

## Article

# Recreation and Therapy in Urban Forests—The Potential Use of Sensory Garden Solutions

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**Abstract:** Urban forests are not only woodlands or groups of trees, but also individual trees, street trees, trees in parks, trees in derelict corners, and gardens. All of which are located in urban and peri-urban areas and diversify the landscape and provide a wide range of social benefits. Sensory gardens play a specific therapeutic and preventive role. Designing such gardens as a recreational infrastructure element can successfully enrich urban forests. Following the principles of universal design may provide enjoyment for all city-dwellers, with special attention given to the needs of individuals with disabilities. We studied 15 gardens and one sensory path located in various regions in Poland. The inventory was carried out on the basis of the features considered important in spatial orientation by blind and partially sighted people. The results showed that the solutions used were only partly adequate for the needs of selected users. We found neither tactile walking surface indicators (e.g., communication lines and terrain), spatial models, nor applications in mobile devices. However, these could be useful for all visitors. We confirmed that although problems with the use of forest tourist space are dependent on the type of disability, by implementing the idea of universal design for all elements of recreational infrastructure, forests may be accessible for all users.

**Keywords:** urban forests; forest therapy; urban environment; sensory gardens; wellbeing; social inclusion; recreational development; universal design; urban green areas; therapeutic space



**Citation:** Wajchman-Świtalska, S.; Zajadacz, A.; Lubarska, A. Recreation and Therapy in Urban Forests—The Potential Use of Sensory Garden Solutions. *Forests* **2021**, *12*, 1402. <https://doi.org/10.3390/f12101402>

Academic Editor: Idalia Kasprzyk

Received: 14 August 2021

Accepted: 12 October 2021

Published: 14 October 2021

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## 1. Introduction

Forests, due to their relatively large area and free accessibility, are most often used in recreational activities [1]. Research has shown that physical activity in the natural environment is preferable to physical activity in a closed space in terms of the feeling of relaxation, well-being, and the reduction of stress and aggression [2]. However, undertaking tourist and physical activities by people with disability (PwD) is much more complicated than in the case of non-disabled people. For disabled people, participating in tourism and recreation activities presents real barriers—environmental and interactive—which make it difficult [3]. These barriers result directly from the type of disability or are indirectly related to it (e.g., overprotection of parents or guardians and inadequate education), and they are primarily internal barriers. The real barriers include a lack of knowledge, health problems, social inefficiency, and physical and mental dependence. Among the environmental barriers are attitude, architecture, ecology, transport, and laws and regulations. Interactive barriers include non-adaptation of the ability to challenge and communication barriers.

Urban forests are defined as networks or systems comprising all woodlands or groups of trees. They include also individual trees located in urban and peri-urban areas, street trees, trees in parks, trees in derelict corners, and gardens [4]. The main objective of urban forests is to meet the recreational needs of people and to contribute to the ecological and physical structure of the city [5].

In general, gardens are a stimulating sensory environment for recreation, education, and therapy outdoors [6]. They are especially conducive to sensory gardens, defined as a self-contained area that is focused on a variety of sensory experiences [7,8]. Such an area, if designed, maintained, and managed well, offers a positive resource that caters for a variety of needs, from education to recreation. It promotes health and well-being, giving the individual the sense of mental and physical well-being [9–11]. With the sensory element (hard and soft landscaping, colors, and textures) as the key factor for designing these gardens, its role is to encourage users to touch, smell, and actively experience the garden with all their senses [12].

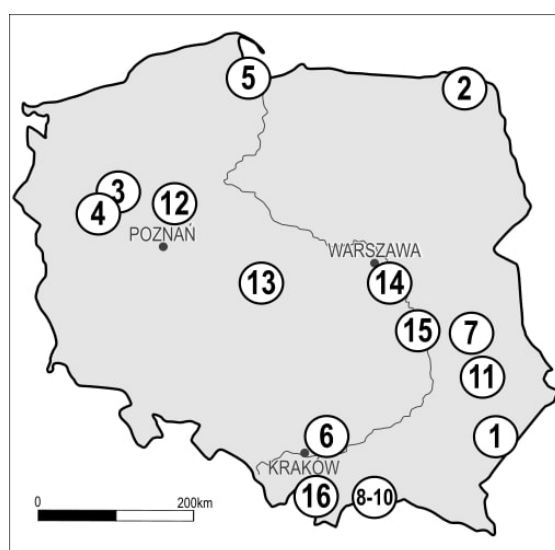
Experience during the COVID-19 pandemic has shown, in the context of widely understood well-being, the importance of health and the therapeutic use of direct social contacts, relaxation in the natural environment and in open space, especially among city dwellers [13]. Long-term social isolation, enforced work, and online learning intensify the need for regeneration in a different, multisensory natural environment. Both the experiences from the lockdown period and the observed change in recreational activities in the direction of tourism and individual recreation, based on nature, indicate an increase in the importance of green areas, including forests, as areas with a tourism and recreational function. The frequency of visits to natural areas during the COVID-19 social distancing restrictions was found to have increased in different parts of the world [14–16]. These trends, in combination with social needs, but also with the principles of sustainable development of the natural environment, imply the necessity to properly arrange selected forest enclaves as universally designed recreation places.

In connection with the above, the aim of our study is to show that designing sensory gardens as one of the many elements of forest recreational development is a form of diversifying the infrastructure that can enrich urban forests, including the aspect of the enjoyment of all citizens (those with disability and those without any). The key question is as follows: which features of universal design are of elementary importance from the point of view of PwD (e.g., in terms of spatial orientation, information, and sense of security) and should constitute a basis for designing recreational zones in forest so that they are more accessible to all.

## 2. Materials and Methods

### 2.1. Study Area

The study covered 15 gardens and one sensory path. These objects are located in various regions in Poland, in cities, rural areas, and areas of natural value, including national parks (Figure 1).



**Figure 1.** The location of the study area. 1. Bolestraszyce, 2. Bród Nowy, 3. Bucharzewo, 4. Chorzepowo, 5. Gdańsk-Oliwa, 6. Kraków, 7. Lublin, 8. Muszyna (Ogrody Biblijne), 9. Muszyna (Ogrody Magiczne), 10. Muszyna (Ogrody Sensoryczne), 11. Osmolice, 12. Owińska, 13. Poddębice, 14. Powsin, 15. Trzcianki, 16. Zawoja (Babiogorski National Park).

**Table 1.** Details of the location and type of sensory gardens included in the study.

Location of the Sensory Garden	Type of Environment	Setting	Coordinates
1. Bolestraszyce	Rural	Arboretum	49.81767470425935 22.85963205188485
2. Bród Nowy	Rural	Educational and recreational school garden	54.13310633220314 22.87824015575021
3. Bucharzewo	Rural	Forest educational garden	52.67929426341419 16.09764799617132
4. Chorzępowo	Rural	Forest educational garden	52.69849904750158 16.09713467457603
5. Gdańsk-Oliwa	Urban	City park	54.414561388875526 18.56869532665728
6. Kraków	Urban	Commercial science park	50.07044044210445 19.997914018768107
7. Lublin	Urban	University botany garden	51.26596084591114 22.51659339812219
8. Muszyna (Ogrody Biblijne)	Urban	Commercial educational and spiritual garden	49.35895057351808 20.901974361122278
9. Muszyna (Ogrody Magiczne)	Urban	City garden	49.345923233427236 20.884421943659394
10. Muszyna (Ogrody Sensoryczne)	Urban	City park	49.347567900990136 20.88853191824345
11. Osmolice	Rural	Private garden	51.579692111665814 22.06933798840454
12. Owińska	Rural	Educational and recreational school garden	52.511276130254345 16.97413330331303
13. Poddebice	Urban	City park	51.88970856853506 18.952417769156217
14. Powsin	Urban	Botany garden of a scientific institution	52.10628212831032 21.095847051626784
15. Trzcianki	Rural	Commercial theme park	51.36551912934566 21.910141838449825
16. Zawoja	Rural	National park education area	49.6120128648685 19.518040540235628

## 2.2. Study Design

The research was carried out between June and August 2018. In the garden inventory, the following assessment criteria presented in the study of Jakubowski et al. were used [17]: scents, clear path layout, diversified surface of path surface, advice from others, waypoints described in Braille, convex plans of communication routes, audible information, tactile walking surface indicator, spatial models, and applications on mobile devices. The research was conducted according to a standardized form elaborated by Jakubowski et al. [17].

The results of the presented research narrowed-down to the adaptation of sensory gardens to the needs of visually impaired people are presented in the studies by Zajadacz and Lubarska [18–20].

This study will discuss the arrangement of forest recreational areas in a broader context, taking into account the needs of PwD.

### 3. Results

#### 3.1. Universal Design in Sensory Gardens—Potential Applications in Forests

The inventory was carried out on the basis of the features considered important in spatial orientation by blind and partially-sighted people. The results of the field research showed the most commonly used solutions that facilitate relaxation, as well as independent spatial orientation, for blind and partially-sighted people, which include places identified by their smell, clear layout of paths, different path surfaces, and tips from other people (Figures 2–5). Unfortunately, other amenities considered essential were less frequently represented, and such as tactile walking surface indicators, spatial models (e.g., communication lines and terrain), and applications on mobile devices did not occur in the gardens studied (Table 2). Thus, it can be concluded that in sensory gardens, despite many amenities in terms of the uniqueness of their arrangement, many possibilities for their better adaptation to the needs of people with disabilities have not been used. The features presented in Table 2, based on the recommendations of the PWD community [17], are therefore potential applications in sensory gardens and forests.



**Figure 2.** Scents and sounds, (a) Poddębice (Fot. A. Lubarska), (b) Owińska (Fot. A. Zajadacz).



**Figure 3.** Clear path layout, (a) Owińska, and (b) facilities tailored to the needs of the blind, Chorzepowo (fot. A. Zajadacz).



Figure 4. Cont.



**Figure 4.** Diversified surface of path surface, Owińska and Kraków (fot. A. Zajadacz).



**Figure 5.** Waypoints described in Braille, Owińska (Fot. A. Zajadacz).

**Table 2.** Elements in the sensory garden to facilitate spatial orientation.

Feature	Sensory Gardens and Paths																Σ/%
	a															b	
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	
1. Scents (Fot.1)	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	16/100
2. Clear path layout (Fot. 2)	x	x	x	x	x	x	x	x	x	-	-	-	x	x	x	x	13/81
3. Diversified surface of path surface (Fot. 3)	x	x	x	x	-	x	-	x	-	x	x	-	x	x	x	-	11/69
4. Advice from others	x	x	x	x	x	x	x	x	-	-	-	x	-	-	-	x	10/63
5. Waypoints described in Braille (Fot.4)	x	x	-	-	-	-	-	-	-	-	x	-	-	x	-	x	5/31
6. Convex plans of communication routes	x	-	x	x	-	-	-	-	-	-	-	-	-	x	-	-	4/25
7. Audible information	x	x	-	-	-	-	-	-	-	-	-	-	-	-	-	x	3/19
8. Tactile walking surface indicators	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0/0
9. Spatial models	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0/0
10. Applications in mobile devices	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0/0

(a): Sensory gardens: 1. Bucharzewo, 2. Owińska, 3. Zawoja, 4. Bolestraszyce, 5. Osmolice, 6. Trzcianki, 7. Bród Nowy; 8. Kraków, 9. Gdańsk, 10. Lublin, 11. Muszyna Ogród Zmysłów, 12. Muszyna Ogród Biblijny, 13. Muszyna Ogród Magiczny, 14. Poddębice, 15. Powsin (Warszawa). (b): Sensory path in a village: 16. Chorzepowo; x, the element is present; (-), the element is not present. Source: Field inventory results, July–August 2018 [20].

### 3.2. Recreational Facilities in Forests—Desk Research of Applied Practices

In Poland, there are guidelines commissioned by the General Directorate of State Forests presenting practical tips on how to shape the space of recreational and leisure facilities and their individual elements in order to make them accessible to people with reduced motor skills [17]. Table 3 presents technical aspects of selected elements of the recreational forest management infrastructure. The selection of the presented elements and their parameters was based on the most frequently indicated obstacles [21] in the use of forests by PwD.

**Table 3.** Technical aspects of selected elements of the recreational forest management infrastructure (based on [22]).

Infrastructure	Basic Parameters	Additional Info
One-way paths	<ul style="list-style-type: none"> <li>Minimum width of 90 cm</li> <li>Recommended to be not less than 150 cm (such a width allows for safe passing of wheelchairs)</li> </ul>	<ul style="list-style-type: none"> <li>It is allowed to reduce the width of the track to 80 cm</li> <li>When it is unavoidable, e.g., due to existing rock formations—closure on very short sections, no longer than 60 cm</li> </ul>
Bidirectional paths	<ul style="list-style-type: none"> <li>Minimum width of 150 cm</li> </ul>	-
Longitudinal slope of routes	<ul style="list-style-type: none"> <li>Should not exceed 5%</li> </ul>	<ul style="list-style-type: none"> <li>From 5 to 8%—if the section is no longer than 50 m (in the case of existing paths); additionally, at the beginning and end of such a section there should be a flat surface free from other terrain obstacles, which is a resting place</li> <li>From 8 to 10%—if the section is no longer than 9 m; additionally, at the beginning and end of such a section there should be a flat surface without any other terrain obstacles, which is a resting place</li> <li>From 10 to 12.5%—if the distance is no longer than 3 m; additionally, at the beginning and end of such a section there should be a flat surface without any other terrain obstacles, which is a resting place</li> </ul>

Table 3. Cont.

Infrastructure	Basic Parameters	Additional Info
Cross slope of routes	<ul style="list-style-type: none"> <li>Should not exceed 3%</li> </ul>	<ul style="list-style-type: none"> <li>On most paved surfaces water drainage is effective at a slope of 2%</li> <li>Over 3% is acceptable only in situations where it is necessary due to the drainage of water from the surface of the path</li> <li>It may never exceed 5%</li> </ul>
Avoidance spots on routes (without infrastructure)	<ul style="list-style-type: none"> <li>Minimum width of 180 cm (including the track width)</li> <li>Minimum length of 240 cm</li> </ul>	<ul style="list-style-type: none"> <li>Be created on routes less than 150 cm wide every 300 m</li> <li>Have a cross slope of the surface not exceeding 3%</li> </ul>
Stairs	<ul style="list-style-type: none"> <li>Excluded or limited to the absolute minimum</li> <li>Create an alternative path in their vicinity</li> </ul>	<ul style="list-style-type: none"> <li>There should be no more than 10 steps in one flight of stairs</li> <li>The minimum width of the flight of stairs should be at least 150 cm</li> <li>The tread depth must be at least 150 cm, the greater it is, the more comfortable it will be for disabled people to move</li> <li>Stairs with a tread depth of less than 90 cm are an insurmountable architectural barrier</li> <li>The maximum height of one riser should not exceed 5 cm</li> <li>If it is not possible to obtain such a height, it is permissible to increase the height of the steps to a maximum of 10 cm, while limiting their number in one run to 5, providing a handrail and an alternative route</li> </ul>
Handrails	<ul style="list-style-type: none"> <li>The basic handrail should be 90 cm high</li> <li>The second additional handrail should be 75 cm above the surface of the stairs</li> </ul>	<ul style="list-style-type: none"> <li>Be installed near dangerous places, e.g., at viewpoints and on rock outcrops</li> <li>Have fender rails</li> <li>The diameter of the grab part of the handrail should be 3.5–5 cm</li> </ul>

#### 4. Discussion

##### 4.1. Sensory Gardens—A Creative Solution for People Not Only with Disabilities

Gardens are an integral part of urban forests [4]. The main point in trying to define the concept of “sensory garden” is to find out what makes it different from other gardens. The main difference in the sensory garden is that all its elements, “hard” and “soft” (plants, shapes, colors, and textures) must be carefully selected and designed to provide maximum sensory stimulation. Therefore, the sensory garden is defined as follows:

- “A stand-alone area that focuses on a variety of sensory experiences ” (sensory trust) [7];
- “A composition designed so that extra-visual stimuli are used on purpose and at a greater intensity than usual” [23];
- A garden in which the influence of plants and other elements on certain senses is particularly emphasized (the garden of color, sound, smell, touch, and taste) [24];
- A garden, which refers to the idea that the garden can stimulate the senses (e.g., sight, taste, hearing, smell and touch) [25].

The definitions of a sensory garden assume that a garden of this type [18]:

- Must be designed and created in a process with a set purpose;
- Is a closed whole, separate from the surrounding space;
- Stimulates all human senses;
- Focuses on non-visual experiences;
- Has vegetation, but also other elements, both natural and anthropogenic.



Nowadays, creating a “specially dedicated” or “closed” space for people with disabilities is not a desirable strategy. For many years, there has been a visible tendency to integrate the amenities necessary for PwD into the space in such a way that they are an integral, natural part of it. Our study confirmed that sensory gardens, created as “gardens for the blind”, are currently designed for everyone interested in resting in a given location [26]. Designed in the rural or urban environment as a part of, e.g., arboretum, educational and recreational school gardens, city parks, city gardens, private gardens, or university botany gardens, are widely accessible recreational spaces.

The intensity of natural stimuli in sensory gardens is also conducive to therapy. Garden therapy—or hortitherapy—is a form of therapy “that uses plants to improve the physical and mental condition of a person” [27]. Hortitherapy can be performed in the following ways [27]:

- Passive—by staying in a given place and experiencing the stimulation of the senses, by listening to birds singing, and feeling smells, wind, sunlight;
- Active—by performing physical work in the garden related to the maintenance of the garden: picking fruit and flowers, etc. The outdoor activities that most people like, such as sunbathing, games and fun, and walks, are interpreted differently. According to Hagedorn [28], this is passive use of the garden, while Gonzalez and Kirkevold [25] consider it an active form of using the space.

Sensory gardens play a therapeutic and preventive role. These include, for example, parks equipped with memory gyms—i.e., memory training devices, intended mainly for elderly people with signs of dementia, but if skillfully used, they can also be an attraction for other user groups. They can be equipped with “moto-sensory paths, i.e., a place intended to serve the elderly and people who experience limitations in mobility as a result of illness or injury. The proposal of the various available solutions is to help maintain or increase the mobility of the beneficiaries [29]. Moto-sensory pathways are used for therapy [29], as follows:

- “As a place of passive therapy—walking, watching nature, and being in green space, as well as aromatherapy, especially to stimulate immunity and control stress.
- As a place of application of other types of therapy loosely related to the garden—physical therapy, kinesiotherapy, and psychotherapy.
- As a place of active hortitherapy, using gardening for healing purposes, for treating depression, addictions, etc., as well as for activating elderly people with cognitive disorders that often occur at this age. It also works well for people with intellectual disabilities and emotional disorders.”

At the same time, activities like walking, watching nature, being in green space, aromatherapy, etc. do not exclusively represent the needs of PwD. They are the needs of all society. Considering the elements mentioned above within the study area, our results show that the solutions used were only partly adequate for the needs of selected users. The most frequently present features were scents, clear path layouts, and a diversified surface of the paths. We found neither tactile walking surface indicators, spatial models, nor applications on mobile devices that could be useful for increasing users’ mobility.

#### 4.2. Barriers in Tourism and Recreation of People with Disabilities

Many barriers to tourism and recreation for people with disabilities have been identified in the literature. In one of the classifications, they were divided into the following groups: urban, architectural, and social barriers; barriers of communication; lack of tourist equipment; high costs of participation in various forms of tourism; and insufficient information on the tourist needs of people with disabilities [30]. The low level of affluence, low income in relation to the costs of tourism trips, and the commercial attitude of travel agencies mean that the main barriers reported by the disabled are economic ones, relegating the remaining architectural and urban barriers to the background [31,32].

A broad overview of the classifications of barriers and constraints to undertaking tourism and recreation developed so far has been presented, among others, by Lubarska [33]. Of particular note is the new approach to barriers (according to the title of the study: “Re-conceptualizing”) of Darcy and McKercher. The four-tier model they propose defines a hierarchy of barriers, with lower tiers referring to basic barriers. If there is a barrier at this level, the tourist trip may no longer take place. The first level concerns barriers that everyone can encounter, with or without a disability. Tier 2 barriers are in some ways common to people with all types of disabilities. At this level, there are barriers that are less relevant for people without disabilities, e.g., the information barrier, which, with some disabilities, cannot be overcome without the support of others. The two higher tiers relate to specific disabilities. At tier 3, there are barriers that are typical for certain disabilities, e.g., the limited possibility of written contact (instant messaging or e-mail) with the tourist facility and the focus on telephone contact, which is a major obstacle for deaf people. Here, the individual adaptation of the venue to the needs of people with specific disabilities becomes important. Adaptation to the needs of a specific disability is not always sufficient at tier 4, where individual limitations come into play. However, even tier 4 barriers can sometimes be offset by solutions targeted at the individual tourist [34].

Our study revealed that most of architectural barriers are easy to eliminate by implementing guidelines, as commissioned by the Polish General Directorate of State Forests, relating to specific technical aspects of the infrastructure. While social barriers or high costs of participation in various forms of tourism and recreation in general may concern everyone, undoubtedly insufficient information on tourist needs for people with disabilities (in general or within selected areas) is a barrier to the effective development of recreational and leisure facilities.

#### *4.3. Therapeutic Functions of Forests, Green Areas and Sensory Gardens*

The health benefits of contact with nature have been widely researched [35]. Studies show that the less green there is in the neighbourhood, the higher level of cortisol, the “stress hormone”, in the blood of residents [36]. The most frequently mentioned feelings resulting from the experience of nature are freedom, unity with nature and with one’s self, luck, and happiness [37]. There is a wide range of research on the effects of forest-based therapies on stress (or depression) [38–43]. The therapeutic properties of various plant communities have an impact on specific different medical aspects, including disinfection, blood pressure lowering, anti-asthma, or immune-boosting [44]. Factors in the forest environment that may provide health benefits include the aroma of plants, light intensity, humidity, wind, temperature, and oxygen concentrations [45]. Increasing outdoor recreation can be considered beneficial both on an individual level and to society as a whole [46]. For people living in large and dense cities, urban green space plays an important social integrative role [47,48]. The health benefits of contact with nature are described, among others, by the “Nature Therapy Theory” [49,50]. One example of this form of therapy is forest bathing, also known as *shinrin-yoku*, a practice that combines a series of outdoor exercises and tasks based on mindfully using all five senses [51,52]. There are also “therapeutic landscapes”, which are places that, for various reasons, can have a beneficial effect on health and well-being [53]. Moreover, a positive impact on behaviour and interpersonal self-improvement has “wilderness therapy” [54]. This therapy combines experiential education, as well as individual and group therapy with adventure-based therapy in a wildlife environment. Research has shown that physical activity in the natural environment is preferable to physical activity in a closed space in terms of the feeling of relaxation, well-being, and the reduction of stress and aggression [2].

An extensive systematic review of the benefits of urban parks shows that all of the above benefits have been confirmed by numerous scientific studies, including the fact that the creation of urban green spaces promotes physical activity and social integration among residents and visitors, and thus contributes not only to physical, but also mental health [55]. The benefits for the latter are particularly evident in the long term, and a

positive association was observed regardless of whether the green-space was in an urban or rural area [56]. Our study showed that the number of sensory gardens located in Polish towns/cities and villages is comparable (7 and 8).

Accordingly, sensory gardens in cities or rural areas can also play the role of restorative and therapeutic gardens. They are places that offer conditions favorable to maintaining the body's internal balance, which have an effect on emotional and psychological wellbeing [57].

#### 4.4. Recreational Development of Forests and Green Areas

Generally, the technical management of forests and other green areas for recreation consists of designing the recreational facilities, arranging them in a way that ensures natural comfort of rest, and minimizing the conflicts caused by this procedure in the naturalness of the environment. Furthermore, there is the need to individualize the design procedure and to use natural local materials. The infrastructure necessary for recreation consist of technical construction objects, linear objects, and surface objects. Finally, as urban forests belong to the city where they are located, and have a characteristic of public urban green space, these areas should also reflect the socio-cultural characteristics of the city [58].

Practicing tourism and recreation by PwD is impeded by a number of barriers [3,30–32]. Problems with the use of forest tourist spaces are dependent on the type of disability. Wheelchair users report problems such as stairs (steep stairs, no landings, and no handrails); obstacles and obstructions on the path; slippery, gravel, and sandy surfaces; narrow trails and passages; missing or incorrect information; and crowds. For visually impaired people, obstacles and difficulties on the path are slippery surfaces, insufficient lighting, and crowds. In contrast, elderly people recognize the lack of stairs and landings, slippery surfaces, and crowds as a problem [22].

Note, however, that the definition of disability is very wide. According to Polish legislation, disabled people are “those whose physical, mental, or mental fitness permanently or temporarily hinders, restricts, or prevents everyday life, study, work, and performing social roles, in accordance with legal and customary norms” [59]. This means that people with limited mobility may not only be wheelchair users, but also people with difficulties in moving independently without assistive devices (e.g., crutches, canes, and walkers), people with sight and/or hearing and/or voice impairment; people suffering from multiple disorders of a physical and mental nature (e.g., asthma or heart problems, and personality disorders), elderly people (over 60 years of age); and pregnant women and minors (under the age of 5).

Regarding sensory gardens, despite being directed towards specific users and having a certain specialization, overall, they are areas of activity for users of all age groups—children, youth, adults, and seniors [60]. Therefore, the preparation of recreational infrastructure in forests and other green areas, including sensory gardens, in order to enable a comfortable rest should take into account the possibilities and limitations of people with different psychophysical abilities and should implement the principle of “design for all”. While spending time outdoors is in itself beneficial to health (including public health), the fact that the space is designed by professionals knowledgeable about accessibility and friendliness of the outdoors greatly enhances the value of that space [61]. There is a positive link between the number and quality of leisure facilities and the well-being of residents in the area. The better the infrastructure and the more walking/hiking paths and active recreation routes, the healthier and more satisfied visitors are, including health “at-risk” groups [62]. However, again, the benefits are not limited to this group, but apply to all visitors.

In addition to the importance of urban parks being accessible to all, it should be attractive to visitors. Some of the characteristics of a green space that influence the willingness to visit are location, including ease of access, condition of the access road, etc.; facilities, the ability to use the space for recreational purposes; and atmosphere, which is created by factors that are difficult to grasp [63]. Sensory gardens are special spaces in this respect, as they are prepared and designed precisely with a view to attractiveness, and in terms of accessibility, they go beyond the usual level. As for the atmosphere, it is helped by the

aforementioned multisensoriality, which characterizes this space. Hence, it follows that sensory gardens are beneficial for urban forests as they can positively influence the motivation to visit green areas, make the stay more attractive, and allow groups requiring increased accessibility, as mentioned before (the elderly, the weakened or injured, or families with children), for both active and passive therapy.

## 5. Conclusions

The location of forests within or near the administrative boundaries of cities promotes intensive recreational use of the forest environment. Thus, these areas can be an excellent places for city-dwellers to provide health support. The provision of urban green spaces and their associated benefits are considered “a key ingredient for city sustainability” [37]. The existence of urban green areas benefits citizens and increases welfare levels [64]. Unfortunately, the potential of natural settings in contributing to the quality of working and housing environments, which could enhance the health and well-being of residents, is not fully considered in the current trend of building compact cities [65]. What is more, urban forests, besides contributing to human well-being positively, affect the private value of properties [66].

The therapeutic function of forests is based on the influence of plants (hortitherapy) and contributes to the improvement of the physical (somatic) and mental condition of a person. This therapy can be both passive and active. Forest zones, which perform recreational functions, in addition to influencing the individual well-being of a given person, thanks to universal design aimed at eliminating barriers to the use of public space, can foster the process of social inclusion of people who, for many reasons, encounter difficulties in using the open space of public places. This applies especially to PwD, but also to the elderly and families with children—social groups for which rehabilitation, therapeutic, and preventive activities are of particular importance.

Technical aspects of selected elements of the recreational forest management infrastructure, presented in the article, in conjunction with the results of research on the adaptation of sensory gardens to the needs of people with visual impairments, provide many tips for the universal design of forest recreational zones. Their adaptation requires taking into account the local specificity of the natural environment, which varies depending on the type of geographical environment. An open question, which has so far been an unsolved research problem, is still the definition of proportions and finding a balance in the arrangement of forest recreation zones between the “artificiality” of their development (adaptation to the needs of many user groups) and the “naturalness” of environmental conditions with a wide therapeutic impact.

**Author Contributions:** Conceptualization, S.W.-Ś., A.Z. and A.L.; methodology, S.W.-Ś., A.Z. and A.L.; software, S.W.-Ś., A.Z. and A.L.; validation, S.W.-Ś., A.Z., and A.L.; formal analysis, S.W.-Ś., A.Z. and A.L.; investigation, S.W.-Ś., A.Z. and A.L.; resources, S.W.-Ś., A.Z. and A.L.; writing—original draft preparation, S.W.-Ś., A.Z. and A.L.; writing—review and editing, S.W.-Ś., A.Z. and A.L.; visualization, S.W.-Ś., A.Z. and A.L.; supervision, S.W.-Ś., A.Z. and A.L.; project administration, S.W.-Ś., A.Z. and A.L.; funding acquisition, S.W.-Ś. and A.Z. All authors have read and agreed to the published version of the manuscript.

**Funding:** The research was co-financed within the framework of the Ministry of Science and Higher Education program as “Regional Initiative Excellence” in years 2009–2022, Project No. 005/RID/2018/2019 and Project “GEO +: high-quality doctoral study program implemented at the Faculty of Geographical and Geological Sciences of the Adam Mickiewicz University in Poznan no. POWR.03.02.00-00-I039/16” co-financed by the European Social Fund under the Knowledge Education Development Operational Program (PO WER).

**Institutional Review Board Statement:** Not applicable.

**Informed Consent Statement:** Not applicable.

**Data Availability Statement:** Data sharing not applicable.

**Conflicts of Interest:** The authors declare no conflict of interest. The funders had no role in the design of the study; in the collection, analyses, or interpretation of data; in the writing of the manuscript; or in the decision to publish the results.

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