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CHURCH SURROUNDINGS AS SPACES WITH A HEALTH-PROMOTING FUNCTION – POSSIBILITIES AND DILEMMAS

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ABSTRACT

Motives: Climate and socio-economic changes exert a negative influence on human health, both physical and psychological. Therefore, various solutions are needed to address this problem, and the spaces surrounding religious sites should be analysed to determine whether they can improve health. Can plant and garden arrangements accompanying parish churches have health-promoting properties?

Aim: The aim of this work was to answer the above questions by analysing selected parish churches of the Lublin Archdiocese.

Results: An analysis of the compositional structure of vegetation and the functional-spatial arrangement of religious sites revealed that these spaces have vast, albeit not fully utilised potential. Despite the fact that these spaces are addressed predominantly to believers, their unique features can promote recreation and even improve health, regardless of one's religious beliefs and practices.

Keywords: health, religion, space, therapeutic garden, parish churches

INTRODUCTION

The connection between religion, spirituality, and health is unquestionable, as evidenced by historical records, as well as modern scientific studies (Koenig et al., 2000; Koenig, 2000; Sloan et al., 1999). Over 1200 studies presenting the relationship between health and religiousness have been published in the last 30 years of the 20th century. Of those, 850 papers analysed mental health, and 350 investigated physical health (Godlewska & Gebreselassie, 2018; Koenig et al., 2001). An analysis of the PubMed biomedical database of scientific articles published in 1993–2002 revealed a 600% increase in the number of publications regarding spirituality and health. During the analysed

period, the number of articles on this topic increased from 29 to 175. The number of publications addressing the subject of religion and health also increased from 275 to 350, i.e. by 27%, in the corresponding period (Lee & Newberg, 2005; Stefanek et al., 2005). In terms of health, religion has a number of purposes: it helps to understand the meaning of illness, suffering, and life; it defines behavioural norms, sanctions attitudes towards illness, treatment, or approaches towards death. Moreover, in the therapeutic context, priests and monks provide care to the infirm and support them spiritually. Religion has the power to heal through faith in religious practices, sacraments, worship of saints, relics, or places deemed as sacred (Pawlikowski & Marczewski, 2008). Modern studies

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have demonstrated that religion helps overcome addictions, depression, and stress, which, in turn, reduces the prevalence of cardiovascular diseases and indirectly decreases mortality rates (Cotton et al., 2005; Lee & Newberg, 2005; Mohr, 2006; Mueller et al., 2001; van der Weele, 2017). Membership in religious denominations facilitates the establishment of interpersonal relations and social integration (McIntosh et al., 1993). In this respect, religion provides social support by fostering a sense of belonging within a particular belief system and moral code. Thus, it counteracts social exclusion which has been shown to increase mortality two- to five-fold (Eckersley, 2007).

Most often, religion has the power to influence health within a given sacral space. In the past, places of worship and rituals acquired healing powers when religious rites and beliefs were combined with medicinal practices. Temples with colourful rooms were erected in the pre-Christian period, and it was believed that a stay in these facilities could alleviate ailments due to the influence of particular colours (Azeemi & Raza, 2005). In ancient Greece, temples of Asclepius – the god of medicine – were dedicated to the infirm, and they were erected in the vicinity of sacred groves (Katolo, 2009; Marcus & Sachs, 2013). These sacred groves were imbued with spirituality, and they can be regarded as the first therapeutic gardens. The presence of plants provided relief from pain, and contact with nature had healing powers, as evidenced by the words of Hippocrates: *medicus curat, natura sanat* (a doctor treats, nature heals) (Latkowska, 2012; Pudelska et al., 2016).

In the Christian period, healing practices were also linked with sacral sites. It was believed that prayer, religious practices, and intercession of the saints heal not only the soul, but also the body. The above was associated with the conviction that sickness is a result of sin, whereas the cure was a reward for a life lived in accordance with God's commandments. The practice of combining healing services with religious practices was especially visible in Medieval monasteries which featured the *infirmaria* and herb gardens known as *hortus medicus*. In cities,

there were shelters (*xenodochia*) serving the fatigued, travellers, and ill pilgrims (Meyvaert, 1986; Porter, 2005). Historical accounts of the primary function of the garden at the Notre Dame Cathedral in Paris are an interesting example. The garden was a place of melancholy contemplation and a refuge for the homeless, lepers, and the dying. Despite the fact that it was not a typical medicinal garden, it provided relief in suffering, and it was a place of peace and quiet (Sennett, 2015).

At present, Biblical gardens can be considered as spaces with a sacral character as well as health-promoting properties. They are places of rest in quiet and solitude and, therefore, can be regarded as gardens of contemplation and meditation, although, as noted by Włodarczyk (2013, 2018), they are predominantly thematic gardens. These gardens cater to spiritual needs, and they are places of mental stimulation that influence the visitors' overall health (Trojanowska, 2017, 2023). Modern church surroundings also transcend beyond their typical sacral character. In the past, they served mainly as cemeteries, and nowadays they fulfil new functional and aesthetic roles. They are not only places of spiritual experiences and religious practices, but also common spaces that integrate local congregations (Rabiej, 2005). They are also the ideal sites for encouraging community activities. They influence the visitors' emotional and psychological well-being. They contribute to a sense of local identity, promote respect for common values, counteract social exclusion and loneliness (Arno, 2021; Thiessen & McAlpine, 2013). In addition, church gardens are tended by local community members, which fosters pro-environmental attitudes and respect for all forms of life created by God. Gardening is an activity with not only a practical, but also a social dimension because caring for shared space provides the local residents with a sense of community (Longbons, 2013).

According to the American Horticultural Therapy Association (AHTA), an organisation that was established in 1973, gardens with health-promoting properties in sacral sites should be classified as regenerative and contemplative gardens. They limit stress, enhance the visitors' emotional state, and

address their psychological and social needs. In order to be considered therapeutic, gardens have to fulfil seven criteria: they should have a specific programme, be highly accessible, have well-established external and internal boundaries, be abundant in vegetation and opportunities to interact with it, provide conditions of comfort, such as, for example: shade, pleasant smells, and colours. In addition, they should cater to the needs of patients from all age and mobility groups, and should have a simple and uniform structure (Hazen, 1995).

Sacral sites, especially the immediate surroundings of rural parish churches, should be assessed based on these seven criteria to determine their health-promoting properties. Therefore, the aim of this study was to answer three questions: Can the spaces surrounding religious sites improve health? Do plants and garden layouts in parish churches have health-promoting properties? Which types of vegetation and spatial elements in church surroundings can improve health?

MATERIALS AND METHODS

The present study was conducted in the area of the Lublin Archdiocese. The diocese, with its capital in Lublin, was established on 25 March 1992. It comprises the Lublin Archdiocese, the Diocese of Sandomierz, and the Diocese of Siedlce, and covers the area of 28,398 km². However, only the Lublin Archdiocese was analysed in this study. The Lublin Archdiocese consists of 28 deaneries, 264 diocese parishes with residing parish priests, and seven parishes led by religious congregations (Sałdoń et al., 2021). Only active rural parish churches comprising a total of 186 sacral complexes were subjected to a detailed analysis. Both modern and historic sites were evaluated. According to Kulesza (2023), the majority of rural churches (108, 58.1%) in the Lublin Archdiocese were built before 1945. Only 95 sacral sites (51%) have a historic character and are listed in the register of historic monuments of Lublin Voivodeship (Notice no 1/2023). Fieldwork was conducted only in areas that are situated in the immediate vicinity of rural churches, unequivocally belong to these

churches, and can fulfil religious functions. These sites are clearly separated from the remaining space by fences or vegetation, including hedges or topographic features. According to historical traditions, these sites are referred to as church cemeteries, and at present, these modern gardens are used for worship-related purposes (Siewniak & Mitkowska, 2021).

The research methodology involved analytical and synthetic methods, empirical analyses, cartographic methods, and GIS tools. The literature, source materials, and cartographic materials (maps and spatial data in publicly available national spatial information services and OpenStreetMap) were analysed in the first stage of the study. Subsequently, field research was carried out in all 186 sacral sites. Fieldwork encompassed observations, measurements, and analyses, including: functional-spatial and compositional analyses, as well as an analysis of the existing woody plants. As part of the functional-spatial analysis, the gardens' functional programme, layout, spatial elements, architectural and landscape features (such as benches, sculptures, crosses, arbours, and grottoes) were identified individually in each examined site. In the following step, the compositional structure of the studied sites was determined, including the spatial distribution of architectural features, plants, and visual connectivity. Dominant and subdominant features, accents, plant arrangement (group, linear, patch cover), as well as internal and external visual connections, including visual axes and visual openings, were identified during the analysis. A detailed dendrological inventory was conducted to determine the quantity and quality of trees, shrubs, prostrate shrubs, and climbers. In addition, detailed photographic documentation of every object was compiled. In the following stage, church surroundings in the Lublin Archdiocese were assessed for their health-promoting properties. For this purpose, all church surroundings, their method of development, plant arrangements, spatial and functional settings were evaluated based on the 7 criteria of therapeutic gardens proposed by the AHTA. The strengths and weaknesses of the analysed sites in relation to their health-promoting effects, and the opportunities and

threats associated with the use of these areas for non-religious purposes were identified in a SWOT analysis.

RESULTS AND DISCUSSION

The study demonstrated that the areas surrounding rural parish churches in the Lublin Archdiocese meet some of the criteria for therapeutic gardens proposed by the AHTA. The majority (95.7%) of the areas surrounding churches have well-established outer boundaries, where walls (Fig. 1) and metal bar fences with brick posts are the predominant types of fencing. Therefore, the space surrounding the examined churches is clearly defined, which contributes to a sense of security. A fence is not only a boundary between the sacred and the profane, but it also complements the sacral site in terms of composition and function.

The second criterion recommended by the AHTA is the simple and recognisable spatial structure of therapeutic gardens. The majority of the analysed sacral sites met this criterion, and 59.1% of church surroundings had a simple and unified spatial layout. The most common layout comprised procession paths forming a ring road around the

church. Trees and shrubs planted in a linear fashion or forming an alley along the inner side of the fence (Fig. 2) were observed in 110 of the studied churches. This layout was characteristic of both modern and historic sites, and 65 sacral sites with this type of compositional arrangement are listed in the register of historic monuments of Lublin Voivodeship and are supervised by conservation services. This type of arrangement is referred to as a “garland” (Siewniak & Mitkowska, 2021), and it is observed in churches in Lublin (Trzaskowska & Adamiec, 2013) and other Polish regions (Balon & German, 2005; Rydzewska et al., 2008; Stachak et al., 2009; Wilkosz-Mamcarczyk, 2012). This solution is also most often recommended as the ideal layout for church surroundings due to practical and religious considerations (Kulesza, 2023; Nadrowski, 2008; Rouba, 2014). A closed ring of paths around the temple not only caters to liturgical needs, but also possesses therapeutic value. This solution brings order and harmony to the surrounding space and facilitates spatial perception. The looped procession path and the closed character of the inside of the garden, highlighted by linear plantings, enable easier orientation for the elderly and visitors with cognitive



Fig. 1. An example of a wall around a church in Żyrzyn
Source: own elaboration.

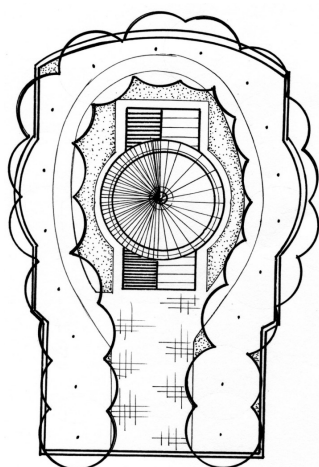


Fig. 2. Characteristic arrangement of the area surrounding of Polish churches, sometimes referred to as a “garland”
Source: own elaboration.

impairments (persons afflicted by spatial orientation disorders, dementia, and visual impairments) (Uwajeh et al., 2019). According to the author, this type of spatial organisation promotes relaxation and shifts the focus to selected architectural features and vegetation in church surroundings. In addition, the surrounding open landscape, a small number of users outside mass times, and clear delineation of space with a fence provide a sense of safety, decrease stress levels, and encourage the use of the area around the church. These favourable circumstances were identified in 67 churches, i.e. in only 36% of all analysed places of worship. The peaceful and quiet atmosphere of these areas provides the visitors with both spiritual (prayer, religious practice) and physical benefits because the users can take walks and experience nature through their senses. It should also be noted that in all studied places of worship, procession paths begin and end in front of the church, thus leading to the point of origin.

All analysed rural parish churches are widely available to the public and visitors, both practising and non-practising believers, as well as non-believers. Procession paths are paved, most often with cobblestones, and their style and colour make a reference to the temple building. The paths create easy access for visitors with limited mobility and the elderly.

However, the studied parish grounds are not free of architectural barriers, and not all of them adhere to the rules of universal design. These areas are not accessible to people with disabilities, although some churches are equipped with wheelchair ramps. None of the studied sites accommodate the needs of blind, visually impaired, or deaf visitors. The analysed places of worship do not cater to the needs of the youngest users. Playgrounds and recreational and educational facilities were identified only in churches in Dorohuczka (Siedliszcze deanery) and Turka (Lublin suburban deanery). None of the studied sacral sites feature elements that serve didactic or cognitive functions. Sculptures making a reference to Biblical motifs were found only in a church in Chodel, but they are too scarce to be considered a full-scale Biblical garden. The area is devoid of benches and paths, and is not adequately equipped to serve therapeutic functions; therefore, it cannot be considered a Biblical garden for meditation or contemplation. A clearly outlined space with a contemplative function was identified only in a church in Wilczopole (South Lublin deanery) which features two squares with benches. One square is situated at the entrance to the parish office, and the other is located in the south-eastern corner of the plot. The latter is more intimate and soothing (Fig. 3). Grottoes can be also considered as places of concentration and mental regeneration. They were identified in 28 sacral sites, but only some of them have a form that facilitates meditation. The grottoes in churches in Niedrzwica Duża and Rogóżno are equipped with benches or kneelers, and they are best suited for this purpose.

The abundance of plants and the opportunity to interact with vegetation is yet another feature of therapeutic gardens recommended by the AHTA (Hazen, 1995). In this regard, the analysed rural church grounds can be evaluated favourably because trees and shrubs are present in 184 sites. The dendrological inventory revealed a total of 19,859 woody plant specimens in all stages of development, including adult and young specimens (Kulesza, 2023). The average number of woody plants per 100 m² (1 are) was determined at 3.31, with a mean value of 2.24.



Fig. 3. Contemplative space in a church in Wilczopole
Source: own elaboration.

The number of tree, shrub, subshrub, and climber specimens, both coniferous and deciduous, per 100 m² is presented in Table 1.

Table 1. Average number of woody plants in church surroundings per unit area

Type of woody plant	Average number of specimens per 100 m ²	Mean
Coniferous trees	1.43	0.9
Deciduous trees	0.53	0.47
Coniferous shrubs	0.37	0.08
Deciduous shrubs	0.95	0.16
Subshrubs	0.01	0
Climbers	0.01	0

Source: own elaboration.

The studied church surroundings were divided into three classes based on the number of identified woody plants: low (0–49 specimens), average (50–99 specimens), and high (above 100 specimens). The greatest number of 80 sites were characterised by a low number of woody plants. The results of the assessment, including percentage values, are presented in Table 2.

Table 2. Assessment of the studied church surroundings based on the number of woody plants

Class based on the number of woody plants	Number of sites	Percentage of sites
High (above 100 specimens)	66	35.5
Average (50–99 specimens)	40	21.5
Low (0–49 specimens)	80	43

Source: own elaboration.

The dominant types of woody plants in the areas surrounding rural churches in the Lublin Archdiocese were coniferous trees (41.6% of total plants) and deciduous shrubs (31%). Woody plants were characterised by high taxonomic diversity and a total of 175 species belonging to 92 genera were identified (Kulesza, 2023). The average number of woody plants per 100 m² (1 are) of church surroundings was determined at 0.4, with a mean value of 0.31. In the greatest number of 96 sacral sites, the number of woody plant species ranged from 10 to 29. The taxonomic diversity of woody plants and the number of sacral sites belonging to each of the three classes (high, average, low) are presented in Table 3.

Table 3. Assessment of the studied church surroundings based on the diversity of woody plant species

Class based on taxonomic diversity	Number of sites	Percentage of sites
High (above 30 taxa)	10	5.4
Average (10–29 taxa)	96	51.6
Low (0–9 taxa)	80	43

Source: own elaboration.

The abundance of vegetation in church surroundings has aesthetic or symbolic value, but it also delivers health-promoting effects, mostly indirectly. Trees and shrubs diversify space, and due to the variety of colours, smells, and textures of leaves and different plant shapes, they evoke sensory experiences. These factors were identified in 69 of the studied church surroundings (37.1%). Moreover, woody plants constitute wildlife habitats and food sources for animals, especially insects, birds, and small mammals (such as squirrels), which promotes observations of nature. These therapeutic aspects are highly significant, and numerous research studies have confirmed that close contact with nature and observations of animal life improve mental health (Barker & Wolen, 2008; Keniger, 2013; McMahan & Estes, 2015; Meuwese et al., 2021). The following criteria were considered to determine the studied

sites' suitability for nature observations and their health-promoting properties:

- presence of places conducive to observations of nature (such as quiet arbours, paths, and squares with benches);
- presence of feeders, breeding boxes, bird baths, bug boxes, and beehives;
- presence of bodies of water (ponds, fountain jets, fountains);
- presence of old trees, vines, hedges, fruit and meliferous trees that are a food base and an advantage for pollinators.

However, despite considerable diversity of vegetation, the studied church surroundings do not promote interactions with plants and do not feature solutions that facilitate observations of nature. No pre-arranged facilities for establishing direct contact with plants or observing animals were identified in any of the analysed sacral sites. None of them were equipped with bird feeders, breeding boxes, bird baths, or bug boxes. The lack of benches and other rest areas, such as arbours, was yet another problem. Benches situated along procession paths were present only in churches in Olchowiec (Siedliszczce deanery) and Suchowola (Czemierniki deanery). There was a sitting area in the front part of the plot along the main path leading to the temple in Żabia Wola (Fig. 4). Water features



Fig. 4. Spatial arrangement in front of the church in Żabia Wola

Source: own elaboration.

were identified in only two churches in Tarło and Piotrawin, but they were not adapted to the needs of animals, and they did not promote animal observations. Old growth forests were identified in 124 sites, vines in 29 sites, and hedges in 21 places of worship. None of the studied sacral objects met all of the criteria in terms of nature observations or contact with nature. Only 15 places of worship, i.e. 8% of the studied sites, met the highest number of these criteria.

Trees and shrubs also contribute to an atmosphere of comfort, which is yet another feature of therapeutic gardens (Płoszaj-Witkowska & Zamojska, 2019). Deciduous trees, which are dominant in 57 churches, provide shade, an indispensable element of health-promoting gardens. They also create visual effects by casting shadows onto the surface of lawns, flowerbeds, and sacral buildings. This combination of shaded and illuminated areas stimulate the sense of vision and enhance the visual plasticity of church surroundings. Tall deciduous trees act as screens that shield places of worship, reduce noise, and foster an atmosphere of quiet concentration. In addition, during this long-term study, no crop protection chemicals were used in the analysed church surroundings. The above could

be attributed to a lack of funds to purchase chemicals, or a low interest in plant health among the members of the congregation and clergy managing the parishes. According to good agricultural practice, chemicals should be applied in the evening or early morning, when pollinator activity decreases, but fieldwork was conducted during the day, which could explain the absence of such observations. Unfortunately, no information regarding the use of crop protection chemicals was obtained during the interviews conducted with the administrators and visitors.

Church surroundings also play an important social role by promoting community integration. In many cases, the analysed sacral sites are the only public spaces with a community-building role in rural areas (Havlíček & Hupková, 2013; Kalbarczyk, 2020; Soszyński et al., 2019; Soszyński et al., 2022; Soszyński & Kamiński, 2022). In 31 of the examined locations, churches were the only public buildings in the village, and together with their surroundings, religious sites can act as public spaces that integrate members of the local community.

The SWOT analysis revealed that the studied church surroundings in the Lublin Archdiocese show

Table 4. Results of the SWOT analysis of the health-promoting properties of the examined church surroundings

Strengths	Weaknesses
<ul style="list-style-type: none"> • Clear boundaries and clearly enclosed space, <ul style="list-style-type: none"> • Simple and uniform spatial composition, • Circular paths aid spatial orientation and increase safety, • Peaceful and quiet surroundings enable meditation and observations of nature, <ul style="list-style-type: none"> • Deciduous trees create shaded areas, • Crop protection chemicals are used sporadically or are not used, • Religious sites facilitate spiritual renewal, have calming effects, and relieve overstimulation. 	<ul style="list-style-type: none"> • Lack of benches and places for contemplation, • Poor functional programme, both religious (lack of rosary, Biblical, or symbolic gardens) and health-promoting (lack of elevated flower beds, lack of facilities for persons with disabilities), <ul style="list-style-type: none"> • Lack of facilities for children, • Lack of facilities that promote community-building and social integration, • Low availability of herbaceous plants such as perennial flower-beds, no opportunities for interacting with plant life, • Lack of facilities for observing nature (bird baths, bird feeders, fruit shrubs, climbers, hedges).
Opportunities	Threats
<ul style="list-style-type: none"> • The analysed sites are surrounded by open landscapes, • Ecumenical character of sacral spaces – a new therapeutic function, • Biblical gardens and religious content improve mental and physical health, <ul style="list-style-type: none"> • Community-friendly spaces in small villages. 	<ul style="list-style-type: none"> • Apparent loss of the sacral character of space, • Health-promoting properties are not adequately recognised, <ul style="list-style-type: none"> • Clearance of old tree stands, • Change in species structure from deciduous to coniferous.

Source: own elaboration.

great potential as health-promoting sites. However, a number of disadvantages and threats were also identified. The studied sites were characterised by similar spatial, compositional, and functional features, as well as similar architectural features. These factors contribute to the monotonous scenery of the analysed church surroundings. The results of the SWOT analysis confirmed the low diversity of the examined sites. The identified strengths, weaknesses, opportunities, and threats are presented in Table 4.

CONCLUSIONS

Religion and spirituality enhance psychological well-being, improve physical health, and, consequently, affect the quality of life and life expectancy. Therefore, sacral spaces are not only places of spiritual experience and religious practice, but they also improve health. The surroundings of rural parish churches in the Lublin Archdiocese have considerable therapeutic potential. Due to their clear and uniform compositional structure, simple and closed layout, abundance of vegetation, and an atmosphere of quiet and safety, they can be considered as regenerative gardens that facilitate therapy. These sites enable visitors to come into contact with nature and open landscapes, which enhances concentration and meditation, and promotes the achievement of mental balance. In addition, the surroundings of rural parish churches are the only public areas in small villages where the local residents can integrate and build communities, which prevents social isolation and exclusion. Despite the above, the present study demonstrated that the analysed places of worship lack the means to deliver therapeutic functions. The examined sites are devoid of quiet places of contemplation, benches, and facilities enabling observations of nature. The therapeutic value of abundant vegetation is not recognised, and the religious-symbolic programme is relatively limited. The surroundings of rural parish churches serve mainly religious purposes, but owing to their compositional, spatial, and natural assets, they can also provide opportunities for health promotion and community building.

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