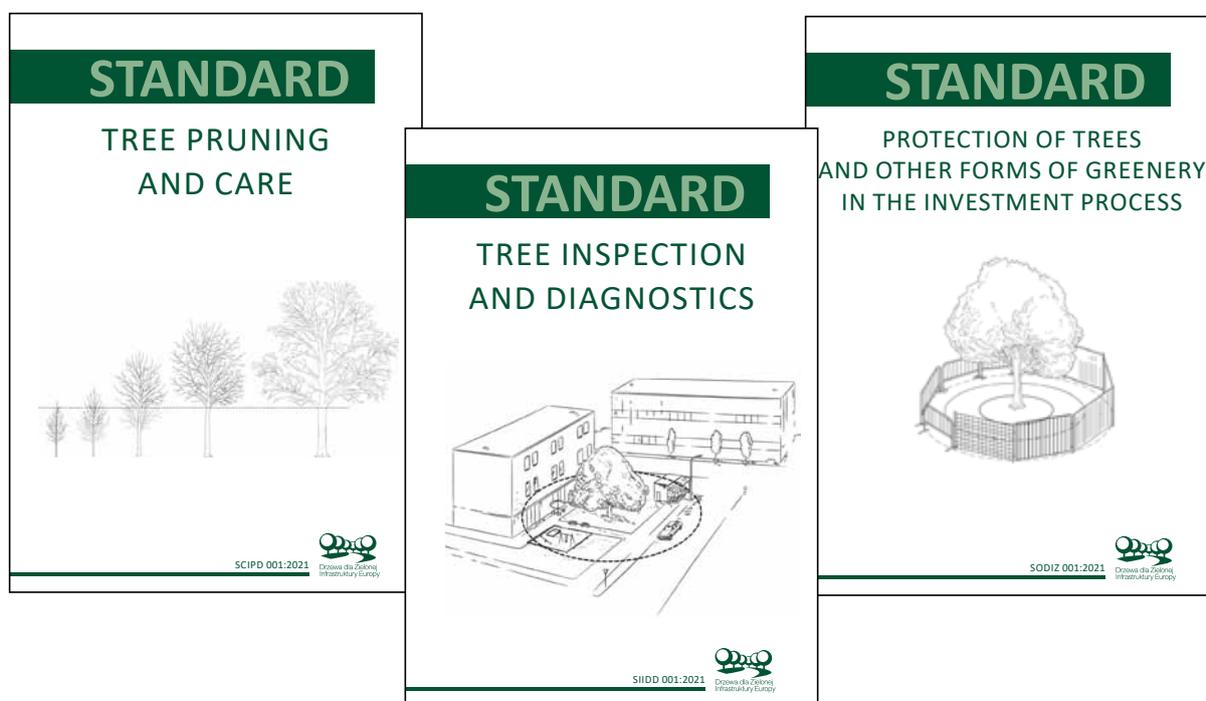


STANDARDS

FOR WORKING IN TREES AND THEIR SURROUNDINGS



WHAT THEY ARE AND HOW TO USE THEM IMPLEMENTATION MANUAL

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The views of the authors and the content of the publication do not always reflect the official position of the European Commission and the Voivodship Fund for Environmental Protection and Water Management in Wrocław.

1. Introduction

This publication has been developed in order to make it easier for users to become acquainted with standards for working in trees and their surroundings, and determine their usefulness as well as methods of implementation under the project entitled “Trees for Europe’s Green Infrastructure”¹ (hereinafter referred to as Standards). The objectives and tasks of the project are described in more detail in Chapter 2 of this document.

The manual contains a description of the Standards, target groups, recommendations concerning the scope of implementation, a short guide to the implementation process based on the example of selected institutions, and additional information helpful in the application of the Standards described in a given institution, as well as in a process of making arrangements with already existing guidelines or legal regulations. The manual is based on the content published in 2020–2021 and refers to the goals and methods of use in accordance with the intentions of the authors and leaders of the “Trees for Europe’s Green Infrastructure” project.

The purpose of this manual is to support the process of disseminating the Standards and making decisions on their implementation by as many people as possible (which is necessary for the publications in question to become standards not only in name). The benefits which the development of the cross-group content and its widespread approval bring are invaluable in each area that is important from the social point of view, rapidly developing, diversified, and which does not have any appropriate regulations at the level of national law. It is especially important when it comes to objects that are socially engaging and require social consensus such as trees, and arboriculture – an area which is still young and not regulated in Poland.

About the project

“Trees for Europe’s Green Infrastructure” is an international project funded by the LIFE Program of the European Commission. Its main objective is to improve tree management by developing and disseminating standards and good practices for dealing with trees growing outside forests – in rural and urban areas. The guidelines were developed in the following fields: pruning and care, tree diagnostics and inspection, biosecurity, tree protection in investment processes, creation and maintenance of wooded areas in the agricultural landscape, as well as trees growing along watercourses and next to roads.

Standards for tree work were developed by expert teams in consultation with entities responsible for the management of wooded areas. In addition, their drafts were subject to public consultation. Following the example of other countries, they are disseminated and passed on to practitioners for use in Poland and other European countries.

The project was carried out in 2016–2021 by Fundacja EkoRozwoju (ang: Eco-Development Foundation) in partnership with Stowarzyszenie Eko-Inicjatywa (ang: the Eco-Initiative Association) and the national branch of BUND in Mecklenburg-Pomerania (Germany). More information on this project is available on www.drzewa.org.pl.

¹ LIFE15GIE/PL/000959 entitled “Trees for Europe’s Green Infrastructure” was co-financed by the LIFE + Program of the European Union and the Voivodship Fund for Environmental Protection and Water Management (WFOŚiGW) in Wrocław, Gdańsk and Poznań (drzewa.org.pl).

2.

Trees as an element of green infrastructure

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Green Infrastructure: a strategically planned network of natural and semi-natural areas with other environmental features, designed and managed to ensure a wide range of ecosystem services. It includes green areas (or blue in aquatic ecosystems) and other physical features of land (including coastal) and marine areas. On land, green infrastructure is present in rural as well as urban areas.

An announcement of the European Commission: "Green infrastructure – increasing Europe’s natural capital", COM/2013/0249 final

Trees are an important factor improving the quality of life in cities – they produce oxygen, filter out pollutants from the air, and protect us against the ubiquitous noise. Owing to shading and heat-absorbing transpiration, they are able to lower the temperature and mitigate the phenomenon of heat islands, which is very important in terms of global warming. All these aspects translate into economy – less money is spent on air-conditioning systems, whereas properties located in wooded districts have higher selling and rental prices. For example, the revenues from the increased taxes on the real estate surrounding Central Park exceeded the hypothetical revenues if the area were parcelled out for development and construction. Additionally, scientists found out that trees have a civilizing effect on people’s behaviour – districts without them were more dangerous and less friendly to residents. This is probably due to the fact that people living in green neighbourhoods relax more easily and have higher life satisfaction. As a result, they are also more productive, healthier and put less strain on the healthcare system.

It has been known since 19th century that trees constituting green infrastructure improve the microclimate of the rural landscape and favour agricultural production, which was repeatedly confirmed by scientific research conducted in various climatic zones. This is because they hamper the winds drying and blowing off the soil, whereas transpiration stimulates the circulation of water in the atmosphere, and thus also precipitation. Another thing is that trees increase the biodiversity of the rural landscape, especially the number and diversity of pollinating insects.

Avenues, parks and other tree plantings play an important role for biodiversity as ecological habitats and corridors. The older the trees become, the greater the number of organisms living in them, including those under legal protection or threatened with extinction (on the so-called red list). The most valuable are old hollow trees, used as breeding places and shelters by numerous species of birds, bats and arthropods, many of which cannot be found anywhere else. In many areas, it is the wooded area that is the largest concentration of deciduous old trees, as in Poland most of the forests are relatively young. The number of invertebrates from endangered species dependent on the presence of old trees in anthropogenic ecosystems often equals or exceeds those found in forests. Additionally, many endangered species prefer trees growing in open fields, such as the EU-protected osmoderma eremita and great capricorn beetle. Also, for most species of bats and birds, the woody green infrastructure in towns and villages is a prerequisite for survival.

In the era of climate change, the role of trees in adapting to new conditions, in which the temperature and the frequency of violent weather events are increasing, is becoming increasingly important. Thanks to their capacity of holding water in crowns and soil,

trees mitigate the phenomenon of flash floods. This, in turn, makes it possible to save money on the efficiency of sewage systems and reduce property damage during storms. Given the global scale of carbon dioxide emissions, the amount of carbon dioxide absorbed by trees planted in European landscapes may seem modest, but most of them will keep the carbon dioxide they bound for hundreds of years. Unlike managed forests, trees in wooded areas have a chance to live to a ripe old age.

Investing in trees means investing in the future, and like any other investment, it requires incurring certain expenses. Maintaining grey infrastructure generates costs, but its benefits usually outweigh them and nobody can imagine a well-functioning city without, for example, a solid road network. Just like we use roads, pavements, storm drainage systems or photovoltaic installations (grey infrastructure), the presence of trees in our environment offers a number of benefits, too. They are unique because the scope of their functions (ecosystem services) is very wide. However, it is necessary to bear in mind that trees are the only elements of infrastructure whose value increases from the day they are planted for the rest of their lives, and the bigger their crowns become, the more tangible benefits they bring. It is safe to say that trees can be considered a unique landscape ornament, storm drainage system, air purifier, oxygen factory, carbon dioxide absorber, a remedy that facilitates healing and many more all rolled into one. Such multifunctional elements of green infrastructure are necessary for our well-being, especially that we, humans, need trees the most. In order for them to serve us well, in a space controlled and dominated by people, they should be subject to certain standards that allow of their safe and long-term maintenance. This requires proper care, and thus expenses. In order to have trees that can grow tall and large, we need to allocate space for them, that is, adjust other infrastructure elements in the environment in such a way so as to avoid collision. This applies not only to the above-ground tree parts, but above all to those that grow underground. It means we must ensure an appropriate amount of fertile soil around the tree, as well as access to water. It is necessary to remember that already existing trees require proper care on a regular basis. Like any living organism, they may die and become damaged, also as a result of human activity and climate change. In order to ensure safety in the vicinity of trees and reduce the risk to an acceptable level, it is necessary to perform regular inspection, assessments and treatments. However, the mere presence of a tree, regardless of its size, should not be considered a threat. Other inconveniences related to limited sunlight or falling leaves can also be bothersome. Indeed, the maintenance of trees is costly and somewhat risky, but the benefits that they offer outweigh these disadvantages.

2.

Trees as an element of green infrastructure

3.

What are the standards for working in trees and their surroundings and what purpose do they serve?

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In recent years, many documents called “standards” have appeared in Poland and other countries, so it is worth recalling the definition of this type of document. A standard is a special type of publication that defines requirements, specifications and procedures, the application of which ensures that products, procedures or services are optimized for the purpose for which they are used. In short, a standard answers the fundamental question: “What is the best way to perform this task?”. A standard is accepted by various industries, institutions and people, and describes a manner of performing a given task which is considered appropriate at the time of adoption and implementation of the standard.

A special feature of standards is that they define a given task “here and now”, as opposed to strategies or local policies that indicate a vision to be pursued or goals to be achieved within a specific period of time (for example, standards for planting trees specify what the seedling should look like and how the tree should be planted, but they do not specify the number of trees planted in a given city – this is the task of a strategy or other land development plan). The standard is universal for a given activity or process and is not limited by local specificity.

The process of standardization began many centuries ago with weights and measures, and nowadays, especially in the 20th century, it has extended to other areas. “Wood” standards developed in the 1990s in the United States², and they were followed in Western Europe some years later. Currently, the process of standardization of working in trees is carried out in many European countries, including the Czech Republic, Germany and Great Britain. An international project, the aim of which is to develop European technical standards³, is also ongoing.

This process was usually associated with a greater appreciation of the role of urban trees and wooded areas, and recognition that taking proper care of them is essential for their long-term and safe growth. In the case of trees, standards can address technical issues related to work performed in them, the management of tree data or education of tree carers. In most cases, the need for standards resulted from the fact that more and more people dealt with trees and mutual understanding between parties involved in this process was essential. Regulations concerning trees usually describe very basic aspects, whereas taking care of trees is connected with various fields and functions on many levels. Legal aspects related to public safety were also an important issue.

² https://www.tcia.org/TCIA/Build_Your_Business/A300_Standards/A300_Standards.aspx

³ Technical Standards in Tree Work (2019-1-CZ01-KA202-061384) financed by the European Union under the Erasmus + Programme – this project contains, among others, standards for planting trees or mechanical reinforcement that are complementary to those discussed in this manual. Their results will be available in 2022.

3.

What are the standards for working in trees and their surroundings and what purpose do they serve?

One of the main motivational aspects in developing the Standards described in this document is that trees are one of the most valuable and durable components of green infrastructure. However, their value is all too often underappreciated, and they undergo treatments that deteriorate the prospect of their optimal functioning. Another motivational aspect concerned the growing need for better communication between numerous entities dealing with trees. Trees are special organisms living in the vicinity of people, in the management of which are involved, among others, local governments, road authorities, nature conservation authorities, private owners, housing cooperatives, designers, landscape architects, urban planners, tree inspectors, contractors performing work in trees and green areas, scientists, non-governmental organizations and many others. Such a large variety of involved institutions and people requires a harmonized understanding of processes and work related to tree management.

The standards described in this document constitute a set of guidelines, procedures and techniques used in work involving trees or their immediate surroundings important to them. They concern the performance of work that meets the needs of people or ensures public safety, but according to the rules of conservation arboriculture, this work also has to maintain tree integrity and welfare, so that the needs of people and trees as well as living organisms associated with them are balanced.

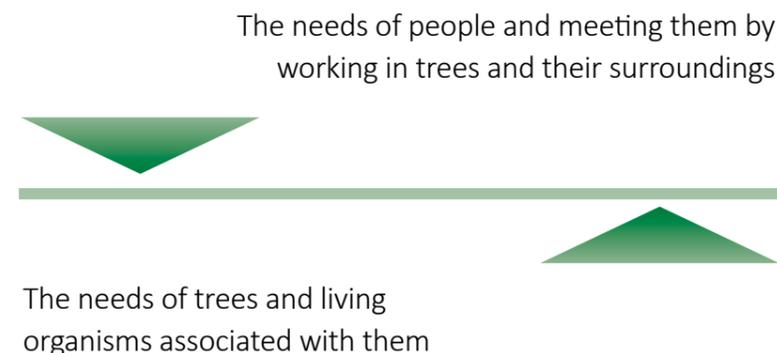


Fig. 1. Balance of the needs of people and trees as well as living organisms associated with them as a target in arboriculture (own elaboration)

The Standards discussed in the manual are addressed to a wide group of stakeholders involved in the implementation of work in trees and in their surroundings. They are supposed to help carry out this work and to conduct processes associated with them, including making decisions about the content of the work, selecting contractors or evaluating work performance. In their current form, they do not constitute legal rules, but they can be used to create contract provisions or to add detailed information to other documents.

The authors of the Standards have predicted their use in, for example, public procurement. They can be used in this field as an element of the description of the subject of the contract (OPZ), specification of the terms of the order or the contract itself. The authors stipulate, however, that in the current legal conditions, the Standard shall not be a condition for the contractor’s participation in the procedure, nor shall it be a criterion for offer an assessment.

3.

What are the standards for working in trees and their surroundings and what purpose do they serve?

In general, a given Standard may be used as:

- A source of knowledge** – concepts, definitions, descriptions of activities, and the like, which can be referred to in the content of documents related to the contract. In this way, it organizes and unifies the elements of the subject of the contract and makes it possible to merge different levels of knowledge and understanding.
- A guide** to possible activities along with the definition of their content and limits of use, helpful in selecting and specifying the scope of activities covered by the contract.
- A normative model** helping to determine the quality criteria and assess the level of work performance. The commissioning party may require the performance of work based on a given Standard as a quality assurance criterion in the performance of the contract. Due to the fact that the use of the standards is limited to the decision maker or commissioning party during the performance of the contract, the verification of whether or not the standard is applied may take place in accordance with the authors' assumptions only on the basis of provisions in the contract regarding the approval of work or the imposition of contractual penalties. In the event of failure to meet the criteria of the standard, the provisions of the contract shall prevail.

According to the authors, the use of a given Standard should help to standardize and improve the quality of work and communication between the entities involved in the process, including commissioning parties and contractors. The aim is not only to maintain the welfare of trees (including their habitat) and people, but also to rationally manage the funds allocated to the work. In order to achieve the best results, the use of a given Standard should also take into account the relevant content of other Standards and, if possible, other current guidelines and standards consistent with applicable law.

The Standards include the most recent knowledge and guidelines developed at the European level, available to the authors during their preparation. Because of the rapid development and updating of knowledge and experience related to the broadly understood arboriculture industry, when referring to the content of the Standards, it is also necessary to refer to their version and date of publication and, if possible, use the latest guidelines.

4. What standards for working in trees and their surroundings are available and what do they contain?

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What standards for working in trees and their surroundings are available and what do they contain?

At the time of developing this manual, there were tree Standards available in the “Trees for Europe’s Green Infrastructure” project. They are discussed in detail in subsequent chapters.

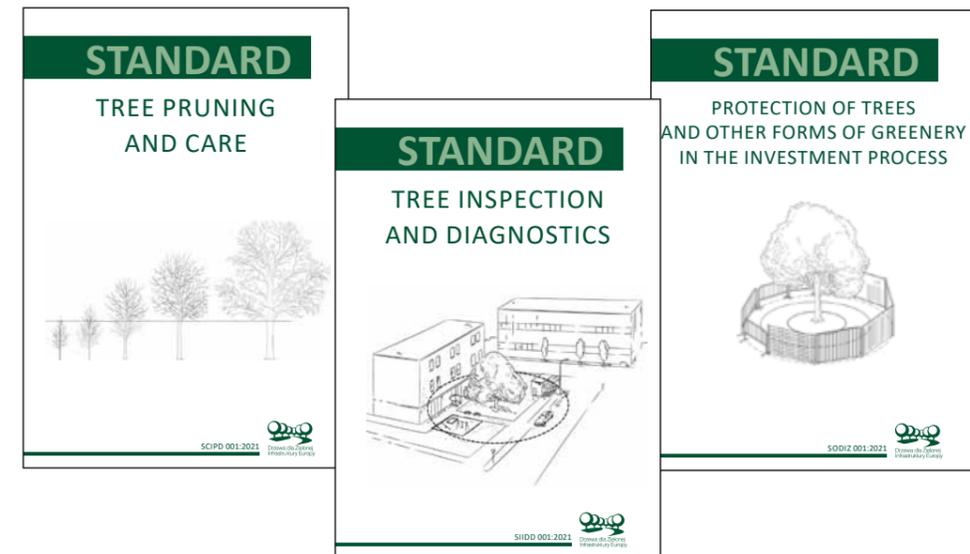


Fig. 2. Standards developed in the project and discussed in the manual (own elaboration)

The standards were developed by teams of experts who specialise in a given field and who were invited to participate in this work. Draft versions underwent extensive industry and social consultations (including both persons indicated as content consultants and representatives of all target groups), and it was possible to submit applications or suggestions for each entry or record. The current version contains the agreed content adopted by the authors' team as at the date of publication.

Each Standard is prepared in the Polish language and available at www.drzewa.org.pl/standardy as a formatted electronic file in .pdf format, which can be saved, opened and printed using Adobe Reader® available for free or other .pdf viewer. For those interested in an English version, this one is also available. In case of doubts as to the content, the Polish text is decisive. Particular Standards should be treated as complementary, which the authors indicate, although in certain areas (e.g. measuring basic tree parameters) their content may overlap.

4.

What standards for working in trees and their surroundings are available and what do they contain?

a. SCiPD – Standard for Tree Pruning and Care

The standard for tree pruning and care systematizes the types of work in trees and their surroundings, clearly specifying different types of cuts, mechanical reinforcement and care improving the life of trees. In addition to the technical aspect of the correctness of the work performed, its importance for various categories of trees and the purpose of their use were also taken into account. Such an approach makes it possible to group the types of work in trees and their surroundings, define their purpose, scope and use, as well as improve communication between commissioning parties and contractors. The innovative methodology adopted here, taking into account the needs of trees, makes it possible to adjust activities in a way that enables trees to function in accordance with the needs of public safety as long as possible.

The standard describes guidelines, procedures and techniques for working with trees, the purpose of which is to increase public safety and maintain the integrity and welfare of trees. In addition to pruning and care mentioned in the title, it also discusses the role of mechanical reinforcement for trees as well as basic information on the qualifications of tree work contractors, a list of regulations connected occupational health and safety while working in trees, and recommendations on biosecurity.

The document begins with a short introduction to the essence of the tree, which is an extension of the main assumption “*primum non nocere*”, referring to the developing trend in the industry called conservation arboriculture. There is also a separate chapter that includes guidelines concerning protected species of organisms and their habitats on the basis of the current legal provisions.

Contrary to the overlapping terms, the authors clearly distinguish tree pruning from care. The first area includes guidelines for cutting branches, limbs and trunks, whereas the second one - activities improving the habitat conditions of trees, irrigation and mulching.

The information about cutting trees is extensive and provides guidance on cutting techniques including access methods, tools, an acceptable size of wounds after cutting live branches, and recommendations for maximum scopes of cutting, including two detailed tables helping to determine the cutting limit for branches with a diameter of up to 5 cm and up to 10 cm in relation to the scope of crown reduction. The best time for cutting was also determined, depending on the type of tree (deciduous or coniferous), seasons and tree’s physiology. Last but not least, the standard discusses principles of pruning live branches, leaving out dead branches and methods of checking their stability.

The standard divides pruning cuts into three types: removal, reduction and intermediate, and introduces three areas of prune cutting: structural, lateral and apical, defining the rules for their performance and indicating trees on which these pruning cuts can be performed. There is a special matrix which serves that purpose – it combines categories of trees with acceptable prune cutting areas, and presents a detailed description of each type of cutting that results from this matrix. This part of the Standard is a guide dedicated to commissioning parties, those who recommend work and contractors, and suggests specific types of pruning for specific categories of trees, giving detailed information about the place of work, the scope of pruning and the cyclicity of recurrences. These guidelines may also be useful for assessing the quality of the work and its va-

lidity. After determining the tree category and estimating the size of the pruning cuts and their locations, it is possible to determine whether the work performed was properly planned/performed and whether or not the tree has changed significantly (e.g. become damaged or destroyed).

The chapter dedicated to the subject of mechanical reinforcement supplements the guidelines concerning tree work with another area of operations performed at the same time or instead of a given type of pruning cuts. There is a list of securing measures with information about the purpose of their installation, rules of control and guidelines on the selection of contractors. The standard also includes hints and tips for dealing with vines and mistletoe, and refers to guidelines on the tree protection in the investment process.

The content of the Standard may be particularly useful for tree assessors while standardizing recommendations, for parties commissioning tree work (e.g. when determining the content of the contract) and for contractors (when defining the scope of work). It can also be used by specialists who assess and control the correctness of the work performed (at the social and administrative level). In the introduced nomenclature, we deliberately avoid terms that have been used so far and that emphasise the purpose of pruning cuts (e.g. technical, thinning) instead of the technique of carrying out tree work, which makes it possible to apply the Standard regardless of the purpose of work.

b. SliDD – Standard for Tree Inspection and Diagnostics

Standard of Tree inspection and Diagnostics – arranges, systematizes and specifies the procedure and content of a tree assessment on two levels – basic and advanced. It helps to supplement existing procedures or introduce new ones that can be useful for tree assessors and parties ordering such assessments, verifying their results and finally – issuing decisions. The standard introduces the complexity of the assessment and is a guide to the most important diagnostic features.

The Standard was developed mainly to standardize and systematize the process of assessment of tree health and statics. It is supposed to serve both those commissioning and performing tree assessments, those who perform tree work resulting from the assessment, and also those who assess the effect of this work, especially in the context of public safety.

The guidelines shape and define the procedures connected with the tree assessment, and they also set its objectives – that is, recommendation of performing work in trees or their surroundings (ongoing maintenance of trees while taking care of their welfare) which will reduce the risk in their vicinity (at least to an acceptable level).

The following aspects will be particularly helpful in making decisions at various levels on the basis of a tree assessment (based on identified features affecting the safety of its surroundings): the standardization of the glossary, the method of recording assessment results – including scales used and methods of recommendation formulation – both of their content and time of performance. Additionally, the standardization of the course of tree assessment and the presentation of its outcomes may help experts compare

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What standards for working in trees and their surroundings are available and what do they contain?

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these assessments at the same time, which might be crucial in disputes, subsequent administrative decisions, criminal trials or appeal procedures.

The document consists of an introduction, four main chapters and eleven appendixes extending the discussed issues or containing specific guidelines for a given topic. In the introduction, the authors present the rationale for the development of the Standard, the legal framework, objectives, use in public procurement and limitations in the assessment of trees. The main chapters discuss the tree assessment system, including its general principles and procedure, the method of collecting inventory data and the definition of diagnostic features. In the subsequent chapters, the authors introduce and discuss various levels of tree assessment, including area survey (adequate for the initial assessment of tree clusters, e.g. in urban forests or parks) and the assessment of individual trees at the level of basic and specialist diagnostics. The division proposed in this document arranges the existing forms and levels of tree assessment and makes it possible to adjust the level of tree assessment to user's needs as well as optimise expenses connected with such procedures.

For each level of tree assessment, specific guidelines on conducting it in the field were developed, taking into account the content of the assessment, basic tools and specialised equipment, the method or result recording, as well as guidelines on assessing the qualifications of contractors at each level of the assessment. The authors described the variables that should undergo evaluation, the scales of assessment and the methods of issuing recommendations, in which reference to the Standard for Tree Pruning and Care appear. In the assessment, the authors take into account tree-accompanying organisms, also those under protection, and include guidelines on presenting information about their presence in the publication.

In the attachments, the user will find a detailed catalogue of diagnostic features, including features that may indicate poorer condition or a disturbance of the tree's statics, along with an assessment of their severity on a scale. A unique element of the guidelines are simple and graphic tips on how to measure trees, including the key parameter, that is, the circumference of the trunk at a height of 130 cm, required in many procedures, for various types of tree trunk structure and places of growth. Among the controlled tree assessment parameters, the assessment of the tree's development phase, vitality (based on the Roloff's scale), the assessment of the tree's life perspective as well as the tree's value and importance were proposed. The parameters such as "phytosanitary condition" or "health" that were used so far have been replaced with a separate assessment of tree health and stability (including the crown, trunk and stability in the ground). The SliDD determines the degree of land use, which encourages the performance of a risk assessment in the tree-surrounding area (not included in the Standard on purpose). The document also includes a glossary with terms and a list of legal acts that are currently in force and that may be of importance for the tree assessment procedure.

c. Standard for the Protection of Trees and Other Forms of Greenery in the Investment Process

The standard for the protection of trees and other forms of greenery in the investment process includes comprehensive processes (from project to implementation), describing and arranging objects requiring protection, and methods of its implementation – including work technologies and people responsible for this area. The document can be helpful for all entities of the investment process, facilitating the setting of goals, implementation processes as well as inspection and evaluation.

The content of the Standard has been organized according to the stages of the investment process, dividing it into the planning, project and execution stage. The introduction defines the objectives of the Standard as well as methods of its use, and introduces a glossary of terms and abbreviations.

At the planning and project stage, the Standard defines the principles of investment preparation, work related to the inventory of green resources, including trees in a given area (a dendrological inventory, a dendrological survey) and preparation of a greenery protection project. The guidelines are detailed and include descriptive and graphic elements, as well as norms already adopted in the industry, for example, concerning background maps – methods of marking specific objects on maps. In the greenery inventory, it refers to the Standard of Tree Inspection and Diagnostics (SliDD), extending the guidelines on collecting basic tree parameters and marking them on maps, and introducing an additional level of initial tree assessment – a dendrological survey. The standard also defines the tree protection zone (SOD), how to establish it, how to work in this zone, and what the critical threshold of tree damage is. Recommendations connected with the protection of greenery for project elaborations include, among others, guidelines for specific industry projects, e.g. underground utility networks, traffic routes, and cubature facilities. Additionally, the standard describes technologies that are helpful at the project stage, e.g. to determine the scope of the root system, to minimise collisions with trees (screens, root paths, trenchless technologies) or to help to maintain habitat conditions under traffic routes.

At the stage of execution works, the Standard focuses on the principles and techniques of green protection on the construction site – not only trees, but also other forms of permanent greenery, including the protection of tree roots in trenches. It contains examples of methods and techniques for securing the tree protection zone(SOD) – not only the trunk but also the root zone. It defines the rules for proper taking care of greenery during construction works and after they are completed. In this respect, the document is related to the Standard for Tree Pruning and Care (SCiPD).

Another chapter is devoted to the requirements concerning people participating in the investment process. Particular attention was paid to the supervision of the works performed, specifying recommendations as to the qualifications of the supervision inspector, the methods of work supervision and ways of checking the condition and health of greenery.

SODiZ is addressed, in particular, to all the participants of the investment process – investors and their representatives, project designers and contractors. Due to the range of impact of investment processes, the representatives of society – social organizations, community tree rangers or the media – may also be interested in the Standard. Naturally, the addressees are also institutions issuing building permits, environmental decisions or- in relation to historic areas – conservation services.

4.

What standards for working in trees and their surroundings are available and what do they contain?

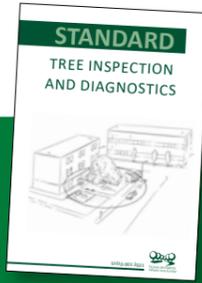
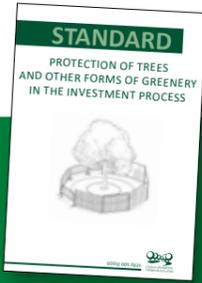
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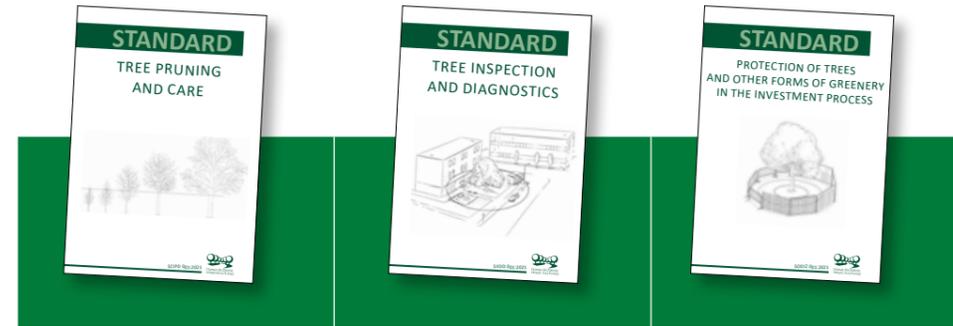
Where can standards for working in trees and their surroundings be used?

5. Where can standards for working in trees and their surroundings be used?

Like any other standard, also those discussed in this manual refer to a defined area of reality. Therefore, they include selected objects and scopes of work in typical operating conditions. In each of them, the authors defined these areas and indicated the most important exclusions that remain outside the scope of the Standard. It is important for the user to remember about these limits of applicability, and to use the document taking into account those restrictions. The most important ones are presented in the table below, along with the objectives of the Standards and the areas of their use.

Table 1. The use of the Standards

		
<p>The standard concerns the pruning of trees growing in green areas at different growth stages (from young to mature), including destroyed/damaged trees. It also includes recommendations for other work supporting the management of trees and safety in the vicinity of trees, such as mechanical reinforcement and maintenance work.</p>	<p>The standard refers to the rules for tree assessment, structures it and determines its procedures. It defines the principles of tree assessment at three levels: area assessment, basic assessment/inspection and specialist assessment, including instrumental diagnostics. It concerns the entire assessment process, including field data collection, their description, the preparation of documentation and its use in recommendations.</p>	<p>The standard concerns the protection of all trees, shrubs and other greenery, in the vicinity of which works related to the investment process are planned and carried out.</p> <p>The standard indicates:</p> <ul style="list-style-type: none"> - the procedures and methods of greenery protection in relation to the investment stage, - tools for the protection of greenery and methods of their use, - good practices and recommendations for the greenery protection. <p>The standard is applicable in the area of the investment and within the range of its impact.</p>



The standard specifies the recommended qualifications of people performing the work and indicates examples of guidelines useful for the preparation of related documentation, e.g. provisions in the contract. It does not cover the full spectrum of differentiation in this regard and should be used as a suggestion rather than a definite catalogue of possible options.

The Standard is not a textbook, which means that it does not deliver information or guidelines on how to shape the skills necessary to perform the work in the scope it covers. However, it might be helpful in educational processes.

<p>The standard does not apply to pruning and maintaining trees that belong to the following areas:</p> <ul style="list-style-type: none"> - forest management, - fruit trees intended for fruit production, - decorative forms of greenery (cutting and pruning them), - veteran and ancient trees. <p>The standard does not cover justified work, including:</p> <ul style="list-style-type: none"> - shading (limited access to daylight), - hindered reception of television, radio, etc., - leaf and fruit fall, - pollinating (allergies), - dampness of walls of buildings and structures. 	<p>The standard does not refer to nurseries. It can only be used to a limited extent for ancient and veteran trees, trees under forestry management, horticulture (fruit trees intended for production), and decorative forms of greenery.</p> <p>The standard does not specify how to control the performance of the assessment ordered by the commissioning party, although it might give some hints and examples helpful in creating criteria for that.</p>	<p>The standard does not include guidelines on the current tree management, unrelated to investments in a given area. However, the selected elements of the Standard can be used for other purposes e.g. planning future work, supporting current tree management or comparing the current and past state.</p>
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5.

Where can standards for working in trees and their surroundings be used?

6.

Who and to what extent can implement standards for working in trees and their surroundings?

6. Who and to what extent can implement standards for working in trees and their surroundings?

There are many possibilities for these Standards to be used by individuals and institutions, which has been shown in the figure below.

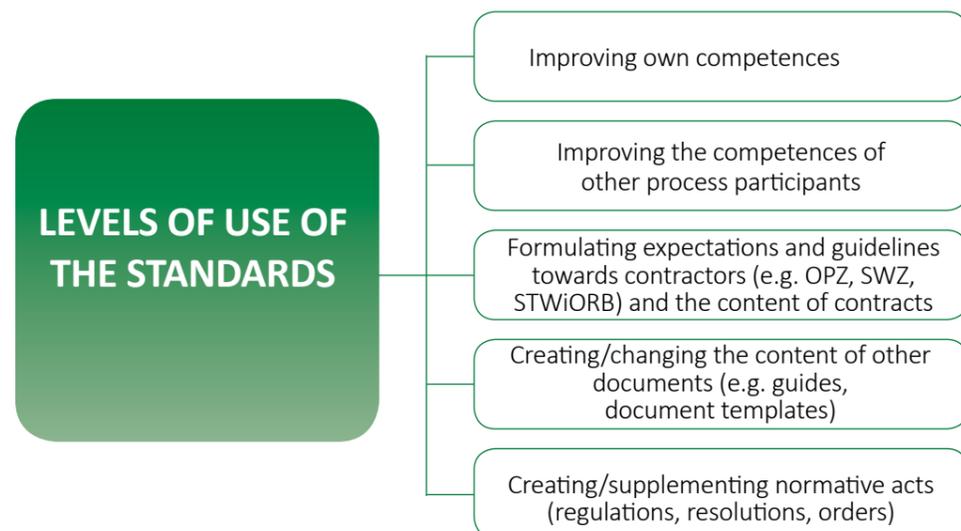


Fig. 3 Levels of use of the Standards. (own elaboration)

The most basic use of the Standards is to improve the competences (mainly in the area of knowledge) of one's own or other people. It is possible, for example, to download files with the content of the Standards from the project's website and read them, or pass them to other people that might be interested in reading them. Electronic files or links to such publications might be placed on the user's website, printed and made available in a local library or documentation. It is worth mentioning that learning about the Standards or simply passing them to other people may take different forms, for example, self-study, presentations or even training.

The content of the Standards may be used in whole or in part, in order to supplement or introduce changes in existing or created documents of the user (connected with orders or guides for the addressees of user's activity). The electronic version makes it easier to use them, especially when publishing the entire documents or when quoting their fragments (under licence conditions⁴). It is advisable to provide links to the full version of the publication to avoid problems with the interpretation of the fragments of the text outside the context.

⁴ See the terms of the Creative Commons License set out in the editorial note of a given Standard

6.

Who and to what extent can implement standards for working in trees and their surroundings?

The Standard can also be used as an officially approved document supplementing or replacing the existing content used by the user e.g. previously adopted standards or guidelines for tree work. In the case of an institution, a local authority or a trade association, it will be necessary to formally acknowledge the Standard as an official document approved by the user's representation. In the case of other organizational forms (e.g., a self-employed contractor), it is acceptable to make a verbal or written declaration, or to obtain a decision from the owner.

There are many processes in which guidelines and criteria for the assessment of tree work are created. It is also advisable to harmonize the understanding of the subject of work, as well as individual activities and responsibilities, in which the Standards can be very helpful. The table below presents examples of decision and process areas as well as references to individual Standards, without exhausting their scope.

Table 2. Selected areas of tree-related decisions and processes vs. the use of Standards

	STANDARD TREE PRUNING AND CARE	STANDARD TREE INSPECTION AND DIAGNOSTICS	STANDARD PROTECTION OF TREES AND OTHER FORMS OF GREENERY IN THE INVESTMENT PROCESS
Current maintenance of greenery			In a limited scope
Risk management in the surroundings of trees			In a limited scope
Linear investment			
Other construction investments			
Nature conservation, including species under protection			
Valuation of ecosystem resources and services			
Environmental decisions			

The list of groups of potential users of the Standards is also long (see Table 3) but it also does not contain all interested parties. Mainly the participants of formal processes were included there (commissioned tree work, investment processes) from private and public sector (but not only institutions). For each of these groups, the most recommended implementation scopes were indicated, with particular emphasis on implementations changing the current regulations.

6.

Who and to what extent can implement standards for working in trees and their surroundings?

Table 3. Potential users and addressees of the Standards vs. their use

List of potential users and addressees			
<p>Site manager or owner</p> <p>Managers of areas with trees (e.g. district authorities, conservators of monuments, municipalities, housing cooperatives, housing communities, private owners of gardens and parks, directors of national and landscape parks, other institutions, e.g. church, State Forests)</p> <p>Private and public investors</p>	 <p>Recommended use of all Standards at all levels.</p> <p>Possible implementation- orders for working in trees and investment processes, new or supplementing the existing ones.</p>		
<p>Parties commissioning tree work - persons acting on behalf tree managers/ owners</p> <p>Greenery inspectors/other state officials dealing with trees</p> <p>Persons responsible for the preparation of documentation, e.g. OPZ/ SWZ in orders or tenders/selection of contractors</p> <p>Persons controlling the execution of work and issuing approvals</p>	<p>Recommended use of all Standards at all levels.</p> <p>Possible implementation – for developing documentation and regulations for working in trees and investment processes- new or supplementing the existing ones.</p>		
<p>Designers and authors of documentation related to investments</p> <p>Architects, landscape/green infrastructure architects</p> <p>Architects, architects of other infrastructures</p>			<p>Especially recommended for the entire group of architects</p> <p>Recommended level of implementation- at least as an element of the code of good practice.</p>
<p>Contractors:</p> <p>Construction works</p> <p>Landscape architecture/ horticulture</p> <p>Working in trees and in their surroundings (arborists, horticulturists)</p> <p>Tree assessment</p>	<p>Especially recommended for arborists and tree workers</p> <p>A recommended standard for tree assessors</p>	<p>Especially recommended for tree assessors</p>	<p>Especially recommended for contractors participating in investment processes</p> <p>Recommended level of implementation- at least as an element of the code of good practice.</p>
<p>Trade organizations in industries related directly or indirectly to trees and investment processes – associating/certifying</p>	<p>Recommended implementation of all Standards at the dissemination level. Recommended implementation of the Standard for a given industry at the level of supplementing the organization’s regulations – at least as an element of the code of good practice.</p>		
<p>Training institutions</p> <p>Schools/universities/colleges and other training entities in the arboriculture, horticulture, landscape architecture, forestry sciences, construction, architecture and related industries</p>	<p>Recommended use of all Standards primarily for educational purposes- own knowledge, dissemination of knowledge etc.</p> <p>If possible, it is also recommended that the applicable documents and guidelines be supplemented, and knowledge and skills be used in the assessment process.</p>		
<p>Authority/ regulators</p> <p>Legislative and executive power at every territorial level</p>	<p>Recommended use of all Standards at all levels.</p> <p>Possible implementation- for developing documentation and regulations for working in trees and investment processes- new or supplementing the existing ones.</p>		
<p>Control and opinion-giving authorities</p> <p>Courts, prosecutors, police, SKO</p> <p>Construction and dendrological supervision</p>	<p>Recommended use of all Standards at all levels.</p> <p>Possible implementation- for developing documentation and regulations for working in trees and investment processes- new or supplementing the existing ones.</p>		
<p>Society: social organizations, local communities</p>	<p>Recommended use of all Standards at all levels.</p> <p>Possible implementation- for educational purposes, evaluation and supervision of work performed in trees and investment processes.</p>		
<p>Media, popularizers/opinion leaders</p>	<p>Recommended use of all Standards at all levels.</p> <p>Possible implementation- for educational purposes, evaluation and supervision of work performed in trees and investment processes.</p>		
<p>Intervention services</p> <p>Fire Service – State and Volunteer Fire Service</p> <p>Intervention services related to communal services, supply of utilities</p>	<p>Recommended use of all Standards at all levels.</p> <p>Possible implementation- for educational purposes, as well as performing and supervising work in trees/their surroundings and investment processes.</p>		

6.

Who and to what extent can implement standards for working in trees and their surroundings?

7. Procedure of introducing standards for working in trees and their surroundings – a proposal

Each implementation means a change, and if it is supposed to be effective, it should have an “owner” – a person responsible for recognizing the effects of the change, possible costs and taking care of the change process. It is usually necessary to adjust other processes, procedures or content, as well as communication, and even persuade others to accept the change. Implementation effects should be controlled, and the results of the control should be used to adjust the processes for the best solutions. Organizations often have change procedures already in place, but to make things easier, Figure 4 shows examples of steps to help implement the Standards. Their order in a given organization may be different and should be adapted to its specific character.

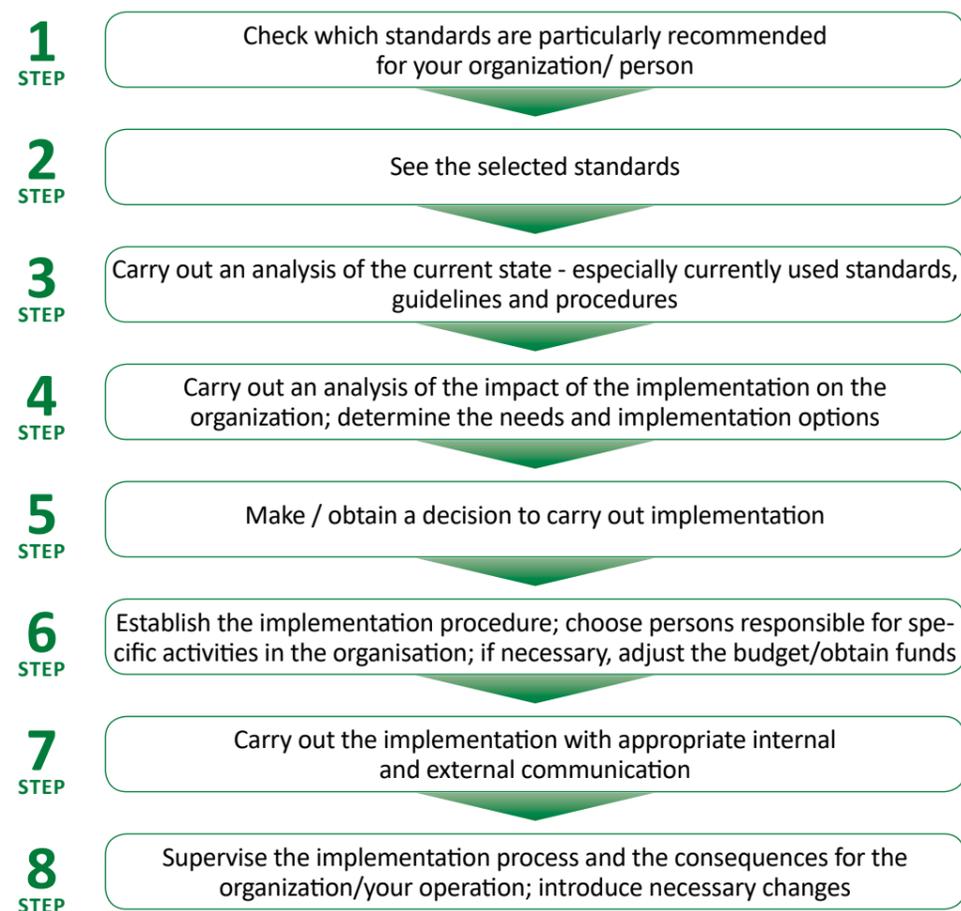


Fig. 4 An example of an implementation scheme (own elaboration)

What should you pay attention to during the implementation?

Selecting proper Standards for implementation

When making such decisions, it is advisable to check the previous part of the manual for potential target groups, information which Standards are suitable for them, the main content and areas of applicability. It is also worth devoting more time to reading the full content of the Standards. This will make it possible to evaluate their relevance and suitability for the guidelines or procedures that are already applied and predict the effects of their implementation.

Analysis of the current state, including other standards, guidelines or procedures

The change should improve the functioning of the organization or entity. Therefore, before implementation, it is necessary to check whether the organisation or entity already uses any guidelines or documents which are the equivalents of the Standards, and which could be supplemented or replaced. It is worth evaluating to what extent they are up-to-date, useful and universal. Such an audit will also make it possible, after making a decision on implementation, to systematize changes in the applicable documentation or regulations.

What documents should be reviewed before implementation?

- Other standards, the content of which may include issues related to the implemented document.
- Other documents that may contain issues related to the implemented Standard, including various strategies, programmes and policies.
- Legal documents, the scope of which is related to the implemented Standards: internal, e.g. contracts, internal documents, ordinance, resolution, ordinance, decisions, e.g. laws, judgments, rulings, including external ones.

Analysis of the impact of the implementation on the activities of the implementing entity

Before making a decision on the implementation of a given Standard, it is advisable to take into account all the consequences related to this process. It is necessary to consider the scope, time and method of implementation, (informal or formal, e.g. an order), and above all, the purpose it is to serve. In more formal organizations (e.g. state offices), it is necessary to follow the officially implemented procedure, and any failures that take place may result in bearing the consequences. Also, it is necessary to take into account possible costs and efforts connected with the implementation process, as well as the fact whether human resources possess sufficient knowledge and experience making it possible to introduce and maintain specific changes. Certainly, the procedure can also be implemented in institutions which lack human resources with appropriate skills and competences. In this case, however, it is necessary to reckon with greater financial outlays because both the implementation and maintenance of the procedure will require outsourcing tasks related to it to external companies.

The full assessment of the legitimacy of the implementation should be based on the assessment of its impact, especially of long-term implementation, on the operation of a given institution, balancing the purposefulness of implementation and the financial outlays incurred. The assessment of this impact will make it possible to take a more rational decision, and also to prepare for the effects of implementation and control them as intended.

Figure 5 shows examples of areas worth such an assessment with suggested issues to be explored/considered

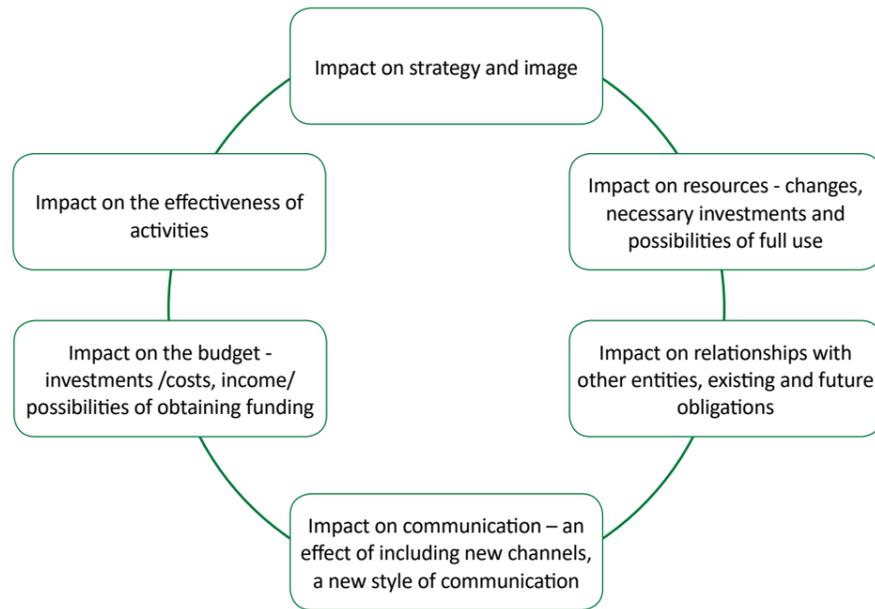


Fig. 5 Examples of areas to be analysed before the decision to implement the Standards is made (own elaboration)

Below we are presenting an example of impact on areas undergoing evaluation:

Impact on the strategy and image – the implementation of the Standards will undoubtedly have a positive influence on the image of a given institution, as it will improve the clarity of the manner in which it proceeds in a specific area of operation.

Impact on resources – implementation usually involves introducing necessary changes, including investments, in order to take full advantage of the procedure. These changes may concern personnel (human resources with appropriate skills and competences), strategies of managing the area where the procedure is implemented (appropriate division of tasks in the field and in the office) or necessary investments related to the purchase of equipment to improve the implemented procedure. At the same time, it is necessary to bear in mind that a lot depends on the level of implementation, and that it often does not require costs greater than one’s own or of the employee who needs to devote some time to read the implemented content. In the case of implementing the Standards, the effort is likely to be one-off (in order to develop new content for documentation or orders) and within the scope of typical activities carried out in most target groups.

Impact on relations with other entities – the implemented Standard may streamline/accelerate court and administrative proceedings. It justifies the decisions made in a transparent and unambiguous manner.

Impact on communication – implementation should facilitate communication at many levels, e.g. with contractors, local and government authorities, society or decision-makers (e.g. a relationship: employee/ boss).

Impact on the budget – in the short term, it may generate some financial outlays for the implementation and maintenance of the procedure (especially when related tasks are outsourced to external companies), whereas in the long-term it may bring savings, especially when the management and use of appropriate and qualified human resources changes.

Impact on the effectiveness of activities – it is likely to be positive; it will speed up administrative procedures, simplify area management or reduce the number of communication errors.

Decision about implementation and implementation activities

It should be considered to what extent the implementation shall take place (whether it is full or partial, if partial, what it concerns and why only in a given part) and whether it will apply to the entire managed area or only its part (if only its part, which part and why this one), as well as whether the implementation will be formal or informal (e.g. implemented on the basis of an order). It is also necessary to determine who will take the role of a decision maker and who will be responsible for carrying out the implementation (the “owner” of implementation).

If it appears to be necessary to provide funds for implementation, one should estimate the amount of these funds (e.g. workload related to the preparation of new documents and their approval), the source of financing and the measures to secure them. Next, it is necessary to make a decision appropriate as to the previous choices, transfer the responsibility to the implementation owner and conduct the process according to the scope of implementation and procedures effective in a given institution.

Each implementation, as well as each change, entails certain costs. In the case of the Standards, the costs are mainly connected with the effort and expenditure related to the acquisition of knowledge, the preparation of appropriate decisions and their implementation into the activities of the institution.

Initial outlays are reduced by the fact that no fees are charged for Standard-related material – the publications are available online to everyone. Additionally, this manual is supposed to facilitate reviewing them before the implementation takes place. The implementation should bring multifaceted benefits, starting from the simplification of procedures, reduction of operating costs (time and effort related to the preparation of documentation and communication between the commissioning party and the contractor) to long-term benefits for the image of the institution implementing the Standards. It is also necessary to bear in mind that this process may raise the need to revise the budget of a given entity. The costs associated with the introduction of a new regulation include, among others, the cost of implementation work and of preparing employees for new conditions. If it increases the requirements for contractors, the costs of offered services may increase. Therefore, the entity introducing any changes should perform a detailed cost analysis beforehand. However, taking into account numerous benefits of the presence of trees, the introduction of the Standards, especially in the long-term, will help to maintain trees in good health and make them provide ecosystem services longer and better.

Communication of implementation

The implementation may significantly influence the image of the institution and its communication with the environment – employees, customers or contractors. A pre-implementation audit may help to estimate these changes and identify current and future communication channels and message content related to the implementation.

Communication should cover both employees and the environment using the means that are normally in use in a given institution. Like any other implementation, it can significantly influence the perception of a given institution. Therefore, it is important to involve relevant communication services, both internally (in the institution itself) and externally (the environment).

Supervision of implementation and changes

The process of change should be evaluated within the time specified in the procedure; especially the achievement of implementation goals, reasons for departures and methods of improvement should undergo assessment. In this particular implementation, it is especially important to analyse the effectiveness of introducing changes to the documents and procedures that are already in use. It is worth following the development of industry standardization and taking advantage of the possibility of implementing new standards created in other projects, e.g. European technical standards for planting or those mentioned above.

Example 1. Implementation of standards in a local government/government unit

Local government units (municipality: rural/rural-urban/urban, county office, voivodship marshal) and government units (Voivodship Monument Conservator, Regional Directors for Environmental Protection, State Fire Service) are the authorities for which the implementation of standards may be significant, especially when it comes to the improvement of their functioning. Each of these bodies has a diversified internal structure and tasks, which means that the decision-making process of implementation, and the implementation itself, might be different. The implementation goals will also be different, depending on the unit in which they will be implemented. However, regardless of whether the implementation process will concern any of the above-mentioned local government or government units, it is recommended that all Standards be used in them. Some of the units may use the implemented procedures both for the assessment and supervision of work performed in and around trees by other units/entities, as well as in their own investment processes or when carrying out work related to the maintenance of trees on their premises. Thus, individual institutions may take different roles, e.g. commissioning parties, contractors, supervising authorities, authorities issuing permissions or authorities imposing penalties.

While implementing the Standards in a local government unit, it is necessary to take into account all the objectives that this institution pursues, whereas the implementation process should be consistent and carried out simultaneously in each area. In units with a more complex structure, it is important to ensure good interpersonal communication and exchange of experiences that might be useful in the implementation process. Interestingly, regardless of the unit where this process takes place, the basic level of Standard implementation is relatively easy because it concerns supplementing the knowledge of specific unit employees or its management. Owing to the fact that the Standards are available in an electronic form, it is easier to download and disseminate them within the unit, or to distribute them to persons that are interested in reading the content or would like to put it into practice. A change in a local government unit may be initiated by its employees, management or external persons, e.g. contractors. Below we are presenting the steps for implementing the Standards and specific guidelines for office employees interested in implementing them.

1. Analysis of the Standards in the context of roles/competences

Before making the decision on implementing the Standards, it is necessary to review the activities performed by the unit, define the role and competences as well as the currently used documents, guidelines or standards. Before a new procedure is implemented in a municipality in a formal manner, it is worth initially checking (e.g. as the best practices described below) how the Standards will improve the activities of parties interested in them. This can be done by applying the content of the Standards in daily work, both in administrative procedures as well as in the everyday tree management.

2. Analysis of the implementation necessity and/or implementation benefits

The willingness to implement the Standards may result from the requirements imposed by society (for example, better social perception, transparency of administrative proceedings), bottom-up initiatives of professional employees, willingness to improve procedures in the entity, combining the Standards with guidelines/legal provisions for a given area of operation, or standardisation of orders and approval of work. Other rea-

sons for implementation may also be the benefits resulting from the improvement of communication in administrative processes (both within a given unit and in interaction with the environment), or improved communication with contractors, decision-makers or parties in administrative proceedings and society (observers).

How do I know what I need a given Standard for and which Standard to use?

Think about the tasks you perform, the tasks you often outsource and the tasks or work you repeatedly perform in your position (and also how often). If these tasks are related to the improvement of safety in the surroundings of trees, and you are, for example, responsible for the maintenance of a city park, it means you must learn about the resources of this park, preferably by ordering an inventory. Next, you will need to find out about the condition and health of the trees listed in the inventory (e.g. whether they have any features that might affect their stability and pose a threat to their environment). *Tree Inspection and Diagnostics Standard* will help you deal with that.

Why should I use the SliDD? – because, regardless of the contractor you decided to cooperate with, you will receive a specific, systematized, routine source material that will be verifiable, and in the case of a larger space with trees to manage (planning further work of this type), it will make it possible to gather documentation with a uniform structure and systematized data.

The *Standard for Tree Inspection and Diagnostics* will allow you to find out what work should be performed in trees with identified features that affect its stability (or the stability of its parts) in order to reduce the risk in the surrounding area. As soon as you are equipped with this knowledge, it is necessary to perform the indicated work, because the aim of managing the space with trees is to minimise the risk that may occur there. In order to make sure that the commissioned tree work is carried out in a proper manner, and to be able to verify and assess whether the work you have commissioned is performed according to the order, use the *Standard for Tree Pruning and Care*. It will allow you to manage the commissioned tree work (including the surroundings of trees) in a systematised, routine and verifiable manner. The use of this Standard will make it possible to eliminate inaccuracies related to the nomenclature of tree work and its appropriate performance, and thus trouble-free approval of the commissioned order.

If you already know which Standards will be of some help to you, read them.

3. Determining responsibility for the implementation and its scope

In the case of an office, it is necessary to determine who will be responsible for the implementation of the Standard. Usually, it will be a professional employee responsible for matters related to the implemented Standard (e.g. a greenery protection inspector in the case of the Standard for Tree Pruning and Care and the Standard for Tree Inspection and Diagnostics). Implementation may concern the entire procedure described in a given Standard, or its selected parts. However, it is necessary to remember that choosing only a limited scope should be justified. It is advisable to indicate the area of implementation and the purpose it is to serve, as well as various possibilities of using the Standard e.g. in public tenders.

After analysing the legitimacy of the implementation of the Standard, it is advisable to discuss its application in the unit with an immediate supervisor, determine the extent to which the Standard will be implemented and whether it will be formal or not. However, it is worth remembering that the Standard, (whether formal or informal), applies

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Procedure of introducing standards for working in trees and their surroundings – a proposal

to the land which a given unit manages as its owner/holder, and shall not go beyond its boundaries (e.g. it concerns green areas that belong to a given municipality and entities that are municipality units, such as Municipal Services Department, Urban Greenery Department, etc.). However, it may also be recommended to other entities as a code of good practice.

Table 4. Examples of questions and answers helpful in making decisions about implementation of a Standard in a given unit

How will the clerk know the Standard exists?	The standards have been published on www.drzewa.org.pl and will be available to the public. The Standards are now and will continue to be promoted in municipalities.
Why would the clerk want to implement the Standards?	The Standards will facilitate and streamline the processes related to the management of trees in a given unit and will make the manner of proceeding by authorities in administrative processes/local government authorities more legible. This, in turn, may translate into a better perception of the state unit by the residents.
What will become easier and streamlined thanks to the implementation?	The process of tree maintenance will be streamlined, i.e. the system will be standardized. It will be clear how trees are assessed (based on what parameters), why a given tree was removed or why the treatment was performed on it. The clerk will not have to create any specifications as the methodology will be the same each time, whereas tree assessment documentation will be consistent and transparent to all parties (a decision maker/clerk/customer/observer). This will improve communication between the entity submitting an application (e.g. to receive a permission to remove a tree) and the clerk issuing such a permit, as well as between the clerk (an employee) and the mayor (a decision maker). Decision makers (both the mayor and the clerk issuing a permit at the request of the applicant) will have greater confidence that the tree has been correctly assessed and that the right decision has been made. It means that the tree management process itself will be easier, both in administrative proceedings and in the daily management of the area. Additionally, the Standard for Tree Pruning and Care will facilitate and streamline the manner of dealing with trees, which will simplify the procedure of commissioning treatments, their supervision as well as approval. All Standards make it possible to use the knowledge in supervising areas with trees and making decisions (e.g. in administrative proceedings imposing penalties for tree damage/destruction).
How will the image of the local government unit improve?	Using a legible, simple and transparent procedure will translate into better communication at all levels. Even an observer, while making public/ environmental information available to other people, will be able to obtain information about trees in an easy and repeatable way, whereas the administrative unit will demonstrate that it carries out its duties with due diligence. The public will know what parameters are used in tree assessment, tree management (e.g. treatments) and when issuing decisions on their removal.

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Procedure of introducing standards for working in trees and their surroundings – a proposal

4. Implementation process and introduction of the Standards

The implementation process will differ depending on the decision whether the Standards will become an element of formal procedures or informal good practice applied in the municipality. This status will determine not only the method of implementation (its documentation and legal basis e.g. an order), but also subsequent consequences in the event of non-compliance with the rules of conduct established in the procedure.

Table 5. Differentiation of procedures in the formal and informal implementation of the Standards in the office

Informal implementation	Formal implementation
<p>Informal implementation status means that the Standard will not be officially indicated by decision makers for use. It can be used in daily work, also when commissioning tasks related to tree assessment or pruning, by entering information in the order that the basis for the performance and approval of tree work is a given Standard.</p> <p>In the case of informal use of the Standard, information on its application may be publicised in a manner customary in a given municipality, for example, by posting it on a notice board or website (a website of a municipal office/public information bulletin).</p>	<p>The formal implementation status means that a given Standard will be approved in a local government unit, for example, in the form of an order. We recommend using this form because it determines specific procedures in a given institution, which, in turn, translates into better communication with tenderers and local community, including suppliers.</p> <p>The formal implementation of the Standard shall take place in accordance with the provisions of the Act on Municipal Government, that is, in the form of an order of the head of the municipality/ mayor/ president of the city, which includes the legal basis for the implementation (Article 30, section 2 point 3 in connection with Article 7 point 12, 14 and 15 of the Act of 8 March 1990 on Municipality Local Government, i.e. Journal of Laws of 2021, item 1038) and the scope of implementation by stating which Standard is being implemented (that is, giving its name, authors, date of development and source of origin).</p> <p>It shall be determined who is to use the Standard and in what area – for example, a professional employee of the municipal office in administrative proceedings taking place within the municipality and in matters related to tree maintenance on areas owned by the municipality. Other employees of subordinate support entities of the municipality or, in general, specific municipal units, may also be indicated.</p> <p>Next, it is necessary to specify the date of implementation (any future date that will allow clerks to prepare for the procedure described in the standard). Finally, it should be indicated who is entrusted with the implementation of the order (usually it is a professional employee who specialises in a given area e.g. greenery management, nature conservation or environmental protection, or a manager of a given department). The order prepared in such a way, after being approved by the attorney, shall be signed by the mayor. The document authorizes the use of a standard-procedure, and is to be made available to the public on the website of the Bulletin of Public Information.</p>

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Procedure of introducing standards for working in trees and their surroundings – a proposal

The implementation of the Standards should be clear to the employees of the unit, especially when its organization/structure is extensive and a given Standard may apply to many employees, or even another support unit for a given implementing entity (e.g. when a large municipality with poviats rights has units such as greenery management or road management etc.). Implementation should include the dissemination of the content of the Standards within the unit, establishing tasks or rules of operation in individual areas of the unit's activity, standardizing other documents, guidelines and existing procedures, and preparing and carrying out communication outside the unit. It is necessary to pay particular attention to any changes/novelty that appear in the Standards that might be different from the current guidelines, for example, in the field of defining tree pruning or care, or tree protection zones, and which may require that the documents or nomenclature used in a given unit so far be redefined.

5. Supervision of the implementation of the Standards and conclusions

Adoption of the Standards should help the entity obtain the benefits which were the motivation for implementing them. It is worth ensuring proper supervision covering not only the very fact of applying the Standards, their understanding or approval, but also more tangible effects, especially the efficacy of activities carried out resulting from the competences of a given local government unit. It is recommended that conclusions be collected by all the users of the Standards and passed on to the person responsible for implementation in order to improve processes. It is also worth staying in touch with the publisher of the Standards and submit suggestions for possible changes in the future.

Przykład 2. Implementation of standards in a small arborist company

In small arborist companies, the decision maker will usually be the owner or manager of the business, often performing tree work personally. The analysis of the legitimacy of the implementation and the implementation itself may be imposed by the requirements of the commissioning party at various stages of the ordering procedure or the performance of work. The change can also be initiated by the owner or their employees. Below we present some steps for a company which has just found out about the Standards and which considers their implementation.

1. Analysis of the content of the Standards in the context of the company and its operation

The owner/manager of the company may read the summary of the Standards or their full version before making a decision on their implementation. These instructions that contain basic information about each of them will be helpful in this process.

2. Analysis of the necessity of implementation and/or benefits resulting from it

The necessity to implement a given Standard by an arborist company may result from the description in OPZ, the provisions of the contract with the commissioning party, other local or state regulations, or a social contract obliging companies to comply with the guidelines. The motivation for implementation may also be benefits for the company or its employees: the standardization of tasks, the improvement of organization and quality of work, adaptation to changes taking place on the European market, the preparation of employees for carrying out tasks based on the principles described in the Standards, a positive impact on the company's image etc.

3. Making a decision on implementation

In a small company, the decision does not have to be formal. If a given business performs tree work such as pruning and cutting, the adopted standard might be SCiPD. It is possible to implement it immediately at a maximum level and use it in procedures connected with work performance and internal regulations of the company e.g. methods of formulating the scope of work. Other Standards can be used complementary, and as an additional source of information or guidelines for work.

When a given company has a more extensive scope of work, it is advisable to implement all the Standards, at least to improve communication with other entities performing tree work or commissioning parties. SliDD will allow a given company to streamline the tasks related to the assessment of trees performed for commissioning parties, but it can also help to understand documentation and link it with the guidelines on tree pruning and maintenance. SODiZ will facilitate cooperation with landscape architects or contractors, and supplement the guidelines on arboriculture work performed on the investment site.

All Standards can be helpful in communication with society, for example, with environmental organizations or the so-called "tree rangers". By standardizing the nomenclature and guidelines, they can become a common substantive basis, for example, for assessing the quality of work.

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4. Internal implementation of the Standards for use at work and adjustment of executive procedures

The decision about implementation should be communicated to employees in a clear manner, whereas the actual implementation should involve employee training and changes in the methodology for determining the scope of work for arborist teams (new symbols). It is necessary to remember that a change in the nomenclature of pruning and other tree work will require good mastering of new terms and persistence in learning to use them. Therefore, during the first month after making the decision on implementation, employees should have a copy of the Standard always at hand, in an electronic or printed version. During the transitional period, it might be necessary to use both the current and the new method of determining the scope of pruning, tree categories or other tree work. The decision about implementation of the Standard can be publicized and passed on to recipients who might be interested in it e.g. commissioning parties or society (through media used for communication with the environment such as websites, Facebook or leaflets).

5. Supervision of the application of the Standards in tree work and control of implementation

The adoption of new Standards, for example, the Standard for Tree Pruning and Care, should make it possible to set tree work in order, streamline communication and facilitate task delegation. During the implementation, it is also advisable to control the level of understanding, use and acceptance of introduced changes by discussing them with employees, especially when performing new tasks.

Example 3. Implementation of the Standards in a non-governmental (social) organization with environmental goals

Ecological non-governmental (social) organizations might include small and local associations or foundations with a flat structure, as well as extensive international organizations with multi-level national branches. The implementation process, as well as the decision-making level, will therefore be very diverse and depend on the adopted rules.

This group of users is recommended to use all the Standards at all levels, mainly for educational purposes as well as for the assessment and control of performed tree work, and in investment processes, as part of watchdog activities (controlling the activities of authorities). However, in the case of organizations conducting their own tree work, e.g. as part of business activity, the implementation may resemble the process described in Example 2, and when a given organization commissions such work e.g. as part of grants, or when it is large and hierarchical, some of the implementation elements will be similar to those described in Example 1.

An environmental organization may take various roles in relation to tree work performed (in trees and their surroundings), e.g. a commentator, an educator/promoter of good practices, a commissioning party, a contractor, an inspector, or a prosecuting or defending party⁵. The implementation of the Standards should take into account all those roles, and the implementation process should be consistent and carried out in all areas simultaneously. In larger organizations (or more varied tasks), it is important to have good interpersonal communication and exchange experiences helpful in the implementation of change.

Regardless of the size of the organization, the basic implementation level is relatively easy as it involves supplementing and improving the knowledge of employees or management. An electronic form of the Standards facilitates their download and internal distribution, and also dissemination among people who might be interested in them. The steps we describe below are recommended for organizations that are already aware of the Standards and consider implementing them at more advanced levels (cf. Fig. 3).

1. Analysis of the content of the Standards in the context of the organization's roles/scopes of activity

At this stage, it is very important to review the activities performed by the organization, define its role and the currently used documents, guidelines or standards. It is very likely that the organization will not have equivalents to all of the Standards, but if it has been involved in tree-related activities, it may use certain manuals/guides, tree assessment scales, or training programs. The implementation can be a great opportunity to sort and

⁵ In Poland, according to the amendment to the Environment Protection Act of May 13, 2021 (on the provision of information about the environment and its protection, public participation in environmental protection and environmental impact assessments), environmental organizations obtained more powers for inspection activities and participation in proceedings requiring public participation, which may foster more frequent performance of the control function and enforce the use of standards or norms, e.g. when analysing construction permits. The discussed Standards refer to this area only partially, but they can support the general process of creating normative patterns and their implementation by social organizations involved in ecology.

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set these materials in order, for instance, by grouping them into documents used in the past and those which constitute current guidelines. With more dispersed organizations, this stage can also be an opportunity to check the materials used by the members of the organization or its experts in terms of up-to-date knowledge and consistency with the guidelines/strategy of the implementing party.

2. Analysis of the necessity of implementation and/or its benefits

The necessity of implementing the Standards may result from the postulates of professionalization of work and credibility of activities, the requirements of the community (e.g. supporters of the organization), grassroots initiatives, a social contract obliging the organization to comply with the guidelines, other local or state regulations, or – in the case of the services provided – the terms of the contract concluded with the commissioning party/OPZ. The motivation for implementation may also be benefits for the organization or its members, such as standardization of communication in processes and projects (internal and external), obtaining description or work control tools, improvement of the image of the organization, etc. In order to assess the impact of the implementation on the image of the organization, it is worth carefully reviewing all activities of the organization and its relations with the environment and other institutions.

Standards can be used to initiate educational campaigns in the environment of a given organization, to stay in contact with contractors, decision makers or training institutions, which may locally improve its awareness or the effects of action. Improving the competences of other people by the dissemination of the Standards or training can also be an opportunity to promote a given organisation.

3. Making a decision on implementation

Implementation which is more advanced than the dissemination of knowledge in the environment, or the adoption of Standards to perform the activities of the organization will usually require a decision appropriate to the adopted regulations. In some cases, it might be necessary to obtain a resolution of the Management Board/assembly of members of the association or the consent of the Foundation Council. The analysis of the legitimacy of the implementation and the implementation itself might be the initiative of the organization, but it may also be imposed by the requirements of the commissioning party. The decision should refer to the selection of the Standards to adopt and the level of their implementation. As recommended in this manual, it is possible to adopt all Standards and implement them at their maximum level, and use them in all areas and roles in which the organization operates. Employees may also use the Standards in an informal manner when performing their tasks e.g. during investment supervision or when commissioning work (cf. Example 1).

4. Internal implementation of the Standards in the activities of the organization and adjustment of procedures and external communication

As far as the scope of implementation is concerned, the decision should be transparent and legible for the members and employees of the organisation, its associates or voluntary assistants. Therefore, it is necessary to disseminate the content of the Standards within the organization, establish tasks or rules of operation in individual areas of the organization's activity, standardize other documents or guidelines and existing procedures. At the same time, particular attention should be paid to the changes or innovations described in the Standards in relation to the existing guidelines and/or practices (in the field of defining tree pruning, tree care or tree protection zones), which may force the redefinition of the documents or nomenclature used so far. It is also worth taking care of external communication which should be planned, consistent and car-

ried out according to the level of implementation. A prior analysis of the impact of the application of the Standards on the image of an organization will be helpful in assessing whether, how and when to inform about changes.

The implementation of the Standards may be an important message for social organisations (delivered through newsletters or media) and might show a given organization in a good light as an expert in terms of trees.

5. Supervision of the implementation of the Standards and conclusions

The adoption of the Standards should help the organization obtain the benefits which motivate it to begin the implementation process. It is worth taking care of supervising the effects of implementation, including not only the very fact of applying the Standards, their understanding or approval, but also more tangible effects, e.g. increased interest in the organization, the effectiveness of activities or obtained funding.

Like any other implementing parties, social organizations should follow the development of standardization in arboriculture and changes that take place, including updating knowledge and introduced guidelines. In order to do that, it is advisable to stay in contact with the publisher of the Standards and the manual, as well as other implementing entities.

An example of the implementation of Standards in an environmental and social organization

The "Oak" association deals with activities for the benefit of greenery in a medium-sized city, in particular: identifying problematic trees and reporting them to the Environment and Urban Greenery Department of the Municipal Office, verifying debatable decisions concerning tree removal, monitoring municipal investments in terms of minimizing damage to greenery and reviewing the policy of urban greenery. These tasks are performed by a dozen volunteer members who keep an eye on the districts where they live, and their activity is supervised by a greenery coordinator – an employee hired owing to a subsidy. It is worth noting that many cases of intervention result from issues reported by city residents.

The coordinator became familiar with the Standards during the process of their public consultation and began to use them informally in their work. SliDD has been used to assess the condition of trees to be removed. With SCiPD and SODiZ in his hand, the coordinator assessed the tree work commissioned by the Municipal Office and investments in the vicinity of trees. The coordinator introduced the elements of the Standards to the volunteer members of the association during their periodic meeting. The problem that arose at this stage was the non-compliance of rules applied by municipal services with the Standards.

At the second stage of implementation, the Coordinator asked the association's management board to officially adopt the three Standards as the basis for work in the organization and to send him to a course in tree assessment. He also presented a campaign plan to introduce the Standards as binding for municipal services. He stated that in this way, the quality of taking care of greenery would improve. Also, the monitoring of greenery will be more effective owing to the fact that the city will follow the same standards as the monitoring organization.

The campaign included meetings with clerks, seminars for office employees conducted by experts, activity in the media, a petition to the city authorities and pressure exerted by residents on councillors. As a result of social pressure, the mayor of the city entrusted the coordination of the implementation of the Standards to a municipal gardener, who took actions inspired by the "Implementation manual ...", especially the chapter on the implementation of the Standards in a local government unit.

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Sources

All the Standards in the current version are available on www.drzewa.org.pl/standardy.

In the development of this manual, the versions available in June 2021 were used.

Standard – Tree Pruning and Care, editors: Jacek Borowski, Kamil Witkoś-Gnach, Fundacja EkoRozwoju: Wrocław, 2021 (SCiPD)

Standard – Tree Inspection and Diagnostics, editors and main authors: Mariusz Krynicki, Kamil Witkoś-Gnach, Fundacja EkoRozwoju: Wrocław, 2021 (SIIDD)

Standard – Protection of Trees and Other Forms of Greenery in the Investment Process, editors and main authors: Piotr Reda, Łukasz Dworniczak, Fundacja EkoRozwoju: Wrocław, 2021 (SODiZ)