

Spatial Management Systems in Ghana and Poland - Comparison of Solutions and Selected Problems

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ABSTRACT

Purpose - The aim of the paper is to compare solutions and key problems occurring in spatial management systems in Ghana and Poland.

Methods - Based on the literature on the subject, the structure of the spatial management systems in Ghana and Poland was compared in detail, along with related problems.

Findings - While in both countries, diverse social phenomena somewhat differently determine the way the cities and suburban areas are developed, in both cases, spatial chaos contributes to the generation of costs related to environmental pollution, transport difficulties and social exclusion. Based on the analyzes carried out, it can be indicated that in Poland and in Ghana it is particularly important to block uncontrolled urbanization and wider integration of development policies.

Research limitations - A comprehensive analysis of all conditions of a given spatial development system includes a huge interdisciplinary discourse (conducted in both countries). It should be pointed out that among the key problems are issues of land development around large cities.

Research implications - An important postulate is to conduct regular consultations of expert groups from both countries, combined with the verification of subsequent activities and the directions of changes presented in detail.

Keywords:	System of spatial management; tools of spatial policy; problems in spatial policy; suburbanization
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INTRODUCTION

Quality of space in individual countries is determined by the effectiveness of solutions adopted in the national spatial management systems and the tools used. In this context, it is crucial to compare solutions of problems occurring in individual countries, and also holistically — perspectives, in which the spatial policy tools are embedded. Despite geographical, social and economic differences, some common trends can be identified. In particular, the indication of analogies and similar problems in different countries broadens the context of their considerations and their importance.

The aim of the paper is to compare solutions and selected problems occurring in spatial management systems in Ghana and Poland. In these countries, which are different in many respects, it is possible to distinguish many common issues, possible to arrange in a single thematic category. Defining them may broaden the context of international discussion on the spatial management system. The cases of Ghana and Poland can also be compared since the literature of both countries mentions (of course on a different scale and differentiation) serious problems generated by spatial chaos. The paper is a review, and in the intention of the authors, it is the first of a wider cycle that compares selected problems in spatial management systems of different countries. The authors are aware of possible problems related to the implementation of this goal. The problems mainly lie in different perspectives adopted both in the systems themselves and in domestic publications. Therefore, at this stage, to achieve the goal, it was limited to the analysis of selected issues of both systems, possible for a wider comparison. This applies especially to the basic tools of spatial policy in both countries and the key problems of both systems diagnosed in the literature. The consequence of the literature review is the comparison of issues raised in Poland and Ghana (constituting the basis for further analyses). The reference point is both the regulations of both countries and literature on the subject.

LITERATURE REVIEW

KEY PROBLEMS IN THE SPATIAL MANAGEMENT SYSTEM – INTERNATIONAL APPROACH

When characterizing selected directions of international discussion on spatial policy issues, several reservations must be made. Individual approaches to these issues are determined by specific geographical, social, systemic,

national or continental conditions. The attempts at comprehensive reviews undertaken in the literature do not even exhaust the topic of the characteristics and synthesis of local spatial policies; they capture them at most in the context of a specific issue. And in this approach, it is crucial to isolate the most important issues related to the topic. Here, one can point to the particularly important issues in the authors' opinion:

- interdependence of individual planning levels, e.g. local, regional (Perger 2018), national (De Luca et al., 2018), for Europe — European Union perspectives (Faludi, 2018; Faludi, 2010; Blass, 2018);
- relation of spatial policy tools to development policy tools, as well as coordination of goals related to these spheres (Tellier, 2019; Yamagata & Sharifi, 2018; Bohme, 2018; Kyvelou & Gourgiotis, 2019; Virtudes, 2016; Newman & Thornley, 1996);
- optimal scope of spatial policy, especially relating to the rights of space users (Wang, 2019; Whithworld, 2010, 2019);
- directions of urban development and related dangers (Florida, 2017; Goerlich & Gisbert et al., 2017; Hamidi & Ewing, 2014; Kovacs et al., 2013; Soja, 2001), including the urban sprawl process (Fulton et al., 2001; Nechyba & Walsh, 2004; Phelps et al., 2006).

Of course, a number of other issues can be added to this catalog. However, from the perspective of the subject of this study, the authors consider the above-mentioned to be key. A certain answer to the problem of the spatial management system should be properly constructed tools of spatial policy. It is understood here as a concept constructed at the level of central government, resolutions and decisions adopted at various levels of government (with particular emphasis on local authorities) relating directly to the sphere of spatial planning and development. Tools of spatial policy should be distinguished from the procedures related to their preparation (however, these procedures must be analyzed in the context of the way to develop the optimal future content of a given spatial policy tool).

SPATIAL MANAGEMENT SYSTEM IN GHANA

Spatial/physical planning in Ghana dates to the colonial era (Acheampong 2019a). With the introduction of Town and Country Planning, the planning was established and backed by planning laws, which clearly stated what the focus, content and process of planning should be. The first and most notable planning law passed in Ghana was the Town Planning ordinance of 1925 - The law for the control and erection of buildings in towns and preparation of layout for towns. The major Spatial Planning Act was the Town and Country

Planning Act also known as “CAP 84” passed in 1945, which laid the foundation for a modern planning system in the country (Acheampong 2019a). This law served as “the holy grail” for spatial planning in Ghana until the recent Land Use and Spatial Planning Act, 2016. Act 925 was passed in 2016 and it integrated the spatial planning under a decentralized governance system. These laws were enacted to ensure that there is spatial order with respect to physical development and thus prevent private developers from developing lands haphazardly without any concern for public health, aesthetics and environmental safety. Spatial planning in Ghana now is mainly carried out by the physical planning departments of various metropolitan, municipal and district assemblies in Ghana.

Tools for achieving the efficient spatial planning in Ghana are categorized based of the decentralized system of governance in Ghana; each element in the hierarchy is expected to produce some form of spatial plan/policy document.

These tools include:

- National Spatial Development Framework;
- Regional Spatial Development Framework;
- District Spatial Development Framework;
- Structure Plans.
- Local Plans

National Spatial Development Framework seeks to ensure that land in the country is used thoughtfully and ensures that the distribution of infrastructure and investments are done equitably and in order. The content of this framework must be a national objective and the spatial dimensions, trends, opportunities and constraints of the country must be stated and then strategies, which will help in the realization of the goals and objectives of the framework, must be highlighted and also the implementation, monitoring and evaluation plans must be established.

Regional Spatial Development Framework is prepared for all administrative regions in the country and it must be in line or harmonious with the National or Sub-National Spatial Development Framework, the Land Use and Spatial Planning Authority in consultation with Regional Coordinating Councils (RCCs) preparing Regional Spatial Development Frameworks. Regional Spatial Development Frameworks are to be approved by the Land Use and Spatial Planning Authority; the authority can make corrections and comments on any portion of the framework if they deem it necessary and can also send the framework back to the Regions so that the comments can be addressed before the frameworks are approved. The main aim of this framework is to promote prosperity and to ensure judicious use of land at

the regional level of planning. The contents of the Regional Spatial Development Framework are prescribed by the Land Use and Spatial Planning Authority. After successful approval of Regional Spatial Frameworks, Regional Coordinating Councils (RCCs) are obliged to circulate the Regional Spatial Frameworks to the public by publication in the Gazette and a newspaper of national circulation.

District Spatial Development Framework is prepared by various municipal and metropolitan areas departments District Assemblies (DAs). Within sixty days after the Regional Spatial Development Frameworks have been approved, all municipal and metropolitan areas having more departments than District Assemblies (DAs) are obliged to set up a committee which will prepare the District Spatial Development Frameworks within 12 months (Ministry of Environment Science Technology and Innovation 2015). District Spatial Development Frameworks must be harmonizing with Regional Spatial Development Frameworks and the Medium Term Development Plans (MTDP). The framework at the district level is prepared by the Technical Sub-Committee of each District Spatial Planning Committee in consultation with the relevant stakeholders and institutions. It must have a clear spatial vision, strategies and implementation strategy. The District Spatial Development Frameworks are approved by the Regional Coordinating Councils (RCCs); the components of the District Spatial Development Frameworks are prescribed by the Land Use and Spatial Planning Authority in consultation with the National Development Planning Commission (NDPC), which is made available to all districts through the Regional Coordinating Councils (RCCs). "A District Spatial Development Framework or Joint-District Spatial Development Framework shall have as its key object the judicious use of land and supportive spatial strategy for coordinated and integrated district development" (Ministry of Environment Science Technology and Innovation 2015).

Structure Plans are prepared to conform with the District Spatial Development Framework with 30 days after the approval of the District Spatial Development Framework. Preparation of the structure plans must be started and must be completed not later than in 18 months. Technical Sub-Committee is tasked to prepare structure plans, subject to the approval of the District Spatial Planning Committee, and private consultants can also be engaged to help in the preparation of the structure plans (Ministry of Environment Science Technology and Innovation 2015). The components of a structure plans are prescribed by the Land Use and Spatial Planning Authority.

A local plan is then finally prepared after the structure plans has been prepared and approved, the local plan guides specific physical development and local plans must conform to structure plans. The local plan is a tool which is used to create legally binding regulations for:

- the land coverage for a construction on a plot in the zone;
- the type of structure on the land;
- the form and height of buildings;
- tree preservation;
- the preservation of buildings with a cultural heritage and historical structures; and
- any landscaping or tree planting requirements.

Any estate developer planning to undertake any physical development must submit copies of project plans and details of the proposed development site to the Local Planning Authority in the jurisdiction in which the development is being situated and the local planning authority using the local plan as a guide will determine whether the proposed project height, form of building, location among others conforms with the requirements of the local plan before issuing a developer with a permit to develop the site.

SPATIAL MANAGEMENT SYSTEM IN POLAND

Development of the spatial management system in Poland was also fortified by historical barriers. The first solutions in legal acts were included in the 1920s, but in 1944-1989 as part of a centrally managed economy, spatial planning was too much associated with economic planning. After 1989 (when the system transformation took place), in the new realities of the free market, spatial planning began to be perceived as a relic of communism, unreasonably interfering with the sphere of private property rights. The consequence of the above are very liberal solutions, also contained in the currently applicable Act of 27 March 2003 on spatial planning and development (Journal of Laws No. 80, item 717, as amended).

The following spatial policy tools should be distinguished in the spatial management system in Poland:

- national spatial development concept;
- voivodeship spatial development plan;
- study of spatial development conditions and directions;
- local spatial development plans;
- decisions on building and land development conditions.

Concept of spatial development of the country, as a national act, sets general directions for spatial development in Poland. However, it is not

universally binding; in the current form, it only generally signals the postulated directions of spatial development of the country, placing, among others, a great emphasis on the protection of spatial order. In turn, the voivodeship spatial development plan is a spatial policy tool at the regional level. It is not universally binding, diagnosing key directions of settlement development in a given voivodeship. At the local level, they are translated primarily by determining the future location of public purpose investments.

Spatial policy tools at the local level of a directional nature are studies of conditions and directions of spatial development. They should include a comprehensive (on a regional and commune scale) concept for the development of a given commune. However, they themselves are not binding on property owners. Based on the study, local spatial development plans can be made (ultimately, the most important tools in the Polish spatial management system). They are not mandatory and currently cover just over 30% of the entire territory of Poland. However, if local plans are adopted for a given area, above all, they:

- define the purpose of the area (i.e. the purpose, for which the area is to be used, e.g. housing, service, etc.);
- define the principles of land development, e.g. maximum building height, building line, building intensity.

In a situation when in a given area the commune authorities have not adopted a local plan, decision on building conditions and land development shall apply. It consists in the fact that at the investor's request, the commune authorities can issue development decisions. They refer to the specific investment indicated in the application. The communal authorities do not consider the content of other tools when issuing decisions on building conditions. They only verify whether the development in the application would be functional and technically compatible with the existing development on at least one neighboring plot, as well as whether the plot has access to a public road and technical infrastructure.

URBAN PLANNING PROBLEMS IN GHANA

Even though spatial tools exist to ensure a proper spatial development and management in Ghana, they are not used effectively and efficiently to ensure spatial order, since it is evident that spatial chaos still exists in many Ghanaian cities. Ineffective and inefficient use and application of spatial planning tools leads to uncontrolled and unregulated development of buildings, that most often pose threats to human safety and the environment, the development and the encouragement of urban sprawl and

congestion in cities, which has negative implications for real estate investments, human health and the environment as a whole. Due to poor development control, most agricultural lands and protected forest reserves are being converted to other land uses such as residential and commercial ones (Appiah et al., 2017).

The major problem regarding the spatial management system in Ghana is the fact that even though these tools exist, they are barely effective and efficient and also qualified and competent personnel claims that needs to use these tools to ensure spatial order are inadequate in number. Specific problems include:

- failure to adequately protect valuable lands, including agricultural lands and protected areas such as forest reserves and parks (Amoako & Adom-Asamoah, 2017; Abass et al., 2018; Azunre et al., 2019);
- failure of local plans, i.e. tool number 4 to adequately control the suburbanization and problem that accompanies it in Ghanaian cities (Armah et al., 2010; Cobbinah & Amoako, 2012; Owusu, 2013; Bonsoh, 2015; Kleemann et al., 2017, Xu et al., 2019);
- inadequate participation by community members in the spatial planning process for effective spatial planning and management (Acheampong, 2019b);
- With all these key issues of spatial management still lingering, the following key predicaments discussed in Ghanaian literature on spatial policy can be identified:
 - how to ensure integrated spatial planning, the task of bringing together economic, social and environmental dimensions of spatial planning (Acheampong & Ibrahim, 2016, Acheampong, 2019c);
 - how to increase the number and capacity of qualified staff for effective development control and enforcement to ensure the spatial order and development (Fuseini & Kemp, 2015, Appiah, 2016);
 - limitation of property right by city authorities and planners to ensure the spatial order and how to effectively improve housing for economic and social benefits of citizens (Thurman, 2010; Adu-Gyamfi, 2018; Adu-Gyamfi et al., 2019).

URBAN PLANNING PROBLEMS IN POLAND

Spatial policy tools presented above do not fulfill their role sufficiently, i.e. they do not protect the spatial order. As a consequence, spatial chaos occurs in many areas in Poland, especially around large cities. It amounts to the

creation of uncontrolled buildings, causing negative (bringing specific, calculable losses) in the sphere of settlement structure, transport, the real estate market or the environment. Negative effects are manifested in forcing development in specific areas (urban sprawl) as well as excessive use of agricultural land for construction purposes (Lityński & Hołuj, 2020).

The main problem of Polish spatial management system boils down to the fact that spatial policy tools do not work. Specific problems include:

- too limited role of strategic tools (Parysek, 2016; Nowak, 2017);
- lack of protection of valuable lands from the perspective of spatial order by local spatial development plans (Izdebski, Śleszyński, Malinowski & Kursa, 2018; Korbel, 2017);
- failure to counteract suburbanization processes by local plans — i.e. tool No. 3 (Gibas & Majorek, 2020; Lityński, 2019);
- discretion in the decision on building conditions (tools No. 4) and their complete detachment from the Polish spatial order and tools No. 1-2. Decisions on building conditions deepen the spatial chaos (Nowak, 2012; Nowak & Kreja, 2012).

In connection with the above-mentioned issues, key dilemmas discussed in Polish literature on spatial policy can be identified:

- how to effectively protect the spatial order, how to define the spatial order in urban, economic and legal dimension (Śleszyński et al., 2018; Śleszyński, 2018);
- to a large extent, public authorities wanting to protect spatial order, may limit the property right (development right) of property owners (Izdebski, 2013; Kowalewski & Nowak, 2018; Ostrowska, 2017);
- how to ensure integrated development planning, connecting the planning sphere with the socio-economic sphere (Komornicki et al., 2018, Markowski, 2014);
- how to limit the inefficiency of public authorities, manifested in faulty statutory solutions and the lack of determination of many communes to protect the spatial order (Drzazga, 2019, Kowalewski et al., 2014; Nowak & Skotarczak, 2012; Nowak, 2017);
- how to combine different perspectives in spatial policy: urban, legal, economic, environmental, cultural and social (Chmielewski, Chmielewski & Kułak, 2018; Nowak, 2019).

COMPARISON OF SPATIAL MANAGEMENT SYSTEMS IN GHANA AND POLAND

Based on the analyses carried out, it is possible to present similarities and differences in the systems of both countries. Once again, it should be

emphasized that the analysis cannot lead to the conclusion that the problems — in terms of scale of phenomena — are the same. It is only about indicating similarities and differences from a system perspective. On the other hand, the general comparison of the two countries leads to the conclusion that despite relatively limited differences in terms of area or population, others need to be highlighted. They include, in particular, diverse housing conditions significantly larger housing deficit in Ghana (Adu-Gyamfi 2018, Adu-Gyamfi et al. 2019). Also, there is lack of water and electricity in some apartments in (Amoateng et al. 2013). Analysis of key similarities and differences in both systems is presented in Table 1.

Table 1. Similarities and differences in the spatial management systems of Ghana and Poland

Criterion	Ghana	Poland
Interdependence of spatial policy tools	<ul style="list-style-type: none"> - since 2016, a strong correlation between spatial policy tools at national, regional and local level, including regulatory tools for spatial policy (specific deadlines for including the content of specific tools in lower-level acts); - high level of interdependence with respect to the planning process. 	<ul style="list-style-type: none"> - declared interdependence of spatial policy tools, not having real application lacking the adoption of optional local plans for a given area; - clearly defined planning independence of the commune.
Social participation in the preparation of spatial policy tools	<ul style="list-style-type: none"> - envisaged participation of diverse stakeholders in the development of specific spatial policy tools; - mandatory participation of spatial planners in preparing (at various stages) the spatial policy tools. 	<ul style="list-style-type: none"> - envisaged participation of diverse stakeholders in the development of specific spatial policy tools; - mandatory participation of spatial planners in preparing (at various stages) the spatial policy tools.
Social capital in the application of spatial policy tools	<ul style="list-style-type: none"> - inadequate staffing with respect to spatial planning; - limited role of educated specialists in the implementation of construction investments; - limited perception of spatial policy tools. 	<ul style="list-style-type: none"> - there is qualified staff in the field of spatial planning; - problems with the protection of spatial order when preparing and adopting the spatial policy tools.
Social conditions of spatial policy in cities and suburban	<ul style="list-style-type: none"> - crime in cities as a settlement blocking factor; 	<ul style="list-style-type: none"> - free operation of developers;

areas	- dependence on cars in suburban areas; - free operation of developers in the field of building development; - development of infectious diseases, to which uncontrolled suburbanization contributes; - transport problems (traffic jams when commuting).	- transport problems (traffic jams when commuting).
Spatial policy in cities and environmental protection	clearly negative effects of urban development on nature, the problem of pollution.	partial protection of green areas. Negative environmental effects also noticeable.

Source: own study.

This paper does not explicitly compare the scale of individual problems noted in both spatial management systems — this varies greatly in both countries. However, the focus was put on comparing the main assessments relating to individual solutions from the perspective of the literature on the subject of both countries. Against this background, it is worth isolating several observations:

- including spatial policy tools in both systems illustrates the universal dimension of the dilemma of approach to planning independence on a local scale. In Ghana, there is a noticeably stronger influence of supra-local authority on local level operations, whereas in Poland, a much wider planning independence of the commune. The possibility of limiting negative spatial phenomena from a central perspective (urban sprawl) hinders the development of social capital and social participation;
- both systems reveal tendencies of some stakeholders in circumventing restrictions and free implementation of investments (first of all, the role of developers is important here), which deepens the spatial chaos, especially on the border of large cities. In Ghana, these problems began to sort out the Act of 2016. In Poland, theoretical provisions protecting the spatial order have long been in force. In practice, however, they are regularly bypassed;
- while in both countries, diverse social phenomena somewhat differently determine the way the cities and suburban areas are developed, in both cases, spatial chaos contributes to the generation of costs related to environmental pollution, transportation difficulties

and social exclusion. In the literature on the subject of the systems in both countries, there are similar observations in this regard.

The analysis of the spatial policy tools determinants in Ghana and Poland and the review of key problems diagnosed in the literature on the subject lead to the conclusion that at least the issues of costs generated by spatial chaos and the will to not comply with the spatial policy stakeholders to the rules laid down in legal regulations should be considered in a dimension exceeding one country level. As a continuation of the research, it can be postulated:

- in relation to Ghana and Poland - comparing (also postulated in subsequent publications in both countries) broader concepts of corrective actions, especially those related to further integration of development policies in both countries and counteracting urban pressure aimed at ignoring the spatial restrictions;
- in relation to the comparisons of tools and problems in spatial management systems of other countries, it should be noted that the comparison at the first stage must take into account, first of all, basic information about the formal and legal construction of spatial policy tools, the effects of these tools and problems noticed in the literature. Such a diagnosis will make it possible to specify the degree of comparability of spatial conditions in both countries. The subsequent step may be a broader diagnosis (covering a much larger number of countries) of the most frequently recurring problems in spatial management systems, along with an indication of both the postulated and practiced solutions. The analysis carried out in this paper initially guides the scope of the subject.

CONCLUSION

Based on the analyses carried out, it can be indicated that even in various cases, similar approaches can be found for both the assessment of the function and scope of spatial policy tools, as well as categories of problems occurring in spatial management systems. With full awareness that a comprehensive analysis of all the conditions of a given spatial management system includes a huge interdisciplinary discourse (conducted in both countries), it should be pointed out that among the key problems are issues of land development around large cities. Handling urban pressure, caring for the protection of individual social groups, aesthetics and the environment are one of the key challenges in Ghana and Poland. Legal regulations that still raise doubts should be adapted to it. Comparison of experiences and

implemented practices allows both to consolidate the assessments made and to verify the implementation of specific variants of activities.

Based on the analyses performed, it can be indicated that in both countries it is particularly important to block uncontrolled urbanization and broader integration of development policies. In both cases, apart from possible changes in legal regulations, it is important to further develop the level of social capital in the spatial scope. In the context of the convergence of individual issues, an important postulate is also to perform regular consultations of expert groups from both countries, combined with the verification of subsequent actions and directions of changes presented in detail.

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