

PAPER • OPEN ACCESS

## Classification of Urban Regeneration Participants as a Basis for Identification of Construction Investment's Risk Sources

To cite this article: Magdalena Apollo 2019 *IOP Conf. Ser.: Mater. Sci. Eng.* **471** 112053

View the [article online](#) for updates and enhancements.



**IOP | ebooks™**

Bringing you innovative digital publishing with leading voices to create your essential collection of books in STEM research.

Start exploring the collection - download the first chapter of every title for free.

# Classification of Urban Regeneration Participants as a Basis for Identification of Construction Investment's Risk Sources

Magdalena Apollo <sup>1</sup>

<sup>1</sup> Gdańsk University of Technology, Faculty of Civil and Environmental Engineering, Gabriela Narutowicza 11/12, 80-233 Gdańsk, Poland

magdalena.apollo@pg.edu.pl

**Abstract.** On the basis of the conducted research it can be concluded that the majority of the existing urban regeneration problems are revealed by the lack of an in-depth analysis of sources and risk factors. For the above reasons, the subject of this study is classification of urban regeneration's participants as a basis for identification of construction investment's risk sources. The research methodology is based on an in-depth analysis of the available documentation of four urban regeneration projects implemented in Gdańsk, which was confronted with the provisions of the Regeneration Act. The conducted analysis allowed to clearly classify the participants of urban regeneration process, also indicating its direct and indirect beneficiaries. As a consequence, the elaboration defines the responsibility of participants in the investment process, and at the same time allows to divide the risk between individual entities implementing activities covered by the intervention area. The observations described in the article also concern shortcomings in the documentation including, among others, lack of the definition of the required experience of design units depending on the nature of the construction works being carried out.

## 1. Introduction

Until recently the term 'urban regeneration' in Poland was associated with fundamental deficiencies even on the level of term definition, which was a consequence of a gap in the legal system. The work on the urban regeneration law continued since 1992. Since 1998 this effort was supported by Forum for Revitalization association, advocating systemic methods of urban regeneration. Despite abandoning the work on the law, due to budget restrictions (in 2002), the groups involved in the process postulated that the urban regeneration law should be part of the country's spatial planning. This approach was in the interest of society and in line with advanced plans to regenerate multiple urban areas across Poland. The importance of such law was emphasized, as it would be a chance to solve multiple issues around urban regeneration related to limiting property owner's rights when it is in public interest, but also division of responsibility and risk among specific participants involved in urban regeneration.

Considering the scale of challenges and legal neglect, in 2014 the Ministry of Infrastructure and Development prepared the basis for National Regeneration Plan. The result of this decision, as well as many years of efforts, was the Regeneration Act [1], aiming to 'introduce legal framework for preparing and conducting complex regeneration processes of degraded areas. To do this, it defines basic terms – most importantly the term urban regeneration. It sets preparation and coordination conditions of urban regeneration, as well as council's ownership, as its facultative tasks.' [2].



The methodology support achieved through creation of model solutions and knowledge base about urban regeneration was one of the most important elements of the Regeneration Act and actions of the Ministry of Infrastructure and Development. It is essential, as the research ([3], [4], [5], [6]) conducted shows that urban regeneration projects face multiple issues, including project coordination, which results in cost increase and extended completion time of the entire investment [7]. It is worth noting that majority of the problems is a result of overaccumulation of various tasks and types of work at the same time. The source of majority of identified problems turns out to be the lack of in-depth analysis of risk sources and factors, because of this the subject of this paper is the classification of urban regeneration participants, as a basis for identification of construction investment risk sources.

A generalised structure of integrated regeneration project beneficiaries was prepared including their responsibility and participation areas. It is based on an institutional feasibility study, based on four feasibility studies for complex urban regeneration projects in districts of Gdańsk, as well as incorporating the guidelines of the Regeneration Act. The article also summarizes the conditions of partner's and investment contractor's selection, pointing out procedural gaps requiring further development.

## 2. Legal basis for identification of urban regeneration beneficiaries

In every process of risk identification, it is extremely important to establish its sources. In the context of urban regeneration, it is crucial to identify the entities participating in the implementation and coordination of the project, including those participating passively. All those entities are included in the wide scope of the project stakeholders, meaning people, or groups of people and institutions that can positively or negatively affect project implementation and results or can be affected by it – also positively or negatively [8].

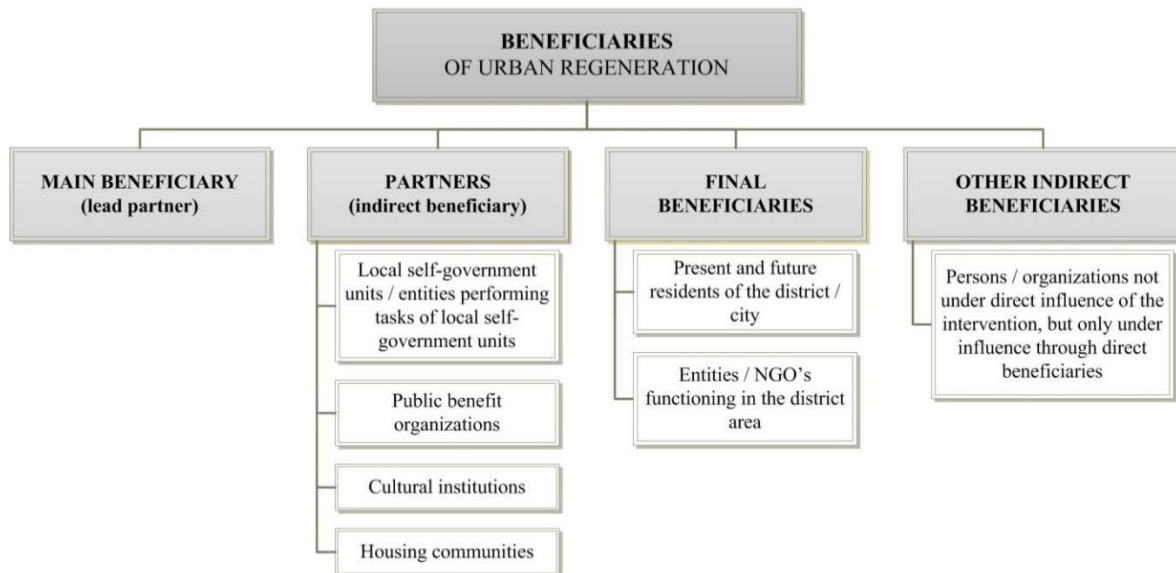
The impact and attitude towards the project differ depending on the specifics of the involvement in the whole project. The biggest impact has the group of stakeholders directly involved in the project. According to the act on the principles of development policy of 6 December 2006 [9] this group is defined as beneficiaries. According to the Act, the beneficiary is a physical or legal person or an entity with no legal personality, to which the Act grants legal capacity, implementing projects funded by the state, or with foreign funding, through a project financing contract [10]. In another context the term 'beneficiary' is defined as a person or institution directly impacted by the intervention irrespective of whether this impact is intentional or unintentional. 'Beneficiaries receive support, services and information and use amenities created through the intervention (...). Some may be beneficiaries without belonging to the target group' [11].

The document defining the urban regeneration stakeholder's scope, therefore the basis for identification of potential risk sources is the Regeneration Act [1], which includes in this scope:

1. Inhabitants of the urban regeneration area, owners, perpetual usufruct lessees and entities managing the real estate within the urban regeneration area, including housing cooperatives, housing communities and social housing associations,
2. Remaining council inhabitants, not mentioned in p.1,
3. Entities engaged or planning to engage in economic activities within the council,
4. Entities engaged or planning to engage in social activities within the council, including non-governmental organization and informal groups,
5. Local government and its institutions,
6. Public authorities,
7. Legal entities other than stated in p.6, implementing the State's Treasury rights in the urban regeneration area.

The consequence and the next level of detail of the abovementioned statements is the institutional analysis prepared as part of feasibility study. It specifies the beneficiaries of the project and points out people and/or organizations involved in its implementation or affected by it. No less important for

urban regeneration projects is to specify the owner of the property created during project implementation and the organ appointed to manage it.



**Figure 1.** Organizational structure of urban regeneration beneficiaries (own study based on feasibility studies for urban regeneration projects implemented in Gdańsk).

Considering the above classification of the beneficiaries and the cited definitions, the main and direct beneficiary of the urban regeneration is the city, the entity that conducts financed projects and manages their budget. Due to the lack of appropriate implementation entities, the main beneficiary accomplishes specific investment and non-investment tasks, with the help of partners. The main beneficiary may be identified with the end beneficiary, as it remains the owner of the regenerated property. The other direct beneficiaries are stakeholders directly impacted by the intervention, meaning the inhabitants and organizations functioning within the urban regeneration area. They are also called the final beneficiaries, as they will be the users of the regenerated property.

The next group are the indirect beneficiaries, the entities using the amenities created by urban regeneration, that are not part of the target group. This group includes the partners of the main beneficiary, the entities involved in the design, construction and supply, as they receive only indirect benefits from the project financing [11]. Importantly the main beneficiary's partners do not have direct beneficiary status (for example in the project financing application within Regional Operational Program for the Pomorskie voivodship for 2007-13), they are considered only as entities co-financing and co-implementing specific parts of the project.

A generalised structure of integrated regeneration project beneficiaries (Figure 1) and a table describing the scope of responsibility and participation (Table 1) were created. They are based on an institutional feasibility study, based on four feasibility studies for complex projects of urban regeneration in districts of Gdańsk (feasibility study for the projects: Urban Regeneration of Letnica, Nowy Port, Dolny Wrzeszcz, Dolne Miasto). Both the structure and the table consider the classification of beneficiaries with regards to their organizational form and purpose.

The main beneficiary in the integrated urban regeneration projects is the city, in the project management terminology the main business representative, or the chair of the steering committee. As a result, the city, represented by its president, is the owner of the project, taking the business risk. It makes key decisions and is the main stakeholder responsible for project implementation and coordination. It does not involve directly in investment and non-investment tasks; therefore, the city's involvement is only as a stakeholder responsible for project management and coordination.

**Table 1.** The scope of responsibility and participation of the urban regeneration beneficiaries (own study based on feasibility studies for urban regeneration projects implemented in Gdańsk).

TYPE OF BENEFICIARY	Responsibilities and participation in the project
<b>1. MAIN BENEFICIARY</b> <i>*Final – when the beneficiary remains the owner of the property undergoing the process of urban regeneration</i>	
CITY (lead partner)	<ul style="list-style-type: none"> <li>• owner / co-owner of the revitalized infrastructure</li> <li>• co-financing and main responsibility for the implementation and coordination of the project</li> <li>• substantive supervision and reporting on the activities being conducted</li> <li>• monitoring of the project implementation in accordance with the assumed schedule and guidelines of the Regional Operational Program</li> <li>• keeping accounting records</li> <li>• preparation of payment applications</li> <li>• project promotion</li> </ul>
<b>2. PARTNERS (INDIRECT BENEFICIARY)</b> <i>*organizational units conducting projects on behalf of the main beneficiary</i>	
LOCAL SELF-GOVERNMENT UNITS / ENTITIES PERFORMING TASKS OF LOCAL SELF-GOVERNMENT UNITS	<ul style="list-style-type: none"> <li>• comprehensive service of the city's tasks including:               <ul style="list-style-type: none"> <li>– renovation of buildings and interiors of quarters</li> <li>– adaptation, revalorisation, reconstruction and modernization of buildings as well as individual rooms</li> <li>– reconstruction, construction and modernization of streets, underground infrastructure and land development</li> <li>– construction of new street sections</li> <li>– sustainability of investment and non-investment tasks</li> <li>– social assistance</li> </ul> </li> </ul>
PUBLIC BENEFIT ORGANIZATIONS	<ul style="list-style-type: none"> <li>• co-financing</li> <li>• social activities conducted in the project</li> <li>• ensuring the sustainability of non-investment tasks</li> </ul>
CULTURAL INSTITUTIONS	<ul style="list-style-type: none"> <li>• co-financing of social activities</li> <li>• ensuring the sustainability of non-investment tasks</li> </ul>
HOUSING COMMUNITIES (final beneficiary)	<ul style="list-style-type: none"> <li>• co-financing, implementation of the project</li> <li>• repairs, adaptations, revalorisation, reconstruction, modernization of buildings as well as individual rooms owned by communities</li> </ul>
<b>3. FINAL BENEFICIARIES (DIRECT)</b>	
PRESENT AND FUTURE RESIDENTS OF THE DISTRICT / CITY	<ul style="list-style-type: none"> <li>• lack of responsibility as well as participation in the scope of investment or non-investment tasks</li> </ul>
ENTITIES / NGO'S FUNCTIONING IN THE AREA OF THE DISTRICT	<ul style="list-style-type: none"> <li>• participation in public consultations</li> </ul>
<b>4. OTHER INDIRECT BENEFICIARIES</b>	
PERSONS OR ORGANIZATIONS NOT UNDER DIRECT INFLUENCE OF THE INTERVENTION	<ul style="list-style-type: none"> <li>• lack of responsibility as well as participation in the scope of investment or non-investment tasks</li> </ul>

Participation in the urban regeneration project brings benefits to all involved, proportionally to the task they complete. Those are the direct financial benefits<sup>1</sup> for the participants of the investment process and the managing entity, the material benefits for the owners and lessees of the renovated infrastructure and the indirect benefits of using the intervention's resulting amenities. 'The biggest benefits are gained by the inhabitants of the crisis area and partners involved in the urban regeneration process. Separate group of beneficiaries are the city's inhabitants, tourists, companies, the council as an organ of local government (especially with regards to improving the image), and next the area further around the city and the entire region' [12].

### 3. The conditions of selection of partners and investment tasks contractors

Careful selection of entities participating in the implementation and coordination of complex urban regeneration projects is essential for the tasks and responsibility division (in the preparation, implementation and settlement phase of the project), and as a result risk ownership. It determines smooth and timely completion of the investment, meeting quality standards and planned time and cost schedules. To achieve this, and minimize the investment risk, investors apply proper procedures of contractor's selection. According to Kowalczyk [13] those include:

- verification of the contractor's technical, economic and financial credibility,
- selective tender procedure,
- construction work price calculation,
- formalizing and signing construction contracts.

In the area considered in this article the technical specialization of the entities completing specific tasks is extremely important. Their operational profile decides efficiency and depends on employee's qualifications and experience and equipment owned. Specialization, resulting in risk diversification among entities experienced in controlling it, brings savings and increases the standard of services. Including the final and indirect beneficiaries, the stakeholders using the project's products, allows to fully define the scope of stakeholders participating in the risk of urban regeneration project.

Institutional feasibility study defines several criteria that must be met by potential project owners and their partners. Those include, among others [14]:

- having the organizational ability to implement the project, by appointing departments responsible for the project,
- experience in preparation, implementation and settlement of the investment, especially in investments co-financed externally within the last five years (describe projects similar to the planned investment)
- potential experience in implementation of so called 'soft' projects<sup>2</sup>, associated with the topic of the planned project.

Contractors for specific works, working for the main beneficiary and its partners, must also prove specific experience related to the scope of their works. With regards to investment tasks contractors must meet specific formal requirements of cooperation presented in table 2.

Apart from the substantive requirements to start urban regeneration works, there are two main criteria deciding the selection of contractor (potentially there may be additional ones, defined in the tender process), due to the specifics of the work falling within the scope of Public Procurement Law [15] (unlimited tender process). Those are price and other criteria referring to the subject of the tender, such as: quality, functionality, technical parameters, completion deadline, application of modern solutions related to environment, operating cost, maintenance [13].

<sup>1</sup> For example, St. Brother Albert Aid Society – one of the public benefit organizations, which was actively involved in urban regeneration projects in Gdańsk and covered its own costs, so its benefits were indirect.

<sup>2</sup> 'Soft' projects – typically small non-investment projects including: social projects, trainings, postgraduate studies, scholarships, partnerships, educational and cultural events, consulting, research etc.



The formal cooperation requirements for contractors seem clearly defined. While analysing the documentation of the four urban regeneration projects in Gdańsk, no specific requirements were noted with relation to the design entities.

In each analysed project the parties signed a comprehensive contract, but it cannot be clearly classified as a management contract or design and build contract. The contractor undertook the implementation of all the work necessary for immediate accommodation of residents in the premises of the repaired facility (general implementation). The administrative activities such as securing the construction and use permits or other required documents, as well as preparation of the design documentation were owned by the investor. Considering the contract signed the risk related to potential design errors is owned by the investor. It is in investor's interest to specify the requirements regarding the experience needed for specific works. Otherwise lack of knowledge, low qualifications and limited experience on the designer side may translate into significant impact to schedule and budget of planned construction works.

**Table 2.** Formal cooperation conditions for contractors renovating buildings and infrastructure (own study based on [16]; [17]; [18]).

<b>FORMAL COOPERATION CONDITIONS FOR THE FIELD OF REPAIR:</b>	
<b>BUILDINGS</b>	<b>INFRASTRUCTURE</b>
<b>CONDITION 1.</b> Entitlements to perform tasks being part of a contract	
<ul style="list-style-type: none"> <li>according to the detailed specification defined in the scope of contracted works</li> </ul>	<ul style="list-style-type: none"> <li>none</li> </ul>
<b>CONDITION 2.</b> Adequate knowledge and experience	
<ul style="list-style-type: none"> <li>implementation of min. 2 contracts in the last 5 years, in the form of building renovation works, or execution of a turnkey building worth not less than PLN 400,000, including general construction, electrical and sanitary works</li> </ul>	<ul style="list-style-type: none"> <li>documented implementation (over the last 5 years) of at least 1 multi-branch project consisting in the construction, reconstruction or comprehensive renovation of road pavement with a value of not less than 3 million PLN gross</li> <li>documented implementation of at least 2,000 m<sup>2</sup> pavement made of stone material</li> </ul>
<b>CONDITION 3.</b> Appropriate technical and human resources	
<ul style="list-style-type: none"> <li>providing persons authorized to manage construction works in the areas of expertise:               <ul style="list-style-type: none"> <li>- professional structural engineer</li> <li>- installation in the field of plumbing systems as well as heating, ventilation, gas and water supply</li> <li>- installation in the field of electrical installations and devices</li> </ul> </li> <li>providing persons authorized to perform work in the field of:               <ul style="list-style-type: none"> <li>- repairs, assembly, control and measurement, equipment and electrical installations</li> <li>- supervision of maintenance, repairs, control and measurement of gas devices and installations</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>demonstration of the availability of resources by means of relevant documents</li> </ul>
<b>CONDITION 4.</b> Stable economic and financial situation, allowing for the contract implementation	
<ul style="list-style-type: none"> <li>possession of civil liability insurance for an amount not less than PLN 500,000 related with the works included in the contract</li> <li>the ability to dispose of funds or creditworthiness at least PLN 250,000</li> </ul>	<ul style="list-style-type: none"> <li>no detailed requirements</li> </ul>
<b>CONDITION 5.</b> Not subject to exclusion from the procurement procedure	
<ul style="list-style-type: none"> <li>submitting relevant documentation confirming this fact</li> </ul>	<ul style="list-style-type: none"> <li>submitting relevant documentation confirming this fact</li> </ul>

#### 4. Summary and conclusions

New legal regulations introduced towards the end of 2015 were aimed to streamline the processes related to urban regeneration projects. The Regeneration Act defined the legal framework for preparation and implementation of comprehensive urban regeneration of degraded areas, including its conduct within the scope of the council. Apart from this the Act focuses on the issue of social participation and basic definitions of terms unspecified until now. It does not seem to solve many practical issues related to investment activities.

Because the Act in no way defines the requirements regarding the experience of the entities involved in investment tasks, this responsibility remains with the main beneficiary, the city. The analysis of available documentation shows that those requirements were defined only in relation to construction contractors. There is lack of guidelines regarding design requirements, which translates to high risk of cost increase and extended timeline of the investment [7]. The risk factors in urban regeneration projects include [19]:

- incorrect identification of the work of construction of the object with complex and unusual loads,
- incorrect identification of the technical condition of the object and its construction elements,
- the necessity of establishing the scope of work in an inhabited building – no possibility of in-depth sampling/ tests in situ,
- insufficient knowledge, low qualifications, lack of designer's experience (designing of inappropriate construction type, technology, type of foundations without considering the actual relation of the building construction and the ground)
- incorrect design assumptions (among others, ignoring the corrosion of construction elements affecting the element load bearing capacity),
- incorrectly distributed load (increased load because of construction changes or change of the functional distribution of the object).

All those factors materialized in the four analysed urban regeneration projects. It seems that the high requirements set forth for design entities could help to prevent this type of problems. It does not change the fact that part of the issues is caused by the so called 'human factor', manifesting in negligence, oversights, lack of competence and transfer of outdated or unverified information. These types of errors are difficult to eliminate.

#### References

- [1] Ustawa z dnia 3 listopada 2015 r. o rewitalizacji (Dz. U. nr 0 poz. 1777). 2015.
- [2] <https://www.mr.gov.pl/strony/zadania/polityka-rozwoju-kraju/rewitalizacja>, 14-April-2016.
- [3] M. Apollo and E. Urbańska-Galewska, "Model of Risk Assessment (MORA) concept for the investment part of urban regeneration projects", Conference Proceedings, 2014.
- [4] B. Grzyl, "Ryzyko wykonawcy robót budowlanych w zamówieniach publicznych", *Inż. Bud.*, no 11, pp. 644–646, 2014 (in Polish).
- [5] B. Grzyl, "Nieprawidłowości w umowach na roboty budowlane w obszarze zamówień publicznych", *Inż. Bud.*, no 5, pp. 269–272, 2014 (in Polish).
- [6] M. W. Kembłowski, B. Grzyl and A. Siemaszko, "Game Theory Analysis of Bidding for a Construction Contract", *IOP Conf. Ser. Mater. Sci. Eng.*, Vol. 245, no 6, 2017.
- [7] M. Apollo and E. Miszevska-Urbańska, "Analysis of the increase of construction costs in urban regeneration projects", *Adv. Sci. Technol. – Res. J.*, Vol. 9, no 28, pp. 68–74, 2015.
- [8] M. Trocki, "Nowoczesne zarządzanie projektami". Modern project management, Warszawa: *Polskie Wydawnictwo Ekonomiczne*, 2013.
- [9] Ustawa z dnia 6 grudnia 2006 roku o zasadach prowadzenia polityki rozwoju (Dz.U. nr 227, poz. 1658). 2006.
- [10] <http://www.nauka.gov.pl/finansowanie/fundusze-europejskie/innowacyjna-gospodarka/slowniczek-pojec/>, 23-July-2013.



- [11] [http://www.fundusze-strukturalne.gov.pl/ewaluacja\\_2004\\_2006/slowniczek/](http://www.fundusze-strukturalne.gov.pl/ewaluacja_2004_2006/slowniczek/), 25-July-2013.
- [12] K. Bury, "Zastosowanie wielokryterialnej metody QAT w ocenie programów i projektów rewitalizacji", Application of the multi-criteria QAT method in the evaluation of revitalization programs and projects in: O budowie metod rewitalizacji – aspekty wybrane, Kraków, 2010 (in Polish).
- [13] Z. Kowalczyk and J. Zabielski, "Kosztorysowanie i normowanie w budownictwie". Warszawa: *Wydawnictwa Szkolne i Pedagogiczne Spółka Akcyjna*, 2010 (in Polish).
- [14] Wytyczne w zakresie rewitalizacji w programach operacyjnych na lata 2014-2020. Minister Infrastruktury i Rozwoju". Warszawa, 2015.
- [15] Ustawa z dnia 29 stycznia 2004 r. Prawo zamówień publicznych (Dz.U. nr 19 poz. 177, z późn. zm.). 2004.
- [16] D. Piechota, "Analiza i ocena treści umowy o roboty budowlane w aspekcie ryzyka inwestora i wykonawcy na przykładzie wybranego etapu rewitalizacji dzielnicy Gdańsk-Letnica", Analysis and evaluation of the content of the construction contract in the aspect of investor and contractor risk on the example of the selected stage of revitalization of the Gdańsk-Letnica district, Politechnika Gdańska, Gdańsk, 2012.
- [17] Specyfikacja Istotnych Warunków Zamówienia na wykonanie remontu i przebudowy budynku mieszkalnego przy ul. Starowiejskiej 14 w Gdańsku-Letnicy. 2010.
- [18] Specyfikacja Istotnych Warunków Zamówienia: Rewitalizacja układu drogowego dzielnicy Letnica w Gdańsku. Sygn. akt 133/B/NI/2010. Gdańsk, 2010.
- [19] M. Apollo, E. Urbańska-Galewska and R. Wiśniewski, "Aspekty społeczne, ekonomiczne i techniczne rewitalizacji na przykładzie dzielnicy Gdańsk-Letnica", Social, economic and technical aspects of revitalization on the example of the Gdańsk-Letnica district, *Kwart. IRM „Problemy Rozw. Miast”*, no 2, pp. 29–40, 2013 (in Polish).