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CHINA-PORTUGAL BELT AND ROAD JOINT LABORATORY
ON CULTURAL HERITAGE CONSERVATION SCIENCE

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学“一带一路”联合实验室
《遗产研究国际动态》编辑委
员会

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前沿研究 Research Fronts

世界遗产影响评估

Impact Assessment for World Heritage

资料来源:

《联合国教科文组织世界遗产资源手册: 世界遗产背景下的影响评估指南与工具包》。

Source:

UNESCO World Heritage Resource Manual: Guidance and Toolkit for Impact Assessments in a World Heritage Context.

影响评估被描述为“行动前思考”。它通过探索拟议行动可能对环境, 或就世界遗产而言, 对其突出普遍价值造成的影响, 为决策过程提供信息。它应始终在做出任何不可逆转的决定或行动之前进行, 以便任何调查结果都能真正为最终决策提供依据。这将确保世界上最珍贵的遗产地与全体社会, 在当下与未来均能收获最佳福祉。

拟议行动的制定和实施包含多个阶段(图1)。影响评估需尽早开展, 以便对规划产生影响: 开展时间越晚, 影响结果的可能性就越小。最终的影响评估报告需及时完成, 以帮助决策拟议行动是否应推进、调整或完全不予实施——且需在施工或任何其他实地准备工作启动前完成。

自20世纪70年代起, 影响评估已开始应用, 如今在几乎所有国家都已成为成熟完善的体系。如今, 许多国际金融机构和大型商业银行将借贷方证明其正在保护自然和文化遗产作为所有贷款的先决条件——影响评估可为此提供帮助。到20世纪80年代, 世界遗产委员会咨询机构已开始强调如何在世界遗产范畴内应用影响评估; 在过去十年中, 世界遗产委员会已要求对200多处世界遗产地开展影响评估。

(1) 影响评估的程序

影响评估应在拟议行动的制定初期启动, 并贯穿整个规划过程以提供决策依据。

Impact assessment has been described as "thinking before acting". It informs the decision-making process by exploring consequences that proposed actions may have on the environment, or in the case of World Heritage properties, on their OUV. It should always be carried out before any irreversible decisions or actions are taken, so that any findings can genuinely inform a final decision. This ensures the best outcomes for the world's most exceptional places and for society, both today and in the future.

There are multiple stages in the development and implementation of a proposed action (Figure 1). An impact assessment needs to take place early enough to be able to influence planning; the later an impact assessment takes place, the less potential it has to influence the outcome. The final impact assessment report needs to be ready in time to help inform the decision on whether the proposed action should proceed, be modified or not be carried out at all – before construction or any other preparatory actions on the ground take place.

Impact assessment has been used since the 1970s and is now a well-established system in nearly all countries. Nowadays, many international finance institutions and major commercial banks require borrowers to show that they are safeguarding the natural and cultural heritage as a prerequisite to any lending – impact assessment can help with this. By the 1980s, the World Heritage Committee's Advisory Bodies had begun to highlight how impact assessment could be used in a World Heritage context; over the last decade, the World Heritage Committee has requested impact assessments for more

评估本身包含 11 个灵活步骤（表 1），可根据拟议行动的类型和实施地点进行调整。

影响评估通常由独立专家团队执行，其受委托旨在为以下方面提供信息：

- i) 提议方对拟议行动的规划；
- ii) 相关主管部门就是否批准拟议行动作出的决策。

影响评估还应包含一个重要组成部分：权利人及其他利益相关者的参与，包括环境与遗产管理部门及社区。

与其他影响评估指导文件不同的是，本《指南》主张权利人和利益相关者的参与以及主动解决问题的过程应贯穿整个影响评估流程。这是因为：权利持有者及其他利益相关者参与世界遗产地的保护与管理至关重要；影响评估的根本目的在于考虑替代方案并减轻对遗产突出普遍价值的影响。

(2) 影响评估的类型

一般来说，根据拟议行动的性质，可在不同规模上开展两种主要类型的影响评估，这些评估可针对特定问题（包括遗产问题）：

- i) 环境与社会影响评估；若评估侧重于遗产，则可称为遗产影响评估；
- ii) 战略环境评估。

环境与社会影响评估，又称环境影响评估，是指对项目层面某一特定拟议行动的影响进行

than 200 World Heritage properties.

(1) The impact assessment process

Impact assessment should start early in the development of a proposed action, and inform the entire planning process.

The assessment itself consists of a series of 11 steps (Table 1) which are flexible and can be adapted to the type and location of the action being proposed.

Impact assessment is normally carried out by an independent team of specialists, who are commissioned to inform:

- i) the proponent's planning of the proposed action;
- ii) the relevant authority's decision on whether the proposed action should be permitted.

Impact assessment should also include an important component of participation by rights-holders and other stakeholders, including environmental and heritage authorities and communities.

Unlike other impact assessment guidance documents, this Guidance advocates that participation of rights-holders and stakeholders, and proactive problem solving should take place throughout the entire impact assessment process. This is because of the importance of involving rights-holders and other stakeholders in the protection and management of World Heritage properties, and because a fundamental purpose of impact assessment is to consider alternatives and mitigation to impacts on their Outstanding Universal Value.

(2) Types of impact assessment

Broadly speaking, there are two main

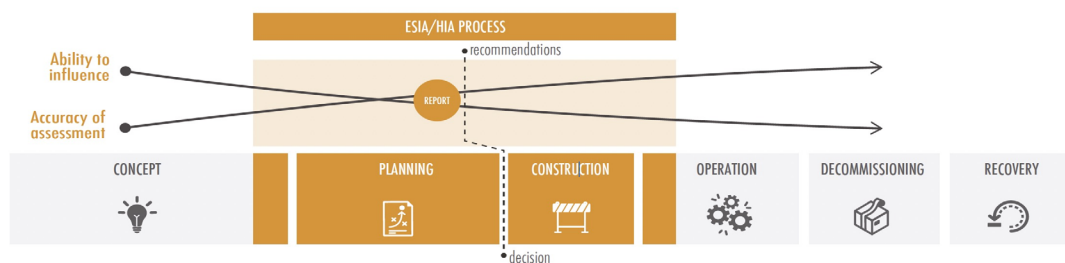


图 1：影响评估需在拟议行动周期中的适当节点开展，以便其能够影响规划过程并为决策提供依据。注：根据拟议行动的类型，“施工阶段”可能包含其他形式的准备工作；而“运营阶段”可指拟议行动的任何长期实施与运行过程。

Figure 1. Impact assessments need to be conducted at appropriate points in the proposed action cycle so that they can influence the planning process and inform decision-making. Note: Depending on the type of proposed action, the "construction phase" may include other forms of preparatory work; and the "operation phase" can refer to any long-term implementation and operation processes of the proposed action.

Table 1. Overview of the impact assessment process

Prompt questions for generic impact assessment <i>(in italics, additional prompt questions when considering impacts on World Heritage)</i>	
Throughout the impact assessment	
A. Participation	· Who are the rights-holders and other relevant stakeholders? · How should rights-holders and other stakeholders be engaged? · Are there consent issues to be considered (e.g. free, prior and informed consent of Indigenous peoples and possibly others)? · What engagement methods should be used for different groups, including those who have traditionally been disenfranchised?
B. Proactive problem solving	· Is the proposed action necessary? Is it preferable to "do nothing"? · What are the alternatives to the proposed action? · What would be the preferred or most environmentally benign option for achieving the proposal's objectives? · How can any negative impacts of the proposed action be avoided or minimized? <i>How can these impacts be avoided/minimized for OUV and its attributes?</i> · Are there opportunities to provide or enhance any positive impacts of the proposed action? <i>To enhance the management of OUV?</i>
Steps of impact assessment	
1. Screening	· Is an impact assessment needed? · <i>What are the property's OUV and other heritage/conservation values?</i> · <i>What are the property's attributes?</i> · <i>Is the proposed action compatible with the OUV of a World Heritage property?</i> · <i>Could the proposed action have an impact on OUV regardless of its location?</i>
2. Scoping	· What data, impacts, geographical area and time period should the impact assessment cover? · What should be the terms of reference for the impact assessment? · What essential information is needed, and is it available? If not, is a valid assessment feasible based on existing information sources? (See also "A. Participation" above)
3. Baseline	· What are the current conditions? · How would the baseline change in the future in the absence of the proposed action? · <i>What are the current conditions of the World Heritage property and the attributes that support its OUV and other heritage/conservation values?</i> · <i>How is the property managed?</i> · <i>What was the property's state of conservation at the time of inscription?</i>
4. The proposed action and alternatives	· What is being proposed (plans, description, visualizations etc.)? · How would it be implemented? · Is there enough information to assess the proposed action? · What are reasonable alternatives to the proposed action that would avoid or reduce any negative impacts and still achieve the objectives of the proposed action? (See also "A. Participation" and "B. Proactive problem solving" above)
5. Identifying and predicting impacts	· What environmental, social and other related impacts would result from the proposed action and any alternatives? · <i>What changes to OUV and other heritage/conservation values would occur as a result of the proposed action, both positive and negative?</i>
6. Evaluating impacts	· How significant are the impacts of the proposed action and any alternatives? · <i>How significant are the impacts to the OUV and other heritage/conservation values, given the international importance of World Heritage?</i>
7. Mitigation and enhancement	· What are reasonable alternatives to the proposed action that avoid or reduce any negative impacts and achieve the objectives of the proposed action? · What mitigation measures are necessary to avoid or minimize any predicted negative impacts? · What are the positive impacts? Can they be enhanced? · <i>Can negative impacts on the OUV and other heritage/conservation values be avoided? If negative impacts cannot be fully avoided, how can they be minimized to a level that they are no longer of concern?</i> · How significant are the residual (post-mitigation) impacts? (See also "A. Participation" and "B. Proactive problem solving" above)
8. Reporting	· How should the process and conclusions of the impact assessment be communicated?
9. Reviewing the report	· Does the report meet its terms of reference? · Is it "fit for purpose" for decision-making? (See also "A. Participation" above)
10. Decision-making	· Is the proposed action the best possible, given identified alternatives? · Should the proposed action be given approval? · If so, under what terms or conditions (mitigation measures)? (See also "B. Proactive problem solving" above)
11. Follow-up	· How should the mitigation measures be implemented? · What should be done to monitor and manage the proposed action and by whom?

表 1：影响评估流程概览

影响评估的通用提示问题 (斜体为考虑对世界遗产的影响时, 附加的提示性问题)	
贯穿影响评估过程	
A. 参与	- 谁是权利人和其他相关利益相关者? - 权利人和其他利益相关者应如何参与? - 是否需要考虑土著或其他当事人的自由、优先和知情同意权? - 对于不同群体, 包括历来被剥夺权利的群体, 应采用哪些参与方法?
B. 主动解决问题	- 提议的行动是否必要? “不采取任何行动”是否更好? - 议的行动有哪些替代方案? - 实现目标的首选或最环保的方案是什么? - 如何避免或最小化拟议行动可能产生的负面影响? 特别是针对突出普遍价值及其属性, 如何避免或减轻这些影响? - 拟议行动是否有机会提供或增强任何积极影响? 特别是在加强突出普遍价值的管理方面?
影响评估步骤	
1. 筛选	- 是否需要进行影响评估? - 遗产地的突出普遍价值及其他遗产/保护价值是什么? - 遗产地的属性是什么? - 拟议行动是否与世界遗产的突出普遍价值兼容? - 无论拟议行动位于何处, 都会对突出普遍价值产生影响吗?
2. 范围界定	- 影响评估应涵盖哪些数据、影响、地理区域和时间段? - 影响评估的职权范围应包括哪些内容? - 需要哪些基本信息, 这些信息是否可用? 如果不可用, 是否可以基于现有信息来源进行有效的评估? (见上文“A. 参与”)
3. 基准线	- 当前状况如何? - 在没有拟议行动的情况下, 基准线未来会如何变化? - 世界遗产地及其支撑其突出普遍价值和其他遗产/保护价值的属性目前状况如何? - 该遗产地如何管理? - 遗产登录时的保护状态如何?
4. 拟议行动及替代方案	- 拟议内容是什么(计划、描述、可视化方案等)? - 该行动将如何实施? - 是否有足够的信息来评估拟议行动? - 拟议行动的合理替代方案是什么, 既能避免或减少任何负面影响, 又能达到建议行动的目标? (见上文“A. 参与”“B. 主动解决问题”)
5. 识别和预测影响	- 拟议行动及任何替代方案将产生哪些环境、社会及其他相关影响? - 拟议行动将对突出普遍价值及其他遗产/保护价值造成哪些变化(包括积极和消极影响)?
6. 评估影响	- 拟议行动及任何替代方案的影响有多显著? - 鉴于世界遗产的国际重要性, 对突出普遍价值及其他遗产/保护价值的影响程度如何?
7. 缓解措施与强化策略	- 拟议行动有哪些合理的替代方案, 可以避免或减少负面影响并实现其目标? - 需要哪些缓解措施来避免或最小化预测的负面影响? - 积极影响有哪些? 能否增强这些影响? - 能否避免对突出普遍价值及其他遗产/保护价值的负面影响? 若无法完全避免, 如何将其最小化至可接受水平? - 缓解后的残留影响程度如何? (见上文“A. 参与”“B. 主动解决问题”)
8. 报告	影响评估的流程与结论应如何传达?
9. 报告审查	- 报告是否符合其职权范围? - 报告是否“适用于决策”? (见上文“A. 参与”)
10. 决策	- 鉴于已确定的替代方案, 拟议行动是否为最佳选择? - 是否应批准拟议行动? - 若批准, 需基于哪些条款或条件(缓解措施)? (见上文“B. 主动解决问题”)
11. 后续工作	- 缓解措施应如何实施? - 应由谁负责对拟议行动进行监测和管理? 具体需采取哪些措施?

的评估。该评估通常针对具有重大潜在环境影响的大型项目开展，但在某些情况下也可涵盖敏感地点的小型项目。世界上几乎每个国家都已建立环境与社会影响评估体系，旨在保护自然和文化环境。大型多边金融机构（如开发银行）通常要求对特定类型的项目进行影响评估，包括对自然和文化遗产影响的评估。事实上，许多已签署《赤道原则》的国际银行现在将影响评估作为标准规划工具，并利用其对拟议行动进行筛选。环境与社会影响评估通常包括对遗产影响的评估，以及其他环境和社会因素的考量。

遗产影响评估是针对具体项目的评估，侧重于分析对遗产地突出普遍价值及其他遗产/保护价值的潜在影响。在世界遗产地的背景下，遗产影响评估应聚焦于识别和评估对传达世界遗产突出普遍价值的属性所产生的积极和消极影响。

除环境与社会影响评估（ESIA）外，越来越多的国家还要求对为单个项目设定背景的前置政策、规划和/或计划进行影响评估——这被称为战略环境评估（SEA）。通过在规划过程早期主动考虑遗产问题，战略环境评估可在项目论证阶段为优化决策提供依据。

与环境与社会影响评估相比，战略环境评估更适合在景观/区域尺度上评估多个项目的累积影响（包括那些无需进行 ESIA 的项目）；并制定可一致适用于所有项目的战略性和通用性缓解措施。

战略环境评估可为考量单个项目及其环境与社会影响评估提供背景和框架。SEA 与 ESIA 是相辅相成的流程，可在适当情况下于同一世界遗产地多次应用。SEA 的优势在于更具前瞻性和战略性，能够在更大的景观尺度上考量问题，有可能减少世界遗产面临的外部压力，并在任何具体项目提出之前为决策提供支持。而 ESIA 则有助于详细了解某一特定拟议行动，并确保其对突出普遍价值无潜在负面影响。例如，某区域或国家交通网络的 SEA 可通过识别环境制约因素、优选替代方案和可能的累积影

types of impact assessment that can be carried out at different scales, depending on the nature of the proposed action, and can focus on specific issues (including heritage):

i) Environmental and Social Impact Assessment (ESIA); if the assessment focuses on heritage it may be called a Heritage Impact Assessment (HIA);

ii) Strategic Environmental Assessment (SEA).

Environmental and Social Impact Assessment (ESIA), also known as an Environmental Impact Assessment (EIA), refers to an assessment of the impacts of a specific proposed action at a project level. The assessment is normally carried out on larger projects, with significant potential environmental impacts, but in some cases can cover small-scale projects at sensitive locations. Almost every country in the world has an existing ESIA system that aims to protect the both the natural, as well as the cultural, environment. Large multilateral financial institutions, such as development banks, typically require an impact assessment – including an assessment of impacts on natural and cultural heritage – for particular kinds of projects. Indeed, many international banks that have signed the Equator Principles now include impact assessment as a standard planning tool and use it to screen proposed actions. ESIA often include assessment of impacts on heritage, as well as other environmental and social considerations.

Heritage impact assessments are project-specific assessments that focus on the potential effect on a heritage place's OUV and other heritage/conservation values. In the context of World Heritage properties, a Heritage Impact Assessment should focus on identifying and assessing negative and positive impacts on the attributes which convey the Outstanding Universal Value of the World Heritage property.

In addition to an ESIA, a growing number of countries also require impact assessment of the preceding policies, plans and/or programs that set the context for individual projects – this is referred to as a Strategic Environmental Assessment (SEA). By proactively considering heritage issues early in the planning process, SEA can inform better decision-making when projects are being considered.

SEA is also better suited than ESIA to

响，为单个交通项目的影响评估提供框架。它还可后续项目设定有助于保护包括遗产在内的宝贵资产的条件（“缓解措施”）。然而，SEA 并不会消除对单个交通项目开展 ESIA 的必要性。

本指南概述的原则和总体方法适用于战略环境评估，未来还将编制更详细的指导文件以阐述 SEA 相关内容。最后，需注意金融部门制定的各种国家、区域和国际标准。所有形式的影响评估均应将这些标准作为最低要求，而在世界遗产背景下，评估应力求达到最典范的标准。

assessing the cumulative impacts of multiple projects at a landscape/regional scale (including those that do not require ESIA); and at setting strategic and generic mitigation measures that can apply consistently to all projects.

SEA can provide a context and framework for considering individual projects and their ESIA's. SEA and ESIA are complementary processes that can be applied at the same World Heritage property when appropriate, and on multiple occasions. SEA has the advantage of being more proactive and strategic, and can consider issues on a larger landscape scale, potentially reducing external pressure on World Heritage and supporting decision-making before any specific projects are proposed. ESIA can then help understand a specific proposed action in detail and ensure there are no potential negative impacts on Outstanding Universal Value. For example, an SEA for a regional or national transport network can provide a framework for the impact assessments of individual transport projects by identifying environmental constraints, preferred alternatives, and likely cumulative impacts. It can also set conditions ("mitigation measures") for subsequent projects that help to protect valued assets, including heritage. However, the SEA will not remove the need to undertake ESIA's for the individual transport projects.

The principles and overall approaches outlined in this Guidance are relevant to SEA and a future guidance document will be prepared to address SEA in more detail. Finally, the various national, regional and international standards developed by the finance sector should be noted. All forms of impact assessment should meet these as minimum requirements and, in a World Heritage context, assessments should aim to reach the most exemplary standards.

实践案例 Case Study

利物浦水域项目遗产影响评估

Heritage Impact Assessments Conducted for the Liverpool Waters Project

资料来源:

Patiwael, P. R., Groote, P., & Vanclay, F. (2020). 框架对影响评估合理性的影响: 以利物浦水域项目遗产影响评估为例. 《影响评估与项目评估》, 38(4), 308-319. <https://doi.org/10.1080/14615517.2020.1734402>.

Source:

Patiwael, P. R., Groote, P., & Vanclay, F. (2020). The influence of framing on the legitimacy of impact assessment: examining the heritage impact assessments conducted for the Liverpool Waters project. *Impact Assessment and Project Appraisal*, 38(4), 308-319. <https://doi.org/10.1080/14615517.2020.1734402>.

引言

影响评估始于1969年,是一种实证主义的评估方法,其目的是通过独立、客观的评估来改善空间开发项目的决策。然而,这种技术性影响评估模式的中立性和客观性受到了广泛质疑。影响评估的主观性和相互冲突的价值观的存在,使我们有理由考虑在执行影响评估和随后的决策过程中的“框架”现象。框架是行为者对社会现实进行排序和理解的过程。假定不可能建立纯粹客观的知识,这一现象就会成为评估过程研究中的一个相关因素,更重要的是,以往的研究表明,影响评估是主观的。这可能意味着框架在影响评估过程和随后的决策中发挥着作用。

本文旨在探讨框架在影响评估中的作用,特别是在遗产影响评估(HIA)及其在拟议空间开发项目的决策中发挥着重要作用。我们以英国利物浦一个位于世界遗产地的大型城市开发项目为例,展示框架如何影响HIA的有效性和合法性。利物浦水域项目的特殊性在于,该项目由三个独立的HIA参与者分别进行:(1)皮尔控股公司,项目开发商和开发地块的所有者;(2)英国遗产委员会(现称英国历史遗产委员会),英国世界遗产保护的主要负责机构;(3)利物浦市议会,负责该项目的政治机构。三方HIA参与者对利物浦历史港口和内城遗产

Introduction

Impact assessment started in 1969 as a positivistic appraisal method in which independent, objective assessments were intended to improve decision making about spatial development projects. However, the neutrality and objectivity of this technical-rational model of impact assessment has been widely questioned. The subjective nature of impact assessment and the existence of conflicting values gives reason to consider the phenomenon of "framing" in the execution of impact assessments and the ensuing decision making processes. Framing is the process by which actors order and make sense of social reality. Assuming that it is impossible to establish purely objective knowledge, this phenomenon becomes a relevant element in the study of assessment processes, more so because previous research has indicated that impact assessments are subjective. This may imply that framing plays a role in the impact assessment process and subsequent decision making.

The purpose of this paper is to explore the roles of framing in impact assessment, specifically in Heritage Impact Assessment, (HIA) and in decision making about proposed spatial development projects. We use a major urban redevelopment project in Liverpool (UK), in an area designated as a World Heritage site, as an illustrative case to show how framing influences the effectiveness and legitimacy of HIA. The Liverpool Waters project is unusual because three separate HIAs were conducted, one by each of three protagonists: (1) Peel Holdings, the project

价值的影响得出了相互矛盾的结论。这三项影响评估的多样性使我们能够分析结论分歧的起源, 并思考框架在HIA实施过程中所扮演的角色。利物浦水域项目是一个重要的案例, 因为它使得利物浦海事商城世界遗产地于2012年被列入濒危世界遗产名录。

项目背景

利物浦水域项目于2018年开工, 是欧洲最大的港口城市开发项目之一。历史悠久的港口区自2004年起被列入世界遗产名录。该遗址正式名称为利物浦海上商城, 由利物浦六个相互连接的区域组成(图1)。由于这些区域“见证了18和19世纪世界主要贸易中心之一的发展”, 联合国教科文组织赋予其“突出的普遍价值”。联合国教科文组织补充道: “利物浦在英帝国的发展中发挥了重要作用, 并成为大规模人员流动的主要港口, 例如从北欧到美洲的奴隶和移民。”利物浦在码头和仓库的设计和建造方面也发挥了开创性的作用, 这在其历

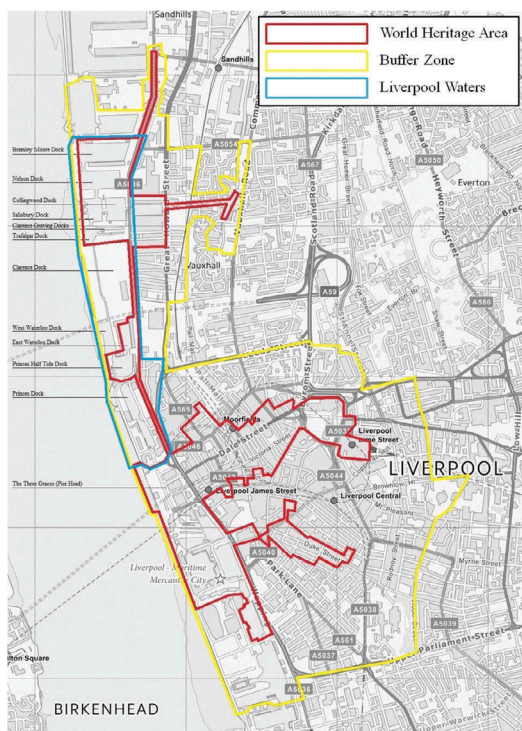


图1: 利物浦世界遗产区、缓冲区和利物浦水域项目地图
Figure 1. Map of Liverpool's world heritage area, its buffer zone and the Liverpool waters project

developer and owner of the development site; (2) English Heritage (now called Historic England), the main organization responsible for safeguarding World Heritage sites in the UK; and (3) Liverpool City Council, the responsible political body. The three HIAs came to contradictory conclusions about the project's impact on the heritage values of Liverpool's historic harbor and inner city. The diversity of the three HIAs allowed us to analyze how this divergence of conclusions originated and to consider the role of framing in the way these HIAs were conducted. The Liverpool Waters project is an important example in this respect, because it resulted in the Liverpool Maritime Mercantile City World Heritage site being placed on the List of World Heritage in Danger in 2012.

Project background

Liverpool Waters, the construction of which started in 2018, is one of the largest port-city redevelopment projects in Europe. The historic harbor district, which has been a World Heritage site since 2004. Officially called the Liverpool Maritime Mercantile City, this site consists of six interconnected areas in Liverpool (Figure 1). Since these areas "bear witness to the development of one of the World's major trading centers in the 18th and 19th centuries", UNESCO has attributed them "outstanding universal value". UNESCO adds that "Liverpool played an important role in the growth of the British Empire and became the major port for the mass movement of people, e.g. slaves and emigrants from northern Europe to America". Liverpool also had a seminal position in dock and warehouse design and construction, which is reflected in the surviving urban landscape of its historic harbor and inner city. The buildings known as "the Three Graces" are considered to be the pinnacle of this World Heritage site (Figure 2) and make Liverpool's harbor "one of the most recognizable waterfront ensembles in the world".

Liverpool's historic harbor was the basis of Liverpool City Council's heritage-led regeneration strategy, which presumed that World Heritage status would be a stimulus attracting investment to the city. Having been in economic decline since the 1960s, the city needed investment. In 2009, the proponent Peel Holdings and Liverpool City Council agreed on a shared vision for Liverpool Waters implying "that the scheme would capitalize upon and conserve the

史悠久的港口和内城现存的城市景观中得到了体现。被称为“三女神”的建筑被认为是这个世界遗产的巅峰之作（图2），并使利物浦港成为“世界上最知名的海滨建筑群之一”。



图2：利物浦三女神
Figure 2. Liverpool's Three Graces

利物浦历史悠久的港口是利物浦市议会以遗产为主导的复兴战略的基础，期望其世界遗产地位成为吸引投资的因素。自20世纪60年代以来，利物浦经济持续衰退，亟需投资。2009年，倡议者皮尔控股公司与利物浦市议会就利物浦水域项目达成了共同愿景，这意味着“该项目将充分利用并保护利物浦的文化遗产”。利物浦水域项目在当地被视为恢复利物浦昔日国际化都市地位的重要一步。作为一项耗资55亿英镑的计划，该项目宏伟的规划将在未来30年内完成，涉及多个组成部分，总建筑面积达200万平方米，用于住宅、商业和休闲用途，包括9000套住宅公寓、酒店、会议设施、足球场、航运码头等等。尽管该项目得到了利物浦市议会和当地民众的支持，但仍有人担心其会对利物浦的遗产价值产生影响。

2010年有人提议采用HIA来解决这些问题。然而，当时并没有统一的HIA开展程序。直到2011年，联合国教科文组织文化遗产事务咨询机构国际古迹遗址理事会（ICOMOS）才发布了《世界文化遗产影响评估指南》。2010年中，皮尔控股公司（7月至9月）和利物浦市议会（7月至8月）都委托开展了HIA。英国遗产委员会对这些HIA并不满意，决定于2010年12月至2011年2月期间自行开展。

cultural heritage of the site. The Liverpool Waters project was seen locally as an essential step towards restoring Liverpool's former status as a global city. As a £5.5 billion redevelopment scheme, the project is a grand plan to be developed over 30 years involving multiple components with a total of 2 million square meters of floor space for residential, business and leisure purposes, including 9000 residential apartments, hotels, convention facilities, a football stadium, shipping terminals, and much more. Although it had the support of Liverpool City Council and much local support, there were concerns about the impact that the project would have on Liverpool's heritage values.

It was proposed in 2010 that HIA would be used as a way to deal with these concerns. However, there was no agreed procedure for conducting HIA at the time. It was only in 2011 that the International Council on Monuments and Sites (ICOMOS), the advisory body to UNESCO on cultural heritage matters, published its Guidance on Heritage Impact Assessments for Cultural World Heritage Properties. In mid-2010, both Peel Holdings (July-September) and Liverpool City Council (July-August) commissioned HIAs. English Heritage was not satisfied with these HIAs, and decided to commission its own HIA, which was conducted between December 2010 and February 2011. The lack of a clear field of practice dedicated to HIA and the limited number of experienced HIA practitioners meant that the approach and methodology for these assessments had to be developed as they went along. They agreed that they would use the Design Manual for Roads and Bridges (DMRB) of the British Department of Transport as their starting point (Highway Agency 1997). When the ICOMOS guidelines were published in 2011, it was agreed that all three HIAs would be updated.

Despite agreement on the methodology to be used, the three HIAs had contradictory outcomes about the impact of the Liverpool Waters project. The HIAs conducted for Peel Holdings and Liverpool City Council concluded that the impact would be beneficial, while the HIA conducted for English Heritage concluded that the impact would be adverse. Based on the two HIAs that concluded that the project would be beneficial, in 2012 Liverpool City Council granted Liverpool Waters "Outline Planning Approval" (i.e. approval in principle of overall

由于缺乏明确的 HIA 实践领域以及经验丰富的 HIA 从业人员数量有限, 这些评估的方法和方
 法论必须在过程中不断改进。他们同意以英国
 交通部《道路与桥梁设计手册》(DMRB) 为
 参考。2011 年 ICOMOS 指南发布时, 各方一
 致同意对这三份遗产影响评估进行更新。

尽管三份 HIA 在方法论上达成了一致,
 但对利物浦水域项目的影响却得出了相互矛盾
 的结果。皮尔控股公司和利物浦市议会进行的
 HIA 得出结论, 该项目将产生有益影响, 而英
 国遗产委员会进行的 HIA 则得出结论, 该项目
 将产生不利影响。基于两项 HIA 得出的“项
 目将产生有益影响”的结论, 利物浦市议会于
 2012 年批准了利物浦水域的“概要规划批准”
 (即原则上批准整体开发, 但个别建筑仍需单
 独审批)。然而, 基于第三份 HIA, 联合国教
 科文组织强烈反对该项目。2011 年 11 月, 联
 合国教科文组织 / 国际古迹遗址理事会联合行
 动监测组被派往利物浦。2012 年, 联合国教科
 文组织将利物浦世界遗产列入《濒危世界遗产
 名录》, 这是撤销利物浦世界遗产地位的第一
 步。联合国教科文组织认为, 拟建的高层建筑
 群将破坏现有的城市结构和历史码头区的视觉
 外观。联合国教科文组织还认为, 这些建筑群
 会削弱对“三女神”的关注, 改变利物浦滨水
 区整体的焦点。联合国教科文组织与利物浦市
 议会之间的这场冲突导致利物浦多年来处于失
 去世界遗产地位的边缘。

框架的概念

决策冲突通常与各方对问题、原因及解决
 方案持有不一致的“框架”有关。由于框架理
 论已被广泛应用于众多学科, 因此关于“框架”
 和“框架化”概念的定义也多种多样, 在本体论、
 理论和方法论上也呈现出巨大的差异。与大多
 数研究框架理论的学者一致, 我们遵循戈夫曼
 的观点, 将框架概念化为“解释图式”, 旨在“理
 解政策制定中原本隐藏的制度性障碍和制约因
 素, 这些障碍和制约因素与政策参与者所使用
 的不同框架所代表的知识、价值观和信仰差异
 有关”。因此, 我们采用社会学方法进行框架

although individual buildings would still
 require their own approval). However,
 based on the third HIA, UNESCO strongly
 opposed the project. In November 2011, a
 joint UNESCO/ICOMOS reactive monitoring
 mission was sent to Liverpool and in 2012,
 UNESCO placed the Liverpool World
 Heritage site on the List of World Heritage in
 Danger, the first step towards withdrawing
 Liverpool's World Heritage status. UNESCO
 argued that the proposed clusters of high-rise
 buildings would damage the existing urban
 fabric and visual appearance of the historic
 docklands. UNESCO also argued that the
 clusters would detract from the Three Graces,
 changing the focal point of Liverpool's
 waterfront ensemble. This conflict between
 UNESCO and Liverpool City Council has
 resulted in Liverpool being on the verge of
 losing its World Heritage status for some
 years.

The concept of framing

Conflicts in decision making are
 generally associated with various parties
 having dissonant "frames" about a problem,
 its causes and solutions. Because framing has
 been applied in a broad range of academic
 disciplines, a plethora of definitions for the
 concepts "frames" and "framing" circulates,
 having major ontological, theoretical and
 methodological varieties. Consistent with
 most scholars working with framing, we
 follow Goffman in conceptualizing frames
 as "schemata of interpretation", providing
 "access to understanding otherwise hidden
 institutional barriers and constraints in
 policy making, which relate to differences
 in knowledge, values, and beliefs that are
 represented by different frames used by
 policy actors". As such, we use a sociological
 approach to framing and follow Ernste who
 defined frames as "culturally determined
 frameworks, perspectives, systems of
 meaning, paradigms or positions from which
 the actor or a group of actors order social
 reality and make sense of his or her actions. In
 a frame, values, experiences, interests, facts,
 theories, and cultures are combined".

Framing inevitably influences all stages
 of the impact assessment process. Frames are
 argued to be selections of a perceived reality
 that are used within decision making to: (1)
 define the problem; (2) diagnose its causes;
 (3) make (moral) judgments of the causes; and
 (4) suggest remedies to the problem. These
 stages are similar to the four main stages of
 the impact assessment process: (1) scoping

研究，并遵循恩斯特的观点，他将框架定义为“由文化决定的框架、视角、意义体系、范式或立场，参与者或参与者群体据此来安排社会现实并理解其行为。在一个框架中，价值观、经验、兴趣、事实、理论和文化融为一体”。

框架不可避免地会影响影响评估过程的所有阶段。框架被认为是对感知现实的选择，用于决策：（1）定义问题；（2）诊断原因；（3）对原因进行（道德）判断；以及（4）提出问题的补救措施。这些阶段与影响评估过程的四个主要阶段类似：（1）范围界定和项目描述；（2）数据收集；（3）影响评估；以及（4）缓解和监测措施的设计。

世界遗产地管理框架

在过去的几十年里，遗产管理领域经历了几次重要的理论转变。这些转变包括：（1）从关注单个古迹转向关注遗产区域；（2）从“防止变化”（所有变化都被视为负面变化）转向“管控变化”（一定程度的变化是可以接受的）；（3）从遗产专家作为最重要的利益相关者，到更广泛的利益相关者，特别是当地社区。这些变化反映了世界遗产地管理的复杂性，因为它们在全球范围内存在地方互动，并且存在许多具有不同文化和经济利益的利益相关者。

由于并非所有遗产管理利益相关者都已做出这些转变，遗产管理仍然以自上而下的规划程序为特征，并高度重视专业知识。这些程序可能导致冲突，因为政府官员和国际机构对遗产的官方评估与当地社区对其的评估（使用和/或欣赏）方式之间往往存在差异。

三项遗产影响评估对比

本文以利物浦水域项目为例，探讨框架在世界遗产地内或周边拟建空间开发项目的决策中扮演的角色。我们首先分析了利物浦水域项目三个影响评估中框架是如何运用的，分析了这三个影响评估的内容和论证方法，着重分析了各份遗产影响评估报告在以下方面的差异：

（1）利物浦水域开发项目的描述及在此背景下提及的文件；（2）被评估的、承载着突出普遍

and project description; (2) baseline data collection; (3) assessment of impacts; and (4) design of mitigation and monitoring measures.

Framing in the management of world heritage sites

Over the last few decades, the field of heritage management has experienced several important theoretical shifts. These shifts have included a move away from: (1) a focus only on individual monuments to heritage areas; (2) "preventing change", in which all change is considered negative, to "managing change" in which some degree of change is acceptable; and (3) the heritage expert as the most important stakeholder to an expanded list of involved stakeholders, in particular local communities. These changes reflect the complexity of the management of World Heritages sites, given their global local interactions and many different stakeholders with varying cultural and economic interests.

Because not all stakeholders in heritage management have made these shifts, heritage management is still characterized by top-down planning procedures with a strong focus on expert knowledge. These procedures can result in conflict as there is often a discrepancy between the official valuation of heritage by government officials and international agencies, and the way it is valued (used and/or appreciated) by local communities.

Comparison of the three heritage impact assessments

This paper uses the Liverpool Waters project as an illustrative case to explore the roles framing plays in decision making about proposed spatial development projects in or near World Heritage sites. We first analyzed how framing occurred in the HIAs of the Liverpool Waters project by examining the content and argumentation used in the three HIAs. We analyzed the differences between the HIAs regarding: (1) the description of the Liverpool Waters development project and the documents referred to in this context; (2) the heritage attributes conveying OUV that were assessed and the significance level ascribed to them; (3) the assessed impact on these attributes and the argumentation for assigning a specific severity score for each attribute; and (4) the possible measures to mitigate the negative impacts that were assessed.

价值的遗产属性及其赋予的重要性水平; (3) 对这些属性的评估影响以及为每个属性分配特定严重程度分数的论据; 以及 (4) 减轻已评估负面影响的可能措施。

三份 HIA 均以类似的方式描述了利物浦水域项目的参数。每份 HIA 在项目描述中都引用了利物浦水域的规划申请及其附带的总体规划。皮尔控股公司和利物浦市议会进行的 HIA 还参考了皮尔控股公司发布的有关利物浦水域的保护管理计划、总体规划和关键原则文件、环境声明以及设计和通行声明等。而英国遗产委员会进行的 HIA 并未参考这些文件。

三项遗产影响评估均从三个方面评估了利物浦水域的影响: (1) 对遗产属性 (即遗产区域内体现遗产价值的特定元素) 的结构和环境的影响; (2) 对地标建筑 and 关键景观的影响; 以及 (3) 对特色区域 (即具有特定文化意义的场所) 的影响。当时, 利物浦市议会和英国遗产委员会正在制定一份遗产属性清单。在初步会议上, 各方一致同意将这份包含 44 项遗产属性的清单纳入遗产影响评估。然而, 其中 11 项属性并未在英国遗产委员会的遗产影响评估中得到评估, 1 项也未被皮尔控股公司和利物浦市议会评估。英国遗产委员会未对通往码头的大门进行评估, 它们也是世界遗产的一部分。目前尚不清楚这些大门是否未被评估 (无论是有意还是失误), 或者它们被包含在各个码头的评估中 (图 3)。为了比较三项遗产影响评估对利物浦水域对各个遗产属性的影响, 研究将所有 HIA 未评估的属性排除在分析之外。最终, 英国遗产委员会进行的 HIA 几乎全部将利物浦水域的影响评估为负面, 皮尔控股公司和利物浦市议会进行的 HIA 几乎全部将利物浦水域的影响评估为有益。

为了分析论证上的差异, 研究选取了不同 HIA 评估影响差异最大的 9 个属性。分析发现, 存在 6 个反复出现的差异: (1) 皮尔控股公司和利物浦市议会的 HIA 认为恢复使用是有益的, 而英国遗产局的 HIA 并未提及这一点; (2) 皮尔控股公司和利物浦市议会的 HIA 认为向公众开放该区域是有益的, 而英国遗产局的 HIA 并未提

All three HIAs described the parameters of the Liverpool Waters project similarly. Each of them referred to the planning application of Liverpool Waters and its accompanying Master Plan in their description of the project. The HIAs conducted for Peel Holdings and Liverpool City Council also referred to other documents published by Peel Holdings about Liverpool Waters, such as the conservation management plan, the master plan and key principles document, the environmental statement, and the design and access statement. The HIA conducted for English Heritage did not refer to these documents.

All three HIAs assessed the impact of Liverpool Waters on three aspects: (1) impact on the fabric and setting of individual heritage attributes (i.e. specific elements in the heritage area that convey heritage values); (2) impact on views to landmark buildings and key views; and (3) impact on character areas (i.e. places of specific cultural significance). At the time, Liverpool City Council and English Heritage were in the process of developing a list of heritage attributes. In the preliminary meetings, the protagonists agreed that this list of 44 attributes would be considered in the HIAs. However, of these attributes, 11 were not assessed in the English Heritage HIA and one was not assessed by Peel Holdings and Liverpool City Council. English Heritage assessed none of the gates to the docks that are part of the World Heritage site. It is unclear whether the gates were not assessed (either deliberately or in error) by English Heritage, or whether they were included in the assessment of the respective docks (Figure 3). To compare the three HIAs for the assessed impact of Liverpool Waters on each individual heritage attribute, the attributes not assessed by all three HIAs were excluded from our analysis. It shows that the HIA conducted for English Heritage assessed the impact of Liverpool Waters almost exclusively as adverse, while the HIAs conducted for Peel Holdings and Liverpool City Council assessed the impact almost exclusively as beneficial.

To analyze the differences in argumentation, we selected the nine attributes showing the largest differences in assessed impact between the HIAs. This analysis found six recurring differences: (1) the HIAs by Peel Holdings and Liverpool City Council assessed the value of returning the attribute back to use as being beneficial, while the HIA by

及这一点；（3）皮尔控股公司和利物浦市议会的 HIA 提到了修复遗产，而英国遗产局的 HIA 则没有；（4）对码头区与维多利亚钟楼的历史关系的评估不同，导致对这种关系的影响也存在差异；（5）对码头停车场对考古遗产的影响的评估不同，英国遗产局的 HIA 更强调其负面影响；（6）对高层建筑对当代和历史环境的影响的评估不同。



图 3：布拉姆里 - 摩尔码头大门
Figure 3. The gate to Bramley-Moore Dock

为了分析利物浦水域对利物浦 OUV 关键景观的影响，三份 HIA 均参考了利物浦世界遗产补充规划文件中描述的 34 个关键景观。除了 ICOMOS 指南和 DMRB 文件外，三份 HIA 均参考了英国遗产委员会开发的“在景观中探寻历史”方法。我们的分析发现，评估中纳入的关键景观种类以及对某些关键景观的影响存在差异。例如，英国遗产委员会进行的 HIA 评估认为，斯坦利码头利物浦水域的高层建筑特征不符合利物浦的遗产价值观。相比之下，皮尔控股公司和利物浦市议会进行的 HIA 则认为利物浦水域的垂直结构符合其历史特征。两份 HIA 均参考了利物浦 OUV 的标准之一：“利物浦创造和发展的建筑、工程、交通、港口管理、劳动力系统、观测和通信系统所展现的创新精神”。皮尔控股公司提交的 HIA 认为，创新大胆的高层建筑是利物浦城市普遍价值的一部分，利物浦历史码头的建设“受到精明的商业决策驱动”，并且“将码头重新用作复兴的象征……是一项传统”。利物浦市议会提交的 HIA 补充说，在利物浦历史港口建造高层建筑是这些传统的延续，符合联合

English Heritage did not mention this; (2) the HIAs by Peel Holdings and Liverpool City Council assessed opening up the area to the public as beneficial, while the HIA by English Heritage did not mention this; (3) restoration of the heritage attributes was mentioned by the HIAs by Peel Holdings and Liverpool City Council, but not by the HIA by English Heritage; (4) the historic relationship between the dock areas and the Victoria Clock Tower was assessed differently, resulting in differences in the impact on this relationship; (5) the effect of parking areas in the docks on the archaeological heritage was assessed differently, with the HIA by English Heritage emphasizing its negative impact to a much larger degree; and (6) the influence of high-rise buildings on the contemporary and historic setting was assessed differently.

To analyze the impact of Liverpool Waters on the key views that are part of Liverpool's OUV, all three HIAs referred to the 34 key views described in the Supplementary Planning Document for Liverpool's World Heritage site. Besides the ICOMOS Guidance and DMRB document, all three HIAs referred to the "Seeing History in the View" approach developed by English Heritage. Our analysis found differences in which key views were included in the assessments and differences in the impact on certain key views. For example, the HIA conducted for English Heritage assessed the high-rise nature of Liverpool Waters in Stanley Dock as not adhering to Liverpool's heritage values. In contrast, the HIAs by Peel Holdings and Liverpool City Council assessed Liverpool Waters' verticality as adhering to the historic character. Both HIAs referred to one of the criteria of Liverpool's OUV: "The spirit of innovation illustrated by the architecture, engineering, transport, port management, labor systems, observation and communication systems created and developed in Liverpool". The HIA by Peel Holdings argued that innovative and bold high-rise construction is part of Liverpool's OUV, that the construction of Liverpool's historic docks had been "driven by astute commercial decisions" and that "re-using the docks as statements of regeneration is ... a tradition". The HIA by Liverpool City Council added that high-rise construction in Liverpool's historic harbor is a continuation of these traditions in adherence to UNESCO's Historic Urban Landscape approach which acknowledges the "layering of cultural and natural values and attributes, extending

国教科文组织历史城市景观的方法, 该方法承认“文化和自然价值及属性的层次性, 超越了‘历史中心’或‘整体’的概念, 包括更广泛的城市环境和地理环境”。英国遗产委员会提交的 HIA 并未回应有关利物浦水域可为利物浦历史港口增添新层面、使其与其遗产价值相符的观点。三份 HIA 大多均未提及具体的缓解措施。英国遗产委员会提交的 HIA 并未提及任何可能减轻利物浦水域负面影响的缓解措施。皮尔控股公司和利物浦市议会的遗产影响评估仅笼统地提及了缓解措施, 并未具体说明。例如, 皮尔控股公司提出的 HIA 提出了一项保护管理计划, 其中“未来对所有遗产资产的监测、维护和修缮……将减轻对遗产资产环境的任何不利影响”。利物浦市议会的 HIA 指出, “通过规划条件 /S. 106 协议和详细方案谈判, 要求进行适当的局部修缮和更换混凝土修复, 可以完全弱化改建的影响”。

结论

对利物浦水域项目进行的三项遗产影响评估的分析, 反映了与本文前面讨论的遗产管理三次转变相关的差异。分析发现, 在以下方面存在差异: (1) 评估的属性; (2) 赋予特定属性的重要性; (3) 项目对属性的影响; 以及 (4) 拟议的缓解措施。HIA 报告的差异揭示了遗产管理的第一次转变 (即从单个古迹到遗产区域) 和遗产管理的第二次转变 (即从阻止变化到管理变化), 但没有揭示遗产管理的第三次转变 (即从遗产专家作为当地社区最重要的利益相关者)。

本文旨在探讨框架在影响评估 (尤其是在 HIA 中) 以及拟议空间开发项目决策中的作用。通过对利物浦水域项目进行的三次 HIA 研究发现 HIA 方法被视为一种主观实践, 而身份和关系框架在空间开发项目决策中至关重要。

人们经常争论当地社区应该参与世界遗产地的管理。利物浦水域案例也表明, 当地利益相关者参与决策过程至关重要, 因为缺乏参与可能导致联合国教科文组织与当地决策者之间产生分歧, 因为不同的优先事项会导致对立的

beyond the notion of the 'historic center' or 'ensemble' to include the broader urban context and geographical setting". The HIA by English Heritage did not address the argument that Liverpool Waters could be seen as adding a new layer to Liverpool's historic harbor, one that is compatible with its heritage values. Concrete mitigation measures were mostly absent in all three HIAs. The HIA by English Heritage did not mention any mitigation measures that could potentially diminish the negative impacts of Liverpool Waters. The HIAs by Peel Holdings and Liverpool City Council only mentioned mitigation measures in general without specifying them. For example, the HIA by Peel Holdings proposes a Conservation Management Plan in which "future monitoring, maintenance and repair of all heritage assets ... will mitigate any adverse effects on the setting of individual heritage assets". The HIA by Liverpool City Council states that the "mitigation of impact of alterations can be fully achieved by requirement to undertake suitable localized repairs and replacement of concrete repairs through planning condition/S.106 Agreement and negotiation on detailed proposals".

Conclusion

The analysis of the three HIAs conducted for the Liverpool Waters project reflected differences connected to the three shifts in heritage management discussed earlier in the paper. The analysis found differences in: (1) the attributes assessed; (2) the significance given to specific attributes; (3) the impacts of the project in relation to the attributes; and (4) the proposed mitigation measures. The HIA reports had differences revealing the first shift in heritage management (i.e. from individual monuments to heritage areas) and the second shift in heritage management (i.e. from preventing change to managing change), but not the third shift in heritage management (i.e. from the heritage expert as most important stakeholder to the local community).

The purpose of this paper was to explore the roles of framing in impact assessment (specifically in HIA) and in decision making about proposed spatial development projects. Using the three HIAs conducted for the Liverpool Waters project, we found that the HIA methodology was seen as a subjective practice and that identity and relationship frames are important in decision making about spatial development projects.

框架和叙事。当地利益相关者参与遗产影响评估流程有助于防止 HIA 报告在地方决策层面失去合法性。在专业知识和国际组织面临争议的时代，这引发了人们对 HIA 在世界遗产地管理中所能发挥的作用的质疑。由于利益相关者在遗产管理方面存在分歧以及优先事项不同，空间开发项目的决策必然会涉及持有截然不同甚至相互矛盾观点的利益相关者。HIA 有效性的关键在于，报告的合法性不会受到那些希望获得不同结果的利益相关者的质疑。正如遗产管理和影响评估领域所主张的那样，这需要一个更加透明的影响评估流程，并让当地利益相关者参与其中。

It is often argued that local communities should be involved in the management of a World Heritage Site . The Liverpool Waters case also shows that involvement of the local stakeholders in the decision making process is essential, because a lack of involvement could result in dissonance between UNESCO and local decision makers, because different priorities result in opposing frames and narratives. Local stakeholder involvement in the HIA process could help prevent the loss of legitimacy of a HIA report at the local decision making level. In a time when expertise and international organizations are being contested, this raises questions about the role HIA can play in the management of World Heritage sites. Due to discursive differences in heritage management and different priorities amongst stakeholders, decision making about spatial development projects is bound to include stakeholders with contrasting if not contradictory views. Key to the effectiveness of HIAs is that the legitimacy of the report is not questioned by those stakeholders who would have preferred a different outcome. As argued in both the field of heritage management and the field of impact assessment, this calls for a more transparent impact assessment process in which local stakeholders are involved.

平台动态 Platform Dynamics

青藏高原建筑室内风环境分析——以德格印经院为例

Analysis of the Indoor Wind Environment in Buildings on the Qinghai-Tibet Plateau: A Case Study of the Dege Scripture Printing House

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引言

建筑业占全球能耗的 45% 以上, 凸显可持续发展的紧迫性。德格印经院 (DSPH) 作为藏式传统建筑的典范, 将地域文化与自然环境完美融合, 为解决极端气候适应问题提供了宝贵样本。本研究通过 CFD 模拟技术解析其风环境特征, 填补了高原传统建筑环境性能研究的空白, 为现代绿色建筑设计提供了新思路。

研究对象与特征

德格印经院位于四川省德格县, 属全国重点文物保护单位。建筑采用独特的空间布局与材料构造: 厚实的夯土墙体、木质上层结构、多重中庭设计以及精心布置的通风口, 有效适应了高原季风气候。实测数据显示, 室内温度稳定在 13.6–19.2℃ 之间, 风速维持在舒适的 0.3m/s 水平。研究重点解析了其自然通风系统对经版保护与人居环境的调控机制。

研究方法

研究采用三维激光扫描、现场实测与 PHOENICS 软件模拟相结合的方法。模型整合气象数据、网格细化技术和边界条件设定, 确保模拟准确性。在东南风 1.5m/s 工况下的

Introduction

The building industry accounts for over 45% of global energy consumption, emphasizing the need for sustainable design. Vernacular architecture, like DSPH, integrates local culture and environment, offering solutions for harsh climates. Traditional Tibetan architecture uses thick walls, strategic orientation, and natural materials to withstand extreme conditions. This study uses CFD simulations to analyze DSPH's wind environment, bridging gaps in research on Tibetan plateau architecture and providing insights for modern sustainable design.

Research case and characteristics

DSPH, located in Dege County, Sichuan, is a national heritage site with a unique layout and materials. The region experiences a plateau monsoon climate with dominant southeast winds. DSPH's design includes thick rammed earth walls, wooden upper floors, multiple atriums, and strategic window placement to optimize ventilation. Field measurements show stable indoor temperatures (13.6–19.2°C) and comfortable wind speeds (0.3 m/s). The study focuses on DSPH's natural ventilation system, which preserves scriptures and ensures occupant comfort.

Methodology

The research combines 3D laser scanning,



图 1：德格印经院及周边环境航拍图
Figure 1. Aerial image of the DSPH and its surroundings

模拟显示：气流经南侧开口进入，通过中庭循环后由北窗排出。通过对比模拟与实测数据，验证了模型可靠性。

结果与讨论

德格印经院展现了传统藏式建筑智慧与专业环境调控技术的完美结合，其设计成功地通过复杂的自然通风原理和对当地气候的适应，创造了有利的微气候条件，以保存脆弱的木质经版雕刻板。

其建筑的空间组织和朝向经过精心设计，是德格印经院环境性能的核心。南偏西的朝向设计巧妙地通过北侧窗洞捕捉盛行的东北夏季风，而建筑高度的渐变剖面——迎风面较低——则有助于气流的顺畅穿透。这种建筑配置形成了一个在多个尺度上都能有效运行的自然通风系统。二层和三层的木质经版储藏区被有意地布置在北向窗户附近，形成了主要的气流通道，这些通道连接到一个复杂的水平和垂直空气交换通道网络。这种多方向的通风方法防止了空气滞留，同时维持了对木材保存至关重要的稳定湿度水平。

建筑的三个中庭构成了其被动通风策略的核心。中央大中庭作为整个建筑的主要热调节器，而两个较小的北侧中庭则为经版储藏区提供局部气候控制。这些空间通过热力学原理——白天阳光加热中庭上部区域，形成温度差，从而推动持续的空气流动——作为自然通风引擎。由此产生的烟囱效应通过较低的开口

field tests, and CFD simulations using PHOENICS software. The model incorporates meteorological data, grid refinement, and boundary conditions to ensure accuracy. Simulations under southeast wind conditions (1.5 m/s) reveal airflow patterns: wind enters through south-side openings, circulates via atriums, and exits through north windows. The model's accuracy is validated by comparing simulated and measured wind speeds, showing minimal discrepancies.

Results and discussion

DSPH demonstrates an exemplary integration of traditional Tibetan architectural wisdom with specialized environmental control strategies to preserve delicate wooden scripture carving boards. The building's design successfully creates favorable microclimate conditions through a sophisticated understanding of natural ventilation principles and local climate adaptation.

At the heart of DSPH's environmental performance is its carefully considered spatial organization and orientation. The south-by-west facing building orientation strategically captures prevailing northeast summer winds through north-side window openings, while the graduated building height profile - lower on windward sides - facilitates smooth airflow penetration. This architectural configuration creates a natural ventilation system that operates effectively across multiple scales. The storage areas for wooden scripture carving boards on the second and third floors are deliberately positioned adjacent to north-facing windows, creating primary airflow pathways that connect to an intricate network of horizontal and vertical air exchange channels. This multi-directional ventilation approach prevents air stagnation while maintaining consistent humidity levels crucial for wood preservation.

The building's three atriums form the core of its passive ventilation strategy. The large central atrium acts as the primary thermal regulator for the entire structure, while two smaller northern atriums provide localized climate control for scripture storage areas. These spaces function as natural ventilation engines through thermal dynamics - sunlight heats the upper atrium areas during daytime, creating temperature differentials that drive continuous air movement. The resulting stack effect draws cool outside air inward through lower openings while

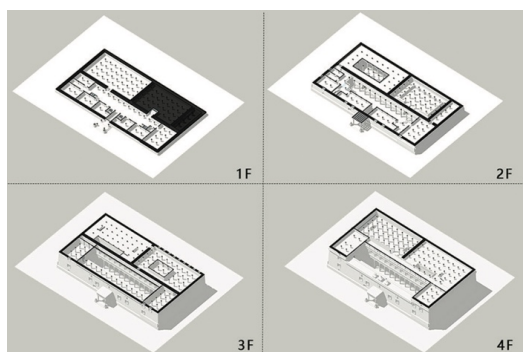


图2：德格印经院各层平面图
Figure 2. Floor plan of each level of the DSPH

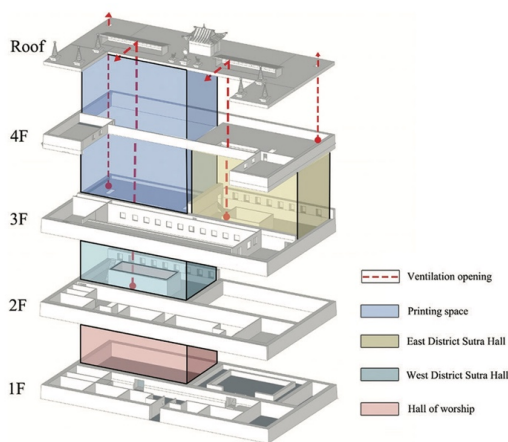


图3：关键空间分布图
Figure 3. Map of important spatial locations

吸入凉爽的外部空气，同时将热空气向上排出，建立了一个无需机械辅助的自维持通风循环。这个系统表现出显著的适应性，气流模式会随着建筑温度的昼夜变化而自然反转。

德格印经院的建筑材料选择和施工技术揭示了一种经过深思熟虑的垂直分层，平衡了结构需求与环境控制需求。底层采用厚度超过一米的夯土墙，地面层用石材加固以确保稳定性。这些厚墙提供了必要的热质量，以抵御该地区极端的温度变化。随着建筑的升高，施工逐渐过渡到更轻的木质边玛墙，形成了一个逐渐变得更透气的围护结构。这种垂直材料过渡有多个目的：减少下层的结构负荷，增加更多窗户开口以增强通风，并适应更高海拔处变化的风暴露模式。

expelling warm air upward, establishing a self-sustaining ventilation cycle that requires no mechanical assistance. This system demonstrates remarkable adaptability, with airflow patterns that naturally reverse between day and night as building temperatures fluctuate.

Material selection and construction techniques in DSPH reveal a thoughtful vertical stratification that balances structural requirements with environmental control needs. The lower floors employ massive rammed earth walls exceeding one meter in thickness, reinforced with stone masonry at ground level for stability. These thick walls provide essential thermal mass to buffer against the region's extreme temperature variations. As the building ascends, the construction transitions progressively to lighter wood-paneled Bianma walls, creating a graduated envelope that becomes increasingly permeable to air movement. This vertical material transition serves multiple purposes: reducing structural load on lower levels, allowing for more window openings to enhance ventilation, and adapting to changing wind exposure patterns at higher elevations.

DSPH represents an innovative evolution of traditional Tibetan architecture, which typically features thick walls and minimal openings to combat intense solar radiation. The building introduces several strategic modifications to meet its specialized conservation requirements. The hybrid wall system combines stone-reinforced rammed earth foundations with wooden upper stories, achieving both structural stability and improved airflow. The semi-open roof design is particularly noteworthy, serving multiple functions including controlled daylight admission, additional ventilation pathways, and specialized support for Tibetan paper drying processes. Window placement follows a carefully calculated north-south axis that optimizes natural cross-ventilation, most effectively demonstrated in the East and West District Sutra Halls where coordinated openings between north windows and southern access points establish consistent air currents.

Computational fluid dynamics analysis confirms the effectiveness of these design strategies, showing that key functional areas maintain optimal 0.3 m/s air speeds - sufficient for ventilation without risking damage to delicate materials. The simulations reveal complex airflow patterns, including

德格印经院是传统藏式建筑的创新演变，传统藏式建筑通常以厚墙和少量开口为特点，以抵御强烈的太阳辐射。该建筑引入了几个战略性的修改，以满足其特殊的保护需求。混合墙体系统将石加固的夯土基础与木制上层结构相结合，实现了结构稳定性和改善气流的双重目标。半开放式屋顶设计尤其值得关注，它具有多种功能，包括控制采光、增加通风路径以及为藏纸干燥过程提供专门支持。窗户的布置遵循精心计算的南北轴线，以优化自然穿堂风，这一点在东西经堂表现得最为明显，北侧窗户与南侧入口之间的协调开口建立了稳定的气流。

计算流体动力学（CFD）分析证实了这些设计策略的有效性，显示关键功能区保持了最佳的 0.3m/s 的风速——足以通风，而不会对脆弱材料造成损坏。模拟揭示了复杂的气流模式，包括进入的空气如何分成多条路径，然后在中央中庭重新汇合，展示了系统的复杂冗余性。然而，分析也发现一层大经堂存在通风挑战，由于一个密封的贯通空间意外地阻塞了预定的气流路径，加上半地下的位置限制了自然通风和日照，导致湿度水平较高。

建筑的热性能因其战略性的热质量利用和协调的通风元素而显著受益。夯土构件提供了必要的热惯性，而中庭、通风口和半开放式屋顶的集成运行创建了一个动态的环境控制系统，能够响应日常和季节性变化。这个案例研究为当代保护建筑提供了关于传统被动设计原则的

how incoming air splits into multiple streams that follow different paths before reuniting at the central atrium, demonstrating the system's sophisticated redundancy. However, the analysis also identifies ventilation challenges in the first-floor Great Sutra Hall, where an airtight through-height space inadvertently blocks intended airflow paths and the semi-underground position restricts both natural ventilation and solar access, resulting in higher humidity levels.

The building's thermal performance benefits significantly from its strategic use of thermal mass and coordinated ventilation elements. Rammed earth components provide essential thermal inertia, while the integrated operation of atriums, ventilation openings, and semi-open roofing creates a dynamic environmental control system that responds to daily and seasonal changes. This case study offers valuable insights into traditional passive design principles that remain relevant for contemporary conservation architecture. It demonstrates how multiple environmental control systems can be layered to create robust microclimate regulation, while also highlighting the importance of anticipating potential airflow obstructions during the design process. The DSPH stands as a testament to the sophistication of traditional architectural knowledge in creating sustainable, climate-responsive solutions for specialized conservation needs.

Conclusion

The DSPH is a testament to the architectural practice and technical wisdom of the people of the Tibetan plateau, refined over thousands of years. By adhering to traditional construction techniques and adapting to the

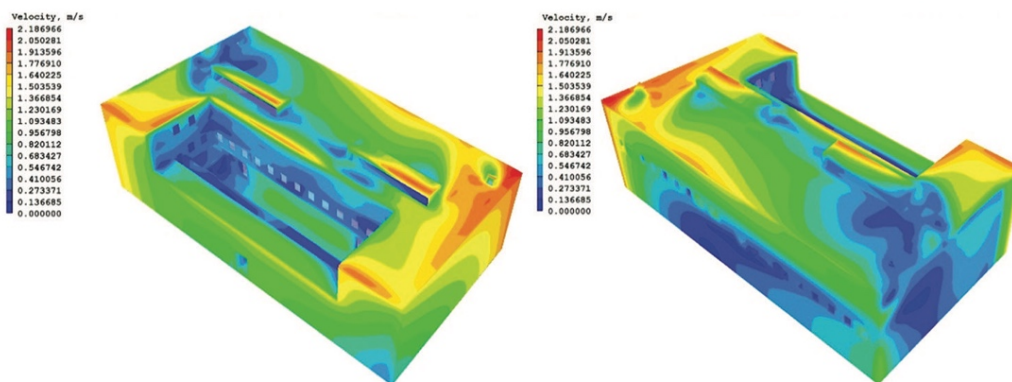


图4：建筑表面风速云图 (A) 东南轴测图 (B) 西北轴测图

Figure 4. Wind speed cloud diagram of building surface (A) Southeast axonometric map (B) Northwest axonometric map

宝贵见解。它展示了如何将多个环境控制系统分层，以创建强大的微气候调节，同时也强调了在设计过程中预见潜在气流阻碍的重要性。德格印经院是传统建筑知识在为特殊保护需求创造可持续、气候响应型解决方案方面的复杂性的有力证明。

结论

德格印经院是青藏高原千年传承的建筑实践和技术智慧的结晶。通过遵循传统建筑技艺并适应当地气候和极端自然条件，德格印经院通过以下关键方面改善了其室内环境：

(1) 大型中庭产生从室内到室外的气流，而内中庭则促进垂直气流的流动。

(2) 位于高架结构南侧3楼的西经堂与北侧窗户形成空气对流。同样，2楼的西经堂通过南侧的门促进对流气流。

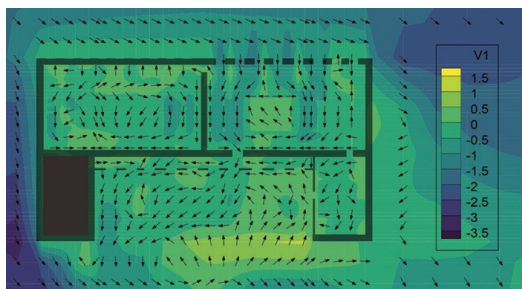


图5：经堂（三层）内的气流状况
Figure 5. Airflow conditions in the scripture room (3rd floor)

(3) 楼层之间的通风孔进一步增加了自然通风，而半开放式屋顶则增强了空气交换。

(4) 使用夯土材料增加了建筑的热惯性，从而营造出相对稳定的室内温度。

(5) 由于其宽敞的设计，德格印经院拥有更大的通风开口，从而增加了气流。这确保了室内外的空气流通顺畅且无障碍，最大限度地减少了局部死区。因此，整个建筑的风环境更加均匀且柔和分布。

通过采用这些建筑施工方法，可以有效解决传统藏式建筑中室内通风不良的问题。以下策略可用于增强传统藏式建筑的室内通风：

local climate and extreme natural conditions, the DSPH improves its indoor environment through the following key aspects:

(i) The large atrium generates airflow from indoors to outdoors, while the inner atrium facilitates vertical airflow.

(ii) The West District Sutra Hall, located on the 3rd floor of the southern side of the elevated structure, creates air convection with the windows on the northern side. Similarly, the West District Sutra Hall on the 2nd floor facilitates convective airflow with the southern door.

(iii) Ventilation holes between floors further increase natural ventilation, while the semi-open roof allows for enhanced air exchange.

(iv) The use of rammed earth materials increases the thermal inertia of the building, creating a relatively.

(v) Due to its spacious design, the DSPH features larger ventilation openings, resulting in increased airflow. This ensures smooth and unobstructed air circulation both indoors and outdoors, minimizing localized dead zones. Consequently, the wind environment is more uniformly and gently distributed throughout the building.

By employing these architectural construction methods, the issue of poor indoor ventilation in traditional Tibetan architecture can be effectively addressed. The following strategies can be utilized to enhance indoor ventilation in traditional Tibetan buildings:

(i) Install windows facing prevailing wind directions to increase airflow. However, it is crucial to ensure that these windows are well-sealed, allowing them to be completely closed at night to reduce the intake of cold air and prevent indoor temperature drops.

(ii) Introduce vertical airflow channels by connecting different floors through vertical passages, ensuring efficient air distribution throughout the building. These channels can take the form of inner courtyards.

(iii) Incorporate ventilation openings between different indoor spaces to facilitate better air exchange within the building.

(iv) Implement roof exhaust vents to establish an effective circulation pathway, expelling indoor pollutants. Design with higher ceilings and simpler interior layouts to

(1) 在迎风方向安装窗户以增加气流。然而，至关重要的是要确保这些窗户密封良好，能够在夜间完全关闭，以减少冷空气的进入并防止室内温度下降。

(2) 通过垂直通道连接不同楼层，引入垂直气流通道，确保建筑内空气分布高效。这些通道可以是内庭院的形式。

(3) 在不同的室内空间之间设置通风口，以促进建筑内的空气交换。

(4) 实施屋顶排气口，建立有效的循环路径，排出室内污染物。

(5) 设计时采用更高的天花板和更简洁的室内布局，以促进更顺畅的气流和更均匀的空气分布。

通过这些策略，传统藏式建筑可以在保留独特的本地建筑形式的同时改善室内空气质量。这种方法有助于保护并延续这些优秀建筑施工实践中所蕴含的丰富文化遗产。

虽然传统藏式建筑的形式和施工方法可以应用于青藏高原的现代建筑，但与风环境相关的施工方法（如德格印经院）受到其时代技术的限制。在继承这些技术的过程中，有必要提取有价值的元素，摒弃过时的部分，并将其与现代技术和设计原则相结合。这种方法确保了藏式建筑文化与青藏高原建筑的气候适应性技术的科学融合，从而创造出更符合现代生活需求的藏式建筑。然而，本研究主要集中在分析和总结现有乡土建筑智慧与其建筑形式之间的关系，而没有涉及如何将这些传统形式有效地融入现代建筑发展以提升建筑性能。未来研究的方向将集中在探索如何将乡土建筑的智慧与现代技术有效结合，以提升整体建筑性能。

promote smoother airflow and more uniform air distribution.

(v) Design with higher ceilings and simpler interior layouts to promote smoother airflow and more uniform air distribution.

Across these strategies, traditional Tibetan architecture can improve indoor air quality while preserving distinctive local architectural forms. This approach helps safeguard and continue the rich cultural heritage embedded in these excellent architectural construction practices.

While the architectural forms and construction methods of traditional Tibetan buildings can be applied to modern architecture in the Tibetan plateau, the construction methods related to the wind environment, such as DSPH, are limited by the technology of their time. In the process of inheriting these techniques, it is necessary to extract the valuable elements, discard the outdated aspects, and integrate them with modern technologies and design principles. This approach ensures a scientific integration of Tibetan architectural culture with climate-adaptive technologies for buildings on the Tibetan plateau, allowing the creation of Tibetan-style architectures that better meet the needs of modern life. However, this study primarily focused on analyzing and summarizing the relationship between the wisdom of existing vernacular architecture and its architectural forms, without addressing how to effectively integrate these traditional forms into modern architectural development to enhance building performance. The future direction of this research will concentrate on exploring how to effectively integrate the wisdom of vernacular architecture with modern techniques to improve overall building performance.

活动报道 Latest Events

阿努拉德普勒国际专家会议强调遗产保护的综合方法

International Expert Conference on Anuradhapura Highlights Integrated Approach to Heritage Protection

资料来源 Source:

<https://whc.unesco.org/en/news/2767>



图 1：遗产专家在会议现场

Figure 1. Heritage experts at the conference site

2025 年 4 月 1 日，联合国教科文组织在总部举办阿努拉德普勒圣城国际专家会议。现场和线上共 400 多名与会者齐聚一堂，包括国际遗产专家、政府代表、宗教领袖和发展伙伴，斯里兰卡总理哈里尼·阿马拉苏里亚博士阁下也出席了会议。

本次活动由联合国教科文组织和斯里兰卡政府联合举办，表明了双方携手保护世界遗产地的物质与活态遗产的决心，这是斯里兰卡乃至全世界的宝贵财富。

教科文组织总干事奥德蕾·阿祖莱女士强调：“我们必须进一步采取行动，解决一些基本问题，如纪念碑修复、水管理、旅游基础设施建设和保护非物质遗产——即深深扎根于该遗址的实践和知识。”斯里兰卡总理哈里尼·阿马拉苏里亚博士阁下在开幕致辞中说：“这一倡议及时为对话、知识共享、技术合作和资源动员提供了重要平台，加强了我们为子孙后代

UNESCO hosted the International Expert Conference on the Sacred City of Anuradhapura at its Headquarters on 1 April 2025, bringing together over 400 in-person and online participants, including international heritage experts, government representatives, religious leaders, and development partners and graced by the presence of H.E. Dr Harini Amarasuriya, Prime Minister of Sri Lanka.

Jointly organised by UNESCO and the Government of Sri Lanka, the event showcased a shared commitment to safeguarding both the tangible and living heritage of a World Heritage site of immense value to Sri Lanka and the world.

UNESCO Director-General, Ms Audrey Azoulay, stressed that "We must take our action further, addressing essential elements such as monument restoration, of course, as well as water management, construction of tourism infrastructure and safeguarding the intangible heritage—the practices and knowledge—that is deeply rooted in the site". In her opening address, H.E. Dr Harini Amarasuriya, Prime Minister of Sri Lanka said "This timely initiative provides a critical platform for dialogue, knowledge-sharing, technical collaboration, and resource mobilization—reinforcing our collective responsibility to protect and sustain this invaluable cultural legacy for future generations." She also shared an anecdote on Anuradhapura from her childhood: "Seeing the Great Stupas in the moonlight, the lakes shimmering with their glow—there is something magical about Anuradhapura that I have not experienced anywhere else".

More than 25 experts from around the world, from different disciplinary areas, intervened in the expert discussion sessions, which focused on the integrated heritage

保护和维护宝贵文化遗产的集体责任。”她还分享了童年时在阿努拉德普勒的一段趣事：“大佛塔矗立在月辉下，湖水中荡漾着微光——阿努拉德普勒有一种我在其他任何地方都没有经历过的神奇之处。”

25 余名来自不同学科领域的国际专家参与了专家研讨环节，聚焦阿努拉德普勒遗产的建成和活态遗产的综合管理方法。专家发言强调整合社区声音、利用技术推动遗产研究和文献记录、遗产友好型旅游和建立可持续伙伴关系的重要性。期间还提出了应对城市压力和宗教及朝圣地特殊需求等挑战的开创性倡议，和保护非物质文化遗产实践的努力。

本次会议还呼吁将遗产保护、国际合作、创新财政策略和数字化工具使用相结合。最后，联合国教科文组织世界遗产主任拉扎赫·伊伦都·阿索莫强调了阿努拉德普勒的独特遗产作为活态精神景观和对其他遗产地的启发。

本次活动是斯里兰卡与联合国教科文组织及其他国际伙伴合作为子孙后代保护阿努拉德普勒圣城杰出普遍价值的重要里程碑。不仅为阿努拉德普勒制定管理规划奠定了基础，还为其他许多世界遗产在文化景观中结合考古遗产和相关的非物质文化遗产实践提供了经验教训。

management of Anuradhapura's built and living heritage. The expert remarks underlined the importance of integrating community voices, leveraging technology for heritage research and documentation, heritage-sensitive tourism, and the creation of sustainable partnerships. They also presented pioneering initiatives in response to challenges such as urban pressures and the specific needs of religious and pilgrimage sites, while highlighting effort to safeguard intangible cultural practices.

The conference also called for the alignment between heritage conservation and international cooperation, innovative financing strategies, and use of digital tools. In closing, Lazare Eloundou Assomo, UNESCO Director of World Heritage, emphasised the unique legacy of Anuradhapura as a living spiritual landscape and an inspiration for other heritage sites.

This event marked a milestone in Sri Lanka's collaboration with UNESCO and international partners to safeguard the Outstanding Universal Value of the Sacred City of Anuradhapura for future generations. It not only laid the foundation for development of the management plan of Anuradhapura, but also identified lessons learned for many other World Heritage properties that combine layers of archaeological heritage with associated intangible heritage practices in a cultural landscape.

国际文化遗产与知识发展论坛在阿布扎比举行

International Forum on Cultural Heritage & Knowledge Development Took Place in Abu Dhabi

资料来源 Source:

<https://www.mediaoffice.abudhabi/en/arts-culture/organised-by-department-of-culture-and-tourism-abu-dhabi-inaugural-international-forum-on-cultural-heritage-knowledge-development-to-take-place-in-emirate/>

作为促进文化教育、推进遗产保护的持续性工作的一部分，阿布扎比文化和旅游部举办首届国际文化遗产与知识发展论坛。

论坛由联合国教科文组织合作举办，多个国际组织参与，于 2025 年 5 月 1 日 -2 日在阿布扎比举行。

参与此次活动的国际组织包括国际私法统

As part of its ongoing efforts to promote cultural education and enhance heritage protection, the Department of Culture and Tourism - Abu Dhabi (DCT Abu Dhabi) has launched the inaugural International Forum on Cultural Heritage & Knowledge Development.

The event, organized in collaboration with the United Nations Educational, Scientific and Cultural Organization (UNESCO), with the participation of

一化协会、国际博物馆理事会、国际古迹遗址理事会、国际文物保护与修复研究中心、世界海关组织、联合国毒品和犯罪办公室、冲突地区遗产保护国际联盟基金会、古物联盟以及伊斯兰世界教育、科学与文化组织。

论坛汇集了由政策制定者、学者、教育工作者、遗产保护专家、法律专业人士和技术专家的领导小组，探讨文化、知识和遗产保护的交点。讨论强调了文化遗产在可持续发展中的社会、经济和历史价值，同时探讨了支持教育体系和创意产业的创新途径，以及地区和全球遗产保护工作中科技的使用。



图2：国际文化遗产与知识发展论坛海报
Figure 2. The poster of the International Forum on Cultural Heritage & Knowledge Development

阿布扎比文化和旅游部主席穆罕默德·哈利法·穆巴拉克阁下表示：“在阿布扎比组织国际文化遗产和知识发展论坛是提升文化教育和保障持续性遗产保护工作路上的重要里程碑。我们坚信文化和知识为文化遗产保护与可持续发展奠定了基础。通过与联合国教科文组织和其它组织的深度合作，阿布扎比文旅部整合在阿联酋与海外的的工作，持续引领倡议，使当代人与后代能够理解并珍惜文化遗产作为可持续发展的关键驱动力。我们将持续推进文化教育策略

international organizations, took place in Abu Dhabi from 1-2 May 2025.

Participating international organizations included the International Institute for the Unification of Private Law (UNIDROIT); the International Council of Museums (ICOM); the International Council on Monuments and Sites (ICOMOS); the International Centre for the Study of the Preservation and Restoration of Cultural Property (ICCROM); the World Customs Organization (WCO); the United Nations Office on Drugs and Crime (UNODC); Aliph Foundation (ALIPH); Antiquities Coalition (AC), and the Islamic World Educational, Scientific and Cultural Organization (ICESCO).

The event brought together a leading group of policymakers, academics, educators, cultural heritage experts, legal professionals, and technology specialists to explore the intersection of culture, knowledge, and heritage preservation. Discussions highlighted the social, economic, and historical value of cultural heritage in sustainable development, while also exploring innovative approaches to supporting educational systems and creative industries, and the use of technology in regional and global heritage protection efforts.

His Excellency Mohamed Khalifa Al Mubarak, Chairman of the Department of Culture and Tourism - Abu Dhabi, said: "Organizing the International Forum on Cultural Heritage & Knowledge Development in Abu Dhabi is a pivotal milestone in our journey to enhance cultural education and ensure continued efforts in heritage protection. We firmly believe that culture and knowledge form the foundation for preserving and sustaining cultural heritage. Through a strong collaboration with UNESCO and other organizations, DCT Abu Dhabi's integrated efforts in the UAE and abroad continue to lead initiatives that empower current and future generations to understand and cherish their cultural heritage as a key driver of sustainable development. We remain dedicated to driving cultural education strategies and pioneering initiatives which facilitate knowledge exchange and strengthen cultural identity. These efforts are anchored in international, regional, and national collaboration, ensuring that cultural heritage remains an integral part of our future."

By implementing the UNESCO Framework for Culture and Arts Education while focusing on Cultural Heritage Protection

和创新措施，促进知识交流和加强文化认同。”

通过实施联合国教科文组织的文化与艺术教育框架，并基于《联合国教科文组织国际文化公约》关注文化遗产保护，阿布扎比文旅部致力于提升文化遗产作为广义文化概念中不可或缺的部分的关键作用，这与当代人类创造力直接相关。

跨学科方法通过理解文化遗产的历史、社会和经济价值使公众欣赏文化遗产并积极参与到其保护中去。通过打造文化教育和文化遗产深度研究（如风险管理和打击文物走私）的综合体，阿布扎比文旅部正在制定更加整体和有影响力的文化保护方法，确认文化在后代间的传承和持续影响力。

论坛的主要项目包括：联合国教科文组织文化和艺术教育框架及其实施；文化和艺术教育的数字化转型；加强遗产保护的政策、治理、合作和法律框架；危机和危险中的文化遗产——保护与修复策略；文化遗产的未来——社区发展。

论坛结束后，在2025年五月、六月和九月将分别开展五个教育模块，分别致力于联合国教科文组织公约和相关法律规定。

based on UNESCO's International Culture Conventions, DCT Abu Dhabi is committed to promoting the crucial role of cultural heritage as an integral part of culture at large, which is directly related to contemporary human creativity.

This interdisciplinary approach enabled the appreciation of cultural heritage by understanding its historical, social, and economic value, empowering the public to become active participants in its preservation. By finding synergies between cultural education and in-depth studies of heritage protection, such as risk management and fighting illicit trade in antiquities, DCT Abu Dhabi was creating a more holistic and impactful approach to cultural preservation, ensuring its transmission and continued relevance for generations to come.

The intensive programme of the forum included: The UNESCO Framework for Culture and Arts Education (UFCAE) and its Implementation; Digital Transformation in Culture and Arts Education; Strengthening Policy, Governance, Cooperation and Legal Frameworks for Heritage Protection; Cultural Heritage in Crisis and Danger – Strategies for Protection and Recovery; and The Future of Cultural Heritage – Community Development.

The forum will be followed by five education modules, each dedicated to the UNESCO Conventions and related legal instruments, organized in May, June, and September 2025.

2025 亚太地区世界遗产青年营造师国际交流活动在苏州举行

2025 Asia-Pacific Young Masters for Heritage Conservation Symposium Held in Suzhou

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5月26日，由联合国教科文组织东亚地区办事处、苏州市园林和绿化管理局、联合国教科文组织亚太地区世界遗产培训与研究中心联合主办的2025“亚太地区世界遗产青年营造师”国际交流活动在苏州举行。本次活动由联合国教科文组织亚太世遗苏州中心承办，中国-葡萄牙文化遗产保护科学“一带一路”联合实验室等机构承办。

On May 26, the 2025 Asia-Pacific Young Masters for Heritage Conservation Symposium was held in Suzhou. The event was co-hosted by the UNESCO Regional Office in East Asia, the Suzhou Municipal Bureau of Gardens and Landscaping, and the UNESCO World Heritage Institute of Training and Research-Asia and Pacific (WHITRAP). The symposium was organized by the UNESCO WHITRAP Suzhou Center and co-organized by the China-Portugal Belt and Road



图 3：活动海报
Figure 3. The poster of the event

本次国际交流活动以“保护、创新与可持续发展”为主题，来自印度、乌兹别克斯坦、新加坡、尼泊尔、马来西亚、越南、蒙古等国家的青年营造师和国内高校专家学者齐聚一堂，围绕评选出的 18 个优秀案例进行深入交流和探讨，共同探索青年群体在传统营造技艺领域的创新发展路径。

活动现场，中外嘉宾共同参观了“2025 亚太地区世界遗产青年营造师创新案例展”，观摩体验古琴演奏、榫卯木雕、园艺插花等展现园林文脉发展的传统技艺，深入体验苏州传统技艺传承发展的突出成果。其中，“2025 亚太地区世界遗产青年营造师创新案例展”以评选入围的 18 个亚太地区青年营造师实践案例为内容，聚焦历史街区整治保护新模式、建筑改造践行可持续理念、震后遗产重建修复策略、建筑考古理念融入文物修缮等创新应用做法，全面展示了亚太地区各国青年营造师在文化遗产保护与活化中的卓越贡献和创新智慧，彰显了青年一代在世界遗产传承与发展中的重要作用，为世界遗产的未来可持续发展注入了新的活力与希望。

现场同期举办了“‘文化和自然遗产日’狮子林文化遗产活化利用展”。该展览以纪念狮子林 2000 年入选《世界文化遗产名录》为核心主旨，聚焦原真性保护与创新性活化共享两大主题，系统呈现了自 21 世纪以来，世界文化遗产狮子林在推动遗产保护传承、活化实践创新、东方造园美学研究以及国际文化交流合作等

Joint Laboratory on Cultural Heritage Conservation Science.

The symposium, themed "Conservation, Innovation, and Sustainable Development", brought together young masters from countries such as India, Uzbekistan, Singapore, Nepal, Malaysia, Vietnam, and Mongolia, as well as domestic university experts and scholars. They engaged in in-depth exchanges and discussions around 18 selected outstanding cases, exploring innovative development pathways for the younger generation in the field of traditional construction techniques.

At the event, guests from China and abroad jointly visited the "2025 Asia-Pacific Young Masters for Heritage Conservation Innovation Case Exhibition." They observed and experienced traditional crafts that demonstrate the development of garden culture, such as guqin performances, mortise-and-tenon wood carving, and floral arrangement. They also gained an in-depth understanding of the outstanding achievements in the inheritance and development of traditional Suzhou crafts. The exhibition focused on 18 practical cases of young masters from the Asia-Pacific region, highlighting innovative applications in new models for the conservation and revitalization of historical districts, sustainable building renovation practices, post-earthquake heritage reconstruction strategies, and the integration of architectural archaeology concepts into cultural heritage restoration. It comprehensively showcased the remarkable contributions and innovative wisdom of young masters from various countries in the Asia-Pacific region in the conservation and revitalization of cultural heritage, highlighting the important role of the younger generation in the inheritance and development of world heritage and injecting new vitality and hope into the future sustainable development of world heritage.

Concurrently, the "Lion Grove Garden Cultural Heritage Revitalization Exhibition" was held on site. The exhibition, commemorating the inclusion of Lion Grove Garden in the World Heritage List in 2000, focused on the themes of authenticity in heritage conservation and innovative revitalization. It systematically presented the breakthrough achievements of Lion Grove Garden since the 21st century in promoting heritage conservation and inheritance, innovative revitalization practices, research

领域取得的突破性成果。



图 4：联合实验室主任吴永发教授为青年营造师颁奖
Figure 4. Professor Wu Yongfa, Director of the Joint Laboratory presented awards to the young architects

此次活动打造了聚焦古建技艺保护创新的交流互鉴平台，促进了中外古建营造技艺的系统性保护和可持续发展；同时进一步提升了苏州园林在国际古建筑保护领域的知名度和影响力，展示了苏州在文化遗产保护方面的实力和担当。未来，苏州将进一步加大对园林遗产和古建营造技艺的保护传承力度，推动青年群体对古建技艺的创造性转化和创新性发展，共同书写保护与创新并重、传统与未来共鸣的新篇章。

on Eastern garden aesthetics, and international cultural exchange and cooperation.

This event created a platform for exchange and mutual learning focused on the conservation and innovation of traditional construction techniques, promoting the systematic conservation and sustainable development of ancient building techniques from China and abroad. It also further enhanced the international reputation and influence of Suzhou gardens in the field of ancient architecture conservation, demonstrating Suzhou's strength and responsibility in cultural heritage conservation. In the future, Suzhou will continue to increase its efforts in the conservation and inheritance of garden heritage and traditional construction techniques, promote the creative transformation and innovative development of ancient building techniques by the younger generation, and jointly write a new chapter that emphasizes both conservation and innovation, and resonates with tradition and the future.



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