



SOCIAL INFRASTRUCTURE OF BURIAL NATURE IN THE SPATIAL DEVELOPMENT OF RURAL AREAS IN POLAND

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Abstract

This article presents results on social infrastructure of burial character (cemeteries, crematoria) located in the rural areas in Poland taking into account its influence on spatial development and society. To achieve the goal, villages were chosen from each Province where in the years 1989-2019 burial facilities were implemented (36 objects), including: communal cemeteries (22 objects), parish cemeteries (8 objects), crematoria (6 objects). Analysis were carried out in accordance with the top-down principle, taking into account: planning documents, spatial and functional structure, context of burial objects, its location in the relation to the transport infrastructure, other religious facilities, development of buffer and social role. Research shows that the number of communal cemeteries and crematoria in the rural areas increased (which is associated with social acceptance for cremation process in Poland); this also applies to durability of cemetery composition and desacralization of its surrounding. Social infrastructure connected with burial should be an integrated part of rural landscape; that is why recommendations were elaborated.

Keywords: cemetery, crematorium, village, location, spatial layout, relations

INTRODUCTION

Nowadays, rural areas in Poland are subject to dynamic transformations. In the spatial and functional dimension, the attention of the researchers focuses mainly on the phenomenon of urbanization (Czarnecki 2009, Staszewska 2012, Degórska 2017), on the change in the model of life and living (Jałowicki 1987, Lisowski 2003, Halamska 2008, 2009) and on the protection of the rural landscape (Niedźwiecka – Filipiak 2009, Raszeja 2013). However, no research has been conducted on the social infrastructure of burial nature in rural areas. According to Eurostat (online) forecasts, the demographic aging rate (the number of people aged 65 or more per 100 persons aged 15-64) will have doubled by 2050. The increase in this measure shows that the aging of the population in Europe is progressing. The consequence of this situation will be an increasing death rate and a dynamic increase in the demand for space for depositing corpses and remains. The Central Statistical Office predicts that the population in Poland will decrease from approximately 38.5 million to 34.8 million (in the period between 2014 and 2050). Despite advances in medicine, which contribute to a permanent, significant reduction in mortality and lead to permanent extension of life expectancy, all demographic forecasts assume a slow increase in deaths, due to the fact that the population of the post-war population enters the post-productive age phase (Szukalski 2016). The above statement justifies the necessity to conduct research in the field of burial. The following stimuli prompted the authors to scrutinize this topic: a report by the Supreme Audit Office on the management of municipal cemeteries in Poland (SAO/NIK 2016) as well as a dynamic increase in the number of crematoria in the country (at the beginning of 2019 there were 61 facilities). The subject of cemeteries and crematoria located in rural areas is grossly neglected in the Polish literature. Although there is no uniform, indisputable definition of social infrastructure, researchers agree on its crucial role in the functioning of local communities (Rochmińska and Pędziwiatr 2017). Facilities and institutions providing services in the field of education and upbringing, dissemination of culture and art, health care, social care, physical culture, sport, tourism, relax and recreation are usually classified by the majority of researchers as social infrastructure, which Rochmińska and Pędziwiatr point out (2017). Rutkowska (2007) adds social organizations and religious facilities to the classification. And according to the Polish Classification of Building Facilities introduced by the Regulation of the Council of Ministers of December 30, 1999 (Journal of Laws 1999, No. 112, item 1316) „Buildings intended for religious worship and religious activities” (class 1272) include cemeteries and related facilities, crematoria. For this reason, burial facilities should be incorporated in the social infrastructure. Also, Chmielewski (2010, Fig. 1) and Borsa (2004) include burial to the service infrastructure. Borsa (2004) distinguishes:

1. social services: education and science, health and social care, religious worship, culture, sport, leisure and tourism;
2. household services: retail, gastronomy, banking, energy, transport, communication, handicrafts and service industries (such as bakeries, butchers, laundry), hotels, bathhouses, cemetery services (burial) (underlining added by the author);
3. administration and public safety: public administration, police, fire brigade.

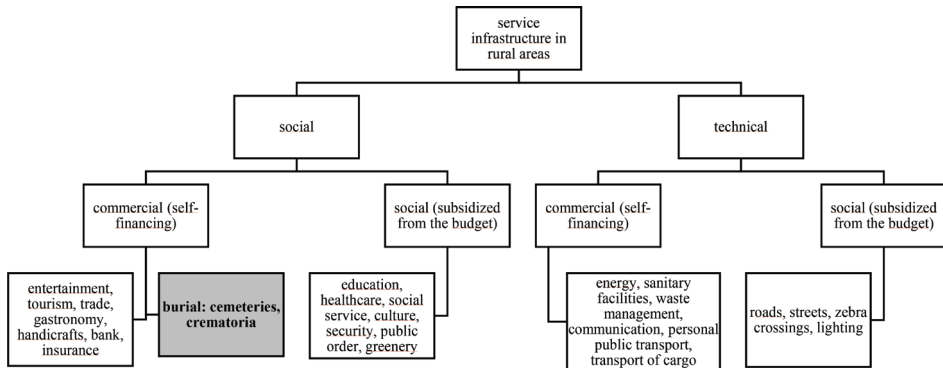


Figure 1. The place of burial facilities in the classification of social infrastructure
 Source: Author’s own elaboration based on: Chmielewski (2010)

According to Gajewski (1979), technical devices serving the settlement unit apart from the apartment, water management, municipal energy, sanitary facilities, fire protection and defense, communication devices, include greenery and burial. To sum up, burial facilities encompass cemeteries and crematoria.

The specificity of rural areas, apart from social or economic issues, is expressed above all in the diversification of material i.e. spatial and architectural forms (Raszeja, 2013). Traditional hallmarks of the village, aside from residential, farm and livestock buildings are greenery, churches, small sacred architecture and cemeteries (Niedźwiecka-Filipiak 2009, Długozima 2011). The deposition of corpses or remains can be carried out on the basis of one of the two formulas: inhumation or cremation. Due to the increase in social acceptance for cremation, the crematorium (Długozima 2017) is becoming the second element of spatial planning of burial nature nowadays more and more often set in a rural landscape. The cemetery and crematorium are different from other categories of land use due to their specificity and thus affect the local community, the natural environment, the spatial structure of the village and its use. For the proper performance of their functions, they require a well-thought-out, defined space (Lehrer 1974, Capels and Senville 2006) and for these reasons are essential elements of rural development (Figure 2).

The aim of the research was to assess how new investments in the field of burial affected the rural areas primarily in the functional and spatial as well as social dimension.

MATERIAL AND METHODS

The study refers to such research areas as rural areas and burial. From the pilot studies conducted as part of the NCN research project entitled „Incorporating cemeteries into existing urban and rural layouts in the aspect of spatial order in Poland against the background of modern European sepulchral space”, it can be concluded that more new burial investments are currently located in rural areas. In urban areas, due to the degree of urbanization and difficulties meeting the criteria set by the regulations predestined for burial purposes, the development and expansion of already existing cemeteries are primarily achieved (Długożima 2015, NIK 2016, Długożima 2017). For this reason, rural areas were analyzed. Cemetery and crematoria were part of burial facilities. 33 locations with the village status, having at least one contemporary i.e. dated for the period of 1989-2019 investment in burial (crematorium construction, construction or extension of a cemetery), situated in all provinces (which is important due to the different historical and cultural conditions of Polish regions) were selected for the study (Table 1). To accomplish the goal, the following analyzes were carried out:

1. planning documents (mainly arrangements of the local spatial development plan in terms of functions, prohibitions and orders in the strip isolating the cemetery area and the conditions for the development of the cemetery);
2. the location of the burial facility in relation to the transport infrastructure, boundaries of the settlement unit, areas of various use and other religious facilities;
3. spatial layout of the cemetery;
4. public reception of the burial facility (identification of acts of vandalism, social protests). General data on the burial facility were also collected (foundation period, investment stages, area).

The research was carried out in 2018-2019 according to top-down principle that is from the general to the specific. The general was the context of the studied burial facilities (i.e. legal conditions expressed in the normative documents, spatial conditions referring to the location of cemeteries, crematoria in relation to the existing functional and spatial structure of the village), after which a specific space, i.e. spatial layout of the cemetery, social reception of a burial facility expressed by territoriality, defined by Bell *et al.* (2004) as a set of elements, activities, behaviors deployed and performed within the territory of a giv-

en unit, aiming at transferring information about the ownership of the territory was analyzed.

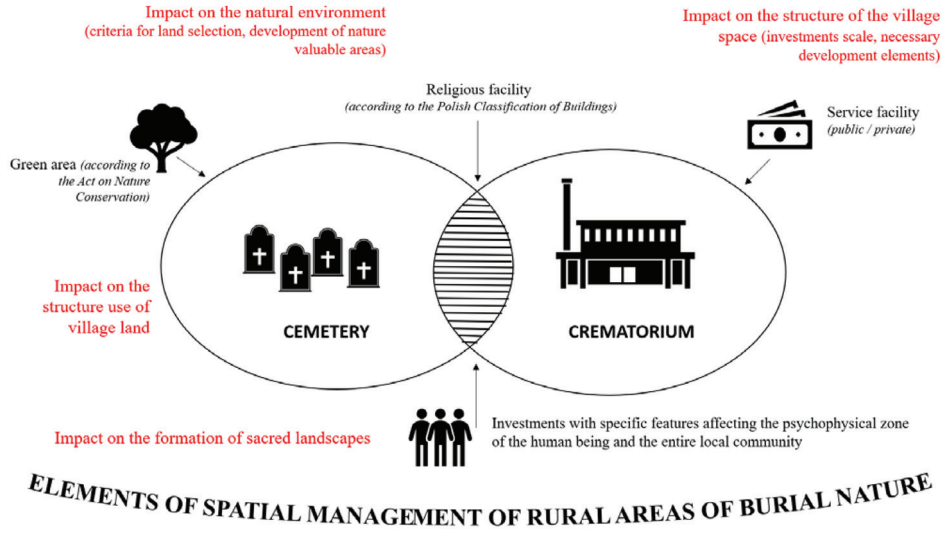


Figure 2. Model of relation: cemetery – crematorium – rural area

Source: Author's own elaboration

Table 1. List of burial facilities covered by research

Province	L. p.	Location	Facility (type of intervention, year)
Dolnośląskie	1.	Borzygniew	Communal cemetery (construction, 2003)
	2.	Jaszków	Communal cemetery with a pre-burial house and crematorium (construction, 2013)
	3.	Smolec	Communal cemetery with a pre-burial house (construction, 2018)
	4.	Żeleźnik	Communal cemetery (construction, 2015)
Kujawsko-pomorskie	5.	Nowa Chełmża	Communal cemetery with a pre-burial house and crematorium (construction, 2005)
	6.	Starorypin Prywatny	Communal cemetery with a pre-burial house (construction, 2006)

Province	L. p.	Location	Facility (type of intervention, year)
Lubelskie	7.	Czerniejów	Crematorium by parish cemetery (construction, 2016)
	8.	Kobylany	Communal cemetery with a pre-burial house (construction, 2018)
	9.	Stara Wieś	Communal cemetery with a pre-burial house (construction, 2009)
Lubuskie	10.	Tomaszowo	Communal cemetery (under construction)
Łódzkie	11.	Andrespol	Parish cemetery with cemetery chapel (construction, 2011)
Małopolskie	12.	Rdziostów	Communal cemetery with a pre-burial house (construction, 2016)
	13.	Dulowa	Communal cemetery (extension, 2017)
Mazowieckie	14.	Wieliszew	Communal cemetery (construction, 2016)
	15.	Korytnica	Parish cemetery (construction, 2011)
	16.	Antoninów	Communal cemetery with a pre-burial house and crematorium (construction, 1999)
Opolskie	17.	Bąków	Communal cemetery (construction, 2015)
Podkarpackie	18.	Nowa Wieś	Parish cemetery (construction, 1989)
	19.	Terliczka	Parish cemetery (construction, 1996)
	20.	Sarzyna	Communal cemetery (construction, 2001)
Podlaskie	21.	Karakule	Communal cemetery with a pre-burial house and crematorium (construction, 2010)
Pomorskie	22.	Cewice	Communal cemetery (extension, 2013)
	23.	Krzyżanowo	Communal cemetery (construction, 2008)
Śląskie	24.	Jasienica	Crematorium by parish cemetery (construction, 2016)
	25.	Pielgrzymowice	Parish cemetery (construction, 2010)
	26.	Nowe Nieboczowy (teren wsi Syrynia)	Communal cemetery (relocated due to the construction of water reservoir, 2016)
Świętokrzyskie	27.	Kazimierza Mała	Parish cemetery (extension, 2014)
Warmińsko-mazurskie	28.	Bartosze	Communal cemetery (construction, 2014)
	29.	Wąpno	Communal cemetery (construction, 1994)
Wielkopolskie	30.	Durzyn	Communal cemetery (construction, 2014)
	31.	Czapury	Parish cemetery (construction, 2008)
	32.	Słodków Kolonia	Communal cemetery (extension + construction of pre-burial house, 2018)
Zachodniopomorskie	33.	Ramlewo	Crematorium (construction, 2014)

Source: Author's own elaboration

RESULTS AND DISCUSSION

The SCC (NIK) report (2016) indicates a disturbing phenomenon: in the last decade, only a handful of local governments have decided to build or extend the boundaries of existing communal/municipal cemeteries. An obstacle in planning investments is a lack of suitable areas that meet the conditions set out in the legal provisions. Many communities/municipalities to secure burial needs decide to build cemeteries outside the administrative borders (e.g. cemetery in the village of Jasków for the town of Legnica, cemetery in the village of Antoninów for the capital city of Warsaw, cemetery in the village of Nowa Chełmża for the town of Chełmża).

The main factors determining the modern condition of investments in the field of burial include the legislative, spatial and socio-cultural conditions. **Legislative conditions** concern legal norms in the field of burial investments. The basic acts regulating the establishment and maintenance of cemeteries in Poland include: the Act of January 31, 1959 on Cemeteries and Burials of the Deceased (Journal of Laws 1959, No. 11, item 62), Regulation of the Minister of Municipal Economy of August 25, 1959 on determining which areas in terms of sanitation are suitable for cemeteries (Journal of Laws of 1959, No. 52, item 315), Regulation of the Minister of Infrastructure of March 7, 2008 on requirements for cemeteries, graves and other places of burial of corpses and remains (Journal of Laws 2008, No. 48, item 284), the Building Law Act of May 16, 2003 (Journal of Laws 2003, No. 207, item 2016), the Act on Nature Conservation of April 16, 2004 (Journal of Laws of 2004, No. 92, item 880). Article 12 of the Act on Cemeteries and the Burial of the Dead (Journal of Laws 1959, No. 11, item 62) indicates that the body of a deceased person can be buried as a corpse or be cremated. Poland belongs to a small group of countries that impose on its citizens the obligation to bury the deceased in the cemetery. The law prohibits the scattering of the ashes of a deceased person and the storage of urns with ashes outside the cemetery. In turn, crematorium construction was regulated in the provisions of Article 3 of the Regulation of the Council of Ministers of November 9, 2004 on determining the types of investments that may significantly affect the environment and the detailed conditions qualifying the investment to draw up a report on environmental impact (Journal of Laws 2004, No. 257, item 2573) as potentially having a significant impact on the environment. Therefore, the necessary conditions included: conducting an environmental impact assessment of the investment and social consultations. Under the new Regulation of November 9, 2010 (Journal of Laws of 2013, item 1235), crematoria ceased to be subject to these rigors, which translated into a dynamic growth of crematoria in Poland. **Socio-cultural determinants** relate first of all to the perception of death (does the subject of death function universally in society or is it marginalized), the roles and meanings giv-

en by society to places related to burial as well as the processes of secularization or increasing ecological awareness. The attitude of society towards cremation is also crucial. **Spatial determinants** are associated with dynamical urbanization processes in rural areas, which affect the deficit of free space predestined for burial functions. In addition, the morphogenetic type of the village influences the possibility of expanding the cemetery, which corresponds to the results of the research conducted by Borcz (1995) and Długozima (2014).

The exact number of cemeteries in Poland is unknown. There is a lack of central databases aggregating information about: location, area, cemeteries capacity and their current state of development, which makes it difficult to conduct integrated spatial policy in the aspect of burial. Of the 61 crematoria operating in Poland (as of January 2019), 11 facilities are located outside the administrative boundaries of towns. These include: Białe Błota, Czerniejów, Garbce, Jasienica, Roszkowo, Sierakowo, Skarbimierz, Ramlewo, Karakule, Jasków, Antoninów.

The assessment of burial investments was carried out from the general to the specific, i.e. from the provisions of normative documents, analysis of the context (location in the functional and spatial structure of the village and in relation to other religious facilities), and spatial composition analysis. In the adopted local spatial development plans as part of construction (e.g. Czapury, Durzyn, Smolec, Żeleźnik, Wieliszew) or extension of cemeteries (e.g. Kazimierza Mała, Dulowa, Dziadowa Kłoda), the legislation is limited to determining the basic use, including the sanitary protection zones, elements of spatial development required by the provisions of the Act on Cemeteries and the Burial of the Dead (Journal of Laws 1959, No. 11, item 62). Instructions regarding the necessity of hydrogeological tests are also formulated there. The regulations only refer to sanitary zones that concern the distance of the cemetery to housing, nutrition enterprises and water intakes. However, there are no regulations regarding the distance from other business facilities, which results in their construction in the immediate vicinity of the cemetery. This, in turn, affects the visibility of the cemetery in space, and also eliminates the viewing spot (the zone of retardation, distance) while the aim of the cemetery is to lead a man from the profane zone to the sacred one and let him achieve a kind of internal silence (socio-cultural meaning of the cemetery) (Długozima 2011). Many cemeteries were observed to operate on the basis of a resolution regarding the establishment of a cemetery along with the rules for using a burial facility, but they were not covered by a local spatial development plan. This, inter alia, results from the reference, while establishing cemeteries, to the procedure of the decision on the location of a public purpose investment which Starzecka (2014), Janicki (2014) and Rosegnal (2016) noted. Originally a rural cemetery was founded around a church. A burial place “surrounded a church creating around it a ring of varied width. In contrast to urban areas, where church cemeteries were liquidated as the city developed, in the countryside cemeteries were preserved for quite a long time and in the post-

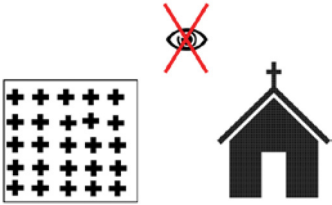
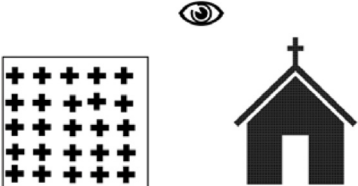

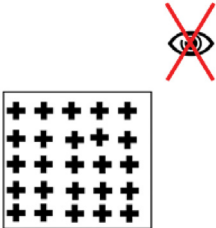
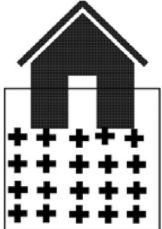
war years many of them were still active “(Borcz 1995). In order to maintain the church’s bond with the cemetery that was preserved by tradition, the road connecting the church with the newly designated burial site is currently planted with trees (e.g. Terliczka) or scenic connections are maintained (Table 2).

Currently, due to the location, the following types of cemeteries can be distinguished: 1) roadside, located by the road between the villages (e.g. Bąków, Żeleźnik, Antoninów, Nowa Chełmża); 2) located in the forest or on its edge (e.g. Korytnica, Karakule, Bartosze); 3) located in the midst of meadows with individual access (e.g. Jaszków), often with avenues with a row of trees (e.g. Terliczka, Borzygniew). It was noted that cemeteries are built near the local transport network. They are established along local roads (e.g. Bąków, Sarzyna, Rdziostów), provincial roads (e.g. parish cemetery and crematorium in Czerniejów by DW835), and even expressways (e.g. communal cemetery in Jaszkowo was “cut off” from Legnica by S3), or highways (e.g. a parish cemetery for Nowa Wieś in the borough of Trzebowniko was “cut off” from the village by A4). Despite good transport network, they are often located off the beaten track (e.g. communal cemetery in Kobylany about 2 km from the center of the village, communal cemetery in Bąków about 1 km from the center of the village), completely invisible in the panorama of the village, which may indicate a departure from the traditional understanding of a burial place as a distinguishing feature or a symbol. Examples, where the facility is peripheral to the settlement unit it is to serve, e.g. the communal cemetery in Jaszkowo located about 3 km from the borders of Legnica, the communal cemetery in Karakule about 4 km from the borders of Białystok, and the Southern Communal Cemetery in Antoninów about 15 km from the borders of the Capital City of Warsaw, can be pointed out.

Research shows that funeral service zones (with funeral homes and florist’s) that are present in cities do not develop in rural areas. Only in the functional program, in spatial planning of strategic funeral investments (large-scale investments established in rural areas and serving cities such as Antoninów, Jaszków, and Karakul), service buildings, crematoria and pre-burial houses were planned.

It was noted that the location of the cemetery in the spatial structure of the village was largely dependent on its morphogenetic type (which corresponds with the results of Borcz (1995) and Długozima (2014). Cemeteries located around churches were subject to the fastest close-down in the case of the oval village. However, the church cemeteries in villages with linear systems continued to exist and even expanded. The street settlement is characterized by the placement of churches, and thus cemeteries along the road, which makes it possible to enlarge the burial site towards the outside due to the terrain facilities owned by the church. Although, due to the increase in communal investments, the distinctness of cemeteries and churches as well as their edge of the village location is noted; this is determined by the land use of Polish cemeteries.

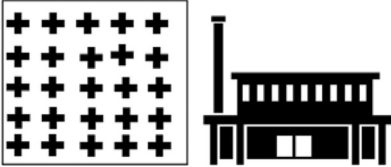
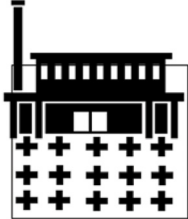
Table 2. Relation: cemetery – church including the status of burial sites (parish, communal)

Category	Description	Graphics	Examples of villages/towns
A B Cemeteries with parish status	Cemetery not connected with the church despite its presence in the village		Nowa Wieś, Wapno, Kobylany, Terliczka, Dulowa, Pielgrzymowice
	Cemetery having scenic and transport connection with the church		Kazimierza Mała, Korytnica
	Church with a historical and contemporary cemetery (extension)		Dziadowa Kłoda
B Cemeteries with communal status	No church in the vicinity of the cemetery, no clear functional and spatial connections; isolated cemetery		Bąków, Borzygniew, Żeleźnik,
	A pre-funeral home, a cemetery chapel in the cemetery		Antoninów, Jasków, Nowa Chełmża, Starorypin Prywatny, Rdziostów, Smolec

Source: Author's own elaboration

The average area of the newly established municipal cemetery is approx. 3 ha. However, the average area of currently established parish cemeteries is approx. 0.5 ha. When building parish cemeteries, references to the Gethsemane (i.e. the cemetery founded around the church, whose area was limited by the shadow length of the church building) are still visible. The deceased were to rest in the shadow of the Church and under her care (Kolbuszewski 1996). Today, despite the separation of the church and the parish cemetery, one can point to treatments emphasizing their symbolic relationships, i.e., scenic connections or location along one transport route (Table 2). For all the parish cemeteries and communal cemeteries of a small area (securing the burial needs of the local community, not the town residents e.g. Bąków, Borzygniew, Dulowa, Słodków Kolonia, Żeleźnik) covered by the study, the durability of the spatial system (i.e. axial, orthogonal composition with emphasis on the center by forming the main alley, the so-called single space assumption (Długozima 2011)) (Fig. 2) was observed whereas large-scale burial projects which included the pre-burial house, crematorium, service facilities were built on the basis of various spatial solutions.

Table 3. Relation: cemetery – crematorium

<p>In close proximity of the cemetery</p>		<p>Czerniejów, Karakule, Jasienica</p>
<p>In the area of the cemetery</p>		<p>Antoninów, Jaszków</p>

Source: Author's own elaboration

The former rural cemetery, apart from the essential prayer and burial functions, had its own ludic dimension. It was a central point in the settlement and parish, where “talks and meetings” as well as social and family gatherings took place (Ariés 1989). Contrary to the orders of the synods, the burial ground was a fair and pilgrimage place (Długozima 2011). Because of the proximity of the church, the necropolis was frequented, and all those living were aware that after death they would still be close to worldly matters (Kracik 1989). Nowadays,

evolution is also observed in this socio-cultural dimension. It appears that the share of communal cemeteries increases, which is associated with progressing secularization. This tendency results, inter alia, from the amendment to the Act of 2012 on the Treasury Property Management. It introduced the possibility of free transfer of land for communal purposes, including cemeteries (Journal of Laws 1991, No. 107, item 464). Despite the increase in social acceptance for cremation in rural areas, being an emanation of this form of corpse treatment, crematoria are an unwanted element of development as indicated by social protests accompanying investments in Jasieniec and Czerniejów. Lower acceptance rates for cremation in the countryside (among the socio-professional groups, farmers and pensioners are those who least accept cremation) (CBOS 2001) are the result of “historical load” (World War II, concentration camps) and the church’s practice of burying corpses in the sacrificed ground of cemeteries (in reference to the form of the burial of Christ himself) (Sucheckie 2009). Also, the improper location of the cemetery and its development inadequate to the sacral, religious character of this space translates into a lack of social acceptance and reluctance to the facility use (e.g. municipal cemetery in Sarzyna).

CONCLUSION

Cemeteries located throughout Poland concern every human being. The number of crematoria is also growing dynamically. Therefore, burial facilities are an important component of space and should be taken into account in spatial development of rural areas. To emphasize the role of burial facilities in the functioning of social infrastructure and spatial development, recommendations for their planning in rural areas were put forward:

1. In the process of choosing the location of cemeteries and crematoria and the work on the concept of developing burial sites, a social factor plays an important role. The disused cemetery in Sarzyna and social protests around the crematorium in Czerniejów, Jasieniec prove that as part of the aforementioned actions, it is indispensable to consult investment plans with residents, simultaneously educating and promoting burial facilities as essential elements of not only rural areas development but also social infrastructure.
2. Since crematoria, like cemeteries in the Polish Classification of Building Facilities, are defined as religious facilities, they should be subject to the same rules and regulations. As a consequence, both the cemetery and crematorium should be located in a way that excludes the possibility of exerting a harmful influence on the environment, in particular on the natural environment and housing development. It is therefore necessary to analyze each time the impact of the potential location of

a burial facility on the environment (a location that eliminates spatial and social conflicts). Hence, in addition to sanitary factors, it is also worth analyzing the values included in Article 1(2) of the Act on Spatial Planning and Development.

3. The cemetery, according to the legal regulations, is not only a burial space, but also a sanitary zone. Therefore, it is necessary to read the judgment of the Supreme Administrative Court of October 27, 2011, which reads: "Local government covering the area of the planned cemetery, in accordance with Article 15(2) item 9 of the Act on Spatial Planning and Development, in connection with Article 3 and Article 5 of the Act on Cemeteries and the Burial of the Dead, is mandatorily obliged to specify the sanitary zone of the cemetery provided for in Article 3 of the Regulation of the Minister of Municipal Economy of August 25, 1959 on determining which areas in terms of sanitation are appropriate for cemeteries." According to the Supreme Administrative Court, the introduction of belts isolating the cemetery area from other areas (so-called sanitary zones of the cemetery) is the setting for special conditions for land development and restrictions on their use. Therefore, it is proposed to establish, within a radius of 20m from the borders of the cemetery, the by-cemetery zone, which will allow marking the transition from the profane zone to the sacred one. In this zone, the infrastructure serving the cemetery should be designed i.e. parking spaces, stalls, and a marked waste disposal site. In addition, in these zones trees should be planted near the cemetery fence, which will help in marking the sacrum zone and will distinguish the cemetery in the village space.

In order to integrate the burial objects isolated from the area of the village, it is proposed to combine them with the village center and other religious facilities by designing walking and cycling routes with the surrounding greenery (possibly high in symbolic meaning).

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