

## **The church garden as an element shaping the quality of city life – a case study in southern Warsaw**

MAŁGORZATA KACZYŃSKA\*, DOROTA SIKORA  
Department of Landscape Art, Warsaw University of Life Sciences – SGGW

**Abstract:** *The church garden as an element shaping the quality of city life – a case study in southern Warsaw.* The aim of the research was to identify the forms of presently existing gardens surrounding sacral buildings in the city, to verify how the presence of these gardens improves the quality of life, and to determine whether their model as shaped in the medieval period is still current. The research covered the gardens of 22 churches within the southern Warsaw deaneries of Wilanów, Służew and Ursynów. The contribution of the analyzed sacral complexes to improvement of the inhabitants' quality of life is revealed in several of their functions: as historically shaped spaces of prayer and contemplation, important for spiritual life; as biologically active areas, increasing the biological potential of the city; as recreational areas; and as city landscape dominants building a local identity. The results show that the majority of the analyzed church gardens serve as meeting places for local inhabitants. Within most of the complexes, biologically active space accounts for 50–60% of the total. Nearly half of the complexes are spatially connected with other natural areas. Furnishings of the church gardens are similar to those of other city green areas – benches, lanterns and flower-pots are the most frequent. A pathway encircling the church, used during processions, is found within the majority of the complexes, although often the pathway systems are more developed. Sculptural and small architectonic elements related to religious symbolism occur within nearly half of the complexes.

*Key words:* garden, church, churchyard, quality of life, Warsaw

### INTRODUCTION

#### **State of knowledge**

Sacral buildings located in a city are often surrounded by designed green areas. Churchyards perform the role of a transitional zone between the *Sacred* of a temple and the *Profane* of an inhabited area. They are often garden compositions consisting of lawns, flower-beds, shrubs, trees, and elements of symbolic meaning such as Stations of the Cross, memorials, shrines, votive crosses or figures of saints [Mitkowska and Siewniak 1998]. They are used as a place of celebration of some church services [Mitkowska and Siewniak 1998], parish fairs and festivities [Nadrowski 2008]. They are also places where people can calm down and concentrate before entering the church, and so they should be laid out so as to favor the creation of such an atmosphere [Stępień 1982 and Nadrowski 2008]. The authors assume that church gardens located within dense urban developments are also valuable resources of biologically active areas, which, despite their usually small size,

\* e-mail: malgorzata\_kaczynska@sggw.pl

improve the quality of life in the city. Green urban areas, even those of small size, can improve the microclimate and favor well-being [Forsyth and Musacchio 2005, Mega 2010]. Church gardens may be an example of such areas at neighborhood level. Areas surrounding sacral buildings nowadays perform new functions related to recreation and education: they may contain playgrounds for children, secular displays and exhibitions, aviaries, and Christmas cribs with real animals. Information about such new activities can be found on many parishes' websites and journals. All of this proves that church gardens can be valuable sites in the urban landscape, important for different groups of local inhabitants.

Generally, the subject of gardens surrounding sacral buildings in Poland and Central Europe is not frequently addressed in scholarly works. Usually, the issue of gardens is mentioned in publications dealing with the larger urban context of the temple. An exception is cloisters, whose gardens are well described in the literature, usually with regard to the historical aspect. The principles of the composition of European cloister gardens have been described by P. Hobhouse [2000] and E. Barlow Rogers [2001]. The monastery garden is also the subject of a publication by W. Braunfels [1993]. The symbolism of the Paradise garden and its representations on Earth are analyzed by J. Delumeau [1996]. The principles of composition of Polish cloister gardens are discussed by G. Ciołek [1954], L. Majdecki [1981], J. Bogdanowski [2000], M. Milecka [2009] and

M. Szafrńska [1998]. The vegetation of European medieval gardens, including cloister gardens, is discussed in works by P. Hobhouse [1997] and M. Milecka [2009, 2012].

Church gardens are less frequently discussed in the literature. Worthy of mention are numerous publications on English churchyards located both in the countryside and in the urban landscape. These provide information on the churchyard's form and its evolution, plant selection and social use, in both historical and contemporary contexts. Recent publications refer to modern approaches to churchyard care and emphasize a growing recognition of their biodiversity value. Examples of such publications include those of N. Cooper [1995, 1996, 2001, 2012] and M. Child [2007]. Among recent noteworthy publications in Poland are "The sacral garden – the idea and the reality" [Kozakiewicz-Opałka et al. 2008], which contains articles dealing with cloister and church gardens, and "The Sacred in the historical gardens and the symbolism of their vegetation" [Mitkowska and Siewniak 1997], which contains articles dealing with green areas surrounding pilgrimage sanctuaries. Many sacral buildings and their garden surroundings, especially historical monuments, have been described in monographs. An example of such a publication is one devoted to the church in Służew (Warsaw) and its surroundings [Sołtan-Lipska 2013]. There appear to be no scholarly publications describing the church gardens and cloister gardens of southern Warsaw in a comprehensive manner.

### **Historical forms of layout of church surroundings**

Churches and cloisters have been important elements of the urban landscape since medieval times. Their architectonic form and their towers dominating the city skyline have been a visual mark of the substantial role played by the Church in the process of civilization. In the Middle Ages, principles were established concerning the shaping of the surroundings of the Christian sacral building, as well as models of its location in the urban structure. These models were copied in the following centuries.

The functional program of the cloisters, which included also gardens, originated from the idea of the Roman *castrum* and *villa*, and its principles were clearly presented in the drawing of the model plan of the Benedictine abbey in Sankt Gallen [D'Alfonso and Samss 1997]. This program included a cloister garden, a herbaceous garden, used both for curative and culinary purposes, a cemetery and an orchard, which occupied the same area, and a vegetable garden connected to the gardener's house. Sometimes the whole cloister was called a garden, in reference to Paradise, and the terrain of some Orthodox cloisters was entirely planted with fruit trees, providing "redemption fruits" [Szafrńska 1999]. In fortified cities, where space was lacking, this program was reduced, as can be seen in the cloisters of mendicant and preacher orders such as the Franciscans, Dominicans and Poor Clares, who according to their monastic rule were obliged to settle in densely populated zones. Until 1237 they were

not allowed to possess their own land "except necessary terrain next to the cloister building, which could be exclusively used as a garden" [Ciołek 1954]. The cloister garden was always the most important symbolic space. It represented the idea of the celestial Paradise which was to be reached through contemplation. The symbolism of a square, the number four (rivers of Paradise, evangelists, cardinal virtues) contained in the cloister garden and elements like wells or fountains favored comprehension and contemplation of the religious content. The cloister garden was also used by the monks as a place of recreation, to exercise both body and mind. This tradition may have been transferred from the garden courtyards in the antique gymnasia [Szafrńska 1999]. The medieval cloister was almost self-sufficient. Its well-developed economic and educational program, including also horticulture, enabled it to provide food for both monks and pilgrims. Cloister schools also widely promoted effective forms of cultivation, partially taking advantage of the antique literature preserved in the cloister libraries [Böhm 1994].

In the medieval period also parish churches, especially cathedrals, acquired a proper setting for their rank and function – a square, which referred to the antique forum [D'Alfonso and Samss 1997]. This can also be seen in the modern churchyards surrounding sacral buildings. In the vicinity of many medieval churches, mostly behind the apse, places called paradise were established. They served to cultivate flowers to decorate the altars, holy statues and shrines

[Barlow Rogers 2011]. Cathedrals, even those located within dense urban developments, often had a cloister garden [Stepień 1982].

In England in the medieval period a churchyard was open to almost any kind of event. Parish activities taking place within the churchyard depended on the priest who held it in freehold, and usually fostered activities from which he might supplement his income. Certain parts of the ceremonies associated with baptism, marriage and burial began in the churchyard. Itinerant merchants set up their stalls beside the church. Strolling players, mummers and musicians performed and miracle plays took place. There were also many children's churchyard games. Medieval churchyards were busy at most times, but the highlights were fairs and feast days. Dancing and games took place within the churchyard, although people respected the south part where the majority of the graves were located, and confined themselves to the north side [Child 2007].

Churches and their surroundings were also used for centuries as burial places. This led to the establishment of cemeteries within churchyards. The fact that the areas were considered sacred ground protected them from being built over. For both symbolic and practical reasons they were permanently fenced. The obligatory fencing of the necropolis was regulated by both medieval and later synods. The synod in Gniezno in 1512 required a cemetery to be surrounded with walls, a wooden fence or a ditch. The 1538 synod in Chelmno required cemetery gates with wooden or iron

bars. The form *Ordo visitationis* from the early 15<sup>th</sup> century indicates that it was important to "be able to distinguish the sacred from the non-sacred" [Bis and Bis 2013].

It was the Edict of Nantes of 1777 that first forbade burial within the churchyard for sanitary reasons and ordered the necropolis to be established outside the city borders. After France, similar regulations were also introduced in other countries, including Poland. These changes resulted in the transformation of former church cemeteries into designed green areas, where apart from ornamental trees and shrubs, Stations of the Cross, votive crosses, holy statues and representations of the grotto of Our Lady of Lourdes were located. Often the churchyard contains old trees (e.g. elms and limes in English churchyards), the majority of them planted along the boundaries and marking clear borders of the churchyard within the landscape [Cooper 2012]. In the mid-19<sup>th</sup> century, to promote the appropriate spiritual atmosphere in churchyards, John Claudius Loudon advocated formal designs with a somber tone of evergreens and a vertical theme provided by fastigiated Irish yew and Monterey cypresses [Cooper 2012].

## MATERIAL AND METHODS

The aim of the research was to identify the forms of presently existing gardens surrounding the sacral buildings in the city, to verify how the presence of these gardens improves the quality of life, and to determine whether the model shaped for such gardens in the medieval period is still current. The research covered the

gardens surrounding 22 parish churches within three deaneries of southern Warsaw (those of Wilanów, Służew and Ursynów) and their landscape context (Table 1, Fig. 1).

The urban landscape of southern Warsaw was shaped mostly from the 1970s to the 1990s and at the start of the 21<sup>st</sup>

century. Its spatial composition is based on the historical road system of the previously existing rural area. Although, a great part of the landscape is occupied by relatively new housing estates, the spatial complexes of former villages with their internal road systems are still preserved. The analyzed area reflects

TABLE 1. List of analyzed sacral buildings and gardens

No	Name of sacral building with garden
Wilanów deanery	
1	Church of St. Joseph the Betrothed to the Virgin Mary (St. Stephan the King in Sielce parish) Sisters of Nazareth convent
2	Church of St. Casimir the Prince in Sielce (Resurrectionist Congregation)
3	Sanctuary of Our Lady Teacher of Youths (Our Lady Queen of the Believers parish)
4	Churches of St. Antonio of Padua and St. John of Dukla (St. Boniface in Czerniaków parish) Bernadine cloister
5	Church of St. Thaddeus the Apostle
6	Church of St. Antonio Maria Zaccaria (Barnabite Fathers parish)
7	Church of St. Anna
8	Temple of God's Providence
9	Church of the Mission of the Lord's Disciples
Służew deanery	
10	Church of Our Lady Mother of Mercy (congregation of Marianist Brothers and Priests parish)
11	Church of St. Maximilian Kolbe
12	Church of St. Dominique and Dominican cloister
13	Church of the Immaculate Conception of the Virgin Mary (St. Catherine parish)
14	Church of St. Madeleine Sophie Barat, Sacred Heart of Jesus convent
15	Church of SS Peter and Paul the Apostles
Ursynów deanery	
16	Church of the Lord's Ascension
17	Church of Blessed Edmund Bojanowski
18	Church of St. Thomas the Apostle
19	Lord's Offertory church
20	Church of Blessed Ladislav of Gielniow
21	Church of St. Pio of Pietrelcina
22	Sanctuary of Our Lady Longing (St. Elisabeth parish)

Note that in the following tables the same numbering is used, to avoid repeating the church names.

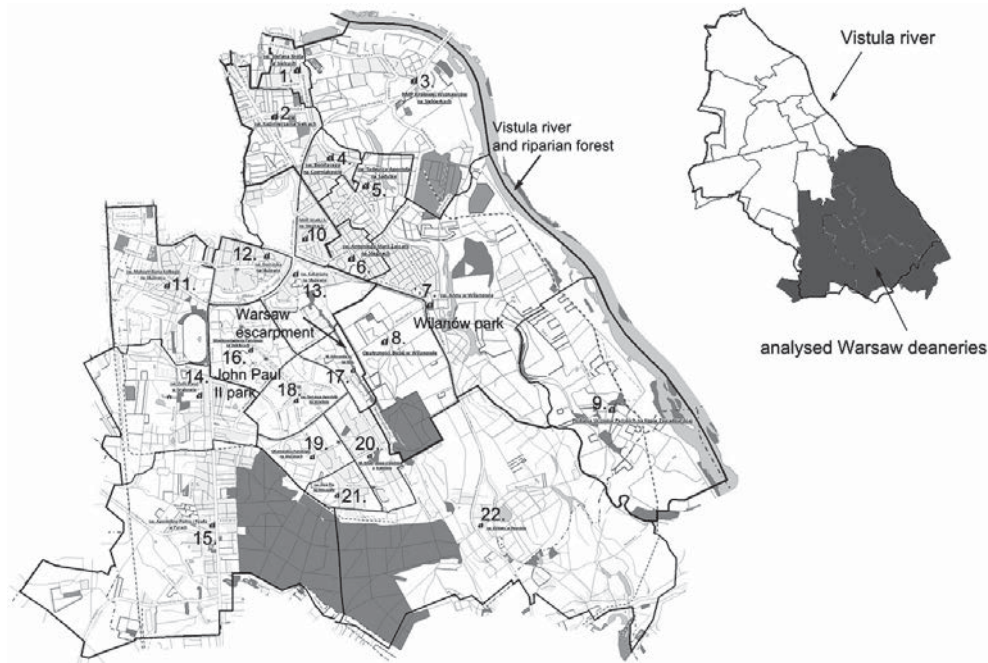


FIGURE 1. Map showing the areas examined in their urban context. Churches are marked with numbers as in Table 1. Based on maps of Warsaw deaneries available at <http://koscioly.warszawa.pl/>

a process of city development through incorporation of the rural area with existing historical parish churches into the city boundaries and establishment of new urban housing estates with new parish churches meeting the needs of new communities. Therefore, the selected case study provides an opportunity to analyze church gardens of different scale, church rank, time of origin, and layout.

The research included a literature review and collection of data by means of on-site inventory and observations. The first stage was a literature review aimed at recognizing the historical form of the layout of a church's surroundings, its typical elements, its further evolution, and significance for the surrounding landscape. This made it possible to

verify which historical patterns are still present in the analyzed gardens. The next stage consisted of an on-site inventory of the gardens' compositional elements: forms of vegetation, small architectural elements, sculptural details and pathway system, aimed at recognizing the present spatial structure of the gardens. This made it possible to determine the gardens' artistic, spatial and symbolic values.

The research also included estimation of the biologically active area of the gardens (expressed as a percentage) based on analysis of aerial photographs, on-site recognition of the diversity of forms of vegetation, and identification of whether the gardens are related to wider green structures. It was aimed to

determine the gardens' ecological value. During the research, non-participant observations in the gardens were carried out on week-days, on Sundays and during festivities, enabling the collection of information on social activities taking place in the gardens and on the use of the garden space. The collected data was supplemented with information acquired from interviews with the priests and from the parish websites, particularly regarding the gardens' accessibility, use of the gardens during church services and parish fairs, parishioners' activities, existing potential tourist attractions, and memorial sites of national significance. This made it possible to determine the gardens' social function and utility value.

The present research did not involve the adoption of a profound sociological approach including the interviewing of garden users or surveys; however, to identify the gardens' value and meaning for the parish communities, such research should be conducted in the future.

The data collected during the literature review, on-site inventory and observations were classified in terms of five aspects: forms of social activities, forms of vegetation and ecological role, types of architectonic elements, form and material of the pathway system, and types of symbolic elements. The calculations were performed using MedCalc software. Continuous variables (area of sacral complex, biologically active area) were reported as medians with a range, because they did not follow a normal distribution. The relationship between sacral complex area and biologically active area was assessed by Spearman

regression. The relations between sacral complex area as well as biologically active area and existing forms of vegetation, garden social function, road system, small architectonic and sculptural elements were assessed using the Anova Kruskal–Wallis test. Values of  $p < 0.05$  were considered statistically significant.

## RESULTS

### **The church gardens of southern Warsaw**

The selected church gardens represent different scales, church ranks, times of origin, and layouts. Some of them belong to historical parishes (parish of Saint Catherine in Służew with the church of the Immaculate Conception of the Virgin Mary, 1238; Saint Anna in Wilanów, 13<sup>th</sup> century; Saint Elisabeth in Powsin with the Sanctuary of Our Lady Longing, 1410). The presently existing churches of these parishes replaced those formerly existing and originating from earlier times (church of the Immaculate Conception of the Virgin Mary, from the turn of the 14<sup>th</sup> and 15<sup>th</sup> centuries; church of Saint Anna, 1772; Sanctuary of Our Lady Longing, 1725). Some parishes were established in the vicinity of previously existing cloister churches:

- Saint Boniface in Czerniaków (the Bernadine cloister and church of Saint Antonio of Padua, built in 1690–1693, founded by Stanisław Herakliusz Lubomirski);
- Saint Stephan the King in Sielce (the church of Saint Joseph the Betrothed to the Virgin Mary, built in 1926 by the Sisters of Nazareth convent);

- Saint Casmir the Prince in Sielce (church built in 1932–1933 by the Resurrectionist Congregation);
- Saint Dominique in Służew (cloister built by the Dominicans in 1935, church built in 1981–1994).

However, the majority of the described parishes were established after World War II and in the second half of the 20<sup>th</sup> century. Other parishes were established at the beginning of the 21<sup>st</sup> century. In some of them the parish church has already been erected (the church dedicated to Blessed Edmund Bojanowski in Wolica, that of Saint Antonio Maria Zaccaria in Stegny, and the Temple of God's Providence in Wilanów), while in others only temporary chapels exist (those dedicated to the Mission of the Lord's Disciples in Kępa Zawadowska, and to Saint Pio of Pietrelcina in Moczydło). The analyzed area also contains, in western Wilanów, a sacral building of national significance: the Temple of God's Providence.

#### **Value of church gardens as part of the system of urban green areas**

The gardens surrounding sacral buildings in cities are an important part of the system of urban green areas. Usually they are small biologically active spaces surrounded by dense urban development. Despite their isolation and small size, church gardens, like the other small-scale garden forms in the city such as pocket gardens, improve the quality of life [Forsyth and Musacchio 2005, Mega 2010]. The green areas surrounding sacral buildings, as well as

other types of parks, gardens and green squares, are surfaces that are permeable to rainwater and take part in the infiltration process. These areas, despite their often fairly small size and lack of diversity of vegetation, can have an influence on improvement in climatic conditions. Research indicates that even a terrain covered only by a lawn reduces the air temperature by at least 2.3°C compared with an area of the same size without a lawn, and increases the air humidity by 6–13% [Orzeszek-Gajewska 1984]. Small-size green areas in the city, church gardens included, can also become habitats for insects and birds. Their ecological value increases if they are connected to the open area system of the city [Forsyth and Musacchio 2005].

To analyze the value of the gardens surrounding sacral buildings as part of the system of urban green areas, the following parameters were used: sacral complex area (ha), biologically active area (%), presence of old trees, ornamental shrubs, flowerbeds, rosaries, lawns, low-growing plants, climbers, orchards, vegetable and herb gardens, and relations of the garden with natural areas (Table 2). All the analyzed sacral buildings are surrounded by designed green areas. Their size is diverse and ranges from 0.21 ha up to 5.80 ha, while the size of the majority of the sacral complexes lies between 1 and 2 ha. In the majority of the complexes the biologically active area covers 50–65% (9 churches) or 30–45% (6 churches) of the whole terrain, while in four complexes it constitutes as much as 70–90% of the total area. Only in three complexes do green areas cover



TABLE 2. Forms of vegetation

No	Sacral complex area (ha)	Biologically active area (%)	Old trees	Ornamental shrubs	Flowerbeds, rosaries	Lawns, low-growing plants	Climbers	Orchards	Vegetable and herb gardens	Relation of garden with natural areas
Wilanów deanery										
1	1.20	40	+	+	+	+	+	-	+	-
2	0.80	75	+	+	+	+	-	-	-	+
3	1.00	50	+	+	+	+	-	-	-	+
4	1.13	50	+	+	+	+	-	-	+	-
5	0.21	15	-	+	+	+	-	-	-	-
6	1.89	60	-	+	+	+	-	-	-	-
7	0.50	64	+	+	-	+	-	-	-	+
8	5.80	55*	-	+	-	+	-	-	-	-
9	1.80	50*	×	×	×	×	×	×	×	×
Służew deanery										
10	1.10	42	-	+	+	+	-	-	-	-
11	0.72	40	-	+	-	+	-	-	-	-
12	4.3	80	+	+	+	+	+	+	+	-
13	3.41	65	+	+	-	+	-	+	-	+
14	1.9	70	+	+	+	+	+	-	+	+
15	1.2	55	-	+	+	+	+	+	-	-
Ursynów deanery										
16	1.17	18	-	+	-	+	-	-	-	+
17	0.60	40	+	×	×	×	×	×	×	+
18	1.07	19	-	+	+	+	-	-	-	-
19	0.70	64	-	+	+	+	-	-	+	-
20	0.90	33	-	+	+	+	-	-	-	+
21	0.80	37*	-	+	-	+	-	-	-	-
22	3.31	90	+	+	+	+	-	-	-	-

\* Approximate data for churches and gardens under construction.

+ presence of the element, - absence of the element, × garden under construction.

less than 20% of the whole. The median of sacral complex area is 1.12 ha (0.21–5.8 ha), while the biologically active area accounts for about 50% (15–90%). The percentage of biologically active area of the church gardens correlates with total complex area ( $r = 0.47$ ,  $p = 0.028$ ): the larger the sacral complex, the greater the biologically active area. Old trees are present in ten of the sacral complexes. In the historical complexes they surround

the churchyard. The church and the mass of the trees create a visible architectonic and landscape dominant. Old trees are a more common form of vegetation in the case of larger biologically active areas – 64.5 (40–90)% vs. 40 (15–64)%,  $p = 0.01$ . In all sacral complexes where the church surroundings are already laid out, ornamental shrubs are planted. Coniferous species predominate, and rhododendrons are also often present

(the churches of SS Peter and Paul the Apostles and of Blessed Ladislav of Gielniow). Fourteen of the church garden compositions include flowerbeds and rosaries. Usually they consist of seasonal flowers, and sometimes also contain plants related to Christian symbolism, such as roses or lavender. The flowerbeds often serve as decoration for figures of Mary or votive crosses. Rarely they constitute an independent composition (Fig. 2). Climbers are not very common in church gardens, being recorded at only four of the analyzed sites.



Examples are the Immaculate Conception of the Virgin Mary church garden (Saint Catherine parish), the Blessed Edmund Bojanowski church garden located on the top of the Warsaw escarpment which constitutes a natural ecological corridor, and the garden surrounding the Sanctuary of Our Lady Teacher of Youths (Our Lady Queen of the Believers parish) located in the vicinity of the riparian forest within the Vistula river valley. Examples of church gardens compositionally related to public parks are the garden of the church of St. Anna, connected to



FIGURE 2. Examples of plant compositions in gardens surrounding sacral buildings

All existent garden compositions include lawns and low-growing plants covering the ground. Orchards and usable gardens within the sacral complex do not occur frequently (orchards were noted in three cases, vegetable and herb gardens in five cases). They are established in complexes belonging to convents (e.g. the garden belonging to the St. Dominique church and Dominican cloister). An orchard is also likely to be found in larger rather than smaller sacral complexes – 3.41 (1.2–4.3) ha vs. 1.07 (0.21–5.8) ha,  $p = 0.044$ ). Eight of the sacral complexes are spatially connected to other valuable natural areas. Exam-

the historical park in Wilanów, and the garden of the Lord's Ascension church, related to the modern John Paul II Park and further to the structure of green areas in Ursynów.

### **Contemporary social functions of church gardens**

To analyze the social functions of the gardens, the occurrence of the following items was recorded: parish fairs, festivities and concerts, leisure places, tourist attractions, playgrounds, presence of animals, national memorial sites (Table 3). The contemporary function of

TABLE 3. Social functions of gardens

No	Parish fairs, festivities and concerts	Leisure place	Tourist attraction	Playgrounds	Presence of animals	National memorial site
Wilanów deanery						
1	-	-	-	-	-	-
2	+	+	-	-	-	-
3	+	+	+	+	-	-
4	-	+	+	-	-	+
5	-	-	-	-	-	-
6	-	+	-	+	-	-
7	+	+	+	-	-	-
8	+	+	+	-	-	+
9	-	-	-	-	-	-
Służew deanery						
10	-	+	-	-	-	-
11	-	+	-	-	-	-
12	+	+	+	-	-	-
13	+	+	+	-	-	+
14	-	+	-	-	-	-
15	-	+	-	-	-	-
Ursynów deanery						
16	-	-	-	-	-	-
17	-	-	-	-	-	-
18	-	-	-	-	+	-
19	-	+	-	-	-	-
20	-	+	-	+	+	-
21	-	+	-	-	-	-
22	-	+	+	-	-	-

For symbols explanations see Table 2.

the gardens surrounding sacral buildings is influenced by many factors. Areas not accessible to the public still perform the traditional function of a recreational place for priests, monks and nuns, or are also used for the cultivation of usable plants and flowers and sometimes for the raising of small livestock. Such gardens exist near the clergy houses of the church of the Immaculate Conception of the Virgin Mary (St. Catherine parish) and the Sanctuary of Our Lady

Longing (St. Elisabeth parish), and also next to cloisters, e.g. the Sacred Heart of Jesus convent related to the church of St. Madeleine Sophie Barat. There are also church gardens accessible only to particular groups of users, such as pupils of the schools located in cloister buildings. An example is the Sisters of Nazareth convent cloister related to the church of St. Joseph the Betrothed to the Virgin Mary (St. Stephan the King in Sielce parish), where the garden is

accessible to the nuns and their pupils. However, the majority of the analyzed gardens are open to the public. Usually they are used as a meeting place for local residents during church services and festivities. Larger gardens also serve as a place for walking. Three of the analyzed church gardens feature playgrounds for children (Sanctuary of Our Lady Teacher of Youths, church of St. Antonio Maria Zaccaria, church of Blessed Ladislav of Gielniow), and in two gardens animals were exhibited (aviaries in the Blessed Ladislav of Gielniow church garden, and a Christmas crib with real animals in St. Thomas the Apostle church garden). Six parishes use the gardens to organize parish fairs and festivities (e.g. St. Casimir the Prince in Sielce church with the Resurrectionist Congregation, St. Dominique church and Dominican cloister) – Figure 3. Parish fairs or festivities take place on sites with greater biologically active area – 64.5 (50–80)% vs. 41.0 (15–90)%,  $p = 0.02$ . Also, a biologically active area promotes leisure activities and tourism.

The gardens with relatively larger biologically active areas are likely to serve as local leisure places – 57.5 (33–90) % vs. 29.5 (15–50) %,  $p = 0.005$ ) and tourist attractions – 64 (50–90)% vs. 40 (15–75)%,  $p = 0.02$ .

The vicinity of some sacral buildings is also used as a location for national memorial sites. Examples include the monument commemorating the martyrs of communist terror from 1944 to 1956, located within the Immaculate Conception of the Virgin Mary church complex (St. Catherine parish), and plaques in the wall surrounding the garden of St. Antonio of Padua church (St. Boniface in Czerniaków parish) commemorating the Bernardines and soldiers from the 14<sup>th</sup> regiment of Lancers of Jazłowiec who died in 1939 and local inhabitants killed and murdered during World War II. Also, the Temple of God's Providence performs the function of a national memorial site as the location of graves of prominent Poles. The temple is still under construction, and so it is difficult to say whether this function will also be reflected in the surrounding garden.



FIGURE 3. Social functions of gardens surrounding sacral buildings. Dominicans' Fair within the Dominican cloister complex, and aviaries in the Blessed Ladislav of Gielniow church garden

### Small architectonic forms as an element of the composition of church gardens

To analyze small architectonic forms as an element of the composition of gardens surrounding sacral buildings, the following parameters were used: fences, gates, benches, lighting elements, refuse bins and other small architectonic forms (Table 4). All analyzed sacral complexes where the church surroundings are already laid out have a formal fence. Ten of them have a visible architectonic gate

which emphasizes the place of crossing of the border between the *Profane* and the *Sacred*. The gate is usually situated on the main axis of the church. Sacral complexes with visible architectonic gate include both historical temples (e.g. the mid-19<sup>th</sup>-century gate with the Lubomirski family shield in front of the church of St. Antonio of Padua) and modern churches (e.g. the gate in front of the Lord's Offertory church). In the other sacral buildings, the entrance to the church leads directly from the street (Fig. 4).

TABLE 4. Small architectonic elements

No	Fences	Gates	Benches	Lighting elements	Refuse bins	Other small architectonic forms
Wilanów deanery						
1	+	+	+	-	-	Fountain
2	+	-	+	-	-	-
3	+	-	+	+	+	Wooden bridge, artificial pond
4	+	+	+	+	+	-
5	+	-	-	+	-	-
6	+	-	+	-	+	-
7	+	-	-	+	-	Baroque vases
8	×	×	×	×	×	×
9	×	×	×	×	×	×
Służew deanery						
10	+	+	+	+	-	St. Joseph's hut, granite and concrete flowerpots
11	+	-	-	-	-	-
12	+	-	+	+	-	Bower
13	+	+	+	+	-	Glass construction over the descent to the funeral chapel and the church cellar, concrete flowerpots
14	+	+	+	+	-	Artificial pond
15	+	+	+	+	+	Lapidary, concrete flowerpots, wooden trellis for climbers, bower
Ursynów deanery						
16	+	+	-	-	-	Well, concrete flowerpots
17	×	×	×	×	×	×
18	+	-	-	-	-	Stone flowerpots
19	+	+	-	-	-	Bower
20	+	-	-	+	-	Aviaries, concrete and wooden flowerpots
21	+	+	+	-	+	-
22	+	+	-	-	-	-

For symbols explanations see Table 2.



FIGURE 4. Examples of gates leading to sacral complexes. The churches of St. Antonio of Padua and the Lord's Ascension

Among the furnishing elements in the analyzed church gardens, the most frequent are benches (present in 11 of the sacral complexes) and lighting elements (present in 10 cases). Usually they take a form typical for urban green areas. Only a few complexes contain individually designed furnishing elements. Examples include lighting elements stylized as gas-lamps in the St. Antonio of Padua church garden, and benches decorated with forged elements in the shape of vines in the St. Antonio Maria Zaccaria church garden (Barnabite Fathers parish). Refuse bins are found only in the sacral complexes where the gar-

den occupies a larger area, and indicate that the garden is used not only during church services but also for other types of activities.

Among other small architectural forms, the most frequent are flowerpots with seasonal flowers, perennials and small shrubs. They emphasize the church entrance or the location of Marian figures, figures of saints and crosses. Rarely, wooden bowers or trellises for climbers are found in the gardens (Fig. 5).

Water elements are not very common in the sacral gardens (found in only two cases). Usually they have the form of

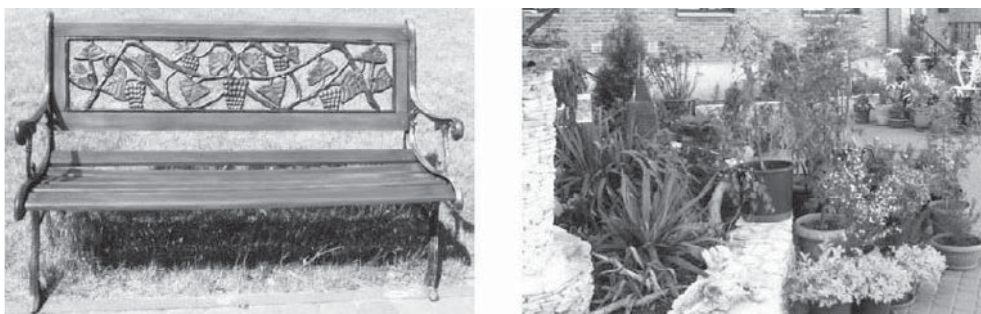


FIGURE 5. Examples of small architectonic forms in gardens surrounding sacral buildings. Bench next to the church of St. Antonio Maria Zaccaria, and flowerpots alongside the church of the Lord's Ascension

a small artificial pond located near figures of Mary (the church of St. Madeleine Sophie Barat, Sacred Heart of Jesus convent) or chapels dedicated to the Virgin Mary (Sanctuary of Our Lady Teacher of Youths). Near the Lord's Ascension church a stone well has been built, performing only a symbolic function. An unusual element present in a sacral garden is the aviaries located by the church of Blessed Ladislav of Gielniow.

### Pathways and pavement types in church gardens

To analyze pathways and pavement types in the gardens surrounding sacral buildings, the following parameters were used: pathway surrounding the church, developed pathway system, pavement type, and square in front of the church entrance (Table 5). The development of a pathway system in a church garden usually depends on the garden's size.

TABLE 5. Pathways and pavement types

No	Pathway surrounding the church	Developed pathway system	Pavement type	Square in front of the church entrance
Wilanów deanery				
1	–	–	Grey concrete sett, gravel	–
2	–	+	Grey concrete sett with light-grey ornament, concrete paving	–
3	+	+	Grey and light-grey concrete sett with patterns	+
4	+	+	Grey and red concrete sett	+
5	+	–	Concrete paving	–
6	+	+	Grey and red concrete sett, granite sett decorative elements	+
7	+	–	Concrete paving	+
8	×	×	×	×
9	×	×	×	×
Służew deanery				
10	+	–	Grey and red concrete sett	+
11	+	–	Grey and red concrete sett	–
12	+	+	Concrete sett, granite sett, concrete paving	+
13	+	+	Concrete sett, stones, concrete paving	+
14	+	+	Grey concrete sett	–
15	+	+	Granite sett, grey concrete sett	+
Ursynów deanery				
16	–	–	Grey concrete sett	–
17	×	×	×	×
18	+	–	Granite sett, concrete paving	+
19	+	+	Grey and red concrete sett	+
20	+	+	Grey and red concrete sett	+
21	–	–	Grey concrete sett	–
22	+	–	Concrete paving	+

For symbols explanations see Table 2.

In larger-scale gardens, apart from the pathway surrounding the church, there is an area with a well-developed system of paths for walking. This serves not only religious purposes, but is also used as recreational green area. Better developed pathway systems are found in the gardens with larger biologically active area – 62 (33–80)% vs. 40 (15–90)%,  $p = 0.037$ . Fifteen of the analyzed sacral complexes have a pathway around the church, mostly used during processional church services. Ten of the complexes, apart from the road around the church, also have

the church, the crossing of pathways or the location of a symbolic element. Concrete sett pavement is also used in the surroundings of some historical churches, such as the church of St. Antonio of Padua. Granite sett paving is notably less frequent, being found in only four of the complexes. Granite sett may be used only for decorative elements in a concrete sett pavement (e.g. in the St. Antonio Maria Zaccaria church garden – Fig. 6) or as the sole pavement material (e.g. in the gardens of the churches of SS Peter and Paul the



FIGURE 6. System of pathways in St. Antonio Maria Zaccaria church garden

a well-developed system of walking paths. In the majority of the complexes, the path system is of informal character. An example is the relatively large-scale garden belonging to the church of SS Peter and Paul the Apostles. Geometrical garden path compositions are found less frequently. An example is the garden layout in front of the façade of the church of St. Antonio of Padua.

In the analyzed sacral complexes, concrete sett pavement predominates. This type of pavement is commonly used in city public spaces. Often the pavement also contains colored decoration, which emphasizes the space in front of

Apostles, St. Thomas the Apostle and St. Dominique). In seven of the analyzed sacral complexes several types of paving occur. An example is the Immaculate Conception of the Virgin Mary church garden (Saint Catherine parish), where three types of pavement are used: concrete sett, stones, and concrete paving.

Twelve of the analyzed sacral complexes have a visible square in front of the church's main entrance. Often this place is also marked with a pattern in the paving. Only the churches located directly adjacent to the street lack this compositional element.



### **Decorative elements with symbolic meaning in church gardens**

The garden surrounding a sacral building should favor an atmosphere of self-concentration, prayer, and feeling of God's closeness. In order to achieve such an atmosphere, symbolic elements are located in the garden. These include figures of Mary or crosses commemorating the most important religious and spiritual events in the church or parish, such as holy missions. On the crosses located in the churchyard, tablets with the dates of each holy mission are placed. Often the figures of Mary in the churchyard have a commemorative character or have been founded by a particular family belonging to the parish as a supplication for benediction. In the churchyard also other religious figures appear, such as statues of Jesus Christ and figures of saints related to the church or parish. Apart from the figures of Mary, in many churchyards chapels and grottos for the Virgin Mary have been established. Most frequently they are inspired by the grotto of Our Lady of Lourdes, where several apparitions of Mary have been reported. Near some grottos, small artificial ponds have also been established. These water elements symbolize the spring which was discovered in the grotto of Lourdes. In these grottos a statue of the Virgin Mary is placed on a mound made of stones. Usually the statue holds a rosary in one hand, as a reminder of the rosary prayer. The grottos are decorated with flowers and candles. In May and October, they are used to conduct the Mary's services.

Figures of Mary are found in 13 of the sacral complexes where the garden composition has already been established (Table 6). These are common elements in both historical and modern church gardens. The location of the figures of Mary is always emphasized by a composition of flowers, shrubs or flowerpots, and sometimes also by water elements. There are also some commemorative figures, such as the statue of the Virgin Mary from the Warsaw ghetto in the Immaculate Conception of the Virgin Mary church garden (Saint Catherine parish) which witnessed the baptism of nearly 5,000 Jews from the Ghetto. Another example is the statue of the Virgin Mary from the January Uprising period, located near the church of Our Lady the Mother of Mercy (Congregation of Marianist Brothers and Priests parish), donated by a parishioner. Also, some figures have been founded by a family belonging to a particular parish. An example is the figure of Our Lady of Perpetual Help from 1902 in the Immaculate Conception of the Virgin Mary church garden (Saint Catherine parish). In four of the analyzed sacral complexes, chapels in the form of a grotto or in the form of small buildings devoted to the Virgin Mary are present. Examples of such symbolic elements include the grotto established near the church of St. Casmir the Prince in Sielce (Resurrectionist Congregation) (Fig. 7) and the chapel built at the site of Mary apparitions near the Sanctuary of Our Lady Teacher of Youths (Our Lady Queen of the Believers parish). Within the analyzed area there are also figures of Jesus Christ (e.g. near the church of

TABLE 6. Sculptural elements and small architectonic forms with symbolic meaning

No	Marian figures and figures of saints	Votive crosses	Preserved historical graves	Stations of the Cross/shrines along wall	Other symbolic elements
Wilanów deanery					
1	–	+	–	–	–
2	+	+	–	–	Grotto of Mary, shrine
3	+	+	–	–	Chapel commemorating the Marian apparitions
4	+	+	–	–	–
5	–	–	–	–	–
6	+	+	–	–	–
7	+	+	–	+	Grotto of Mary
8	×	+	–	–	–
9	×	×	×	×	–
Służew deanery					
10	+	+	–	–	–
11	–	+	–	–	Grotto of Mary surrounded by figures of the Apostles
12	+	+	–	–	–
13	+	+	–	–	–
14	+	+	–	–	–
15	+	+	–	–	–
Ursynów deanery					
16	+	+	–	–	–
17	–	+	–	–	–
18	–	+	–	–	Sculpture of Pietá
19	+	+	–	+	–
20	+	+	–	–	–
21	+	–	–	–	–
22	–	+	–	–	–

For symbols explanations see Table 2.

SS Peter and Paul the Apostles) and figures of saints (e.g. the chapel with a figure of Saint Paul, the patron of the convent, near the church of St. Antonio Maria Zaccaria in the Barnabite Fathers parish). A distinctive symbolic element is the sculpture of Pietá located in St. Thomas the Apostle church garden.

Votive or missionary crosses occur in almost all the complexes. Stations of

the Cross or shrines along the wall surrounding the churchyard are found in only two of the analyzed complexes. The Stations of the Cross have been constructed alongside the historical church of St. Anna in Wilanów. Representations of shrines from Sanctuaries of Mary in many parts of the world have been established in the wall surrounding the Lord's Offertory church (Fig. 7).



FIGURE 7. Figures of Mary at the churches of St. Madeleine Sophie Barat and St. Casmir the Prince in Sielce. The Stations of the Cross at the church of St. Anna in Wilanów, and one of the shrines in the wall surrounding the Lord's Offertory church

## DISCUSSION

The research has confirmed that historically established models for the layout of the surroundings of sacral buildings are still adopted in contemporary sacral complexes, although the modern ways in which church gardens are used lead to the introduction of some new elements.

These traditional models include elements such as the visible square in front of the church's main entrance, which referred to the antique forum [D'Alfonso and Samss 1997], the pathway surrounding the church, and gates and fences. The pathway surrounding the church is still an important element used during Eucharistic and resurrection processions and parish fairs. The square in front of the church is sometimes reduced to a small distance separating the temple from the street. Fences are of symbolic rather than utilitarian significance, serving to distinguish the sacred from the non-sacred [Bis and Bis 2013]. Fences and gates are often established according to individual designs and include sacral and symbolic elements.

In the majority of the analyzed sacral complexes, biologically active areas

cover 50–65% of the whole terrain. They are usually connected to larger green areas within the city, which increases their ecological value, since they constitute a part of Warsaw's natural system. They improve local climatic conditions, and create a habitat for small fauna. According to Cooper [2012], towards the end of the 20<sup>th</sup> century the value of churchyards for wildlife was recognized in England. Among principal habitats of importance that he mentions are old trees, which are also a common form of vegetation in the church gardens analyzed here.

The analyzed church gardens provide convenient conditions for outdoor leisure and recreation for local inhabitants. This is especially important in densely built city districts. They are usually easily accessible and have a convenient location, frequently in the centre of the parish. Their composition, developed pathways, and presence of children playgrounds, aviaries and small architectural elements prove that they have important social value for the local community. Among the cases analyzed there are three where national memorials exist. These have particular value for local

inhabitants, being regularly visited by parishioners and decorated with flowers and candles. A similar relationship between parishioners and memorial places in churchyards is noted by Cooper [2012], who emphasizes the great value of the graves located within churchyards for the local community.

The only elements of symbolic religious meaning are sculptural elements and small architectonic forms. The contemporarily designed church gardens usually have a secular composition and do not include many plants with Christian symbolism, apart from the roses which usually accompany the figures of Mary.

## CONCLUSIONS

1. Historically established models of the layout of the surroundings of sacral buildings, which emphasize the sacred nature of the place, are still adopted in contemporary sacral complexes despite changes in their function (e.g. elimination of cemeteries within churchyards). These models include elements such as the visible square in front of the church's main entrance, a pathway surrounding the church, gates and fences.
2. The analyzed gardens surrounding sacral buildings perform a significant role in the social life of local inhabitants. They are places of regular meetings at times of church services, they serve as places of leisure and recreation for various users, and three of them also contain national memorial sites.
3. The green areas surrounding the analyzed sacral buildings, with areas ranging from 0.21 up to 5.80 ha, are an important element of the system of urban green areas. They improve local climatic conditions, provide a habitat for small fauna, and create convenient conditions for outdoor leisure and recreation for local inhabitants. In the majority of the analyzed sacral complexes, the biologically active area accounts for 50–65% of the total.
4. The character of sculptural detail in the analyzed gardens results from their sacral ideological significance, while small architectonic elements (benches, refuse bins, lamps) are of generic character. Fences and gates are often established according to individual designs and reflect the sacral, symbolic character of the place.
5. Developed systems of pathways, found in half of the analyzed sacral complexes, as well as children's playgrounds, aviaries and sophisticated compositions of plants, demonstrate that the function of the sacral garden has been intentionally broadened to include a recreational aspect.
6. The church garden constitutes an important part of the composition of the sacral complex. It should be designed together with the church building and parish buildings, allowing the achievement of an integral composition with appropriate order and iconological sense. Because of its specificity, its design and management should be the subject of consultation with clerics, artists, architects and ecologists, so as to avoid unfavorable decisions.

7. The church garden composition provides a kind of distance between the space of the Profane and the church building interior. It should therefore follow a designed iconological program including sculptural elements, small architectural forms, and plants with Christian symbolism.

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**Streszczenie:** *Ogród przy obiekcie sakralnym jako element kształtujący jakość życia w mieście – na wybranych przykładach.* Celem badań było rozpoznanie form współczesnego ogrodu przy obiekcie sakralnym w mieście i ustalenie jak obecność tego typu obiektów wpływa na podniesienie jakości życia mieszkańców oraz stwierdzenie na ile wykształcony w średniowieczu model tego typu założenia jest współcześnie aktualny. Pole badawcze stanowiły ogrody przy 22 kościołach, na terenie trzech dekanatów południowej Warszawy (wilanowskiego, służewskiego i ursynowskiego). Wpływ przebadanych obiektów na podniesienie jakości życia mieszkańców przejawia się w kilku aspektach: jako historycznie ukształtowanych przestrzeni modlitwy i kontemplacji, istotnych

dla życia duchowego mieszkańców, jako terenów biologicznie czynnych, zwiększających biologiczny potencjał miasta, jako miejsc rekreacji, jako miejsc pełniących funkcję dominant w krajobrazie miasta i budujących tożsamość lokalną. W wyniku przeprowadzonych badań ustalono, że większość ogrodów kościelnych pełni funkcję miejsca spotkań okolicznych mieszkańców. W większości zespołów sakralnych powierzchnia biologicznie czynna zajmuje 50–65% terenu. Bliżko połowa zespołów sakralnych jest powiązana przestrzennie z innymi terenami przyrodniczymi. Wśród elementów wyposażenia w ogrodach przykościelnych najczęściej pojawiają się ławki, elementy oświetlenia i donice – elementy typowe również dla innych obiektów zieleni urządzonej. Większość badanych obiektów sakralnych ma obejście wokół kościoła, wykorzystywane w trakcie nabożeństw o charakterze procesyjnym, często rozbudowane o bardziej skomplikowany układ dróg spacerowych. W przeszło połowie zespołów sakralnych zlokalizowane są elementy rzeźbiarskie i małej architektury, związane z religijną symboliką miejsca.