

CONSERVATION OF MUSEUM GARDENS IN POLTAVA: THERAPEUTIC VALORIZATION OF CULTURAL LANDSCAPES FOR POST-TRAUMATIC REHABILITATION

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Abstract

Museum gardens represent an important component of cultural landscapes, combining historical, aesthetic, and social values that contribute to community well-being and sustainable heritage management. This study investigates the therapeutic potential of museum gardens in Poltava, Ukraine, through the case studies of the Ivan Kotliarevskiy Memorial Museum, the Panas Myrnyi Literary and Memorial Museum, and the Volodymyr Korolenko Literary and Memorial Museum. The research aims to evaluate how the active conservation and functional use of these heritage spaces can support post-traumatic rehabilitation among civilians and military personnel affected by war-related stress disorders. The methodology integrates analytical and experimental approaches, field observations, photographic documentation, and survey-based investigations. Particular attention is given to landscape planning principles, spatial zoning, and the organization of nature-based activities within museum environments. The results demonstrate that the preservation and adaptive use of museum gardens create favorable conditions for psychological recovery and social interaction, highlighting the beneficial influence of landscape composition, natural elements, and cultural settings on the psycho-emotional state of individuals experiencing post-traumatic stress symptoms. The study emphasizes the role of museum gardens as living cultural landscapes whose conservation extends beyond the protection of physical heritage, contributing to human well-being and strengthening the social dimension of heritage sustainability. These findings support the integration of therapeutic and community-oriented functions into contemporary strategies for the conservation and valorization of cultural heritage.

Keywords: Cultural landscapes; Museum gardens; Active conservation; Therapeutic heritage; Post-traumatic rehabilitation; Poltava; Nature-based interventions

Introduction

The Russian-Ukrainian war led to the emergence of a large number of studies related to the degradation of ecosystems as a result of military operations, changes in established bio-ecosystems, etc. Well-known examples include the undermining of the Kakhovka reservoir, the occupation of the Askania-Nova reserve, and the destruction of the Serebrianskyi forest reserve in the Luhansk region.

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One of the aspects related to the impact of war is naturopathy as a means of treating post-traumatic stress disorder (PTSD) in military personnel and civilians. A feature of PTSD is that it may not manifest itself immediately after experiencing a stressful situation. In the modern classification, 4 types of post-traumatic stress disorder are distinguished: acute, chronic, deformational, and delayed. The acute type is characterized by an increased level of anxiety, confusion, and inhibition of reactions. The chronic type manifests itself after the trigger is removed and is manifested by changes in speech and motor functions, confusion, and disorientation regarding the causes of PTSD. The delayed type is characterized by the appearance of symptoms characteristic of PTSD several months later, after a person's seemingly normal state.

The most common causes of PTSD are armed conflicts and wars, terrorist acts, natural and man-made disasters, physical and psychological violence, incurable diseases, death of loved ones, and abnormal pregnancy. The severity of the PTSD stage depends on the person's individual characteristics. A characteristic feature of the PTSD clinic is a change in character, a reassessment of old ideas and preferences.

The danger of post-traumatic stress disorder lies in the appearance of anxiety-phobic states, constant recollection of traumatic events, intrusive tragic memories, memory and sleep disturbances, apathy, anxiety, suicidal thoughts, lack of emotions, inability to concentrate, and social alienation.

According to clinical studies, PTSD progresses faster in children, especially since children are a risk group due to their vulnerability and emotionality. Psychologists and psychotherapists work with such patients, and such methods as cognitive-behavioral correction, hypnosis, psychotherapy and drug treatment, and therapeutic massage have become widespread.

One of the methods of treating PTSD, which is currently used in Ukraine for the rehabilitation of military and civilian personnel, is nature therapy, that is, the use of nature to obtain a therapeutic effect. This is a therapeutic method based on a combination of walking and visual inspection of landscapes. Back in Soviet times, it was one of the main therapeutic methods of the Druskininkai resort in Lithuania. In addition to the fact that there were many healing mineral springs here, therapeutic physical education has developed significantly.

Since the city is located in the middle of an ancient pine forest, the medical institutions were maximally integrated into nature. One walking route was arranged along the local Ratnyčelė River; the second went to the Forest Echo Museum in the middle of the forest, outside the city itself. A concentrated complex of medical institutions was organized within the so-called "Park of Therapeutic Physical Education." Among the pine forest were gravel running tracks, a pool with stones for foot massage, sports grounds, and ionotherapy, while patients in armchairs in the pavilion above the waterfall fell asleep to the sound of water. It was possible to relax in wooden gazebos covered with reeds. The slopes and meadows were covered with forest flowers, strawberry and blueberry bushes, and thickets of wild forest raspberries. Together with the lack of transport and silence, this enhanced the therapeutic effect.

This approach to the treatment of many diseases corresponded to the methods of many spa doctors, starting with M.J. Oertel [1], who considered walking among the landscapes to be one of the methods of treatment. Later, the important role of naturopathy was noted by V. Dmitriev [2], A. Korkeshko [3], and B. Yakubov [4]. In 1984, experimental studies by R. Ulrich proved that the rehabilitation period of patients depended on the views from the ward window [5].

Studies have determined the impact of certain landscape paintings. For example, landscapes with coniferous trees create an active positive mood; heather and fern cause the effect of cheerfulness; willow creates a mood of detachment, dreaminess, and self-absorption; and wide overhanging crowns with an umbrella effect create a subconscious impression of comfort and security. As is known, green has a positive effect on the nervous system and calms, and bright color accents add activity.

An important factor in nature therapy is lighting. Dark landscapes (in nature – spruce forests) create a depressing mood, unlike illuminated landscapes. However, sometimes landscape architects used the contrast of light and dark landscape scenery.

Naturopathy (in some cases it is also called "landscape therapy") is a complex method of treatment on the levels of physical and mental. On the physical level, this means walking in nature and playing sports in nature; on the mental level, meditate, completely “disengage” among the bushes and trees, relax in silence, and engage in psychotherapy. Often, the doctor asks the patient to describe his position at various stages of treatment.

Today, natural therapy is experiencing a “second life,” and a large number of Ukrainians will require rehabilitation.

For example, in Muromets Park, at the initiative of the Kyiv mayor Vitalii Klychko, they organized a trip to nature for military personnel who were undergoing treatment at the Medical Center for Rehabilitation and Palliative Care. The military suffers from various injuries, many with amputations, and those who are transferred to wheelchairs. Having lived in hospitals for many months, they themselves asked for a trip to nature. The veterans themselves regard such a trip to nature with fishing and catamaran rides as additional work with a psychologist and socialization. They respect that natural therapy is needed by everyone who returns from the combat zone [6].

Another option for the practical use of natural therapy for the treatment of PTSD was the two-day trip by the Dniester, organized for wounded soldiers who are undergoing rehabilitation in the Ministry of Internal Affairs’ hospital near Lviv. Hiking in nature, including going along the river on catamarans (with accessories for the needs of people with amputations and in wheelchairs), and paddling. This technique conveys physical renewal from active inspiration and psychological and psychic renewal through the rhythm of singing, natural sounds, and the presence of gadgets. Spending time in nature, in silence, and posing with medicinal walls improves sleep and speeds up recovery [7].

Such rehabilitation activities in nature are very common today. In the Vinnytsia region, a trip to nature with fishing, active games, and a picnic was planned for military personnel undergoing rehabilitation [8].

However, these are “spontaneous” natural landscapes that are not created directly for rehabilitation. At the same time, there are proposals to create so-called “therapeutic gardens” in Kyiv and Lviv. In Lviv, a project for a therapeutic garden, "UNBROKEN," was developed on the basis of the “Nezlamni” rehabilitation center. Unlike previous examples, this will be an artificially created garden for the specific task of treating PTSD. The project was developed by Danish architect Mikael Colville-Andersen. He also developed a similar therapeutic garden for Kyiv, on the territory of the Clinical Hospital "Psychiatry." Even though green spaces are available at most medical institutions, they are rarely developed specifically as a therapeutic garden, with careful consideration of each landscape picture and its impact on a person’s psycho-emotional state [9].

Mikael Colville-Andersen designs therapeutic gardens for patients with mental trauma and PTSD. The project was developed for the conditions of Ukraine, taking into account existing mental problems, in cooperation with psychologists and psychiatrists. According to the project, the garden will be divided into three zones according to the condition of the patients:

Zone 1 – for sociophobes

Zone 2 – for communication in pairs

Zone 3 – for communication with a larger number of people (these patients also take care of the garden to promote rehabilitation through physical activity).

The project was developed based on research into the mental state of war veterans in Yugoslavia, Iraq, and Afghanistan.

However, it is unlikely that such therapeutic gardens will be distributed at hospitals throughout Ukraine. Therefore, the authors analyzed a more real experience of naturopathy at local museums in Poltava – the Panas Myrnyi and Volodymyr Korolenko museums.

The purpose of the study was to analyze the effectiveness of these gardens for the treatment of PTSD in military personnel and civilians using the example of their use.

Research objectives:

- determine the severity of PTSD as a mental disorder and the main approaches to its treatment;
- analyze the role of naturopathy as a modern non-drug rehabilitation method;
- present the author's experience in researching naturopathy based on two local museums in Poltava and evaluate its effectiveness.

The scientific novelty and results of the study are that the impact of naturopathy gardens in local museums of Poltava on the psycho-emotional state of people with PTSD was analyzed, and the impact of planning techniques and landscape paintings and the effectiveness of medical and therapeutic measures on the territory of these museums were investigated.

The research tasks led to the development of the relevant source base in the following areas:

- general issues of ecology and climate [10], [11];
- problems of ecology during the war [12], [13];
- aspects of museum work [14-24];
- landscape design [25-34].

The study of the source database proved the need to generalize the possibilities of naturopathy based on gardens at local museums, based on existing scientific experience covered in the sources, the authors' research, and the experience of practical use of gardens at local museums for the treatment of PTSD.

Materials and Methods

The research objectives determined the choice of general scientific research methods, each of which performs a certain function. In particular, the analytical method allowed us to analyze the causes and consequences of PTSD, the problems associated with it, and to assess the role of nature therapy for the treatment of PTSD and analyze existing scientific research and compare its effectiveness following the conditions of modern Ukraine. The experimental method and the survey method were applied among refugees and military personnel to determine their attitude to nature therapy (if desired, in combination with art therapy). Questioning and testing by drawing the well-known test "House-Tree-Person" proved that all respondents had varying degrees of PTSD, and at the same time, all indicated in the questionnaire the need for communication with nature and the need for art. This is quite natural, since it is a reaction to a stressful situation. The method of field surveys was used by the authors to study the planning and functional zoning of gardens at local museums. The evidence base for the research results is photofixation.

Results

Gardens at local museums as an affordable analogue of therapeutic gardens at medical institutions

As examples of analogs of therapeutic gardens, the authors took gardens at local museums in Poltava – in the estates of writers Panas Myrnyi and Volodymyr Korolenko. A feature of local museums in Poltava is that they have a separate memorial part, related to the everyday life of a person, and a literary part, related to their literary work. Often these are even two separate museums (as in the case of the Ivan Kotliarevskyi Museum). However, in the museums of Panas Myrnyi and Volodymyr Korolenko, the memorial and literary parts, although located in different buildings, are within the boundaries of one large estate.

First of all, we will argue why such gardens at local museums in Poltava can be effectively used as an affordable analog of therapeutic gardens at specialized medical institutions:

- the ecology and climate of Poltava and the remoteness of both museums from transport highways;

- location on an active relief in several levels, which adds picturesqueness to the garden and, at the same time, promotes physical activity during walks;
- the presence of water bodies;
- a large number of various greeneries – fruit and ornamental trees, flowers, bushes;
- separation from residential areas, which ensures the isolation of the territory;
- fencing of estates with a garden with a fence, which provides additional isolation of the territory.

As already noted above, a therapeutic garden is not aimed at a recreational but primarily at a therapeutic function; therefore, it should be limited to visits, separated from the general urban space, and take into account the clinical problems of patients.

The Panas Myrnyi Museum is located in his estate. The territory of the estate can be conditionally divided into three zones: a representative open entrance (the memorial part in one house and the literary part in another) (Fig. 1), a semi-open part of the garden with fruit alleys and a large lawn (Fig. 2), and a semi-closed chamber part with a small pond (Fig. 3).



Fig. 1. The memorial and literary part of Panas Myrnyi Museum, 2025

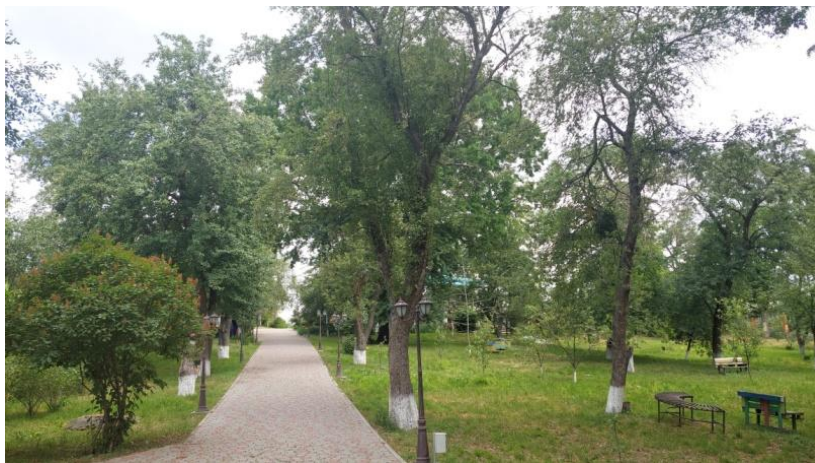


Fig. 2. The semi-open part of the Panas Myrnyi Museum's plot, 2025

The organization of landscaping of the Panas Myrnyi Museum includes the three zones mentioned concerning therapeutic gardens. The entrance open area with houses and flower beds

corresponds to the area of active communication of a group of people, so it is no coincidence that events for children of displaced persons and military personnel are held here. The middle semi-open area is oriented towards quiet relaxation by small groups of people, so small canopies and swings are installed here, and there are fruit trees. The most remote area near the lake is isolated for secluded relaxation. Given this specificity, video cameras are installed on the trees around to prevent accidents.



Fig. 3. The chamber part of the museum site. An alley that leads to the pond, 2025

The authors of the article analyzed the proposals for naturopathy by Latvian researchers [33]. The designers noted that landscape design, as naturopathy, does not completely replace medical rehabilitation, but thanks to well-thought-out landscape spaces for different target groups, it can shorten the recovery period. Ilze Stokmane and Kitija Graudiņa have provided proposals and developed models for revitalizing rehabilitation landscapes near abandoned water bodies, near settlements, and in the vicinity of forests. They introduced their classification of healing gardens, based on a specialized source base, – gardens that provide passive health benefits, healing gardens, and sensory gardens; and gardens that provide and promote active healing – therapeutic gardens. Healing gardens are aimed at passive contemplation of nature from afar, while sensory gardens take into account factors of the senses, in particular smells, touches, etc. Therapeutic gardens are designed for patients with mental and neurological diseases, so landscape design is largely combined with medicine. The researchers have developed several models of recreational zones, noting that the creation of recreational landscapes near water bodies has a number of advantages. In the zoning project they developed, active zones are interspersed with zones of quiet rest.

Discussion

In the Liepāja sanatorium, Ilze Stokmane and Kitija Graudiņa propose the following three zones: quiet space, public space, and connecting space [33].

“The main purpose of a peaceful space is to provide a quiet, undisturbed place to be alone or with a small group of friends. The space can accommodate different types and models of seating. The seating areas can be more enclosed or more open, and the backdrops can be varied and made up of different types of greenery. Use flowering, aromatic plants to make the space more inviting [34].

“Community space – a space to develop communication, interpersonal skills, and practical activities. The plan is to create horticultural therapy areas with various raised planter boxes and seating areas. It is important to design the space so that everyone has the opportunity to work – the planters are

sized to be easy to reach, the boxes are adapted for wheelchair users, and distances are respected. The space is in a sunny location, so it is important to provide shelter from the sun. This solution uses pergolas to shade the space from the sun while allowing sufficient light to pass through" [33].

"Connection space – an open, slightly transparent space that merges with the adjacent beach. The space provides a link to the activities on the beach, acting as an introduction to the sea area. Walkways should be created here, linking to footbridges or paths in the dune zone, on the beach. Benches (or seating areas) should be systematically placed along the paths. Views of the sea are important too." [34].

Experimental studies conducted by Ilze Stokmane and Kitija Graudiņa have proven the following requirements for medical gardens in the case of Latvian medical institutions:

- a combination of different types of spaces – open and closed – for different groups of patients: for solitude under the supervision of medical staff, in pairs, or in small groups;
- a greater load is predicted for garden areas near entrances and buildings, but in addition to them, it is necessary to design cozy remote areas with a sense of privacy;
- it is necessary to provide for active and passive outdoor recreation for different patients;
- an important role is assigned to garden lighting and small architectural forms for protection from atmospheric factors;
- chairs, benches and tables should be evenly placed in the garden, providing for the possibility of their movement, all elements should be safe to use;
- the garden area should have landmarks – road signs, paths, and visible access to buildings. The best option is to orient all paths to the main entrance;
- the necessary elements of the originality of the therapeutic garden are groups of plants, small sculptures, water bodies;
- when designing therapeutic gardens, the needs of people with disabilities should be taken into account: people in wheelchairs, amputees, and people with visual impairments. Therefore, such gardens provide the opportunity to touch flowers, trees, stones, and use different coverings for paths;
- the entrance area immediately forms an impression of the garden, so it should be illuminated, open, friendly, and safe;
- "The proportion of hard surfaces in the garden should be minimized, so the choice of planting is one of the most important aspects. It is recommended to use as wide a variety of plants as possible – colorful flowering plants and different textures, colors, and shapes. Plants that make sounds in the wind, tree canopies, different grasses, and others should be used, as well as plants that attract birds and butterflies, which are positive features in the garden" [34].

Now let's analyze whether these requirements have been met in the garden of the Panas Myrnyi museum.

- there is a division into three parts, as required in therapeutic gardens (open, semi-open, semi-closed chamber zone);
- a combination of areas with a larger number of visitors (at the entrance, near two houses where group events take place) and areas for solitude and quiet rest;
- the illumination of the garden area and the presence of small architectural forms and wooden sculptures near the lake;
- chairs, canopies, swings are placed throughout the garden;
- paths lead to the main entrance; there is a possibility of viewing the entire territory from a long distance;
- there are various types of trees, flower beds, small sculptures, a natural lake;
- special attention is paid to landscaping the entrance parade area with flower beds;
- the area is isolated from the noise of the city, but there are natural sounds here – the sound of trees, the rustle of the wind, the singing of birds, the sound of water;
- an isolated distant area with a lake is visible on the cameras.

This proves that in conditions of limited resources, the garden at the Panas Myrnyi Museum can be used as an analog of a therapeutic garden for temporary therapeutic measures under the supervision of medical personnel.

The second example is the garden at the Volodymyr Korolenko Museum (Figs. 4, 5). As in the case of the Panas Myrnyi Museum, the exposition is divided into the actual memorial and literary parts in two separate buildings. There is something in common and something different between these two estates. The common thing is the presence of a representative entrance space in front of the buildings – open, ceremonial, with bright flower beds. The difference is that the Korolenko estate is smaller in area, so in the garden itself it is not possible to clearly separate the semi-open and semi-closed parts. The garden is planted with fruit trees—cherries; dogwood, which Korolenko himself planted; and other trees (Fig. 6). If we talk about the therapeutic properties of the garden, then the garden in the Panas Myrnyi estate fits this definition more, although rehabilitation activities for military and civilian personnel also take place on the territory of the Volodymyr Korolenko Museum. Objectively, the garden in the Korolenko estate is more of an ordinary recreational space rather than a directly therapeutic garden (Fig. 5).



Fig. 4. Entrance area of the Volodymyr Korolenko Museum, 2025



Fig. 5. Entrance area of the Volodymyr Korolenko Museum

Thus, the analysis of gardens at local museums has proven that in some cases they can be accessible analogues of therapeutic gardens and perform not only a recreational but also a therapeutic function. This is possible when the layout of the garden clearly identifies three necessary zones: an active communication zone, a group communication zone, and a solitude zone with the requirements for each of them, which are listed above.



Fig. 6. Orchard in the Volodymyr Korolenko's estate, 2025



Fig. 7. Isolated area in the garden of the Panas Myrnyi Museum, 2025

Conclusion

The study is devoted to the topical topic of naturopathy for Ukraine. Analysis of the requirements for therapeutic and healing gardens and comparison of these requirements with gardens at local museums in Poltava allowed the formulation of the following conclusions:

- most researchers distinguish three zones in therapeutic gardens: an open zone of active communication, a zone of communication in pairs, and a chamber-like isolated zone for solitude;
- most researchers distinguish three zones in therapeutic gardens: an open zone of active communication, a zone of communication in pairs, and a chamber-like isolated zone for solitude;
- unlike ordinary parks, therapeutic parks should be well visible from all sides for a sense of security for patients; they do not use compositions of dark, dense trees, such gardens have good lighting and calm colors;

– since today the culture of establishing therapeutic gardens at Ukrainian hospitals is at an early stage, this role can temporarily be performed by local museums in medium-sized cities, remote from highways and residential areas, but such gardens must meet at least some of the requirements for therapeutic gardens;

– in the gardens of local museums, local tree and flower species are usually used, and the practice of introducing an ethnic style, which creates the effect of coziness and intimacy, is common.

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