cities Integrating Climate Adaptation (2020) additionally assumes that spatial planning should include instruments aimed at counteracting climate change.

The New Leipzig Charter (2020) formulates general principles for urban development policy, including in particular those concerning sustainable spatial development. The quality of public spaces, urban cultural landscapes and architecture play an important role in creating good living conditions. Therefore, their integration in development policy should be strengthened in order to create attractive public spaces and to achieve a high standard of a “building culture”. This concept is understood as the sum of cultural, economic, technical, social and ecological factors influencing the quality, planning and construction processes (Majda, 2017, p. 118).

Postulates on a “building culture” are formulated at the stage of implementing spatial policy in the form of an urban development, most often undertaken by public authorities. According to the typology developed by Lang (2006), 4 types of urban projects can be distinguished, depending on the way they are implemented:

- Total urban development – carried out by one team of stakeholders (Total Urban Design),
- Urban development – controlled by a detailed master plan which defines the guidelines for many independent participants: developers and architects (All-of-a-piece Urban Design),

- Urban development – with an implementation tool in the form of a Local Spatial Development Plan (miejscowy plan zagospodarowania przestrzennego) and a system of incentives to encourage and discourage certain types of investments (Piec-by-piec Urban Design),
- Urban development, where the construction of a new infrastructure element or system is treated as a stimulus for the development (Plug-in Urban Design).

Urban developments implemented in degraded urban areas, covered by urban regeneration processes, take a special form. Revitalisation, defined as a comprehensive process consisting of integrated actions for the local community, space and economy, territorially concentrated (Act on Revitalisation, 2015), fully implements the idea of balancing key development factors specified in the Environmental Protection Law (Environmental Protection Law, 2001, Art. 3, Par. 50), i.e. society, economy, nature, infrastructure. The definition of the urban regeneration process implies the necessity to strive for greater city sustainability. Revitalisation is a very complex process including elements such as historical evolution, functional and spatial structure, transport, environment, and economic and social structure (Rey, Laprise, & Lufkin, 2022). In Poland, the aim of the urban regeneration process is to reverse the negative trends of social, economic and material degradation (Jarczewski, 2009, p. 26) as well as, indirectly, to increase the attractiveness of the city, carried out with urban operating tools. The latest postulates dedicated to crisis areas include the need to take into account the mechanisms of counteracting gentrification and ensuring the residents' equal access to green areas, taking into account their needs (Oscilowicz et al., 2021). In degraded urban areas, however, the most common problem is non-functional space equipped with inefficient infrastructure, striking with debris and ugliness from the aesthetic point of view (Ossowicz, 2019, p. 92).

In such cases, urban developments are needed to improve urban space as a place to live, conduct business and use services. The following types of space improvement developments can be distinguished: 1) improvement of the mobility system, 2) improvement of technical infrastructure, 3) improvement of social infrastructure, 4) creation and improvement of public space, 5) enhancement of the beauty and uniqueness of the place (improvement of spatial composition) (Lynch, 1981), 6) improvement of the functional and spatial structure understood as a way of arranging and joining respective elements of the city (Ossowicz, 2003, 2004, 2013, 2016; Kochanowski & Ossowicz, 2009; Lerner, 2006; Suchorzewski, 2010). Their use in revitalisation processes are conditioned by the needs of degraded areas and the determination of public authorities, whose support (organisational and financial) is a key success factor. Although authorities may not always engage in a close financial cooperation with private entities, support for large investments almost

always involves a political decision and risk. This is especially true due to the scale and external effects of urban developments, which still require the involvement of public funds, for example, the implementation of supporting infrastructure (Pancewicz, 2012, p. 135).

Purpose of the article and research methods

The article attempts to analyse the impact of urban operating instruments used for space management in urban regeneration processes. The study included Polish municipalities implementing revitalisation policy based on the municipal revitalisation programmes (gminny program rewitalizacji, GPR), for which the Act on Revitalisation (Act on Revitalisation, 2015) provides support in the form of specific legal and urban instruments accelerating the process of the assumed changes. The study was based on the desk research method, which includes the analysis of scientific reports about urban regeneration, legal acts and strategic documents forming the revitalisation system in Poland, as well as expert opinions and papers on urban operating planning. The desk research analysis was supplemented with the statistical method, consisting in drawing conclusions from "Rewitalizacja w gminie" (CSO, 2018). The data study was used to identify Polish municipalities with the municipal revitalisation programmes that pursue revitalisation policy with the use of the above-mentioned special solutions. The relevant revitalisation programmes were identified thanks to the lists of the positively verified GPRs, which are carried out by all voivodeship self-governments in Poland. Then, the main forms of managing spatial changes in the processes of the degraded areas' restoration planned in the GPRs, were selected. The research objectives included determining the impact of urban operating tools on the efficiency of the urban regeneration processes.

The size of the impact was assessed, taking into account the pace of the implementation of the sustainable development goals in the degraded areas. The assessment was made with the comparative analysis method, which is a technique of recognising the individual features of a given whole and the assessment of its functional efficiency (Penc, 1997, pp. 23-24). The use of this method allows the assessment of complex instruments which differ significantly by their essential features, the formulation procedure and the scope of the findings. For a comparative analysis, spatial development concepts, Local Revitalisation Plans (miejscowy plan rewitalizacji, MPR) and master plans, are most often used by the Polish cities while implementing revitalisation policy. They were ordered according to the typology of urban developments by Lang (2006). In the process of analysis, their basic features were distinguished and their relationships with the municipal revitalisation programmes

established, assuming that their scale is directly responsible for the pace of achieving the sustainable development goals in the degraded urban areas. At this stage, the features of the respective tools were analysed, which allowed their assessment in terms of the impact on balancing the goals in the revitalisation processes. In the next step, the assessment of the impact was effectuated by assigning points from 0 to 2 to the respective features of the tool, where 0 means no or little influence of the analysed feature on balancing the goals, 1 – intermediate influence, and 2 – a decisive one. The sum of points indicated the instrument's potential to influence reaching the sustainable development goals in the revitalisation processes.

Municipalities' practice in the field of urban operating tools

The framework for revitalisation policy in Poland was defined in the Act on Revitalisation (Act on Revitalisation, 2015). According to its assumptions, the municipal revitalisation programme is the basic document defining the directions of activities in the process of the degraded area restoration. The Act assigns special opportunities to such a programme, resulting from its temporary superiority over other planning documents in force Art. 20, par. 1 (Act on Revitalisation, 2015). In the case of a contradiction between the revitalisation projects and the provisions of the Study of Conditions and Directions of Spatial Development (Studium uwarunkowań i kierunków zagospodarowania przestrzennego, the Study), it is possible to correct the latter in a shortened manner. Consequently, if a contradiction also concerns the Local Spatial Development Plan, its change can be carried out simultaneously with the change of the Study (Jadach-Sepioło et al., 2018, p. 117).

In the area covered by the revitalisation process, The Act enables municipalities to establish the Special Revitalisation Zones (Specjalna Strefa Rewitalizacji, SSR)¹, as well as to adopt the Local Revitalisation Plans, which strengthens the efficiency of the authorities and the effectiveness of their intervention (Szlachetko, 2017). The Act does not introduce the requirement to implement urban developments in the urban regeneration processes, allowing municipalities to make their own decisions on revitalisation policy. However, the use of the Local Revitalisation Plan, which is an optional tool, depends on the local conditions of the revitalisation area and the authorities'

¹ Special Revitalisation Zone, foreseen in Art. 25 of the Act on Revitalisation, is a special area established in the revitalisation area for a maximum period of 10 years in order to ensure the efficient implementation of the revitalisation projects. In Poland there are 15 Special Regeneration Zones, in Łódź, Płock, Opole Lubelskie, Bytom, Kalisz, Ośno Lubuskie, Polkowice, Włocławek, Świnoujście, Waganiec, Malczyce, Rumia, Słupsk, Gorlice and Jarocin.

decision to apply it. Apart from the features and regulations shared with the Local Spatial Development Plans, the Local Revitalisation Plans can, additionally, prohibit commercial or service activities on a given property or allow a commercial investment on an undeveloped property conditionally, making it dependent on a prior implementation of an investment significant for the municipality. The bans include activities harmful to the goals of the revitalisation process. During the study of the municipal revitalisation programmes, 15 Special Revitalisation Zones and one Local Revitalisation Plan, adopted by Kalisz (Miejscowy Plan Rewitalizacji Jabłkowskiego-Podgórze, 2021), were identified. The Polish revitalisation model was based on the German cities' renewal experience, which uses specific urban concepts, the so-called master plans, i.e. long-term planning documents, to control the districts' development. Master plans, most often, cover the analysis and conception for the population, economy, housing, transport, utilities and land development. The concept of the master plan is to create relationships between buildings and their surroundings in order to build social bonds².

During the study of the municipal revitalisation programmes, examples of master plans and spatial development concepts used in Polish revitalisation policy were identified. For the comparative analysis, the bellowed-presented documents were selected.

1. The Local Revitalisation Plan (MPR) was prepared by Kalisz. The Kalisz revitalisation area is situated in a historic district in the city centre (Miasto Kalisz, 2017). In order to increase the efficiency of the process, the Special Revitalisation Zone was established on the whole area. It was supplemented with the MPR for the Jabłkowski-Podgórze district, which introduced the principles for a new building complex adapted to the existing land development plan, introduced regulations regarding the facade of buildings, the layout and equipment of public spaces, commercial activities, technical and social infrastructure, including the desired functions of the investments, urban layout and spatial structure;
2. The spatial development concept – is chosen by large cities to manage complex spatial structures. For example, in Wałbrzych, such concepts were developed for 6 revitalisation sub-areas in order to improve the efficiency of the revitalisation process (Miasto Wałbrzych, 2020, p. 197). The concepts indicated the directions of the districts' transformations, new development of public spaces, protection of cultural resources, proposals for the transport system, and real estate management. They also included guidelines for the preparation of the Local Spatial Development Plans. The districts' inhabitants were involved in the process of their cre-

² Examples of master plans are documents prepared for the Potsdam Drewitz housing estate: Masterplan Gartenstadt Drewitz (2011) and the Garden City Drewitz (2014), or the Masterplan for the Oberbillwerder district in Hamburg (2019).

ation in order to “develop socially acceptable models of a new, but culturally sensitive, urban order, dedicated to the sub-areas of revitalisation” (Ibid, p. 200). The concepts were prepared at the stage of the implementation of the Wałbrzych GPR for the years 2016-2025. They became the basis, among others, for the change in the Study. In Radomsko, on the other hand, the concept was used at the stage of the GPR programming. The city got advisory support under the project “New model of urbanisation in Poland – practical implementation of the responsible urbanisation and a compact city principles (NewUrbPact)”. As a result of the support, the diagnostic stage helping to determine the revitalisation needs was extended to include an urban inventory to determine the conditions of the area’s spatial development. For this purpose, an intervention tailored to the area’s needs, in the form of a spatial development concept including urban development solutions, was designed. In this case, the concept was performed at the early stage of the GPR programming, which enabled to raise the rank of spatial planning in the revitalisation process, giving it priority over the other fields of intervention.

3. The master plan was introduced into the practice of some Polish cities on the basis of the German revitalisation model. Wrocław, which has been carrying out revitalisation processes since 2004 (Miasto Wrocław, 2005, 2009, 2016), has a special experience in this field. In order to comprehensively control urban processes in the revitalisation area, planning documents for Przedmieście Odrzańskie and Przedmieście Oławskie were developed. The studies were based on the German integrated neighbourhood renewal strategies. The Wrocław master plans aimed at integrating planning activities, as well as investment and non-investment activities in the revitalisation process.
4. The studies presented the historical, regional and local context and took into account formal and legal regulations, such as relationships with local planning documents. Based on the diagnoses, the scope of the studies was determined. The urban layout, utility functions, ownership structure and the condition of historical housing estates were analysed, as well as the communication system, the districts’ spatial structure, greenery, technical infrastructure and cultural issues. The quarter housing, building quarters and the entire architectural fabric were also examined. The economic, environmental and social conditions of the areas were also discussed. A map of the technical and social infrastructure objectives was created. In the conceptual part, strategic and operational goals and concepts for individual fields of activity were designed, and their implementation in the long-term perspective was described. The master plans initiated the revitalisation projects and identified participants in the urban regeneration process. Based on the adopted schedule, the projects were

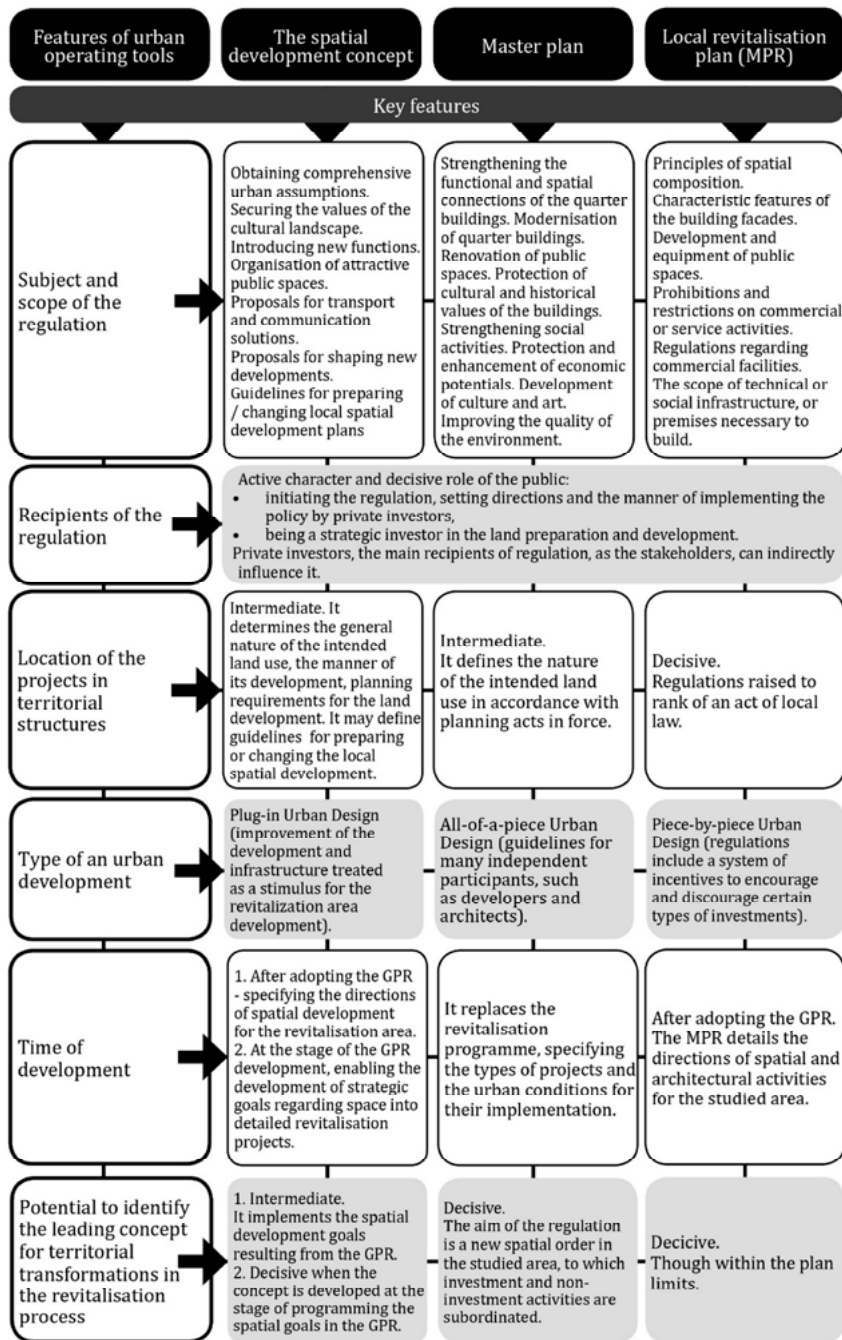


Figure 1. Key features of urban operating tools for the analysis of their impact on the implementation of the sustainable development goals in the revitalisation processes, Part 1

Source: authors' work.

Features of urban operating tools	The spatial development concept	Master plan	Local Revitalisation Plan (MPR)
Key features responsible for balancing the development goals in the revitalisation processes			
Success factor →	Responsibility of the public entity for providing the key initiative and long-term commitment in the implementation of the revitalisation projects.		Responsibility of the public entity for balancing regulations facilitating the implementation of investment procedures and restraining investment processes.
Level of integration of various entities' and sectors' activities →	Intermediate. Integration of the stakeholders (public and private) around the spatial goals resulting from the GPR.	Decisive. The integration of activities in the urban, technical, environmental, social and economic fields. The regulations applies to all stakeholder groups, i.e. residents, developers, entrepreneurs, real estate owners, NGOs.	Intermediate. Integration of the stakeholders (public and private) around the spatial goals resulting from the GPR. Weakening of integration when applying the regulations introducing restrictions on undesirable commercial and service activities.
Impact on the achievement of the sustainable goals of the revitalisation process →	1. Intermediate. It is limited to the spatial development goals defined in the GPR. 2. Decisive. When the concept is developed at the stage of the GPR goals' programming enabling to raise rank of spatial planning in the revitalisation process (space as a priority of the changes, causing influencing the directions of activities in other fields).	Decisive. Due to the high integration of the spatial goals with the social, economic, environmental and technical ones.	Intermediate. Restricted to the spatial development goals defined in the GPR for the chosen area.
Impact on the real estate market in the revitalisation area →	Decisive. Market-friendly regulations conducive to the growth of its value.	Decisive. Market-friendly regulations conducive to the growth of its value.	Decisive within the limit of the plan: 1. Market-friendly due to the legibility of detailed investment procedures, minimising necessary arrangements (e.g. regarding features of building facades). 2. Restraining investment processes due to possible restrictions on commercial, service and investment activities (urban development contract).
Impact on the economic conditions of the revitalisation area →	Intermediate. No direct mechanisms to support the location of economic activities. The impact on the economic conditions consists only in improving the conditions for conducting service and commercial activities.	Intermediate. No direct mechanisms to support the location of economic activities. Impact on economic conditions possible (cooperation of the public entity with entrepreneurs, projects related to the improvement of service and commercial activities conditions).	Decisive within the limits of the plan, which enables, inter alia, introducing bans and restrictions for undesirable commercial and service activities as well as large-area facilities. It also establishes the rules for conducting business activities on the ground floors of the buildings.
Influence on the environmental conditions of the revitalisation area →	Decisive. Environment-friendly regulations. Among the desired goals of the intervention are: activities related to the creation and maintenance of green leisure areas, improvement of urban mobility, development of ecological transport systems.		Intermediate, within the limits of the plan (regulations regarding the arrangement and placement of green areas among the principles of public space development).
Stakeholder participation in programming the regulations →	The decisive role of the external stakeholders in the process of preparing the regulations (optional consultation, social inclusion mainly at the stage of the GPR development and implementation).	The decisive role of the external stakeholders in the process of prepping the regulations (optional consultation mechanism, social inclusion mainly at the stage of the GPR development and implementation).	The decisive role of the external stakeholders in the process of prepping the regulations (obligatory consultation mechanism).

Figure 2. Key features of urban operating tools for analysing their impact on the implementation of the sustainable development goals in the revitalisation processes, Part 2.

Source: authors' work.

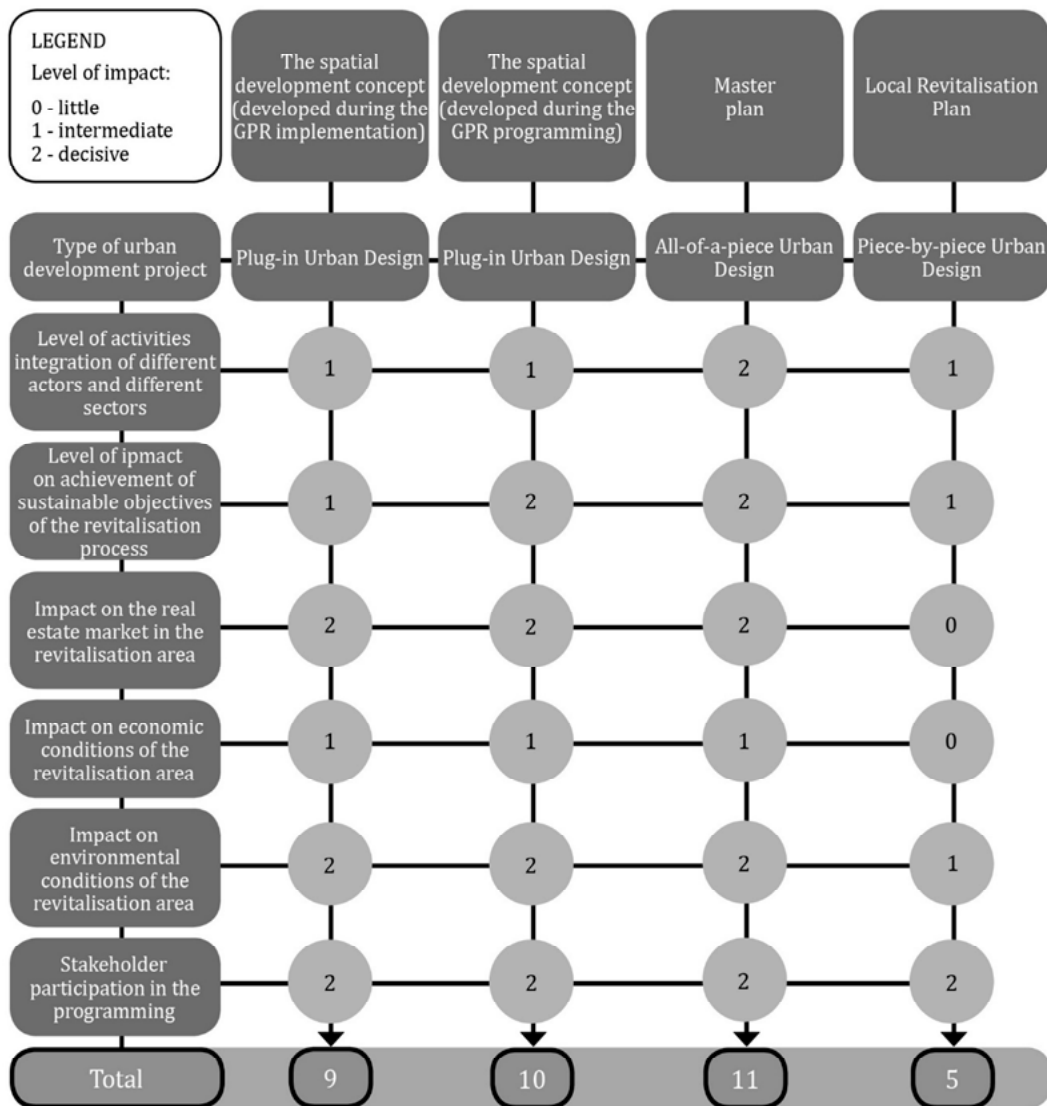


Figure 3. Assessment of the urban operational tools for balancing the development goals in revitalisation processes

Source: authors' work.

implemented in a long-term perspective, in accordance with the municipal investment plan, so that they complemented each other. The master plans served as a knowledge basis on the crisis areas and were used to develop the Local Revitalisation Programme for 2016-2018³. The shape of the concept was greatly influenced by numerous public consultations, which made it possible to adjust the regulation to the needs of the residents.

The Figures 1 and 2 show the effects of the comparative analysis of the above-mentioned urban operating tools. For the purposes of the study, the features of individual instruments were distinguished, taking into account their differences in relation to the revitalisation process. Their potential to implement the directions of sustainable development resulting from urban regeneration processes was also assessed.

In the further part of the study, an assessment of the impact of the key features of the tools responsible for balancing the development goals in the revitalisation processes was performed. For this purpose, points from 0 to 2 were assigned to the respective features, where 0 meant no or little impact of the feature on balancing the development goals, 1 – an intermediate influence, and 2 – a decisive one. The sum of the points indicated the impact of the instruments' potential to influence the sustainable development goals in the revitalisation processes. Additionally, the type of concept developed at the stage of revitalisation programming was selected as a separate item, due to the different achieved effects related to the strength of the impact on the revitalisation process. The results of the study are presented in Figure 3.

The study shows that the master plan, being a competitive document in relation to the revitalisation programme, implemented the best goals of sustainable development. Similar potential characterises the spatial development concept introduced at the early stage of revitalisation programming. Thanks to this approach, it was possible to visualise all objectives of the revitalisation process in the idea, as well as to ensure complementarity of the spatial changes. The study shows that the impact of the concept on the goals of sustainable development weakens when it is used at a later stage of the process, i.e. the GPR implementation. The analysis assessed the Local Revitalisation Plan as the least balancing tool for the development of the revitalisation area due to the regulations limiting the equal development of the economic sector, under which activities desired for the revitalisation process are supported at the expense of undesirable activities.

³ The necessity to have a revitalisation programme to coordinate urban regeneration activities resulted from the document "Wytyczne w zakresie rewitalizacji w programach operacyjnych na lata 2014-2020", developed by the Minister of Development in 2016 (Ministry of Development, 2016).

Conclusions

The principle of sustainable development in revitalisation policy is implemented at the stage of its programming and implementation, primarily through the problem complementarity required by the Polish revitalisation system, and translated into an equal treatment of social, economic, environmental, and technical and spatial issues. The strength of public participation is also of key importance, as it enables the high accuracy of interventions and social control of the process.

Urban developments play a unique role in the revitalisation process, as they have the potential not only to improve urban space but also to contribute to social and economic development, improvement of living conditions and the quality of the environment. The analysed urban tools are responsible for creating a vision of the development of degraded areas and are also responsible for generating the development processes there. Revitalisation processes include all types of urban developments: those that improve space, favour the improvement of communication systems, technical and social infrastructure, public spaces and spatial composition.

The conducted comparative analysis of urban operational tools showed their high potential for achieving the goals of sustainable development in the degraded areas. The study proved the existence of numerous relationships that these instruments form with the revitalisation process, significantly increasing the importance of spatial planning within this policy. The results indicated the instruments which guarantee greater effectiveness in balancing the development goals. Particularly noteworthy are comprehensive master plans and spatial development concepts used at the early stage of the revitalisation programming, as they both enable achieving very detailed visions of the changes in degraded areas, possible to be included in the GPRs. The use of urban tools strengthens not only the balance of the objectives of revitalisation policy but also promotes social inclusion, enabling the visualisation of the process assumptions for the purposes of public participation and facilitating a better perception of the programme by stakeholders.

The contribution of the authors

Katarzyna Spadło (review of the literature, desk research, data collection and analysis, interpretation of the results) 50% of the involvement.

Emilia Grotowska (review of the literature, desk research, data collection and analysis, interpretation of the results) 50% of the involvement.

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