

# PILOT ACTION REPORTPILOT 3

# Bologna pilot action report:

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PP4 VILLA GHIGI FOUNDATION

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#### History of the document

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#### 1. Main focus of the HICAPS goals in the pilot action

The activities carried out in Bologna by the Villa Ghigi Foundation provided a direct contribute to the general objective of the HICAPS project:

• to contribute to strengthening capacities of public and private sector for use and protection of natural and cultural heritage resources for sustainable growth of regions in Central Europe, focused on historical gardens by developing strategies and tools which will provide public and private sector with necessary skills.

The Villa Ghigi Park is indeed one of Bologna's best-known, large and charming green areas. It is located on the first Apennine reliefs of the city. On the southern side of Bologna, the distance between the ring of circular avenues, following the track of the ancient Medieval walls and the slopes of Apennine is almost non-existent. The park is home to the Villa Ghigi Foundation, which has been managing the park for many years, thanks to an agreement with the Municipality of Bologna. The Villa Ghigi Park is a public green area belonging to the Municipality of Bologna, whose management has been entrusted to the Villa Ghigi Foundation for a period of fifteen years by a specific agreement, renewed every three years. Access to the park is free. The park is usually frequented by the citizens, especially those living in the adjacent areas, and nature lovers who appreciate that the park is very close to the city. From thirty-five years the park is a very popular place for schoolchildren, who have an articulated educational programme that the Foundation enriches and renews every year. The park is also home to training courses for educators, teachers, environmental professionals and ordinary citizens. Educational activities are partly free and partly paid or carried out under projects funded by the municipal administration or other bodies. The Foundation also offers workshops and other extracurricular activities, especially on weekends. During summer holidays, it manages a summer centre for children of 6-12 years old and offers other proposals for younger children and adolescents. From thirty-five years, the park is a very popular place for schoolchildren, who have an articulated educational programme that the Foundation enriches and renews every year.

Within this framework, the HICAPS project allowed to strengthen the relationship with the local, regional and national stakeholders interested in the management of historical gardens, and increase the visibility and the relevance of the role of the Villa Ghigi Foundation in this context. In this way it was possible to enhance its capacity to be one of the driving forces at local and regional level in management and protection of historical green areas, and propose new strategies for transferring best practice to other gardens and parks that can benefit of the knowledge and experience achieved through the HICAPS project.

The pilot action run in Bologna also contributed to the achievement of the two specific objectives of the HICAPS project:

- Consensus building of public and private sector about protection and revitalisation of historical parks;
- Improved quality of life for the citizens of Central Europe.







In particular, it contributed to build consensus around the protection and revitalisation of historical gardens, thanks to the activities run in several sectors of the park. All together they contribute to improving its general accessibility, usability, relevance, as well as the historical, landscape and environmental qualities of the park. They have a high demonstration character, since the Villa Ghigi park plays the role of front runner within the HICAPS partners, and the experimental activities here developed can be a model for further replication within the Central Europe historical gardens.

## 2. Specific goals on the pilot action

The key goal of the pilot action in Bologna consisted of revitalising the Villa Ghigi historical park, by implementing new educational concepts mainly addressing families and schools, proposing unusual points of view, far from the traditional ways of learning.

The pilot activities included: the development of a paper-based leaflet (in Italian and English), to increase accessibility and fruition of the park and attract a wider number and a different typologies of visitors; the preservation of the old Himalaya cedar tree, dating 1874, thanks to the installation of a protective wooden platform, combining the preservation characteristics with new opportunities for approaching this key attraction of the park; the development of new information signs at the main entrances of the park, to increase information about the multiple ways to visit the garden; the organisation of educational and recreational events during the summertime, and the seasonal opening of the Custodian House to offer a space for restoring to the visitors in the hot months.











Details of the installation of the wooden platform around the big cedar





## 3. Implementation of the pilot action

The process to be followed for the pilot action at the Villa Ghigi park was discussed with local and regional stakeholders before starting the implementation, This preliminary step provided the opportunity to point out several key issues that are strictly concerned with fruition of historical gardens and the impact of human activities in green areas, with the objective to identifying solutions able to mitigate the possible negative effects of human activities and maximise the impact of the pilot action to be run within the HICAPS project:

- the key position of the Villa Ghigi park, as a transition element connecting the city centre of Bologna with the pre-Apennine hills around the city, as an asset to be better exploited in the ongoing tourist promotion policy;
- the historical importance of the area around the Villa Ghigi Park, one of the first fauna protection oasis created by Alessandro Ghigi in the 1930's;
- the identification of different solutions for solving the problems created by high numbers of visitors;
- the difficult balance between the willingness to promote the city park as a place where human and dogs can stay together and the need to respect the current restrictions imposed by the city directives;
- the interest in proposing new services to the visitors, within some areas that can be sponsored by single persons or by associations and ONGs;
- the possible involvement of visitors, with a special focus on young children, as well as the necessity to increase information in several parts of the park, for increasing the information on its assets and reminding visitors the rules to be respected.



The new leaflet presenting the key points of the Villa Ghigi Park





The analysis of the feedback and suggestions received paved the way to the detailed plan, articulating the strategy around the following steps:

- development of paper-based leaflet (both in Italian and English language) proposing the main historical, environmental and naturalistic information about the park. Fifty-three key points within the park have been identified and fully described;
- preservation of the old Cedrus deodara, dating 1874 probably the most known and precious tree of the park, thanks to the installation of a protective wooden floor and other activities aimed to increase accessibility of visitors;
- partial rehabilitation of the old Custodian House, with the objective of setting up a place for restoring and welcoming the visitors in a friendly environment. New events could be organised during Summer 2019 thanks to the hosting resources made available by the Custodian House, such as concert of music, and other evening entertainment shows;
- development of new information panel to be located at the three main entrances of the park, providing information about the rules to be followed by visitors as well as informing them about the richness of the assets present in the area.

The full set of planned interventions cover a time frame that overcomes the duration of the HICAPS project and the implementation of the pilot action, and will be developed with the own funds of the Foundation. The budget spent for the pilot action within the HICAPS project amounts to about 23.000 Euro (about 7.850 Euro for printing and communication, and 14.990 Euro for new investment related to the wooden platform). The original plans included the purchase of tablets and signposts, together with the development of the wood platform, however the costs of the platform already covered the available budget and the purchase of tablets was postponed.



Probably the most ambitious activity run during the pilot actions consisted of the intervention on the old cedar. Among the most significant trees in the park, the large Himalayan cedar (*Cedrus deodara*) that stands out in front of the Villa Ghigi building is one of the most relevant specimens, for its historical value, location, shape and large dimension. The tree was planted in 1874 on the occasion of the purchase of the property by the Ghigi family, and today it is the last of three similar specimens, two of which disappeared many years ago.

The tree, struck by lightning thirty years ago and then without its top, was in precarious vegetative and phytosanitary conditions, as evidenced by the instrumental investigations (VTA, tomography) performed by the experts monitoring the trees of the park. One of the reasons for this precarious state is due to the many people visiting this area and excess of foot traffic that has made the soil very compact, resulting in asphyxiation and reduction of activity of the plant roots. To protect the great cedar and guarantee its future





accessibility without risking to compromise it, a series of interventions have been planned and realised thanks to the HICAPS project. They involved a special care of the tree and the creation of a building to avoid the damage caused by foot traffic around the area. The alternative solution would have been to close access around the plant, delimiting its area with a fence. The proposed option was considered more appropriate to give the possibility to the park visitors and school children to continue approaching the plant and enjoy its shade and welcoming embrace.



Mycorrhization of the soil

The following activities have been carried out by expert staff under the technical direction of the organisation responsible for monitoring the park's trees according to the following programme:

- Mycorrhization of the soil in the root system of the tree, through specific products that can improve the performance of the tree. These interventions, already started in 2015, inject useful substances into the soil through the use of mycorrhizal injectors, so stimulating the recovery of the root activity and the vegetative conditions of the plant;
- Decompaction of the ground under the tree and subsequent exposure of the roots by the air-spade method, an innovative system consisting in the use of a compressed-air lance able to remove the first layer of soil by exposing the roots and highlighting the presence of any pathologies;
- Supply of a new substrate with characteristics suitable for favouring the root activity and the vegetative growth of the tree (agricultural land mixed with inert draining material);
- Creation of a wooden platform to be laid on the ground under the tree, slightly raised from the ground level, intended for visitor to stop and resistant to their foot traffic. This will facilitate the respiration processes of the root system and allow rain to filter into the ground below.





The target beneficiaries of this intervention are all the visitors of the park who like to stop in the area in front of the Villa Ghigi and in particular under the crown of the great cedar, as well as classes of children visiting the park, who often use the large cedar as a meeting place, for resting or for special occasions (special ritual moments are held under the shade of the tree, such as the circle of presentation, the circle of readings, games, etc.).

The wooden platform has been put in using wooden slats of place appropriate size supported by a substructure of wooden elements, able to allow the respiration processes of the plant root and allow rain to filter in the ground below. The artefact must fit in the context so as not to compromise the peculiar characteristics of the place, which is extremely delicate given its central location in the park, the high attendance and the proximity of the historic building of the villa. In this sense, the particular shape of the



plant, whose branches touch the ground, helped to mask the presence of the artefact that from the plateau of the villa is almost invisible. The semi-circular platform with a surface area of about 70 square meters was done with high quality materials that last over time, paying attention to the choice of its components (screws, hooks, etc.) and to guarantee the safety for future visitors.

Being one of the most popular trees in the park, it was very important to give adequate communication of the interventions planned for its care. The information has been given either occasionally (through the daily dialogue that the Foundation's staff have with the park's visitors) and in the context of meetings and public events of different nature dedicated to citizenship, as well as through the Foundation's website. A descriptive panel was also created, placed near the large cedar, describing in a simple way the actions dedicated to the tree for its protection in order to engage and empower the visitors.

The final identified solution is a semi-circular platform with a "wedge" pattern; the total surface area is about 70 m<sup>2</sup>. It is placed on the flat part under the tree, slightly raised from the ground level, at a distance of about 1 meter from the collar (the base of the trunk) in order to guarantee a "band of respect" of the tree. The semi-octagonal supporting structure is in wood beams impregnated with a variable section.

The floor is made of dried Engadin Swiss larch wood, having a mixed width, brushed along a vein for greater resistance to trampling and anti-slip, and a 10 mm fugato for water runoff. The wood colour is dark walnut and the flooring treatment has been done using an impregnating material with waxed water and oiling specific for outdoor use. The product was manufactured with hot galvanized metal plates, for the support of the structure to the ground. This solution guarantees that the walking surface stay in a horizontal position, even when the level of the ground is not regular, due to changes or variations in the shape of the substrate. The artefact is equipped with an entrance ramp with a slope in larch





wood - suitable to ensure access to the platform also to prams, a parapet placed near the embankment and at a distance respecting the trunk, and a black rope.

The structure can be easily removed, since it was designed with easy fixing systems both to proceed with its eventual removal and to favour ordinary maintenance and activities in the ground below it (for example possible future correction interventions to be performed by means of an injector pole). The wood is certified according to the Forest Stewardship Council (FSC), CE marked with a resistance class C18/24. High quality screws for exteriors in steel and hot-dip galvanized have been used.

The construction of the platform was achieved by pre-assembly the various parts in carpentry (both to verify the components and to optimize the laying times), followed by the transport of the preassembled elements to the park, the subsequent construction of the site and the final assembly of the artefact in the identified position.

It must be underlined that, some days before the assembly of the platform, the decompaction and aeration of the ground in the under-tree had been performed, using the air-spade method, a preliminary intervention functional to the care of the large cedar. After laying the platform, the area of relevance of the cedar was fenced to avoid treading the building and complete the finalisation tasks. Some temporary signs have been applied along the fence, waiting for the official planned signs that will adequately illustrate the intervention on this important tree in the park, recently inserted among the monumental trees of Italy.



Old tree used for educational purposes

Other intervention carried out within the pilot action concerned the garden area around the Villa. This is a central place in the park and is the main ornamental component of the green area. Analysing the historical documentation relating to the villas in the Bolognese context and considering the tree presence in the garden, including a secular yew tree (*Taxus baccata*), the garden should be contemporary of the villa, in the seventeenth century. The garden, which develops on a slope, had recently shown signs of suffering due to the precarious vegetative and phytosanitary conditions of the arboreal, shrub and herbaceous components. The undergrowth appeared to be very impoverished and degraded, due to the high attendance of this space.





The opening (at least during the Summer months) of the Custodian House, the building next to the villa used as a refreshment point, and the recreational and cultural activities planned in this sector of the park, attracted an even wider audience increasing the problems related to its attendance. It was therefore necessary to plan a model of "sustainable" management of the garden that aims to safeguard and enhance its historical, ornamental and landscape value through a series of coordinated actions related to:

 take care of the valuable historical tree heritage through planned interventions, such as pruning, consolidation, Visual Tree Assessment (VTA), mycorrhiza



infiltrations; the interventions regard specific specimens including the large Himalayan cedar (*Cedrus deodara*), the nearby photinia (*Photinia serratifolia*), the already mentioned yew tree (*Taxus baccata*), the avenue of lime trees (*Tilia cordata*), the oaks (*Quercus pubescens*) and cypress specimens (*Cupressus sempervirens*);

- perform test on single prestigious trees. For the large Himalayan cedar, for example, the planned work is located on the ground and on the root system of the plant (air spade method), with subsequent construction in the underbrush of a wooden platform to mitigate problems due to visitors;
- select and breed valuable arboreal and shrub species to facilitate the renewal of the vegetation cover (Taxus baccata, Tilia cordata, Acer campestre, Buxus sempervirens, etc.);
- enrich the plant components with introductions of species with a strong ornamental value, favouring those typical of the historic parks of the Bolognese villas, easy to plant and with low maintenance requirements. Among the shrubs it is expected to include calicanthus (Calycanthus praecox), Japanese quince (Chaenomeles japonica), angel flower (Philadelphus coronarius), rose (Rosa spp.); among flowering herbaceous; bulbous plants (Tulipa spp., Narcissus spp., Iris spp., etc.);
- reorganize the network of water regulation, also as a function to avoid walking in the undergrowth areas;
- restore the undergrowth through the creation of wooden artefacts of simple form and minimal impact, already present in other sectors of the park, designed to counterbalance the leaching of organic matter and to promote soil fertility; herbaceous plants with a rustic ground cover (Vinca minor, V. major, Iris japonica, Iris foetidissima);





- control the growth of the arboreal and shrubby vegetation that insists in the sector in front of the villa (with containment pruning, elimination of weeds, etc.) to preserve and enhance the panoramic view of the city;
- control the new furnishings introduced in the space belonging to the Guardian House, functional to future recreational and cultural activities, with particular attention to the characteristics of the artefacts and their inclusion in the context.



#### 4. Main achievements of the pilot action

Thanks to the pilot action run within the HICAPS project, Villa Ghigi Foundation could achieve many benefits:

• improving the existing educational and tourist policy of the park.

Thanks to the pilot, the Foundation has increased the number of events that can be organised in the park, SO increasing the number and diversifying the typology of the audience. In particular the events and activities organise during the summertime covered



a very high number of different topics, often co-organised with other public and private associations and cultural actors active at regional and national level. In this way the visibility and role of the Villa Ghigi Foundation have received a strong impulse.





• developing new tools, services and knowledge

Strictly connected with the previous points are the new educational tools and activities organised in the last months, in particular:

- cultural events within the Bologna Summer 2019 calendar at the Casa del Custode, including music, theatre and cinema events
- workshops about biodiversity proposed to group of university students from the Master's Degree of Outdoor Education



 night of the stars, to observe the sky vault, together with scientists and a laser pointer indicating the stars in the sky;

- Gardening Course aimed at job placement and social inclusion of people in weak and vulnerable conditions;









- a programme of Sunday walks (hills outside the gates);





- a night with fireflies.

• ensuring the resources necessary for the short, mid and long-term period and fostering the sustainable economic growth and employment

• raising awareness about importance and potential of natural and cultural heritage. Relevant impact and benefits were achieved thanks to the HICAPS project:

- enhancing the key position of the Villa Ghigi park as an element to be better exploited in the ongoing tourist promotion policy;
- highlighting the historical importance of the area around the Villa Ghigi Park, one of the first fauna protection oasis in Italy;
- identifying and testing good practice of maintenance and management of natural heritage, testing methods reusable in other green areas around Bologna;
- proposing new services to the visitors, within some areas that can be sponsored by single persons or by associations and ONGs.

The relevance given by the local newspaper to the initiatives organised by the Foundation witnesses the success of the action.









# 5. Lesson Learnt and Conclusions

The pilot action run in the Villa Ghigi park has played a central role in the overall revitalisation strategy of the Foundation. First of all, even if the actions and the concepts developed in the different areas of the HICAPS partnership were quite diverse in terms of design, complexity and realisation, the opportunity of exchanging knowledge, capacity and best practice at transnational level given by the HICAPS Project was extremely important, since all the partners, and the Villa Ghigi Foundation in our special case, have been able to improve the quality of their initial ideas thanks to the mutual support and the discussion held with the others.

In particular, due to the educational vocation of the Villa Ghigi park, this cooperation has developed a lot of good ideas for organising educational outdoor tools, that are quite easy to implement in the specific situation of Bologna, also providing ideas for diversifying and increasing the variety of target beneficiaries, and then the number of people visiting the park.





In this way, the fruition of and access to the park received an important boost, since HICAPS allowed to analyse three different levels of this challenge:

- information (appropriate spatial design that makes it possible to receive information, develop new information signs, maps, etc.);
- spatial accessibility (creating a new way to approach the historical trees without risking that the human presence could harm the tree itself);
- creation of new services and processes (educating the staff and other relevant stakeholders how they can improve the communication with different typologies of target beneficiaries.