Revista Nacional de
Gerenciamento de Cidades
ISSN eletrônico 2318-8472, volume 09, número 74, 2021

Cultural landscape management through the application of environmental certifications: Evaluation of the Urban-Landscape Set of *Avenida Köeler – Petrópolis/RJ* through AQUA/HQE certification

Nathalia Coelho Sozzi de Moraes
Architect and Urban Planner, UNESA
Master's student in Design and Heritage, FAU/UFRJ
Specialist in Sustainable Building and City Projects, UNESA, Brazil
ncsmoraes@gmail.com

Revista Nacional de
Gerenciamento de Cidades
ISSN eletrônico 2318-8472, volume 09, número 74, 2021

SUMMARY

Environmental certifications are a tool that aims to measure and evaluate the environmental quality of buildings and their surroundings, with potential collaboration in urban planning. Among the various cultural landscapes that constitute the cities, the historical landscapes can report unique images of urban places, acting as testimonies of the past, which establish connections with the present and serve as reference for the construction of the future. Thus, the need to work the heritage field in sustainable urban management policies is demonstrated. Based on analytical research in the fields of environmental certification and cultural landscape, and documentary research on the Urban-Landscape Set on *Avenida Köeler*, in the Historic Center of *Petrópolis/RJ*, the possibility of certifying the set through AQUA/HQE - Neighborhoods was assessed. The aim of this study is to investigate the potential of the environmental certification instrument with regard to the maintenance of historical and cultural values and to the physical conservation of this complex. In addition to meeting the objectives and indicators, the opportunity to establish an urban management program to achieve with excellence the performance of high environmental quality is evident. This study also shows that when analyzing the certification guidelines, as far as the cultural dimension is concerned, a review is needed to better cover the heritage issue, to establish specific guidelines for the conservation of existing landscapes as an incentive to the preservation and promotion of urban quality for current and future generations.

KEYWORDS: AQUA/HQE – Neighborhoods and Lots. Cultural Landscape. Köeler Avenue – Petropolis.

1 INTRODUCTION

The cultural landscape is that which combines cultural and natural elements within a territorial cut, the result of the dynamic interaction of man with his environment. Concept created by the United Nations Educational, Scientific and Cultural Organization (UNESCO) in 1992, the cultural landscape is a category used for the preservation of cultural heritage, either in its material dimension considering buildings, landscapes and cities, or in its immaterial dimension, appreciating registration, safeguarding and dissemination of knowledge, celebrations, forms of expression and places (SCIFONI, 2016).

According to Cabreira (2010), the contemporary issue of cultural heritage considers not only its aesthetic qualities as an end, but also has a relationship with the daily life in the exercise of culture and development of communities. In this context, the heritage and the cultural landscape have social, environmental and economic aspects that should be considered with the sustainable development, with the ability to meet the needs of the current generation, without compromising the ability to meet the needs of future generations.

Barbosa (2013) considers that when approaching a systemic vision to this triad of social, environmental and economic dimensions, one can add the cultural, spatial and technological dimensions, since they are significant when addressing issues concerning cultural heritage, the surroundings and added technologies.

In addition to social and institutional manifestations in favor of the preservation and requalification of areas of cultural interest, it is possible to notice the search for a higher environmental quality in historic neighborhoods and cities, reflecting in the environmental certifications market. Building certifications have emerged as a tool for the transformation of the civil construction sector, through which it is possible to measure, assess and mitigate environmental impacts in phases of deployment, construction, use and demolition of a building, also contributing to the sustainable development.

The interest in measuring the environmental quality of urban spaces has enabled some environmental certifications to expand their area of coverage, aiming at the evaluation of urban areas. Although they cannot be considered the only solution, environmental certifications have

shown potential to collaborate in city planning and should have the appropriate scope to work in these sensitive areas and with different values assigned over time.

2 OBJECTIVES

The question raised is how the tool of environmental certifications can contribute to the preservation of environments of cultural interest? According to Zenato (2020), as a legacy to be inherited by the next generations, the cultural assets should also subject to insertion along the guidelines of environmental certifications aimed at sustainability, assessing the quality of neighborhoods and communities from the point of view of their memories.

The objective of this work is to analyze the guidelines of environmental certification AQUA/HQE — Neighborhoods and Lots, and to develop arguments that prove the opportunity to certify the Urban-Landscape Complex of *Avenida* Köeler, located in the Historic Center of *Petrópolis*/RJ, in order to operate as an additional instrument of physical conservation and cultural values of the site. To this end, it is also necessary to identify the relevance attributed to the preservation of environments of cultural interest in the guidelines of this certification.

3 METHODOLOGY

The research was organized with an exploratory-descriptive character; whose objective is to establish relationships among the variables in the analyzed object of study. The first step was the data survey, consisting of bibliographic research on the topics of environmental certifications, delimiting as object of study the AQUA/HQE certification of Neighborhoods and Lots, and cultural landscape, with documentary research on the Urban-Landscape Set of *Avenida* Köeler, describing, characterizing and highlighting its historical and cultural values. The main sources were scientific articles, dissertations, theses and practical references of certifications. Then, a study was conducted on the applicability of environmental certification of the complex. This process sought to identify the relationship between the certification guidelines and the cultural heritage and to verify compliance with the certification criteria through the indicators of the thematic objectives.

The result is the investigation of the possibility of environmental certification acting as one more agent in the maintenance and preservation of the complex, contributing to the legitimization of the architectural, urban and landscape heritage as an essential attribute to the environmental and life quality of people in the city, and therefore indispensable in sustainable urban management and planning as an important legacy for future generations.

4 THEORETICAL REFERENCE

The first theme exposed in sub-item 4.1 presents the panorama of the consolidation of the cultural landscape concept as urban heritage, through its main documents and theorists. Thus, it was identified the problematic that involves studying and exploring this field in the perspective of environmental certifications.

In sub-item 4.2 it is presented the main environmental certifications found in the market, their context of origin, objectives and benefits. Then, in sub-item 4.2.1 it is presented

the AQUA/HQE – Neighborhoods and Lots environmental certification, specifying the typology worked, the certification processes, the methods of analysis and application, the thematic areas and the certification levels.

4.1 CULTURAL LANDSCAPE

The rapid urbanization process that cities have undergone since the Industrial Revolution is responsible for significant changes in the urban scenario and landscape, of technical, social and cultural order. It is important to encourage sustainable development, not only in aspects related to the environment and economy, but also to the sociocultural dimension of the communities that inhabit this environment. According to Zenato (2020), the urban cultural heritage can establish bridges with the past, recognizing values, ways of life and identities of each social group, and can contribute as references for building the future.

According to Pavan (2014), the concept of urban heritage arises with Gustavo Giavannoni (1873 – 1947) when addressing the debate between the models of progressive urbanism, which has modernity and functionality as an ideal, and culturalist urbanism, with cultural values and diversity ideal. Thus, the author attributes to the historical urban sets both the museum value and the value of use, integrating them in a general conception of the territory organization.

The Charters are documents of indicative character that provide theoretical and critical basis for the preservation of cultural assets, establishing guidelines for professionals working in the field of preservation. Relevant documents for the study of Urban Heritage are presented below.

The Venice Charter broadens the concept of what is cultural heritage by expanding the understanding of monuments and the safeguarding of historic landscapes and cities, according to new policies of requalification and preservation. Social, cultural and identity issues start to be addressed in a more objective way (ICOMOS, 1964).

The Washington Charter expands the concept of culture to include tangible and intangible aspects. There is an idea of integration between conservation policies and urban planning policies, considering the threats of globalization and homogenization. The dialogue between the concepts of sustainable development and urban rehabilitation emerges, at least in Europe (ICOMOS, 1987).

The Valletta Charter of Principles considers the integration of various public policies for the conservation of urban heritage, sustainable development of cities, improvement of the quality of life of the entire population, territorial and urban cohesion, and other principles, considering integrated urban rehabilitation (ICOMOS, 2011).

In the Paris Declaration, UNESCO and the International Council on Monuments and Sites (ICOMOS) establish principles for the integration of various policies for the conservation and preservation of cultural and environmental heritage, sustainable development, cultural diversity and collective identities to improve the quality of urban life of the local population, highlighting the need for integrating of actions in a more global perspective, which involves not only historic areas and preservation policies, but the entire city and the involvement of different sectors (ICOMOS, 2011).

According to the Dictionary of the Institute of National Historical and Artistic Heritage (IPHAN) (2016), what defines the cultural landscape is its scale of coverage. The cultural landscape refers to particular spatial portion or territorial cut, being then always understood as a spatial set composed of built material elements associated with certain morphologies and natural dynamics, in which are linked contents and meanings socially given (SCIFONI, 2016).

From the point of view of preservation, what identifies the cultural landscapes to be protected is the peculiar character of this relationship woven temporally and is revealed from specific forms of use and appropriation of nature by human work. These relations can both materialize in its morphology, and can be made explicit through values that are socially attributed to it. The cultural landscape approach thus allows to overcome a compartmentalized treatment between natural and cultural heritage, but also between the material and immaterial, understanding them as a single and dynamic set.

Cultural landscapes can report unique images of urban places, revealing their particularities and establishing an intense relationship with the population. This link established between community and built heritage is facilitated due to urban permanence that stand out in the landscape, facilitating orientation, reinforcing the need to work with this dimension in sustainable urban planning policies.

4.2 ENVIRONMENTAL CERTIFICATIONS

Since the 1990s, several sectors of society have become aware of the need for sustainable development. Countries such as the United States, Canada, England and France began to develop systems to evaluate the environmental performance of buildings in order to promote sustainable construction as a means to protect the environment, enable economic growth and promote social inclusion.

According to Nunes (2018), certification is a systematized process of monitoring and evaluating of a product, process or service that meets pre-established requirements in technical standards and regulations. Environmental certifications follow the same principles, having as object of study the buildings and cities, meeting sustainability requirements that vary according to each certification, in its quantitative and qualitative particularities. Certifications are in a constant process of evolution and improvement, mainly to be adapted to different local and cultural issues. Among the methods available on the market, the English BREEAM, the French HQE and the North American LEED stand out.

The Building Research Establishment Environmental Assessment Method (BREEAM) was the first certification developed and sets the standard for best design practices in sustainable buildings' production by assigning credits in ten categories. Most requirements are negotiable, which means that the project team is allowed to choose which requirements to meet in order to obtain the necessary score for certification (CASTANHEIRA, 2013).

The French method appeared in 1996, from the creation of the *Haute Qualité Environnementale* Association (HQE), which has the participation of other public or collective associations, representing all the actors that participate in the production of buildings. The certification is intended to promote the improvement of the environmental quality of buildings,

also considering the environmental quality management in the development of projects (CASTANHEIRA, 2013).

The North American Leadership in Energy and Environmental Design (LEED) method has been used as a design guideline and third-party certification method. It aims to improve occupants well-being, increase environmental performance and stimulate the economic return of buildings by adopting both established and innovative practices. To obtain the certification, the project must meet all prerequisites and obtain a minimum number of points, and thus are classified within a system with four possible levels (CASTANHEIRA, 2013).

Regardless of the degree of use of certifications in Brazil, it is important to mention the benefits they offer:

> Among the main advantages are the quality of life and health of people, the energy and water efficiency of the projects, the reduction of negative impacts on the environment, the increase in awareness of the consumption of natural resources by construction companies and designers, the increased credibility of the company and the enterprise in the consumer market, and the learning acquired throughout the certification process, which can be passed to future projects. (ZENATO, 2018, p.50)

However, some negative aspects are highlighted, such as the high value of investment to obtain the certifications, the use of these certifications only as a mechanism to capture value in the real estate market and the possibility of masking the scores, which may result in a certified enterprise, but without guarantee of balanced compliance with the various dimensions of sustainability.

Existing methodologies and tools for environmental assessment of buildings should not consider them as isolated objects. Buildings can be efficient, but they are unlikely to be sustainable if they are not implemented at a scale larger than the building itself. Thus, the built environment, neighborhoods, public transport and services should also be considered in the assessment.

According to Castanheira (2013), the first tool for sustainability assessment of urban development was the Comprehensive Assessment System for Building Environmental Efficiency for Urban Development (CASBEE-UD), developed in Japan in 2006. The tool evaluates urban areas, through built or open spaces, for a higher environmental quality and for the reduction of urban development impacts.

The Building Research Establishment Environmental Assessment Method for Communities (BREEAM Communities) is based on the BREEAM methodology and focuses on minimizing the impacts of project development on the urban environment. This methodology promotes the project in its environmental, social and economic benefits towards the local community, at the neighborhood or on a larger scale. The objectives include providing the market with sustainability recognitions for urban projects by ensuring that best practices are incorporated (CASTANHEIRA, 2013).

The Leadership in Energy and Environmental Design for Neighborhood Development (LEED-ND) incorporates the principles of smart growth, urban design and sustainable construction into a neighborhood design rating system. Site selection, urban design and the constructive and infrastructure elements of buildings, acting together within a neighborhood, are emphasized. The relationship to its landscape as well as the local and regional context are important. The tool is divided into three main categories: intelligent and articulated location, neighborhood pattern and design, and sustainable infrastructure and buildings (CASTANHEIRA, 2013).

For Cabreira (2010), the French reference HQE stood out among all environmental certifications as the only tool that effectively and categorically incorporates, both in the architectural and in the urban scale, the built cultural heritage. The other systems propose to monitor the consumption of natural and financial resources without attributing historical, heritage, cultural or artistic value to the parameters applied. For this reason, this was the certification chosen for further study and application in the case study.

4.2.1 AQUA/HQE – NEIGHBORHOODS AND LOTS

The *Alta Qualidade Ambiental* (AQUA) is an environmental certification developed from the French HQE certification and applied in Brazil by *Fundação Vanzolini*, of the Polytechnic School of the University of São Paulo (USP). According to the organ, its technical references were developed considering the culture, climate, technical norms and regulations present in Brazil. The AQUA/HQE certification is objective and brings a recognition of good practices in the sustainable construction and operation of buildings and in the implementation of high quality sustainable urban planning activities.

The certification presents as main benefit the high environmental performance in response to the main environmental challenges. To ensure sustainable quality of life and freedom of choice and innovation for all agents, AQUA offers a reference system that respects differences and project-specific expectations. The certification process requires the adoption of the Environmental Management System (*Sistema de Gestão Ambiental* - SGA) and assesses the Environmental Quality of the Building (*Qualidade Ambiental do Edifício* - QAC) in phases, serving residential and non-residential buildings under construction, non-residential buildings in operation, and neighborhoods and lots.

The SGA translates into the scope of the ISO 14001 standard for environmental policy guidance in construction, adaptation and management operations. The QAC is formalized through 14 targets distributed into four categories: eco-construction, eco-management, comfort and health. The targets aim at achieving, improving or maintaining the environmental quality of new or existing buildings through requirements and qualitative and quantitative indicators. The targets are complementary and transversal, aiming to act in the mitigation of a certain environmental impact.

AQUA/HQE — Neighborhood and Lots is presented as a certification for the development of sustainable spaces by controlling the processes of management, participation and evaluation in the phases of planning, design, realization and delivery. The specific benefits are the suitability of the tool for various types of developments and the non-imposition of

prerequisites or choices for the urban project, being able to consider the particularities of each location and highlight its qualitative indicators.

The certification covering existing neighborhoods and subdivisions requires compliance with the criteria of the Technical Reference for Certification (VANZOLINI, 2011) through the establishment of the Management System in Operation (*Sistema de Gestão em Operação* - SGBOp), in accordance with NBR ISO 14.001, which includes management programs for the improvement of the performance of indicators. Justification and self-assessment of the Environmental Quality of the Neighborhood in Operation (*Qualidade Ambiental do Bairro em Operação* - QABOp) is also required for certification, resulting from the compliance or justification of non-applicability to the indicators and objectives of the 17 thematic areas, in view of the scope and context of the operation, in order to achieve a profile with at least 4/17 of the applicable themes at the Excellent level, 5/17 at the Superior level and 8/17 at the Good level.

For the study of this article, the QABOp will be interpreted, whose objective is to reconcile the sustainable development and the establishment of a sustainable neighborhood, considering all the interactions between these two dimensions. The 17 themes concerning the sustainable neighborhood are a means of reflection, considering the relationship of the site with the rest of the territory, as well as the intrinsic characteristics of the place, considering:

> a) The integration and coherence of the neighborhood with the urban fabric and the other scales of the territory: 1 — territory and local context; 2 — density; 3 — mobility and accessibility; 4 — heritage, landscape and identity; 5 — adaptability and evolutionary potential.
> b) Preservation of natural resources and promotion of environmental and health quality of the neighborhood: 6 — water; 7 — energy and climate; 8 — urban materials and equipment; 9 — waste; 10 — ecosystems and biodiversity; 11 — natural and technological hazards; 12 — health.
> c) Stimulating integration into social life and strengthening economic dynamics: 13 — project economy; 14 — functions and plurality; 15 — environments and public spaces; 16 — insertion and training; 17 — attractiveness, economic dynamics and local training structures.

5 CASE STUDY: URBAN-LANDSCAPE SET OF AVENIDA KÖELER IN PETRÓPOLIS/RJ

Avenida Köeler belongs to the original urban core of the city of *Petrópolis* (RJ), designed by military engineer Major Júlio Frederico Köeler in 1843, at the request of the Emperor of Brazil, D. Pedro II. It consists of twenty-six (26) small palaces built between the second half of the nineteenth century and the first decades of the twentieth century (TORRE, 2014).

The road (figure 1) preserves its original layout, having as central axis the *Quitandinha* River and as spatial limits, since its origin in the Köeler Plan, two of the main urban monuments in *Petrópolis*. In one end the *Praça da Liberdade*, main public leisure area of the city center, and in the other end the São Pedro de Alcântara Cathedral.

Revista Nacional de
Gerenciamento de Cidades
ISSN eletrônico 2318-8472, volume 09, número 74, 2021

Figure 1: Aerial view of Av. Köeler, with Praça da Liberdade on the left and the Cathedral on the right.

Source: Diário de Petrópolis, 2019

The consolidation process of the Köeler Avenue complex took place slowly. In the early years of the city, in the 1960s, the emptiness was still a predominant aspect, and public works, such as the rectification of the *Quitandinha* River and the afforestation of the road, were in their early stages.

With the construction of seven (7) of the twenty-six (26) buildings that make up the complex, *Avenida Köeler* begins to take shape. The treatment given to the banks of the river, with the planting of trees and creation of bridges connecting both sides of the road, and the presentation of the projects for the Cathedral of São Pedro de Alcântara and *Praça da Liberdade* are presented as determining factors for the change of landscape and appreciation of space (TORRE, 2014).

The Köeler Avenue complex is the result of the urban fabric implemented by the Empire combined, in large part, with the architectural representation of the Republic. It is in the Republic that Avenida Köeler definitively consolidates its current architectural complex, with the construction of nineteen (19) of its twenty-six (26) buildings.

With the construction of an ambience, the Avenida Köeler acquired the noble character that would later consecrate it as a postcard of the city of Petrópolis. Just as the Empire used the neoclassical molds for its representation in architecture (figure 2a), the Republic chose eclecticism for its buildings (figure 2b).

Figure 2: (a) Front view of *Casa da Princesa Isabel*, built in the neoclassical style at the time of the Empire. (b) View of the front façade of *Palácio Rio negro*, built in the ecletic style at the time of the Republic.

Source: Tribuna de Petrópolis, 2019

The tumbling of Avenida Köeler occurred in 1964, with the inscription in the Book of Archaeological, Ethnographic and Landscape Register as "Urban-Landscape Set of Avenue Köeler". According to Torre (2014), by characterizing the tumbling as “urban and landscaped”, it is recognizes in Avenida Köeler a unity between urbanism and landscaping of the 19th century. It can be assumed that the meaning of the title “urbanistic” intended to preserve the characteristics of the plan made by Major Júlio Frederico Köeler for the city of Petrópolis. The title “landscape” would be attributing to the whole of Avenida Köeler this historical and cultural value, highlighting the rich forestation of the road, the natural landscape in the background and the large open and private areas with their designed gardens.

Of the twenty-six (26) buildings located on Avenida Köeler, eighteen (18) are occupied by new uses. Despite the possibly positive aspect regarding the maintenance of the architecture of these buildings, it was noticed that the same did not happen with the respective designed gardens. In the remaining eight (8) buildings that were kept occupied by the original use, apparently the architecture and landscaping are preserved. The cases of abandonment and deterioration of heritage are occasional.

As a Cultural Landscape, the Köeler Avenue complex is mutable and has been continuously changing its meanings without losing its form and the strength of its image. It is a heritage that reflects times built on moments of the past, but, unlike other places of memory, it continues to actively integrate the present moment.

6 DATA ANALYSIS

Following the methodological path of certification, the data to be presented demonstrate the QABOp's self-assessment for the Köeler Avenue Urban Landscape Complex, following the objectives presented in the reference manual. The indicators and the performance that the set meets were outlined. The demonstration of compliance with the guidelines of the indicators is presented in Chart 1.

Chart 1: Performance Analysis of Avenida Köeler according to the Themes and Indicators of AQUA/HQE Neighborhoods and Sets

Topics	Indicators	Performance
Neighbourhood integration and coherence	Territory and local context	EXCELENT
	Density	GOOD
	Mobilitu and accessibility	GOOD
	Heritage, landscape and identity	EXCELENT
	Adaptability and evolutionary potencial	SUPERIOR
Natural resources	Water	GOOD
	Energy and climate	GOOD
	Urban materials and equipment	GOOD
	Waste	GOOD

	Ecosystems and biodiversity	EXCELENT
	Natural and technological hazards	GOOD
	Health	SUPERIOR
Social life and economic dynamics	Project economics	SUPERIOR
	Functions and plurality	SUPERIOR
	Public enviroments and spaces	EXCELENT
	Insertion and training	SUPERIOR
	Attractiveness, economic dynamics and structure of local formations	EXCELENT

Source: Prepared by the author (2021)

The summary chart shows that the Urban-Landscape Complex of Av. Köeler meets the required profile with 5/17 of the applicable themes at the Excellent level, 5/17 at the Superior level and 7/17 at the Good level. Thus, it is possible to certify the complex, reinforcing the commitment to sustainability foreseen in the public policies of the municipality.

7 RESULTS

On the subject of integration and coherence of the neighborhood, as the Complex has been well consolidated for many years, it is well accepted by residents, users and tourists, allowing easy access and inter-neighborhood displacement and presenting the existence of common poles such as education, leisure, culture, services, among others. In addition, the performance in the indicators of heritage and landscape obtains excellence, identifiable by the recognition, protection and conservation of the values and the good state of conservation of the Complex. It is also highlighted the possibility of flexibility of spaces according to new needs, proven by the fact that even with the change to new uses, the architectural characteristics are maintained, and this may be an incentive factor as a public policy for the restoration of abandoned buildings.

Analyzing the natural resources theme, it is highlighted the biodiversity valorization and protection, mainly in the protection of landscape resources regarding the proportion between green areas and built areas. The performance is this theme is good, since these were not concerns of the time when the Avenue and its houses were built. However, as the QABOp profile is programmed to maintain and continuously improve the compliance with the operation's objectives and indicators, it is possible to establish a water, energy, materials and waste management policy that respects the historical and cultural characteristics of the complex.

About social life and economic dynamics, it is highlighted the issues of satisfactory visual and environmental comfort, in addition to the economic attractiveness linked to local development and promotion of leisure and tourism, job offer and democratic spaces, thus achieving a functional, social and plurality of uses in spaces. Furthermore, some indicators with good performance have the potential to achieve better performances, such as, for example, the incentive to value means of transportation with low environmental impact, the opportunity to

establish a natural resource management program and the stimulation of the productive chain in civil construction. These and other measures arise from the formulation of strategies that may be contemplated by an environmental management program, which will add sustainability value to conservation policies, in addition to strengthening cultural and historical values, and contributing to the environmental quality of the space.

The indicators that deal with the enhancement and protection of cultural, architectural or urban heritage in relation to respect for the existing heritage and identity, the enhancement and protection of the landscape in order to preserve/improve the ecological and landscape quality, and the enhancement of landscape elements, were identified. The architect's role is important in recognizing this importance and in evaluating these aspects with other, in addition to the certification guidelines.

8 FINAL CONSIDERATIONS

For being endowed with several particularities, the protection of areas of cultural interest in cities depends on specific planning strategies for these places. When used as aid tools, urban planning guidelines can use indices and indicators to measure sustainability and quality of urban contexts, corresponding to the role of environmental certifications.

When studying the technical reference of the AQUA/HQE certification — Neighborhoods and Lots, it was observed the predominance of incentives to preserve biodiversity, natural resources, waste management and basic sanitation services, while encouraging the compact development, densification, investments in urban mobility, the mix of uses and activities, and the increase of green areas in cities.

This preponderance of environmental, social and economic guidelines in certification may be linked to the origin of the sustainability concept. In the AQUA/HQE — Neighborhoods and Lots certification guidelines, it was identified an assessment scope composed of seventy-two (72) urban sustainability guidelines, in which only 4% of these are intended to issues that directly involve the recognition and preservation of the architectural and urban cultural heritage (ZENATO, 2020). The more possible dimensions are identified, dealing with cultural, spatial, technological and other dimensions, we will achieve a more sustainable architecture.

Regarding the cultural dimension and heritage issues, such as the preservation of the cultural landscape, a review of the certification is required to better cover the topic and establish more specific guidelines for preservation and protection, considering the material and immaterial values holistically and with the same relative importance as the other dimensions, as an incentive to preservation of urban quality for current and future generations. The relationship between historic heritage and sustainability should be sought by professionals from both areas, so that common and complementary strategies can be elaborated aiming at a more responsible action with the environment.

The urban landscape that confers identity to the society of Petrópolis was addressed through urban development strategies that aim at sustainability. The contribution of this work was to present the environmental certification of a cultural landscape as a possibility of another instrument to be used for preservation. With guidelines for the proper use and management of all its elements, it is possible to produce a more in-depth management program, with the goal

of achieving excellence in other indicators, committing to the performance of high environmental quality.

BIBLIOGRAPHICAL REFERENCES

CABREIRA, C. V.; BARROSO-KRAUSE, C.; RIBEIRO, R. T. **Patrimônio Sustentável: A experiência francesa e a realidade brasileira. Reflexões para a preservação de edifícios históricos no Brasil segundo o referencial francês da Haute Qualité Environnementale – HQE.** Anais do XIII Encontro Nacional de Tecnologia do Ambiente Construído. Canela: 2010. Acesso em: 13 jun 2020.

CASTANHEIRA, G.S. **Estratégias de Intervenção para a Regeneração Urbana Sustentável.** Dissertação de Mestrado da Escola de Enhenaria da Universidade do Minho: 2013. Acesso em: 24 jul 2020.

FUNDAÇÃO VANZOLINI. **Referencial técnico de certificação: Bairros e Loteamentos. Parte QAB – Qualidade Ambiental do Bairro.** São Paulo: 2011. Disponível em <https://vanzolini.org.br/aqua/wp-content/uploads/sites/9/2016/12/QAB_AQUA_Bairros_e_loteamentosv01.pdf>. Acesso em: 24 mar 2021.

ICOMOS. International Council on Monuments and Sites. **Carta de princípios de La Valletta (2011)**. Disponível em: <https://www.icomos.org/images/DOCUMENTS/Charters/Valletta_Principles_Portugese.pdf> Acesso em: 24 ago de 2020.

_____. **Carta de Veneza (1964)**. Disponível em: <http://portal.iphan.gov.br/uploads/ckfinder/arquivos/Carta%20de%20Veneza%201964.pdf> Acesso em: 24 ago de 2020.

_____. **Carta de Washington (1987)**. Disponível em: <http://portal.iphan.gov.br/uploads/ckfinder/arquivos/Carta%20de%20Washington%201986.pdf> Acesso em: 24 ago de 2020.

_____. **Declaração de Paris (2011)**. Disponível em: <https://www.icomos.org/images/DOCUMENTS/Charters/GA2011_Declaration_de_Paris_EN_20120109.pdf> Acesso em: 24 ago de 2020.

NUNES, M. F. **Análise da contribuição das certificações ambientais aos desafios da Agenda 2030.** Revista Internacional de Ciências. Rio de Janeiro: v. 08, n. 01, p. 27-46, jan-jun 2018. Disponível em <http://www.e-publicacoes.uerj.br/ojs/index.php/ric>. Acesso em: 13 jun 2020.

PAVAN, Juliana Silva. **Cidades e identidades coletivas: as políticas urbanas no patrimônio cultural do Rio de Janeiro e de Lisboa .** Tese (Tese em Arquitetura), Universidade Federal do Rio de Janeiro, PROARQ/ FAU/ UFRJ, Rio de Janeiro, 2017.

_____.. **A adaptação de uso dos Lugares de Memória arquitetônicos como fator de preservação cultural: Rua do Ouvidor e adjacências**. Dissertação (Mestrado em Arquitetura), Universidade Federal do Rio de Janeiro, PROARQ/ FAU/ UFRJ, Rio de Janeiro, 2013.

SCIFONI, Simone. **Paisagem cultural.** In: GRIECO, Bettina; TEIXEIRA, Luciano; THOMPSON, Analucia (Orgs.). *Dicionário IPHAN de Patrimônio Cultural*. 2. ed. rev. ampl. Rio de Janeiro, Brasília: IPHAN/DAF/Copedoc, 2016. (verbete). ISBN 978-85-7334-299-4.

TORRE, Thaísa. **A gênese da permanência: o conjunto urbano e paisagístico da Avenida Koeler e seu estatuto de patrimônio nacional**/ Thaísa Torre. – Rio de Janeiro: UFRJ/ FAU, 2014.

ZENATO, C.; MEIRA, A.L.G. **Patrimônio cultural e certificações ambientais.** *Arquitextos*, São Paulo, ano 20, n. 240.03, Vitruvius, maio 2020 <https://www.vitruvius.com.br/revistas/read/arquitextos/20.240/7745>. Acesso em: 24 jul 2020.

ZENATO, C. **Diretrizes para áreas de interesse cultural em certificações ambientais: análise do 4º distrito de Porto Alegre.** Dissertação (Mestrado) – Universidade do Vale do Rio dos Sinos, Programa de Pós-Graduação em Arquitetura e Urbanismo, São Leopoldo, RS, 2018.