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SMART historical gardens

Abstract

Historical parks and garden sites provide a range of social, environmental, ecosystem, recreational, and scientific services. They are witnesses of history, resources of biotic (botanical and dendrological collections) and abiotic (historical buildings or complexes) attributes and sources of know-how about park maintenance and management accumulated over the centuries as transfer between past and future generations. A series of hazards and processes for finding the best strategies to adapt to climate change are now generally researched. They should also apply to historical greenery – it is particularly sensitive to such alterations. This study aimed to identify the most important pro-climate and pro-ecological trends as well as specific material and organisational solutions, noticed by the jury of selected European professional competitions: “European Garden Award”, “Garden of the Year Award” (UK), “Monument of the Year” (Germany) and “Well-kept Monument” (Poland). The available competition regulations, published laudations, and general characteristics of individual parks were analysed. Not only did the research show a diversified level of development and approach to individual sites at the national level, but also variation in sites’ activation: from basic conservation and restoration works to implementation and promotion of pro-ecological and pro-climate solutions, as well as discrepancy in the priorities for assessing objects set by individual competition committees. An unjust tendency, among the majority of researched competitions, to marginalise the problem of climate change has been noticed (only recently has this problem started to draw some attention). It can contribute to the loss of a significant part of the garden heritage because any activity in such a sensitive substance requires a relatively longer time and often divides the work process into many stages. Their standardisation and equal development would strengthen the European heritage and resilience to climate change. The exchange of knowledge and experience in the form of good practices, and appropriate funding can support these actions.

Keywords:

historical parks and gardens, adaptation plan, climate change, SMART strategy, competitions, awards

Joanna Dudek-Klimiuk^{1*}, Barbara Warzecha²

1) Warsaw University of Life Sciences - SGGW, Department of Landscape Architecture, Warsaw, Poland

2) Warsaw University of Life Sciences - SGGW, Doctoral School, Warsaw, Poland

* Corresponding author: Warsaw University of Life Sciences - SGGW, Department of Landscape Architecture, Nowoursynowska 166, 02-787 Warsaw, Poland. Email: joanna_dudek_klimiuk@sggw.edu.pl

Joanna Dudek-Klimiuk
 <https://orcid.org/0000-0003-2131-6082>

Barbara Warzecha
 <https://orcid.org/0000-0001-7233-6564>

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1 Introduction

Historical parks and gardens are unique places of special concern, which require an individual approach in terms of renovation and even daily maintenance. Plants are that element, where the specificity of this group of monuments lies, based on physiognomic variability (expressed in the life and seasonal cycles). Especially old trees, which constitute one of the most important layers in the composition of monumental parks and gardens, are characterised by a natural, high sensitivity to environmental changes.

These sites are exposed several threats, both internal and external (Dudek-Klimiuk 2015, Majdecki and Majdecka-Strzeżek 2019). Hence, the group of phenomena that can threaten the essence of preserving the natural and cultural monuments were described by international teams of experts associated, among others, with such organizations as UNESCO or ICOMOS, and the scripts of decisions and resolutions of congresses prepared in the form of e.g. the Venice Charter from 1964, and especially the Florence Charter from 1981. According to the Venice Charter, historical parks and gardens (as monuments) are not only witnesses to historical events, but also living testimonies of centuries-old traditions of mankind. They constitute a common heritage of both present and, above all, future generations, and – therefore – it is assumed that they have been and will remain protected. Their goals are focused mainly on maintenance and restoration adequate in scale and specification of materials (in terms of technology, biotic and abiotic materials), the inseparability of objects from their own surroundings, and the obligation to proper maintenance (Venice Charter 1964, Dudek-Klimiuk 2015). A special concern of the Florence Charter is the potential of Cultural Heritage, which requires both better recognition of the cultural dimensions of changing environmental conditions and adjusting the aims and methodologies of heritage practice (International Charter for the Conservation and Restoration of Monuments and Sites, Florence Charta 1981). Also, the study of IPCC from 2022, conducted on a global scale by a team of experts and scientists on climate change, aims to raise awareness and provide the latest data and parameters. This is to be helpful in preparing responsible units to implement

measures to mitigate the negative effects and adapt to new climatic phenomena (IPCC 2022).

Due to much lower resistance to new climatic circumstances and the aftermath of natural hazards, historical parks and gardens are even more valuable today. ICOMOS emphasises championing the role of heritage as a source of resilience and encourages the cultural heritage community to become involved in more climate action (ICOMOS Resolution 19GA 2017/30, ICOMOS Report 2019 “The Future of Our Pasts: Engaging Cultural Heritage in Climate Action”). An attempt to redefine the way of management and maintenance in this context is extremely important, and can indicate the possible implications to be applied in the future to all green areas.

Historical parks and gardens are also immersed in a specific landscape context. Their surroundings are a compilation of overlapping natural and cultural elements, and the sum of all conditions that are a modification of human activities – ICOMOS has described them as the cultural landscape (European Landscape Convention 2020). In accordance with the 2011 Recommendation on the Historic Urban Landscape of UNESCO (Recommendation 2011, UNESCO Heritage List), historic palace and garden layouts located within the urban fabric are the socio-cultural heritage of past and future generations, and should be considered both on a local, regional, and broader scale – even in an international context. In order to counteract the fragmentation and destruction of this heritage, specific preventive actions are indicated: active protection of existing tissue and resources, sustainable development and management, and integration with the surrounding infrastructure. At the same time, the recommendation draws attention to new threats that hang over historical heritage, such as climate change, mass tourism, commercial exploitation of heritage, as well as depopulation phenomena, and fluctuations in global markets. Therefore, it is worth paying attention to the restoration activities undertaken within the historical palaces and gardens. This research is an attempt to verify, whether the above-mentioned postulates are implemented. Consequently, selected examples of the competitions organised to promote and popularize the so-called good conservation practices within the garden heritage were analysed.

2 SMART solutions

The concept of SMART-Goals derives from marketing and management. Its criteria are attributed to Peter Drucker's design of Management of Objectives (MBO) published in 1981, further research by George T. Doran and Professor Robert Rubin from Saint Louis University, and also Paul J. Meyer, who developed the SMART formula. Its acronym would stand for Specific, Measurable, Attainable, Realistic, and Time-bound characteristics for a concept of goal achievement. According to its specification, the implementation should be simple, motivating, agreed, reasonable, and time-limited. It is also essential to specify the "W-Questions" which concentrate on What, Why, Who, Where, and Which purposes, attributes, and actors would be involved in goals achievement (Daudkhane 2017). In this article, SMART elements of pro-climate and pro-ecological solutions like, among others, focusing on the living tissue of the garden (plants), and motivation to preserve the natural and cultural values of historical gardens, which emphasizes their uniqueness and specialisation, will be discussed.

Historical parks and gardens can produce vital cultural and social interactions (Campbell et al. 2016), and it is a very complex challenge to protect those valuable sites, which can be both located within urban structures or in the open landscape. In terms of water management only, the surrounding area could be described as a floodplain, or one not affected by floods at all. When it comes to the stylistic quality based on the founding period or further transformations of a given historical garden or park, water features (regardless of the time or style in which the object was created), always play a significant compositional role. The garden sites might be fed with an external water source for watering, or rainwater could be gathered *in situ* for the garden's own purposes. As a consequence, two roles of water in the garden should be here distinguished – the first one as a factor determining the life of the gardens, and another one as a relevant element defining the composition of the gardens. Studies conducted on Alcazar Gardens in Sevilla, Spain (Perez-Urrestarazu et al. 2018), assessing water use and management in

historic sites show insufficient research on this matter in general view. The authors suggest the usage of simple solutions, such as calculating water requirements, optimisation of irrigation schedules, or installation of metering devices as basic performance.

Many features and elements determine the quality of the planned area of the past. One aspect, occurrence, or phenomenon seems to be even more common to historical parks and gardens now, which could be described as a process of finding the best strategies to adapt to climate changes affecting the global heritage in its biotic and abiotic dimensions (ICOMOS 2017, 2019).

Current hazards can be defined nowadays as:

- Raising or sinking groundwater levels, causing not only foundations flooding but also increasing the risk of rot, mold, and pest infestation, disturbance of water-air-management of soil contributing to tree dieback
- Flooding and sudden downpours
- Changes in soil structure and ratio - increased risk of landslides, erosion, leaching
- Increase in temperature (heat) and fire hazards, droughts (Swedish National Heritage Board, Lupton 2010, Centre for Climate Adaptation 2015a+b, Eagles et al. 2013, Bressers et al. 2013, Hüttel et al. 2019, Xiao et al. 2021).

Playing a considerable impact on habitat conditions, changes related to water and temperature are the most important for the historical substance of the garden.

Nature-based solutions are the tools that enable the application of strategies to adapt to climate change (European Green Deal, IPCC 2022). Technical and material solutions, for example, in the subject of blue-green infrastructure (European Green Deal, IPCC 2022), and other fields of science and disciplines that can support such activities within the scope of their competencies and research have already been mentioned in Venice Charta (Venice Charta 1964). The implemented solutions could be described as SMART, when e.g. based on new technologies. Polish scientists, in order to reproduce specimen of monumental oak trees *Quercus robur* L. (reaching several hundreds of years, unable due to their age to reproduce generatively anymore) successfully

grew and planted two-meter high plantlets using *in vitro* method (Kotlarski et al. 2019). In this case, it was possible to plant seedlings-clones as close as possible to old trees. Moreover, German scientists predict drastic changes in their historic landscape parks in the future, where the replacement of even a 200-year-old tree stand may reach up to 50% of territorial tree cover (Staatliche Schlösser und Gärten). Rundale Palace staff (Latvia) announced in 2020 a replacement of nearly 30% of the dead trees of the garden tissue (Rundale Palace). However, species exchange for more robust specimens in historical sites cannot always be historically correct and compatible with the original plans due to the lack of twin alternatives from more dry climatic zones (Staatliche Schlösser und Gärten, Hüttl et al. 2019), which especially affects e.g. beeches *Fagus sylvatica* L. in Schwetzingen Park, Germany (Staatliche Schlösser und Gärten).

Another good example of SMART solutions could be having their backgrounds in the original methods of garden maintenance, which often occur to be the most accurate and helpful in terms of dimensions, local climate, materials, but also even low-costs, know-how, and manpower, like gardens of Gunnebo Slot in Sweden (Gunnebo Castle and Gardens).

Long-term observation and research based on good practices, widespread consultations before making substantial decisions could contribute to the growing consciousness of limited resources, and encourage further sustainable development (Lebel et al. 2006). It seems to be essential to learn from similar climatic-zone countries to find the best practices with the already gathered knowledge. In order to do that, simultaneously, it is crucial to take into consideration a further process of employee education and staff training programs (Historic Houses, Lupton et al. 2010).

In this article, multiple SMART solutions from the historical gardens and parks taking part in collected, described, and researched competitions (and societies) dedicated to historical parks and garden sites would be examined and named. A general approach to adaptation strategy describing the priorities and characteristics of the park or garden would be researched. Its implication should help the park area, or just its elements, to overcome crisis occurrences.

Unfortunately, limited reports, guidelines, and strategies focusing on approaches introducing adaptation plans for vulnerable heritage are available. The authors of this article focused on their own professional experience, empirical insights from the historical gardens and park sites, and the literature available. It is to be mentioned that even more European governments like European Commission, Swedish National Heritage Board, Staatliche Schlösser und Gärten Baden-Württemberg, and organizations such as UNESCO, ICOMOS give their recommendations and data elaborated in the forms of reports, projects, and website notifications.

Adaptation strategies could be introduced in two phases. After the planning process, an adaptation/implementation plan would be set. In order to prepare one it is required to find the linkage and conduct successful consultations with stakeholders like the local government, industry, investors, professionals, heritage experts, visitors, tourists, educational institutions, NGOs, local community, and more (Eagles et al. 2013, Lebel et al. 2006, Swedish National Heritage Board, Historic Houses). It remains vital to clarify the heritage values and focus on sustainable methods of maintenance, conservation, and renovation (Florence Charta 1964). Moreover, SMART water management, consisting of methods and systems of both watering and irrigation (Perez-Urrestarazu et al. 2018), as well as recycling methods in terms of the usage of the resources on site (compost, rain-water management) could contribute to the pro-climate and pro-ecological solutions.

The planning process (Figure 1) should begin with the recognition of the state of the historical park or garden. Afterward, a set of priorities would be established in order to prepare the adaptation plan. Its implementation would be ensured by research, actions based – among others – on trials and errors, learning about experiences of other teams and facilities, as well as good practices, which were verified in other sites. These measures would enable the negotiation of the best solutions, and help prepare historical parks and gardens to overcome/survive the crisis situation on their own.

With a view to strengthening the preservation goals, additional – often costly – contributions, processes of governance and structures of the park (Hannah

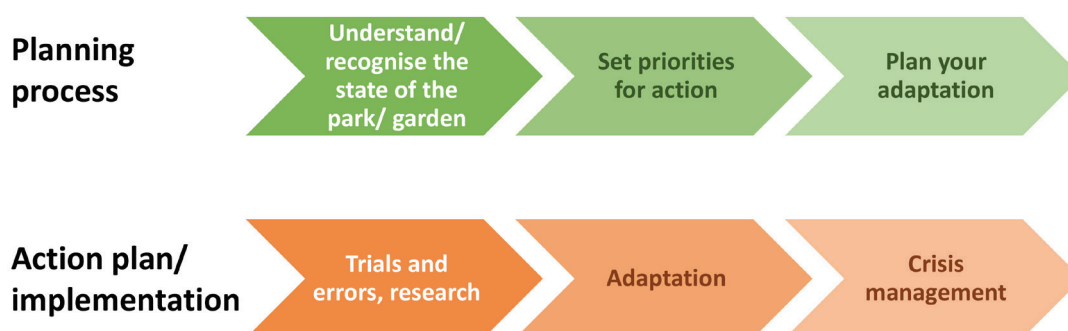


Figure 1. An approach to an adaptation plan to historical sites. Own elaboration based on available sources.

2006) it might be essential to support the ability of the sites to adaptive reuse of the historical facilities by adding further features, which could economically contribute to the site's better fiscal condition (Xiao et al. 2021). In order to do so, a specific awareness of the site's condition, needs, resources, skilled power, and advice should be recognised and named (Table 1).

Table 1. Understanding and recognising the condition of historical parks and gardens (own elaboration based on Lupton et al. 2010, Lebel et al. 2006, European Green Deal and Swedish National Heritage Board).

Lack of specific awareness of the needs	Do you know your park well?
Lack of general awareness of the resources on site, which can be used	Do you know the specific historical values of your site?
Lack of skilled decision makers (or courage)	Do you have the courage to make a change?
Lack of information/ inefficient information flow which slows down the decision process	Is your institution functioning well?
Lack of advice from the skilled professionals, similar institutions, experienced managers of the historic parks or gardens	Are you willing to learn?

3 Purpose and thesis of the research

The research aimed to identify the most important trends and specific solutions (technological, material, and organisational) in the field of adaptive strategies to changing climate, already used in historical parks and gardens. It was assumed that activities accelerating the building of resilience to this hazard are noticed by the jury of competitions dedicated to this type of facilities. Visible changes in environmental conditions emphasise the need to adapt historical

parks and gardens in a way not only conservatively consistent with a given style or conservation guidelines. Frequently, the decisive factor is the financing of activities (granting or its lack), and the time-limited implementation of solutions. Nevertheless, the goal is to put the monument under protection, and not only its preservation and (commercial) promotion, often restricted to interventions "here and now". The requirement is that adaptation measures should be included in the decisions, or already at the stage of formulating the regulations of prestigious competitions. The effectiveness of good practices confirmed in this way may be the most appropriate recommendation for their execution in similar facilities/occurrences; it may also indicate the general tendency (directions) of the undertaken adaptation activities.

4 Methodology

The subject of the research were the so-called good practices within historical green spaces (parks and gardens), noticed and appreciated in four European competitions: Historic Houses: "Garden of the Year Award" (United Kingdom); National Heritage Institute (Narodowy Instytut Dziedzictwa – NID): "Zadbany zabytek" – transl. "Well-kept Monument" (Poland); Staatliche Schlösser und Gärten in Baden-Württemberg (State Palaces and Gardens – SSG): "Monument des Jahres" – transl. "Monument of the Year" (Germany) and the Schloss Dyck Foundation (Jüchen, Germany) together with the European Garden Heritage Network EGHN: "European Garden Awards". The organisers belong to both the public sector (NID: Ministry of Culture and National Heritage; SSG: Ministry of Land Baden-Württemberg).

berg), and the private sector (EGHN: Schloss Dyck Foundation). The application for the competition is free (e.g. EGHN, NID), open “Open Call” (e.g. EGHN from 2021), voluntary (e.g. NID), and not obliging either applicants or winners for further activities (e.g. EGHN).

In multiple case studies, it was investigated what actions are possible for the implementation of broadly understood environmental performance. The distinguished features and actions taken within a given competition were subject to qualitative, not quantitative, analysis. Legal issues were discussed at various levels in the hierarchy of law: international, European, and national. The above studies were supplemented by literature studies.

The following research questions were asked:

- What are the main ideas of the competition to keep the facility in good condition?
- What is the main element of the reward – what is the reason, the element, and why this particular object?
- Which aspects by which group/countries are emphasized and assessed in the regulations, and what is the attention paid to?
- Have the regulations (if available) changed over time, or are they dated? To what extent were the pro-ecological and/or pro-climatic elements the reason for receiving the award (examination of the regulations with justification)?

- How do the managers deal with water management in a given facility (is something highlighted/distinguished in the competition)?

5 Review of awards

5.1 European Garden Award, Europe

The European Garden Heritage Network (EGHN) has been bringing together a total of around 200 parks and gardens from 15 European countries (as of March 2022) since 2003. The competition has been organized together with Foundation Schloss Dyck and sponsored by the German Nurseries Lorenz von Ehren since 2012, and has granted awards to sites in a number of categories, e.g. “Management or development of a historic park or garden” between 2010–2021 (Table 2, Figure 2 and 3). This category focuses primarily on the method of management and reasons for its transformational success, adaptation to new conditions, or adaptation to new functions. This award promotes very active facilities, not only in terms of management, care, aesthetics, and protection, but also in mitigating the negative effects of climate change. It has been given annually since 2010 in the form of one first prize and two equal second places (only one 1st prize in 2010). Many of the awarded parks and gardens, also selected from

Table 2. European Garden Award (EGHN) in category “Management or development of a historic park or garden” between 2010 and 2021.

MANAGEMENT OR DEVELOPMENT OF A HISTORIC PARK OR GARDEN			
Year	1 st prize	2 nd prize	2 nd prize
2021	Rundāle Palace, Pilsrundāle (Latvia)	Lowther Castle & Gardens, Penrith (United Kingdom)	Marqueyssac, Vésac (France)
2019	Jardins d'Étretat (France)	Vrtba Garden (Czech Republic)	Chatsworth (United Kingdom)
2018	Broughton Grange (United Kingdom)	Adare Manor (Ireland)	Kasteeltuinen Arcen (Netherlands)
2017	Peterhof, St. Petersburg (Russia)	The Gardens of Château de La Ballue (France)	De Nieuwe Ooster, Amsterdam (Netherlands)
2016	Hestercombe Gardens, Taunton (United Kingdom)	Schlosspark Ludwigslust (Germany)	Royal Botanic Garden Edinburgh (United Kingdom)
2015	Herrenhäuser Gärten, Hannover (Germany)	Parco Giardino Sigurta, Valeggio sul Mincio (Italy)	Painshill Park, Cobham (United Kingdom)
2014	The Lost Gardens of Heligan, Pentewan (United Kingdom)	Sanssouci, Potsdam (Germany)	Hedge House, Kasteel Wijre (Netherlands)
2013	Park Monserate, Sintra (Portugal)	Summer Garden, St. Petersburg (Russia)	Gunnebo Slott and Gardens (Sweden)
2012	Egeskov Castle (Denmark)	Les Jardins de la Chatonniere (France)	Museum Garden Gaasbeek (Belgium)
2011	Villa Ottolenghi (Italy)	Chateau de la Bourdaisiere (France)	Orpheus at Boughton (United Kingdom)
2010	Trentham Estate – the New and Old Trentham Gardens (United Kingdom)	No prize	No prize

EGHN. Award-winning Historical Garden or Park

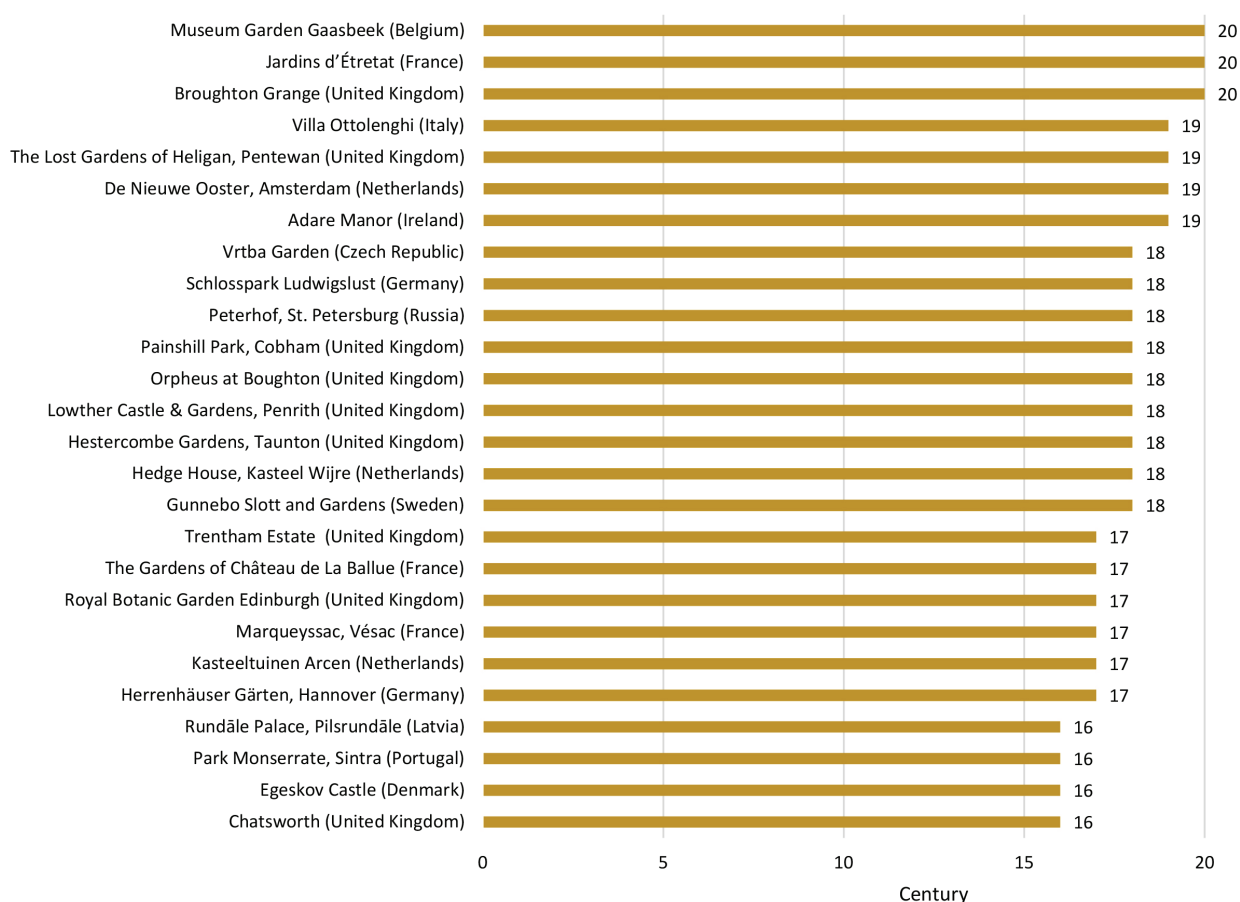


Figure 2. Establishment year of each award-winning facility from EGHN. Historical garden and park sites (a total of 26 sites) were established in the 16th century: 4 sites; 17th: 6 sites; 18th: 9 sites; 19th: 4 sites; 20th: 3 sites. Own elaboration based on available sources.

countries and facilities that are not members of the EGHN, are sites on the UNESCO World Heritage List. Nominations are submitted by members of the international jury, and from 2020/2021 also in the form of Open Call (sites do not have to be EGHN partners). According to the main rules of the European Garden Award „[...] the evaluation considers aspects such as innovative implementation and management, urban development issues, sustainability, good visitor or educational services, or voluntary work, as well as high quality of restoration, or modern design of a park or garden [...]” (European Garden Heritage Network).

The vast majority of awarded facilities (1st prize, 2nd prize) are ones that have received additional financial support (e.g. Jardins d'Étretat, France; Gardens of Heligan, UK), but often also legal support: the ministries of a particular state (e.g. Rundale Palace, Latvia; Gunnebo Slott and Gardens, Sweden;

Lowther Castle & Gardens, UK), or UNESCO (e.g. Vrtba Garden, Czech Republic; Monserrate, Portugal). This support often came after many years of neglect and oblivion. Additionally, it assisted in protecting valuable monuments from falling into a state of permanent ruin and promoting their natural and cultural values. Frequently, these are facilities that are under the care of private investors (e.g. Jardins d'Étretat, France), or members of the owners' families in the next generation (e.g. Egeskov Castle, Denmark). Thanks to huge financial outlay, a strategic approach, and a long-term management method, they transformed their sites into prospering palaces and parks offering, apart from natural and cultural values, often a range of additional attractions – even as entertainment facilities (e.g. Herrenhausen, Germany; Sanssouci, Germany; Lowther Castle & Gardens, UK). A large part of the facilities is also the group of parks that (as a bottom-up initiative) were

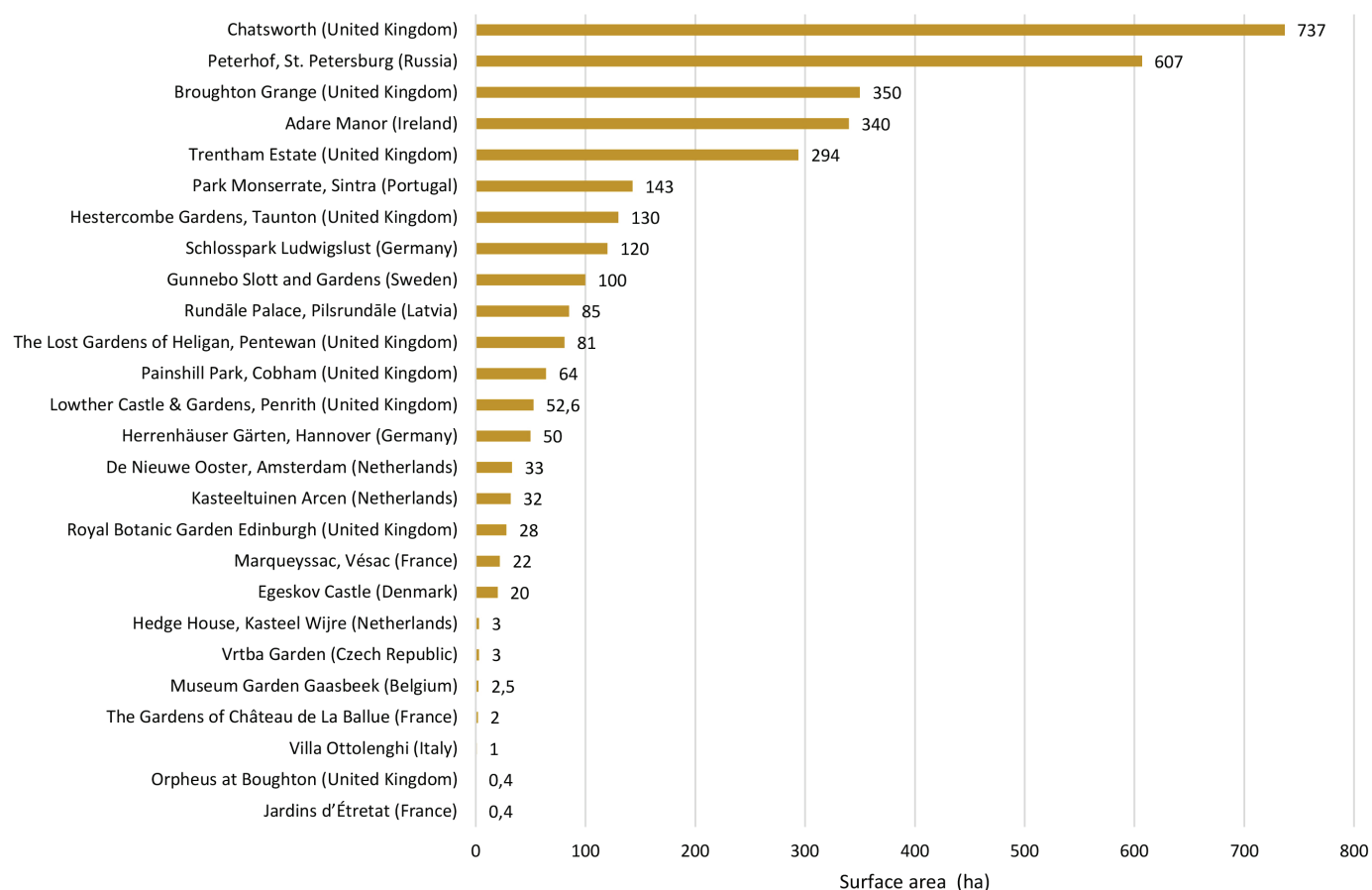
EGHN. Award-winning Historical Garden or Park

Figure 3. Surface area of each award-winning facility from EGHN. Historical garden and park sites (a total of 26 sites) according to their surface area: up to 19.9 ha: 7 sites; between 20 and 49.9 ha: 5 sites; between 50 and 99.9 ha: 5 sites; between 100 and 149.9 ha: 4 sites; between 150 and 400 ha: 3 sites; between 600 and 750 ha: 2 sites. Own elaboration based on available sources

saved from neglecting and destruction thanks to the active involvement of a group of volunteers (e.g. Park Monserrate, Portugal), local residents, dedicated employees (e.g. Rundale Palace, Latvia), foundations (e.g. Gardens of Heligan, UK), garden and park enthusiasts (e.g. Hestercombe Gardens, UK).

In 2022, EGHN decided to create an additional competition category called “Climate mitigation measures in parks and gardens”. It is also to be mentioned that a Special Award from the Schloss Dyck Foundation of 2014 was given to Arche Noah Seed Bank in Schiltern (Austria). This one of the biggest European private collections of rare and extinct plants is conducting its research in a special organic garden. Another Special Award of 2019 went to Domaine de Chaumont-sur-Loire which is a part of UNESCO Site Loire Valley, for a “successful combination of heritage, art and gardens, considered as a best practice example” and work “between art and nature”.

I. SMART solutions

Awarded sites are not only renovated and reconstructed historical gardens and parks. There are also ones focused on cultivating proven, traditional solutions, or methods, often under the supervision of renowned landscape architects, or gardeners. They (Table 3) are skillfully combining the “old” with the “new” in the form of adapting the facility to new functions: increasing resilience (e.g. a sculpture park, an amusement park, themed playgrounds), providing additional attractions (e.g. animal farms), or focusing on a more modern version of its special parts (e.g. Broughton Grange, UK; Moarqueyssac, France), or entire area (e.g. Jardins d'Étretat, France). The awarded facilities are not static but constantly looking for new ways to self-fulfilment and further development in order to attract as many visitors as possible. However, it may also have a negative effect,

Table 3. European Garden Award. Smart solutions of awarded historical parks and gardens. Own elaboration based on available sources.

European Garden Award. SMART solutions				
Awarded in year	Historical Park or Garden	Pro-climate solutions	Pro-ecological solution	Other
2010	Trentham Estate (United Kingdom)	modern methods of education and innovation; nursery plant material;	-	art gallery botanical collections; inclusiveness and accessibility
2011	Chateau de la Bourdaisiere (France)	eco-conception of sustainability	-	educational activities
2011	Museum Garden Gaasbeek (Belgium)	modern methods of education and innovation	-	-
2012	Egeskov Castle (Denmark)	-	-	camping, botanical collections: roses
2013	Park Monserrate, Sintra (Portugal)	-	-	botanical collections: roses, rare botanical specimens
2013	Gunnebo Slott and Gardens (Sweden)	modern methods of education and innovation	traditional methods of landscape maintenance and its elements; ecologically grown products	under state legal protection as a cultural reserve: adaptation for conference purposes; farm
2014	Sanssouci, Potsdam (Germany)	-	-	entertainment
2014	The Lost Gardens of Heligan, Pentewan (United Kingdom)	modern methods of education and innovation	animal farm	farm, botanical collections: rhododendrons, fruit and vegetable trees; inclusiveness and accessibility
2016	Royal Botanic Garden Edinburgh (United Kingdom)	-	animal farm	botanical collections
2016	Hestercombe Gardens, Taunton (United Kingdom)	-	-	art gallery, land art
2017	The Gardens of Château de La Ballue (France)	-	-	cultural events
2019	Jardins d'Étretat (France)	-	-	park sculptures, botanical collections: rhododendrons and camellias
2021	Rundāle Palace, Pilsrundāle (Latvia)	-	-	organization of museum exhibitions, botanical collections: roses
2021	Lowther Castle & Gardens, Penrith (United Kingdom)	sustainable methods of caring for plant material and natural (self)regeneration of the facility	animal farm	entertainment, farm

whereas excessive tourist burden may lead to rapid degradation of infrastructure of historical facilities.

Much emphasis is also put on social inclusiveness and accessibility of the sites to the widest possible audience, regardless of the degree and type of their mobility, or perceptual limitations. This is mainly underlined in award-winning facilities in the UK (e.g. Painshill Park, Cobham; The Lost Gardens of Heligan; Trentham Estate). Not all facilities for historical, architectural, or other reasons are able to ensure inclusiveness – the official website of Egeskov Park provides information about the impossibility of site's adjustment for people with disabilities (Egeskov Park).

II. Pro-climate solutions

Protection of historical landscape elements and preserving traditional conservation techniques are combined with modern methods of education and innovation in award-winning parks (e.g. Heligan, UK; Trentham, UK; Museum Garden Gaasbeek, Belgium; Gunnebo, Sweden). It is considered essential to have the site's own back-of-house with nursery plant material, which significantly reduces the environmental burden and costs of ongoing restoration works, and affects the longer life of the plants (e.g. Trentham Estate, UK). Noticeably, Rundale Palace urges for further development of its facility in this direction (Rundale Palace). Equally promoted are sustainable methods of caring for plant material and natural (self)regeneration of the facility (e.g. Lowther, UK).

An interesting object that guarantees a new insight into the historical palace-garden complexes is the award-winning Gunnebo Slott and Gardens in Sweden, which is under state legal protection as a cultural reserve (Gunnebo Castle and Gardens). Historical methods of maintenance (e.g. manual scythe mowing, manual sowing) and ploughing with horses would be used here. The use of animals with daily tasks in the park area requires not only knowledge of their breeding, many interdisciplinary skills of the staff in the field of traditional methods of landscape maintenance and its elements, appropriate economic investments in the park and forest, but also an effective method of team management. Support comes in the fields such as biodiversity, which is inherently related to the protection of the cultural landscape of this park, garden, and forest complex both in terms of aesthetics and in the cultural and historical context (Gunnebo Castle and Gardens, Seiler 2020).

III. Pro-ecological solutions

Apart from Gunnebo Gardens and Park Monserrate, it is mainly the award-winning UK facilities that are implementing new applications and introducing new features to gardens in the form of an animal farm (e.g. Lowther Castle & Gardens, Royal Botanic Gardens, The Lost Gardens of Heligan). Animals support not only historical methods of park and garden care, but also sustainable development (fertilisers, biting grass, treading lawns with hoofs and thus aerating them), or they serve to extend educational functions, which are especially attractive to children. In the awarded British sites, such facilities as experimental plots, community plots, school gardens, and demonstration gardens could be found. Also, cooperation with external stakeholders is very strongly anchored in the local community – schools and neighbours. In addition to this, numerous training, online courses, and educational programs creating a kind of “global village” for visitors, tourists, and enthusiasts of botany, those interested in historical gardens and sustainable farming, are available. These sites also focus on expanding knowledge and encourage training opportunities for their staff.

Long-term activities related to the further, future-oriented operation of the facilities with de-

mand for new attractions, functions, and methods of (self) financing of the awarded sites are mainly related to management methods. They are connected to providing or expanding the catering facilities (restaurant, café), cultivation of own fruit and vegetable, vital restoration of the palace complex with adaptation for conference purposes (e.g. Gunnebo, Sweden), educational activities (e.g. Chateau de la Bourdaisiere, France), or entertainment (e.g. Lowther Castle & Gardens, UK; Sanssouci, Potsdam, Germany). It is also marketing-related to the organisation of museum exhibitions (e.g. Rundale Palace, Latvia), art galleries (e.g. Hestercombe Gardens, UK; Trentham Estate, UK), cultural events (e.g. The Gardens of Château de La Ballue, France), park sculptures (e.g. Jardins d'Étretat, France), land art (e.g. Hestercombe Gardens, UK), camping (e.g. Egeskov, Denmark), farm (e.g. Heligan, UK; Park Monserrate, Portugal; Lowther Castle & Gardens, UK, Gunnebo).

The awarded gardens and parks also focus on creating or expanding their own unique botanical collections: roses (e.g. Rundale Palace, Latvia; Park Monserrate, Portugal; Egeskov Castle, Denmark), rhododendrons (e.g. Heligan, UK), rhododendrons and camellias (e.g. Jardins d'Étretat, France), fruit and vegetable trees (e.g. Heligan, UK), botanical collections (e.g. Royal Botanic Gardens, Edinburgh, UK; Heligan, UK; Trentham Gardens, UK), rare botanical specimens (e.g. Park Monserrate, Portugal).

5.2 “Well-kept monument” (“Zadbany zabytek”), Poland

“Well-kept Monument” (“Zadbany zabytek”) is an award granted to Polish immovable objects under the care of the General Conservator of Monuments of the Republic of Poland and the National Heritage Board of Poland (Figure 4 and 5). Its aim is to “honor and promote properly performed conservation or adaptation works, the proper use of the monument, while not acting to its detriment, exercising constant care over it and caring for it” (Piotrowska 2015, 2016, 2017, National Heritage Board of Poland). According to the rules of the competition (regulations between 2011-2021), the application may be submitted by the owner of the facility, the manager, or the relevant bodies of the Monuments Conservator’s departments at least five years after the

NID. Award-winning Historical Park or Garden

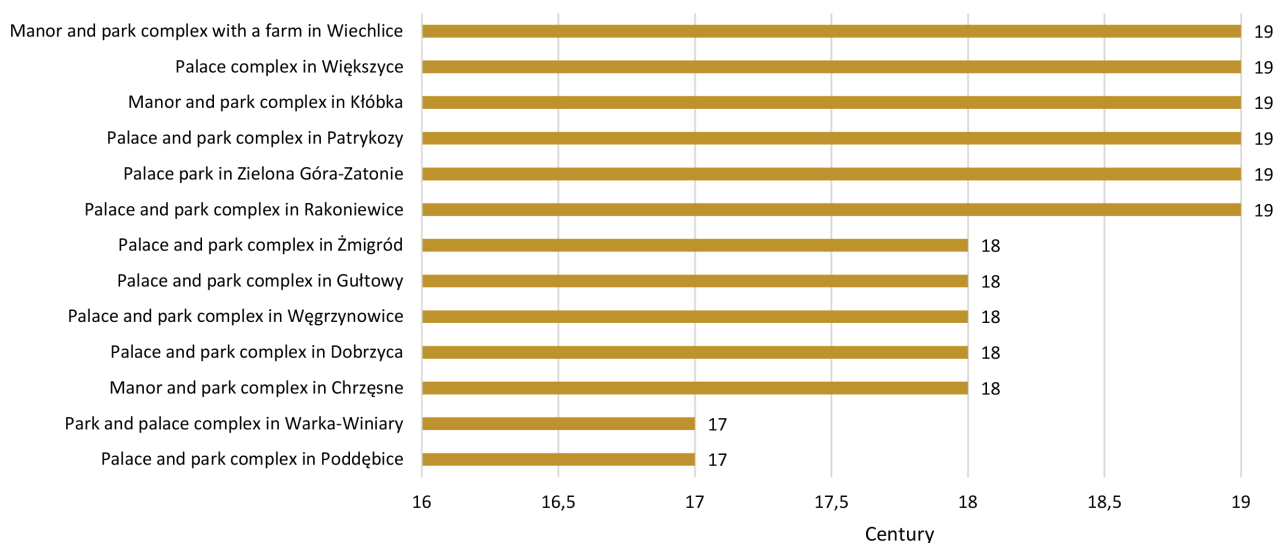


Figure 4. Establishment year of each award-winning facility from NID: 2 objects in the 17th century, 5 – 18th century, 6 – 19th century. All the parks (13 objects) belong to the category of English landscape romantic parks. Own elaboration based on available sources.

NID. Award-winning Historical Park or Garden

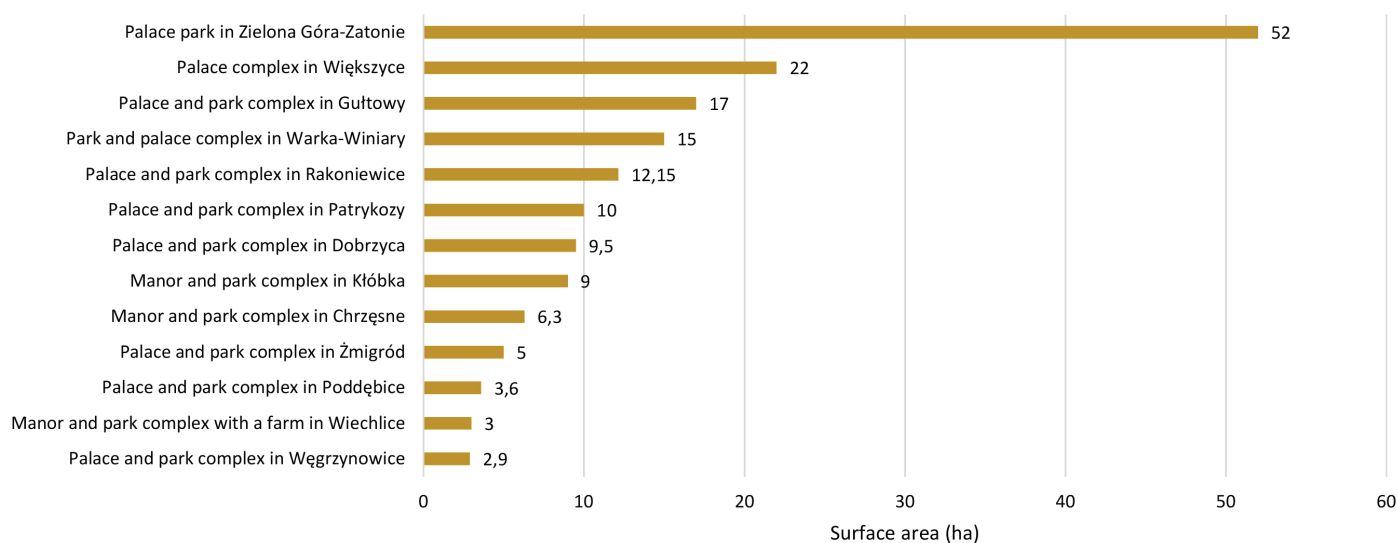


Figure 5. Surface area of each award-winning facility from NID: 7 up to 10ha, 4 between 10-20ha, one over 20ha and one over 50ha. Own elaboration based on available sources.

completion of renovation or adaptation works. As part of the award, historical complexes of palace and garden greenery were studied and included 13 objects in total in the category of “Renovation of cultural space and landscape (including manors and palaces)”. In this category, a maximum of four prizes were awarded annually: laureate and three honorable mentions. There have been years when no palace and garden complex was awarded (e.g. 2012, 2018),

and in 2020 no prize was given in this category (Table 4) (National Heritage Board of Poland).

Since 2011, NID has taken over the responsibility for the competition organisation, and also this year no laudation was prepared for individual awarded facilities. The Rules of Contest from that year foresaw the following category: “Protection of cultural space and landscape (including manor and palace complexes)”, and in 2014 changed the name of this category to

Table 4. “Well-kept monument” (NID) winners in category “Renovation of cultural space and landscape” between 2011 and 2021.

RENOVATION OF CULTURAL SPACE AND LANDSCAPE				
Year	Award-winner	Honorable mention		
		1st prize	2nd prize	3rd prize
2021	Palace and park complex in Rakoniewice, Greater Poland Voivodeship	-	Palace park in Zielona Góra-Zatonie, Lubuskie Voivodeship	-
2019	-	Manor and park complex in Chrzęsne, Masovian Voivodeship	-	-
2018	-	-	-	-
2017	Palace and park complex in Dobrzyca, Greater Poland Voivodeship	-	Palace and park complex in Patrykozy, Masovian Voivodeship	-
2016	Manor and park complex in Kłóbka, Kuyavian-Pomeranian Voivodeship	-	Palace and park complex in Poddębice, Łódź Voivodeship	-
2015	-	Palace complex in Wielkopolyce, Opole Voivodeship	Park and palace complex in Warka-Winiary, Masovian Voivodeship	-
2014	-	-	-	Manor and park complex with a farm in Wiechlice, Lubusz Voivodeship
2013	Palace and park complex in Żmigród, Lower Silesian Voivodeship	-	-	-
2012	-	-	-	-
2011	-	Palace and park complex in Węgrzynowice, Łódź Voivodeship	Palace and park complex in Gułtowy, Greater Poland Voivodeship	-

“Renovation of cultural space and landscape (including manor and palace layouts)”. The excluding criteria from the Rules of Contest of 2011 were as follows: “Historical parks and gardens, if they do not form an integral part of the complex, which includes a monument of architecture, or construction also covered by the notification” and “the manner of use of the monument has been approved by the Provincial Conservator of Monuments”. One of the competition goals, which was revoked after 2011, was to “Maintain the aesthetic appearance of the monument, its equipment, and surroundings”. The regulations evolve over time, and the organizers see the need to create new competition categories. Since 2016, historical cemeteries have been admitted to take part in the competition and a Special Prize has been given. With the exception of 2011, all winners receive a diploma along with a laudation (short description with the justification for the award) (National Heritage Board of Poland).

Since 2011, the goals of the competition have been as follows: promoting the care of monuments, promoting the best models of conservation, maintenance, and management of monuments in the field of properly made conservation, proper use, and

renovation. All these actions should strengthen its worth and must not adversely affect the values already possessed by the monument. The regulations do not contain provisions on measures to adapt to climate change and mitigate its negative effects. The competition is open, free and voluntary, and a maximum of four entries are nominated from which the Jury may select the winner and up to three honorable mentions. The Competition Jury consists of people with “knowledge and experience in the field of monument conservation”.

Every year since 2016, the justification has emphasized ensuring the integrity and/or authenticity of the complex after the completion of the renovation and conservation process, and at least five years of use of the facility. Only 3 out of 13 of all laureates/prize-winners are privately owned. The most important turning point for carrying out construction/restoration works and comprehensive care of individual facilities was the 1990s – the period of sudden political, economic, and social changes in Poland.

Since 2011, the content of all justifications (laudations) accentuate the complexity of restoration works and the integrity of the palace with the park. Nevertheless, more detailed descriptions of

the justification for the jury's selection of the site have been available (written) only since 2016. Year by year, post-competition documentation focuses more and more on works concentrated directly on the landscaping and not only the building-related actions anymore. All in all, more detail would be delivered about individual restoration activities, cleaning, and other maintenance methods in the park. The scope of works performed by managers and owners is even more centred on not only re-arranging the tree stand, communication, and composition system – additional functions are created, drainage works conducted, and new ways of using the facility are mentioned: usually museums, seats of municipal offices, as well as cultural and/or sports centres supervised by local governments. Occasionally, an additional contribution to the park with elements of small architecture or adding a new function – a cafe (small gastronomy), or a playground – is mentioned, e.g. both facilities awarded in 2021 (The palace and park complex in Węgrzynowice and the palace and park complex in Guttowy).

I. SMART solutions

Elements that are not indicated by the Rules of Contest include e.g. enriching biodiversity or the locality of specific activities – only focus on conservation works and strictly “historical-based” works are foregrounded. The most important structural element most frequently appearing in laudations is the re-compositional coupling of the palace or manor house in the form of the main axis. It arranges the entire composition of the park and highlights the functions of the garden space as an extension of the historical building's living room (Liżewska 2015).

Twelve sites were awarded for the comprehensive renovation of the palace surroundings. One object (palace park) from 2021 has no justification for this criterion, and one object was awarded for efficient and quick conservation activities after the fire. Most of the sites are praised for preserving or restoring landscape and/or cultural and/or historical and/or spatial values.

Three of the 13 objects have either a restored or a residual regular (baroque) gardens. Three out of 13 are a manor and park complexes, 9 out of 13 are a palace and park complexes, and one is a palace park.

5.3 “Garden of the Year Award”, Historic Houses, United Kingdom

Historic Houses is a non-profit association of independent historic houses owners based in Great Britain and Northern Ireland. The Award has been sponsored by the auction house Christie's and in recent years has received enormous interest among the British public. The organisation was established to support the historical houses, their owners, and corporates (organisations, private persons, institutions, charities) to e.g. promote the property or protect the interest of private ownership (Table 5, Figure 6 and 7). The estates must be of the highest historical and architectural importance (according to the categorisation and Grades established by Historic Houses) and/or connected to a historical event or figure. The public accessibility, according to the function of the house, may vary from mostly family-lived-in manor homes to open access tourist attractions with thriving theme shops. According to the official information on the website, the awarded garden or park must distinguish itself with an outstanding horticultural appeal and public attractiveness. The winner would receive a non-official title of a prestigious “nation's favourite garden”. By doing so, the winning site can gain enormously in popularity and boost the number of its visitors (Historic Houses). The association also encourages visitors and fans of historic houses, castles, and their gardens to take out an annual membership, which allows them free access to any publicly opened heritage within this association.

The award has been given annually since 1984 for one selected site located in the United Kingdom – a total of 37 sites have been awarded so far (as of March 2022). The prize was not awarded in 2010.

Table 5. “Garden of the Year Award”, Historic Houses, between 2011 and 2021 (own elaboration).

Year	GARDEN OF THE YEAR AWARD. UK
2021	Gordon Castle Walled Gardens, Moray
2020	Mapperton House, Dorset
2019	Newby Hall & Gardens, North Yorkshire
2018	Miserden, Gloucestershire
2017	Helmingham Hall, Suffolk
2016	Caerhays Castle, Cornwall
2015	Renishaw Hall, Derbyshire
2014	Bowood House, Wiltshire
2013	Dalemain, Cumbria
2012	Abbotsbury Subtropical Garden, Dorset

HH. Award-winning Historical Park or Garden

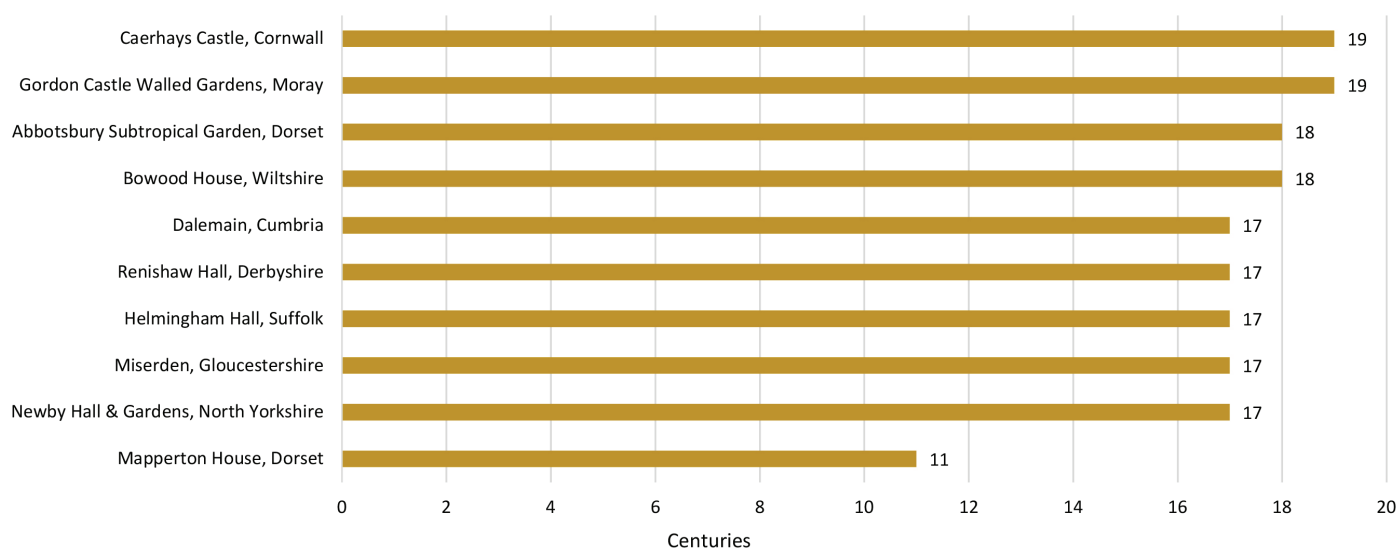


Figure 6. Establishment year of each award-winning facility from HH (a total of 10 sites): 11th century: one site; 17th century: 5 sites; 18th century: 2 sites; 19th century: 2 sites. Own elaboration based on available sources.

HH. Award-winning Historical Park or Garden

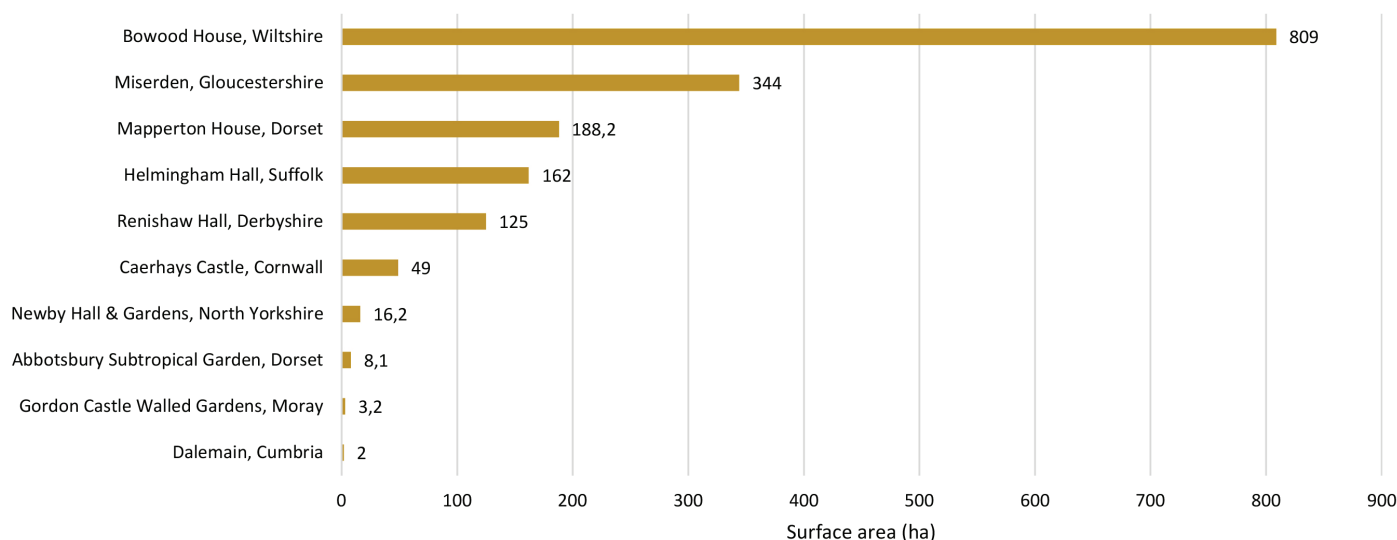


Figure 7. Surface area of each award-winning facility from HH: 5 up to 49,9ha, 3 between 100-200ha, 1 over 300ha and 1 over 800ha. Own elaboration based on available sources.

The selected finalists (usually 8 in total), who are members of this independent, British-based institution, can be voted in the online public poll lasting several months (until September each year). Since the nominations in 2019, any public person has been allowed to vote, but only once annually – until 2018 only the members of the society could name their favourite mansion with its magnificent gardens. Also, only until 2018 a short laudation and the justification of the selection board was published on the official website.

The Association makes a point that the objects are not concentrated and frozen on the past, often with a difficult history of colonialism, but are dynamic, thriving places of inclusiveness, cultural, economic and social benefits, and are people-and-community-focused (Historic Houses). In 2023, Historic Houses Awards celebrate a round 50th anniversary. On this occasion, a joint initiative with the University of Oxford was established to prepare documentation of the competition's history as a part of a doctoral dissertation (Historic Houses, Revisiting...).

I. SMART solutions

The vast majority of the sites awarded between 2010 and 2021 are enormous areas, reaching up to over 800 ha. Their land is a mixture of pastures, woodland, wetland, parks, gardens, nurseries, and farmlands. They also contribute to local and Britain's sustainability goals, act against climate change, and generate well-being for local communities by securing jobs and being neighbourhood centres (Table 6).

II. Pro-climate solutions

Caerhays Estate (Caerhays Estate) is providing its own evidence for the threat of the aftermath of climate change and urges for action in safeguarding heritage and the essential role of trees in historical parks in adaptation measures. Miserden in Gloucestershire is a leading site in local flood protection. The Rural Sustainable Development Scheme focuses on slowing down the river flow in its lower catchments in the form of "leaky dams". Those perforations on the River Frome channel have already proven their effectiveness in reducing the peak flow after heavy rainfall. The Miserden Village is also pioneering in reducing its carbon footprint by being energy self-sufficient. The woodland supplies the biomass boiler with timber generated through sustainable thinning, thus giving heat and hot water to all buildings. "As far as we know, this is the largest privately funded, retrofit biomass plant in the country".

III. Pro-ecological solutions

An award-winning garden of 2020 – Mapperton House of Dorset – has been conducting a rewilding project which focuses on bringing a 182 ha (450 acres) piece of marginal farmland back to nature. As a result, the park gives best practices by prompting biodiversity, regenerative agriculture, food production, and human well-being as a pro-ecological solution. Another site of Helmingham Hall of Suffolk gives shelter for wildlife in a range of different habitats. The site, consisting of grazed, grassland pastures, ensures a shelter in the form of an ecological island for many wildlife, and migratory species.

5.4 „Monument of the Year“ („Monument des Jahres“), Staatliche Schlösser und Gärten, Land Baden-Württemberg, Germany

The State Palaces and Gardens (Staatliche Schlösser und Gärten – SSG) of the Land of Baden-Württemberg, Germany, bring together 62 monuments, including palaces, castles, gardens, monasteries and smaller buildings – the so-called gems (usually chapels or tombs, Roman remains). Monuments must be located in Baden-Württemberg and under state protection of monuments. Some of them are also on the prestigious UNESCO World Heritage List. Starting from 2010, each year one facility would be awarded "Monument of the Year" honours (competition rules and laudations not available). Each year, only one prize is given from among all types of facilities – so far two historical palace and garden complexes have been awarded (Figure 8).

Table 6. "Garden of the Year Award" with SMART solutions. Own elaboration based on available sources.

Garden of the Year Award. SMART solutions				
Awarded in year	Historical Park or Garden	Pro-climate solutions	Pro-ecological solution	Other
2021	Gordon Castle Walled Gardens, Moray	-	Own production of edible plants for the restaurant purposes	-
2020	Mapperton House, Dorset	-	Rewilding the farmland	-
2018	Miserden, Gloucestershire	Flood protection, self-efficiency in energy (hot water and heat)	-	-
2017	Helmingham Hall, Suffolk	-	Shelter for a variety of habitats for migratory species	-
2016	Caerhays Castle, Cornwall	Own elaboration about the threats of climate change – call for action (education)	-	Botanical collections: magnolias, rhododendrons and camellias
2015	Renishaw Hall, Derbyshire	-	Habitat for wildlife	Securing jobs in the local community; botanical collections: roses; vineyard
2014	Bowood House, Wiltshire	-	Arboretum	-

SSG. Award-winning Historical Park or Garden

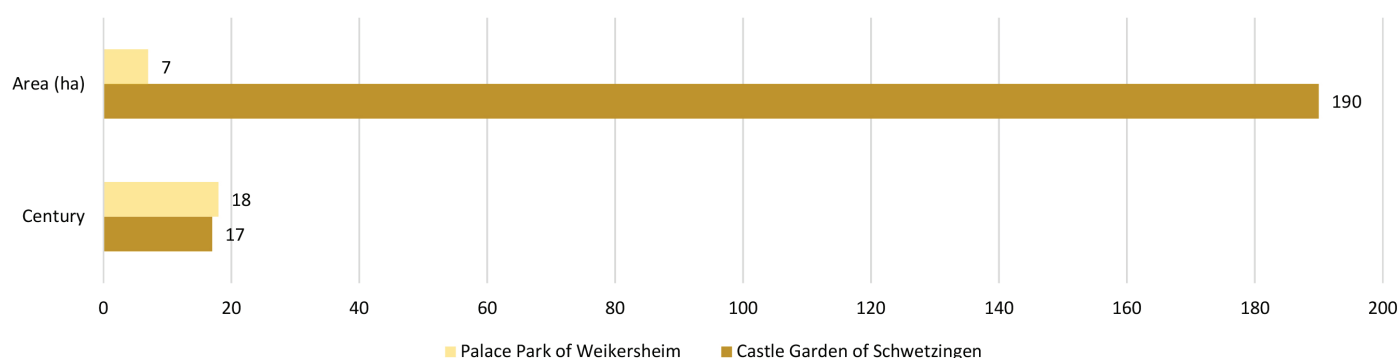


Figure 8. Establishment year and surface area of awarded historical park and garden of SSG. Own elaboration based on available sources.

The first complex is located in Schwetzingen (a site from the 17th century), and the second one – in Weikersheim (from the beginning of the 18th century). Weikersheim is a Baroque garden with an area of 7 hectares, and Schwetzingen – a Baroque garden with an English (landscaped) park (garden) with a total area of 190 hectares.

I. SMART solutions

On the Schwetzingen site, one can find a playground and gastronomy. Both facilities conduct events that encourage visits to the parks. Weikersheim Park was additionally awarded the “Garden of the Year” in 2013 for the high-quality equipment: an orangery, baroque garden sculptures, a water complex consisting of fountains and springs, and Baroque, lush flower parterre in formal accordance with the Baroque tradition (Schloss Weikersheim). As a typical example of complex issues and challenges related to the maintenance of historical parks and gardens, Schwetzingen also assumes patronage over the celebration of “Welt der Garten” – The World of Gardens – the SSG campaign of 2016 promoting awareness of the great authenticity and integrity of historical sites located in Baden-Württemberg. As part of the campaign, a website and magazine dealing with the protection issues of the sites were created. Moreover, discount tickets accompanying the event come with discounted prices of entrance tickets to selected 18 facilities participating in the promotion of the event (Staatliche Schlösser... d, Kulturmagazin..., Themenjahr...).

II. Pro-climate and pro-ecological solutions

Schwetzingen Palace Garden is the patron of the 2016 “Garden of the Year” on a large-scale campaign (Land Baden-Württemberg) to popularize the subject of historical gardens, draw the attention of the general public to problems related mainly to climate change, water shortage, and even more intensive restoration works and resources costs related to maintenance of historical, natural, and cultural character of the sites. The park in Schwetzingen is under extensive conservation (SSG), cultural (UNESCO), and natural (Landschaftsschutzgebiet – landscape protection area) protection.

Gardens of Schwetzingen also have their own plant cultivation with a bedding display (about 20,000 pieces), and with bucket plants (about 500 orangery pieces) (Kulturmagazin...). A very strong emphasis is also put on the quality of newly planted trees from their own nursery. The seeds of trees that have been for decades located in the park are used now to create a continuation of plantings, prepared from the very beginning to endure a dry climate. In the garden, it is checked whether it will be possible to replace tree species from the same family but with those growing in a much drier and warmer climate of Southeastern Europe, e.g. replacing English oak (*Quercus robur* L.) with mossy oak (*Quercus pubescens* Willd.). The aim is to try to prepare the park for possible future replacement of the stand, while maintaining the possible species-compatible range of trees (Staatliche Schlösser... e).

It should be noted that the palace and garden complex in Schwetzingen was additionally awarded (as

part of the above-described European Garden Award 2022) with 1st prize in the category “Management or Development of a historic park and garden” for a number of the aforementioned adaptation measures to climate change (Staatliche Schlösser... a).

6 Results

Identification of the most important pro-climate and pro-ecological trends, as well as specific material and organizational solutions, were researched in this article.

The main ideas of described competitions to keep the facility in good condition would be, among others, a continuous development process of small steps towards resiliency. A persistent tendency to improve and implement economic projects to strengthen the fiscal condition (often in the form of a shop, café or restaurant, but also thematic courses for enthusiasts, financing), and increasing use of pro-ecological solutions (such as animal farms, or natural methods of maintenance to keep the facility in physically good shape) also requires commitment and professional apprehension of the staff. Lifelong learning and eagerness to share knowledge of the best solutions (especially low-cost) is, therefore, essential.

A fundamental reason for the managers and owners of historical gardens is the prestige associated with winning or honouring in a competition. Such success informs (rewards) not only the local community and

nature enthusiasts, but also the general public about the importance of preserving and promoting natural and cultural heritage. Juries of described competitions consist either of a group of specialists, or the general public (everyone can vote in an online poll). Hence, the objects that meet the highest standards regarding each of these groups, and also have extraordinary features would be awarded. The creativity of managers and owners (especially in the UK) increases year by year, and solutions become more and more comprehensive and based on nature.

Research has shown that the level of solutions varies from country to country (Table 7). Historical Houses Association (“Garden of the Year Award”) is the largest institution of this kind in the UK, which brings together historical garden owners and managers. In this case, initiatives are mainly bottom-up. In contrast, “Monument of the Year” follows the top-down approach. The ministerial and private initiatives can also coexist, which is the case of the two above-mentioned awards: “European Garden Award” and “Well-kept Monument”. The EGHN Network is a symbiosis of the private sector – the Schloss Dyck Foundation and the Ministry of Land Nordrhein-Westphalen.

Both the Historic Houses “Gardens of the Year Award” (UK) and the “European Garden Award” (EGHN) promote single properties as “Best Practices” (Table 8). The most advanced methods (e.g. giving the facility a new quality, creating a new management style) can be found in Great Britain, where increasing focus on the sustainability and self-sufficiency of the facility is

Table 7. Focus of the particular competition/sites/countries on initiative directions and conservational perspective (own elaboration).

Focus on	Monument(s) understood as		Initiatives of the sites	
	Singular site	Collectivity	Top-down	Bottom-up
European Garden Award (Europe wide)	x		x	x
Garden of the Year Award (United Kingdom)	x			x
Monument of the Year (Germany)		x	x	
Well-kept Monument (Poland)	x	x	x	x

Table 8. Development directions of the particular competition/sites/countries (own elaboration).

Development directions (“Where do we stand”)	Middle ages	Baroque	Landscape gardens and parks	Maintaining the historical character	“Old” + “New” connection (maintenance + new function)	“New quality”, “Creating a new management style”
European Garden Award (Europe wide)		x	x	x	x	
Garden of the Year Award (United Kingdom)	x		x	x	x	x
Monument of the Year (Germany)		x		x	x	
Well-kept Monument (Poland)			x	x		

highlighted. Even some trade-offs (e.g. energy production, employment) to the local community can be noticed. Conversely, in Poland (“Well-kept Monument”), the emphasis is put on systemic actions integrated with the renovation process, whereas sites with the best and most correctly executed conservation are promoted as high-quality maintenance of common heritage. In Germany (“Monument of the Year”), the attention of the public is given evenly to historical palace and garden complexes as a collective heritage and for the authenticity and integrity of the facilities.

The first note of pro-climate solutions was included in the laudation for the honourable mention of the Garden of Chateau de la Bourdaisiere, Tours in France in 2011 (European Garden Awards). A set of eco-friendly solutions focused on the management of water, energy, and materials were implemented in order to re-develop the estate. In laudation for the Gardens of Peterhof, Russia (1st prize in 2017, EGHN), the Judges stress for the first time the need for future actions in the context of climate change, which seems to have more and more impact on the survival conditions of plant material. Most recently, in 2022, EGHN decided to found an additional award called “Climate mitigation measures in parks and gardens”, which focuses the interest of the Jury to honour sites especially active in those issues.

The award-winner Gardens of Schwetzingen, Germany (“Monument of the Year” of 2016, Germany) was honoured for, among others, adaptation measures regarding the tree stand (an attempt to replace it with new varieties), so short additional information about this “Welt der Gärten 2016” patronage. Conversely, in the “Well-kept Monument” (Poland), issues of adaptation and actions are not taken into account at all, however, the table of rules has been continually changing since 2011, when NID took over the organisation of the contest. Regrettably, neither laudations nor table of rules from the “Garden of the Year” Award (UK) are available.

The authors of this article noticed at least one project regarding water stands or water management in researched facilities. Park Miserden, Gloucestershire (Garden of the Year 2018, UK), with the project of flow regulation of the nearby river. Perforation in the dam should slow down the river flow in case of

flooding, and thus decrease risks to the local community, and the site itself. Unfortunately, none of the tables of rules regard this issue to be essential to implement. This could be considered as a topic, which urgently needs both further research, as well as professionals’ attention. This remains vital, especially towards shifting climatic conditions across Europe and globally. Implementation of changes could be difficult, though, due to the conservative character of the heritage sites. Nevertheless, the above-mentioned directives mark the threats and call for the implementation of strategies and actions.

Among the surveyed historical parks and gardens, it is possible to distinguish sites with different administrative and social roles. This depends on both the needs of the institution taking care of the object and the administrative level of the caretaker nowwhether it is a municipality, the government, or the community. At the level of the commune, schools or public offices could be located at the monument (palace, castle) itself; at the ministerial level – accordingly – headquarters of museums, and other regional or national institutions.

7 Discussion

The literature review and conducted research show that the authors, or responsible units reflect on a complex challenge and often the problem of protecting valuable historical parks and gardens.

According to Lebel (Lebel et al. 2006), we should ask ourselves what in our site is to be part of the resilience, what specific threat we want to counter, and for whom this protection would be addressed. Other authors (Xiao et al. 2021) raise the question of whether it was possible to protect whole sites against climate changes, and – whether it should not be possible to focus on certain, e.g. only crucial elements (protection of only the most valuable tree assembles, others – less valuable – would be condemned to “dealing on their own” and natural adaptation processes).

The factor forcing such actions may be very mundane, because they result from financing, or co-financing (e.g. state funds) of usually selected, specific activities or treatments, often also within limited, short-

time frames. Unfortunately, commonly only external financing is able to save a monument. An additional restriction is the fact that some funds/grants have a very short implementation period (e.g. Hasenheide in Berlin, Germany), which forces the renovations of only the most necessary and immediate restoration works, also limited to a specific territory of the park (with an effective, highly measurable adaptation to climate change) (GALA BAU 2022, Klimaresiliente Hasenheide in Berlin, Germany). Therefore, it seems to be extremely important that the proposed actions are rational and proportional.

There are also voices raised, whether the planning of implementing specific measures to adapt to climate change is not prematurely settled. The results of a survey conducted (2010) among historical gardens in the UK show that due to a lack of sufficient information available back then to implement future adaptive actions, it was too early to speculate what actions were needed (Lupton et al. 2010). The current (2022) global condition, with regard to the post-pandemic situation and speeding-up consequences of climate change, could already have shifted the way of perceiving the initiation of pro-climate and pro-ecological measures. Updated data (e.g. IPCC 2022, European Green Deal) and possible repetition of research among managers of historical sites by the authors of the cited publication might erect a question, if under new known circumstances, any and which new/smart solutions could now be identified. In addition to this, creation of an international network or platform among professional parties for information exchange, as to whether things work based on reliable research and own experience, could contribute to their system deployment (Xiao X. et al 2021).

Adversely, using the example of Furmanik's research (Furmanik 2016), the author draws attention to the insufficient data on specific criteria and values, on the basis of which individual objects, put on the prestigious UNESCO World Heritage List, were recognised as monuments of global importance (Furmanik 2016). During the research and work on this article, the authors noticed a similar tendency among some of the researched competitions – in some cases, no regulations or laudations for the winners were available.

Especially in the last decade, the historical parks and gardens require huge financial outlays in connection with the implementation of a wide range of measures to adapt to climate change, or those related to the protection of the facility. Hence, above all, the development of a new strategy for their use, management and maintenance, taking into account the necessary actions at a time of ongoing climate changes should be the focus of researchers and practitioners because non-action will cost mankind more than implemented one.

8 Conclusions

All in all, the usage of initially simple solutions (maybe even low-cost), and conducted research in order to develop the best strategies, and list of good practices would help develop systemic actions on which further policies could be based. What may be the perfect strategy might yet be unknown and remains a question of the future. Nevertheless, a very careful, but steady approach, and introducing long-term solutions combined with persistent observations on how green objects react could help the historical gardens and parks achieve resilience to climate change.

Based on the conducted research, it can be concluded that one of the first actions to be taken when formulating a management strategy for a historical garden or park is to identify the specificity of the facility and indicate the most frequently occurring or unique threats. This remains inevitable in order to preserve and mitigate the negative effects of climate change. The next step should be to determine the priorities of actions coupled with the individual features of the objects resulting, among others, from its stylistic conditions. Deriving from the priorities described above, as well as the significance of the facility and financial possibilities, an adaptation plan should be built. It may assume zoning of activities (territorially or functionally – indicating particularly important or key elements of the garden). Moreover, a strategy should take into account forms of self-financing and a broader, pro-environmental context, which are important for the preservation of the facility, including activities aimed at minimising carbon footprint (e.g. through “local” activities – taking into account local

materials and traditional methods of plant care or recycling).

In addition to this, conducted research proved that both the pace of implementation of pro-climate strategies and pro-ecological activities, as well as the starting point for the necessary adaptations, are varied and significantly coupled with local conditions in general and detailed terms. Factors such as historical, demographic, geographical, cultural, or economic, above all, play a decisive role here. In examined sites, which reflect the system prevailing in a given country, the level of awareness and social involvement in the implementation of specific solutions are particularly important.

The relevant assumption is the constant search for methods of preservation and care of historical garden sites, which would also be effective in increasing the adaptability of the facility, and complying with the standards and conservation doctrine (including guaranteeing the authenticity of the object as a maximum preservation of the historical substance). These can be both new solutions, as well as a revival of historical materials or methods of care. Pro-climate solutions most often used and promoted by the jury of professional competitions (dedicated to historical garden sites) were identified in this research. As far as maintenance of vegetative material is concerned, this includes keeping its own plant nurseries and attempts to replace some species with others, more adjusted to (prepared for) changed (changing) climatic conditions. Another solution that contributes to preventing climate change is re-creating and re-applying old methods of conservation and care, e.g. with the use of farm animals. Issues related to (rain)water management remain difficult and – in this case – the most effective seem to be natural methods of its retention and increasing infiltration, as well as slowing down the flow of flowing waters.

Another challenge is to ensure adequate (both in terms of the amount and schedule adjusted to the needs) co-financing of works and maintenance of historical buildings. Often, the development of recreational, tourist, and gastronomic offers by site managers is virtually the only way to obtain funds for further short-term modernisation, conservation, maintenance, and cleaning works. Undoubtedly, the fact of (successful) joining the association, partici-

pating in prestigious competitions, and – above all – winning or honourable mention, can significantly support managerial and marketing activities, as well as gaining new visitors and sponsors. Such an award may reduce the pressure on managers to constantly increase the number of visitors in order to ensure financing of works on keeping the facility in good condition. It would have a positive impact on easier control of the number of people and recreational capacity/absorption, which is valuable in such sensitive facilities (e.g. the quality of the “product” and not the number of visitors).

Activities described above confirm and accelerate a strategic development of resilience to climate change in European historical parks and gardens. They are usually noticed by juries of the contests dedicated to this type of sites. Based on the conducted research, competitions may become one of the tools to promote effective and, at the same time, correct in terms of conservation and implementation of pro-climate solutions in garden monuments. Education through the recommendation of good practices can be the first step to improving the condition of historical sites and their preservation, not only in relation to award-winning buildings, but also more broadly – it can become an impulse for both other managers of historical gardens, as well as society.

The effectiveness of good practices confirmed in this way may be the best recommendation for their wider deployment. Finally, it may also indicate a general tendency to undertake adaptation measures. It cannot be questioned that the prestige, which comes with winning contributes to the spread of best practices and the learning-from-each-other process.

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