



United Nations
Educational, Scientific and
Cultural Organization



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ASIA CONSERVED

LESSONS LEARNED FROM THE UNESCO ASIA-PACIFIC AWARDS
FOR CULTURAL HERITAGE CONSERVATION (2010-2014)



125





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III

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FOREWORD

Established in 2000, the UNESCO Asia-Pacific Awards for Cultural Heritage Conservation programme recognizes excellent achievements by private and public-private initiatives in conserving and restoring heritage buildings and properties in the region. Given that the majority of heritage properties are in private hands, this programme seeks to encourage partnerships among a wide range of stakeholders in ensuring the future of the region's rich cultural heritage. The UNESCO Asia-Pacific Heritage Awards programme has been successful in establishing the highest technical standards for conservation practice in the Asia-Pacific region, as well as demonstrating the importance of cultural heritage to people's well-being today and in the future. The programme has been a rousing call to action to private individuals and organizations, academic partners and the business sector, working hand-in-hand with local, regional and national governments.

The third volume in the *Asia Conserved* series, this publication covers the UNESCO Asia-Pacific Heritage Awards winners between 2010 and 2014. This period saw a wide array of winners from diverse places and eras, ranging from ancient cities to urban centres to remote villages. Building typologies also varied greatly, from grand palace complexes to industrial heritage sites to cultural landscapes. Yet, what all of the winning projects have in common is that they all illustrate that strong partnerships can successfully safeguard and revitalize local heritage while simultaneously contributing to sustainable development. These projects showcase how, as a consequence of cultural heritage conservation, livelihoods have been improved, access to social and urban services has been extended to those in need, and pride in local traditions and culture has been reinvigorated.

As such, the UNESCO Asia-Pacific Heritage Awards are a powerful illustration of how culture is integral to achieving truly sustainable development, within the framework of the 2030 Agenda for Sustainable Development. The 2030 Agenda forms the main theme of this volume and advances UNESCO's stance that placing culture at the heart of development efforts is both a condition for enabling sustainable development as well as a powerful driving force. The 2030 Agenda also advances all seven of UNESCO's cultural conventions, which are intended to protect and develop valuable aspects of culture and creativity, from tangible and intangible heritage to creative industries.

The UNESCO Asia-Pacific Heritage Awards also highlight how cultural heritage conservation can provide a platform to bring people together, thereby creating greater social cohesion and contributing to peace. Many of the recognized projects are the fruit of cooperative efforts involving grass-roots counterparts, technical experts and policy-makers. The role of women and youth is especially highlighted, given their full engagement in many of these conservation initiatives. Thus, the award-winning projects demonstrate that cultural heritage conservation is a way to advance harmonious dialogue and better mutual understanding across different groups.

The 54 award-winning projects profiled in this volume not only provide us with examples of state-of-the art conservation policy and practice, they are also a source of inspiration for everyone working in the heritage and development fields. Together with the technical briefs, which provide in-depth information on specific issues, the award-winning projects, demonstrating best practices, encourage all stakeholders to work together to conserve our heritage for present and future generations.



Shigeru Aoyagi
Director
UNESCO Bangkok
Asia and Pacific Regional Bureau for Education

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OVERVIEW

UNESCO ASIA-PACIFIC AWARDS FOR CULTURAL HERITAGE CONSERVATION

Throughout Asia and the Pacific, cultural heritage sites are under threat. Climate change, uncontrolled urbanization, disasters, conflicts, the disappearance of traditional building materials, skills and techniques and sheer neglect are all taking an irreversible toll on the region's cultural heritage, from single monuments to historic districts and rural landscapes.

Recognizing the crucial role of private individuals and institutions in protecting these vulnerable sites, UNESCO seeks to encourage private sector involvement in conserving the region's cultural heritage for the benefit of current and future generations. Conceived in 1999, the UNESCO Asia-Pacific Awards for Cultural Heritage Conservation have honoured excellent achievement in successfully conserving or restoring heritage buildings and properties in the region by the private sector and by public-private initiatives since the first awards were presented in 2000. In 2005, UNESCO launched the Jury Commendation for Innovation, later renamed the Award for New Design in Heritage Contexts. This category recognizes newly-built structures that demonstrate outstanding design well-integrated into historic contexts.

The UNESCO Asia-Pacific Heritage Awards programme draws entries from countries throughout the region, testifying to the universal concern for our cultural places. In the 15 years between 2000 and 2014, the programme received 562 entries from 24 countries. A total of 174 projects were conferred awards for high achievement in conservation, while nine projects were recognized with the Jury Commendation for Innovation award. This third volume of *Asia Conserved* covers the five-year period between 2010 and 2014, during which 54 projects received awards: five Awards of Excellence, nine Awards of Distinction, 20 Awards of Merit, 16 Honourable Mentions and four Jury Commendations for Innovation.

RECOGNIZING BEST PRACTICE IN HERITAGE CONSERVATION

The UNESCO Asia-Pacific Heritage Awards recognize excellence in three main areas of achievement: understanding the place, technical achievement and social and policy impact.

Demonstrating an **understanding of the place** is the fundamental prerequisite for successful conservation. With a shift towards values-based approaches to conserving heritage, engendered by the World Heritage Convention and other seminal documents, it is now widely recognized that conservation decisions must be underpinned by a profound and multivalent understanding of the values of heritage places. These values are not limited purely to aesthetic and architectural values, but encompass scientific, social and historical dimensions as well. The submitted projects are therefore judged by the extent to which the conservation work articulates and interprets these heritage values in an insightful manner. As the use or adaptation of heritage properties has a large bearing on its spirit of place, the issue of appropriate use or adaption is also considered. Given that heritage values are seen in different lights by the various constituents and stakeholders of each heritage place, the identification and articulation of the values of a heritage place should emerge through a process of reflection and consultation. The achievement of this group of criteria is thus not assessed only through examining the end product of the restored building, but also reflects the sensitivity to cultural values of the process.

The awards programme seeks to set new **technical standards in heritage conservation** in the region. To this end, the projects are assessed on their conservation methodology, their planning and their execution of the work. The criteria call for the selection and deployment of appropriate techniques and materials, which may run the gamut from locally-available traditional options to solutions that draw upon the latest technological and scientific advances. Recognizing that heritage places have to respond to contemporary needs to ensure continued use and meaning, the conservation projects are also assessed in terms of the extent to which they have dealt with added elements in a way that respects the character of the historic property.

The final group of criteria measures the **social and policy impact** that the projects have. Since the awards are meant to have a catalytic effect on future conservation work in the region, the impact that is generated by each project is carefully considered as a component of its overall success. This begins with the immediate impact that the project has on the community associated with the place, with the expectation that outstanding projects are able to extend the community's cultural and historical continuum. At the broader level, from the point of view of informing conservation practice and policy, the influence that projects have in setting a precedent or creating a noteworthy model for conservation is also considered. In order to sustain such impacts, the viability of the project is also a factor. It is important to have an assurance that the heritage property, once restored, will be maintained and sustained in a meaningful and appropriate manner in the future, in both economic and social terms. Finally, the impacts that projects have are also assessed based on the complexity of the issues that they had to tackle and managed to resolve.

UNESCO ASIA-PACIFIC HERITAGE AWARDS AND SUSTAINABLE DEVELOPMENT

From the outset, the UNESCO Asia-Pacific Heritage Awards have sought to demonstrate the importance of conserving cultural heritage not only as a goal in itself, but also as a contribution to the broader well-being of the people who are the owners, stewards and users of this heritage, as well as to the integrity of the surrounding natural setting. In this sense, the awards embed conservation efforts within a wider set of goals related to sustainable development.

For this reason, the submitted projects must be able to attest to 'the on-going socio-economic and environmental viability and relevance of the project, and provision for its future use and maintenance' (criterion i), which speaks to the three main dimensions of sustainable development: economic, social and environmental. Beyond just maintaining the status quo, the projects must also demonstrate how they create added value in terms of 'the manner in which the process and the final product contribute to the surrounding environment and the local community's cultural and historical continuum' (criterion j).

The winning projects over the years have provided real-life exemplars of how these principles of sustainable development can mutually reinforce the practice of heritage conservation, and vice versa. Heritage conservation should contribute to sustainable development by ensuring that development efforts are contextualized and closely attuned to the place and to local social and cultural mores. Meanwhile, a sustainable development perspective can lend depth, complexity and relevance to heritage endeavours. This ensures that cultural heritage is not just an aesthetic or historicist concern, but is recognized as a source of meaning and a generative resource for both urban and rural communities.

The adoption of the 2030 Agenda for Sustainable Development made the link between cultural heritage and sustainable development explicit for the first time in the global development agenda. With its adoption in 2015 by the United Nations General Assembly, the 2030 Agenda embedded heritage across many of the 17 Sustainable Development Goals. Taking a balanced view to sustainable development, public and private entities across the globe are invited to work in partnership to ensure that development not only looks to the future but also celebrates and nurtures our collective heritage.

The essays in this volume showcase the contributions of the projects recognized with the UNESCO Asia-Pacific Heritage Awards within the framework of the five critical dimensions of the 2030 Agenda, known as the '5 Ps': people, planet, prosperity, peace and partnership. Then, the profiles of the winning projects highlight the larger contributions of the projects to sustainable development at the local, national and regional levels.

ESSAYS

CULTURAL HERITAGE AND THE 2030 AGENDA FOR SUSTAINABLE DEVELOPMENT

JYOTI HOSAGRAHAR

DEPUTY DIRECTOR, WORLD HERITAGE CENTRE

In September 2015, the United Nations Member States unanimously adopted the 2030 Agenda for Sustainable Development (2030 Agenda), which builds on the accomplishments of the Millennium Development Goals and carries forward the momentum and resolve of the international community to deal with the most pressing global challenges of our time, while ensuring that no one is left behind (United Nations, 2015).

The 2030 Agenda identifies 17 Sustainable Development Goals (SDGs) to be achieved by 2030. The SDGs encompass a total of 169 targets, aiming to end all forms of poverty, fight inequalities and tackle climate change. These goals represent a conceptual shift in thinking about development, moving beyond simply aiming for economic growth and instead seeking a future that is equitable, inclusive, peaceful and environmentally sustainable. This bold vision demands creative approaches, beyond the typical linear and sectoral ones of the past.

The preamble of the 2030 Agenda states that it is a 'plan of action for **people, planet and prosperity**' that also seeks to 'strengthen universal **peace**' and which calls upon all countries and all stakeholders to act in 'collaborative **partnership**'. Thus, the 2030 Agenda has five critical dimensions, known as the '5 Ps': people, planet, prosperity, peace and partnership. These provide an overarching framework within which the SDGs are interlinked, forming an integrated and holistic approach to achieving development that is sustainable.

Through the SDGs, the international development agenda recognizes the safeguarding and promotion of cultural and natural heritage not only as an end in itself, but also as being essential for achieving sustainable development. This has been lauded by UNESCO as 'unparalleled recognition'. Thus, while the protection of cultural and natural heritage has long been recognized as important, as evidenced by the 1972 Convention concerning the Protection of the World's Cultural and Natural Heritage (World Heritage Convention), which was ratified by 193 nations, the 2030 Agenda goes beyond this by acknowledging that heritage, both cultural and natural, is a vital component of achieving many of the SDGs. The 2030 Agenda also recognizes that cultural knowledge and practices inform the sustainable management and safeguarding of natural resources. It underscores how placing heritage at the heart of development policies is the only way to ensure human-centred, inclusive and equitable development.

Heritage contributes transversally to the key pillars of sustainable development – economic, social and environmental objectives. For example, cultural and natural heritage contributes to social objectives, such as furthering peace and security, and hence forms an important dimension of the World Heritage Sustainable Development Policy. At the same time, other efforts towards achieving the economic, social and environmental dimensions of sustainable development contribute, in turn, to the safeguarding of heritage.

CONTRIBUTION OF CULTURAL HERITAGE TO THE 5 Ps

Cultural heritage – both tangible and intangible – are resources that need to be promoted. As a driver and an enabler of sustainable development, cultural heritage contributes to the 5 Ps as follows:

PEOPLE

'End poverty and hunger, in all their forms and dimensions, and ... ensure that all human beings can fulfil their potential in dignity and equality and in a healthy environment.'

- Safeguarding of diversity in cultural expressions is fundamental to ensuring greater inclusion and equality.
- Protection of cultural heritage ensures that identity and traditional knowledge are safeguarded.



COMMUNITY MEMBERS ENJOYING THE RESTORED CHOWMAHALLA PALACE

PLANET

'Protect the planet from degradation, including through sustainable consumption and production, sustainably managing its natural resources and taking urgent action on climate change, so that it can support the needs of the present and future generations.'

- Preservation of built heritage is essential in reducing the use of natural resources and therefore in safeguarding biodiversity.

PROSPERITY

'Ensure that all human beings can enjoy prosperous and fulfilling lives and that economic, social and technological progress occurs in harmony with nature.'

- Conservation of heritage contributes to livelihoods based on culture and creativity.
- Production and trade of local cultural goods and services contribute to local prosperity.

PEACE

'Foster peaceful, just and inclusive societies which are free from fear and violence. There can be no sustainable development without peace and no peace without sustainable development.'

- Protection of cultural heritage increases mutual understanding and social cohesion.
- Respect for cultural diversity reduces conflict.

PARTNERSHIP

'Mobilize the means required to implement this Agenda through a revitalised Global Partnership for Sustainable Development, based on a spirit of strengthened global solidarity, focussed in particular on the needs of the poorest and most vulnerable and with the participation of all countries, all stakeholders and all people.'

- Bringing together diverse individuals and groups to conserve heritage, raises awareness of shared values and creates unity to bring about positive changes.

CONTRIBUTION OF CULTURAL HERITAGE TO THE SDGs

Cultural heritage can serve as drivers and enablers for achieving many of the SDGs, including: zero hunger (SDG 2), quality education (SDG 4), gender equality (SDG 5), clean water and sanitation (SDG 6), decent work and economic growth (SDG 8), reduced inequalities (SDG 10), sustainable cities and communities (SDG 11), climate action (SDG 13), life in water (SDG 14), life on land (SDG 15), peace, justice and strong institutions (SDG 16) and partnership (SDG 17).

SUPPORTING SOCIAL AND ECONOMIC INCLUSION

The knowledge, practices and crafts of local communities in and around heritage sites and associated creative industries and cultural infrastructure are valuable resources for generating livelihoods. For example, when a stone mason's traditional skills are recognized and valued, such employment contributes to creating 'decent work' (SDG 8), that is, 'work that is productive and delivers a fair income' (ILO, 2015). This is especially true in developing countries that have a wealth of intangible cultural heritage and associated creative industries. Furthermore, a substantial percentage of those employed in the culture sector activities are women, contributing to gender equality (SDG 5).

The economies of many heritage sites draw significantly on tangible heritage and on intangible heritage such as crafts, music, dance, visual arts, traditional cuisine and theatre. With cultural tourism now accounting for 40 per cent of world tourism revenues (UNWTO, 2016), ensuring the vitality and longevity of cultural heritage as a tourism resource contributes to achieving Target 12.b, related to promoting sustainable tourism. Strengthening the production of local cultural goods and services in and around heritage sites in turn provides employment opportunities (Targets 8.3 and 8.9 of SDG 8) and supports cultural diversity through local production.

FOSTERING SUSTAINABLE CITIES AND COMMUNITIES

Cultural heritage has a crucial role to play in implementation under SDG 11 (Make cities and human settlements inclusive, safe, resilient and sustainable). Target 11.4 calls for strengthening efforts to protect and safeguard the world's cultural and natural heritage.

Culture and cultural heritage is accorded special attention in the United Nations New Urban Agenda (NUA), acknowledging the importance of culture and cultural diversity in contributing to the sustainable development of human settlements and to the life of urban citizens. The NUA, which provides a 20-year roadmap to guide sustainable urban development and aims to transform the world's cities, was officially adopted by all countries at the Habitat III meeting held in Quito, Ecuador in October 2016.



RESTORATION PROCESS OF A HISTORIC BUILDING IN DUONG LAM VILLAGE

Urban areas are often rich in cultural heritage. Their heritage resources, natural setting and the associated intangible cultural heritage of their local communities can drive alternative models for sustainable urban development. Promoting inclusive economic growth through employment related to cultural heritage, including conservation and tourism, encourages decent work. The UNESCO 2011 Recommendation on the Historic Urban Landscape focuses on the vital relationship of built heritage with its natural setting, the local communities and their engagement in its management, as well as the diversity of associated knowledge and practices that form an integral part of the identity of the urban area.

PROMOTING ACTION TO PROTECT THE ENVIRONMENT AND COUNTER CLIMATE CHANGE

With the earth facing unprecedented environmental stresses, including the growing risks posed by climate change, concerted action from the international community is more vital than ever. Scientific studies provide incontrovertible evidence of the growing loss of biodiversity and natural resource bases such as fresh water supplies which are essential for the sustainability of our planet and all life forms. Rising temperatures and seawater levels, unseasonal climate events and natural disasters exacerbated by climate change require a fundamental rethink of our current practices.

Traditional knowledge systems and environmental management practices are often more environmentally sustainable than modern, conventional systems and practices. Moreover, traditional crafts and designs (including building designs) often require lower amounts of energy and resources, making them more sustainable. Much can be learned from them. The knowledge systems and environmental management practices of indigenous and local people provide insights for better managing ecological challenges, preventing biodiversity loss, reducing land degradation and mitigating the effects of climate change.

Safeguarding and sharing traditional knowledge and practices can contribute to reducing energy use and emissions, and preventing resource depletion, thereby mitigating the effects of climate change (SDG 13). Traditional knowledge also contributes to strengthening resilience and adaptive capacity to climate-related hazards and natural disasters (Target 13.1). Many traditional occupations and crafts draw on local knowledge of ecosystem management, natural resource extraction and local materials. As many of them require lower levels of technology, energy and investment, they help to generate sustainable livelihoods and contribute to green economies.

FACILITATING PEACE AND SECURITY

Promoting respect for cultural diversity facilitates intercultural understanding, prevents conflict and leads to peace and to justice for all, including for minority and marginalized groups (SDG 16). Recent events have also demonstrated the importance of protecting cultural heritage and cultural diversity in maintaining social cohesion in regions that have suffered or are vulnerable to armed conflict. In March 2017, the Security Council passed the first-ever resolution to focus on cultural heritage, UN Resolution 2347. This resolution enjoins Member States to protect cultural heritage as an integral part of maintaining international peace and security. While its primary focus is to counter the deliberate destruction of cultural property in the name of terrorism, it also underscores the obligation of the international community to protect cultural heritage in the event of armed conflict. In this way, the resolution reinforces earlier international instruments, notably the 1954 Hague Convention for the Protection of Cultural Property in the Event of Armed Conflict and the 1970 Convention on the Means of Prohibiting and Preventing the Illicit Import, Export and Transport of Ownership of Cultural Property.

Culture is highlighted specifically in Target 4.7 of SDG 4, which calls for education to promote a culture of peace and non-violence, an appreciation of cultural diversity, and of culture's contribution to sustainable development.

THE SUSTAINABLE DEVELOPMENT GOALS (SDGs)

GOAL 1.

End poverty in all its forms everywhere.

GOAL 2.

End hunger, achieve food security and improved nutrition, and promote sustainable agriculture.

GOAL 3.

Ensure healthy lives and promote well-being for all at all ages.

GOAL 4.

Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all.

GOAL 5.

Achieve gender equality and empower all women and girls.

GOAL 6.

Ensure availability and sustainable management of water and sanitation for all.

GOAL 7.

Ensure access to affordable, reliable, sustainable and modern energy for all.

GOAL 8.

Promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all.

GOAL 9.

Build resilient infrastructure, promote inclusive and sustainable industrialization and foster innovation.

GOAL 10.

Reduce inequality within and among countries.

GOAL 11.

Make cities and human settlements inclusive, safe, resilient and sustainable.

GOAL 12.

Ensure sustainable consumption and production patterns.

GOAL 13.

Take urgent action to combat climate change and its impacts.

GOAL 14.

Conserve and sustainably use the oceans, seas and marine resources for sustainable development.

GOAL 15.

Protect, restore and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, halt and reverse land degradation and halt biodiversity loss.

GOAL 16.

Promote peaceful and inclusive societies for sustainable development, provide access to justice for all and build effective, accountable and inclusive institutions at all levels.

GOAL 17. Strengthen the means of implementation and revitalize the global partnership for sustainable development.

CULTURAL HERITAGE AND THE SDGs

GOALS	TARGETS
GOAL 1	END POVERTY IN ALL ITS FORMS EVERYWHERE
Target 1.1	By 2030, eradicate extreme poverty for all people everywhere
Target 1.2	By 2030, reduce at least by half the proportion of men, women and children of all ages living in poverty in all its dimensions
Target 1.4	By 2030, ensure that all men and women, in particular the poor and the vulnerable, have equal rights to economic resources, as well as access to basic services, ownership and control over land and other forms of property, inheritance, natural resources, appropriate new technology and financial services, including microfinance
Target 1.5	By 2030, build the resilience of the poor and those in vulnerable situations and reduce their exposure and vulnerability to climate-related extreme events and other economic, social and environmental shocks and disasters
Target 1A	Ensure significant mobilization of resources from a variety of sources, including through enhanced development cooperation, in order to provide adequate and predictable means for developing countries, in particular least developed countries, to implement programmes and policies to end poverty in all its dimensions
GOAL 2	END HUNGER, ACHIEVE FOOD SECURITY AND IMPROVED NUTRITION, AND PROMOTE SUSTAINABLE AGRICULTURE
Target 2.4	By 2030, ensure sustainable food production systems and implement resilient agricultural practices that increase productivity and production, that help maintain ecosystems, that strengthen capacity for adaptation to climate change, extreme weather, drought, flooding and other disasters and that progressively improve land and soil quality
Target 2A	Increase investment, including through enhanced international cooperation, in rural infrastructure, agricultural research and extension services, technology development and plant and livestock gene banks in order to enhance agricultural productive capacity in developing countries, in particular least developed countries
GOAL 3	ENSURE HEALTHY LIVES AND PROMOTE WELL-BEING FOR ALL AT ALL AGES
Target 3.3	By 2030, end the epidemics of AIDS, tuberculosis, malaria and neglected tropical diseases and combat hepatitis, water-borne diseases and other communicable diseases
GOAL 4	ENSURE INCLUSIVE AND EQUITABLE QUALITY EDUCATION AND PROMOTE LIFELONG LEARNING OPPORTUNITIES FOR ALL
Target 4.4	By 2030, substantially increase the number of youth and adults who have relevant skills, including technical and vocational skills, for employment, decent jobs and entrepreneurship
Target 4.7	By 2030, ensure that all learners acquire the knowledge and skills needed to promote sustainable development, including, among others, through education for sustainable development and sustainable lifestyles, human rights, gender equality, promotion of a culture of peace and non-violence, global citizenship and appreciation of cultural diversity and of culture's contribution to sustainable development
GOAL 5	ACHIEVE GENDER EQUALITY AND EMPOWER ALL WOMEN AND GIRLS
Target 5.5	Ensure women's full and effective participation and equal opportunities for leadership at all levels of decision-making in political, economic and public life
Target 5.C	Adopt and strengthen sound policies and enforceable legislation for the promotion of gender equality and the empowerment of all women and girls at all levels
GOAL 6	ENSURE AVAILABILITY AND SUSTAINABLE MANAGEMENT OF WATER AND SANITATION FOR ALL
Target 6.1	By 2030, achieve universal and equitable access to safe and affordable drinking water for all

CULTURAL HERITAGE AND THE SDGs

GOALS	TARGETS
GOAL 6	ENSURE AVAILABILITY AND SUSTAINABLE MANAGEMENT OF WATER AND SANITATION FOR ALL
Target 6.2	By 2030, achieve access to adequate and equitable sanitation and hygiene for all and end open defecation, paying special attention to the needs of women and girls and those in vulnerable situations
Target 6.3	By 2030, improve water quality by reducing pollution, eliminating dumping and minimizing release of hazardous chemicals and materials, halving the proportion of untreated wastewater and substantially increasing recycling and safe reuse globally
Target 6.4	By 2030, substantially increase water-use efficiency across all sectors and ensure sustainable withdrawals and supply of freshwater to address water scarcity and substantially reduce the number of people suffering from water scarcity
Target 6.B	Support and strengthen the participation of local communities in improving water and sanitation management
GOAL 7	ENSURE ACCESS TO AFFORDABLE, RELIABLE, SUSTAINABLE AND MODERN ENERGY FOR ALL
Target 7.1	By 2030, ensure universal access to affordable, reliable and modern energy services
GOAL 8	PROMOTE SUSTAINED, INCLUSIVE AND SUSTAINABLE ECONOMIC GROWTH, FULL AND PRODUCTIVE EMPLOYMENT AND DECENT WORK FOR ALL
Target 8.3	Promote development-oriented policies that support productive activities, decent job creation, entrepreneurship, creativity and innovation, and encourage the formalization and growth of micro-, small- and medium-sized enterprises, including through access to financial services
Target 8.4	Improve progressively, through 2030, global resource efficiency in consumption and production and endeavour to decouple economic growth from environmental degradation
Target 8.5	By 2030, achieve full and productive employment and decent work for all women and men, including for young people and persons with disabilities, and equal pay for work of equal value
Target 8.6	By 2020, substantially reduce the proportion of youth not in employment, education or training
Target 8.8	Protect labour rights and promote safe and secure working environments for all workers, including migrant workers, in particular women migrants, and those in precarious employment
Target 8.9	By 2030, devise and implement policies to promote sustainable tourism that creates jobs and promotes local culture and products
GOAL 9	BUILD RESILIENT INFRASTRUCTURE, PROMOTE INCLUSIVE AND SUSTAINABLE INDUSTRIALIZATION AND FOSTER INNOVATION
Target 9.4	By 2030, upgrade infrastructure and retrofit industries to make them sustainable, with increased resource-use efficiency and greater adoption of clean and environmentally sound technologies and industrial processes, with all countries taking action in accordance with their respective capabilities
GOAL 10	REDUCE INEQUALITY WITHIN AND AMONG COUNTRIES
Target 10.2	By 2030, empower and promote the social, economic and political inclusion of all, irrespective of age, sex, disability, race, ethnicity, origin, religion or economic or other status
GOAL 11	MAKE CITIES AND HUMAN SETTLEMENTS INCLUSIVE, SAFE, RESILIENT AND SUSTAINABLE
Target 11.1	By 2030, ensure access for all to adequate, safe and affordable housing and basic services and upgrade slums
Target 11.3	By 2030, enhance inclusive and sustainable urbanization and capacity for participatory, integrated and sustainable human settlement planning and management in all countries
Target 11.4	Strengthen efforts to protect and safeguard the world's cultural and natural heritage

CULTURAL HERITAGE AND THE SDGs

GOALS	TARGETS
GOAL 11	MAKE CITIES AND HUMAN SETTLEMENTS INCLUSIVE, SAFE, RESILIENT AND SUSTAINABLE
Target 11.5	By 2030, significantly reduce the number of deaths and the number of people affected and substantially decrease the direct economic losses relative to global gross domestic product caused by disasters, including water-related disasters, with a focus on protecting the poor and people in vulnerable situations
Target 11.6	By 2030, reduce the adverse per capita environmental impact of cities, including by paying special attention to air quality and municipal and other waste management
Target 11.7	By 2030, provide universal access to safe, inclusive and accessible, green and public spaces, in particular for women and children, older persons and persons with disabilities
GOAL 12	ENSURE SUSTAINABLE CONSUMPTION AND PRODUCTION PATTERNS
Target 12.2	By 2030, achieve the sustainable management and efficient use of natural resources
Target 12.5	By 2030, substantially reduce waste generation through prevention, reduction, recycling and reuse
Target 12.8	By 2030, ensure that people everywhere have the relevant information and awareness for sustainable development and lifestyles in harmony with nature
GOAL 13	TAKE URGENT ACTION TO COMBAT CLIMATE CHANGE AND ITS IMPACTS
Target 13.1	Strengthen resilience and adaptive capacity to climate-related hazards and natural disasters in all countries
GOAL 14	CONSERVE AND SUSTAINABLY USE THE OCEANS, SEAS AND MARINE RESOURCES FOR SUSTAINABLE DEVELOPMENT
Target 14.1	By 2025, prevent and significantly reduce marine pollution of all kinds, in particular from land-based activities, including marine debris and nutrient pollution
GOAL 15	PROTECT, RESTORE AND PROMOTE SUSTAINABLE USE OF TERRESTRIAL ECOSYSTEMS, SUSTAINABLY MANAGE FORESTS, COMBAT DESERTIFICATION, AND HALT AND REVERSE LAND DEGRADATION AND HALT BIODIVERSITY LOSS
Target 15.9	By 2020, integrate ecosystem and biodiversity values into national and local planning, development processes, poverty reduction strategies and accounts
GOAL 16	PROMOTE PEACEFUL AND INCLUSIVE SOCIETIES FOR SUSTAINABLE DEVELOPMENT, PROVIDE ACCESS TO JUSTICE FOR ALL AND BUILD EFFECTIVE, ACCOUNTABLE AND INCLUSIVE INSTITUTIONS AT ALL LEVELS
Target 16.1	Significantly reduce all forms of violence and related death rates everywhere
GOAL 17	STRENGTHEN THE MEANS OF IMPLEMENTATION AND REVITALIZE THE GLOBAL PARTNERSHIP FOR SUSTAINABLE DEVELOPMENT
Target 17.16	Enhance the global partnership for sustainable development, complemented by multi-stakeholder partnerships that mobilize and share knowledge, expertise, technology and financial resources, to support the achievement of the Sustainable Development Goals in all countries, in particular developing countries
Target 17.17	Encourage and promote effective public, public-private and civil society partnerships, building on the experience and resourcing strategies of partnerships



RESTORING THE NA PHRA LAN HISTORIC SHOPHOUSES CONTRIBUTED TO URBAN REVITALIZATION

REFERENCES

International Labour Organization (ILO). 2015. *Decent work*. <https://www.ilo.org/global/topics/decent-work/lang--en/index.htm> (Accessed 23 August 2019.)

United Nations. 2015. *Transforming Our World: The 2030 Agenda for Sustainable Development*. A/RES/70/1. Resolution adopted by the General Assembly on 25 September 2015, Seventieth Session, Agenda items 15 and 116. https://www.un.org/ga/search/view_doc.asp?symbol=A/RES/70/1&Lang=E (Accessed 7 November 2018.)

United Nations Educational, Scientific and Cultural Organization (UNESCO). 2018. *Culture for the 2030 Agenda*. Paris, UNESCO.

United Nations World Tourism Organization (UNWTO). 2016. *World Tourism Organization Annual Report 2016*. Madrid, United Nations World Tourism Organization.

CULTURAL HERITAGE CONSERVATION AND PEOPLE

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INTRODUCTION

The Agenda for Sustainable Development – formally titled ‘Transforming Our World: The 2030 Agenda for Sustainable Development’ – lays out a plan of action for improving the well-being of the world’s people (United Nations, 2015a). It is structured around five interlinked priorities: people, planet, prosperity, peace and partnership. The seventeen Sustainable Development Goals (SDGs) announced in the 2030 Agenda include the elimination of poverty and hunger; the promotion of good health and well-being; support for quality education; and the creation of sustainable cities and communities.

In December 2015, in a follow up to the 2030 Agenda, the General Assembly adopted a resolution on ‘Culture and Sustainable Development’, reaffirming the central role of culture to the three dimensions of sustainable development: social, economic and environmental. The resolution emphasizes that ‘policies responsive to cultural contexts can yield better, sustainable, inclusive and equitable development outcomes’ (United Nations, 2015b) and that cultural heritage and creative industries can be drivers of sustainable development.

Those in the heritage field have long recognized the implicitly sustainable character of efforts to conserve cultural heritage, an idea that has been expressed as ‘sustainability begins with preservation’ (National Institute of Building Sciences, 2017). Heritage conservation contributes to the social dimension of sustainable development as it enhances community pride in heritage and reaffirms a sense of attachment to ‘place’. In terms of the economic dimension of sustainability, heritage conservation underwrites local economies, keeping investment close to the surrounding communities and hiring local workers in a labour-intensive process. Moreover, heritage conservation also contributes to the environmental dimension of sustainability because it maximizes the use of existing materials and infrastructure, reducing waste while retaining the ‘embedded energy’ of buildings already in place.

Heritage conservation has particular significance for achieving the SDGs. Six of the seventeen goals related to ‘people’ are considered here: No poverty (SDG 1); Zero hunger (SDG 2); Good health and well-being (SDG 3); Quality education (SDG 4); Clean water and sanitation (SDG 6) and Sustainable cities and communities (SDG 11).

SDG 1: NO POVERTY

Heritage conservation is never just about buildings and sites. People always figure in the equation, and improvements to individual and community well-being constitute the true aim of nearly all efforts to conserve cultural heritage. Furthermore, many heritage conservation efforts, as seen in the projects recognized by the UNESCO Asia-Pacific Awards for Cultural Heritage Conservation, also have specific economic aims. These include increasing employment for local residents, fostering local industries, perpetuating livelihoods through encouraging the

continuation of traditional skills and knowledge, and developing new industries, such as tourism.

The emphasis on people is seen in the fact that the primary expense of the 54 award-winning projects over the five years between 2010 and 2014 was labour. The 2010 Award of Excellence winner, the **Hong San See Temple** in Singapore, is a case in point. Most of the US\$2.5 million spent on the project went towards hiring engineers, architects, masons, electricians, carpenters and artisans with specialized skills such as painting, gilding, lacquer work, plastering and tiling. Likewise, the 2014 Award of Merit recipient, **Wak Hai Cheng Bio**, also in Singapore, enlisted technical specialists and artisans, spending most of the US\$5.95 million budget on labour.

A particular hallmark of the **Khaplu Palace** project (2013 Award of Distinction) in Baltistan, Pakistan, was crafts training, much of which was directed towards the area's young people. Similar training components were seen in the **Sumda Chun Gonpa** project (2011 Award of Excellence) in Ladakh, India; the **Baojiatun Watermill** project (2011 Award of Excellence) in Guizhou, China; the **Altit Fort** project (2011 Award of Distinction) in Hunza, Pakistan; the **Gulabpur Khanqah** project (2010 Award of Distinction) in Skardu, Pakistan; the **Chowmahalla Palace** project (2010 Award of Merit) in Hyderabad, India; and the **Chhatrapati Shivaji Maharaj Vastu Sangrahalaya** project (2010 Honourable Mention) in Mumbai, India.

In keeping with the targets for SDG 1, which focus on helping the most vulnerable, a number of the award-winning heritage conservation projects put an emphasis on increasing economic opportunities and reducing poverty among vulnerable groups, including women, youth and older people. The **Sumda Chun Gonpa** project (2011 Award of Excellence) in Ladakh, India, for example, focused on crafts training for young people. The 2011 Award of Distinction winner, **Altit Fort**, in Hunza, Pakistan, has created a women's enterprise of a women's enterprise organization. The 2013 Award of Distinction winner, **Khaplu Palace**, in Gilgit-Baltistan, Pakistan, along with the **Chandramauleshwar Temple** project (2012 Award of Merit) in Karnataka, India, and the **Chowmahalla Palace** project (2010 Award of Merit) in Hyderabad, India, made a point of employing women. Similarly, the rehabilitation of **North Xinjiao Street** (2010 Honourable Mention) in Zhejiang, China, made a particular effort to employ women.

Efforts to improve economic conditions were not limited to hiring local labour and providing training. Many of the award-winning projects had clear aims for economic revitalization of the areas surrounding the heritage buildings they conserved. The **Red Brick Warehouses** (2010 Award of Distinction) project in Yokohama, Japan, which rehabilitated a late Meiji-period structure for new use as a retail centre, was a catalyst for reviving the local economy. Similarly, the renovation of a row of 29 shophouse units in Bangkok, Thailand, the **Na Phra Lan Historic Shophouses** (2011 Honourable Mention), infused new life into the surrounding district, as did the **North Xinjiao Street** project (2010 Honourable Mention) in China. Likewise, the **Frankton Boatshed** project (2014 Award of Merit)

in New Zealand, through conserving a boatshed and shipping office and adapting them for reuse, served as a stimulus for the local economy, providing employment in the new restaurant on site and supporting secondary businesses in the area.

The award-winning projects also demonstrate the benefits of creative investment in places with low economic expectations. The **Tai O Heritage Hotel** (2013 Award of Merit) and the **Chandramauleshwar Temple** project (2012 Award of Merit), for example, contributed to improving socio-economic conditions in the nearby villages of Tai O and Hampi. Likewise, the Aga Khan Cultural Service - Pakistan (AKCS-P) project at **Khilingrong Mosque** (2012 Award of Merit) in Skardu, Pakistan, through supporting the revival of local construction crafts, injected new vitality into the local community.

Many of the projects aimed to stimulate tourism, so as to create new jobs and support livelihoods in the region. UNESCO considers that when tourism is 'sustainable' (in that it does not deplete or damage local social, cultural, economic and environmental resources in the long term), it can bring benefits to communities, including employment, income, foreign exchange, government revenue, economic linkages, infrastructural development and environmental enhancement. Good examples of tourism-based conservation projects include the **Altit Fort** (2011 Award of Distinction) and **Khaplu Palace** (2013 Award of Distinction) projects in Pakistan and the **Saryazd Citadel** project (2014 Award of Distinction) in Iran, all of which emphasize cultural tourism.



LOCAL RESIDENTS EMPLOYED AS CRAFTS WORKERS AT CHOWMAHALLA PALACE

Reflecting Target 1A of SDG 1: 'Mobilization of resources to end poverty', many award-winning projects involved significant marshalling of resources, necessitating sophisticated levels of organizational acumen. Furthermore, many included partnerships that brought together private funding, foundation support and governmental assistance. The **Na Phra Lan Historic Shophouses** project (2011 Honourable Mention), for example, featured private consultants, university expertise, support from the property owner (the Crown Property Bureau) and guidance from the Fine Arts Department. It also necessitated the cooperation of many sitting tenants who had to vacate their properties for the year-long construction project.

SDG 2: ZERO HUNGER

Heritage conservation in rural areas has the potential to contribute to achieving SDG 2, the goal of ending hunger. Efforts towards this goal are aimed at the world's most vulnerable people, often those in the poorest regions with the fewest opportunities. Targets under this goal include investing in rural infrastructure (Target 2A) and fostering sustainable food production (Target 2.4).

A number of award-winning projects have contributed towards these targets. The **Baojiatun Watermill** project (2011 Award of Excellence) in Guizhou, China, is a good example. By restoring the mill, the project revived the area's ancient water management system, an important infrastructural element in sustaining local agriculture, the livelihood of many of the local villagers. Another project with a positive impact on rural infrastructure was the project to reinstate the **Historic Water System of Hampi** (2012 Award of Distinction) in India. Similarly, the conservation of **Altit Fort** (2011 Award of Distinction) and **Khaplu Palace** (2013 Award of Distinction) in Pakistan, brought back key components of the local agriculture-based economies. In particular, the restoration of the palaces revived markets for local food producers, who now supply the new café and hotel.

Another project that supported the continuation of agriculture-based livelihoods, and therefore sustained local food production, was the seismic retrofitting of houses in **Ma'anqiao Village** (2011 Jury Commendation for Innovation) in Sichuan, China. By enabling the community members to continue to live in their village, the project has helped ensure the continuance of the millennia-long history of farming in the community. Similarly, the conservation of traditional rural dwellings in **Duong Lam Village** (2013 Award of Merit) in Son Tay, Viet Nam, has helped to sustain traditional agriculture-based livelihoods and local food production.

SDG 3: GOOD HEALTH AND WELL-BEING SDG 6: CLEAN WATER AND SANITATION

The conservation of built heritage often contributes to improving the health and well-being of the people in the area. This occurs through improving infrastructure, and providing clean water and sanitation facilities, as access to potable water and

sewage lines is fundamental to public health. This is particularly vital in ending epidemics of waterborne diseases, leading to reductions in child mortality and also improving maternal health and prolonging the lives of seniors. The **North Xinjiao Street** rehabilitation programme (2010 Honourable Mention), for example, was in large part a project to renew urban infrastructure, providing water lines, new sewage pipes and electrical services to residents of a commercial street in Taizhou, Zhejiang, China. Likewise, providing residents of the inner-city with upgraded water, sewage and electrical services was a principal feature of the **Gali Surjan Singh** project (2014 Honourable Mention) in Lahore, Pakistan, and was also part of the broader **Great Serai** project (2013 Award of Distinction) in Kabul, Afghanistan.

Other projects with far-reaching consequences in terms of the health and well-being of local communities include the **Altit Fort** project (2011 Award of Distinction) in Hunza, Pakistan; the **Serkhang Monastery** project (2011 Award of Merit) in Qinghai, China; the **Ma'anqiao Village** project (2011 Jury Commendation for Innovation) in Sichuan, China; the **Khaplu Palace** project (2013 Award of Distinction) in Baltistan, Pakistan; and the **Lal Chimney Compound** (2013 Award of Distinction) and **Esplanade House** (2014 Honourable Mention) projects in Mumbai, India, which all had provisions for clean water supply and upgraded sewage and waste removal systems. The Ma'anqiao Village project also provided a clinic for the village's residents.



MA'ANQIAO VILLAGERS PLANTING RICE

SDG 4: QUALITY EDUCATION

In addition to aiding in reducing poverty and hunger and improving sanitation, health and well-being, the conservation of older buildings can contribute to improving access to education and to raising the quality of education (SDG 4). Three of the award-winning projects involved upgrading educational institutions, leading to improvements in access to education and learning. These were the **Reading Room for the Portuguese School of Macau** (2012 Jury Commendation) in Macao SAR, China; the project by the Savannah College of Art and Design (SCAD) to conserve a former magistracy building in Hong Kong SAR, China, known as **SCAD Hong Kong** (2011 Honourable Mention); and the **Phraya Si Thammarath Residence** project (2014 Award of Merit) in Bangkok, Thailand. The Macao SAR project demonstrated that sensitively extending an older building to make space for a modern reading room can not only conserve heritage but also improve learning; the Hong Kong project showed how older buildings can be repurposed and retrofitted to make them accessible and dynamic spaces for learning; and the Bangkok project illustrated how the conservation of older buildings can serve as a collaborative learning experience.

Other award-winning projects were oriented towards creating museums as vehicles for lifelong learning and for promoting greater appreciation of cultural diversity, in line with Target 4.7 of SDG 4. The conservation of the **Chhatrapati Shivaji Maharaj Vastu Sangrahalaya** (2010 Honourable Mention) in Mumbai, India, for example, breathed new life into the museum, making it more accessible and attractive, ensuring that more people, particularly youth, are able to learn about India's rich cultural heritage. Likewise, the **Chowmahalla Palace** project (2010 Award of Merit) in Hyderabad, India, rescued a historic site that today serves to teach visitors about the fascinating history of the region. Another initiative that has contributed to educating the public about local history and culture is the **Har Raj Ji Mahal** project (2012 Honourable Mention) in Jaisalmer, India. A project that has enabled visitors to learn about the history of calligraphy is the **Enjoying Snow Yard** project (2013 Award of Merit) in Beijing, China.

The **Sydney Harbour YHA and the Big Dig Archaeology Education Centre** (2011 Jury Commendation) in Australia was an ambitious project that succeeded in not only creating an educational space but also, through its water-saving and solar-power technology and environmentally-sound materials, serves as a lesson in how buildings can foster sustainable lifestyles (in line with Target 4.7 of SDG 4). Similarly, the **Ma'anqiao Village** project (2011 Jury Commendation) in Sichuan, China, which involved rebuilding a traditional mud brick village complex and retrofitting buildings to strengthen them against future earthquakes, not only considered the education needs of the village by constructing a kindergarten as part of the project, but also provided a model for learning about eco-architecture and sustainable lifestyles in China. Another project that offers lessons in sustainable lifestyles is the **Lucky Shophouse** project (2014 Jury Commendation) in Singapore, which used passive design respectful of the past to create an energy-efficient new building.



SYDNEY HARBOUR YHA AND THE BIG DIG ARCHAEOLOGY EDUCATION CENTRE
DIRT DETECTIVES EDUCATION PROGRAMME

SDG 11: SUSTAINABLE CITIES AND COMMUNITIES

The award-winning projects, simply by preserving old buildings, have all contributed to achieving SDG 11: Make cities and human settlements inclusive, safe, resilient and sustainable. In particular, the award-winning projects have supported key targets under SDG 11, including the provision of safe and affordable housing (Target 11.1), the protection of cultural and natural heritage (Target 11.4), the reduction of adverse effects of natural disasters (Target 11.5) and the provision of access to green and public spaces (Target 11.7).

Numerous projects focused on the provision of safe and affordable housing, including the **Ma'anqiao Village** project (2011 Jury Commendation) in Sichuan, China; the **Mbaru Niang** project (2012 Award of Excellence) in west Flores, Indonesia; the **Sethna Buildings** (2012 Award of Distinction) and **Lal Chimney Compound** (2013 Award of Distinction) projects in Mumbai, India; the **Duong Lam Village** project (2013 Award of Merit) in Son Tay, Viet Nam; and the **Gali Surjan Singh** project (2014 Honourable Mention) in Lahore, Pakistan.

The protection of cultural heritage was at the core of all of the award-winning projects, including **Gulabpur Khanqah** (2010 Award of Distinction) in Pakistan; **Old Houses in the World Heritage Fort of Galle** (2010 Award of Merit) in Sri Lanka; **Scriptures Hall of Wat Thepthidaram Worawihan** (2011 Award of Merit) in Thailand; **Serkhang Monastery** (2011 Award of Merit) in China; **Khilingrong Mosque** (2012 Award of Merit) in Pakistan; **Zhizhusi Complex** (2012 Award of Merit) in China; **Chandramauleshwar Temple** (2012 Award of Merit) in India; **Har Raj Ji Mahal** (2012 Honourable Mention) in India; **William Street Precinct** (2012 Honourable Mention) in Australia; **Phra Borommathat Maha Chedi and Pharin Pariyattithammasala of Wat Prayurawongsawas** (2013 Award of Excellence) in Thailand; **Royal Bombay Yacht Club Residential Chambers** (2013 Award of Merit) in India; **Maryborough Railway Station** (2013 Award of Merit) in Australia; **Sail Maker's Shed** (2013 Honourable Mention) in Australia; **The Lost Bomb Shelter of the Sofitel Legend Metropole Hanoi** (2013 Honourable Mention) in Viet Nam; **Saryazd Citadel** (2014 Award of Distinction) in Iran; **Shri Sakhargad Niwasini Devi Temple Complex** (2014 Award of Merit) in India; **Exeter Farm** (2014 Award of Merit) in Australia; **Shahzada Hussain Mausoleum** (2014 Honourable Mention) in Afghanistan; **Nanjing Yihe Mansions** (2014 Honourable Mention) in China; **De Driekleur** (2014 Honourable Mention) in Indonesia; **Esplanade House** (2014 Honourable Mention) in Mumbai, India; **Cape Inscription Lighthouse Keepers' Quarters** (2014 Honourable Mention) in Australia; and **Rottnest Island World War II Coastal Defences** (2014 Honourable Mention) in Australia.

Reflecting Target 11.5 of SDG 11 'Reduce the adverse effects of natural disasters', many award-winning projects sought to improve resiliency against natural disasters, particularly earthquakes. These projects included the **Fulong Taoist Temple** project (2010 Award of Merit) in China; the **Har Raj Ji Mahal** project (2012 Honourable Mention) in India; and the **Otaki Town Hall** project (2013 Award of Merit) in Japan.

Another target under SDG 11 that was reflected in many of the award-winning projects was 'improved access to green and public spaces' (Target 11.7). This was seen in the **Hong San See Temple Conservation** project (2010 Award of Excellence) in Singapore, the **SCAD Hong Kong** project (2011 Honourable Mention) and the **Ballaarat Mechanics' Institute** project (2010 Honourable Mention) in Australia.

CONCLUSIONS

Initiatives to conserve heritage, as we have seen, can often have repercussions well beyond the mere protection or restoration of buildings. This is because heritage is always bound up with the aspirations of the people living in and around such sites. The UNESCO Asia-Pacific Awards for Cultural Heritage Conservation programme highlights the efforts of these communities, who work with non-governmental organizations, governments and investors to apply people-centred solutions to conservation and development issues.

Sustainability is certainly a central feature of all of the award-winning projects, which address human needs for shelter, food, employment and safety. Furthermore, the award-winning projects underscore the central role of culture in sustainability. The projects selected as exemplars of conservation practice are deeply rooted in the cultures of the communities of which they are a part. These projects place an emphasis on conserving social cohesiveness and local shared values, and they demonstrate a dedication to understanding and preserving inestimable lessons from the past while at the same time appreciating the needs of future generations.

The heritage conservation efforts described here clearly advance the 2030 Agenda, weaving the needs of individuals and communities with the broader priorities for humanity's long-term survival. Thus, the award-winning projects serve as models for other communities and individuals wishing to spearhead heritage efforts and contribute to achieving the SDGs.

REFERENCES

Siravo, F. 2011. Conservation planning: The road less traveled. *Conservation Perspectives*, Fall 2011, The Getty Conservation Institute. http://www.getty.edu/conservation/publications_resources/newsletters/26_2/feature.html (Accessed 7 November 2018.)

United Nations. 2015a. *Transforming Our World: The 2030 Agenda for Sustainable Development*. A/RES/70/1. Resolution adopted by the General Assembly on 25 September 2015, Seventieth Session, Agenda items 15 and 116. https://www.un.org/ga/search/view_doc.asp?symbol=A/RES/70/1&Lang=E (Accessed 7 November 2018.)

United Nations. 2015b. *Culture and Sustainable Development*, A/C.2/70/L.59. 8 December 2015. Seventieth Session, Second Committee, Agenda Item 22(c). https://www.un.org/ga/search/view_doc.asp?symbol=A/C.2/70/L.59&Lang=E (Accessed 7 November 2018.)

United Nations Development Programme (UNDP). 2014. *Guidance Note: UNDP Social and Environmental Standards*. New York, UNDP.

UNESCO. 2015. UN General Assembly adopts by consensus a new resolution on culture and development. <https://en.unesco.org/news/general-assembly-adopts-consensus-new-resolution-culture-and-development> (Accessed 10 November 2018.)

UNESCO. 2016. *Culture Urban Future: Global report on culture for sustainable urban development*. Paris, UNESCO.

UNESCO. 2017. *UNESCO moving forward the 2030 Agenda for Sustainable Development*. Paris, UNESCO.

National Institute of Building Sciences. 2017. Sustainable Historic Preservation. Whole Building Design Guide (WBDG) Historic Preservation Subcommittee. Washington DC, National Institute of Building Sciences. <https://www.wbdg.org/design-objectives/historic-preservation/sustainable-historic-preservation> (Accessed 2 October 2018.)

World Bank. 2017. *The World Bank Environmental and Social Framework*. Washington DC, World Bank.



URBAN SERVICES WERE UPGRADED AROUND THE GREAT SERAI

CULTURAL HERITAGE CONSERVATION AND THE PLANET

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INTRODUCTION

In 2009, the world's urban population surpassed the rural population for the first time in history (United Nations, 2009). As worldwide urbanization continues to intensify, it is crucial to explore how growing needs for urban housing can be met in a sustainable manner. In response to this and other challenges, the '2030 Agenda for Sustainable Development' is centred on 'protect [ing] the planet from degradation, through sustainable consumption and production, sustainably managing its natural resources and taking urgent action on climate change, so that it can support the needs of the present and future generations' (United Nations, 2015).

It is widely recognized that heritage values and culture can contribute to achieving many of the Sustainable Development Goals (SDGs) of the 2030 Agenda. Focusing on the issues related to 'planet', this essay explores the contribution made by award-winners of the UNESCO Asia-Pacific Awards for Cultural Heritage Conservation towards three of the SDGs: Affordable and Clean Energy (SDG 7); Responsible Consumption and Production (SDG 12); and Life on Land (SDG 15).

SUSTAINABLE DEVELOPMENT: AN OPPORTUNITY FOR HERITAGE CONSERVATION

The 2030 Agenda builds on the Brundtland Commission's report, *Our Common Future* (WCED, 1987), which launched the idea of 'sustainable development' on the world stage. The Brundtland Commission defined 'sustainable development' as:

Development that meets the needs of the present without compromising the ability of future generations to meet their own needs (WCED, 1987).

The report also describes 'sustainable development' as:

A process of change in which the exploitation of resources, the direction of investments, the orientation of technological development, and institutional change are all in harmony and enhance both current and future potential to meet human needs and aspirations (WCED, 1987).

Opoku and Ahmed (2013) give a slightly different definition of sustainable development, incorporating the idea that changes in human behaviour are essential:

The adjustment of human behavior to address the needs of the present without compromising the ability of future generations to meet their own needs.

The Brundtland report emphasized the relationship between development (socio-economic progress and improvements in the quality of life) and the environment. The report argued that socio-economic progress for both present and future generations can only be achieved in the long-term if the environmental resources

on which such progress depends are protected and well-managed. In other words, sustainable development can only be achieved when environmental factors are given equal consideration to social and economic goals (Uchiyama, 2012). According to the report, this requires changing our practices, especially with regard to resource use and energy consumption.

For most of known history, humans have been constructing buildings, from the mundane and functional to the spectacular. While building contributes significantly to material advancement, and the social impacts of buildings cannot be underestimated, the construction industry has had a tremendous negative impact on the environment. A key area of impact is in the production of construction materials (wood, bricks, tiles, etc). Resource extraction (timber harvesting, stone and sand mining, etc.) has resulted in widespread damage to the environment. In addition, the processing and manufacture of construction materials consumes energy, resulting in significant greenhouse gas emissions, impacting the climate. With rapid urbanization these emissions are growing at an ever-increasing rate. Until recently, however, not much thought had been given to the environmental impact of buildings. It has only become clear in recent decades that our exploitation of the planet's resources for construction is not sustainable and that there is an urgent need for major changes in our attitudes and practices in the construction and use of buildings.

One area in which attitudes need to be changed is in regard to built heritage. While the preservation of cultural heritage has long been recognized as being essential for achieving sustainable development, the conservation of built heritage, a component of cultural heritage, has historically not been factored into policies, resulting in the loss of irreplaceable cultural heritage as well as environmental degradation and waste of materials, time and energy.

Another area in which attitudes need to be changed is with regard to inter-generational equity. There needs to be greater awareness that both the built and natural environments are heritage to be imparted to future generations, and that there is therefore a social responsibility to protect this heritage. As John Ruskin aptly expressed:

The idea of self-denial for the sake of posterity, of practicing present economy for the sake of debtors yet unborn, of planting forests that our descendants may live under their shade or of raising cities for future nations to inhabit, never, I suppose, efficiently takes place among the publicly recognised motives of exertion. Yet these are not the less our duties; nor is our part fitly sustained upon the earth, unless the range of our intended and deliberate usefulness include, not only the companions but the successors of our pilgrimage ... we have no right, by anything that we do or neglect, to involve [those who come after us] in unnecessary penalties, or deprive them of the benefits which it was in our power to bequeath (Ruskin, 1889).

ARCHITECTURAL CONSERVATION IS SUSTAINABLE

Architecture can play an important role in helping to achieve some of the SDGs set by the United Nations, particularly through the conservation of built heritage. The conservation of built heritage aims to integrate the past into the future while maintaining social and cultural value and still meeting contemporary needs (Stubbs, 2009). There is currently no system that is able to precisely quantify the benefits of conserving built heritage in terms of achieving the SDGs, but it is possible to estimate the environmental impacts of individual buildings and compare them.

One method of assessing the environmental impact of a building is to calculate its embodied energy, defined as the energy consumed directly or indirectly in the acquisition, production and transportation of materials and in the assembly of a building (EHA, 2008). Lower embodied energy means lower environmental impact in terms of greenhouse gas emissions. A building's embodied energy is largely retained when it is conserved, and the built environment therefore holds a substantial amount of embodied energy.

Life cycle comparisons of old and new buildings have shown that the carbon footprints of older, upgraded buildings tend to be much lower than those of new buildings, even after factoring in the conservation process (Reinar and Miller, 2013). Thus, the act of retaining (and adaptively reusing) heritage buildings consumes substantially less energy and produces fewer carbon emissions than replacing the buildings with new ones. Adaptive reuse also results in less material waste and environmental pollution than constructing new buildings. Moreover, it preserves evidence of the human skills and creativity that went into creating the site (Cassar, 2009) and supports intangible social and cultural aspects tied to the site.



INDIGENOUS BUILDING PRACTICES OFTEN HAVE LOWER ENVIRONMENTAL IMPACT

Another case for extending the productive life of old buildings is that it reduces the need to build, thereby saving resources. As Carl Elefante (2007) argues, 'the greenest building is ... one that is already built'. Indeed, 'we cannot *build* our way to sustainability; we must conserve our way to it' (Elefante, 2007).

If sustainable development is the goal, it is therefore crucial to find as many potential new uses for existing building stock as possible, instead of proposing new buildings at every instance, and it is also necessary to review and improve the environmental performance of existing building stock.

SUSTAINABLE BUILDING MATERIALS

Some materials and designs are considered to be more 'sustainable' than others. Here, we look briefly at 'renewable' vs 'non-renewable' materials, 'traditional' vs 'modern' materials, and 'vernacular' vs 'modern' design.

While some building materials (e.g. timber) are renewable, and the use of such resources therefore does not prevent future generations from using them, other materials are non-renewable (e.g. stone, minerals and their derivatives). Non-renewable resources, once exhausted, can never be replaced. While non-renewable materials can often be reused (e.g. using old stone blocks to restore a building) and some can also be recycled (e.g. stone chips can be recycled to become composite slabs), they are finite, so it is important to carefully manage them so as not to disadvantage future generations (Gelder, 2013).

Some 'renewable' resources are actually non-renewable for practical purposes because they take excessive time and space to renew (e.g. large trees can take centuries to regenerate and also require that adequate space is set aside for this length of time) or because the 'renewable' materials have been over-exploited in the past and are now either extinct or are no longer economically viable as a building material (e.g. some types of hardwood). Builders therefore cannot easily obtain new material of this kind. An example of this was seen in the **Enjoying Snow Yard** project (2013 Award of Merit) in Beijing, China. In this project, the only way the team was able to obtain the *nanmu* wood required to make authentic replica doors and windows for the buildings was to take apart ancient *nanmu* furniture and reuse that wood.

Renewable resources are considered to have a lower environmental impact than non-renewable resources, because the former are not finite and can be regenerated, but renewable materials can be just as environmentally-damaging as non-renewable resources. The timber industry, for example, through practices such as logging of native forests and planting monocultures of trees, destroys forest ecosystems, leading to loss of biodiversity (Gelder, 2013). Thus, renewable materials are only more sustainable than non-renewable materials when they have been harvested in a sustainable manner. In almost all cases, however, the reuse of materials is more sustainable than obtaining new materials.

In *Lose or Reuse*, Lydia Wilson (2007) compared the environmental impact of modern building materials to that of traditional ones. She found that traditional resources have a significantly lower impact on the environment because they tend to be sourced locally and their production requires less energy. The use of local traditional materials means the materials are not transported very far. In contrast, modern materials tend to be transported large distances (often from overseas). Moreover, most modern building materials require a great amount of processing, using machines (requiring fuel and therefore producing greenhouse gas emissions), thus creating a significant carbon footprint even before construction commences.

In terms of design, traditional vernacular architecture, which has evolved to suit the needs of a specific context and climate (e.g. in the tropics), tends to perform more efficiently (in terms of energy use) than modern architecture (Dasym, 2019). While vernacular architecture relies on natural systems of ventilation for cooling, for example, modern architecture tends to rely on energy-dependent air-conditioning systems.

TRADITIONAL AND LOCAL MATERIALS

A review of the winners of the UNESCO Asia-Pacific Awards for Cultural Heritage Conservation between 2010 and 2014 reveals that most of these projects intentionally retained and reused existing materials. And if it was necessary to replace elements, most used traditional materials, locally-sourced where possible, with minimal processing. Reusing materials and choosing renewable local materials is in line with **SDG 12: Responsible Consumption and Production** and **SDG 15: Life on Land**.

Examples of award-winning projects that maximized the reuse of materials and also used local and traditional materials include:

- **Gulabpur Khanqah** (2010 Award of Distinction): Materials included mud, stone and local timber.
- **Sumda Chun Gonpa** (2011 Award of Excellence): Materials included mud, rubble and local timber.
- **Mbaru Niang** (2012 Award of Excellence): Materials included timber, bamboo and ropes made of organic material.
- **Khaplu Palace** (2013 Award of Distinction): Materials included stone, clay and native poplar wood.
- **Enjoying Snow Yard** (2013 Award of Merit): Materials included *tung* oil, clay bricks and repurposed *nanmu* wood.
- **Saryazd Citadel** (2014 Award of Distinction): Materials included mud, straw and clay bricks.
- **Ma'anqiao Village** (2011 Jury Commendation for Innovation): Materials included mud, rubble, straw and bamboo.

RESOURCE MANAGEMENT

Sustainability should be present in the entire life cycle of a building, encompassing its construction, operation and, ideally, its renovation. In most cases, however, modern construction and the exploitation of natural resources for new construction are at odds with responsible consumption and production (SDG 12) and are extremely wasteful, as is the way we demolish buildings.

In 2016, a book titled *Building a circular future* (Jensen and Sommer, 2016) examined how resources can be reused in the building industry and the measures necessary to shift industry away from the current 'throw-away' model towards circular 'upcycling'. Jensen and Sommer found that while some building waste is recycled, much energy is required to create something out of the waste, resulting in substantial pollution and greenhouse gas emissions.

Furthermore, recycling is not always 'upcycling', instead it is often 'downcycling'. In Denmark, for example, although over 87 per cent of building waste by weight is recycled, most of the demolished concrete is crushed to make road fill, representing 'downcycl[ing] into the lowest value possible' (Jensen and Sommer, 2016). Radical changes are needed in the construction industry to encourage upcycling and, therefore, sustainability (Braungart and McDonough, 2002).

EXTENDING THE LIFE OF BUILDINGS

All of the award-winning projects sought to extend the lives of buildings and enable them to be used either for their original purposes or for appropriate reuse. This approach is in line with **SDG 12: Responsible Consumption and Production**.

Examples of award-winning projects that extended the lives of buildings include:

- **Historic Buildings in Duong Lam Village**, Son Tay, Viet Nam (2013 Award of Merit): The project sought to retain and use buildings for their original purpose, retaining their socio-cultural value, rather than replacing them with new builds.
- **Gali Surjan Singh**, Lahore, Pakistan (2014 Honourable Mention): The project retained and upgraded existing buildings and the associated cultural life and practices of the area.

HISTORIC LANDSCAPES

Built heritage extends beyond individual buildings to encompass the urban and rural landscapes around them. Large heritage sites like historic towns and cities allow us to view sustainability as an urban goal, and these heritage sites often contain sustainable infrastructure and valuable natural resources.

Historic urban landscapes are often models of sustainable living and urban planning. They generally work in harmony with their geographical context and can be an entire functioning system, well-integrated into the surrounding environment. For example, traditional settlements typically make use of natural hydrological systems and have developed infrastructure that allows water to be sustainably harvested, without depleting the resource, thereby making it available to future generations.

Ancient infrastructure can inform modern urban planning in terms of water management and transportation. Canals and other artificial water bodies, for example, have long been used to facilitate access to drinking water and as means of transportation and flood management, and for incorporating nature into our built environment. Water infrastructure such as this offers lessons in how to manage and use water sustainably in an urban context.

Similar lessons can be learned in the area of transportation. Many historic cities were designed around pedestrians, as they were built prior to the advent of the automobile, and such cities are often more compact, more people-friendly and liveable than modern cities, which are designed around cars. Moreover, historic urban landscapes can provide us with answers on how to incorporate principles of sustainability into our existing urban fabric. If we can retrofit our existing buildings and cities to perform better, we can make urban heritage even more sustainable.

HISTORIC LANDSCAPES

Several of the award-winning projects encompassed preserving the natural context as well as the architectural context, which is in line with **SDG 15: Life on Land**.

Examples of projects that aligned with SDG 15 include:

- **Cape Inscription Lighthouse Keepers' Quarters** (2014 Honourable Mention): Respected the constraints and fragile ecology of the protected area surrounding the site.
- **Historic Water System of Hampi** (2012 Award of Distinction): Restored natural water points in the landscape surrounding Hampi in order to revive the settlement's water management systems.



REVIVING THE HAMPI WATER SYSTEMS

In most cases, the conservation of historic buildings offers an excellent opportunity to retrofit these buildings with energy-saving and eco-friendly systems and elements. For example, the energy use of buildings can be minimized by restoring historic energy-saving design and tapping into newer technologies, including insulated glazing, energy-efficient ventilation systems, photovoltaics, energy-saving lighting, and thermal and water management systems. In doing so, the carbon footprints of extant buildings can be reduced.

ENSURING SUSTAINABILITY MEASURES ARE COMPATIBLE WITH HERITAGE CONSERVATION GOALS

Although using energy-saving technologies and environmentally-friendly elements (such as locally-sourced, sustainably-harvested materials) in existing buildings presents opportunities for assisting in achieving the SDGs, it is important to ensure the cultural significance of the heritage buildings is retained. The introduction of new technology and other modern elements should not disturb the existing fabric and appearance of the building, or the building's character and identity. The various factors relating to conservation and sustainability must therefore be considered holistically.

In an example cited by Walter Sedovic, although conventional incandescent light bulbs consume much higher amounts of energy than modern light emitting diodes (LEDs) and compact fluorescent lamps (CFLs) and should therefore be replaced to save energy, modern light bulbs may not be appropriate when the existing lighting fittings are a unique historical or cultural component of the buildings and cannot be altered (Roberts, 2007). When such fabric must be retained, architects and builders must find innovative ways to preserve the fabric while also ensuring energy use is low. In the example described by Sedovic, the architects incorporated a dimmer on the original light fixtures, so as to use less energy (Ibid). Such examples show that from individual buildings to entire cities, the need to give environmental factors equal consideration to social and economic factors presents both challenges and opportunities.

ENERGY EFFICIENCY

Many of the award-winning projects maximized natural passive cooling and heating, natural lighting and minimized the use of polluting energy, while promoting renewable energy, which is in accordance with **SDG 7: Affordable and Clean Energy**.

Examples of award-winning projects that are in line with SDG 7 include:

- **Baojiatun Watermill** (2011 Award of Excellence): Facilitated the natural flow of water to restore a non-polluting energy source (a hydro-powered mill).
- **Lucky Shophouse** (2014 Jury Commendation): Used passive cooling and natural lighting mechanisms.

CONCLUSIONS

Conservation of built heritage can make a positive contribution to achieving the SDGs through retaining the embodied energy of an existing building, minimizing resource use and using sustainable resources. The award-winning projects of the UNESCO Asia-Pacific Awards for Cultural Heritage Conservation are evidence of such contributions. Well-considered conservation efforts that promote sustainability will ensure that both built heritage and the natural environment are in good health for future generations to enjoy.

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REFERENCES

Braungart, M. and McDonough, W. 2002. *Cradle to cradle: Remaking the way we make things*. New York, North Point Press.

Cassar, M. 2009. Sustainable heritage: Challenges and strategies for the twenty-first century, *APT Bulletin: Journal of Preservation Technology*, Vol. 40, No. 1, pp. 3-11.

Dasym. 2019. Sustainable architecture needs technology and tradition. <https://www.dasym.com/sustainable-architecture-needs-technology-and-tradition/> (Accessed 17 June 2019.)

Elefante, C. 2007. The greenest building is ... one that is already built. *Forum Journal: The Journal of the National Trust for Historic Preservation*, Vol. 21, No. 4, pp. 26-38.

Empty Homes Agency (EHA). 2008. New tricks with old bricks: How reusing old buildings can cut carbon emissions. <https://www.actiononemptyhomes.org/publications-and-research> (Accessed 17 January 2018.)

Gelder, J. 2013. An introduction to renewable materials. <https://www.thenbs.com/knowledge/an-introduction-to-renewable-materials> (Accessed 17 January 2018.)

Hammond, G. P. and Jones, C. I. 2008. Embodied energy and carbon in construction materials, *Proceedings of the Institution of Civil Engineers - Energy*, Vol. 161, No. 2, pp. 87-98.

Jensen, K. G. and Sommer, J. (eds). 2016. *Building a circular future*, 2nd edn. Odense, Danish Environmental Protection Agency.

McDonough, W. 1992. *The Hannover principles: Design for sustainability*. Prepared for EXPO 2000, Hannover, Germany. <http://t/www.mcdonough.com/wp-content/uploads/2013/03/Hannover-Principles-1992.pdf> (Accessed 17 January 2018.)

Opoku, A. and Ahmed, V. 2013. Understanding sustainability: A view from intra-organizational leadership within UK construction organizations. *International Journal of Architecture, Engineering and Construction*, Vol. 2, No. 2, pp. 133-43.

Reinar, D. A. and Miller, F. (eds). 2013. *Sustainable historic towns: Urban heritage – Good for the climate! Project Report 2011-12*. <https://www.raa.se/app/uploads/2013/05/SuHiTo-Project-Report-Eng.pdf> (Accessed 17 January 2018.)

Roberts, T. 2007. *Historic preservation and green building: A lasting relationship*. *Building Green*. <https://www.buildinggreen.com/feature/historic-preservation-and-green-building-lasting-relationship> (Accessed 17 January 2018.)

Ruskin, J. 1889. *The seven lamps of architecture*, 6th edn. Sunnyside, England, George Allen.

Stubbs, J. 2009. *Time honored: A global view of architectural conservation*. Hoboken, NJ, Wiley.

Uchiyama, C. 2012. *Waste of place: Heritage conservation and environmental assessment*, The Many Voices of Heritage, Canadian Studies Heritage Conservation Programme Symposium, Carleton University, Ottawa, 24 March 2012. <https://carleton.ca/sics/wp-content/uploads/2012-Uchiyama-Waste-of-Place.pdf> (Accessed 17 January 2018.)

United Nations. 2009. *Urban and Rural Areas 2009*. Department of Economic and Social Affairs, Population Division. <https://www.un.org/en/development/desa/population/publications/pdf/urbanization/urbanization-wallchart2009.pdf> (Accessed 17 January 2018.)

United Nations. 2015. *Transforming our world: The 2030 agenda for sustainable development*. A/RES/70/1. Resolution adopted by the General Assembly on 25 September 2015, Seventieth Session, Agenda items 15 and 116. https://www.un.org/ga/search/view_doc.asp?symbol=A/RES/70/1&Lang=E (Accessed 17 January 2018.)

Wilson, L. 2007. *Lose or reuse: Managing heritage sustainably*. Belfast, Ulster Architectural Heritage Society. <https://www.ulsterarchitecturalheritage.org.uk/shop/lose-or-reuse-managing-heritage-sustainably/> (Accessed 17 January 2018.)

World Commission on Environment and Development (WCED). 1987. *Our common future*. Report of the World Commission on Environment and Development. G. H. Brundtland, (ed.). Oxford, Oxford University Press. <http://www.un-documents.net/our-common-future.pdf> (Accessed 17 January 2018.)

CULTURAL HERITAGE CONSERVATION AND PROSPERITY

SHERIDAN BURKE

UNESCO ASIA-PACIFIC HERITAGE AWARDS
JURY MEMBER

Cultural heritage conservation has an integral role to play in the transformative approaches and practical steps of Agenda 2030, which aims to 'ensure that all human beings can enjoy prosperous and fulfilling lives and that economic, social and technological progress occurs in harmony with nature' (United Nations, 2015). While 'prosperity' is a key objective, this does not refer only to economic growth per se. Although economic growth often serves as a measure of prosperity, the unremitting pursuit of economic growth has created many of the social and environmental problems that communities face today, so focusing solely on economic growth is now recognized as an unsustainable approach to increasing global prosperity. Various alternative ways of viewing 'prosperity' exist. One such approach is the Legatum Prosperity Index, which 'goes beyond GDP to measure countries' success against a broad set of metrics covering areas such as health, education, opportunity, social capital, personal freedom and more' (Legatum Institute, 2007).

The 2030 Agenda recognizes prosperity as having a broad and holistic definition and articulates that prosperity and any other development outcomes can only be sustainable when a balanced approach is taken; that is, one that considers the various impacts of any development effort in terms of all pillars of sustainability: social, economic, environmental and cultural.

Rapid urbanization and economic growth in cities, which characterized the late twentieth century in Asia, fundamentally altered traditional social and economic structures throughout the region, with the emerging power of the property



COMMUNITY WELL-BEING WAS IMPROVED AT ALTIT FORT

development sector frequently challenging the retention of heritage sites and intangible social practices. In the absence of an effective dialogue with planners and developers, who sought to facilitate a swift transition from rural to urban living, heritage practitioners looked at first to promote statutory protection similar to Western contexts, scheduling historic landmarks and developing regional conservation protocols and guidelines, including the China Principles and the Hoi An Protocols for Best Conservation Practice in Asia. These charters sought to curb the gradual erosion of the integrity and authenticity of heritage sites, which occurred through inappropriate repair and materials, and aimed to recognize and respect the cultural practices of communities living in and around such sites.

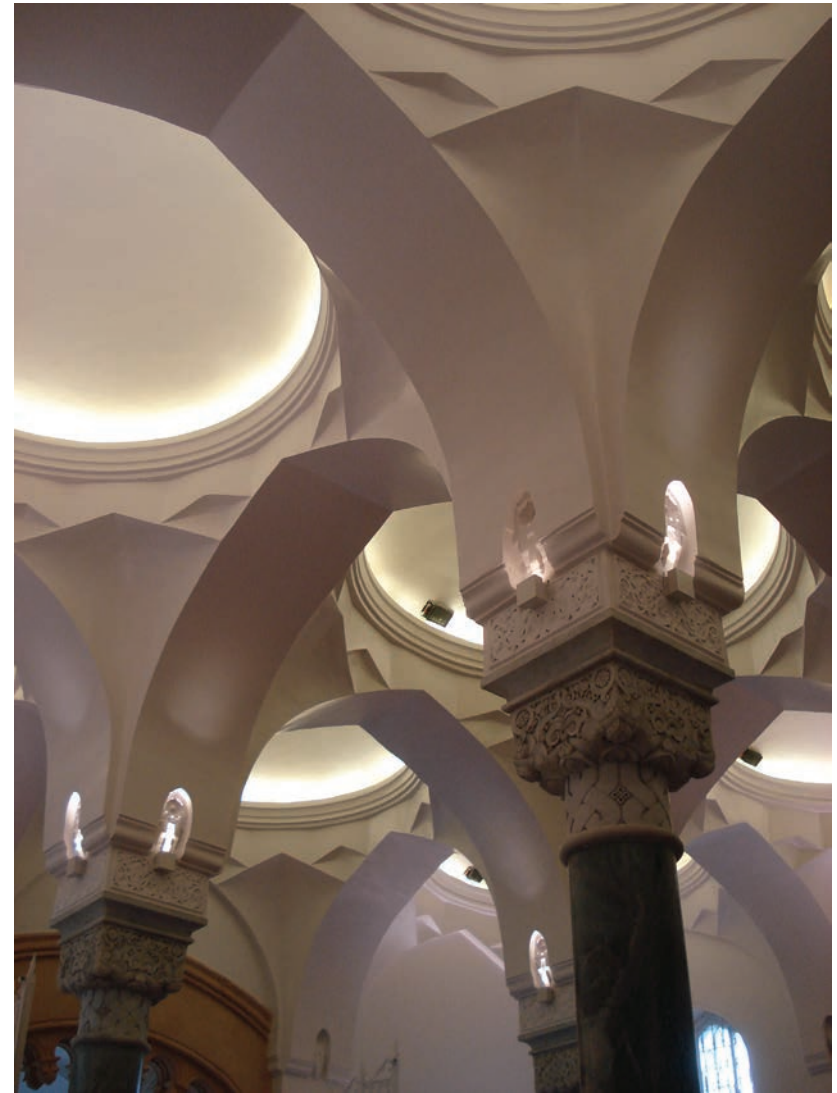
While guidance documents and statutory methods of protection for heritage sites gradually provided a common foundation, at the end of the twentieth century there were very few good examples of conservation practice to follow in the Asia-Pacific region and few direct incentives to conserve. The showcasing of excellence in heritage conservation practice was therefore recognized as being necessary, and this was embraced by UNESCO with great success through the UNESCO Asia-Pacific Heritage Awards programme, which was launched in 1999.

The UNESCO Asia-Pacific Heritage Awards showcase regional efforts to make cities and human settlements inclusive, safe, resilient and prosperous in the long term through promoting and strengthening initiatives to protect and safeguard cultural heritage. For 20 years the UNESCO Asia-Pacific Heritage Awards have promoted the highest standards of conserving heritage places in the region and have demonstrated best practice. These are standards and practices that communities and professionals working with heritage sites often look to and strive to achieve.

Over the past two decades, dialogue and partnerships have opened and conservation efforts have moved beyond conserving landmarks, towards projects that improve community infrastructure and public open spaces as well as towards projects to conserve houses and commercial buildings, thus enabling the renewal and continuation of the cultural practices of the communities living in and around those places.

The Awards have promoted and celebrated excellence in community-driven and private heritage conservation projects. These projects have provided capacity building, education, employment and training, as well as benefits in terms of community cohesion, sense of identity, well-being, health and happiness – essential elements for leading full and prosperous lives.

This volume of *Asia Conserved* (2010-2014) reflects specifically on how the award-winning projects contribute towards the SDGs, and this essay looks particularly at how the award-winning projects have contributed to the SDGs related to prosperity. While all 17 SDGs have some relevance to prosperity in the widest sense, the following SDGs are particularly relevant.



SPOTLIGHTING PAST ACHIEVEMENTS IS VITAL FOR PRESENT-DAY WELL BEING AT THE OLD PRINCE OF WALES MUSEUM

SDG 1: NO POVERTY

Projects that contribute towards prosperity under this SDG include those that create economic opportunities for those in extreme poverty (Targets 1.1. and 1.2), those that assist people to gain access to basic services and to appropriate new technology (Target 1.4) and those that build resilience to shocks and disasters of those in vulnerable situations (Target 1.5).

SDG 9: INDUSTRY, INNOVATION AND INFRASTRUCTURE

Projects that contribute towards prosperity under this SDG include those that develop community infrastructure (Target 9.1), those that promote inclusive and sustainable cultural industries (Target 9.2) and those that retrofit industries to make them sustainable (Target 9.4).

SDG 10: REDUCED INEQUALITIES

Projects that contribute towards prosperity under this SDG include those that increase the incomes of the lowest earners (Target 10.1) and those that empower people and promote inclusion (Target 10.2).

SDG 11: SUSTAINABLE CITIES AND COMMUNITIES

Projects that contribute towards prosperity under this SDG include those that increase access to adequate, safe and affordable housing (Target 11.1) and those that enhance inclusive and sustainable urbanization (Target 11.3).

SDG 12: RESPONSIBLE CONSUMPTION AND PRODUCTION

Projects that contribute towards prosperity under this SDG include those that substantially reduce waste (Target 12.5) through repairing existing structures while using as few new resources as possible and through using sustainable design principles in new buildings in historic areas.

SDG 16: PEACE, JUSTICE AND STRONG INSTITUTIONS

Projects that contribute towards prosperity under this SDG include those that reduce community conflict and violence (Target 16.1) and those that contribute to inclusive decision-making (Target 16.7).

SDG 17: PARTNERSHIPS FOR THE GOALS

Projects that contribute towards prosperity under this SDG include those that promote the development and transfer of environmentally-sound technologies (Target 17.7) and those that promote partnerships (Target 17.17) between civil society and the public sector, the private sector, heritage stewards, technical specialists, communities and traditional owners.

Many of the award-winning projects of the UNESCO Asia-Pacific Heritage Awards demonstrate the practical localization of these SDGs. The projects that received awards between 2010 and 2014 have contributed to greater prosperity for the local communities, as measured in a broad, holistic way, because the projects have led to improvements in well-being in various aspects of community life, including in terms of education, health, safety, security, personal freedom, governance and social capital as well as economic quality (Legatum Institute, 2007). Some of these projects are highlighted below.



LOCAL ARTISANS WERE TRAINED AS PART OF THE RESTORATION OF OLD HOUSES IN THE WORLD HERITAGE FORT OF GALLE, SRI LANKA

PROJECTS THAT INCREASED LOCAL PROSPERITY

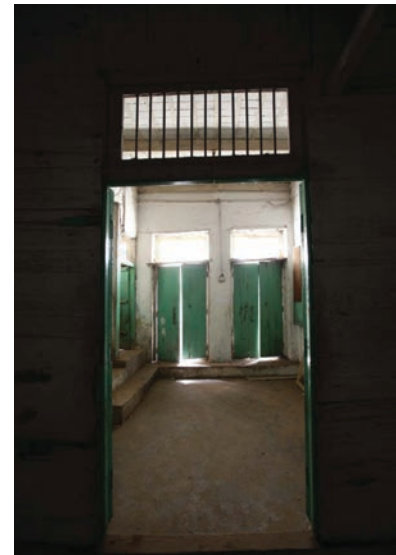
Many award-winning projects directly contribute to the targets under **SDG 1 (No poverty)**, **SDG 10 (Reduced inequalities)** and **SDG 16 (Peace, justice and strong institutions)**, through providing skills training and generating long-term employment.

The **Altit Fort** (2011 Award of Distinction) project in Pakistan represents a model of community-based conservation practice, one that has been evolving in the body of work of the Aga Khan Cultural Service – Pakistan (AKCS-P). This project not only rescued an abandoned ruin and transformed it into a vibrant community centrepiece, it also supported the revitalization of the local community, by providing local employment and training through the project, supporting the development of new businesses centred on the fort and creating a space for local cultural performances.

Another pioneering model is represented by the **Old Houses in the World Heritage Fort of Galle** (2010 Award of Merit) project in Sri Lanka. The approach successfully combined homeowner contributions and grant funding from a heritage foundation for the conservation of private houses, and encouraged other house owners in the fort area to follow their example, gradually restoring sections of the town's historic streetscapes, which had faced redevelopment pressures. The project not only successfully conserved 55 houses but also provided training to local artisans in new skills, such as in traditional ventilation and cooling systems. The project also benefited the community through reinstating semi-public spaces where community members can interact.

Larger projects that have supported the conservation of non-listed buildings include the **Sethna Buildings** (2012 Award of Distinction) project and the **Lal Chimney Compound** (2013 Award of Distinction) project, in Mumbai, India. Both projects extended the use and life of historically-significant social housing under threat of demolition from urban renewal and development, enabling the tenants to remain in their homes and neighbourhoods and thereby retain their social networks. The projects also trained local artisans in appropriate repair techniques for heritage buildings of this type, creating a pool of expertise and increasing employment prospects for artisans in the area.

The **Gali Surjan Singh** (2014 Honourable Mention) project represents a heroic effort to combine restoration with much-needed infrastructural upgrading for a group of houses in the historic urban centre of Lahore, Pakistan. Work not only included conserving and strengthening 13 residences, but also supplying water, sewage and power lines to the residences, thereby enabling the residents to remain living there, and thus supporting the continuation of local cultural practices, and also significantly increasing the quality of life of the residents.



UPGRADING QUALITY OF LIFE IN THE GALI SURJAN SINGH PROJECT

PROJECTS DEMONSTRATING LONG-TERM VIABILITY

The award-winners often contribute to the targets under **SDG 9 (Industry, innovation and infrastructure)**, to the targets under **SDG 11 (Sustainable cities and communities)** and to the targets under **SDG 12 (Responsible consumption and production)**. Many projects emphasize the importance of adaptive reuse, of stimulating local employment, of sustaining trades, of transferring skills and of renewing infrastructure. Such projects ensure the long-term maintenance and viability of heritage places.

At the close of the twentieth century, as shipping was restructured, and with changes in global trade, buildings in the port areas of many Asian cities became redundant and were seen as sites prime for redevelopment. One such site was the **Red Brick Warehouses** (2010 Award of Distinction) in Yokohama, Japan, which, after many years of vacancy and neglect, was revitalized as a vigorous civic space. The built fabric of the site was repurposed and it became an anchor and catalyst for urban regeneration in the historic Yokohama port area.

Political changes in the twentieth century also rendered many government and former colonial buildings redundant. The former **North Kowloon Magistracy** (2011 Honourable Mention), for example, was decommissioned in 2005 and lost its original purpose. The conservation project breathed new life into the building, using creative design to allow for contemporary insertions that provide educational facilities for the Savannah College of Art and Design (SCAD) while retaining the building's original fabric and character. The project demonstrated the possibilities of adaptive reuse for public buildings of this scale and became a model for successful public-private cooperation for heritage projects under the framework of Hong Kong SAR's policy, which continues today.

In Bangkok, the **Na Phra Lan Historic Shophouses** (2011 Honourable Mention) project revitalized a historically-significant urban complex, restoring not only this architectural landmark but also the surrounding historic streetscape. By upgrading services to meet modern building codes, the project has ensured the long-term viability of the building's use. The project established a commendable model for participation by the long-term tenants, who contributed to the project costs and committed to maintaining the buildings in the years to come.

Sometimes, extensive retrofitting is needed to ensure a building's long-term viability for future use. One such example is the **Otaki Town Hall** (2013 Award of Merit) project, in Chiba Prefecture, Japan. This project involved the sensitive restoration of a once-overlooked Modern-period heritage building at risk of demolition, reinvigorating a public space for continued local use. In addition to the conservation work on the 1959 building, which focused on the deteriorating concrete and steel structural elements, the project also retrofitted structural seismic reinforcement so that the building now meets the requirements of present-day building codes.



SUSTAINING OTAKI TOWN HALL FOR FUTURE USE



YOUNG USERS ENJOYING THE READING ROOM FOR THE PORTUGUESE SCHOOL OF MACAU

Retrofitting for increasing cyclone damage is exemplified in the **Sail Maker's Shed** (2013 Honourable Mention) project in Broome, Western Australia. The restoration of the late nineteenth-century shed saved a modest historic structure in Broome that was significant in terms of its heritage values. The project provides a model example of retrofitting a typical vernacular structure, structurally reinforcing it in compliance with modern building codes. It is now safe for public use and is likely to remain in use in the long term.

The **Reading Room for the Portuguese School of Macau** (2012 Jury Commendation for Innovation), in Macao SAR, China, provided an understated contemporary addition to this aesthetically noteworthy 1963 Modernist complex. By demonstrating an elegant approach to extending the school's usable space in a highly dense urban context that faced heavy redevelopment pressure, the new Reading Room ensured the ongoing viability of the school building.

In 2012 the Award of Excellence went to **Mbaru Niang** in Wae Rebo on Flores Island in Indonesia. This community-led rebuilding project, initiated by the voluntary effort of Indonesia's Rumah Asuh Foundation, successfully engaged students, architects and community members in a unique exercise to use traditional building knowledge and construction practices to reconstruct local houses, building the pride of the community. This project provided practical training for young craftspeople and valuable experience and knowledge for researchers – experiences that will equip them to be able to continue their traditional building practices in the long term.

PROJECTS SECURING COMMUNITY VITALITY, HEALTH, HAPPINESS AND SPIRITUAL WELL-BEING

Heritage significance is found not only in physical elements – buildings, structures and relics – but also in intangible expressions of cultural traditions. Often such expressions represent living cultural traditions. The UNESCO Asia-Pacific Heritage Awards have attracted numerous entries from places of religious observance, the intangible values of which are well-recognized. One such site was the **Hong San See Temple** (2010 Award of Excellence) in Singapore. The project to conserve this site not only increased the spiritual well-being of the temple's community, but also contributed to cultural sensitization in the wider Singapore community through engaging the public in fundraising and educational efforts that highlighted the relevance of the building to the public at large.

Many award-winning projects have demonstrated the extraordinary levels of commitment to which project teams will go to conserve built heritage and increase community well-being. For example, the **William Street Precinct** (2012 Honourable Mention) project in Perth, Western Australia, interpreted the area's heritage values and creatively balanced conservation and investment opportunities through effective partnerships between government authorities and other stakeholders, including property financiers, heritage experts, local architects and prospective tenants. The project encompassed precinct conservation, heritage values, a financial model, investment opportunities and meeting of tenant needs.

All of the winners of the UNESCO Asia-Pacific Heritage Awards demonstrate that highly-ambitious policies such as those related to the SDGs can be achieved project by project, and that integrating heritage conservation principles into development efforts can lead to prosperity for local communities. These awarded projects have each supported community vitality and well-being, often also inspiring subsequent projects to emulate their approaches.

REFERENCES

- Legatum Institute. 2007. Prosperity Index. <https://li.com/research/centre-for-metrics/prosperity-index/> (Accessed 26 August 2019.)
- United Nations. 2015. *Transforming Our World: The 2030 Agenda for Sustainable Development*. A/RES/70/1. Resolution adopted by the General Assembly on 25 September 2015, Seventieth Session, Agenda items 15 and 116. https://www.un.org/ga/search/view_doc.asp?symbol=A/RES/70/1&Lang=E (Accessed 7 November 2018.)
- United Nations. 2016. *New Urban Agenda: Quito Declaration on Sustainable Cities and Human Settlements for All*. Draft outcome document of the United Nations Conference on Housing and Sustainable Urban Development (Habitat III), Quito, 17–20 October 2016. http://nua.unhabitat.org/uploads/DraftOutcomeDocumentofHabitatIII_en.pdf (Accessed 26 August 2019.)

CULTURAL HERITAGE CONSERVATION AND PEACE

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INTRODUCTION

Peaceful societies are resilient societies. It has been witnessed time and again, across the globe, that the societies that better absorb the shocks of natural disasters and economic downturn tend to be those which have less conflict. Can cultural heritage play a role in creating peaceful societies and therefore in building resilient societies? While histories are layered and complex, it can be argued that the identification of cultural heritage (which in itself is an action of recognition), and its protection, conservation, interpretation and management contribute to creating opportunities for dialogue within and between communities and thereby to creating peaceful societies.

Given the contribution of cultural heritage towards facilitating peace and resilience, the need of the hour in today's rapidly changing world is to enhance the relationship between culture and sustainable development. This can be achieved through: the direct development of the cultural sector itself (i.e. heritage, creativity, cultural industries, crafts and cultural tourism) and through ensuring that culture is given its due place in all public policies, particularly those related to education, social cohesion, the environment, the economy, science, health, communication and international cooperation. Particular attention should be paid to cultural heritage, as it is the manifestation of memories and associations of communities and gives people a sense of well-being.

Although initiatives for the protection and conservation of heritage sites at the international level (through the 1972 World Heritage Convention) and at the national level (through national laws and international cooperation) are given considerable attention by Member States, cultural heritage is not given sufficient recognition at the local and municipal levels in several parts of the Asia-Pacific region. The efforts of UNESCO, including those through the UNESCO Asia-Pacific Heritage Awards, are helping to change this situation, however. In particular, the Awards programme has helped to draw the attention of policy-makers at the local and municipal levels to heritage conservation initiatives by civil society and community-based organizations. In many cases, initiatives have been collaborations between civil society and government, which have created new participatory models for cultural heritage conservation practice in the region, contributing to improving understanding between communities and stakeholders, the 'duty bearers' and the 'rights holders', thus contributing to peaceful coexistence in society.

POLICY, GOVERNANCE AND BEHAVIOUR CHANGE

The world is not only facing environmental and economic challenges, it is also facing grave social issues, where human dignity is being compromised, which is causing unrest in the minds of people and much suffering, particularly for the marginalized. This makes violent impressions on young minds. This situation reflects poor governance and a lack of adequate appreciation of fundamental values of cultural heritage.

The gaps can be broadly classified as follows:

- Inadequate management of cultural heritage at the local level.
- Inadequate recognition of cultural heritage as an important contributor to quality of life for all.
- Inadequate appreciation of the contributions of cultural heritage to sustainable development (through upholding values such as human dignity and inclusion) and lack of recognition at the policy level.

An understanding of the 'cause of the problem' and the nature of the interventions required for making peaceful and resilient societies are represented graphically in the three pyramids that are presented in the following sections.

INADEQUATE MANAGEMENT OF CULTURAL HERITAGE AT THE LOCAL LEVEL

Central to the good management of cultural heritage is improved education about culture and the building of awareness among policy-makers, heritage site managers, professionals and the general public. Culture is often low among the priorities of governments, a factor reflected in archaic laws that are non-responsive to the global trends and the evolution of knowledge in this domain. Limitations in legal provisions are reflected in poor organizational structures and also in the inadequate allocation of financial resources to culture. Traditional management structures and production by communities are also seldom recognized in modern systems of governance. Absence of adequate financial support is also an issue. This critically impacts the health of cultural heritage. It is important, therefore, to make systemic changes, through interventions such as those presented in Figure 1.



LOSSES IN CULTURAL FABRIC ARE ENTWINED WITH LOSSES IN SOCIAL FABRIC



RECOGNITION OF LOCAL HERITAGE AND HISTORIES HAS STRENGTHENED SOCIAL COHESION AT TAI O VILLAGE

One intervention that would have a direct impact on improving heritage management at the local level would be to create a 'brand' that would position culture and cultural heritage in the popular imagination of communities, particularly in that of youth. Central to this idea is that knowledge associated with culture and heritage must be accessible, but without diminishing the content and quality of creative expression, and that education related to cultural knowledge is inclusive, equitable and part of lifelong learning, as articulated in **SDG 4 (Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all)**. Education about culture and heritage can also help address the mismatch between the skills of the available workforce and job vacancies. Augmenting the skills necessary for improved cultural heritage management is a critical need in many of the countries in the Asia-Pacific region. It is through these kinds of initiatives in the cultural heritage sector that inequalities can be reduced, in accordance with **SDG 10 (Reduce inequality within and among countries)** and it is through partnerships that institutions can be strengthened, thus ensuring peace and justice through principles of equity.

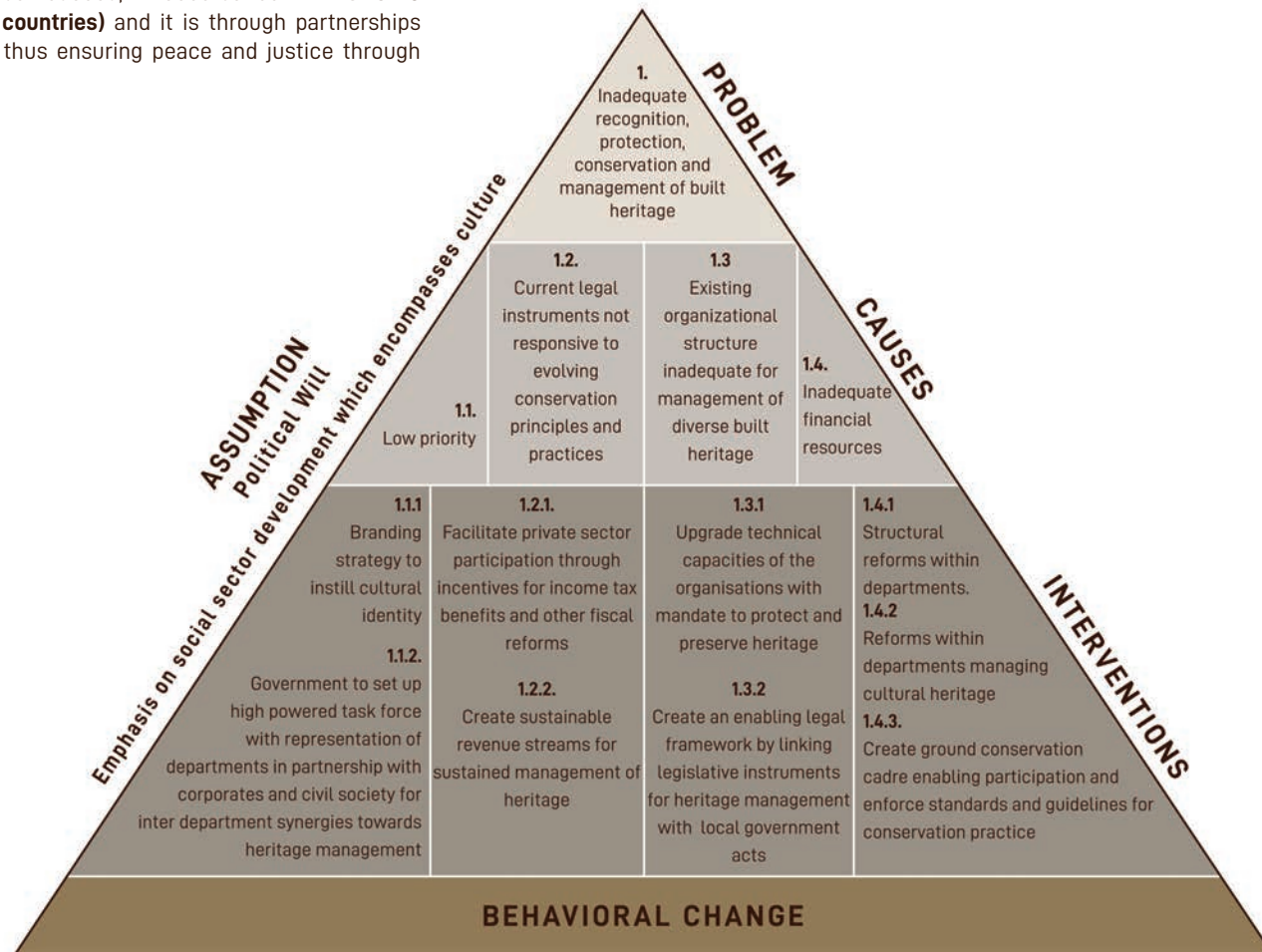


FIGURE 1: CULTURAL HERITAGE - BUILT HERITAGE MANAGEMENT



YOUNG VILLAGERS PARTICIPATING IN THE CONSERVATION PROCESS OF SUMDA CHUN GONPA



RESTORING THE GULABPUR KHANQAH HELPED STRENGTHEN COMMUNITY TIES

In the case of **Sumda Chun Gonpa** (2011 Award of Excellence), one of the oldest monasteries in the region of Ladakh, the restoration was praised by the Jury for being undertaken in a systematic and sensitive manner, guided by meticulous research. Conservation 'interventions combined world-class scientific methods with vernacular building know-how. The exemplary project was realized through the steadfast commitment of the local community and the monastic order, in cooperation with cultural foundations and international partners'.

The **Phra Borommathat Maha Chedi and Pharin Pariyattithammasala of Wat Prayurawongsawas** (2013 Award of Excellence) project, Bangkok, Thailand, 'catalysed extensive social impact in the multicultural historic district of Kadeejeen'. The relocation and rearrangement of the ancestors' relics concerned a great number of families, a dilemma satisfied through careful planning, discussion and management. 'The restoration of the historically-significant *chedi* (reliquary stupa) and its attached hall preserved one of Bangkok's most iconic religious monuments... The cooperation between the monks, specialists and local residents

gave twenty-first century meaning to the age-old symbiosis between Buddhist monasteries and the lay community in sustaining a sacred complex as the centrepiece of neighbourhood life'.

In the project of **Gulabpur Khanqah**, Skardu, Pakistan (2010 Award of Distinction), the award recognized the great sense of commitment of the Gulabpur community, where a 331-year old historic monument, 'which served as the long-time centre of social, cultural and religious activities for the surrounding communities, was saved. A process of intensive research and documentation created a thorough understanding of the building's structure and dilapidation and informed the subsequent conservation work, which drew upon locally-available materials and artisans trained under previous restoration projects. From a state of severe deterioration and degeneration, the building was lovingly restored through the collaborative efforts of local community members, external funders and technical advisors'.

INADEQUATE APPRECIATION OF CULTURAL HERITAGE AS AN IMPORTANT CONTRIBUTOR TO QUALITY OF LIFE FOR ALL

Creativity, knowledge, diversity and beauty are subjects for dialogue across communities and cultures. This dialogue significantly contributes to peace as these values are intrinsically connected to human development and a sense of freedom. Although there are well-established international and regional commitments to preserve indigenous cultures, living cultures form new creative expressions every day. This is particularly true in urban areas (in a fast, transforming world), thus contributing dynamically to richness in cultural identities and diversity. Indeed, 'intercultural dialogue is one of humankind's greatest challenges and creativity is ... an inexhaustible resource nourishing society and economy' (United Cities and Local Governments, 2010).

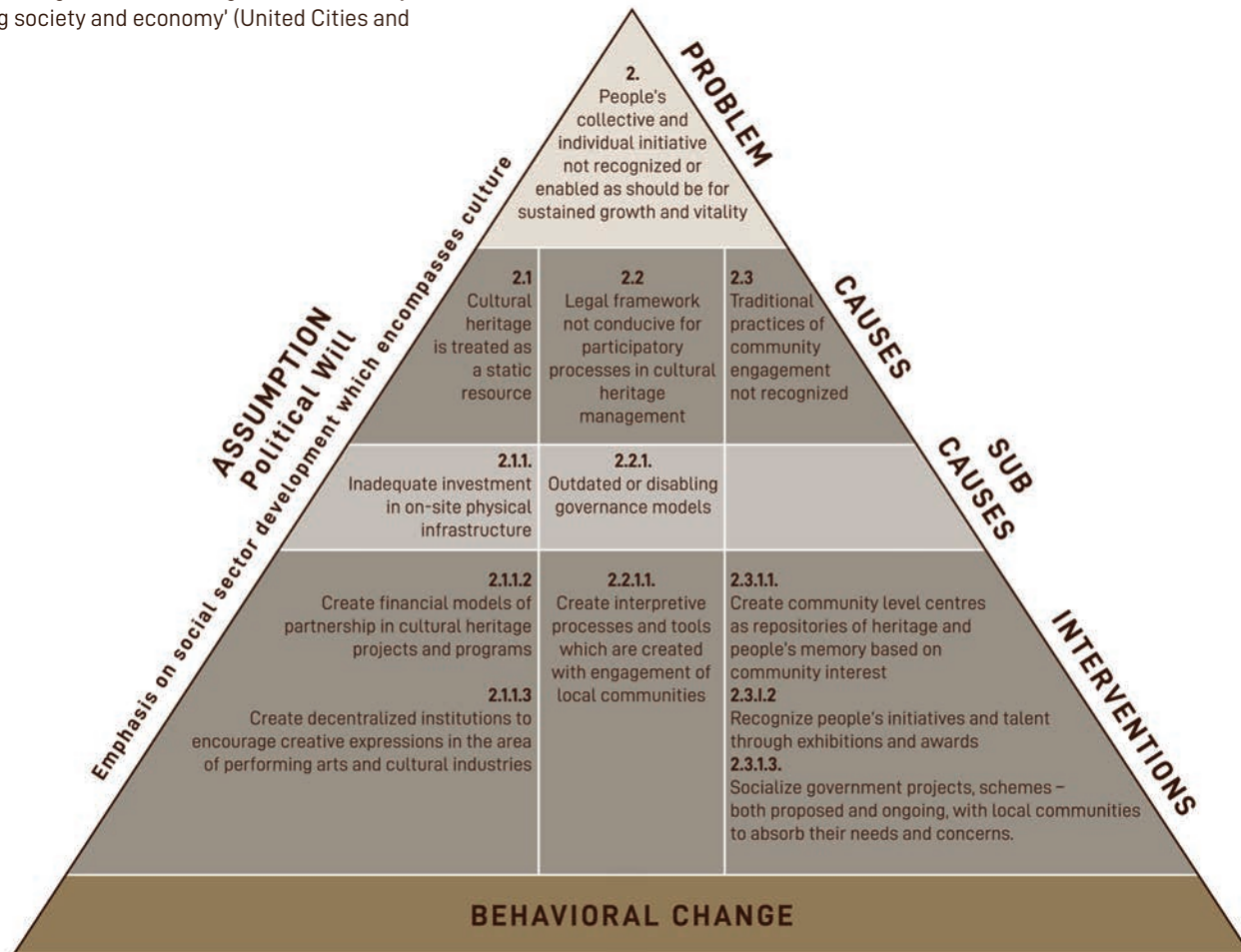


FIGURE 2: CULTURAL HERITAGE - QUALITY OF LIFE

But where lies the challenge in society? Thinkers in both academia and cultural heritage practice lament that people's collective and individual creative initiatives are neither adequately recognized nor aided in mainstream development policies. Cultural heritage is assumed to be a 'static' resource – a product or a skill frozen in time. Furthermore, the tools of governance in many parts of the region are not favourable to participatory processes, which reinforce partnerships through mutual respect between the practitioners and structures of governance. These governance tools stifle creative pursuits, thus adversely impacting the quality of life of communities. Interventions are therefore required in the area of recognition, forging new partnerships between civil society groups, educational institutions and creative communities in structures of governance. Some areas for interventions are presented in Figure 2.

The **Great Serai** (Afghanistan), the recipient of the 2013 Award of Distinction, demonstrated excellent engagement of the community, which renewed pride in local built heritage and raised public awareness of the continued relevance and value of cultural heritage. This project was important for Afghanistan, at both the local and national levels, as it has contributed to raising appreciation among the various ethnic groups in Afghanistan for their shared heritage and values, which is a vital step towards achieving peace in the war-torn state.

The **Hong San See Temple** (2010 Award of Excellence) project not only preserved the authentic structure and fabric of the building, but also engaged the 'wider public of Singapore through a variety of innovative fundraising and educational efforts. This community-based approach had a major impact in shifting the paradigm of conservation policy and practice in Singapore and throughout the region and increasing appreciation of cultural heritage'.

The **Sydney Harbour YHA and the Big Dig Archaeology Education Centre** (2011 Jury Commendation for Innovation) project 'successfully put urban archaeology in the spotlight, showcasing the site through creative use as a youth hostel and a public education centre' for learning about local history, including about the displacement of the local Aboriginal peoples by settlers, and for gaining greater appreciation for the culture of the original inhabitants of the land. This knowledge is fundamental to ensuring that the Aboriginals of Australia gain the full respect they are due, which is an essential part of creating an equitable and peaceful society.

The **Tai O Heritage Hotel**, Hong Kong SAR, China (2013 Award of Merit) project was particularly commendable for its "involvement of local community members and former occupants of the building through an extensive cultural mapping effort". This process not only greatly informed the restoration work but also served to gather knowledge about local culture and history that is now shared with the public as part of the hotel's local heritage tours.



THE GREAT SERAI SHOWCASES THE CENTRALITY OF CULTURE



DEMONSTRATING RESPECT FOR THE PAST AT THE SYDNEY HARBOUR YHA AND THE BIG DIG ARCHAEOLOGY EDUCATION CENTRE

INADEQUATE APPRECIATION OF THE CONTRIBUTIONS OF CULTURAL HERITAGE TO SUSTAINABLE DEVELOPMENT AND LACK OF RECOGNITION AT THE POLICY LEVEL

Although culture has been proposed as the fourth pillar of sustainable development (United Cities and Local Governments, 2010), exceptionally hard work is necessary to bring about changes in the tools of governance and to integrate culturally-sensitive frameworks into existing paradigms. Some of the root causes for prevailing conditions is that culture is perceived as an isolated entity of human expression in development structures, separate from development and from the intrinsic needs of the community (especially of the underprivileged and

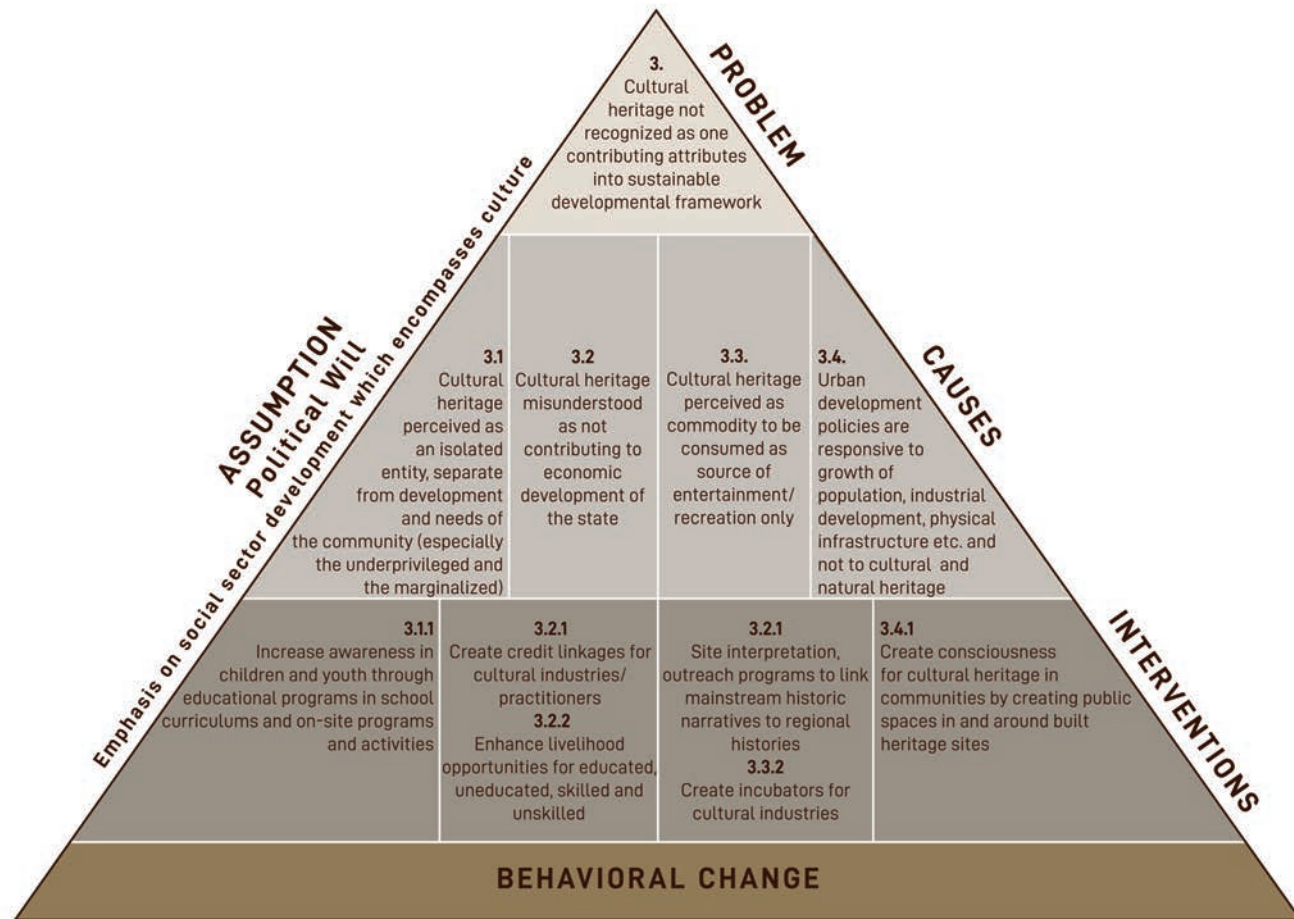


FIGURE 3: CULTURAL HERITAGE - SUSTAINABLE DEVELOPMENT

the marginalized). It is assumed by many that culture is peripheral, so does not need policy considerations. In a tourism context, culture is falsely perceived as merely entertainment for visitors and as a commodity for consumption, overlooking its central role in community life. Misinformed urban development policies where the development paradigm is focused on hard infrastructure, such as providing mass transport systems and creating industrial estates, give little thought to the potential contribution of culture, for example, through the development of creative industries in historic centres. At the same time, such development policies give no thought to the appropriate and sustainable management of natural resources, such as river systems and flood plains, ecosystems and other elements of natural heritage. This policy context has led to the unsustainable growth of urban centres, which in recent times have repeatedly demonstrated that they are not resilient in the face of natural disasters. Indeed, modern tools of development have become acts of aggression against the communities that are the transmitters of cultural traditions and practices and, in many cases, against the inhabitants of historic neighbourhoods and against nature.

Some of the ways and means to achieve sustainable development while integrating cultural practices and heritage management into the development framework are presented in Figure 3.

The project at **Mbaru Niang**, Wae Rebo, Flores, Indonesia (2012 Award of Excellence), an exemplar of community-led rebuilding efforts, was exceptional for the way that it successfully engaged with a broad range of conservation issues at the local level. Through commendable cooperation between the villagers and the architects, the original formation of structures was reinstated, using vernacular construction methods. The project exhibits excellence in the complementary safeguarding of both tangible and intangible heritage values in a unique and fragile environmental context. Through valorizing traditional knowledge embodied in continuing architectural form and construction practices, the project demonstrated that development that is culturally-sensitive and fosters cultural industries leads to sustainable outcomes for society and the environment.

In the case of the **Khaplu Palace**, Baltistan, Pakistan (2013 Award of Distinction), the project assisted in strengthening common bonds, pride and identity, while fostering respect for cultural diversity and pluralism. The project is testimony to the success of mobilizing culture for sustainable development, a method well-developed by the Aga Khan Cultural Service – Pakistan.

Several of the awarded projects demonstrated a great sense of commitment by communities and other stakeholders, a factor that made the projects exemplars of community-focused architectural restoration, undertaken with a view towards sustaining living cultural traditions, providing an equitable framework for undertaking heritage practice as well as a means for strengthening local partnerships, thereby instilling peace and justice in societies.

References

United Cities and Local Governments. 2010. Policy Statement on Culture as the Fourth Pillar of Sustainable Development. World Summit of Local and Regional Leaders (3rd World Congress of UCLG), Mexico.

United Nations. 2015. *Transforming Our World: The 2030 Agenda for Sustainable Development*. A/RES/70/1. Resolution adopted by the General Assembly on 25 September 2015, Seventieth Session, Agenda items 15 and 116. https://www.un.org/ga/search/view_doc.asp?symbol=A/RES/70/1&Lang=E (Accessed 7 November 2018.)



CULTURE SUSTAINS THE LOCAL COMMUNITY AT MBARU NIANG

CULTURAL HERITAGE CONSERVATION AND PARTNERSHIP

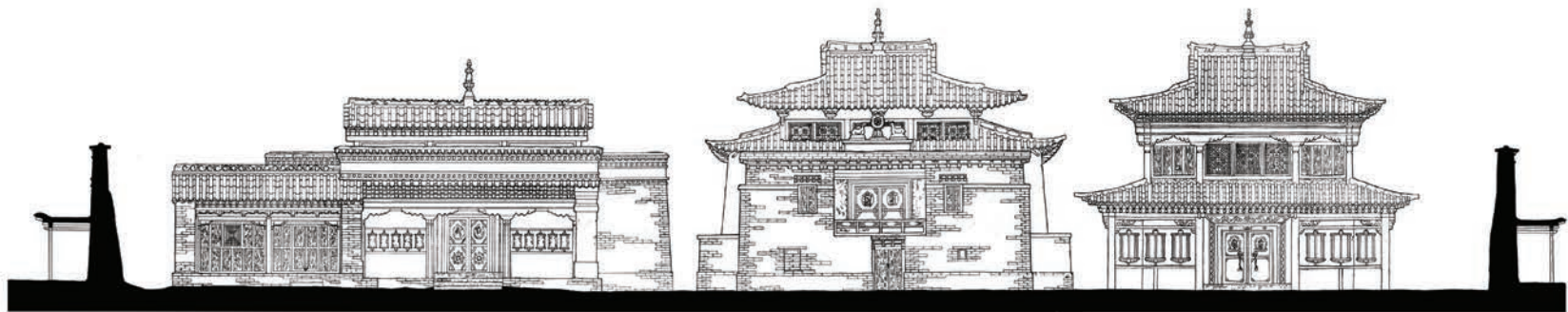
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INTRODUCTION

This essay will examine the contribution that projects awarded the UNESCO Asia-Pacific Heritage Awards have made toward establishing *partnership*, a factor fundamental to achieving the Sustainable Development Goals (SDGs). SDG 17 (Partnerships for the goals) aims to strengthen the means of implementation and revitalize the global partnership for sustainable development. This goal recognizes the importance of establishing enduring partnerships for achieving the SDGs, 'based on a spirit of strengthened global solidarity, focused in particular on the needs of the poorest and most vulnerable and with the participation of all countries, all stakeholders and all people' (United Nations, 2015).

The projects that were awarded UNESCO Asia-Pacific Heritage Awards during the period between 2010 and 2014 were carefully scrutinized for their positive impact on the SDGs. As this concluding essay will demonstrate, a key factor enabling heritage conservation projects to model actions that contribute to the attainment of one or more of the SDGs lies in the establishment of equitable and enduring *partnerships*, with the participation of all stakeholders and the exclusion of none.



LOCAL RESIDENTS AND AUTHORITIES WORKED ALONGSIDE EXTERNAL EXPERTS TO SAVE SERKHANG MONASTERY

BACKGROUND

The UNESCO Asia-Pacific Heritage Conservation Awards were first conceived at a regional conference convened by UNESCO in 1999 in the historic town of George Town on the island of Penang, in Malaysia. At that time, George Town was not yet inscribed on the World Heritage list, but nonetheless there was a broad coalition of community stakeholders who had aspirations to revitalize their town through cultural heritage-based urban regeneration. The conference title, 'The Economics of Heritage', reflected the concern of many at that time that conservation of cultural heritage had to be justified by strategies designed to demonstrate the added-value contribution of conservation to a community's economic prosperity, when compared to the alternative value of redevelopment. Without this economic justification, the political will necessary to protect heritage resources and create enabling conditions conducive to conservation could not be mustered, nor could financing for conservation be secured. Throughout the region, tension between the competing forces of conservation versus development had, by the end of the twentieth century, led to a stand-off. There was a dysfunctional lack of cooperation between the government sector, which controlled regulation, the financial sector, which controlled investment, and the community, with its aspirations for the sustainable continuity of their home towns and historic places.

To be sure, regulations were in place in most, if not all, countries of the Asia-Pacific region to afford protection to national monuments of historical and political significance. But these regulations left unprotected and vulnerable to redevelopment the vast preponderance of heritage assets in private ownership. This heritage consisted of homes, shops, businesses, schools, places of recreation, entertainment and celebration, as well as shrines and cemeteries built by the forebears of people who had lived in these communities for generations. Often, these buildings and community spaces were not even officially recognized as constituting heritage assets that required protection. However, for those concerned with the continuity of their historic communities, it was precisely this corpus of unprotected, local vernacular heritage that defined and made recognizable a community's physical identity and gave collective value to its safeguarding. Unfortunately, the owners of these properties were frequently individuals who did not have the financial resources or access to the technical know-how required to maintain or restore their historic properties to the standards set by new building codes that were established by government regulators and intended to promote investment in large-scale urban renewal schemes by property developers.

At the end of the twentieth century, this was a common scenario across the rapidly-developing Asia-Pacific region, with its demographic switch from dispersed rural agricultural settlements towards increasing dense urban habitats of migrant and seasonal labourers. The change came about quickly and in 2009 the world's urban population surpassed that of the rural population for the first time in history. This trend was particularly noticeable in Asia, where multiple urban mega-cities emerged. The influx of new urban dwellers created an insatiable demand for new



EXCHANGING KNOW-HOW AT SUMDA CHUN GONPA

housing. The inevitable result of this demand was a dramatic imbalance in economic power between the individual owners of old heritage properties versus the property developers backed by financial institutions and supported by government incentives and regulations. New developments were perceived to be economically profitable – meaning that they provided a quick return. Developers were able to borrow from a bank to underwrite the purchase of historic properties at discount rates and to finance their replacement with high-rise office and residential blocks.

This was an era where partnerships between the heritage conservation sector and the development sector were weak and were not encouraged by local government political processes. Heritage conservation advocates were often subject to criticism and labelled as 'anti-development', 'elitist' and 'anachronistic'. Although emotional rhetorical confrontation between the conservation vs. development dialectic frequently surfaced when historic districts were razed to make way for new developments, there was little genuine dialogue to establish a common future vision of human settlements, and almost no active collaboration on mechanisms for sustainable development. At the end of the century a lengthy détente crumbled with the repeal of colonial-era rent controls across the region and with the collapse of the social contract that had allowed historic enclaves to be preserved intact, giving Asia-Pacific cities and towns their individually distinctive characters. This had given way to a development frenzy driven by speculation in rapidly-escalating property values.

PARADIGM SHIFT

It should have been predictable – given the well-established literature on the consequences of unsustainable development contained in the Brundtland report (WCED, 1987) – that the unregulated large-scale urban redevelopment across the Asia-Pacific region in the final decades of the twentieth century would have consequences far beyond causing the disappearance of historic communities and their replacement by much more densely-occupied modern habitats.

As pointed out in the second essay of this volume, 'Cultural Heritage Conservation and the Planet', the construction industry has had a tremendous impact on our environment, including on the temperatures of our urban spaces. Greenhouse gas emissions from the construction of buildings are significant and the rate is ever increasing as urbanization spreads around the globe. In addition, the production of construction materials has been responsible for vast damage to our ecosystems, as a result of mining and deforestation, and the industrial processing of resources.

At the end of the 1990s, rapacious development across Asia and the Pacific took its toll in the form of a serious economic crisis throughout the region. In July 1997, the Thai baht collapsed. This was quickly followed by capital flight from other countries of the region, including Indonesia and South Korea and, to a lesser but still significant extent, Malaysia, Lao PDR, Viet Nam, Philippines, Singapore, Japan and even China. Foreign debt-to-GDP ratios rose precipitously to double their previous levels, choking off the sources of capital needed to fuel the continuation of the construction industry's development cycle. Property prices crashed. Developers defaulted on their loans and many banks collapsed or were forced into government receivership. The International Monetary Fund stepped in with a US\$ 40 billion programme in an attempt to stabilize the region's currencies, but this did little to assuage the then volatile political climate, which resulted in the fall of long-standing governments and contributed to a change in political leadership in several countries across the region. When the situation finally stabilized, a 'new normal' emerged.

With this new economic and political environment, economic planners began to take note of the potential value of historic urban properties, particularly as a resource to recapitalize cultural tourism as a 'new' economic growth engine to fuel economic recovery across the region. However, the rapid disappearance of the historic built environment from the cultural landscape of Asia over the previous decades had decimated traditional cultural settlements, with the loss of recognizable vernacular housing, shops and even characteristic community religious and cultural institutions. The loss was stark enough to set the stage for a new coalition between conservation advocates and economic planning authorities, under the umbrella of cultural heritage tourism development. Although cultural heritage tourism was to prove, at best, a double-edged sword, at that time – in the late 1990s and early 2000s – the risks posed by tourism to cultural heritage were not widely apparent.

What was evident was that there was a paradigm shift in cultural heritage conservation underway across the region, away from a top-down process focusing on the government-financed conservation of a few iconic national monuments towards a community-based bottom-up process relying on private sector investment across a wide spectrum of projects in the attempt to safeguard what remained of historic urban and rural landscapes.



SYDNEY HARBOUR YHA LEARNING ADVENTURES EDUCATION PROGRAMS

OLD PARADIGM	NEW PARADIGM
Conservation of monuments of power, privilege, prestige	Protection of vernacular heritage of everyday life
Presentation of abandoned, archaeological sites	Presentation of continuing cultural communities
Preservation of physical components of buildings, sites	Safeguarding of living traditions and intangible cultural practices
Contrived, single-message historical reconstructions	'Authentic', multiple-message, socially-relevant interpretations
Passive "expert" presentation	Immersive cultural experiences
Management by empowered departments of centralized administrations	Decentralized local community management integrating local government and non-government representatives
Top-down, politically-driven planning	Consultative, data-driven planning
Conservative, change-adverse, bureaucratic decision-making	Real-time, flexible, adaptive decision-making
Legalistic, rule-based enforcement of regulations	Negotiated, outcome-based monitoring and enforcement
Elite use of conserved heritage for recreation and consumption by external visitors	Popular use of safeguarded heritage for improved livelihood opportunities for residents and enhanced liveability of local communities
Rapid economic returns	Sustainable social goals

TABLE 1

UNESCO ASIA-PACIFIC HERITAGE AWARDS

It was in this context of the emerging paradigm shift, at the cusp of the twenty-first century, that the UNESCO conference on the 'Economics of Heritage' was held in Penang to ask the question: What heritage vestiges from the twentieth (and earlier centuries) do communities across Asia want to preserve and carry forward into the twenty-first century, with enough commitment that they are willing to invest in its conservation and sustainable use?

The answer to this question was not immediately obvious, nor was there a consensus as to what, in fact, constituted the universe of heritage buildings, structures and spaces with the potential to be conserved.

To explore the answer to this question, and in order to identify best practice in the Asia-Pacific region in the conservation and sustainable use of community-based heritage resources, UNESCO launched the Asia-Pacific Heritage Awards in 1999.

The guiding idea behind the awards programme was to move away from the earlier focus on nationally-protected and government-maintained monuments, and, instead, look for community-based and privately-financed projects that emphasized the sustainable use of all types of heritage resources, in particular vernacular heritage. Although it has always been acknowledged that tourism use could be one of the uses to which heritage resources might be put, the emphasis of the UNESCO Awards programme has been, since its inception, on sustainable use by the community that created the heritage resource and that has subsequently cared for it, thereby extending the community's cultural continuum from the past, through the present and into the future.

The UNESCO Asia-Pacific Heritage Awards are evaluated against three basic rubrics: (i) understanding the place, (ii) technical achievements and (iii) social and policy impact.

To provide clarity and understanding, each rubric is glossed with guidance notes for potential applications. Although this guidance is discussed in detail in other sections of this publication (as well as in the first two volumes of *Asia Conserved*), it may be useful to review the guidance, as outlined in Table 2.

UNESCO ASIA-PACIFIC HERITAGE AWARDS CRITERIA (2012-2014)**I. Understanding the Place**

- a. How well the conservation/restoration work articulates the property's heritage values in order to convey the spirit of place.
- b. How well the conservation/restoration work interprets the property's cultural, social, historical and architectural significance.
- c. Appropriate use or adaptation of the property.

II. Technical Achievement

- d. The understanding of the technical issues of conservation/restoration in interpreting the property's significance.
- e. The use and quality control of appropriate building, artisan and conservation techniques.
- f. The use of appropriate materials.
- g. How well any added elements or creative technical solutions respect the character and inherent spatial quality of the property.

III. Social and Policy Impact

- h. The overall complexity, sensitivity and technical consistency of the project.
- i. The ongoing socio-economic viability and relevance of the project, and provision for its future use and maintenance.
- j. The manner in which the process and the final product contribute to the surrounding environment and the local community's cultural and historical continuum.
- k. The influence of the project on conservation practice and policy locally, nationally, regionally or internationally.

TABLE 2

A decade after the UNESCO Asia-Pacific Heritage Conservation Awards were launched, entries were coming from across the region, without distinction as to either the economic profile of the society or the socio-political and regulatory context in which the project was embedded. Projects were also divided approximately equally between those coming from rural areas, those from small, historic towns and those from urban heritage districts. While some projects could be classified as large-scale projects or projects executed on heritage structures enjoying some (usually local) form of heritage protection status, the majority fell into the category of vernacular, unprotected heritage, the conservation of which was intended to prolong the use life of the heritage resource (through some form of adaptive reuse). Every year approximately a dozen of the entries received the four types of awards: Excellence, Distinction, Merit or Honourable Mention.

During the first decade of the awards programme, the majority of projects were driven by a single, determined champion of conservation, not necessarily a professional, but nonetheless someone experienced in the field. The project proponent typically was the owner of the property or represented the owner. To achieve the project, technical expertise was sourced from universities, experienced contractors and/or traditional builder-artisans.

During the second decade of the awards programme, there was a shift, with fewer projects driven by a single champion and more projects with their origin in a community consensus that the conservation of the property in question represents a public good. Accompanying this shift was a change from acquiring expertise from a professional to acquiring it from what may be called a 'community cooperative', during which new partnerships emerged to collaborate on the projects. In particular, we began to see the role of traditional knowledge holders (of both tangible and intangible heritage knowledge) as well as traditional crafts persons figuring more prominently in the execution of projects. While professional architectural and engineering expertise is still called upon to solve technical issues that may arise, the more recently-awarded projects presume that a higher degree of control of technical issues is a prerequisite. They place more emphasis on the identification of a sophisticated narrative of significance that is to be preserved and passed on through the conservation process. We are also seeing more attention being given to the sustainable use of buildings and sites and to the way that the political profile of an award-winning project in the community stimulates other projects. Although this emphasis on significance (spirit of place) and sustainability (impact) were certainly a feature of the winners of the awards of Excellence and Distinction during the first years of the awards programme, now we see that all entries, even those that do not succeed in getting an award, are cognizant of the importance of these characteristics of a successful project, in addition to technical achievement.

As of 2014, 15 years after the launch of the UNESCO Asia-Pacific Heritage Awards, the awards had been firmly established as the standard-setting benchmark for conservation in the region.

THE FIVE PRINCIPLES OF BEST CONSERVATION PRACTICE

The initial three five-year cycles of the UNESCO Asia-Pacific Heritage Awards have so far succeeded in identifying 174 projects from across the region that, when considered together, illustrate the impact of heritage conservation on the sustainable development equation in a number of important ways.

The award-winning projects:

- demonstrate how to manage change in the historic environment;
- validate community memory, identity and continuity;
- broaden and diversify understanding of and protection for vulnerable heritage;
- consolidate conservation knowledge and know-how among practitioners; and
- strengthen conservation policy, at both the national and local levels.

From an analysis of the award-winning projects, it has been possible to derive five principles of best conservation practice that are common to all successful, sustainable projects, and provide an ordered methodology for approaching conservation project implementation. While taking into account the criteria for judging the awards, the five principles are not evaluation criteria for completed projects, but rather provide guidance for successful project implementation. Importantly, by recognizing and following these principles in the early stages of project conceptualization and design, it is possible to identify the necessary expertise and knowledge required for a successful, sustainable conservation project. And equally importantly, the five principles provide guidance in forming a working partnership of owners (and other custodians) with technically expert practitioners and knowledge holders for the purpose of ensuring a project results in sustainable, long-term benefits for all concerned stakeholders individually and for the community at large.

THE FIVE PRINCIPLES

PRINCIPLE 1: Significance assessment, derived from collective **community-based mapping** of cultural space, its hierarchies, symbolic language and associations, is a prerequisite for culturally-appropriate and sustainable conservation.

Detailed mapping of all attributes – physical and non-physical – of a structure, site or space results in a complete understanding of the complexity and interrelationship of the cultural values of the project linked to these attributes, and enables the collective 'spirit of the place' to define and drive the conservation process.

PRINCIPLE 2: Tangible cultural expressions derive their origin, value and continuing significance from **intangible cultural practices**.

Because intangible cultural beliefs and/or practices precede, inspire and give rise to all built forms – whether symbolic or practical – it is from these intangible cultural beliefs and practices that a structure, site or space derives its meaning and therefore its significance and spirit of place. Therefore, the continuation of the intangible cultural practices that gave rise to these physical forms must be prioritized in the conservation process. This will ensure that a project continues to have an authentic, culturally-meaningful use and that it contributes to the extension of a community's cultural continuum.

PRINCIPLE 3: Authenticity, the most universally-acknowledged defining characteristic of heritage, is a culturally-relative attribute to be found in **continuity**, but not necessarily or only continuity of material or physical form.

Authenticity is most accurately judged on the basis of evidence for the continuity of one or more of any number of traits, including (but not limited to): form, function, material, design, location, use, practice, performance and beliefs. Therefore, the assurance of continuity is central to the conservation process. For this purpose, the importance and central role of indigenous knowledge – including crafts traditions, local materials, rituals associated with construction and use of the structure, site or space to be conserved – is central to the conservation process. Although modern conservation techniques can bring scientific knowledge and processes to complement local skills and know-how, the prioritized use of traditional knowledge is a hallmark of successful conservation practice.

PRINCIPLE 4: The conservation process succeeds when histories are revealed, traditions revived and meanings recovered in a **palimpsest of knowledge**.

No historic phase or change over time to a structure, site or space should be ignored or prioritized in the conservation process. The role of community as the repository of shared memory in the conservation process is essential to ensuring that all iterations through time of a project site are respected. As communities are comprised of persons with varying knowledge and different memories, the conservation process requires that multiple members of the community should be actively involved in every stage of the conservation process, starting from the identification of the cultural attributes to be conserved and the materials and techniques used in the conservation work, to the end use of the conserved project site. Through this process of community engagement, heritage values of the structure, site or space may be rediscovered. In addition, they are reinforced and passed down to future generations, as well as communicated to the public at large. This multi-generational chain of knowledge ensures safeguarding of the project site and its sustainability of use through the extension of the community's authentic cultural continuum, with benefits for all.

PRINCIPLE 5: Appropriate use of heritage is negotiated, resulting in a sustainable, life-enhancing space.

Conservation projects provide a platform for stakeholder interaction, debate and discussion about the future role of the heritage in the life of the community. Contested heritage is not sustainable. In fact, just the opposite is true: contested heritage is vulnerable heritage. Because heritage conservation increases property use-life and values, and augments a community's assets, the benefits derived from a conservation project should accrue to all who claim a stake in the conservation process and should not be expropriated for the gain of a few, regardless of their situation of power.

THE COMMON DENOMINATOR: PARTNERSHIPS

Following the guidance provided by the five principles of best conservation practice, it is clear that the achievement of a successful, sustainable conservation project depends upon building successful **partnerships** at all stages of the conservation implementation project: from project identification and design, through project execution and continuing through to the operational phases of the project.

In building partnerships for conservation, particular attention needs to be paid to principle 5, which is about the creation of sustainable life-enhancing spaces through a conservation process based on the accommodation of shared, multiple stakeholder use of heritage assets, but does not compromise on conservation principles of integrity or authenticity. This is achieved through politically-negotiated, community-based **partnerships** between traditional stakeholders and the custodians of heritage properties, together with technical specialists and those who wish to make use of the heritage asset for whatever purpose (economic, social or political). It is a process that validates multiple perspectives and stakeholder 'values', and thus extends the community's cultural continuum and underscores how heritage conservation is an act of investment in **community sustainability**.

While all of the 54 projects that were recognized with a UNESCO Asia-Pacific Heritage Award between 2010 and 2014 demonstrated, to a greater or lesser extent, the use of partnerships to achieve success, some projects demonstrated exceptional commitment to building partnerships, bridging the often wide gap between local traditional knowledge holders, expert technical professionals and external project proponents who frequently aim to develop heritage resources of a community solely for an economic return on their investment, whether through tourism or other commercial means.

The following examples will highlight these, sometimes surprising or unorthodox, partnerships that were successfully used to achieve award-winning projects, with long-term impacts on community sustainability.

PROJECTS SHOWCASING EXEMPLARY PARTNERSHIPS

To demonstrate the role of multi-stakeholder partnerships in heritage conservation projects as being fundamental for ensuring that the conservation process contributes to sustainable community development, examples are given from various types of award-winning projects.

(i) Projects that revive the lost or diminishing memories of historic community institutions and, in the process, contribute to community revitalization.

- **Serkhang Monastery**, Qinghai Province, China (2011 Award of Merit)
- **Khilingrong Mosque**, Shigar, Pakistan (2012 Award of Merit)
- **Phra Borommathat Maha Chedi and Pharin Pariyattitthammasala of Wat Prayurawongsawas**, Bangkok, Thailand (2013 Award of Excellence)

(ii) Projects that prolong the sustainability of past community investment in collective welfare, strengthening the community's cultural continuum.

- **Mbaru Niang**, Flores, Indonesia (2012 Award of Excellence)
- **Historic Water System of Hampi**, Karnataka, India (2012 Award of Distinction)
- **The Great Serai**, Kabul, Afghanistan (2013 Award of Distinction)

(iii) Projects that consolidate community memories in shared historic precincts through conservation and upgrading, adding value to undervalued properties.

- **North Xinjiao Street**, Zhejiang, China (2010 Honourable Mention)
- **Lal Chimney Compound**, Mumbai, India (2013 Award of Distinction)
- **Na Phra Lan Shophouses**, Bangkok, Thailand (2011 Honourable Mention)

(iv) Projects that recognize the accrued significance to entire communities of historic monuments, originally built to memorialize individuals or events.

- **Gulabpur Khanqah**, Pakistan (2010 Award of Distinction)
- **Altit Fort**, Pakistan (2011 Award of Distinction)
- **Rottneest Island World War II Coastal Defences**, Australia (2014 Honourable Mention)

(v) Projects that reveal heretofore unrecognized shared memories, thus contributing to social cohesion.

- **Sydney Harbour YHA and the Big Dig Archaeology Education Centre**, Sydney, Australia (2011 Jury Commendation for Innovation)
- **Reading Room for the Portuguese School of Macau**, Macao SAR, China (2012 Jury Commendation for Innovation)
- **The Lost Bomb Shelter of the Sofitel Legend Metropole Hanoi**, Viet Nam (2013 Honourable Mention)

PARTNERSHIPS FOR CO-ACTION AND CONTINUITY

The above examples demonstrate the central role of *partnership* in heritage conservation in sustainable development. To clearly comprehend the role of conservation as an act of sustainable development, it is useful to distinguish between the motivation behind new constructions and that behind the conservation of existing structures.

A new construction is almost always purpose-built for a (usually new) single-use purpose and designed by an individual architect (or architectural firm directed by a lead architect) in an act of innovation and creativity.

Contrast this with the conservation of an existing historic structure, where the motivation is for *continued* form and function of the structure, not its destruction and replacement with something new, innovative, original and different. This applies whether the historic structure is conserved for its original use or for a new purpose intended to consolidate a community's cultural continuum.

As Carl Elefante once stated, 'the greenest building is the one that is already built' (2007). The implication of this statement is that, if sustainability is a goal, the focus should be placed on the conservation and continued use of existing buildings and on finding as much new potential in them as possible, instead of replacing them with newly built structures.

Managing our resources prudently, in particular built-heritage resources, is also important, because with the conservation of a structure's architecture, the intangible social and cultural aspects that are tied to the structure, site or space will also be conserved, which in turn encourages positive effects on the local economy and for sustainability. It is in this way that heritage conservation constitutes a conscious and purposeful act of sustainable development.



THE PEOPLE OF WAE REBO DURING CONSTRUCTION AT MBARU NIANG

Because continuity is the goal of conservation, the conservation process always requires the establishment of *partnerships* between owners, experts and users. The partnership strategies of the award-winning projects generally have two interrelated but functionally separate actions:

STAGE 1: Partnerships for Co-Action. These are causative partnerships to facilitate and realize successful conservation intervention in a property, with the specific intent of adding value to a heritage asset, thereby contributing to community sustainability.

This type of partnership leverages the capacity of the various partners to the conservation process according to their capital assets or ability to mobilize resources to assist the project achieve its goals, in one of three ways:

- (i) **Ownership.** Community or single-proprietary ownership of the asset to be conserved;
- (ii) **Investment.** Contributory investments, financial or in-kind material contributions of materials, labour, etc; and
- (iii) **Expertise.** Collaborative technical expertise, traditional or modern to facilitate project interventions on the asset to be conserved.

From the above typology, the following projects exemplify this type of partnership for co-action:

- **Altit Fort**, Hunza, Pakistan (2011 Award of Distinction)
- **Na Phra Lan Historic Shophouses**, Bangkok, Thailand (2011 Honourable Mention)
- **The Lost Bomb Shelter of the Sofitel Legend Metropole Hanoi**, Viet Nam (2013 Honourable Mention)

STAGE 2: Partnerships for Continuity. These are sustained partnerships in the planned and negotiated joint use of the conserved facilities, thus providing expanded community access to the heritage asset with the specific purpose of enhancing its long-term value to the sustainability of the community's cultural continuum.

This type of partnership ensures the sustainable function, operation and long-term maintenance of the structure, site or space after the completion of the conservation intervention of the asset, in three ways:

- (i) **Use:** Facilitating the continuity of the traditional use of a property, or its adaptive re-use in a culturally-appropriate way, as a function of sustainability.
- (ii) **Accessibility:** Ensuring through collective action, including regulation, expanded – ideally public – access to and equitable use of conserved structures, sites and spaces.
- (iii) **Value:** Providing functions for the conserved property that are socially useful or economically profitable for the community at large.

From the above typology, the following projects exemplify this type of partnership for continuity:

- **Sydney Harbour YHA and the Big Dig Archaeology Education Centre**, Sydney, Australia (2011 Jury Commendation for Innovation)
- **Phra Borommathat Maha Chedi and Pharin Pariyattithammasala of Wat Prayurawongsawas**, Bangkok, Thailand (2013 Award of Excellence)
- **Lal Chimney Compound**, Mumbai, India (2013 Award of Distinction)

A successful heritage conservation project always requires partnerships at both stages of the conservation process – implementation and use – but the same partners may not necessarily be involved in both stages. One outstanding example of the success of partnerships throughout all stages (pre-conservation, during and post-conservation) of the process is:

- **Mbaru Niang**, Flores, Indonesia (2012 Award of Excellence)

The projects listed above all demonstrate how *partnerships* in the conservation process serve as the key to long-term sustainability.

In concluding this final essay, I return to our stating point in the first introductory essay, which elaborated the concepts that set the scene for the five essays on the relationship between cultural heritage conservation and *people, planet, prosperity, peace* and *partnership*. As we have seen through the award-winning projects, heritage conservation is often the catalyst for sustainable development actions, with repercussions well beyond the mere protection or restoration of the physical features of a single structure, a larger site or an intangible cultural space. Cultural heritage conservation is always bound up with the aspirations of people living in the historic communities where the cultural heritage assets are located. Often these people are the descendants of the people who originally created the heritage and they are now the custodians responsible for its care and safeguarding. Sustainability, in the form of continuity of cultural significance and function, is a central element of all of the successful conservation projects, addressing at multiple levels the needs for housing, economic activity, family and community social space, as well as a place for the continual renewal and reaffirmation of spiritual values, reconciling the development needs of individuals and whole communities with the priority of Earth's survival.

REFERENCES

Elefante, C. 2007. The greenest building is ... one that is already built. *Forum Journal: The Journal of the National Trust for Historic Preservation*, Vol. 21, No. 4, pp. 26-38.

United Nations. 2015. *Transforming Our World: The 2030 Agenda for Sustainable Development*. A/RES/70/1. Resolution adopted by the General Assembly on 25 September 2015, Seventieth Session, Agenda items 15 and 116. https://www.un.org/ga/search/view_doc.asp?symbol=A/RES/70/1&Lang=E (Accessed 7 November 2018.)

World Commission on Environment and Development (WCED). 1987. *Our common future*. Report of the World Commission on Environment and Development. G. H. Brundtland, (ed.). Oxford, Oxford University Press. <http://www.un-documents.net/our-common-future.pdf> (Accessed 17 January 2018.)

**FIVE YEARS OF
THE UNESCO ASIA-PACIFIC
HERITAGE AWARDS**

CASE STUDIES OF BEST CONSERVATION PRACTICE, 2010-2014

AWARD OF EXCELLENCE

HONG SAN SEE TEMPLE
SINGAPORE

AWARD OF DISTINCTION

RED BRICK WAREHOUSES
JAPAN

GULABPUR KHANQAH
PAKISTAN

AWARD OF MERIT

FULONG TAOIST TEMPLE
CHINA

CHOWMAHALLA PALACE
INDIA

OLD HOUSES IN THE WORLD HERITAGE FORT OF GALLE
SRI LANKA

HONOURABLE MENTION

BALLAARAT MECHANICS' INSTITUTE
AUSTRALIA

NORTH XINJIAO STREET
CHINA

**CHHATRAPATI SHIVAJI MAHARAJ VASTU SANGRAHALAYA
(PRINCE OF WALES MUSEUM)**
INDIA

2010

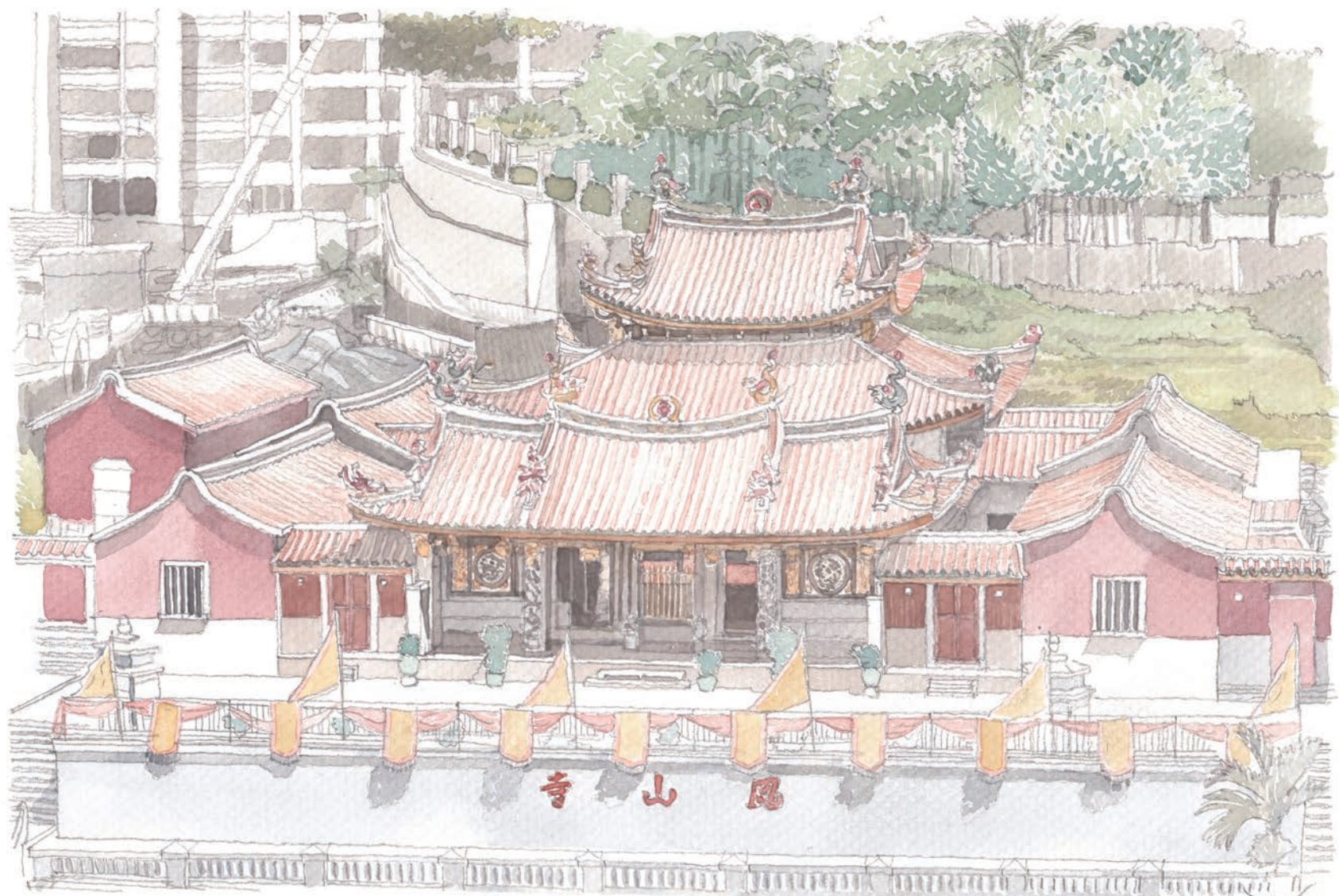
HONG SAN SEE TEMPLE

SINGAPORE

THE EXCEPTIONAL RESTORATION OF THE HONG SAN SEE TEMPLE HAS REVIVED AN IMPORTANT ICON OF MINNAN TEMPLE ARCHITECTURE OF THE LATE QING DYNASTY WHICH IS A LIVING HERITAGE LANDMARK FOR THE LAM ANN SETTLERS AND THE SINGAPORE COMMUNITY AS A WHOLE. THE PROJECT SERVES AS AN INSPIRATIONAL EXEMPLAR IN THE APPLICATION OF METICULOUS HISTORICAL RESEARCH TO CONSERVATION DECISION MAKING CONCERNING APPROPRIATE TECHNIQUES AND MATERIALS. THE PROJECT'S RIGOROUS CONSERVATION METHODOLOGY HAS ENSURED THAT THE AUTHENTIC STRUCTURE AND FABRIC OF THE BUILDING ARE WELL-PRESERVED, WHILE ADDITIONS ARE DESIGNED TO BE COMPATIBLE AND REVERSIBLE. MOREOVER, BY ENGAGING THE WIDER PUBLIC THROUGH A VARIETY OF INNOVATIVE FUNDRAISING AND EDUCATIONAL EFFORTS, THE PROJECT PRESENTS AN INNOVATIVE MODEL FOR PRIVATE-SECTOR LED CONSERVATION INITIATIVES. THE COMMUNITY-BASED APPROACH TO RESTORATION AT HONG SAN SEE TEMPLE STANDS TO HAVE A MAJOR IMPACT IN SHIFTING THE PARADIGM OF CONSERVATION POLICY AND PRACTICE IN SINGAPORE AND AROUND THE REGION.

2010

AWARD OF EXCELLENCE



WISDOM

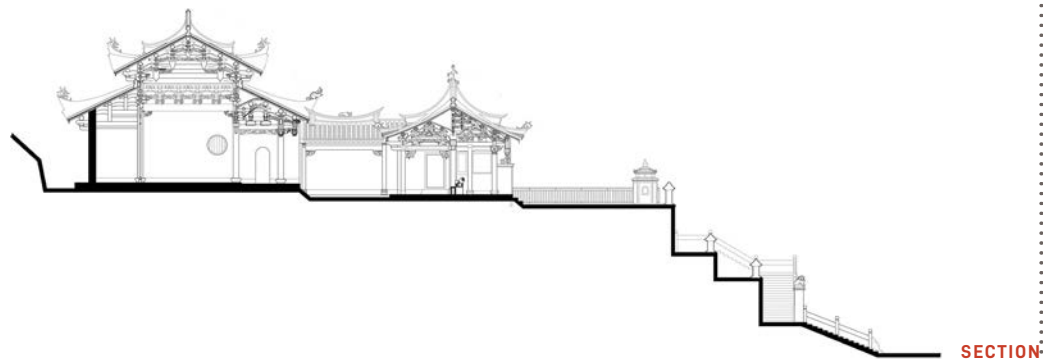
CONTEXT

Hong San See (Temple of the Phoenix Hill), is a significant historic site for the Lam Ann community in Singapore, as expressed in the saying, 'where the Lam Ann people settle, there shall be a Hong San See'. The Singapore Hong San See has long served as a spiritual connection between the descendants of Lam Ann immigrants and their ancestral temple at Mount Shi Shan in Nan-an (Lam Ann) County in Fujian province, China. Significantly, the Hong San See has been more than a place of worship, serving also as a focal point for the Lam Ann community for gatherings and discussions. It also served as a school. Between 1915 and 1930, the Nan Ming School used one section of the temple complex to cater for the educational needs of children from Bukit Ho Swee and other nearby villages. In recognition of its historical, archaeological and architectural value, in 1978 Hong San See Temple was designated a National Monument of Singapore.

BUILDING HISTORY

The first Hong San See in Singapore was established in 1836 on Tras Street in the area of present-day Tanjong Pagar District. In 1907, a road-widening project required moving the temple to its present location on an elevated location on Institutional Hill (facing Mohamed Sultan Road). Here, the temple enjoyed an uninterrupted view of the Singapore River until this was blocked by high-rise buildings.

The present building was built between 1908 and 1913 by Lim Loh, a contractor from Nan-an. The temple is suggestive of the late-Qing period, Minnan architectural style of southern Fujian province, with Nanyang (South-East Asian) influences. In accordance with the Minnan style, the temple follows a strict symmetrical organization. The entrance hall and the main hall are separated by a courtyard, which is flanked by open areas on either side. Glazed green roof tiles reflect Chinese temple architecture unique to Singapore and the Malay Peninsula. The temple houses numerous religious artefacts and statues of deities, many of which were imported from China, and also houses account books that date back to the establishment of the temple. They comprise a rich source for understanding the building's history and the cultural and religious practices of China in a broader context.



SECTION

THE PROJECT RESPECTS THE INTEGRAL NATURE OF THE ENTIRE TEMPLE, INCLUDING ITS ARCHITECTURAL DESIGN AND SPATIAL RELATIONSHIPS, BUILDING TECHNOLOGY, CREATORS AND STEWARDS, THE OBJECTS AND DOCUMENTS ASSOCIATED WITH IT, AS WELL AS THE EFFECTS OF TIME ON THE VISUAL APPEARANCE OF THE TEMPLE.

— QUOTE FROM PROJECT TEAM —

EXTERIOR FRONT VIEW



According to the account books, the community adopted the Chinese method of *dui-chang* ('rival building') to construct the temple. The method involves two construction teams competing for the completion of a building. The contest challenges the skills of each team, resulting (ideally) in better quality designs and work. The method is apparent in Hong San See's main hall, where the timber ornamentation on the left and right sides of the hall is not exactly the same. For example, the lantern holder on the left side of the main hall has a carved chrysanthemum motif at the bottom, whereas the one on the right features lotus designs. Hong San See is the only known temple in South-East Asia to have adopted the *dui-chang* construction method.

Hong San See underwent four renovations prior to the recent restoration: in 1934, 1962, 1976 and 1994. While the earliest renovations were mainly minor repairs and maintenance work, in the 1976 project the temple's custodians added a reinforced concrete column to the entrance hall. In 1994, they replaced the ceramic tiles at the gable wall with granite slabs. Despite the Lam Ann Association's subsequent efforts to maintain the building, the temple deteriorated over the years as a result of weathering and termite infestation. By the turn of the twenty-first century, the temple was in a poor condition and, consequently, the association rallied support from the community for a comprehensive conservation plan that respected to the site's heritage value.

PROJECT HISTORY

In 2004, the Lam Ann Association, the trustee of the Hong San See Temple, initiated a full-scale restoration project aiming to protect the historical and cultural significance of the temple. The association formed the Singapore Hong San See National Monument Restoration Committee to manage the project, and this committee commissioned artefact conservation experts from the Palace Museum of Beijing, China, to advise on the project. The experts and project team examined the temple in great detail to evaluate its heritage value and assess its condition before submitting a restoration plan. The plan, which included detailed designs and construction arrangements, was subsequently submitted to the relevant authorities for approval. After ten months of discussion and numerous amendments, down to the most intricate details, the Architectural Review Board

PROJECT TITLE
HONG SAN SEE TEMPLE
LOCATION
30 MOHAMED SULTAN
ROAD, SINGAPORE
SIZE
3,447.2 SQUARE METRES
COST
US\$ 1,770,000
RESPONSIBLE PARTY
SINGAPORE LAM ANN
ASSOCIATION
HERITAGE ARCHITECT
ARCHI THEME
PARTNERSHIP,
YEO KANG SHUA
DATE OF COMPLETION
DECEMBER 2009



approved the plan. The conservation work was carried out in two phases between September 2007 and January 2009.

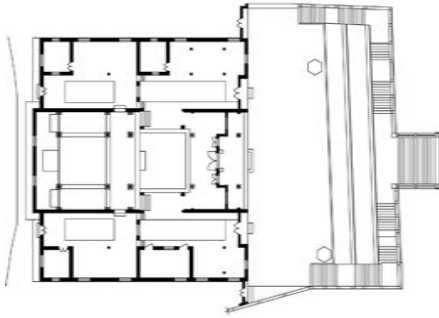
PROJECT SCOPE AND FRAMEWORK

The Hong San See Temple project had two main goals. One goal was to preserve the social and religious functions of the temple as a living monument. The other was to create an educational venue where the public could learn about Chinese art, architecture and culture. Thus, aside from work to conserve the structure, the project also involved creating a dedicated exhibition space to house interpretative materials and to provide a permanent home for the temple's artefacts. A key focus of the project was therefore on conserving the artefacts and records of the temple. The project also supported academic research and publications that promote the ideals of heritage conservation in Singapore.

CONSERVATION METHODOLOGY AND MATERIALS

The leading principle for the conservation project was to retain the original fabric and minimize interventions. The project team was guided by key international conventions and guidelines, including the Venice Charter and the Burra Charter, which served as references throughout the decision-making process. Another key reference was the ICOMOS China Principles for the Conservation of Heritage Sites in China, which further contextualized the work and called for the active involvement of local clan members. With this involvement, the project developed a community-driven conservation approach, which was rare in Singapore. The project team was also guided by the experience of local experts, relying on their knowledge of traditional methods for conserving timber architecture.

Given the priority of minimum intervention, the team retained as much of the original materials as possible, while removing insensitive and inappropriate additions. When replacements and new materials were required, the team used materials similar to the originals in physical and chemical characteristics. The team ensured that new components conformed to the originals and that new additions and treatments performed in ways consistent with the original materials of the temple. Moreover, the team ensured that all new insertions followed the principle of reversibility. Furthermore, the



PLAN

project team took pains to thoroughly record and document their work.

Decayed or degraded timber components were removed and spliced with new timber, instead of replacing the entire piece. The main types of timber used were *Machilus spp*, sourced from Indonesia for the structural components, and *Lauraceae spp* from China which was carved for decorative purposes. All new timber was treated against termites using a vacuum pressure process.

Traditional wood decorative techniques were revived. After much consultation with the clan members, the normal practice of re-gilding was not carried out in order to retain the patina of age. Instead, historic gilded timber members were dusted and cleaned with a cloth moistened with de-ionised water. Only new replacement timber parts were gilded where necessary. For lacquering, hemp was wrapped around the timber member before applying a coat of plaster. Once dry, the plaster was sanded flat, and the lacquer was applied.

The granite components were in relatively good condition, and were retained and cleaned with de-ionised water. A number of replacement pieces were commissioned for the balustrades and to reinstate the courtyard flooring that had been replaced with ceramic tiles. Stones were sourced from China as the granite quarries in Singapore are no longer operational. The replacement granite was selected with an eye to matching the texture and color of the original pieces.



MAIN HALL AFTER RESTORATION



GILDED WOODEN BRACKETS OF THE MAIN HALL BEFORE AND AFTER RESTORATION

The condition assessment revealed that the roof tiles were highly brittle and porous, and the team therefore decided to replace all of them. While the experts all agreed that it was possible to reproduce the traditional roof tiles, disagreement arose over the appropriate style of tiles to use. Some of the experts insisted that the existing glazed green tiles did not reflect the original style of the building, arguing that the team should replace these with unglazed clay tiles traditional to the Minnan region. Other advisors opined that the tiles should remain 'as is', emphasizing that the tiles had become part of the history of the building. Many in the community thought the green tiles appropriate as well, since they represented the distinctive character of the temple. To resolve the issue, the project team studied the temple's historic account books to find out what type of tiles had been used in the original construction. They unearthed a record stating that the temple had purchased green roof tiles in the period between 1908 and 1913. This record justified the replacement of the green roof tiles with matching tiles. This process demonstrated the importance of documentary records together with assessments of the existing materials and of community perceptions to ensure retention of a building's character and sense of place.



INTERIOR VIEW OF ENTRANCE HALL WITH GRANITE AND TIMBER DETAILS

IMPORTANT ISSUES

Fundraising was a key challenge for the project, as the temple's comprehensive conservation plan required a considerable investment. The project team implemented innovative fundraising activities, including selling 'Lam Ann' branded red wine, hosting concerts and approaching individual donors for contributions. These activities helped the Lam Ann Association to go beyond the local community and gain support from the wider population of Singapore for the conservation of this shared heritage.

As part of upgrading the functionality of the building, the trustees prioritized accessibility, despite the various constraints of the original layout. Stair lifts and ramps were installed in a reversible manner that did not compromise the historic fabric of the building. Other improvements included the reconstruction of the dilapidated auxiliary building housing the kitchen and toilet in a manner that harmonizes with the main temple structure.



INTERIOR VIEW OF MAIN PORCH FACING WEST WITH TIMBER CARVINGS

PROJECT SUSTAINABILITY AND VIABILITY

The temple today is a living monument that continues its original purpose, with the ongoing support of the Lam Ann community, while at the same time facilitating education and engagement with the wider public. Hong San See today functions as an active venue for Chinese art, architecture and culture, accommodating various types of exhibitions and educational programmes.



ROOF RIDGE DECORATIONS WERE RESTORED USING PORCELAIN MOSAICS



ROOFSCAPE OF THE TEMPLE

PROJECT IMPACT

The project to conserve Hong San See is considered the first project of its kind in Singapore to follow a strict conservation approach in the restoration of a religious building and it generated extensive media coverage, raising public awareness about the importance of conserving heritage buildings. As a result of the media exposure, other organizations and stewards of historic temples visited the conservation site to learn about the project's exemplary approach to research, documentation, fundraising and decision-making, and this prompted those organizations to follow a similar approach.

The conservation project relied on the assumption that architecture can help communicate the intrinsic values and rich traditions of a culture, and it serves as an inspiration for the general public. In particular, the project engaged younger generations in the overall process, hosting special events that helped them to trace their roots, gain a better understanding of their identity and rediscover their heritage.



TEMPORARY DISMANTLING OF THE MAIN HALL ROOF



CRAFTSPERSON WORKING ON CERAMIC ROOF ORNAMENTATION

TECHNICAL BRIEF

COMMUNITY FUNDRAISING EFFORTS

Hong San See Temple is owned and managed by the Singapore Lam Ann Association, a society for Singaporeans who can trace their ancestry to the county of Lam Ann (Nan-an) in Fujian Province, China. While approximately 430,000 residents of Singapore have lineage extending from Lam Ann, the clan association has around one thousand members.

Recognizing that the scale of work required to conserve Hong San See Temple represented a strain on the association's finances, in 2004 the leadership launched a fundraising effort. Later, in the context of the global financial crisis of 2008-2009, fundraising became a challenge. In spite of the difficulties, the association's fundraising effort raised over a million Singapore dollars from its membership. With escalating

restoration costs, however, this was not enough. The association's leadership decided to reach out to others in the Lam Ann community and also to other ethnicities and adherents of other religions. Accordingly, the association made a conscious decision to conserve the temple not as a religious site but as a heritage structure, one reflecting Singapore's rich history and diversity. Appealing to all in Singaporeans instead of simply to clan members greatly expanded the net for funding and other kinds of support.

The association had to be creative in its fundraising efforts. As a means of attracting support, the association organized two concerts with the Singapore Chinese Orchestra, one of which featured Poon Sow Keng (潘秀琼), a popular singer.



RELIGIOUS BLESSING DURING THE CEREMONY



CEREMONY FOR THE INSTALLATION OF DEITIES

The concert's organizers provided donors with complimentary tickets, with the understanding that most potential concert goers would be willing to donate if it was for a good cause. Other fundraising efforts included: the sale of a limited number of bottles of French red wine, specially labelled 'Lam Ann Red Wine'; inscribing names of individual donors on replacement roof tiles; and presenting souvenir bricks from a demolished auxiliary building as a token of appreciation for major donors. The bricks alone brought in more than 60,000 Singapore dollars. Moreover, the unwavering commitment of the association to the project attracted a generous donation of a million Singapore dollars from the Lee Foundation.

Hand in hand with the fundraising efforts was media coverage, which not only aided the fundraising efforts but, importantly, raised awareness within the Chinese-speaking community about the project and the value of conserving built heritage. The Chinese newspaper *Lianhe*

Zaobao (联合早报) was particularly active in disseminating information. One news item especially piqued public interest: This was regarding a debate among professionals about the roof eave tiles; a problem resolved through reference to records discovered in the temple's account books. Until the news article was published, it was widely believed that records of the Chinese community in Singapore from before the Second World War had been destroyed by their owners to prevent them falling into the hands of the occupying army. News of the existence of Hong San See Temple's account books demonstrated the possible existence of similar documents at other temples and businesses.

Combined, all of the fundraising approaches and communication activities enabled the association to meet its fundraising target, making it possible for them to complete the conservation project successfully.

Yeo Kang Shua

RED BRICK WAREHOUSES

JAPAN

WITNESS TO THE HISTORY AND COURSE OF INDUSTRIAL DEVELOPMENT OF JAPAN OVER THE PAST CENTURY, YOKOHAMA'S BELOVED RED BRICK WAREHOUSES HAVE BEEN GIVEN A NEW LEASE ON LIFE THROUGH THIS FORWARD-LOOKING PROJECT. THROUGH NINE YEARS OF DILIGENT AND SENSITIVE RESTORATION WORK, THE SYMBOLIC WAREHOUSES HAVE BEEN REVIVED AS A VIGOROUS CIVIC SPACE, ALLOWING THE CITIZENS OF YOKOHAMA TO RETRACE THEIR CITY'S INDUSTRIAL HERITAGE WHILE ENJOYING A MODERN LIFESTYLE COMPLEX. THE LIVELY COMMERCIAL REUSE OF THE WAREHOUSE BRINGS BACK THE SPIRIT OF PLACE TO THIS HISTORIC TRADING HUB. THE BUILT FABRIC, WHICH SHOWCASED THE LATEST INNOVATIONS FOR INDUSTRIAL ARCHITECTURE AT THE TIME OF ITS CONSTRUCTION, HAS BEEN SENSITIVELY RESTORED. THE PROJECT HAS DEPLOYED A SERIES OF OUTSTANDING TECHNOLOGICAL SOLUTIONS RANGING FROM SEISMIC RETROFITTING TO HISTORIC WINDOW DETAILING. THROUGH A SUCCESSFUL PARTNERSHIP BETWEEN THE PRIVATE AND PUBLIC SECTORS AT ALL LEVELS, THE RED BRICK WAREHOUSES HAVE BECOME A CATALYST FOR URBAN REGENERATION IN THE HISTORIC YOKOHAMA PORT AREA.

2010

AWARD OF DISTINCTION



W. W. W.

CONTEXT

Located within the port area of Yokohama, Japan, the Red Brick Warehouses project, which is made up of two buildings formerly known as Warehouses 1 and 2, is an outstanding example of how industrial heritage can be successfully re-imagined and can become fundamental to the regeneration of a whole city.

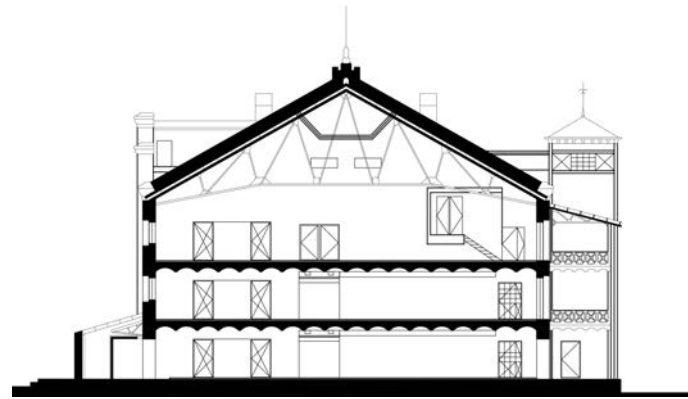
Yokohama was the first port in Japan to open up to foreign trade. As a central facility for Shinko Pier, the buildings of the Red Brick Warehouses were constructed just after the turn of the twentieth century, at the height of the technological advances of the time. The pier complex was state-of-the-art, and it included Japan's first cargo elevator, with a sprinkler system as well as fireproof doors. The modern construction methods made the buildings models for new warehouses in Japan. With their brick construction, the warehouse buildings largely survived the great earthquake of 1923 as well as a change of use in the Second World War.

BUILDING HISTORY

Yokohama constructed a modern steel pier in 1896 to facilitate loading and unloading of cargo and to serve as a transshipment area. The second phase of this development included the expansion of the wharf and the construction of Warehouses 1 and 2 (the Red Brick Warehouses), which served to store cargo awaiting import clearance. While the names of the warehouses suggest otherwise, Warehouse 2 was built first. Warehouse 2 was constructed between 1907 and 1911, while construction of Warehouse 1 took place between 1908 and 1913. The architect was Yorinaka Tsumaki, the head of the Ministry of Finance's Temporary Building Department.

The earthquake of 1923 caused the middle section of Warehouse 1 to collapse, but Warehouse 2 remained largely intact. After the earthquake, the warehouse managers reduced Warehouse 1 to half its original size and installed new walls of steel-reinforced concrete.

During the Second World War, trade at the port area came to a halt and the warehouses were used as a military supply depot. After the war, the buildings became the harbour headquarters and offices of the United States military, which later added a canteen to the



SECTION

THE BUILDING WAS CONSTRUCTED JUST AS THE PREDOMINANT CONSTRUCTION METHOD WAS CHANGING FROM MASONRY TO REINFORCED CONCRETE, WHICH WAS A PERIOD OF MAJOR CHANGE IN THE HISTORY OF ARCHITECTURAL TECHNOLOGY. THEREFORE, THIS BUILDING REPRESENTS THE FINAL STAGE IN THE DEVELOPMENT OF BRICK MASONRY CONSTRUCTION TECHNOLOGY, AND IT CAN BE SAID TO BE A 'PERFECT MODEL' OF BRICK CONSTRUCTION.

— QUOTE FROM PROJECT TEAM —



EXTERIOR OF WAREHOUSE 2
BEFORE RESTORATION



WAREHOUSE 2 AFTER RESTORATION,
INCLUDING THE ADDED GLASS ANNEX

buildings. In 1956 the buildings were decommissioned. Warehouse 1 became a customs warehouse, while Warehouse 2 served as public transit shed until the 1970s.

With changes in the shipping industry, the functions of the buildings as warehouses gradually declined, finally coming to a halt in the late 1980s. As the Red Brick Warehouses had not undergone any large-scale repairs since the 1923 earthquake, it was clear by the early 1990s that the buildings required restoration.

PROJECT HISTORY

In 1983, the City of Yokohama launched the Minato Mirai 21 urban development projects to pull different areas of the city together and enhance the role of the city centre. The city also began to consider conservation as an urban redevelopment tool. Urban planners recognized the potential of the Red Brick Warehouses and the surrounding Shinko District as a reuse project. After a period of intense negotiations with the national government, the City of Yokohama managed to acquire the land and buildings connected to the Red Brick Warehouses.

The city organized a conservation committee, including historians and other academics, and adopted a conservation policy. Using this policy as a guide, the city also held a competition, called the 'Space for the creation of a lively port and culture', to attract the private sector into the scheme. This process eventually led to a public-private partnership that brought together the city, government and several companies strongly connected with Yokohama. This partnership finalized the plans for the reuse of the building as a mixed-use centre for commercial and cultural activities.

In 2002, after nine years of planning and conservation work, the Red Brick Warehouses reopened. Warehouse 1 had been converted for use as a cultural facility, with a hall and exhibition space, while Warehouse 2 had been adapted for commercial mixed use, with shops and restaurants. In its opening year the Red Brick Warehouses had an impressive 5.69 million visitors. In 2013, when celebrating the one-hundredth anniversary of the complex's construction, the Red Brick Warehouses had already received over 60 million visitors since reopening, indicating the success of this project.

PROJECT TITLE
RED BRICK WAREHOUSES

LOCATION
1-1 SHINKO, NAKA-KU,
YOKOHAMA-SHI,
KANAGAWA, JAPAN

SIZE
17,163.5 SQUARE METRES

COST
US\$ 107,000,000

RESPONSIBLE PARTY
CITY OF YOKOHAMA
YOKOHAMA AKARENGA INC.
YOKOHAMA ARTS
FOUNDATION

HERITAGE ARCHITECT
CHIAKI ARAI URBAN &
ARCHITECTURE DESIGN
NORI IMAGAWA+TIS &
PARTNERS CO., LTD.

CONTRACTOR
TAKENAKA CORPORATION

DATE OF COMPLETION
NOVEMBER 1999



FRONT VIEW OF THE RESTORED BUILDING

PROJECT SCOPE AND FRAMEWORK

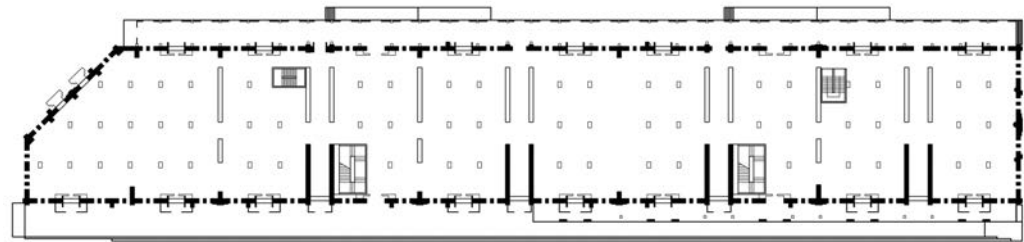
The project had four main phases: planning; stabilization, exterior repairs and interior work. The first step was a detailed survey of the building and its components, and the preparation of treatment plans for individual features. In the second phase, stabilization work included repairing the roof and reinforcing the walls. Next, the workers turned to the repair of the exterior walls and removal of graffiti and then to the repair of the window and door hardware. In the final phase, the construction crew took on the interior work, which included installing gas, electricity and water, along with sewage lines and other facilities necessary for modern cultural and commercial uses.

CONSERVATION METHODOLOGY AND MATERIALS

The project's leadership not only sought to improve the interior and exterior appearance of the buildings, they also aimed to ensure the longevity of the buildings. In this regard, one aspect of the project's approach was to promote a kind of 'living conservation', i.e. to undertake interventions that allow people to come into close contact with the heritage asset, while at the same time creating new uses and meanings for it. Accordingly, the Red Brick Warehouses Conservation and Renovation Study Committee established four key principles: preserve the visual aspects of the port, with special importance attached to the Red Brick Warehouses; maintain the exterior appearance of the buildings, while retaining the interior appearance as much as possible; propose new and untried preservation methods; and cater not only to a nostalgia for the past, but also to expectations for the future.

The Red Brick Warehouse are not 'designated cultural properties' under the *Law for the Protection of Cultural Properties* of Japan, but are rather public buildings used by a third party; therefore, the work had to comply with current building standards. However, although the buildings are not specifically protected, the expectation was that the historic character of the buildings would be retained. With this in mind, the design team set out a series of guidelines for future retail tenants that called attention to the property's history and character. These guidelines called for the retention of 60 per cent of the original brick surfaces, respect for hardware and finishes, colour codes for the interior design, and codes governing the placement of lighting and signs. Adherence to these codes has helped ensure that the overall character of the historic building prevails, while also allowing tenants to maintain their individuality. In line with the guiding philosophy, the selection of tenants for the commercial building followed a carefully-designed process to ensure that the tenants would be appropriate for the site and would bring additional value to the overall project.

For the conservation work, workers began by installing a movable temporary roof, and then replaced the roof tiles and drain pipes. About 120,000 roof tiles were replaced or re-laid. This task was performed by specialized artisans with construction experience in roof repairs, applying years of experience in Kyoto and Nara on similar tiled roofs. The team also installed and



PLAN



A TEMPORARY SLIDING ROOF WAS USED DURING THE CONSTRUCTION WORK

INTERIOR OF WAREHOUSE 2
BEFORE RESTORATIONINTERIOR AFTER
RESTORATION, NOW INCLUDING A RESTAURANT

replaced structural steelwork. For the repairs to the warehouse walls, the project's organizers imported specially-manufactured bricks from China so as to reproduce the handmade quality of the original building.

As work proceeded on the shell of the building, the project team was better able to assess interior conditions and the history of past changes. The floor plan became clearer as part of this process; the new survey had allowed for the identification of building needs, including new openings in several places. The team had also identified the need for a new addition and the insertion of a glazed corridor on the exterior of Warehouse 2. Keeping the main building elements visible had been a primary goal of the project, so adding the transparent addition allowed for the continuing appreciation of the building exterior. Wherever possible, workers retained period features. These included the corrugated roofs, fire doors, top-rail sliding doors and staircases.

IMPORTANT ISSUES

Two technical issues stand out in the conservation of this building: structural reinforcement and the addition of air-conditioning to the building.

The construction team set out to strengthen the structural system while also ensuring that the characteristic texture of the original brick wall was not damaged (both on the interior and exterior). The method chosen was to inject cement slurry and epoxy resin into the wall cavities. This method required intensive testing and monitoring because of the absorbent character of the bricks. Initial testing was by trial and error, but eventually the team developed a formula that ensured the appropriate materials and strengths for the different types of bricks. To join modern steel with the ferrous material representative of the earliest stages of steelmaking in Japan, the team sought out expert guidance and undertook meticulous testing and analysis. Steel manufacturers and several laboratories assisted in this process.

A second issue facing the project designers was the installation of a new air-conditioning system for the building. To ensure that outdoor units did not affect the exterior appearance of the building, the team installed the air-conditioning units in a semi-subterranean energy supply equipment building, which was built at a distance from the buildings. An underground culvert carries the supply of energy and heat to the Red Brick Warehouses.



THE PLAZA BETWEEN THE TWO BUILDINGS IS OFTEN USED FOR EVENTS

PROJECT SUSTAINABILITY AND VIABILITY

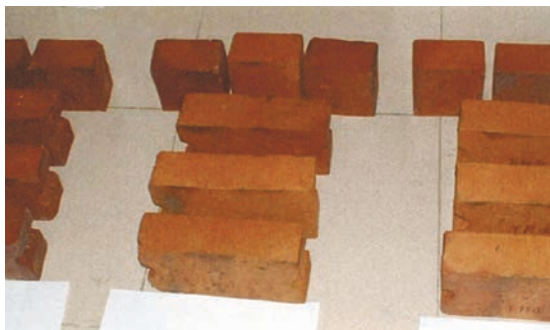
Although the Red Brick Warehouses had long ceased functioning as warehouses, in the 1990s residents of Yokohama still viewed the iconic warehouse complex as a symbol of their city. When the building stood empty, local residents organized activities in and around the building, a step that helped to identify its potential for reuse. The project's planners wanted the Red Brick Warehouses to not only serve as a viable retail centre but as a public place to be enjoyed by all, and they therefore

ensured that many stakeholders, from both the public and private sectors, were involved in the redevelopment of the site, making it a genuinely community-based project.

PROJECT IMPACT

The Red Brick Warehouses project is an exemplary model for other adaptive reuse initiatives and is precedent-setting in its combination of public and private sector investment and grass-roots involvement. Overall, it demonstrates the importance of interaction and mutual support.

The project has also had an impact on the potential uses of cultural properties in Japan. When the project began in 1995, the government added a new registration system to the existing designation system (which strictly regulates protection of special assets) to provide tax incentives and planning support for owners of cultural properties. This also allows owners discretion in the use of their properties. In effect, this new system has greatly expanded the ways that committed citizens can use and preserve cultural assets.



USING A TECHNIQUE SIMILAR TO THE ORIGINAL

AWARD OF DISTINCTION

GULABPUR KHANQAH

PAKISTAN

THE CONSERVATION OF GULABPUR KHANQAH HAS SAVED THIS 331-YEAR OLD HISTORIC MONUMENT WHICH SERVED AS THE LONG-TIME CENTRE OF SOCIAL, CULTURAL, RELIGIOUS ACTIVITIES FOR THE SURROUNDING COMMUNITIES. THE PROJECT DEMONSTRATES THE INCLUSION OF YET ANOTHER BUILDING TYPOLOGY IN THE GRASSROOTS CONSERVATION MOVEMENT ALREADY ACTIVELY UNDERWAY IN SHIGAR. FROM A STATE OF SEVERE DETERIORATION AND DEGENERATION, THE BUILDING HAS BEEN LOVINGLY RESTORED THROUGH THE COLLABORATIVE EFFORTS OF LOCAL COMMUNITY MEMBERS, EXTERNAL FUNDERS AND TECHNICAL ADVISORS. A PROCESS OF INTENSIVE RESEARCH AND DOCUMENTATION CREATED A THOROUGH UNDERSTANDING OF THE BUILDING'S STRUCTURE AND DILAPIDATION AND INFORMED THE SUBSEQUENT CONSERVATION WORK, WHICH DREW UPON LOCALLY-AVAILABLE MATERIALS AND ARTISANS TRAINED FROM PREVIOUS RESTORATION ACTIVITIES. THE PROJECT HAS SENSITIVELY MAINTAINED THE BUILDING'S PATINA AND SENSE OF HISTORY, WHILE ACCOMMODATING NEW BUILDING SERVICES SUCH AS ELECTRICITY DEEMED NECESSARY FOR ITS ON-GOING FUNCTION AS A SPACE OF PRAYER, MEDITATION, AND COMMUNAL MEDIATION. A GREAT SENSE OF COMMITMENT WAS DEMONSTRATED BY THE GULABPUR COMMUNITY, WHICH MAKES THE PROJECT AN EXAMPLAR OF COMMUNITY-LED ARCHITECTURAL RESTORATION UNDERTAKEN WITH A VIEW TOWARDS SUSTAINING LIVING CULTURAL TRADITIONS.

2010

AWARD OF DISTINCTION



CONTEXT

Gulabpur Khanqah is an important religious shrine in Gulabpur village, which is located on the bank of Shigar River in Skardu District of northern Pakistan. Skardu is an area rich in cultural assets. These include Shigar Fort, historic settlements surrounding the fort and the unique landscape of Baltistan Valley.

The khanqah belongs to the Noorbakshia sect of Islam, which is found in Baltistan, Kashmir and Central Asia. A building designed as a place of spiritual retreat, a *khanqah* is not only used for daily and Friday prayers, it also functions as a place for the resolution of disputes and as a site for Islamic festivals, gatherings of Sufi brotherhood and meditation sessions.

A khanqah typically consists of a long main hall with adjoining meditation rooms on the north and south sides, and a veranda on the east. In Baltistan, other characteristics of this building type include wood carvings, lattice work and calligraphy on the ceiling, as well as a double roof, crowned with a Tibetan-style tower.

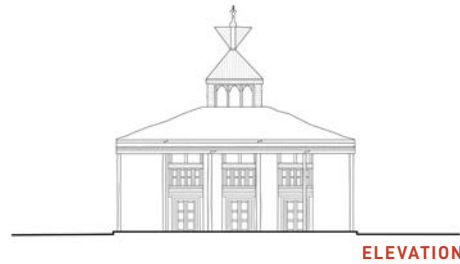
This project to conserve Gulabpur Khanqah was significant as it was the first project to restore a *khanqah* in Pakistan. It was achieved largely by the Gulabpur community, which contributed almost half of the budget in cash and kind, carrying out much of the conservation work themselves. The project also received substantial funding from the German Embassy in Islamabad.

The project prioritized traditional materials and construction techniques and resurrected many skills in Gulabpur. The process of engaging in the renewal of the *khanqah* helped to revive a strong sense of pride among the community, both in the sacred site and in the rich cultural legacy of their region.

BUILDING HISTORY

After Baltistan's conversion to Islam, the local population constructed numerous religious buildings throughout the valley. The buildings were constructed in the valley's architectural style, which is characterized by timber-framed structures in-filled with rubble, masonry and adobe.

Gulabpur Khanqah was one of six known *khanqah* constructed in Shigar in the late seventeenth century. Syed Mir Yaya, a descendant of Shah Syed Muhammad



ELEVATION

THE EMERGENCY STABILIZATION AND CONSERVATION OF THIS MONUMENT WAS AN IMPORTANT RESPONSIBILITY OF THE COMMUNITY. THEY FULLY CONTRIBUTED TO THE PROCESS AND THE MONUMENT WAS SAVED. THIS MASTERPIECE OF TRADITIONAL ARCHITECTURE REFLECTS THEIR ANCESTORS' GENIUS AND THE COMMUNITY'S OWNERSHIP AND PRIDE.

— QUOTE FROM PROJECT TEAM —



BEFORE RESTORATION

Noorbaksh, was the founder of these sites. He designated his sons and their successors to be the protectors (*pir*) of the monuments following his death.

The villagers undertook repairs to Gulabpur Khanqah at regular intervals, notably in 1808, 1868, 1909 and 2000. Nevertheless, prior to the current project the building was in an advanced state of decay, requiring an extensive conservation effort. A detailed survey and documentation of the building found that the problems were primarily caused by the severe weather conditions in the region, which is known for long periods of rain and snow. Water had washed the thick protective layer of clay off the roof and had eroded the walls and foundation of the building. Wooden elements, including rafters, beams and planks, which served important structural purposes, had decomposed.

PROJECT HISTORY

As early as 2002, the Gulabpur community approached the Aga Khan Cultural Service Pakistan (AKCS-P) for support in stabilizing Gulabpur Khanqah. Following this request, the AKCS-P initiated various activities, including architectural documentation, engineering works and emergency stabilization. Documentation identified many threats to the building structure, including infiltration of rain and snow at the roof level and significant foundation deformation. During the emergency stabilization phase, the AKCS-P added a layer of birch bark and soil on top of the second-level rooftop, a step that helped prevent further water infiltration. It became apparent to the AKCS-P team, however, that the stabilization work was only a temporary solution and that the building required more extensive intervention. Following a visit to the building by the German ambassador, the German Embassy in Islamabad offered to provide funding for a conservation project.

The project commenced in 2009. AKCS-P provided technical supervision, while the Gulabpur community contributed funds and materials and undertook much of the work. Each of the nine villages in the region contributed to the restoration of Gulabpur Khanqah, donating wood, such as poplar, walnut, apricot and mulberry, as well as labour to the project. Because of the paucity of authentic materials, each village dismantled one mosque that was no longer in use to provide the necessary materials.



SOUTH ELEVATION BEFORE, DURING AND AFTER RESTORATION

PROJECT TITLE
GULABPUR KHANQAH

LOCATION
GULABPUR, SHIGAR,
SKARDU DISTRICT,
PAKISTAN

SIZE
447 SQUARE METRES

COST
US\$ 41,638

RESPONSIBLE PARTY
GULABPUR COMMUNITY
AGA KHAN CULTURAL
SERVICE - PAKISTAN

HERITAGE ARCHITECT
AGA KHAN TRUST FOR
CULTURE

AGA KHAN CULTURAL
SERVICE - PAKISTAN

CONTRACTOR
AGA KHAN CULTURAL
SERVICE - PAKISTAN

DATE OF COMPLETION
AUGUST 2008



PROJECT SCOPE AND FRAME WORK

The conservation project had four main aims. The first was to preserve the *khanqah*, which was severely decayed, and to do so using a combination of traditional and modern techniques. The second aim was to ensure the financial viability and sustainability of the project through engaging community contributions. In addition; the project's leadership sought to encourage other community-based conservation initiatives. The final aim of the project was to provide training to the local community and engender a sense of ownership, respect and celebration of the region's heritage.

The project had several phases and foci. These included restoring the tower, removing and reinstalling the double roof, strengthening the foundation, realigning the walls and wooden posts, rebuilding the meditation chambers with new adobe blocks, upgrading the electrical system and re-plastering the internal and external walls.

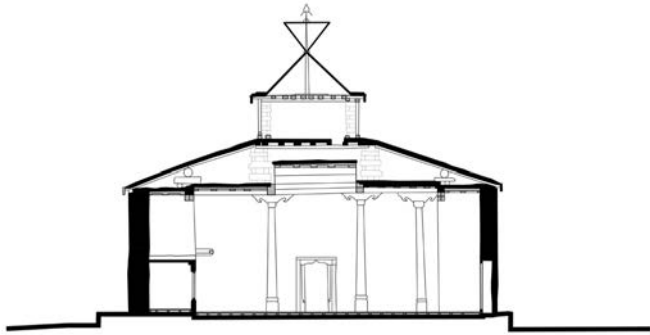
CONSERVATION METHODOLOGY AND MATERIALS:

The overall objective of the project was to revitalize Gulabpur *Khanqah's* original character as a religious building. In doing so, AKCS-P called for minimum intervention and also the maximum retention of both the structure and the original materials. As a consequence; the workers retained as much of the original building as possible and only used new materials where necessary.

The materials used in the construction of the monument, stone, mud, *shenjhaq* (soft clay) and timber; have good heat conservation properties, are earthquake resistant and are long lasting. New materials of this kind were locally-sourced and applied in ways sympathetic to the existing structure. Much of the wood and some of the other materials used in the repairs came from other old buildings (including a mosque that were no longer in use) nearby.

The project relied on local artisans familiar with traditional construction materials and methods. The workers employed at the project had extensive construction experience, and some had worked on an earlier AKCS-P project at Shigar Fort.

Recognizing that the design and construction of this type of building provides a better response to local conditions, such as snow and earthquakes, than modern structures, the AKCS-P team helped to revive knowledge



SECTION



TOWER BEFORE RESTORATION



TOWER AFTER RESTORATION

of the value of traditional architecture of the Baltistan valley through a training programme for local communities. This training also covered techniques in maintaining traditional buildings using local materials.

One of the key phases of the conservation project was the removal and restoration of the tower, which had been deformed as a result of the area's harsh weather conditions. Other elements of the conservation programme included the removal and reinstallation of deteriorated rafters and beams in the roof, followed by the replacement of fascia (facing) boards and friezes with new examples based on the original designs. At the foundation level, the team replaced the wood beams with stones and improved the drainage system.

Re-alignment of walls and wood posts was another major part of the project. Walls were leaning toward the veranda and revealed cracks and bulges. With the help of hydraulic lifters and iron ropes, the restoration team addressed these problems. Columns with broken stone bases also required replacement and realignment. Workers applied interior and exterior mud plaster, inserting chicken-wire to improve the stability of the plaster.

Joints between the walls of the *khanqah* and between the meditation chambers had separated and this required rectification with new timber supports. Other repairs to the meditation chambers included rebuilding the walls with adobe blocks and replacing broken roof rafters.



WORKERS RESTORING THE TOWER

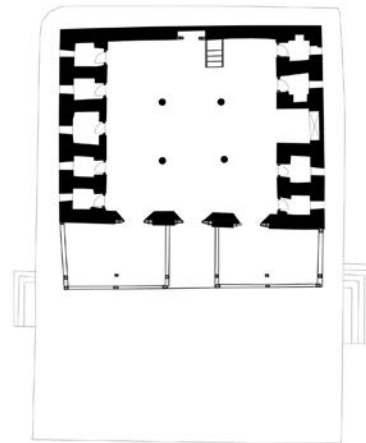


INTERIOR VIEW OF THE KHANQAH AFTER RESTORATION

IMPORTANT ISSUES

Due to its socio-religious functions, Gulabpur Khanqah plays a major role in the lives of the local people. Recognizing the value of this building, the community approached the AKCS-P for conservation assistance, and the project was distinctive for the degree of community participation. The local residents were fully involved in the work to conserve the building and also contributed considerable funds and materials. Through the project, the local community was empowered to take control of their heritage assets.

The only significant 'modern' improvement to the khanqah was the electrical fittings for an updated lighting and sound system. This was something the community considered essential to the building's ongoing use as a religious building. Additions included concealed wiring and suitable circuit breakers. An amplifier was added for the call to prayer. These improvements were installed with care and had no impact on the appearance or authenticity of the building.



PLAN

PROJECT SUSTAINABILITY AND VIABILITY

The Gulabpur Khanqah project was a pioneering conservation initiative in Pakistan implemented almost entirely by the local community. The AKCS-P organized the recruitment of local workers and artisans and the training of local people in the skills required for the maintenance of the building. The community had representation on the project committee and also contributed sizeable cash and material donations. The participation of the community provided a real sense of ownership of the building and also the project. This commitment also led to a high standard of project delivery and has ensured the sustainable maintenance of the building.

PROJECT IMPACT

The most rewarding aspect of the Gulabpur Khanqah project was the involvement of the community overall and the participation of local residents as active stakeholders, partners and friends of the project. Participation was a key characteristic of this project.

The conservation project also raised local appreciation for traditional design, materials and construction techniques, which are adapted to the context. Traditional buildings not only fit into their surroundings better than new structures, they are also more earthquake resistant and are better able to conserve heat. By using traditional materials and techniques and providing training programmes, the project revived the use of these materials by the community and improved the skills of local artisans. The project also assisted in helping the local community recognize the value of their heritage as a source for development.

The AKCS-P has handed the site over to a community-based management system. This has helped ensure guardianship of the building at the grass-roots level, a step vital for the retention and enhancement of the area's built cultural heritage.

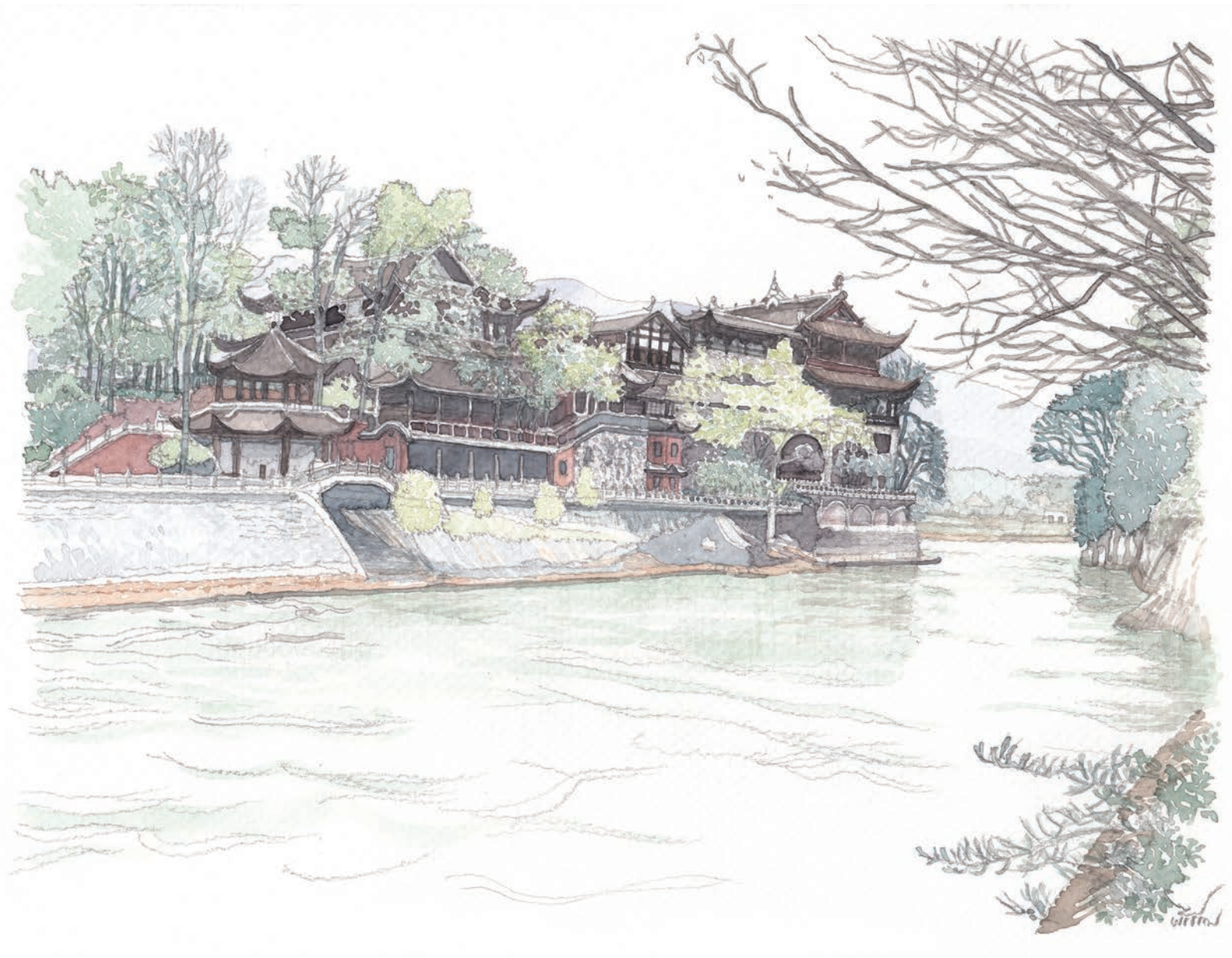
FULONG TAOIST TEMPLE

CHINA

LAUNCHED IN THE IMMEDIATE AFTERMATH OF THE DEADLY 2008 EARTHQUAKE IN SICHUAN PROVINCE, THE RESTORATION OF FULONG TAOIST TEMPLE REPRESENTS A NOTEWORTHY MODEL FOR POST-DISASTER RECONSTRUCTION AND RESTORATION OF CULTURAL HERITAGE. AS PART OF THE DUJIANGYAN WORLD HERITAGE PROPERTY, THE NORTHERN SONG DYNASTY ANCESTRAL TEMPLE IS A HISTORICALLY AND ARCHITECTURALLY SIGNIFICANT MONUMENT IN THE HYDRAULIC LANDSCAPE AND SUFFERED EXTENSIVE DAMAGE FROM THE EARTHQUAKE. FOLLOWING A RAPID DAMAGE ASSESSMENT AND THE DEVELOPMENT OF GENERAL GUIDELINES, THE PROJECT IMPLEMENTED A RESTORATION METHODOLOGY THAT CALLED FOR DESIGN AND CONSTRUCTION TO BE EXECUTED AS MOST SIMULTANEOUSLY. STRUCTURAL STABILIZATION, THE REMOVAL OF INAPPROPRIATE REINFORCED CONCRETE ADDITIONS, THE REINSTATEMENT OF TRADITIONAL TIMBER FRAMING AND USE OF APPROPRIATE BUILDING TECHNIQUES AS WELL AS MATERIALS WERE UNDERTAKEN WITH THE AIM OF GUARANTEEING THE SAFETY OF THE BUILDING. AT THE SAME TIME, THE WORKS SOUGHT TO SIMULTANEOUSLY RECOVER THE AUTHENTICITY AND INTEGRITY OF THE STRUCTURE. THE PROJECT WAS CARRIED OUT IN CONFORMITY WITH INTERNATIONAL CONSERVATION PRINCIPLES CALLING FOR RETENTION OF AS MUCH HISTORIC FABRIC AS POSSIBLE AND RESTORATION TO THE LAST KNOWN CONDITION. WITH COMPLETION ACHIEVED IN A SHORT 18-MONTH SPAN, THE PROJECT HAS RESTORED NOT ONLY A MAJOR MONUMENT OF OUTSTANDING VALUE, BUT ALSO THE CONFIDENCE AND SPIRIT OF THE PEOPLE OF SICHUAN.

2010

AWARD OF MERIT



PROJECT SYNOPSIS

Fulong Taoist Temple (also known as Fulong Guan or the Dragon-Taming Temple) of the city of Dujiangyan is located in Sichuan Province, China. The temple complex dates mostly from the seventeenth century (no doubt incorporating features of a far older original complex) and was built to commemorate Li Bing, a noted water engineer and political figure of the third century BC.

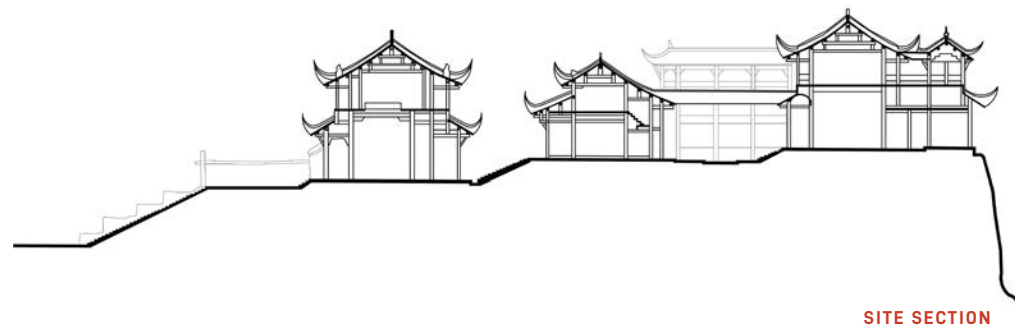
Li Bing is considered by his followers to be the conqueror of the river god and is worshipped as such. In 1974, local farmers discovered a statue of Li Bing that once served as an indication of water conditions; if the water was above the statue's shoulders, it meant flooding; if it fell below its ankles, this indicated drought. The ancient statue – one of the oldest stone representations of a human in existence – is displayed in Fulong Temple's main hall.

The temple complex is in many ways a hybrid of several cultures. It has the distinctive wooden structure and style of southern China, but with decorative features that are more typical of western Sichuan. Furthermore, over its history the temple has been subject to numerous influences, additions and alterations.

The decorations on the temple's roof ridges are handcrafted terracotta designs that represent scenes from Chinese mythology and of local life. The courtyards of the temple exemplify traditional gardening concepts of Chinese ancestral temples, featuring stone pavements and containing shrubbery and trees.

Fulong Taoist Temple is part of the Mount Qingcheng and the Dujiangyan Irrigation System World Heritage site inscribed in 2000. Dating from the time of the Qin state in the third century BC, and still in operation today, the irrigation system is an example of human ingenuity that controls both irrigation and flooding in the area of the Min River and has long been attributed to the pioneering hydrologist Li Bing. The irrigation system permits extensive rice farming by the local community.

The massive Sichuan Earthquake of May 2008 caused a great deal of damage in the province, including to Fulong Taoist Temple. In particular, three halls (Tiefo Hall, Laowang Hall and Yuhuang Hall), two corridors and two pavilions were affected. Roofs collapsed, timber structures were destabilized and the interior and exterior decorations and paintings were damaged.



THE PROJECT WAS CARRIED OUT WITH A HIGHLY-EFFICIENT WORK PLAN, CAREFUL MANAGEMENT AND THE INTERCONNECTEDNESS OF EVERY PROJECT PROCESS. IN THE CONSTRUCTION PRACTICE WE GENERALLY FOLLOWED TRADITIONAL TECHNIQUES, ADOPTING MOSTLY TRADITIONAL MATERIALS, WITH NECESSARY IMPROVEMENTS AFTER CAUTIOUS DISCUSSION AND COMPARATIVE ANALYSIS IN ORDER TO GUARANTEE THE CONSISTENCY AND COHERENCE OF THE CONSERVATION TREATMENTS.

— QUOTE FROM PROJECT TEAM —



THE COURTYARD BEFORE AND AFTER CONSERVATION

In response, the State Administration of Cultural Heritage and relevant departments in Sichuan province initiated a project to repair the damage to the temple buildings and reinstate the integrity of the complex. The conservation team, technicians and design team rapidly intervened after the disaster and were able to inspect and document the site soon after the earthquake. They set out plans to restore the complex to its original form; and the project was completed in just eighteen months.

CONSERVATION APPROACH

The conservation project had four goals: to stabilize the buildings and reinstate their safety; to re-establish the integrity of the temple complex; to apply traditional techniques and materials; and to stimulate local tourism; and rebuild the confidence of the local community after the earthquake.

A characteristic of this project's approach was that design and construction were executed almost at the same time. It was important to the project's designers that the design and conservation followed a similar trajectory and that the results would reflect both the conservation and revitalization aspects of the effort.

Before the earthquake, the temple complex was a well-preserved example of a late medieval Chinese temple, with its buildings and landscapes integrated into a complete whole. The earthquake had interrupted this unity, and the damage meant that many of the structures were no longer usable. The most obvious damage was to the roof tiles, most of which had fallen to the ground. The tiles had been placed on the roof in a traditional overlapping pattern and had been held in place by gravity. Given that the temple is located in an earthquake-prone region, the restoration team decided that the traditional roof-construction method was not the best choice in this instance and instead attached the tiles to the purlins by means of metal fasteners. This way, the tiled roofs retained the appearance of the older traditional roofs, preserving their visual integrity, but they were more secure.

The team's initial concern was the restoration of Tie'fo Hall, a building made of timber. Other restoration work included reassembling the components of the collapsed eastern corridor, relying on the information indicated by the wood joints. The conservation effort also extended to the decorations along the roof ridges;

+ +

PROJECT TITLE
FULONG TAOIST TEMPLE

LOCATION
DUJIANGYAN CITY,
SICHUAN PROVINCE, CHINA

SIZE
3,000 SQUARE METRES

COST
US\$ 9,535,000

RESPONSIBLE PARTY
THE GUANG XI
CONSERVATION CENTER
ADMINISTRATION

HERITAGE ARCHITECT
LV ZHOU
ZHU YUHUA
WEI QING
XU SHU KAI
GAO FEI
LEIXIAN
SUN YAN
WANGSHUAI

CONTRACTOR
THE GUANG XI
CONSERVATION CENTER
ADMINISTRATION

DATE OF COMPLETION
DECEMBER 2009

+ +



After piecing together the fragments of the decorations, the team determined which pieces could be restored and which ones would need to be copied. The latter were re-created on the basis of old photographs. In both cases, the team relied on local artisans to carry out the very detailed and time-consuming work.

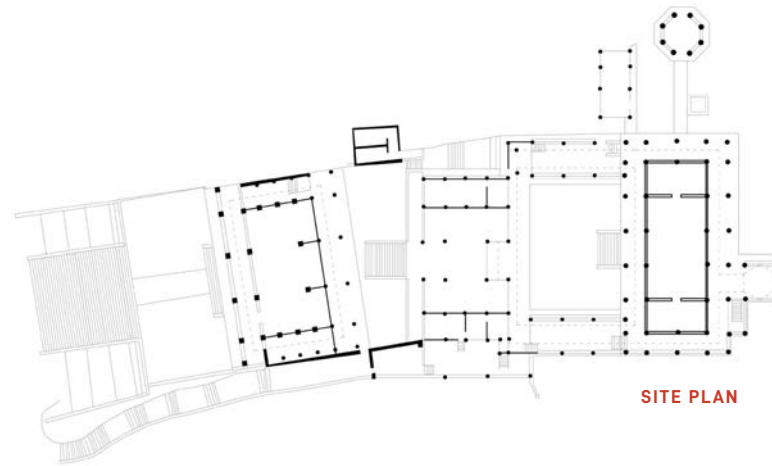
While most of the temple buildings date primarily to the Qing Dynasty (1636-1912), Yu'huang Hall dates from the 1950s and is not listed as a historic building. The conservation team nonetheless decided to restore it to its original character. Because of the structure's more recent date, the team was able to take some liberties with materials, replacing the building's stone columns with wooden ones, for example, in view of the better performance of wood in earthquake conditions.



INTERIOR VIEW OF DAMAGE OF THE SECOND FLOOR BEFORE CONSERVATION

CONSERVATION AND THE COMMUNITY

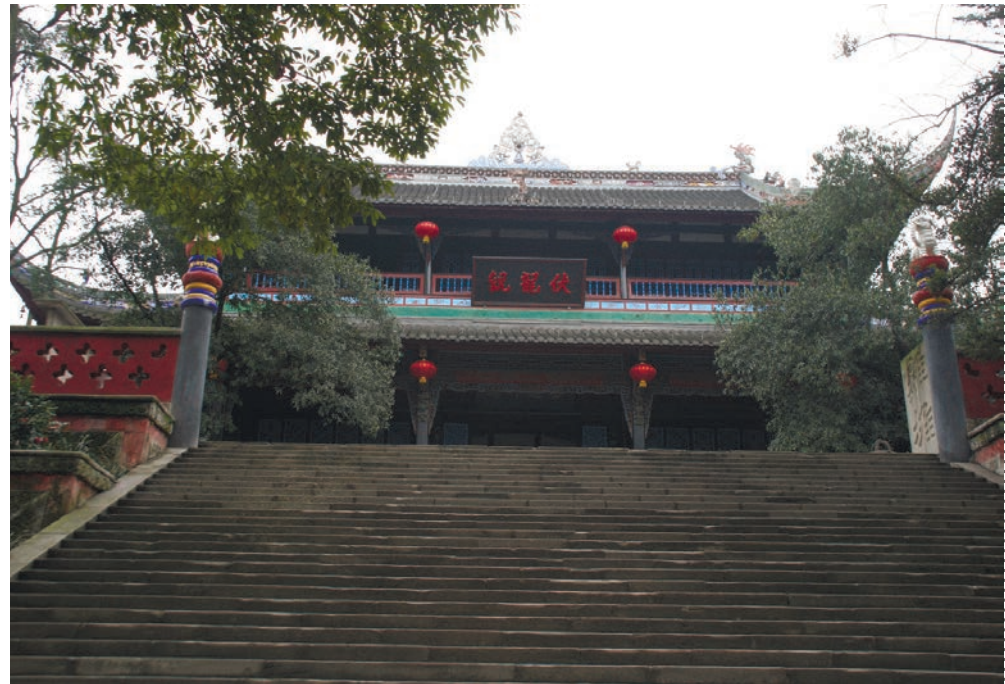
Fulong Taoist Temple is one of two significant temples within the World Heritage site; the other is Erwang Temple (Two Kings Temple), located at the foot of Mount Yulei. Both temples are of great importance to the local community for their roles in the spiritual and social lives of the residents, and also as a source of revenue. As one of the best-known features of the area, Fulong Taoist Temple is well-known to tourists. These visitors bring much-needed income into the local community, contributing to the overall well-being of local residents. The conservation project, by breathing new life into the temple, was successful in attracting new visitors to the site, making up for the loss of tourism in the immediate post-earthquake period. The project also employed and trained local people, and performed an important mission as a symbol of the community's resilience and hope.



SITE PLAN



CONSERVATION WORK ON
THE ROOF RIDGE DECORATIONS



THE FRONT VIEW OF TIE'FO HALL AFTER CONSERVATION

TECHNICAL BRIEF

FIRST AID TO CULTURAL HERITAGE IN A TIME OF CRISIS

Safeguarding cultural heritage during and after a crisis, such as an earthquake, can be challenging. Typically, cultural heritage is not included as a consideration in national and international emergency management systems and therefore is not prioritized. When cultural heritage is considered, it can be difficult for stakeholders to decide when to intervene, what route of action to take and who should be involved. To provide guidance in such situations, ICCROM with the support from the Prince Claus Fund for Culture and Development (2018) created a handbook titled *First Aid to Cultural Heritage in Times of Crisis*.

The handbook sets out the actions that need to be taken to stabilize and to reduce risks to tangible and intangible heritage in a time of crisis. In a practical sense, the handbook is also a training reference for cultural 'first responders': emergency relief personnel and volunteers. It covers emergency preparedness and the development of response plans for cultural heritage institutions, thus serving as a manual for the implementation of both first responses and broader humanitarian relief and recovery.

The book sets out three phases of first aid to cultural heritage in a time of crisis:

- Situation analysis
- On-site damage and risk assessment
- Security and stabilization

The 'situation analysis' phase involves developing an understanding of the context of the particular emergency. This process enables first responders to determine the needs for the recovery of cultural heritage and develop an action plan that is context specific. The second step, 'on-site damage and risk assessment', involves identifying

and recording the damage and also the risks posed to cultural heritage in the aftermath of the disaster, so as to help the stakeholders decide upon priorities for actions to be taken. The subsequent 'security and stabilization' phase involves actions to contain the damage and reduce risks.

For the successful implementation of these phases, the following procedures are needed: documentation, on-going risk management and communication and coordination with other first responders. The latter process was one of the keys to recovery after the Sichuan earthquake in 2008.

All actions should align with the humanitarian principles of humanity, neutrality, impartiality and independence, and should be people-centred, inclusive, context-specific and recovery-oriented.

In practice, 'people-centred' means putting human needs first and enhancing the ability of the local population to secure and recover their possessions and their items of cultural importance. Moreover, responders should provide aid to people, in cooperation with humanitarian relief and recovery efforts, acknowledging that in any crisis situation saving human lives is the top priority. Being 'inclusive' means respecting diversity and avoiding subjective value-based judgments that can increase inequalities in the affected area. For any emergency action to be 'recovery-oriented', it is crucial that responders first understand the wider emergency context. Actions that are 'recovery-oriented' are those that prevent any further damage and lead towards recovery.



STRUCTURAL DAMAGE AFTER EARTHQUAKE



WORK IN PROGRESS ON THE HUAI'GU PAVILION ROOF

Reference

Tandon, A. 2018. *First Aid to Cultural Heritage in Times of Crisis*. Rome and Amsterdam, the International Centre for the Study of the Preservation and Restoration of Cultural Property (ICCROM) and the Prince Claus Fund for Culture and Development. https://www.iccrom.org/sites/default/files/2018-10/fac_handbook_print_oct-2018_final.pdf. (Accessed 11 June 2019.)

CHOWMAHALLA PALACE

INDIA

THE RESTORATION OF CHOWMAHALLA PALACE HAS RESCUED AN EXTRAORDINARY COMPLEX FROM YEARS OF ABANDONMENT AND RE-OPENED IT UP FOR CONTEMPORARY CIVIC USE AS A PRIVATE MUSEUM AFTER A METICULOUS PROCESS OF RESTORATION. THE PROJECT ADDRESSED A RANGE OF TECHNICAL COMPLEXITIES WITH COMPETENCE AND A LIGHT TOUCH. ISSUES RANGED FROM LANDSCAPING TO BUILDING RESTORATION TO PRESENTING HISTORIC ARTEFACTS FOR DISPLAY. WITH THE SUPPORT OF A MULTI-DISCIPLINARY TEAM OF EXPERTS, THE PROJECT HAS ATTAINED WORLD-CLASS CONSERVATION STANDARDS. IT HAS GIVEN IMPETUS TO REVIVING LOCAL BUILDING MATERIALS AND TRADITIONAL WAYS OF CONSTRUCTION. THE PROJECT HAS RESTORED A CULTURAL OASIS IN THE HEART OF HYDERABAD, PROVIDING THE PUBLIC A GLIMPSE INTO THE LIVES OF THE OLD RULING FAMILY OF ASAF JAH.

2010

AWARD OF MERIT



PROJECT SYNOPSIS

Chowmahalla Palace in Hyderabad, central India, was the residence of the Nizams of Hyderabad. It was the royal seat of the Asaf Jahi dynasty (1724–1948). The palace complex is the traditional site of the accession of the Nizams and was a venue for other ceremonial occasions, including receptions for the governor general during British imperial rule.

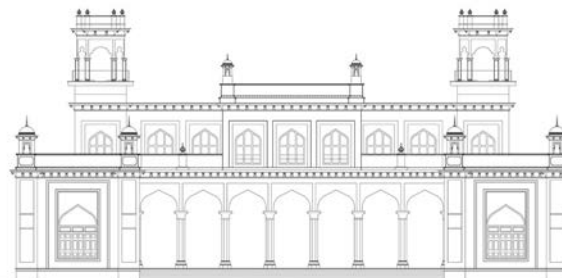
The complex exhibits two distinct architectural styles: European neoclassicism and Islamic Revivalist. Constructed by the Nizam Salabat Jung, the fourth Nizam of Hyderabad (who ruled from 1751 to 1762), the site consists of four separate residences, each of which is a palace (the name derives from 'chowmahallatu' meaning 'four palaces'), along with supporting structures, arranged around formal gardens and courtyards.

Abandoned by the Nizam of Hyderabad in 1973, the palace complex fell into a state of disrepair. By the turn of the twenty-first century, illegal encroachment, looting and several decades of neglect had caused considerable damage to the palace and its grounds. A number of buildings had become badly deteriorated and were structurally unsafe. In 2001, Princess Qhabl Begum Sahiba Esra Birgen (known as Princess Esra), the former wife of the current Nizam of Hyderabad, Mir Barkat Ali Khan Mukkarram Jah Asaf Jah VIII, conceived a multi-disciplinary conservation project for the royal palace. This effort returned the complex to its former splendour, while adding new cultural functions to the site, revitalizing the complex. Chowmahalla Palace was opened to the public in 2005, and has become a cultural beacon in the crowded inner city of Hyderabad.

CONSERVATION APPROACH

Years of neglect had left the buildings and grounds of the palace complex in various degrees of decay. Roofs had collapsed, walls had been damaged by years of penetrating water and damp, termites had taken their toll on the wooden features of many buildings and courtyards were overgrown. Some buildings required extensive reconstruction. Others needed to be stabilized. Much of the project involved work on interior spaces and decorative elements, all of which was time-consuming and required a special level of precision.

The project required a diverse assemblage of experts and labourers. The large team included architects, urban



KHILWAT MUBARAK FRONT ELEVATION

THE MANY TRADITIONAL ARTISANS WORKING ON FEATURES SUCH AS LIME STUCCO, PLASTER, CRYSTAL CHANDELIERS AND DECORATIVE TIMBER ELEMENTS WORKED ON THIS PROJECT FOR NEARLY FOUR YEARS, MAINTAINING THE HIGHEST STANDARDS OF CONSERVATION AND UPHOLDING INTERNATIONALLY-ACCEPTED NORMS SUCH AS MINIMUM INTERVENTION AND AUTHENTICITY OF MATERIAL AND SPIRIT.

— QUOTE FROM PROJECT TEAM —



OVERVIEW OF THE PALACE COMPLEX

designers, archivists, textile restorers and historians. The project also relied on local and imported artisans as well as the labour of the local community.

The conservation approach had several distinct phases. Following extensive documentation and mapping, the conservation team began the orderly process of consolidation and restoration, aimed at bringing back the original grandeur of the complex. The first phase of the construction work began with emergency repairs, including structural stabilization and strengthening. This stage also included stabilizing the damaged jack-arch ceilings, buttressing bulging walls to prevent structural failure, restoring damaged profiles of the stone and lime stucco column, undertaking splice repairs to wooden beams and rafters in the colonnades and strengthening masonry sections.

The next phase included waterproofing the terraces of all of the buildings, as well as combating water drainage issues and rising damp. This phase also involved stabilizing and conserving one of the courtyards to house a 'scholar's retreat' – accommodation for the many specialists who worked on the project.

The restoration of Khilwat Mubarak, an impressive ceremonial building within the complex, was the third phase of the project. Artisans, under the direction of the conservation specialists, repaired the Bohemian crystal chandeliers and decorative plaster ceilings as well as exterior plasterwork. In repairing the plaster, the artisans used traditional mortar mixes and lime washes. Elsewhere on the site, workers landscaped forecourts and restored the clock tower and gateways. They also completed work on other structures, including the library within the second courtyard. This feature served also as a conservation laboratory and was later converted into a museum.

The following phase of the project addressed issues within the other palace structures. These included repairing and waterproofing surfaces as well as restoring external lime renders and colour schemes. The limewashes were hand-mixed, with artisans and conservators matching Princess Esra's memories of the colours as closely as possible.

The fifth phase focused on the interiors, including the painstaking restoration of royal costumes and textiles, and of old photographs, which represented some of the earliest photographic records in India. Specialists then prepared the costumes, textiles and photographs for public exhibition.

PROJECT TITLE
CHOWMAHALLA PALACE

LOCATION
NEAR CHARMINAR,
MITHI GALLI,
HYDERABAD, INDIA

SIZE
66,700 SQUARE METRES

COST
US\$ 2,200,000

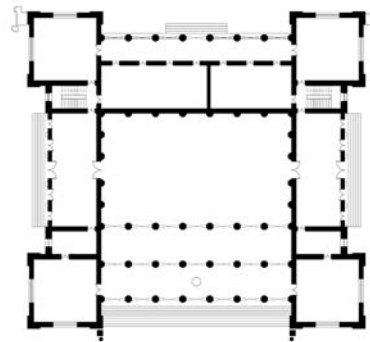
RESPONSIBLE PARTY
RAHUL MEHROTRA
ASSOCIATES

ABHA NARAIN LAMBAH
ARUP SARBADHIKARY
MARTAND SINGH
SHOBHITA PUNJA

HERITAGE ARCHITECT
RAHUL MEHROTRA
ASSOCIATES

CONTRACTOR
M/s CONSTRUCTION
TECHNIQUE &
FURNITURE ARTS

DATE OF COMPLETION
JANUARY 2005



KHILWAT MUBARAK PLAN

In introducing new uses, including a museum, meeting rooms and workshops for traditional craft workers, the conservation effort emphasized the retention of original materials and finishes, and the measured use of new treatments where required.

CONSERVATION AND THE COMMUNITY

The project rescued an abandoned historic complex and has created a vital cultural resource within the city of Hyderabad. Through adaptive reuse the project has also revitalized the historic ensemble and integrated it into the urban fabric of the city. The general public may now enjoy the museum, art galleries, a cultural centre and the restored landscape surrounding the palace complex, as well as the spectacular architecture of the palaces, and can view the family's significant collection of costumes and textiles.

Among its notable new features is a library, turned into an exhibition space. This exhibits valuable photographs from the Nizam's collection, allowing the community a glimpse into the life of another era and the role of one of India's prominent ruling families.



LAVISH INTERIORS AFTER RESTORATION

OLD HOUSES IN THE WORLD HERITAGE FORT OF GALLE

SRI LANKA

THE RESTORATION OF 55 OLD HOUSES IN THE WORLD HERITAGE FORT OF GALLE HAS REVIVED THE CHARACTERISTICS OF DUTCH HYBRID DOMESTIC ARCHITECTURE AND RESTORED THE TOWN'S HISTORIC STREETSAPES, WHICH HAVE BEEN DISAPPEARING UNDER THE PRESSURES OF MODERNIZATION. THE REINTRODUCTION OF THE COLONNADED OPEN VERANDAH HAS REINSTATED THE SEMI-PUBLIC ZONES ALONG THE STREETS AND RESTORED THE ORIGINAL SYSTEM OF VENTILATION AND COOLING. THE PROJECT EMPHASIZED THE USE OF TRADITIONAL MATERIALS SUCH AS HALF-ROUND ROOFING TILES. LOCAL ARTISANS WERE TRAINED IN ORDER TO BE ABLE TO SUSTAIN LOCAL BUILDING PRACTICES NEEDED TO RESTORE AND MAINTAIN THE HOUSES. THE PROJECT IS NOTABLE FOR VALORIZING PRIVATELY-OWNED, NON-LISTED HISTORIC HOUSES IN SRI LANKA, AND PIONEERING A NEW MODEL FOR PRESERVING THEM USING A COMBINATION OF HOMEOWNER CONTRIBUTIONS AND GRANT FUNDING FROM A HERITAGE FOUNDATION.

2010

AWARD OF MERIT



PROJECT SYNOPSIS

Built by the Portuguese in 1588, Galle became an important European settlement from the mid-seventeenth century, when it was occupied and reinforced by the ascendant Dutch. Dutch rule lasted until the end of the eighteenth century, when the British took control. Sri Lanka, known in the British period as Ceylon, remained a British colony until 1948, when it gained independence.

Galle is the largest surviving Dutch colonial town in South Asia. The pentagon-shaped town includes the fort's large ramparts and bastions and a grid-shaped street pattern. Buildings inside the fort include private residences, churches and public buildings such as government offices and hospitals.

Many of the private houses in Galle display influences from Dutch and British domestic architecture, mixed with a combination of Asian traditions, as well as the influences of the local artisans who built them. Some of the houses were renovated in the 1930s, when the owners added more modern architectural façades to the Dutch- or British-period cores. These new façades masked the original covered passageways (verandas) of the houses.

The 'Old Town of Galle and its Fortifications' was inscribed as a World Heritage site in 1984, and the fort area is classified as an Ancient Monument of Sri Lanka, so most of the fortifications and original public buildings are protected through government directives. This is not the case for most privately-owned houses in Galle, however.

By the turn of the twenty-first century, many of the old houses in Galle were in poor condition, with severe structural problems and leaking roofs. Some old houses had been demolished and replaced with insensitive new structures, while other houses had experienced a change of use from residential to commercial. These changes threatened the original character of the streetscape. Recognizing these issues, the Galle Heritage Foundation, which had been established in 1994 to ensure effective management and conservation of the Galle World Heritage site, initiated a project to repair fifty-five of the old houses. The project was funded thanks to a grant from the Government of the Netherlands and contributions by the owners of the houses and the foundation.



STREET ELEVATION

GALLE FORT'S WORLD HERITAGE STATUS GAVE A BOOST TO THE PRESERVATION OF PUBLIC BUILDINGS AND INFRASTRUCTURE, WITH PATRONAGE FROM LOCAL AND INTERNATIONAL COMMUNITIES AND FROM THE GOVERNMENT OF SRI LANKA. HOWEVER, PRIVATELY-OWNED DOMESTIC BUILDINGS COULD NOT DRAW THE ATTENTION OF THOSE INSTITUTIONS, AND THE STREETSAPES UNDERWENT DRAMATIC CHANGES. THE CONSERVATION PROJECT SOUGHT TO RESTORE THE UNIQUE STREETSAPES OF GALLE FORT BY REPAIRING PRIVATE HOUSES, ENDOWING AUTHENTIC ARCHITECTURAL CHARACTERISTICS WITH THEIR KNOWN ORIGINAL FORM.

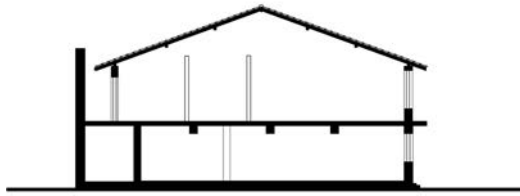
— QUOTE FROM PROJECT TEAM —



ONE OF THE PROJECT HOUSES
AFTER CONSERVATION



ONE OF THE PROJECT HOUSES
BEFORE CONSERVATION



SECTION

CONSERVATION APPROACH

The restoration project was a pioneering effort by the Galle Heritage Foundation to repair and preserve a significant group of privately-owned buildings and structures in Galle. One of the main objectives of the project was to return the house façades to their original form. They had originally featured a colonnaded open veranda between the street and the living areas. Many of the verandas had been encroached upon over time to increase the living spaces of the houses or had been covered with new façades. The conservation team felt that the restoration of the verandas would bring back the unique streetscape of the colonial port settlement and would also increase social interaction, revitalizing community life.

To establish the construction history of the houses, the restoration team undertook extensive research, which involved examining documentary evidence and old Dutch and British paintings of Galle, and interviewing the house owners. A conservation plan followed this preliminary work, and experts documented each of the buildings within the project area.

Apart from reintroducing the verandas as definitive aspects of the architecture of the townhouses, the team undertook various other work, including repairing the roofs, the building exteriors and the architectural elements of the houses, including the fenestration. As funding was limited, the team could not fully restore the floors and other interior features of individual buildings, thereby leaving several interventions to the owners of the houses.

The project team was committed to the use of traditional materials and techniques. To ensure compliance with the aspirations of the project, the team trained and employed a group of artisans.

PROJECT TITLE
OLD HOUSES IN
THE WORLD HERITAGE
FORT OF GALLE

LOCATION
GALLE, SOUTHERN
PROVINCE, SRI LANKA

SIZE
6,500 SQUARE METRES
(55 HOUSES,
APPROXIMATELY
120 SQUARE
METRES EACH)

COST
US\$ 65,000,000

RESPONSIBLE PARTY
SAMITHA MANAWADU
NIMAL DE SILVA
PARAKRAMA
DAHANAYAKE

HERITAGE ARCHITECT
SAMITHA MANAWADU
CONTRACTOR
GALLE HERITAGE
FOUNDATION

DATE OF COMPLETION
MARCH 2009



CONSERVATION AND THE COMMUNITY

From design to construction, the foundation ensured that the local community was very much involved in the conservation project. Prior to initiating the construction work, the restoration team consulted the owners and elderly members of the community to develop a comprehensive understanding of the history of the houses. Importantly, the owners also contributed to the search for and selection of the materials used.

Through the return of the open verandas, the boundary between public and private spaces was opened. The verandas now function as semi-public spaces, providing shelter and places to congregate. This change in the relationship between the houses and the street has had a significant impact on the socio-cultural character of the streetscape, reintroducing a unifying feature of Galle's past.



REDISCOVERED ARCHES
DURING THE CONSERVATION WORKS

BALLAARAT MECHANICS' INSTITUTE

AUSTRALIA

THE REFURBISHMENT OF THE FORMER BALLAARAT MECHANICS' INSTITUTE HAS RESTORED THE ICONIC LANDMARK OF THE NINETEENTH-CENTURY GOLD MINING TOWN AND SHOWCASES A SIGNIFICANT CHAPTER OF AUSTRALIA'S HERITAGE. THE HIGHLIGHT OF THE PROJECT IS THE RESTORATION OF THE STREET FAÇADE, WHICH DEMONSTRATES STRONG TECHNICAL PROWESS AND REINFORCES THE COHERENCE OF THE HISTORIC URBAN LANDSCAPE. THE INTERIOR WORKS, INCLUDING NEW SERVICES SUCH AS THE LIFT, WERE UNDERTAKEN WITH AN EYE TO AUTHENTICITY AND REVERSIBILITY, BY MINIMIZING THE IMPACT OF NEW INTERVENTIONS AND RETAINING THE ORIGINAL ELEMENTS TO THE EXTENT POSSIBLE. THE PROJECT DEMONSTRATES EXCEPTIONAL PUBLIC-PRIVATE COMMITMENT TO ENSURING THE ON-GOING ACCESSIBILITY AND CONTINUITY OF THE INSTITUTE'S HISTORICAL, ARCHITECTURAL AND SOCIAL SIGNIFICANCE FOR TOWNSPEOPLE AND VISITORS ALIKE.

2010

HONOURABLE MENTION



PROJECT SYNOPSIS

In colonial Australia, nearly every major town set up a community-owned mechanics' institute or school of the arts. One such institute was the Ballarat Mechanics' Institute (BMI). Established in 1859, in the days before government-funded libraries and adult education, this community-owned, not-for-profit cultural organization and library in Ballarat provided local residents with much-needed access to books, newspapers, periodicals, lectures and scientific demonstrations, as well as with a space for social and cultural gatherings.

Designed by Australian architect, C. Boykett, the BMI building was constructed between 1860 and 1864 following a gold rush that brought prosperity to the region. This building included a library, reading rooms, classrooms and a large lecture hall, which was later used as a cinema. In 1869 the institute added a grand three-storey frontage to the building, designed by J. H. Jones. This addition included a basement, shops, offices, a secretary's residence, a library and a museum room, which was later converted into a billiard room. In 1935, the BMI acquired an adjoining building, which had once been Ballarat's first mining exchange, to use as its library, and leased out the original library room.

Stylistically, the BMI is what has been described as a Victorian Free Classical building. Its façade, crowned by a sculpture of Minerva and distinguished by a succession of arched openings, reflects its mid-nineteenth-century construction period. Its windows follow the Renaissance Revival pattern, with round heads and two-over-two sash patterns. The building has cornices above the second and third levels, as well as pilaster strips defining the vertical bays. Because of its prominent position on Ballarat's main thoroughfare, the BMI had great significance for the streetscape.

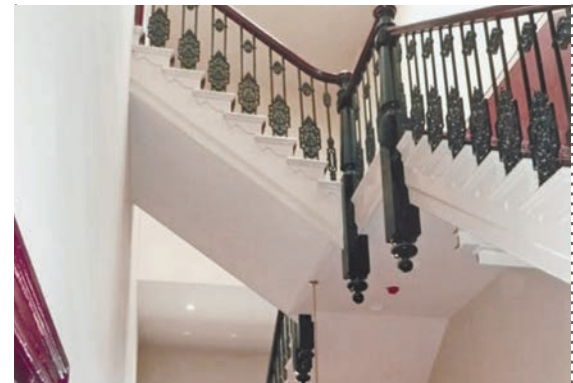
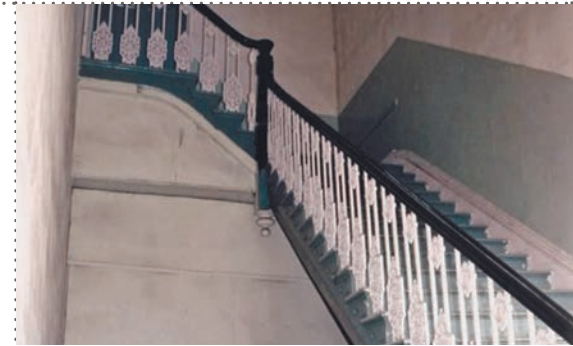
Alterations and a lack of maintenance of the complex since the 1950s led to a need for significant repairs and conservation work. Recognizing this, the BMI launched a conservation project in 2000. This project, undertaken over a period of thirteen years, repaired and refurbished the striking Victorian-era building, allowing the building to continue to serve as the preeminent cultural institution of Ballarat while also meeting modern standards. The restored building now serves a variety of social and cultural functions, from public meetings and musical performances to private parties and weddings.



SECTION

THE BALLARAT MECHANICS' INSTITUTE IS RECOGNIZED AND HIGHLY VALUED BY THE BALLARAT COMMUNITY AS A CULTURAL AND EDUCATIONAL CENTRE. THE CULTURAL HISTORY OF BALLARAT AND THAT OF THE STATE OF VICTORIA AND OF AUSTRALIA, IN TERMS OF GOLD MINING, THE EUREKA STOCKADE AND THE CULTURAL, EDUCATIONAL AND RECREATIONAL PURSUITS OF THE NINETEENTH AND TWENTIETH CENTURIES, IS CLOSELY INTERWOVEN WITH THE HISTORICAL DEVELOPMENT OF THE BALLARAT MECHANICS' INSTITUTE.

— QUOTE FROM PROJECT TEAM —



STAIRWAY BEFORE AND AFTER CONSERVATION

CONSERVATION APPROACH

The main goals of the project were to repair and replace the building's mechanical infrastructure, to modernize its facilities and to improve building safety. A significant aspect of the project was the restoration of the street façade, including the Minerva statue and the decorative veranda. The project also called for repairs to the roof structure and replacement of the asbestos roofing.

A key undertaking within the building was the reconstruction of the main staircase, which recaptures the appearance of the original, recalling the building's history grandeur. The restoration team also recreated the original decorative schemes of the interior, restoring woodwork and plaster detailing and re-creating missing elements. To achieve optimum results, the project relied on skilled artisans familiar with the techniques and materials of a bygone era.

Other work included the restoration of ground-floor rooms and the former mining exchange building to form the 'Heritage and Reading Centre', in which interpretive exhibits about the city's history are presented to the public. These exhibits particularly emphasize the pioneering and mining history of the city, enabling the continuity of local heritage.

The project also inserted modern amenities, including a lift and toilet facilities. The restoration team insisted that these new additions to the building be discreet and visually unobtrusive. The lift is reversible; the mechanism, located in an open courtyard, is independent of the original structure and could be removed in future without damaging the building.

CONSERVATION AND THE COMMUNITY

The Ballarat community has owned and managed the BMI for 150 years and many community organizations provided support and revenue for the conservation project. Today, the institute continues to fulfil its purpose of providing 'literary, scientific, and other useful knowledge, and the supply of rational in-door recreation' for its members. One of its principal facilities is still its library. Another ongoing service is in providing a forum for the discussion of ideas and the promotion of the arts. Following its restoration, the BMI has expanded its capacity to serve local residents and tourists; providing a wide range of activities and serving as a venue for events. The building also houses important collections and hosts temporary exhibitions of interest to the community and visitors.

The BMI retains many associations with its past and with the history of the community. The former mining exchange section of the building is a clear link to the gold discoveries in Ballarat in the nineteenth century that led to the formation of the Ballarat Stock Exchange. The mining exchange is also a continuing emblem of the community's past involvement in the gold mining industry.

The project addressed a number of critical conservation issues and dealt well with the challenges of providing modern services and accessibility within a heritage structure. The creation of the Heritage and Reading Centre and the provision of a multi-purpose performance space give new life and purpose to the building, further cementing its ties to the wider community.

PROJECT TITLE
BALLAARAT
MECHANICS' INSTITUTE
LOCATION

117-119 STURT STREET,
BALLARAT, VICTORIA,
AUSTRALIA

SIZE
2,222 SQUARE METRES
COST

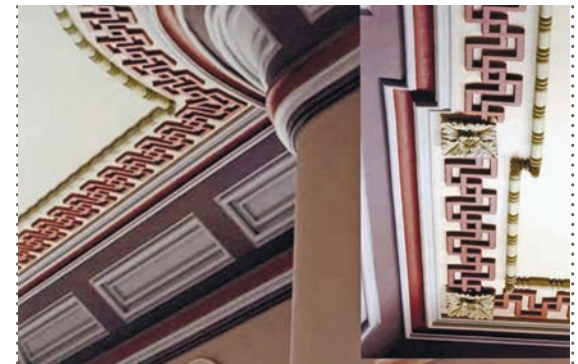
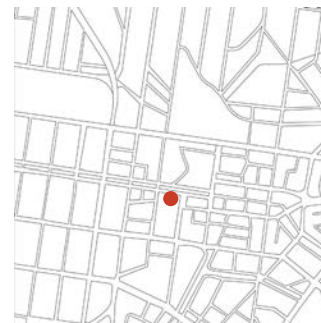
US\$ 2,110,000

RESPONSIBLE PARTY
BALLAARAT MECHANICS'
INSTITUTE
HERITAGE VICTORIA

HERITAGE ARCHITECT
WENDY JACOBS
ARCHITECT & HERITAGE
CONSULTANT
MORTON DUNN
ARCHITECTS

CONTRACTOR
S J WEIR (BALLARAT)
PTY LTD.

DATE OF COMPLETION
JULY 2005



HUMFFRAY ROOM BEFORE AND AFTER CONSERVATION

NORTH XINJIAO STREET

CHINA

THE NORTH XINJIAO STREET PROJECT HAS RESTORED THE LAST REMAINING TRADITIONAL COMMERCIAL STREET IN TAIZHOU AS AN HISTORIC ENCLAVE IN THE MIDDLE OF A RAPIDLY-DEVELOPING MODERN CITY. UNDERTAKEN IN LIEU OF AN ALTERNATIVE PROJECT WHICH WOULD HAVE REQUIRED COMPLETELY DEMOLISHING AND REBUILDING THE ENTIRE STREET TO IMPROVE WATER DRAINAGE, THE PROJECT REPRESENTS A VICTORY FOR THE LOCAL RESIDENTS, AS IT HAS SUSTAINED BOTH THE PHYSICAL AS WELL AS THE SOCIAL FABRIC OF THE PLACE. THE HISTORIC TIMBER AND BRICK FAÇADES WERE RESTORED USING AUTHENTIC MATERIALS AND HAND-TOOLED TECHNIQUES. THE QUALITY OF LIFE OF THE LOCAL RESIDENTS HAS IMPROVED, WITH THE UPGRADE OF ELECTRICITY AND OTHER SERVICES IN A DISCREET AND WELL-INTEGRATED MANNER. TRADITIONAL CUSTOMS HAVE BEEN REVIVED, ENSURING THAT THE 100-YEAR OLD STREET ONCE AGAIN IS A VIBRANT PART OF THE CITY'S LIVING HISTORY.

2010

HONOURABLE MENTION



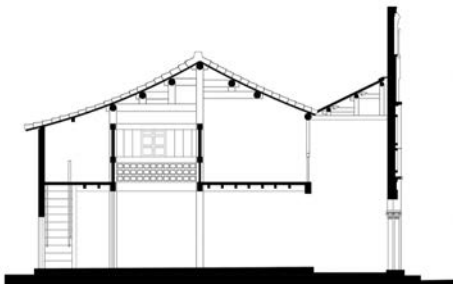
PROJECT SYNOPSIS

North Xinjiao Street is the only commercial street dating from the end of the Qing Dynasty (1644-1912), surviving in the city of Taizhou, Zhejiang Province, China. Located about 300 kilometres south of Shanghai, Taizhou (formerly known as Taichow) is a coastal city on the East China Sea that has had a long relationship with seagoing trade. On account of the geographical location of North Xinjiao Street, which leads to the sea gate of Taizhou, it became an important commercial corridor.

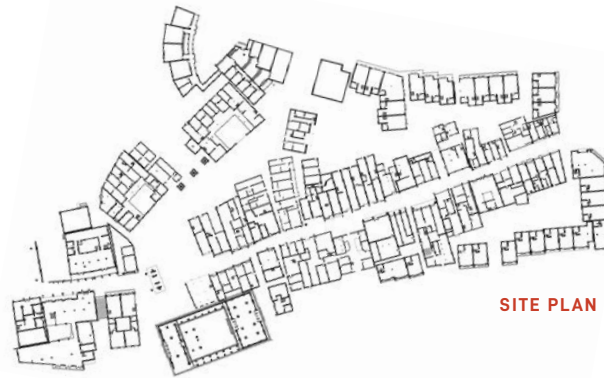
The street hosts shops, several temples, a church and a stage for theatrical performances. It is located in the Jiao Jiang district, which features both Chinese and European architectural styles. A strong French influence is discernible, owing to a French Nestorian priest who built over forty houses in the port area.

In the decades prior to the conservation project, the street had fallen into disrepair, with many of the structures on North Xinjiao Street in poor condition. The streetscape had also suffered years of inappropriate choices and neglect. Issues included poor drainage and unsightly electrical wiring. Local government administrators and some residents had called for the redevelopment of the area, considering the older buildings to be beyond repair. The local community opted, however, for conservation and restoration, a decision that led to the revitalization of North Xinjiao Street.

After the repairs to the buildings, the street has once again become a flourishing centre of commercial activity, culture and community spirit. In particular, the restoration of the street has led to the revival of local traditions and ceremonial occasions. Moreover, the conservation of North Xinjiao Street has had an enormous impact on the surrounding area.



SECTION



SITE PLAN

THE CONSERVATION AND REUSE PROJECT OF NORTH XINJIAO STREET NOT ONLY PRESERVES THE PHYSICAL VALUE VIA RESTORATION, IT ALSO REVITALIZES TRADITIONAL CUSTOMS AND REGENERATES TRADITIONAL COMMERCIAL CULTURE.

— QUOTE FROM PROJECT TEAM —



FOLK PARADE

CONSERVATION APPROACH

Overall, the approach to conservation was one that sought to retain a maximum amount of materials and original design elements, with the aim of preserving the authentic character of the street. The project sought to bring a sense of dynamism back to the area, while avoiding a 'cookie-cutter' approach. It had four main objectives: to preserve the historic street and block pattern, as part of an overall urban conservation effort; to preserve the street's examples of blended Chinese and European architectural styles and the details evident in the architecture; to encourage the continuation of local intangible heritage, including traditional ceremonies and events; and to help to fuel the local economy and improve the standard of living of local residents.

To determine the scope of the project, the project's designers defined the conservation zone to encompass the street and its buildings as well as the residential courtyard dwellings located away from the street. The team then established a buffer zone outside of the core area in which the scale, shape and nature of developments would be controlled. This development-control district provided a transitional area between North Xinjiao Street and the surrounding city.

The project team also identified tangible and intangible heritage values in the area. The tangible heritage values included the three architectural types dominating the visual landscape of the street: traditional Chinese shops, commercial architecture in a European style (or having European-style decorations) and traditional Chinese courtyard dwellings. Intangible values included the street's significance for the people and the culture of the place, particularly its former role as a centre for social and religious activities and traditions. These included temple fairs, opera performances, wedding ceremonies and traditional handicrafts.

To inject new life into North Xinjiao Street, the conservation team adapted several structures for reuse. For example, Wu Sheng Temple became a calligraphy and painting gallery that can also be used as a community centre.

PROJECT TITLE
NORTH XINJIAO STREET

LOCATION
JIAO JIANG DISTRICT,
TAIZHOU,
ZHEJIANG PROVINCE,
CHINA

SIZE
21,000 SQUARE METRES

COST
US\$ 11,420,000

RESPONSIBLE PARTY
CHANG QING
JIAO JIANG BRANCH OF
THE TAIZHOU
CONSTRUCTION AND
PLANNING BUREAU

HERITAGE ARCHITECT
CHANG QING
HUA YUN
ZHANG JIAN

CONTRACTOR
ARCHITECTURAL DESIGN
& RESEARCH INSTITUTE
OF TONGJI UNIVERSITY

DATE OF COMPLETION
DECEMBER 2004



CONSERVATION AND THE COMMUNITY

The conservation project focused not only on restoring buildings, public spaces, infrastructure and public amenities, but also on restoring the social and economic life of the area. A key aspect of the effort was to return commercial activity to the street. This included encouraging new shops, restaurants and handicraft businesses. In addition, the conservation team made a real effort to revitalize public spaces through facilitating cultural events, including performances, Tai Chi practice, weddings, plays and much more. An offshoot of the conservation work and increased commercial activity was a rise in tourism. Greater numbers of visitors have helped increase job opportunities, leading to an improvement in the quality of life of the local community.



TEA HOUSE BEFORE AND AFTER CONSERVATION

HONOURABLE MENTION

CHHATRAPATI SHIVAJI MAHARAJ VASTU SANGRAHALAYA

PRINCE OF WALES MUSEUM

INDIA

THE RESTORATION OF CHHATRAPATI SHIVAJI MAHARAJ VASTU SANGRAHALAYA (FORMERLY THE PRINCE OF WALES MUSEUM) HAS GIVEN A MUCH NEEDED UPLIFT TO A MAJOR INDO-SARACENIC MONUMENT THAT HOUSES ONE OF MUMBAI'S LEADING MUSEUMS. THE PROJECT IS NOTABLE FOR THE CAREFUL RESTORATION OF THE FAÇADE, WHICH TYPIFIES THE ECLECTIC MIXTURE OF EUROPEAN, HINDU AND ISLAMIC ARCHITECTURE THAT CHARACTERIZES THE HERITAGE BUILDING. IN ADDITION, DISSONANT ACCRETIONS TO THE BUILDINGS WERE REMOVED, AND REPLACED WITH ORIGINAL MATERIALS SUCH AS LIME PLASTER AND LOCAL STONE, THEREBY ENHANCING ITS ARCHITECTURAL VALUE. PUBLIC-PRIVATE PARTNERSHIP IS NOTEWORTHY IN THIS PROJECT WHICH WILL ENSURE THE SUSTAINABILITY OF THIS GRACEFUL EDIFICE AS A LANDMARK IN THE HISTORIC FORT PRECINCT FOR GENERATIONS TO COME.

2010

HONOURABLE MENTION



PROJECT SYNOPSIS

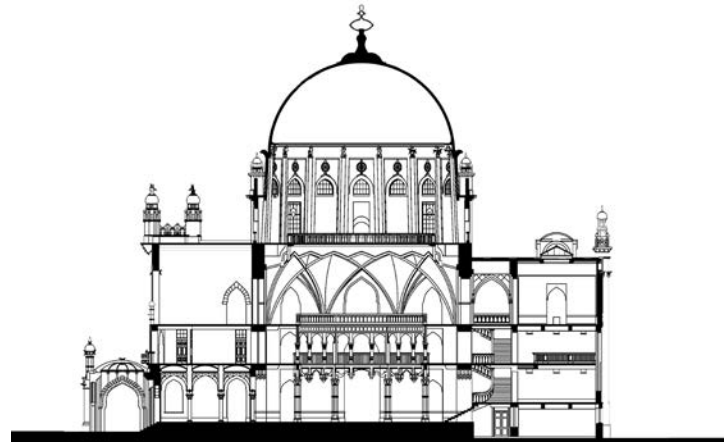
Located within the Fort district of Mumbai, India, the Chhatrapati Shivaji Maharaj Vastu Sangrahalaya (CSMVS) is a leading independently-owned and -operated museum. Designed in the early twentieth century by George Wittet, noted as one of several architects who popularized the Indo-Saracenic architectural style in what was then Bombay, the impressive structure is one of the key landmarks of the area. The Indo-Saracenic style, which combines Hindu and Islamic elements as well as components of European architecture, was widespread in the late nineteenth and early twentieth centuries in India and the surrounding countries of the British Empire.

The CSMVS (formerly known as the Prince of Wales Museum) occupies a parcel of reclaimed land developed from a maze of docks into a new civic area on the city's harbour frontage. Created to commemorate the visit of the Prince of Wales to Mumbai in 1905, the imposing stone building, topped with a white dome, was completed in 1915. The sprawling museum, which holds an impressive collection of Indian antiquities as well as the art collections of Sir Ratan Tata and Sir Dorab Tata, is surrounded by about three acres of landscaped gardens. When the conservation project was launched in 2008, the museum building was in dire need of intervention. The building suffered from considerable leaking, dampness and surface deterioration. Furthermore, earlier insensitive repairs had marred the architectural integrity of the building. Also, the building lacked modern amenities and appropriate office space.

The project had several distinct phases, the first of which consisted of structural repairs and restoration of the building shell. This was followed by the provision of visitor facilities and improvements to the interior spaces. The final phase was the restoration of the gardens.

CONSERVATION APPROACH

The conservation project aimed to restore the architectural, structural and material integrity of the building, while addressing the functional requirements of a museum. A Grade I heritage building, the museum required careful and thoughtful treatment in order to respect its character. The conservation approach was one of minimal intervention, with authentic use of replacement materials and the employment of



SECTION

THIS PROJECT HAS BEEN A PIONEERING EFFORT OF A GROUP OF TRUSTEES AND ACTIVE USERS OF THE MUSEUM AND HAS REINFORCED THE BELIEF OF CONSERVATIONISTS AS WELL AS THE COMMON CITIZENS OF MUMBAI THAT IT IS IMPORTANT TO ACKNOWLEDGE THE SIGNIFICANCE OF ONE OF THE CITY'S MOST ICONIC HISTORIC BUILDINGS.

— QUOTE FROM PROJECT TEAM —



specialized and skilled personnel to perform the restoration work.

Before establishing the overall conservation strategy, the team drew up a detailed map of the fabric condition. A careful investigation of the museum's archives provided the original plans and designs. The team then divided the project into separate phases, areas of concern and interventions, including strengthening the structure; upgrading the interior spaces and restoring the landscaped gardens.

Phase I priorities were structural repairs, waterproofing and the conservation and restoration of the building exterior. This included work on the building's domes and concrete *chhajjas* (sun shades), re-creating the original China mosaic waterproofing of the terraces, removing the hard Portland cement and replacing old concrete patches with lime mortar. This phase also involved the removal of vegetation from crevices and cleaning of the external stone. Another important part of this first phase was the removal of inappropriate accretions to the building so as to restore its legibility. Items removed included plywood doors and partitions; cement sheets blocking up windows and incongruous plant species in the garden. Workers also moved air-conditioning units off the façades.

In the second phase, the conservation team turned to the deteriorated lime render of the domes in the central foyer. These were painstakingly restored. Skilled masons also restored the original marble floor and dado (upper section of the walls) using lime plaster. This phase also involved improving the administrative areas and the visitor amenities, with particular attention to the restrooms. The electrical wiring was also upgraded. The team used existing gas pipelines to hide the new electrical services and thereby avoid altering the appearance of the building.

The third phase of the conservation plan accomplished the re-creation of the original parterre landscape, based on the original *charbagh* patterns of the sprawling front garden. The team's designers ensured that the shrubs were the appropriate height and that plantings aligned to the overall garden scheme;

**OPPOSITE: EXTERIOR
BEFORE AND AFTER CONSERVATION**

+ +

PROJECT TITLE

CHHATRAPATI SHIVAJI
MAHARAJ VASTU
SANGRAHALAYA

LOCATION

M.G. ROAD, FORT,
MUMBAI, MAHARASHTRA,
INDIA

SIZE

6,140 SQUARE METRES

COST

USD\$ 613,280

RESPONSIBLE PARTY

SABYASACHI MUKHERJEE
ABHA NARAIN LAMBAH
ASSOCIATES

HERITAGE ARCHITECT

ABHA NARAIN LAMBAH
KRUTI GARG
ARUP SARBADHIKARY
JAMSHED BAPASOLA
ASAVARI HONAVAR
URMILA RAJADHYAKSHA
NEERAV SARAIYA

CONTRACTOR

RAVI GUNDU RAO AND
ASSOCIATES
SAVANI CONSTRUCTIONS
SHREE CONSTRUCTIONS
RACHANA NURSERY

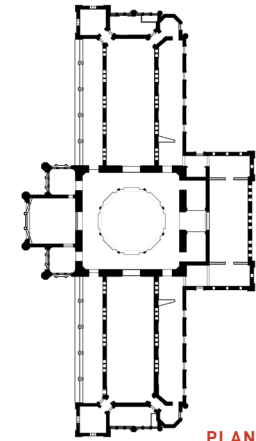
DATE OF COMPLETION

OCTOBER 2009

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CONSERVATION AND THE COMMUNITY

As the museum was not part of a regular government-funded programme, fundraising efforts were required to cover the costs of the conservation project; the museum therefore stayed open to visitors throughout. Uninterrupted public access helped generate funds through ticketing, gifts and donations. The Mumbai Metropolitan Region Heritage Conservation Society and the Ministry of Culture also contributed to the project. The project gave rise to various educational and entertainment projects to attract younger visitors and ensure that the needs of all visitors are met. In this way, the project has reinforced the museum's goal of being a visitor-friendly site and one that increases awareness of India's rich heritage.



MUSEUM INTERIOR AFTER CONSERVATION

AWARD OF EXCELLENCE

BAOJIATUN WATERMILL
CHINA

SUMDA CHUN GONPA
INDIA

AWARD OF DISTINCTION

ALTIT FORT
PAKISTAN

AWARD OF MERIT

SERKHANG MONASTERY
CHINA

SCRIPTURES HALL OF WAT THEPTHIDARAM WORAWIHAN
THAILAND

HONOURABLE MENTION

**SCAD HONG KONG
(FORMER NORTH KOWLOON MAGISTRACY BUILDING)**
CHINA

NA PHRA LAN HISTORIC SHOPHOUSES
THAILAND

SALARIAN PAVILION OF WAT KUTAO
THAILAND

JURY COMMENDATION FOR INNOVATION

**SYDNEY HARBOUR YHA AND THE BIG DIG ARCHAEOLOGY EDUCATION
CENTRE**
AUSTRALIA

MA'ANQIAO VILLAGE
CHINA

2011

BAOJIATUN WATERMILL

CHINA

THE RESTORATION OF THE ANCIENT WATERMILL IN THE VILLAGE OF BAOJIATUN SETS AN OUTSTANDING PRECEDENT FOR SAFEGUARDING A LIVING AGRICULTURAL LANDSCAPE IN CHINA. INNOVATIVE PARTNERSHIPS BETWEEN VARIOUS AGENCIES UNDERPINNED A HOLISTIC APPROACH TO THE CONSERVATION OF THE SITE. THE PROJECT HAS RETURNED THE WATERMILL, THE VITAL LINCHPIN OF A WATER MANAGEMENT SYSTEM DATING BACK OVER 600 YEARS, TO WORKING ORDER, ALONG WITH ITS ASSOCIATED DIKES, IRRIGATION CHANNELS AND DAM STRUCTURES. THE HIGHLY SENSITIVE RESTORATION WORK HAS ENSURED THAT THE WATERMILL RETAINED ITS AUTHENTIC CHARACTER AND PATINA. IN SUSTAINING THE FUNCTIONS OF THE TRADITIONAL AGRICULTURAL COMPLEX AND THE ASSOCIATED CULTURAL PRACTICES, THE PROJECT SHOWCASES THE SIGNIFICANCE OF ASIA'S CULTURAL LANDSCAPES, WHICH ARE RAPIDLY VANISHING UNDER PRESSURES OF URBANIZATION.

2011

AWARD OF EXCELLENCE



WITM



FRONT VIEW BEFORE AND AFTER RESTORATION

THE WATER FACILITIES IN BAOJIATUN PLAYED A VITAL ROLE IN THE EVERYDAY LIVES AND LIVELIHOODS OF THE VILLAGERS OVER THE PAST 600 YEARS. TODAY, FOLLOWING THE RESTORATION PROJECT, THE FACILITIES HAVE BEEN RETURNED TO THEIR WATER STORAGE, IRRIGATION AND FLOOD CONTROL FUNCTIONS. THE SYSTEM ONCE AGAIN LINKS THE LANDSCAPE, ARCHITECTURE AND LOCAL CULTURE.

— QUOTE FROM PROJECT TEAM —

CONTEXT

Located in Guizhou Province of China, Baojiatun Village is part of an important living cultural landscape, with clear historical, architectural, social and functional values. Its significance is a product of the original functionality of its water facilities and the villagers' harmonious adaptation to the environment over six centuries.

Baojiatun dates to 1369, during the Ming Dynasty. The village began as a garrison station, but with the end of the conflict some army troops settled there to live as farmers. A dam was established by the settlers to store water for irrigating crops and as a flood control measure. Later, the villagers constructed a canal, 1.33 kilometres in length, diverting water from the river using a 'fish-mouth'

dike, and they also built five new diversion dams and five approach channels to irrigate the fields. This required separating the river channel into two courses. Following this, the villagers incorporated water-driven grain mills into the system, to take advantage of the energy generated by the water flow.

Baojiatun Watermill is only a small part of the village's water system but is one that gives expression to the system as a whole. The watermill connects the canals and is an important component linking the dams, dike and water gates, all of which are necessary elements in safeguarding the village during periods of drought or flood.

The villagers of Baojiatun maintain the tradition of

jun nuo—the symbolic worship of Beidi (the god of water)—whom they pray to for a successful harvest. This religious tradition, which is imbued with references to ancient martial arts, stretches back to the village's origins as a military garrison and the site's longstanding association with the river. Through on-going association with the practice of *jun nuo* the watermill is thus not only an artefact of the past but is also part of the living heritage of the village.

The village leaders successfully applied for the listing of Baojiatun as a historic and cultural village, a status they achieved in 2010. The ancient water system and the mill are now recognized as important cultural relics under governmental protection.

BUILDING HISTORY

Built towards the end of the fourteenth century, Baojiatun Watermill's architecture is representative of vernacular methods and materials of construction. The building employs the *chuandou* structural system, known also as a 'through-type timber frame' or 'column-and-tie construction'. Tall purlin-to-ground columns run the full length of the gable end, while horizontal tie beams serve to secure the posts. Interior partitions of local stone serve to further reinforce the structure. A *zhuba* wall, constructed of woven bamboo, forms the framework, and cow dung serves for exterior plastering. The walls under the window sills consist of horizontally-sliced stone slabs. These slabs were quarried by villagers, taking advantage of the cleavages in the natural rock beds. Irregular pieces of slate, set to mimic the overlapping pattern of fish scales, cover the roof.

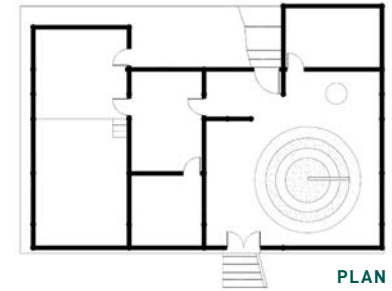
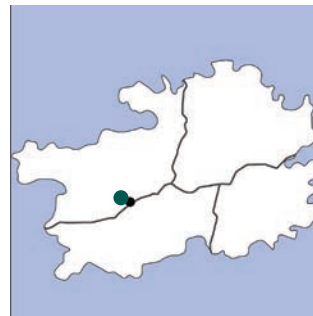
Constructed on the edge of a paddy field beside a river, the humble watermill building has a courtyard in the south and a stone bridge in the north-west corner. The grinder for the mill is situated above the river course. When water from the river flows from the north to the south below the mill, the water wheel is set in motion and drives the roller for grinding grain.

At one point there were as many as six watermills in the village. Most of these were abandoned over time, however, and eventually collapsed. Over its history, Baojiatun Watermill suffered damage from warfare, flooding and, later, neglect. Its structural members and roofing suffered the greatest losses of integrity, and villagers gradually replaced many of the original slate roofing tiles with asbestos shingles. The *chuandou* system supporting the exterior walls deteriorated, causing the west wall to collapse and the east wall to lean outwards. Windows and doors also deteriorated and no longer fit their frames. The roof's eaves also failed. Accordingly, by the turn of the twenty-first century the building was in a state of ruin, was unsafe and was no longer functioning as a mill.

PROJECT HISTORY

As an essential component of the local water management system, and the only remaining watermill in the village, the poor condition of Baojiatun Watermill interrupted the entire water system, representing an immediate threat to the cultural landscape. Recognizing

PROJECT TITLE
BAOJIATUN WATERMILL
LOCATION
BAOJIATUN, GUIZHOU, CHINA
SIZE
APPROXIMATELY
112 SQUARE METRES
COST
APPROXIMATELY US\$ 5,000
RESPONSIBLE PARTY
SHIXING BAO
HERITAGE ARCHITECT
SHIXING BAO
QINGZHOU WU
XUMING TAN
CONTRACTOR
ZHILIN CHEN
DATE OF COMPLETION
OCTOBER 2009



this threat, in 2008 the 'Compass' programme of China's State Administration of Cultural Heritage partnered with local villagers to spearhead a conservation effort, which was supported financially by the China Institute of Water Resources and Hydropower. The project involved the participation of diverse stakeholders, including researchers, designers and local artisans.

PROJECT SCOPE AND FRAMEWORK

The aim of the project was to reinstate the functionality of the water management system and preserve the cultural landscape of the village and its surroundings through the restoration of a key element: Baojiatun Watermill. The conservation work focused on reinstating the original appearance and function of the mill. In particular, the team sought to repair the building's structure and *chuandou* system. The team also sought to eliminate unsafe features of the watermill and to ensure the building's continuing use. Spanning two years, the project had three main stages: research, mapping and restoration.

CONSERVATION METHODOLOGY AND MATERIALS

The project respected the original form, system and aesthetics of the watermill and adhered strictly to Baojiatun's architectural traditions. The conservation team adopted traditional techniques to ensure authenticity, gave precedence to existing materials present in the building and, when new materials were required, placed emphasis on the use of local materials. When creating decorative elements to replace missing pieces, the artisans made careful reference to the original patterns.

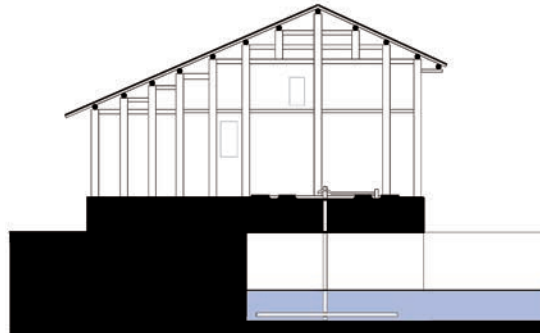
Following a detailed analysis of the site conditions, the project began with work to stabilize the precarious structure. To achieve this, the restoration team systematically detached the watermill's components, repaired them and then reassembled them. The team repaired non-load bearing areas using dry bricks. The repair of the building's load-bearing columns was followed by the restoration of the roof. The team reinstated the steeply-pitched roof, introducing new slabs of slate to replace the missing pieces. The water wheel and grinder, integral components of the mill, were in a functional condition and therefore required no repair.

The team undertook preventative measures against flooding using stone strips in the plinth and by constructing a stone wall along the exterior wall of the watermill. Workers used traditional construction techniques and lime mortar to build the wall.

IMPORTANT ISSUES

The Baojiatun villagers are highly dependent upon the water management system established centuries ago as it ensures a supply of water for the irrigation of their farmland and because it protects the village from flooding. As a key component of the water management system, the watermill is essential to the village, and its restoration ensured the continuity of the irrigation and flood control system. At the same time, the preservation of the watermill ensured the long-term sustainability of its natural setting. Moreover, the conservation project conserved the intangible traditions anchored in the windmill's physical fabric.

A technical understanding of the vernacular building was vital to its meticulous conservation. Careful research of local building crafts and traditional knowledge and the use of local materials and construction methods helped to answer this challenge.



SECTION



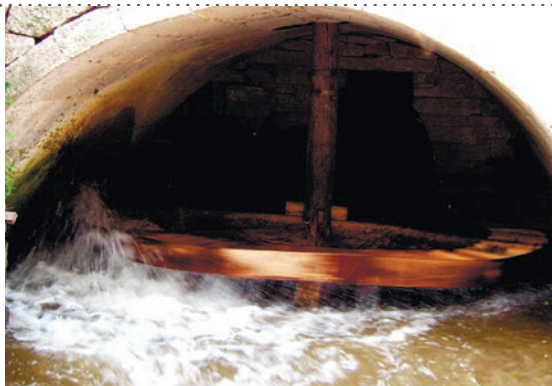
WEST VIEW BEFORE RESTORATION



WEST VIEW AFTER RESTORATION



ROOF DETAIL



THE WATER-POWERED MILL BACK IN USE

PROJECT SUSTAINABILITY AND VIABILITY

The project safeguarded the original use of the watermill and enabled the ongoing operation of the mill for the foreseeable future. Moreover, the local community was empowered to carry out regular maintenance, thereby ensuring the long-term sustainability of the structure.

As well as protecting the building, the conservation process raised interest in protecting the agricultural landscape of Baojiatun, a site facing growing threats from urbanization. Accordingly, bringing the watermill back to life from its dilapidated state helped ensure the continued viability of the cultural landscape of the village. The restoration of the mill also contributed to the community's cultural continuum.

PROJECT IMPACT

The project fostered greater public awareness of the natural and cultural heritage of Baojiatun, including a better understanding of the value of the traditional water management system and of local traditional building techniques. The project also promoted cultural traditions rooted in the community. Furthermore, it catalysed interest in the conservation of local heritage.

The restoration method used in the project, which focused on maintaining the authenticity and integrity of place, significantly influenced conservation practice regionally and beyond. The project has played a positive role in promoting similar methods in nearby villages. Those villages now have newfound awareness of living cultural landscapes and of best practice in conservation.

In addition, the successful conservation of Baojiatun Watermill contributed to attracting tourists to the area, increasing employment opportunities for the local community. Future ventures in eco-tourism that build on the growing appreciation for local natural and cultural heritage in the region have the potential to help protect the traditional culture and landscape of the area.



VILLAGER GRINDING GRAIN

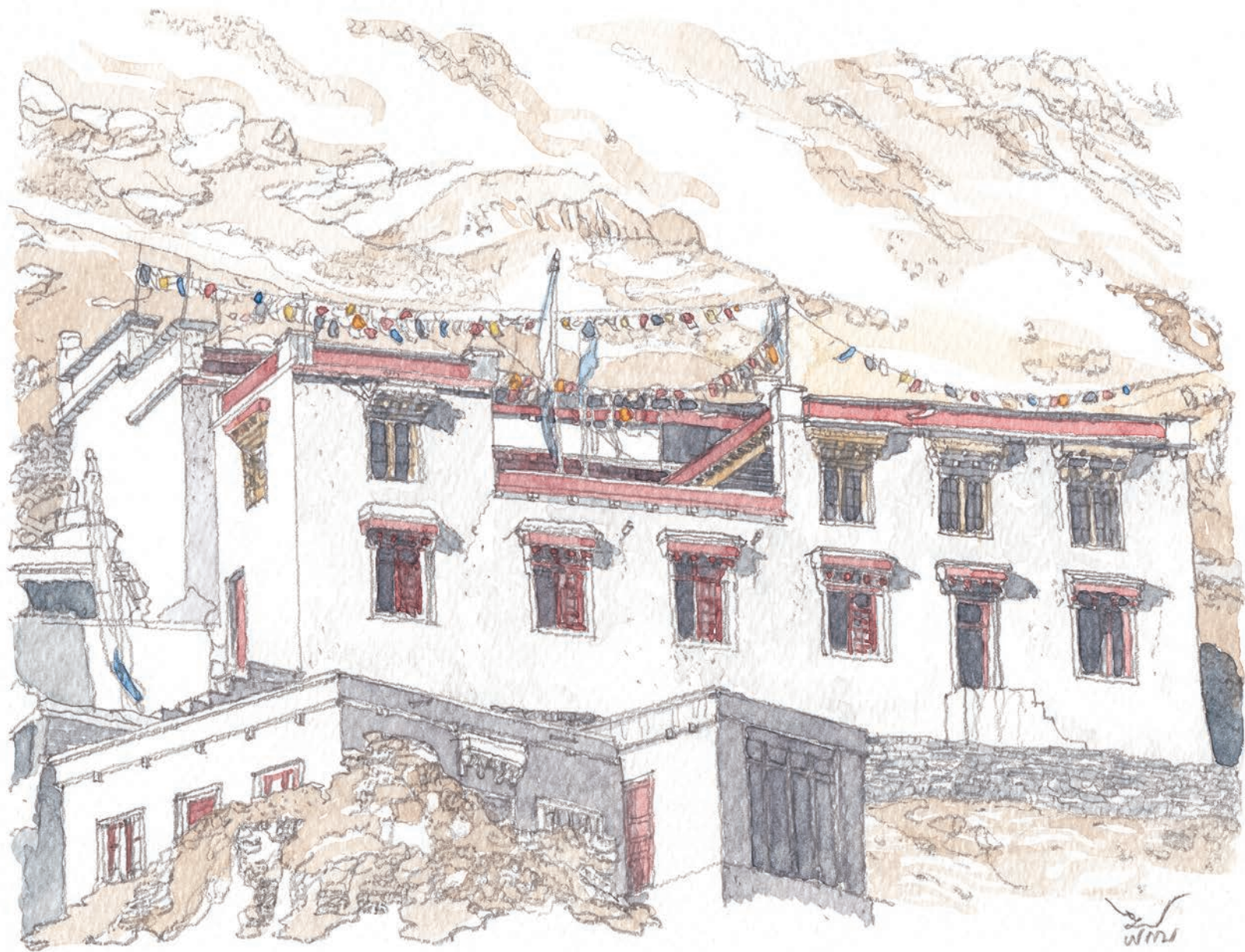
SUMDA CHUN GONPA

INDIA

THE HEROIC RESCUE OF SUMDA CHUN GONPA HAS REVITALIZED ONE OF THE OLDEST MONASTERIES IN LADAKH. THE RESTORATION OF THE HISTORICALLY SIGNIFICANT BUT SEVERELY DILAPIDATED STRUCTURE WAS CARRIED OUT IN A SYSTEMATIC AND SENSITIVE MANNER GUIDED BY METICULOUS RESEARCH. THE CONSERVATION INTERVENTIONS COMBINED WORLD-CLASS SCIENTIFIC METHODS WITH VERNACULAR BUILDING KNOW-HOW. THE ART CONSERVATION IS PARTICULARLY NOTABLE FOR ITS SOPHISTICATION. THE EXEMPLARY PROJECT WAS REALIZED THROUGH THE STEADFAST COMMITMENT OF THE LOCAL COMMUNITY AND THE MONASTIC ORDER, IN COOPERATION WITH CULTURAL FOUNDATIONS AND INTERNATIONAL PARTNERS.

2011

AWARD OF EXCELLENCE



CONTEXT

Located in the village of Sumda Chun, in the high and remote mountainous Zaskar area of Ladakh, the monastic complex of Sumda Chun Gonpa is a living testament to the Buddhist faith and its history. Its isolated location is common to early Buddhist monasteries, which provided spiritual education through solitude and self-reflection.

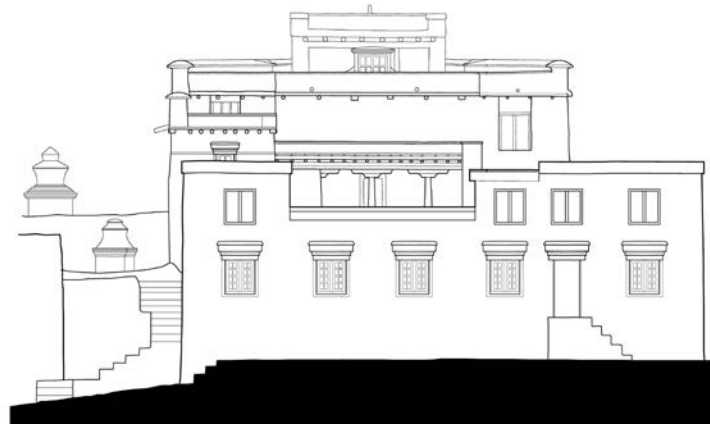
The original temple on the site of Sumda Chun monastery is believed to have been constructed by Lotsawa Rinchen Zangpo, a legendary Tibetan Buddhist figure credited with the foundation of 108 temples across a vast area stretching from Mustang in modern-day Nepal to Ladakh in modern-day India.

Experts believe that the Sumda Chun Gonpa complex once covered the entire hillside. Today, the site consists only of a *tashak* (monks' residence), assembly hall, main shrine, two chapels, several *chorten* (Tibetan *stupa* forms) and a *mane* (prayer wall). The complex remains a site of high reverence for the regional Buddhist community, however. It is one of three important temples remaining in the Buddhist pilgrimage circuit in this region; other early temples are at Alchi and Mangyu.

As in many other rural settlements, local youth have departed the village over time, seeking better educational and economic opportunities. Yet, these young people often return for family visits and to take part in village affairs. A village headman oversees a *tsogspa* (youth association) to maintain the involvement of the younger members of the village. Despite the decrease in population and the deterioration of the site, local residents continue to use Sumda Chun Gonpa. Presided over by the *lama* (resident monk), the complex remains a key part of village life and is sustained through daily visits and religious rituals. Pilgrimages, religious gatherings and festivals associated with Sumda Chun Gonpa form the foundation for the community in this region and underpin a sense of common purpose between youth and elders, and between the villagers and the lama. In view of its significance, the *gonpa* is listed as a Grade I heritage structure by the Indian National Trust for Art and Cultural Heritage (INTACH).

BUILDING HISTORY

Sumda Chun Gonpa was built in the twelfth century and is one of the oldest temples in the Ladakh region. It



ELEVATION

THE TEMPLE IS ASSOCIATED WITH AN EVOLUTION OF BUDDHISM IN THE REGION. ITS LAVISH INTERIOR DECORATIONS SHOWCASE THE ART AND ORNAMENTATION OF THE ELEVENTH AND TWELFTH CENTURIES. THE BUILDING'S SIGNIFICANCE IS INTENSIFIED BY THE RELATIVELY UNDISTURBED STATE OF THE ORIGINAL EMBELLISHMENTS, WHOSE FRESHNESS, DELICACY AND FORM ENDORSE THEIR IMMENSE VALUE.

— QUOTE FROM PROJECT TEAM —

is not only a place of pilgrimage and worship but also one of intellectual and spiritual training. Exquisite wall paintings and stucco sculptures decorate the interiors of this complex, while ornate wooden bracket figures, painted wooden ceiling planks and shrines of stucco figures accent the space with religious teachings.

Like other traditional buildings in the region, the *gonpa* at Sumda Chun was built using materials found locally – stone, rubble, soil and timber. Due to the harsh local climatic conditions, the site has deteriorated over the centuries. In recent decades, the changing climate has produced higher rainfall; these heavy rains brought down entire façades and water leaked through roofs onto interior wall murals, damaging the ancient painted scenes. Prior to the conservation project, paint was flaking and mud had formed deposits in and around the paintings and sculptures.

The local community responded to the issue of water ingress by adding mud onto the roofs, which successfully arrested the leaking problem but overloaded the structures' capacity, creating cracks in the side walls. Other later additions and *ad hoc* repairs compounded the problems. Temporary support props – precariously-placed timber structural members – and an absence of plinth protections also contributed to the deterioration of the buildings.

PROJECT HISTORY

In 2005 and 2006, researchers from the Namgyal Institute for Research on Ladakhi Art and Culture (NIRLAC) conducted surveys of the site and found the complex to be in a grave state of deterioration. Recognizing the threats to the site, Sumda Chun Gonpa was added to the

World Monuments Fund Watch List of Endangered Sites in 2006.

Despite the significant damage, it was clear to all that the historical and cultural importance of the site had not been lost and the monastery was still the epicentre of religious and social life for the villagers. In consultation with the monastery monks and the local community, a team embarked on a site mission in 2007 to document and record the complex, collect material samples for analysis and conduct temporary emergency structural repairs. This mission helped to develop a comprehensive revitalization plan for the monastery site.

Subsequently, between 2007 and 2010, in one of the largest restoration efforts in the region, a multidisciplinary team of conservators, architects, engineers, artists and skilled labourers worked together to conserve the structure and artworks of Sumda Chun Gonpa. Sponsored by the World Monuments Fund and the Government of India, the conservation of Sumda Chun Gonpa was a joint project by NIRLAC, the *gonpa* authorities and the community of Sumda Chun.

PROJECT SCOPE AND FRAMEWORK

The collaborative conservation project aimed to repair and renew the sacred heritage buildings and maintain the function of the site as a place of worship and community assembly. It had two main components: conservation of the building and conservation of its artworks.

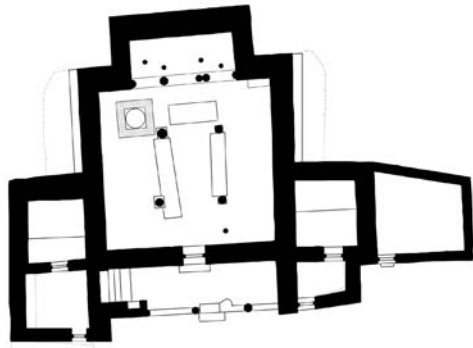
A team of conservation architects along with a structural engineer and skilled artisans familiar with local building techniques and materials worked as a group to develop a detailed conservation plan and work sequence. Conservation work on the building included: the repair of the damaged roofs; restoration of the skylights; consolidation and repair of the stone masonry walls; repairs to the interior main shrine; restoration of ancillary structures, including the kitchen and a painted *charten* (stupa); reinstatement of exterior finishes and timber flooring; and the development and repair of pathways. The team also introduced a new water egress system through the creation of slopes and the insertion of traditional wooden spouts made from poplar wood. In addition, the team reversed earlier *ad hoc* measures and modified other features to restore the building's original character.

The art conservation work was preceded by detailed documentation and diagnostic investigations. This process

PROJECT TITLE
SUMDA CHUN GONPA
LOCATION
SUMDA CHUN, LEH (LADAKH),
JAMMU AND KASHMIR, INDIA
SIZE
APPROXIMATELY
693 SQUARE METRES
COST
APPROXIMATELY US\$ 188,000
RESPONSIBLE PARTY
NAMGYAL INSTITUTE FOR
RESEARCH ON LADAKHI
ART AND CULTURE
ART CONSERVATION
SOLUTIONS
WORLD MONUMENTS FUND
HERITAGE ARCHITECT
AJAYDEEP SINGH JAMWAL
ART CONSERVATION SOLUTIONS
JITERNDAR YADAV
PAROMITA DESARKAR
CONTRACTOR
SUMCHUNG THUNDEL TSOGSPA
DATE OF COMPLETION
OCTOBER 2010



MURAL PAINTINGS BEFORE, DURING AND AFTER RESTORATION



PLAN

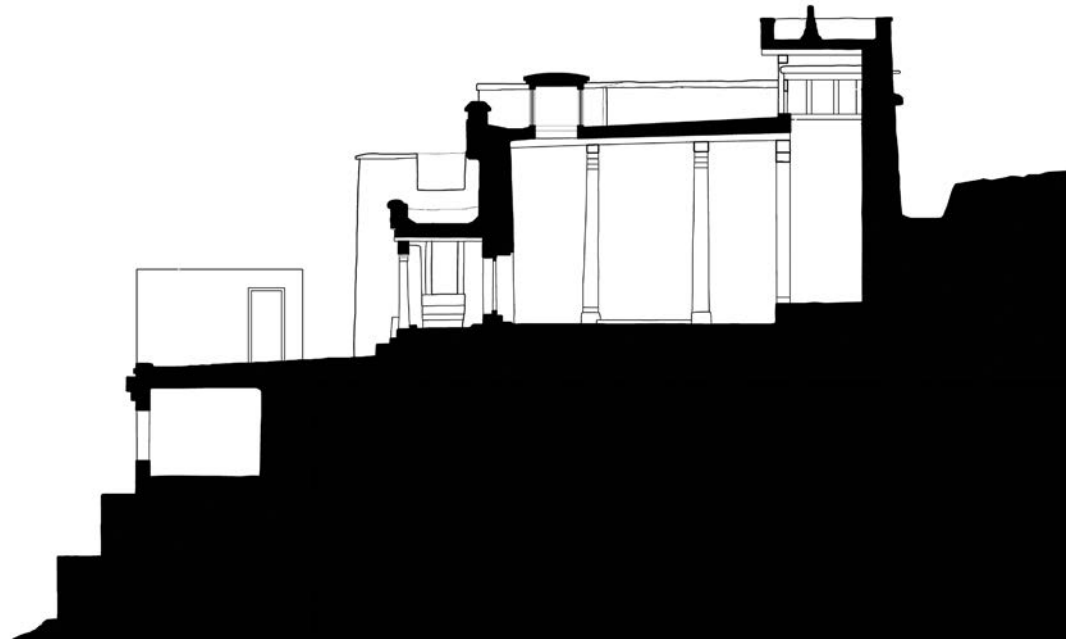
STITCHING CRACKS AND REPAIRING
DILAPIDATED MASONRY OF THE TEMPLE
WALLS AND PARAPETBEFORE AND AFTER: VIEW OF THE ROOM
LEADING TO THE MAITREYA CHAMBER AND
THE DILAPIDATED ROOM ABOVE IT

included the completion of drawings, mapping and surveys. The mapping of the paintings and sculptures helped to record the types, locations and extent of deterioration, while the diagnostics informed what treatment methods could be used. The team monitored all measures with regard to temperature and humidity levels. The work in the first year focused on consolidating weakened plaster, while in the subsequent three years involved grouting and filling the plaster, as well as cleaning the paintings and sculptures, then selectively reintegrating them. In general, the original (early period) paintings and sculptures were prioritized over later ones.

CONSERVATION METHODOLOGY AND MATERIALS

The conservation approach employed on the project was the result of a constructive collaboration between conservation professionals, traditional institutions and the local community. The project team planned their conservation approach with attention to the historical and contemporary value of the site as well as to the needs of the local and regional communities. The basic conservation philosophy was that of minimal intervention, as well as respect for the authenticity of materials, the continuum of building traditions and the culture of the region, as outlined in the Nara Document of Authenticity.

The project was linked to the cultural context and the lives of the people surrounding the site. Indeed, the safeguarding of the building and its interior religious art was undertaken not only for the site's



SECTION

historic importance but also for its contemporary meaning to the community. Given that the primary significance of the temple is in its religious importance, the team made a clear effort to ensure that the conservation work in no way damaged the sanctity of the temple and did not interrupt daily rituals and observances.

The conservation process also adhered to the underlying principle of ensuring community participation in the conservation of the site. The project team therefore engaged local residents, including skilled, semi-skilled and unskilled workers, in the conservation work. The involvement of local artisans brought rare skills and essential knowledge of traditional materials to the project. In turn, the workers learned new technical and professional approaches from the architects.

The team relied mainly on local materials: timber, soil (mud) and stone for the conservation work. The types of wood used for the structural restoration work included poplar, deodar and kiel (hard maple); these were sourced from the town of Leh. Local willow twigs served for coping, while juniper wood formed part of the roofing. *Tsa* (mud), which is abundant in the area and is commonly used by villagers for construction purposes, was employed for preparing the traditional mortar and plaster. These were a mix of strained *tsa* with *phugma* (wheat straw) and river sand. The sand was sourced from the nearby village of Sumda-do. *Yaksis* (dried grass) was obtained from the hills and combined with mud mortar for roofing repairs.

Modern techniques and materials were required for some interventions, so as to bring the site up to contemporary expectations for safety and security. Similarly, for the conservation of interior paintings and sculptures, the team relied on cutting-edge scientific research to study the original materials and techniques. *In situ* diagnostic investigations, treatment trials and standardized interventions ensured that the work conformed to international standards.

IMPORTANT ISSUES

A primary concern was the damaged roof, especially the section over the shrine. *Ad hoc* repairs had overloaded the roof, while damaged timber members added to the problem. The team had to reduce the overall load and repair weakened sections. The first step was the removal of incompatible additions. Next, repairs were made using traditional materials and methods from the region.



MIXING PHUGMA (WHEAT STRAW) WITH MUD FOR ROOFING

Another issue was the deteriorated state of the complex's stone walls. These had suffered from excess loading, erosion and unsuitable repairs. The walls required structural consolidation and repair, and stitching of cracks. In addition, masonry buttress walls were required along the buckling sections. Workers also installed and re-laid traditional *char* (parapets) where required.

Interventions to the interior murals were kept to a minimum to preserve their original appearance and to prevent further loss. Artisans grouted cracks and voids in the wall plaster with traditional grout and consolidated flaking paint. Stucco sculptures had become loose over time and these were reattached and strengthened.

PROJECT SUSTAINABILITY AND VIABILITY

Although the project was largely made possible with financial assistance from the World Monuments Fund, the community contributed through in-kind support and resource sharing. A system of rotating volunteers and a strict division of tasks set out by the *tsogspa* ensured that each family in the village contributed proportionately. Construction material, including wood, dried grass and wheat straw, was donated by the village. The restoration of the temple complex was thus essentially an extension of an already existing practice in Ladakh of preserving a collective heritage, in which communities regularly carry out periodic repairs and maintenance of *chortens* and temples; such work is seen as an act of merit.

The general upkeep of the site, including cleaning

spouts and removing snow from the roof remains the responsibility of the community. Since the restoration relied on traditional methods and materials, future maintenance is well within the capabilities of local villagers, who have undertaken upkeep using such methods and materials for generations. Indeed, the use of local materials and traditional methods helped to demystify the conservation process for the local community and ensured replicability (within accepted parameters of conservation) in the future. The replicability of traditional construction techniques was an intended outcome of the programme, in order to boost conservation efforts in the region.

The participation of artisans from across the region helped re-establish traditional linkages and relationships; while skill-sharing between the stakeholders ensured the sustainability of traditional techniques. With the interest generated by the project, increased tourism is anticipated. The hope is that visitors will generate additional revenue for maintenance.

PROJECT IMPACT

The project has helped set new conservation standards across the region. Conservation can now be viewed in a positive light, in that the entire process demonstrated great respect for the local customs and traditions; It has also demonstrated that contemporary conservation approaches are appropriate for the preservation of both 'physical' and 'spiritual' components of a holy site; In addition, special rituals carried out for the consecration and de-consecration of the temple revived a rare set of traditional ceremonies, which had never been experienced before by many of the community members.

The conservation of Sumda Chun Gonpa serves as a benchmark for the revival of traditional skills. As well as bringing economic benefit to the settlement of Sumda Chun as a result of the hiring local residents, the project created a pool of proficient workers whose skills can be applied to other projects in the region. The expertise gained by the workers and the use of traditional materials has instilled replicability and cost-efficiency in future work, in addition to supporting ongoing employment for the regional community. The impact of the project, therefore, extends beyond the immediate site. The project was also instrumental in empowering the community to safeguard their common heritage relying on shared ideas, experience and demonstrable skills.

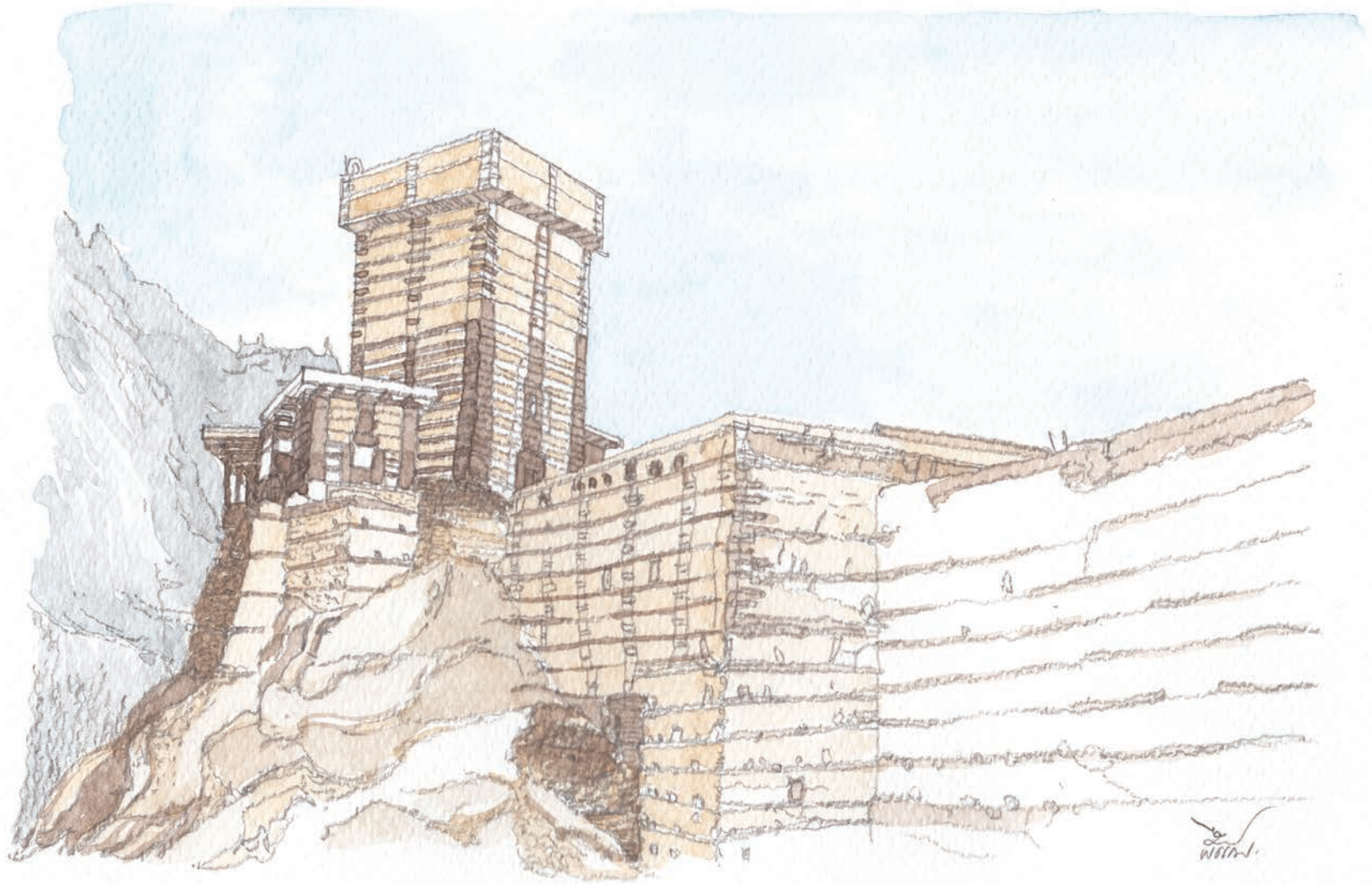
ALTIT FORT

PAKISTAN

THE RESTORATION OF ALTIT FORT REPRESENTS YET ANOTHER STEP FORWARD IN THE MODEL OF COMMUNITY-BASED CONSERVATION PRACTICE THAT HAS BEEN EVOLVING IN THE BODY OF WORK OF THE AGA KHAN CULTURAL SERVICE-PAKISTAN. THIS PROMINENT LANDMARK, DATING BACK 1,000 YEARS, HAS BEEN RESTORED FROM AN ABANDONED RUIN INTO A VIBRANT COMMUNITY CENTREPIECE THROUGH A CAREFUL STEP-BY-STEP STRATEGY. METICULOUS HISTORICAL RESEARCH AND SCIENTIFIC INVESTIGATION INFORMED THE CONSERVATION WORK, WHICH SUCCESSFULLY TACKLED A COMPLEX ARRAY OF PROBLEMS. TODAY THE BUILDING HAS REGAINED ITS ICONIC PLACE IN THE HUNZA VALLEY AND NOW SERVES AS A BEACON TO INSPIRE FUTURE GENERATIONS.

2011

AWARD OF DISTINCTION



CONTEXT

Altit Fort, situated in Hunza Valley in north-eastern Pakistan, was the first royal residence of the *tham* (ruler) of Hunza, which was once an independent state. The ruling family later moved to Baltit Fort, located a few kilometres to the north.

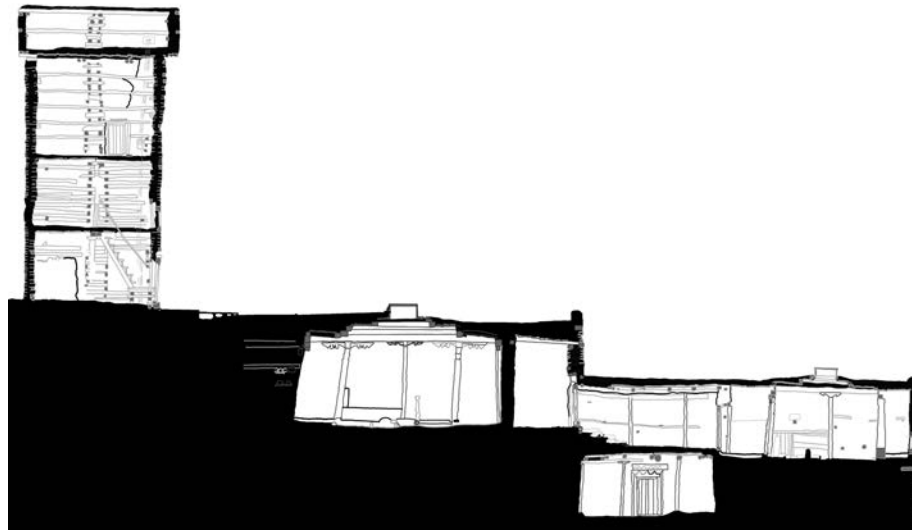
High on a rocky outcrop with panoramic views across the surrounding mountains, Altit Fort had a strategic location, well-positioned to defend against invasions from China and Europe. Below the fort lies the *khun* (village) of Altit, which was once a key link on the fabled Silk Road.

Altit Fort reflects influences from Pamir, Hindu Kush, Karakoram and Ladakh. A distinguishing feature is the presence of four floor-to-ceiling columns that represent the *axis mundi* (connection between heaven and earth). Carbon dating indicates that the earliest components of Altit Fort were built over 1,100 years ago. The fort is considered to be the oldest surviving monument in the Gilgit-Baltistan region and stands as an excellent and time-tested model of an earthquake-resistant structure. Since its restoration, Altit Fort has functioned as a museum that showcases both the history of the site and the traditional building technology used in its construction. It also serves as an active training centre, with associated facilities, for the Hunza Women's Social Enterprise (WSE). The Summer House in the garden below the fort is now a café for visitors.

BUILDING HISTORY

Altit Fort was initially built as a palace, on the site of an earlier structure. Construction is believed to have begun in the early fifteenth century when Shah Khan, the *Tham* of Hunza, married Princess Ayashu from Baltistan. Built by local workers and Balti artisans using local materials (timber, stone and soil), the palace is on a rock foundation and follows the natural profile and contours of the site.

The rectangular building was constructed using timber cribbage frames filled with rubble stone, held together with compacted soil. Artisans employed careful joinery techniques to ensure the structure's stability. These techniques included cross-bracing, to provide strength in the event of earthquakes, which occur frequently in the region. In 1548 the *tham* added a watchtower to the structure, transforming the palace



SECTION

THE AIM OF THE PROJECT WAS TO CONSERVE THE FORT IN ITS 'RAW' FORM WITH VERY LIMITED INTERVENTIONS, USING MAXIMUM LOCAL MATERIAL AND TRADITIONAL CONSTRUCTION METHODS; MAINTAINING AND ENSURING ITS AUTHENTICITY AND ORIGINAL CHARACTER BY FOLLOWING INTERNATIONAL CONSERVATION STANDARDS. THE LARGER GOAL WAS KEEPING THE COMMUNITY CENTRE STAGE TO RESTORE ALTIT FORT AND, THROUGH ADAPTIVE REUSE, MAKING THE FORT AN ANCHOR FOR SOCIO-ECONOMIC IMPROVEMENT, WHILE ENHANCING PRIDE AND IDENTITY, CREATING AWARENESS OF AND RESPECT FOR TRADITIONAL WISDOM AND REVIVING ASSOCIATED ACTIVITIES AND EVENTS, THUS ENSURING A LIVING CULTURE FOR THE COMMUNITY AND THE REGION AT LARGE.

— QUOTE FROM PROJECT TEAM —

into a fort. The fort and its ancillary structures covered an area of 870 square metres, of which the fort building covered 605 square metres.

Adorned by a carved wooden door, the main entrance of Altit Fort opens into a narrow, dark corridor that leads westward to a staircase that goes up to the first floor. The bedroom of the *tham* was located at the northern end of this floor, while the chamber of the *rani* (queen) was located at the southern end. The queen's chamber has a fireplace and features a traditional rotated-square roof structure. The first floor also contained the royal kitchen, which buzzed with activity during seasonal festivals. A mosque, royal throne room and guest rooms were located on the second floor. From here, stairs led up to the *shikari* (watchtower), which features windows on all sides.



**NORTH WEST ELEVATION
BEFORE RESTORATION**

PROJECT TITLE

ALSTIT FORT

LOCATION

ALSTIT, HUNZA-NAGAR,
GILGIT-BALTISTAN, PAKISTAN

SIZE

870 SQUARE METRES

COST

US\$ 1,000,000

RESPONSIBLE PARTY

AGA KHAN FOUNDATION

HERITAGE ARCHITECT

AGA KHAN TRUST

FOR CULTURE

AGA KHAN CULTURAL

SERVICE - PAKISTAN

CONTRACTOR

AGA KHAN CULTURAL

SERVICE - PAKISTAN

DATE OF COMPLETION

DECEMBER 2009



The Aga Khan Cultural Service of Pakistan (AKCS-P) team estimates, based on the materials employed, that the guest rooms are not more than 75 years old (perhaps constructed in the 1930s) and that the principal palace rooms are also of relatively recent origin.

The grounds of the fort feature a meandering orchard; a summer house and servants' quarters. The summer house was built during the reign of Mir Jamal Khan in the 1950s. It consists of three rooms and a detached apartment, with an enclosed veranda.

Abandoned in the 1960s, the fort complex suffered extensive deterioration and was in a perilous situation by the late 1990s. Although the traditional construction techniques and strong rock foundations had kept the building intact, some of the walls showed indications of imminent failure and collapse onto the settlement of Altit below.



**NORTH WEST ELEVATION
AFTER RESTORATION**

PROJECT HISTORY

Following the completion of restoration work on Baltit Fort in 1996, the AKCS-P began planning the restoration of other landmark buildings in Gilgit-Baltistan. At the same time, awareness of the value of built heritage was growing in the region, generated by the Baltit Fort restoration, and other communities were inspired. Prince Ameen Khan, the second son of the late *tham*, and the local residents were among those that took notice. Together, they sought to initiate a similar intervention for the Altit Fort and its historic settlement.

In 2001, Prince Ameen Khan gifted Altit Fort to the AKCS-P. The acquisition by the AKCS-P of 25 *kanal* (about 1.2 hectares), encompassing the *kha basi* (orchard), took place at the same time. As part of the agreement with the prince, the AKCS-P agreed to build a new residence for the present *tham*. The work on what was to be known as Ameen Khan House began in August 2002 and was completed in 2005. This dwelling features traditional designs and building materials and was constructed on a section of the site that is still owned by the prince.

The AKCS-P team prepared a conservation strategy for Altit Fort in 2004 and, using the experience and expertise gathered from the conservation of Baltit Fort, the team launched the first steps towards the conservation of Altit Fort in 2006.

PROJECT SCOPE AND FRAMEWORK

The project sought to stabilize and conserve Altit Fort, converting it into a museum and documentation centre, and aimed to restore the orchard and the summer house, which was to serve as a café. Another ambition was to make Altit Fort a centre for cultural performances. A broader goal was to ensure that the project was community-based and that it brought long-term benefits to the residents of Altit.

The AKCS-P team drew from its experience at Baltit Fort and Shigar Fort, which provided a template for the Altit Fort project and informed many of the choices made in the course of the conservation work. Preliminary documentation included analysis of the site, technical analysis of the problems and an estimate of the restoration costs. To ensure the stability of the structure and better understand the construction technology of the fort, the

AKCS-P team employed an engineering consultant who also considered the need for seismic retrofitting.

The team estimated that the project would span four years. Most of the conservation effort related to stabilizing existing walls, repairing structural defects, reattaching the render to the wall substrate, replacing roofs, treating wood decay and providing modern lighting.

Work began in July 2006, with the first phase concentrating on the consolidation of the guest block, *shikari*, mosque and fruit storage area. The restoration of the main entrance façade, northern platform and eastern retaining wall followed. The team restored the external façades of all of the remaining fort walls and the summer house the following year. The final phase of the project included restoring the internal partition walls and roof of the fort. At the same time, workers began the landscaping work. The AKCS-P team continued to document the site throughout the project, thereby developing a better understanding of its evolution.



ROYAL KITCHEN BEFORE RESTORATION



ROYAL KITCHEN AFTER RESTORATION

CONSERVATION METHODOLOGY AND MATERIALS

The overall conservation strategy for Altit Fort was to preserve the heritage site 'as found'. The project aligned itself to the ideal of authenticity, retaining the features of the site in their original forms and using traditional materials and construction methods. The AKCS-P team therefore insisted that no significant changes be made to the buildings and to their distinguishing features. The team reused materials and duplicated missing or compromised historic elements using traditional techniques. This was particularly evident in the consolidation of the fort's roof, which required substantial repairs to the surfaces and the supporting structure.

The project demonstrated a meticulous commitment to techniques that had been successfully applied to similar projects in the region. The conservation of the Baltit and Shigar forts provided especially valuable lessons in the use of traditional materials. Other experience derived from the rehabilitation of local settlements and the conservation of individual buildings in Hunza and Baltistan. The artisans had a strong understanding of traditional construction technology and were familiar with the construction materials traditionally used in Gilgit-Baltistan. These materials included locally-procured stone, soil and timber.

The AKCS-P team used modern materials and techniques when necessary for safety reasons and when introducing new plumbing and electrical facilities. However, the modern materials and utilities were introduced in a manner that minimally altered the character of the ancient fort.

IMPORTANT ISSUES

The project team not only employed local construction workers and artisans, it also promoted small, culturally-compatible enterprises, including the Hunza Women's Social Enterprise (WSE), an organization committed to teaching trades, such as carpentry, masonry, electrification, plumbing, furniture design and surveying to women. During the project, this led to 20 young women gaining skills in conducting topographic surveys, using applications such as CAD and GIS. In addition to enhancing the employability of these women, the process allowed women to be seen in a different light within the community.



ALTit ELDERS PERFORMING A TRADITIONAL DANCE

PROJECT SUSTAINABILITY AND VIABILITY

The project was funded by the Aga Khan Trust for Culture (AKTC), with substantial support from the Government of Norway and assistance from the government of Pakistan and the Gilgit-Baltistan authorities. Following the completion of the project, a reserve fund was established to cover maintenance costs and to provide for the continuous enhancement and improvement of the site, including the museum. Income generated at the revitalized fort helps to replenish the fund, making the fort financially sustainable.

The Aga Khan Foundation is the present steward of Altit Fort and the AKCS-P is responsible for the daily operations of the revitalized complex. The Aga Khan Fund for Economic Development (AKFED) took a special interest in the Altit Fort project and the Tourism Promotion Services (TPS) division has oversight for the café. To encourage long-term community participation, the TPS delegated the WSE as the manager of the café, museum and other visitor-oriented features of the restored fort, giving the WSE a sense of 'ownership', which has ensured the sustainability of these features.

PROJECT IMPACT

The project successfully achieved its greater goal of involving the Altit community in the conservation process. In so doing, they also increased pride in local heritage and enhanced the community's sense of identity. The Altit Fort project has also contributed to a longstanding effort to improve the living standards of the surrounding community. The fort conservation project built on the achievements of a previous initiative in Altit Settlement (2007 UNESCO Award of Distinction), which improved common spaces and provided the residents with clean drinking water, a modern sewerage system and electrification. An important component of the Altit Settlement project was the formation of the Altit Town Management Society (ATMS), which is an elected body made up of local residents that manages the maintenance of the town's facilities. The Altit Fort project sought to strengthen the ATMS and increase the participation of women in the society.

WSE, later renamed 'Ciqam', has succeeded in building the capacities of local women. These skills are now useful in other projects, notably in the restoration of Hunza Baltit Inn, which is to be refurbished in the local traditional style.

A significant impact of the Altit Fort project has been that cultural heritage is now widely recognized in Gilgit-Baltistan as an effective tool for sustainable development. With increased awareness of and respect for cultural heritage, demand has risen for the conservation of architecturally and historically significant buildings. Traditional building skills are now in high demand and historic settlements have gained a fresh following among planners and visitors. The local government of Gilgit-Baltistan is considering a tourist route along the Silk Road that places an emphasis on cultural heritage and on the region's natural setting, and the government has sponsored other projects emphasizing cultural assets.

TECHNICAL BRIEF

CIQAM – THE WOMEN SOCIAL ENTERPRISE PROGRAMME



CIQAM MEMBERS DOING CARPENTRY WORK

The Women Social Enterprise (WSE) programme, later renamed Ciqam, a Burushaski word connoting 'well-being' and the colour green, was an integral aspect of the Altit Fort conservation project. The programme was initiated by the Aga Khan Cultural Service – Pakistan (AKCS-P) in late 2003 as pilot activity to provide young people from poor households with basic education (primary and lower-secondary and also for those aged above 15 years), skills training and income-earning opportunities, by engaging them in ongoing restoration projects.

The programme initially provided a group of six girls and six boys with training in plane table surveying methods for mapping historic villages in the Hunza

Valley. While the boys later left for other opportunities, the girls continued their training to improve their earning capacity. Despite various technical limitations and cultural constraints, the trainee girls performed exceptionally well in the mapping process and also improved their skills in spatial data collection. Encouraged by their interest and motivation, the AKCS-P launched the 'Inventory of Cultural Heritage' and the 'Documentation of Images and Damage of Haldeikish Sacred Rock' programmes, under the leadership of Yasmin Cheema, a specialist in heritage inventory methods, and Lyder Marstrander of the Norwegian Directorate of Cultural Heritage. The group grew from six to twenty girls, all of

whom were subsequently trained in the delineation of various images, motifs and carvings, as well as in free-hand sketching, scanning and the computer-rendering of scanned images.

The group continued to receive technical support during the restoration of the 900-year-old Altit Fort, which began in 2006. November of that year was a high point for the trainees, when His Highness the Aga Khan visited the fort with His Royal Highness Prince Charles and Lady Camilla Parker Bowles and showed great appreciation for the work of the trainees. In March 2007, the Aga Khan Trust for Culture sent a team of trainee surveyors to Khorog, Tajikistan, to conduct a topographic survey of Khorog Park. This international exposure built the trainees' confidence in their skills. The Khorog project in turn paved the way for multi-year funding from the Royal Norwegian Embassy in Islamabad for Ciqam's activities.

The survey group has established itself as a leading technical resource in Gilgit-Baltistan and Chitral and as of 2014 had documented over twenty historic monuments, along with 150 schools and health facilities and more than fifty community buildings. This work is in addition to the topographic survey of the Serena Hotel in Hunza, the Aga Khan Estate Office properties and over thirty villages downstream from Attabad Lake.

Over the years, Ciqam has developed a 'critical mass' of skilled youth, training over 200 women and fifty men aged between 18 and 30 in various skills, including conducting topographic surveys, documentation, drafting, carpentry, painting, polishing, masonry, upholstery, stitching, crafts, musical instrument making, hospitality and folk music.

Introduced in 2008, carpentry has provided the most training opportunities and has had the greatest potential for income generation. With over forty

female trainees working with ten master carpenters (six women and four men) the trade has established its own value chain. The restoration of Altit Fort enabled the group to revive local carpentry traditions and promote local production of 'green' timber. Carpentry now extends to over twenty specialities, including the fabrication of 'cator and cribbage' frames, rafters, columns, doors and windows as well as furniture. With the skills of their trained carpenters, Ciqam constructed four small buildings in Hunza to demonstrate the use of local materials, traditional construction techniques and energy-efficient design.

As a social enterprise focusing primarily on women, Ciqam, through providing training, exposure and informal learning, has been successful in enabling local women – most of whom are unmarried or widowed – to earn regular incomes and support their families, thus reducing poverty in rural areas. Unmarried carpentry trainees, earning 8,000 Pakistani rupees (PKR) per month as of 2013 (approximately US\$50), typically give most of their income to their families, putting aside small amounts to support their own future needs, such as wedding expenses.

Trainees in other trades, including electricians, plumbers, masons and upholsterers, together with tour guides and folk musicians, are now also able to contribute financially to their families. In some cases, the trainees have contributed assets to their families, including washrooms, kitchen improvements and washing machines. The participation of these women in a market-based economy and their experience of making products and delivering technical services have also enhanced their decision-making capacity at both the family and community levels.

Ciqam is also having a positive impact on gender norms by demonstrating that

women can succeed in work that was formerly seen as the exclusive domain of men and by showing that woman can support their families financially. Ciqam has also shaped local socio-economic conditions, with beneficial impacts for people in the community. For example, female master carpenters, who as of 2013 were earning PKR 20,000 per month (approximately US\$125), are able to hire other local women as daily wage labourers during the harvest season, thereby creating employment in the area. They can also buy milk from neighbours instead of keeping their own cows, thereby providing a market for locally-produced dairy products.

One of the major outcomes of Ciqam programme is the promotion of local materials, traditional food and responsible tourism in Gilgit-Baltistan, a factor that contributes to the sustainability of built and natural heritage, to cultural diversity and to the long-term well-being of local communities.

Aga Khan Cultural Service – Pakistan

References

- CIQAM. 2012. Women Social Enterprise. <http://ciqam.com.pk/> (Accessed 20 June 2016.)
- Gilgit-Baltistan Times. 2014. Women Social Enterprise-CIQAM: A transformative model of women's empowerment. *Gilgit-Baltistan Times*, 10 July.
- Mir, S. 2013. Women empowerment: Chronicles of carpentry. *The Express Tribune*. 22 June. <https://tribune.com.pk/story/566651/women-empowerment-chronicles-of-carpentry/> (Accessed 20 June 2016.)



TRADITIONAL CARPENTRY

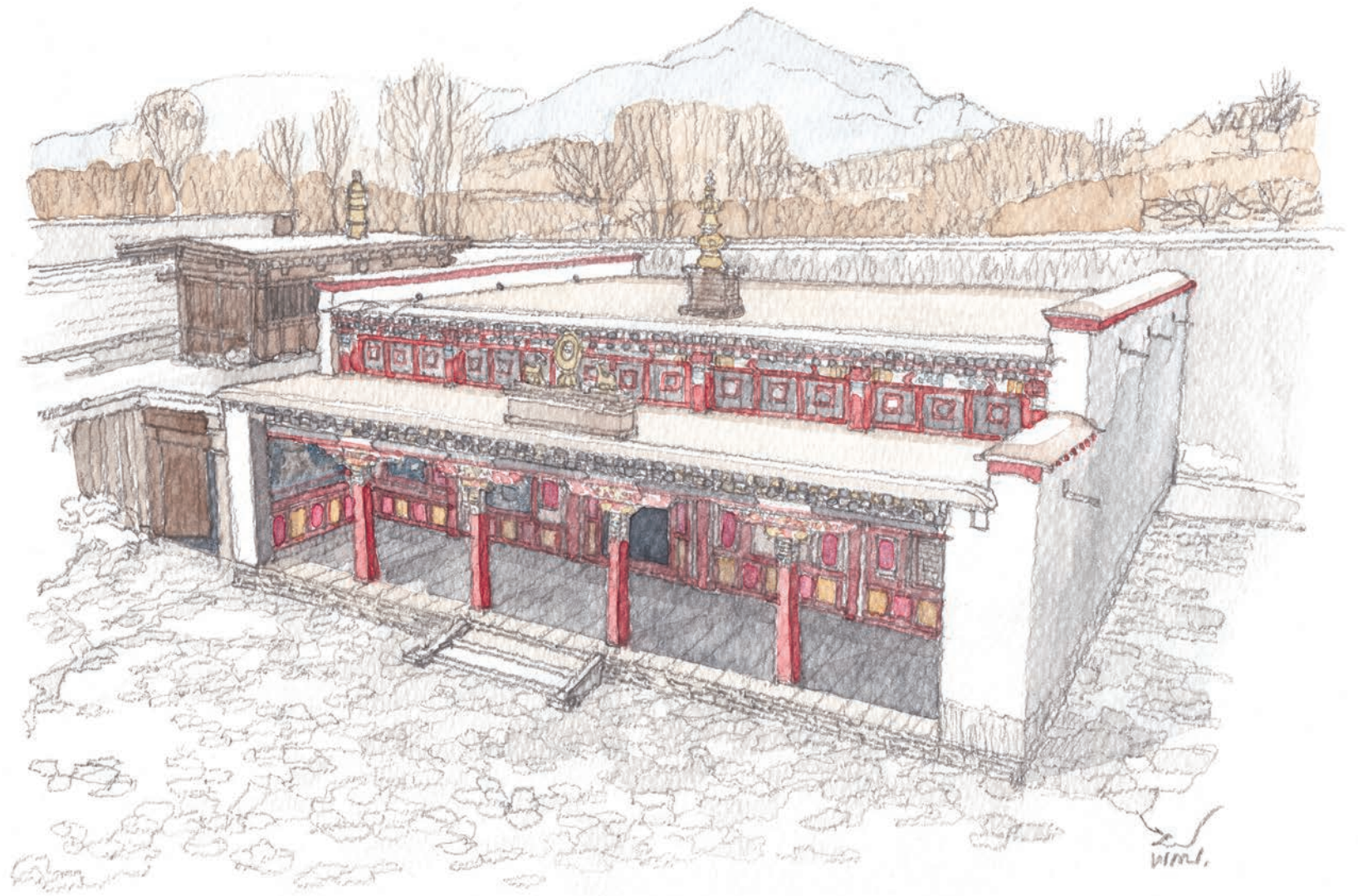
SERKHANG MONASTERY

CHINA

ONE OF THE FEW SURVIVING TIBETAN MONASTERIES IN QINGHAI FROM THE FOURTEENTH CENTURY, SERKHANG MONASTERY HAS BEEN RESTORED THROUGH CLOSE COOPERATION BETWEEN THE NANGRA COMMUNITY AND INTERNATIONAL CONSERVATION EXPERTS. THE QUALITY OF THE RESEARCH AND DOCUMENTATION WAS EXCEPTIONAL, ENSURING THAT THE WORK WAS UNDERTAKEN TO HIGH STANDARDS OF BOTH ARTISANAL BUILDING TRADITIONS AND MODERN CONSERVATION SCIENCE. THE PROJECT IS COMMENDABLE FOR ITS COMPREHENSIVE APPROACH TO CONSERVATION, ENCOMPASSING THE ENTIRE SITE AND THE VALUABLE COLLECTION OF WALL PAINTINGS.

2011

AWARD OF MERIT



PROJECT SYNOPSIS

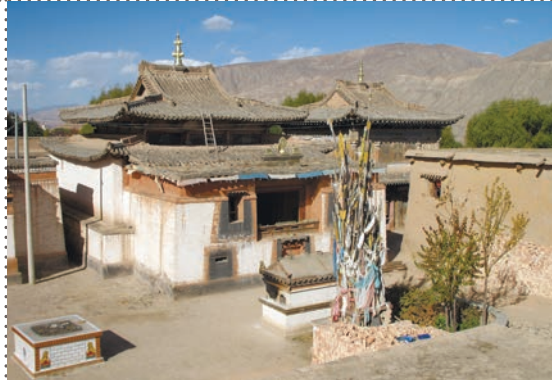
Located in Nangra village in Qinghai Province of China, Serkhang Monastery (also called Nangra Serkhang Monastery) is owned, managed and cared for by the local community. Serkhang is an 'ecumenical' Vajrayana Buddhist temple, meaning that it serves several sects of believers (the Geluk-pa school, Nyingma-pa Tantric school and early Kagyu school), a rare characteristic for a monastery. The temple complex is the hub for all religious and social activities for the eight surrounding villages and has significant influence regionally. In addition to social value, it also has high historical, cultural, aesthetic and architectural value. It has been a protected monument since 1998, designated as a provincial Cultural Heritage Property.

Consisting of a cluster of buildings in a variety of architectural styles, surrounded by a high wall, it is an early and significant example of Tibetan architecture fused with northern Chinese influences and is an important reminder of the socio-religious history of the region.

Serkhang Monastery was founded in the fourteenth century by Lama Chokyi Dundup Rinchen. It is one of few monastery complexes from this period still in existence today. One temple within the monastery complex, Sangya Lhakhang, is acknowledged as the oldest wooden structure in Qinghai Province. It exhibits various Yuan Dynasty features, which include its roof shape, a circumambulation passage and the iconography of the inner chapel.

Over its history, the monastery complex experienced a number of interventions. For example, a restoration initiative in the 1980s had altered several parts of the buildings. Previous interventions were especially evident on the paintings and murals, which showed the impact of efforts to preserve the paintings by cleaning and retouching, efforts to copy the original motifs and content through repainting and retouching, and the application of new designs. Moreover, timber elements had been added and/or modified, such as the altar of Yul Lhakhang (the local protector deity).

In 2005, at the invitation of the Nangra community, the Tibet Heritage Fund (THF) evaluated Serkhang Monastery for conservation. The fund identified the monastery as a site of exceptional historic and cultural value, but noted that the site's physical condition was poor, with serious structural damage, despite daily upkeep by the community. The most evident problems



SANGYE LHA KHANG BEFORE AND AFTER RESTORATION

AS AN IMPACT OF THE SERKHANG RESTORATION WORK, MANY VISITORS CAME TO SEE THE SITE AND GAVE POSITIVE FEEDBACK. ADDITIONALLY, LOCAL PEOPLE BECAME AWARE OF THE IMPORTANCE OF THEIR MONUMENT AND MORE SENSITIVE TO CULTURAL HERITAGE CONSERVATION IN THEIR DAILY USE OF THE SITE.

— QUOTE FROM PROJECT TEAM —

included the damaged roof structure, missing roof tiles; flaking of the murals, damaged ornaments, failing wooden columns and muddy grounds (due to poor drainage). In addition, the decorative motifs on timber elements exhibited extensive deterioration. The THF team also observed the need for the sensitive incorporation of modern amenities and facilities into the complex, including fire safety and sanitation facilities (e.g. toilets and a water tank).

A partnership between the public and private sectors; the conservation project was carried out between 2005 and 2009. The THF spearheaded the work with the cooperation of local and international groups, including: the Jianzha Nangra Village Community, the Jianzha County Government, the Jianzha County Religious Affairs Bureau, and an international team of conservation experts.

The extensive restoration project encompassed repairs to five principal buildings: Sangye Lhakhang (fourteenth century), Yul Lhakhang (construction date unknown), Dukhang Sarba (eighteenth century), Jampa Lhakhang (eighteenth century) and Serchi Labrang (nineteenth century), and repairs to the walls surrounding

the complex as well as drainage work. The project involved investigating the condition of the buildings; conducting social and architectural surveys, repairing the roofs and ceilings, undertaking colour analysis and paint preservation, and restoring the decorative murals, all with community participation. It required the use of diverse materials and various skills, including carpentry, stonework, masonry, brickwork and painting.

CONSERVATION APPROACH

The key conservation principles adopted by the THF to guide the work were 'reversibility' and 'minimum intervention'. The conservation team relied on original components as much as possible, replacing these only when necessary.

The THF applied a systematic approach to the conservation project. In the first stage, which involved surveying and documentation, the conservation team measured the buildings and completed architectural drawings and photographic documentation. These steps were followed by a condition assessment that recorded

structural and surface damage with the help of technical experts and artisans. The team then decided upon appropriate intervention measures based on the materials and conditions, and implemented those measures.

The team applied this approach to each of the five buildings. Early priorities included identifying the different types of wood used in the building and numbering the timber elements, employing both modern and traditional Chinese systems. For wood identification, the project relied on experts from China, Japan and France. In assessing needs for structural repairs and replacements, Nanjing Forestry University conducted detailed research on the original timber elements.

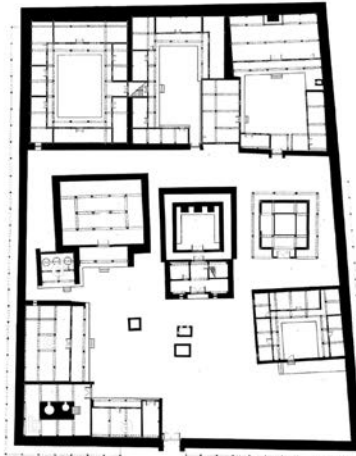
Artisans carefully repaired ornaments, such as the metal dragons on the roof corners, to ensure continuing aesthetic and spiritual value. The dragon feature represents a water-spirit believed to prevent fires. Where required, the artisans created replica tiles, metal ornaments and bricks, incorporating original motifs and using traditional moulds and techniques from the region.

The conservation team introduced several new materials and components to increase the longevity of the buildings. To strengthen roof structures, for example, workers added twigs of *tsaru* (a strong fibrous wood) between the rafters, relieving some of the weight on the brackets. In some cases, traditional methods were combined with new techniques. In the repair of the roof of Sangye Lhakhang (Buddha's Temple), for example, the workers applied a red iron oxide coating called *za* to the *dougong* (interlocking wooden brackets) to help protect the wood from ultraviolet light exposure and insect damage.

The team also installed modern elements such as PVC pipes for electrical wires so as to improve fire safety. In addition, the team installed new drainage systems to remove moisture from the buildings and prevent the build-up of stagnant water after rainfall. A lighting system was required to illuminate the murals, but recognizing that light posed a threat to the pigments, the team selected spot-lighting and non-UV lamps, which minimized damage to the murals. The sensitive consideration of how and where to apply new techniques contributed to the success of this project.

The project team also provided modern facilities for users and visitors. These included water tanks and composting toilets. Overall, the project team addressed modern comforts and needs, while safeguarding the spiritual and cultural values of the site and protecting the surrounding environment.

PROJECT TITLE
SERKHANG MONASTERY
LOCATION
NANGRA, JIANZHA, QINGHAI,
CHINA
SIZE
2,320 SQUARE METRES
COST
APPROXIMATELY US\$ 221,000
RESPONSIBLE PARTY
TIBET HERITAGE FUND
HERITAGE ARCHITECT
YUTAKA HIRAKO
ANDRE ALEXANDER
CONTRACTOR
TIBET HERITAGE FUND
DATE OF COMPLETION
2009



PLAN

CONSERVATION AND THE COMMUNITY

The project had the full support of the Nangra village community and the local government. The villagers played an active role and contributed to the restoration process, in various ways. Members of the local community also made monetary donations to the conservation project. Moreover, to commemorate the Serkhang Monastery restoration project and to spread wishes for peace and unity in the community, local villagers erected five Buddhist images in Yul Lhakhang.

Skills training and skills sharing were integral to the project. Community members participated in training programmes to learn traditional construction skills, including lime plaster making and roof and tile repair. Two local residents and a Mongolian conservation worker also learned the skills of mural conservation. This training was key to the long-term sustainability of the project.



ALTAR ROOM OF SERCHI LABRANG AFTER RESTORATION OF PANELS



GATHERING FOR TRADITIONAL DANCE PRACTICE IN THE NGAG-KHANG COURTYARD

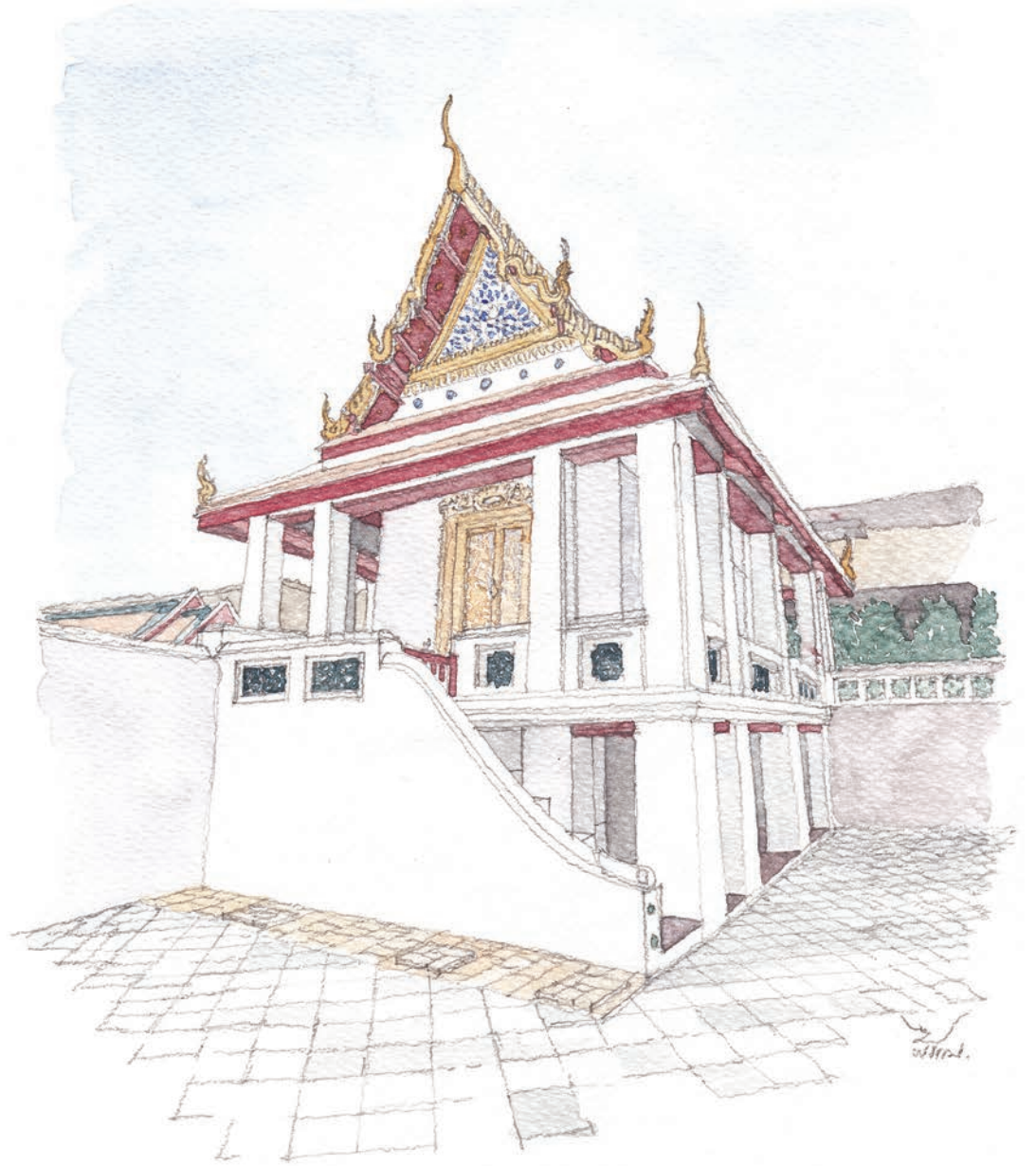
SCRIPTURES HALL OF WAT THEPTHIDARAM WORAWIHAN

THAILAND

FROM A STATE OF SERIOUS DISREPAIR, THE SCRIPTURES HALL OF WAT THEPTHIDARAM HAS BEEN RESTORED BY AN OUTPOURING OF PUBLIC SUPPORT AND A UNITED EFFORT BY THE THAI CONSERVATION COMMUNITY, THE MONASTERY AND THE LOCAL NEIGHBOURHOOD. THE SCRIPTURES HALL HAS BEEN REFURBISHED, WITH EXEMPLARY USE OF TRADITIONAL CRAFTSMANSHIP AND MATERIALS, WORTHY OF ITS STATURE AS A HISTORICALLY-SIGNIFICANT ROYAL MONASTERY. THE METHODOLOGY OF RESTORATION WAS ALSO PRAISEWORTHY, DEMONSTRATING METICULOUS RESEARCH, DOCUMENTATION AND CONTINUAL LEARNING THROUGHOUT THE COURSE OF THE PROJECT.

2011

AWARD OF MERIT



PROJECT SYNOPSIS

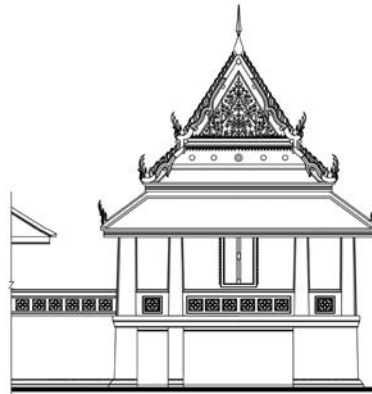
Located in Bangkok, Thailand, and constructed between 1836 and 1839 on the site of an earlier temple, Wat Thepthidaram Worawihan is a royal temple built in the reign of King Rama III (1824-1851) to honour his eldest daughter, HRH Krommamuen Apsonsudathep (Princess Wilat). Due to its special significance, in 1977 the Fine Arts Department designated Wat Thepthidaram Worawihan a national monument.

Wat Thepthidaram Worawihan is a fine example of the 'Royal Favoured' architectural style, distinguished for its eclectic mix of both Thai and Chinese architectural features. The east-facing, rectangular complex, surrounded by brick masonry walls, also adheres closely to Buddhist architectural traditions. It is divided into two distinct areas: the Buddhavas (the temple's public area) and Sanghavas (the monk's residential area). The temple presents fundamental components of Thai Buddhist architecture, including two *ho phra traipidok* (scriptures halls), which are valued as emblems of the Dhamma, one of the three 'gems' of Buddhism. The role of a scriptures hall is to house religious texts as well as to serve monks and novices undertaking religious studies.

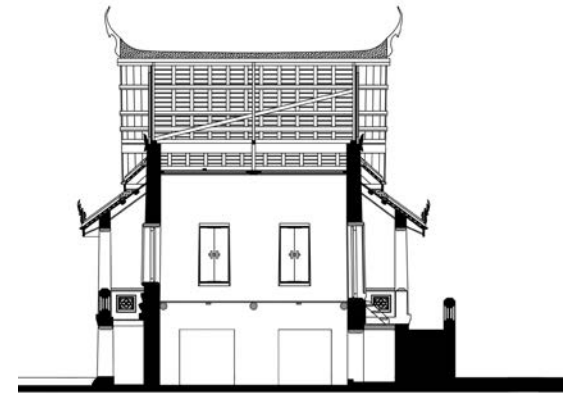
Over its history the temple complex underwent numerous interventions and conservation efforts. Due to lack of funding, however, the south scriptures hall, unlike its counterpart in the north (Khana 8), was not maintained. This lack of upkeep, coupled with inappropriate uses and later additions, meant that by the mid-2000s the condition of the south scriptures hall had largely deteriorated.

In 2008, the Traditional Thai Architecture Subcommittee of the Conservation Committee of the Association of Siamese Architects under Royal Patronage decided to launch a conservation project as part of the commemoration of the committee's fortieth anniversary. From a list of nominated sites, the group chose the south scriptures hall of Wat Theptidaram Worawihan. The hall met numerous selection criteria, including location, size and the community's willingness to cooperate in its restoration.

The committee then collaborated with the temple caretakers and the Faculty of Archaeology at Silpakorn University to organize the 'Wat Thepthidaram Worawihan Scriptures Hall Conservation Project'. The project, which was funded by the temple budget, with the support of



ELEVATION



SECTION

INTERPRETATION OF THE SIGNIFICANCE OF THE BUILDING WAS CARRIED OUT BY MEANS OF APPLICATION OF TRADITIONAL TECHNIQUES IN THE RESTORATION AND THE USE OF MATERIALS THAT WERE THE SAME AS THE ORIGINALS OR AS CLOSE TO THE ORIGINALS AS POSSIBLE. THE DETAILED RESTORATION WORK HAS RESULTED IN THE COMPLETED BUILDING BEING A FINE REPRESENTATIVE OF ARCHITECTURE IN THE KING RAMA III PERIOD.

— QUOTE FROM PROJECT TEAM —



EXTERIOR BEFORE AND AFTER RESTORATION

a Fine Arts Department subsidy and public contributions; began in July 2008 and ended in November 2010.

With the completion of the restoration, the Scriptures Hall of Wat Theptidaram Worawihan resumed its function, as storage space for Buddhist scriptures and other documents. These materials, mostly books but also *bai lan* (palm leaf) manuscripts, had been stored in other areas of the temple during previous restorations. As a result of the project they have been returned to their original place as study and exhibit materials. While the scriptures hall has the potential for future adaption into a library for religious electronics media, such as the digitized Tripitaka (Buddhist scriptures), this step would require more discussion due to the probable increase in maintenance costs.

The restoration of the Scriptures Hall of Wat Thepthidaram Worawihan represents an important step in safeguarding the valuable spiritual, historic and cultural assets of the temple and the local community. The project has kindled interest in cultural heritage and encouraged greater understanding and appreciation for it among the general public and also among tourists.

CONSERVATION APPROACH

Anchored in fundamental concepts of conservation, including the use of original materials and the application of traditional techniques, the project sought to restore the building to its original state and to improve the landscaping and other features of the site.

To establish a complete understanding of the site prior to restoration, the conservation team conducted comprehensive studies to document its archaeology, history and architecture. One of the most significant aspects of this stage of the project was an archaeological excavation, which provided vital information on the site's history. The results of the studies conducted in this stage of the project served to inform decisions such as the design, materials and colours of the roof tiles, the style of the original lacquer decorations and the use of gold leaf to highlight and preserve the temple's sacred elements.

The project restored every feature of the hall except the staircase. The team chose to preserve this feature as it was found. To facilitate the continued use of the staircase, however, workers lengthened the stairs, revealing this change through modifying the paving

PROJECT TITLE
SCRIPTURES HALL OF
WAT THEPTIDARAM
WORAWIHAN
LOCATION
MAHACHAI ROAD,
PHRA NAKHON, BANGKOK,
THAILAND
SIZE
348 SQUARE METRES
(BUILDING AND GROUNDS)
COST
US\$ 190,000
RESPONSIBLE PARTY
VASU POSHYANANDANA
HERITAGE ARCHITECT
VASU POSHYANANDANA
ASSOCIATION OF SIAMESE
ARCHITECTS UNDER
ROYAL PATRONAGE
CONTRACTOR
THAN ANURAK LIMITED
PARTNERSHIP
DATE OF COMPLETION
NOVEMBER 2010



materials. Although the archaeologists discovered traces of columns in front of the scriptures hall, they were not restored as there was insufficient evidence of their original association with the temple complex. To indicate the locations of the columns, the design team introduced square brick bases marking their positions.

The artisans employed on the project repaired the wooden roof ornamentation elements, and in cases where elements were missing they carved replica elements using teak from Saranrom Palace. Initiated in the reign of King Rama IV (1851-1868) and completed in the reign of King Rama V (1868-1910), the palace was undergoing a restoration project at the same time as the scriptures hall project. The Saranrom Palace project required the replacement of its teak roof, which freed up teak for the restoration of the Scriptures Hall of Wat Thepthidaram Worawihan. As the original materials of other components were not available in some cases, for example the original tiles of the parapet, the team sought out new materials to replace them. While the team used traditional techniques for most repairs, they had to employ modern techniques in some cases.

Workers removed inappropriate additions, including a toilet that had been added to the hall. Moreover, to address the drainage issue, the restoration team lowered the level of the surrounding landscape to match that of the original temple and constructed a new drainage system. Workers also undertook landscaping of the grounds surrounding the hall to beautify the site.

CONSERVATION AND THE COMMUNITY

The conservation project sought the participation of volunteers from the community, and the project team sponsored a *pha pa* (a temple ceremony to raise money) to encourage public participation and to solicit financial support for the temple's conservation. In return, the project team provided valuable practical training for those interested in gaining the skills to conserve heritage buildings. The completion and success of the project would not have been possible without the work and the generosity of the community, whose contributions supplemented those of the Buddhist *sangha* (community of monks) and the Fine Arts Department. The project not only restored an esteemed building but also created a nurturing environment, encouraging greater cooperation among stakeholders and their participation in future projects.

SCAD HONG KONG

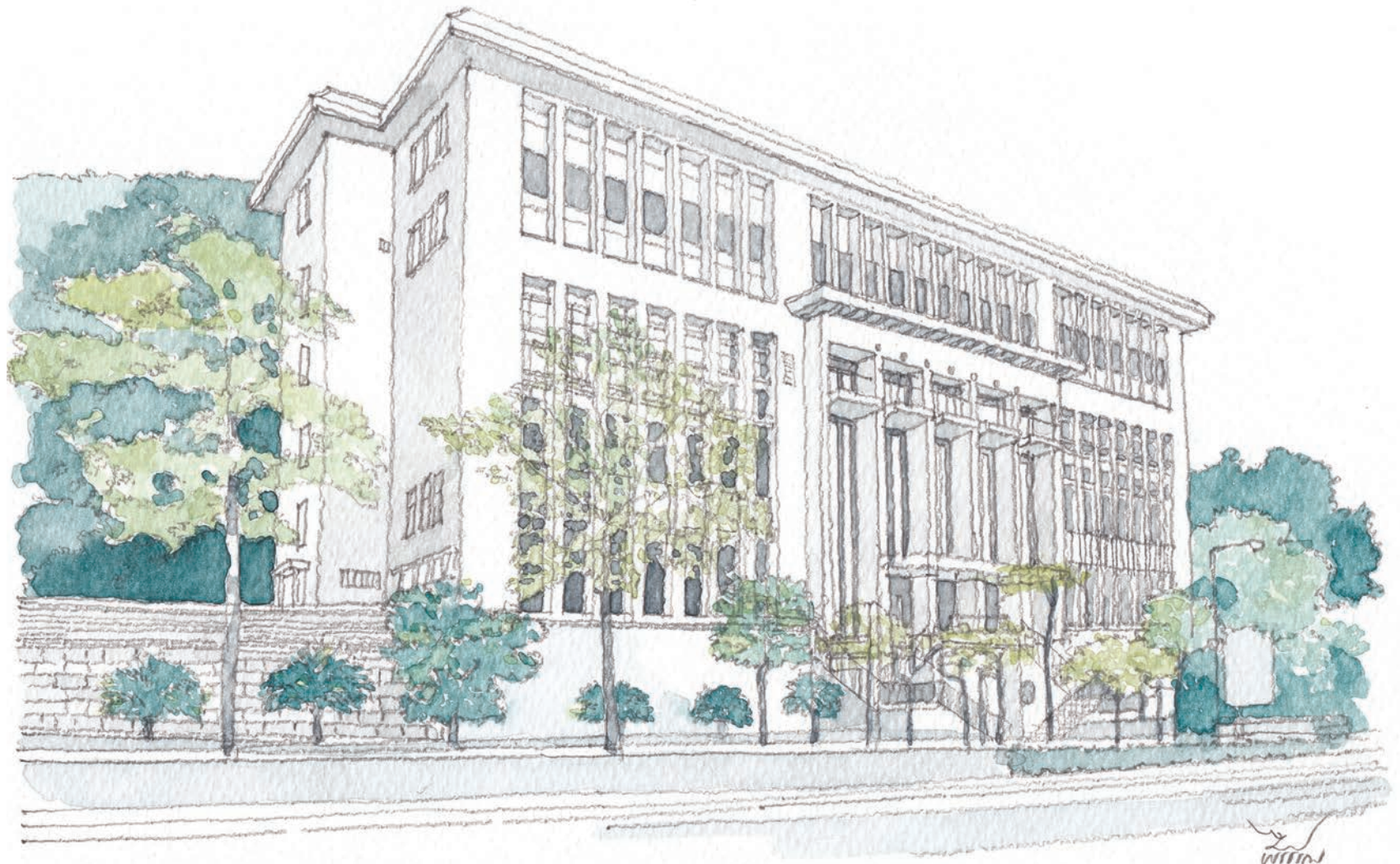
FORMER NORTH KOWLOON MAGISTRACY BUILDING

CHINA

THE ADAPTIVE REUSE OF THE FORMER NORTH KOWLOON MAGISTRACY AS AN INTERNATIONAL UNIVERSITY OF THE ARTS HAS BREATHED NEW LIFE INTO A DECOMMISSIONED 1960s GOVERNMENT BUILDING. THE FUNCTIONALIST STYLE OF ARCHITECTURE WAS RESPECTED AND THE ORIGINAL FINISHES OF THE HISTORICALLY AND AESTHETICALLY VALUABLE STRUCTURE WERE RECOVERED. CREATIVE DESIGN ALLOWED FOR CONTEMPORARY INSERTIONS TO PROVIDE THE REQUIRED EDUCATIONAL FACILITIES WHILE RETAINING THE BUILDING'S ORIGINAL FABRIC AND SPATIAL CHARACTER. THE PROJECT DEMONSTRATES THE POSSIBILITIES OF ADAPTIVE REUSE FOR PUBLIC BUILDINGS OF THIS TYPE AND IS A MODEL FOR SUCCESSFUL PUBLIC-PRIVATE COOPERATION UNDER THE FRAMEWORK OF HONG KONG SAR'S POLICY FOR RETAINING AND OPTIMIZING THE VALUE OF HERITAGE BUILDINGS.

2011

HONOURABLE MENTION



PROJECT SYNOPSIS

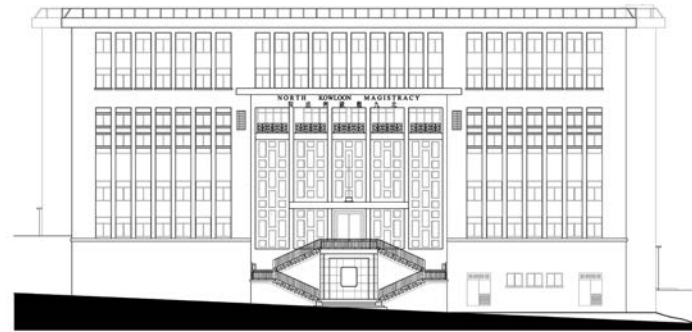
The North Kowloon Magistracy is a significant colonial-era building located in the Sham Shui Po area of Hong Kong SAR. Designed in 1960 by the Hong Kong architectural firm of Palmer & Turner, the reinforced-concrete and granite building is representative of the Stripped Classicism architectural style and is a rare surviving example in the city.

Housing a court system from the time of its opening in the 1960s until its closure in 2005, the building served as one of the city's busiest public amenities, especially following the closure of the South Kowloon Magistracy in 2000. The site remained vacant for over two years before the Savannah College of Art and Design (SCAD) took over the facility with the goal of repurposing it as its Hong Kong campus.

In 2008, SCAD availed itself of a government initiative titled 'The Revitalising Historic Buildings through Partnership Scheme' (also known as the 'Revitalisation Scheme') to adapt the building for reuse. Overseen by the Hong Kong SAR Development Bureau, the scheme aimed to subsidize the cost of maintaining government-owned heritage buildings. Under the scheme, organizations such as SCAD had the opportunity to repurpose older properties for social uses that benefited the community. This provided a viable alternative to converting heritage buildings into government-managed museums or to demolishing the buildings. The partnership between SCAD and the government enabled the college to apply for government funding for the upkeep and management of the building.

The core aim of the conservation project was to convert the unoccupied building for a new purpose and invite community involvement in the effort to preserve an important piece of Hong Kong's history, while celebrating the unique design of the building. SCAD's design team, which had worked on more than 70 heritage structures throughout the world, spearheaded the project. They maintained a high design standard and met the stringent requirements of the Antiquities and Monuments Office.

The project began with a detailed heritage assessment, followed by a scope of work that built upon the evidence of the existing building fabric. The exterior walls of the structure were in good condition, which allowed the project team to concentrate on the restoration of the steel windows, iron railings and stone detailing. The project also brought the impressive bronze doors back to working order. The design team was able to preserve many of the



ELEVATION

THE END PRODUCT OF THE PROJECT SERVES AS BOTH AN EDUCATIONAL ENVIRONMENT FOR THE ARTS AND AN EXAMPLE OF QUALITY CONSERVATION AND RESPECT FOR HERITAGE OF THE BUILT ENVIRONMENT AND THE COMMUNITY. THE ACT OF ADAPTIVE REUSE IS IN ITSELF A COMPONENT OF SUSTAINABLE DESIGN, ALLOWING FOR THE CONTINUED USE OF A BUILT STRUCTURE RATHER THAN DEMOLITION AND REPLACEMENT.

— QUOTE FROM PROJECT TEAM —

original building features due to the strength and durability of the original materials.

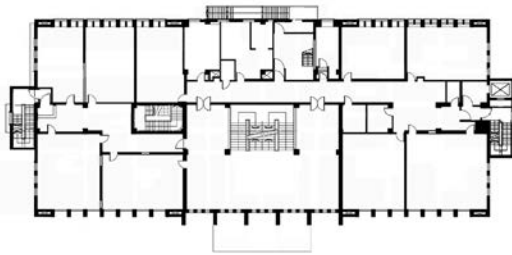
The project called for the removal of inappropriate additions and mechanical systems and the introduction of new systems compatible with the character of the building. The adaptive reuse of SCAD as an educational institution also required compliance with established building standards. To meet these, the design team introduced contemporary environmental systems and health and safety measures, creating a stimulating academic space while conserving the important elements of the historic building.

The transformation of the magistracy building commenced in December 2009 and was completed in September 2010 as a successful example of early projects under the Revitalisation Scheme. The building now houses work spaces and classrooms for more than 140 students and faculty members. Recognizing the building's significance, in 2010 the Antiquities and Monuments Office listed the North Kowloon Magistracy as a Grade II Historic Building.

CONSERVATION APPROACH

The project adopted a three-tier conservation approach that prioritized the areas of highest significance. This approach interpreted yet honoured the original layout and character of the building. The project's conservation management plan specified the preservation of special areas of the building. In particular, the project was careful to retain the configuration of the central core of the building and the principal façade. The project team documented the former office spaces and lower courtrooms of the upper floors and re-configured these as classroom and administrative spaces while retaining as much of the original materials as possible.

During the design process, authorities insisted on improvements to the original iron handrails at the main entrance to meet safety codes and regulations. Rather than diminishing the original design of the railings and the entrance by adding glass panels or drastically modifying the ironwork, the team decided to reduce the use of the main entrance by making it a controlled



PLAN

access point, thus allowing for the retention of the original handrail profiles. The north and south elevations, which historically serviced judges and police personnel, became the primary entrances. Another key building code issue was the provision of barrier-free access. The team redesigned the north and south entrances to make them fully accessible, with ramps and expanded doors, but mimicked many features of the originals. To improve access to the top floor of the building, the project team modified the building's elevators. Since neither of the building's two elevators serviced the uppermost floor (due to machinery within the shafts), the design team decided to reuse one shaft and install a system that would service all floors.



FORMER CELLS WERE TURNED INTO LEARNING SPACES

PROJECT TITLE
SCAD HONG KONG
(FORMER NORTH KOWLOON
MAGISTRACY BUILDING)

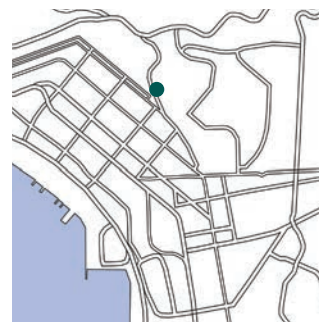
LOCATION
292 TAI PO ROAD,
SHAM SHUI PO, KOWLOON,
HONG KONG SAR, CHINA

SIZE
APPROXIMATELY
6,500 SQUARE METRES

COST
US\$ 12.5 MILLION
RESPONSIBLE PARTY
SAVANNAH COLLEGE OF ART
AND DESIGN (SCAD)

HERITAGE ARCHITECT
ERIC CM LEE
LCK ARCHITECTS
LEO A DALY ARCHITECTS
JMK ENGINEERING
THOMAS ANDERSON AND
PARTNERS

CONTRACTOR
HSIN CHONG INTERIORS
DATE OF COMPLETION
SEPTEMBER 2010



Treatment of the balustrades proved problematic. A set of balustrades on the balcony of the building's third floor failed to meet contemporary codes for safety; it was possible to modify the balustrades, but strict conformance to codes would compromise the original appearance of the balustrades. Since the balcony was not part of the building's main circulation area, the team decided that the best solution was to leave the balustrades how they were and prohibit any access to the balcony.

Before work on the surfaces began, the project team ensured that the workers received training in the conservation of marble and other original materials. Moreover, in order to avoid irreversible damage to surfaces during the conservation work, the team tested all surfaces, which included marble, plaster and stonework, prior to initiating work.

New additions to the building included fire suppression systems, electrical circuits, air-conditioning and re-configured restrooms, as well code-compliant stairs. To mask exposed mechanical systems and other visually undesirable modern interventions, the design team proposed a 'cloud' ceiling. This new feature permitted the introduction of lighting, speakers and fire and safety devices. Similarly, classrooms relied on drop ceilings, which provided for noise suppression and the placement of speakers and digital projectors without bisecting window openings. The suspended ceilings also allowed for air ventilation, eliminating the potential of moisture build-up.

CONSERVATION AND THE COMMUNITY

Throughout the project, weekly tours presented the new proposed use of the building to individuals and groups with special interests in the project. Following the project's completion, SCAD began offering heritage tours to the public on a daily basis. Moreover, the building now hosts special events, such as guest lectures, which are open to the public. In addition, the college's gallery, which features the work of both local and international artists and designers, is also open to the public.

Not only did the project conserve the North Kowloon Magistracy building, but it also set an example for adaptive reuse, employing a unique public-private partnership. The project has received recognition from many professional organizations in Hong Kong as a noteworthy example from the first round of the 'Revitalising Historic Buildings through Partnership Scheme'.

NA PHRA LAN HISTORIC SHOPHOUSES

THAILAND

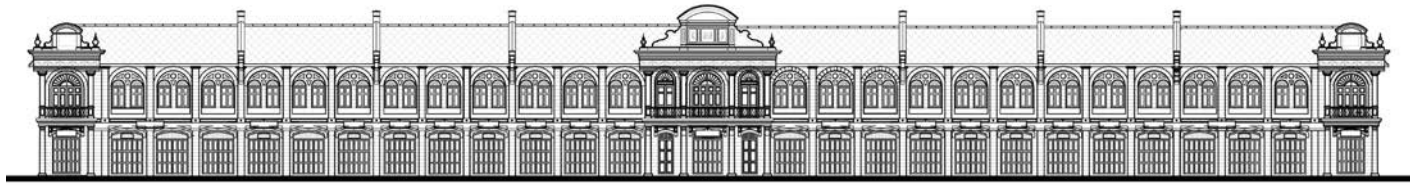
THE REFURBISHMENT OF THE NA PHRA LAN HISTORIC SHOPHOUSES HAS UPLIFTED A HISTORICALLY SIGNIFICANT URBAN COMPLEX IN THE HEART OF THE HISTORIC CORE OF BANGKOK. PROMINENTLY LOCATED ACROSS FROM THE GRAND PALACE, THE PROJECT HAS RESTORED NOT ONLY THIS ARCHITECTURAL LANDMARK FROM THE EARLY TWENTIETH CENTURY, BUT ALSO THE SURROUNDING HISTORIC STREETScape. BY REMOVING INAPPROPRIATE MODERN ADDITIONS, USING HIGH-QUALITY MATERIALS IN REPAIRS AND UPGRADING SERVICES TO MEET MODERN BUILDING CODES, THE PROJECT HAS RECOVERED THE ORIGINAL, HISTORICALLY-ACCURATE AESTHETIC WHILE ACCOMMODATING CONTINUED CONTEMPORARY USE. THE PROJECT ESTABLISHES A COMMENDABLE MODEL FOR PARTICIPATION BY THE LONG-TERM TENANTS, WHO CONTRIBUTED TO THE PROJECT COSTS AND HAVE COMMITTED TO MAINTAINING THE BUILDINGS IN THE YEARS TO COME.

2011

HONOURABLE MENTION



W. J. J. J.



ELEVATION

THE CONSERVATION OF THE NA PHRA LAN SHOPHOUSES HAS SET A STANDARD FOR OTHER PROJECTS, TECHNICALLY, FINANCIALLY AND CONCEPTUALLY. THE SHOPHOUSES HAVE MAINTAINED THEIR STATUS AS A LANDMARK OF THE AREA, AND THEIR ACTIVITIES CONTINUE TO CONTRIBUTE TO SUSTAINING THE LIVELIHOODS OF THE LOCAL COMMUNITY.

— QUOTE FROM PROJECT TEAM —

PROJECT SYNOPSIS

Built between 1908 and 1910, the Na Phra Lan Historic Shophouses site consists of an ornate complex of twenty-nine connected units. The structure was built in a 'Straits settlements' style, with thick cement walls and wooden beams, doors and shutters, and features decorative plaster flourishes.

The shophouse complex is located on Na Phra Lan Road across from the Grand Palace in Phra Nakhon District of Bangkok, Thailand. Na Phra Lan Road was one of the first planned roads of Bangkok. The development of the road and the surrounding area occurred over four periods, and the area evolved accordingly in use and style. The first buildings on the site were the Na Phra Lan Road Palaces (also called the Tha Phra Palaces), which were built in the early Rattanakosin Era, during the reign of King Rama I (1782-1809). The second period of development in the area occurred during the reigns of King Rama III, King Rama IV and King Rama V (1824-1910). The shophouse complex was constructed during this period. Some of the units of the complex originally served as governmental guesthouses, but gradually evolved to have a commercial function, with shops on the ground floor and living quarters above. The complex was registered as a historic site by the Fine Arts Department (FAD) of the Royal Thai Government in 2000 and as an Ancient Monument in 2001.



EXTERIOR OF THE SHOPHOUSES BEFORE AND AFTER RESTORATION

In 2007, the Crown Property Bureau (CPB), in cooperation with the Bangkok Metropolitan Administration and the FAD, outlined a plan to improve the area around the Grand Palace. Through this partnership, the CPB established policies for the restoration of historic buildings and communities in the area in accordance with the FAD's guidelines.

The redevelopment plan centred on three neighbourhoods: Tha Chang, Tha Tien and Na Phra Lan Road. The CPB and its advisors divided the project into three phases. The restoration of the Na Phra Lan Historic Shophouses was part of the third phase. The overall time-frame for the CPB's redevelopment project was six years; of that, almost four years focused on the restoration of the Na Phra Lan area (including three years of research and preparation and eight months of restoration work).

At the time, assessments of the condition of the Na Phra Lan shophouse complex, which was 2,060 square metres in size, detected significant structural problems and major surface deterioration. The shophouses had also suffered numerous inappropriate modifications and additions by the tenants over time.

The initial step in the conservation of the Na Phra Lan shophouses was a careful study of the site's history and construction. An archaeological excavation and

historical records search allowed project planners to compare nearby sites, including the West Palace, the Middle Palace and the East Palace of the Na Phra Lan Road Palace compound. Because of the many sitting tenants and the complexity of leaseholds, the project also required a great deal of pre-planning before the restoration work could begin. Actual conservation work began in 2009.

The project's directors proactively engaged both the public and private sectors in the conservation process; setting new standards for projects of this kind. Due to the success of both the building repair and the community's engagement, this project can be seen as a role model for future conservation efforts in Bangkok.

CONSERVATION APPROACH

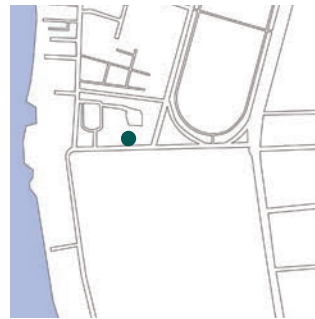
The conservation project had four main objectives; to restore and protect the complex; to update the shophouses for modern life while retaining their aesthetics and charm; to support sustainable residency in the area, giving leasing priority to the existing tenants; and to learn from this project to put into practice effective repair and management plans so as to decrease the expenses of both the CPB and the tenants on upkeep of the buildings.

The conservation project had the following sequence: excavation for archaeological artefacts; removal of building additions and elements deemed dangerous, such as improper electrical wiring; construction work to restore the original architectural features; installation of air-conditioning, ventilation; sanitation, electric and communication services; and improvement of the landscaping around the building.

The project also included significant work on the main façade. The team restored this with great attention to detail, and workers replaced any broken or missing elements using the same materials and matching the original forms. The planning team also gave considerable attention to the long-term functioning of the site, encouraging the owners, tenants and users to continue their economic activities and livelihoods.

To address the issue of limited space inside the shophouses, the project also included the addition of structures at the rear of each unit. These fell within the heights of the existing building complex to ensure they could not be seen from the front street level. The new rear structures were differentiated from the original

PROJECT TITLE
NA PHRA LAN HISTORIC
SHOPHOUSES
LOCATION
2-30 NA PHRA LAN ROAD,
PHRA NAKHON,
BANGKOK, THAILAND
SIZE
2,060 SQUARE METRES
COST
US\$ 1,554,300
RESPONSIBLE PARTY
CROWN PROPERTY BUREAU
HERITAGE ARCHITECT
KUDAKAHN CO.LTD.
CONTRACTOR
PRADIT THANANURAK CO.LTD.
DATE OF COMPLETION
FEBRUARY 2011



shophouse row to indicate their newness. To further emphasize their separation from the older complex; the rear additions have separate foundations. The project also implemented this measure to prevent future damage by differential settlement in the two sections. The new additions were built using concrete slabs and aerated foam concrete blocks, which were ready-made and did not require painting. Light-weight coated metal sheets were set above the higher sections for ventilation purposes. Roofing consisted of a waterproof concrete admixture cast in place on steel roof structures, topped with fibre-cement tiles and colour-coated metal tiles. Overall, these new structures were designed to optimize energy efficiency by using natural light and air flow. Thus, the architects aimed for a sustainable building that could meet the needs of the tenants in the urban environment.

CONSERVATION AND THE COMMUNITY

Of the twenty-nine tenants of the shophouses; seventeen had occupied their units for more than thirty years, with some having used the shophouses for businesses and homes for nearly sixty years. In view of this longevity and attachment to the place, the CPB paid great attention to the needs of the existing tenants to ensure that their wishes were respected during the project. Before and during the work, the team frequently met with tenants to ensure that they were informed and engaged in the decision-making process. To ease the transition, the CPB also provided financial subsidies to the tenants of the site. The CPB plan was that tenants would pay 25 per cent of the total renovation fee for their shophouses, while the bureau would cover the remaining 75 per cent. The tenants also received additional temporary rent subsidies as they had to move out during the construction work.

By including the existing tenants in the design and refurbishment of the shophouses and surrounding area; the CPB was able to improve the living standards of the residents while maintaining the original character of the neighbourhood. The community engagement in the restoration of the shophouses was significant not only for the project, however, but also for the area's development plans more generally. As a result of the project, community members are now more involved in the planning of projects such as this.

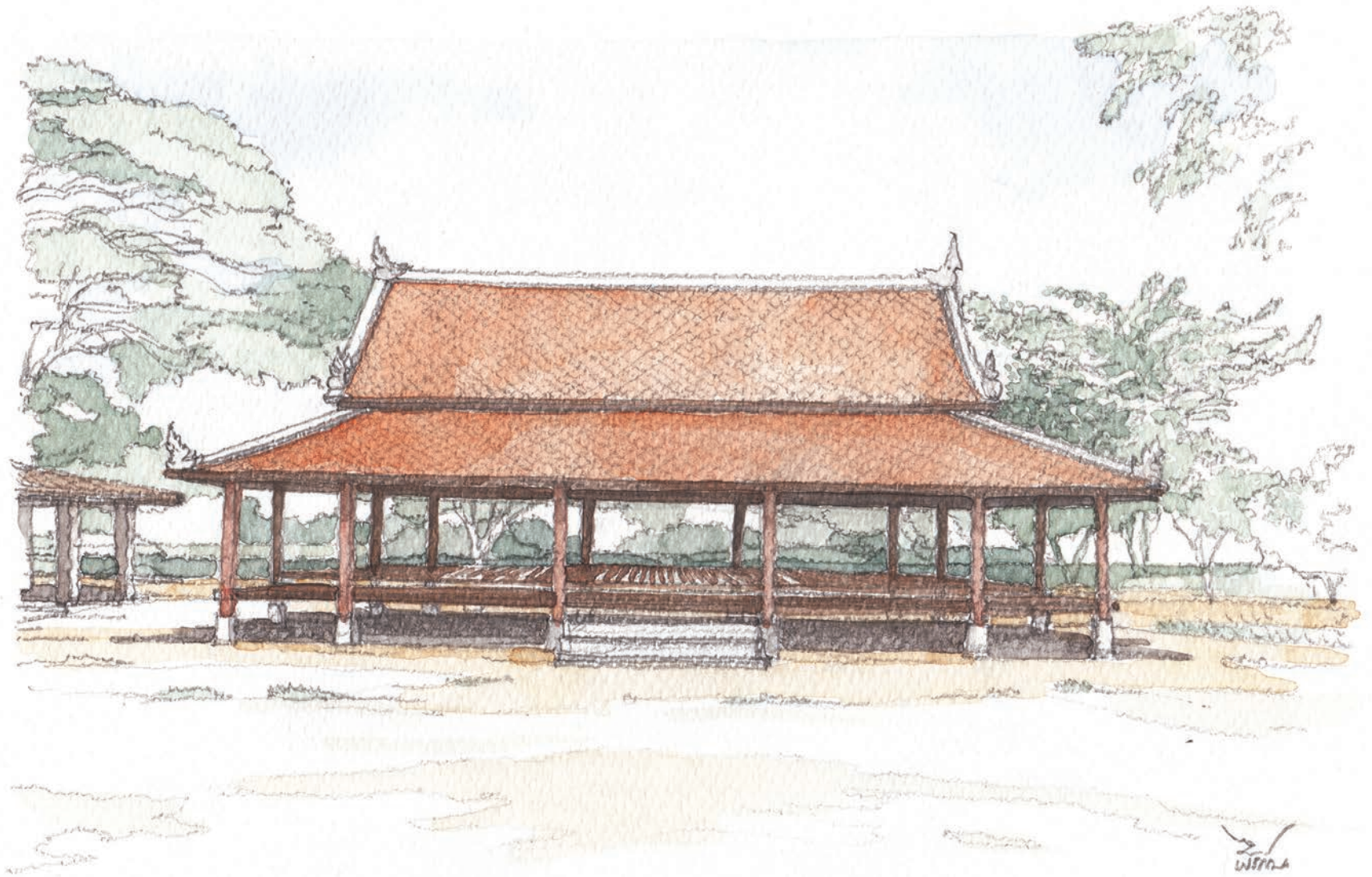
SALARIAN PAVILION OF WAT KUTAO

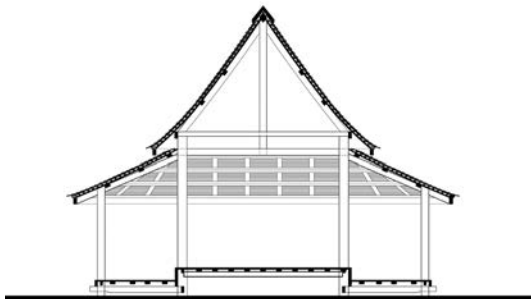
THAILAND

THE RESTORATION OF THE SALARIAN PAVILION OF WAT KUTAO HIGHLIGHTS THE ACCOMPLISHMENT OF A PARTICIPATORY CONSERVATION APPROACH INVOLVING THE LOCAL COMMUNITY, EDUCATIONAL INSTITUTES AND TECHNICAL SPECIALISTS. THE EIGHTEENTH-CENTURY WOODEN PAVILION WAS RESTORED IN A TECHNICALLY COMPETENT MANNER, RELYING MAINLY ON LOCAL BUILDERS USING TRADITIONAL MATERIALS AND VERNACULAR TECHNIQUES. THE PROJECT RECEIVED AN OUTPOURING OF SUPPORT FROM THE COMMUNITY AND HAS INSPIRED A GREATER AWARENESS OF LOCAL CULTURAL HERITAGE, LEADING TO THE SUBSEQUENT RESTORATION OF OTHER HISTORIC STRUCTURES IN THE MONASTERY.

2011

HONOURABLE MENTION





SECTION



BEFORE RESTORATION



ROOF REPAIRS

THE PROJECT IS THE FIRST STEP TOWARDS PARTICIPATORY CONSERVATION.

— QUOTE FROM PROJECT TEAM —

PROJECT SYNOPSIS

Wat Kutao, originally called Wat Satao, is an Ayutthaya-period temple built in 1756 in the province of Songkhla in southern Thailand. Originally located close to Nhonghin Cemetery, in 1890 it was relocated to its current site along Khlong U-Tapao due to heavy flooding around the cemetery. King Rama V then converted Wat Kutao into a monastery. It opened for the teaching of scriptures in 1940.

Records indicate that the monastery has long housed a temple, public primary school and numerous buildings of significant heritage value. One such building is Salarian Pavilion. Built before 1916, it functioned as a multipurpose venue from its very beginning. A later addition of bamboo walls and a separate entrance bay with steps enabled the pavilion to be used as a learning space with two classrooms, each catering for twenty to thirty students. The pavilion is significant to the local community as its first school, as a place for traditional activities, and for its cultural connection to the Chinese and Ban Maetom communities along Khlong U-Tapao.

The Salarian Pavilion of Wat Kutao is a site where heritage combines with the beauty of architecture in its humblest form. The main building material of the pavilion is *kiam*, a type of local hardwood that is now rare. The pavilion features traditional methods of ventilation and was built in such a way as to secure the ground level from flooding. The floor has two levels, the upper part of which originally stood 30 centimetres above the terrace surrounding the building. This configuration became one

of the defining characteristics of *dhamma sala* in southern Thailand. The floor is made of planks that feature a small groove for draining rain water to the sand below. Among the building's characteristics is a highly-decorated gable end, topped with wooden *chor fah* (bird beak) and *hang hongse* (swan tail) forms. Scholars consider these forms and the stucco patterning in the gables of the pavilion to have Burmese influence. The earth tone of the structure matches the building's terracotta roof tiles, which were made in a local factory.

Over time, the buildings of Wat Kutao fell into a state of disrepair. In 2008, representatives from the Arsom Silp Institute of the Arts became aware of the poor condition of the complex during a site visit. Discussions between the institute and the local community revealed that the users of Wat Kutao wanted to conserve the monastery but lacked the necessary skills and expertise. Subsequently, the institute and the community came to an agreement that the historic site and landscape of Wat Kutao would be conserved as part of a collaborative project.

The conservation team from Arsom Silp decided to start the Wat Kutao project by renovating Salarian Pavilion. The pavilion had been abandoned many years earlier and had suffered greatly from years of neglect. The wing-shaped roof was in a particularly bad condition, and water had leaked between the roof tiles, damaging the structure. Another significant problem was that the floorboards had fallen to ground level, worsening

the stability of the structure.

The project team sought the full participation of the local community in the conservation project, involving them first in consultations, decision-making, planning and fundraising and later as contractors and labourers. When preparing the restoration plans, Arsom Silp Institute also sought inputs from the Fine Arts Department (FAD) and the Thailand chapter of the International Council on Monuments and Sites (ICOMOS). Consequently, local FAD officers became advisors to the project, making recommendations about material use and technical aspects.

The planning process was temporarily stalled when political wrangling during the local elections interfered with the participation of local residents. The design team waited out these tensions and used this situation as an opportunity to expand their network and undertake another study. Arsom Silp Institute also set up a VERNADOC (vernacular documentation) camp at Wat Kutao to allow two other educational institutions to participate in the planning process. Recognition of the local vernacular architecture and its community value were the immediate results of this new partnership and initiative.

The project raised the necessary funds to complete the conservation work through donations, many from local residents. These donations demonstrated that the monastery remained significant to the community. In 2010, the restoration of the pavilion was complete.

CONSERVATION APPROACH

Research was a key precursor to the conservation work at Salarian Pavilion. The Arsom Silp Institute team employed collaborative methods of data collection, which allowed the project to gain a deep understanding of the local community, a factor that resulted in the noteworthy conservation of the heritage assets. Data was collected via various means, including storytelling, the exchange of ideas between researchers and residents of the area and an opinion box. One of the most striking aspects of the institute's approach was that its team members lived for a short period in local homes where they could interact with families on a day-to-day basis and learn about of the history of the pavilion, its past uses and its place in the community. Community value became a hallmark of the project and remained the guiding principle of the work. In this way, the project was as much an expression of intangible values as an exercise in the application of conservation techniques.

The conservation effort encompassed stabilization, excavation and substantial rebuilding of the pavilion. Workers lifted the entire pavilion off the ground to prevent moisture from entering the wooden structure. The team also repaired the decaying hardwood columns. One of the key challenges was to raise the floorboards by 40 centimetres, after which they were propped up with newly-added concrete footings. A new concrete staircase was added to the pavilion to negotiate the raised floor level.



MEMBERS OF THE COMMUNITY PUT THE SCULPTURES ON THE ROOF DURING A RELIGIOUS CEREMONY.

PROJECT TITLE
SALARIAN PAVILION OF
WAT KUTAO
LOCATION
1 BAN HUANONWAT,
TAMBON MAETOM, SONGKHLA,
THAILAND
SIZE
APPROXIMATELY
80 SQUARE METRES
COST
US\$ 10,600
RESPONSIBLE PARTY
ASHRAM OF CULTURAL
ENVIRONMENT PRESERVATION
ARSON SILP INSTITUTE OF
THE ARTS
HERITAGE ARCHITECT
ARSON SILP INSTITUTE OF
THE ARTS
KUTAO COMMUNITY
CONTRACTOR
LOCAL COMMUNITY MEMBERS
DATE OF COMPLETION
JULY 2010



Traditional skills of woodcarving and wood-washing – passed down through practice and tradition – became key processes in the project. Skilled members of the local community were therefore able to contribute their expertise, while other members of the community gained new skills. In areas where expert consultation was needed, Arsom Silp Institute stepped in. For example, in the case of the intricate stucco patterns on the gable ends of the pavilion, the institute organized a series of workshops by a stucco master from Petchaburi Province. Such knowledge sharing fostered indigenous mastery of traditional materials and forms.

CONSERVATION AND THE COMMUNITY

The conservation of Salarian Pavilion of Wat Kutao is an exemplar of community participation and the transmission of ancient wisdom. Arsom Silp Institute emphasized the need for regular and continuous participation of the community throughout the project, and the project successfully encouraged people in the community to take ownership and assume responsibility for a site of great heritage value.

The cooperative project was part of an existing initiative of Arsom Silp Institute that provided an opportunity for both students and local residents to learn about heritage conservation through community participation. For the institute, architecture was an instrument to help bring about awareness among students of the life and culture of a native community in southern Thailand. The institute plans to document the partnership in the form of a publication called 'Wat Kutao and the first step towards participatory conservation'. The traditional knowledge revived during the conservation process will also be documented in this book, making it available to future generations.

The project ultimately represented a partnership between the public and private sectors, and between educational institutions and individuals. The restoration of Salarian Pavilion demonstrated the viability and ongoing significance of built heritage such as Wat Kutao, and promotes the conservation of valuable architectural treasures and of the communities that they serve. Recognizing this, in 2011 the Association of Siamese Architects under the Royal Patronage honoured the project for its conservation effort.

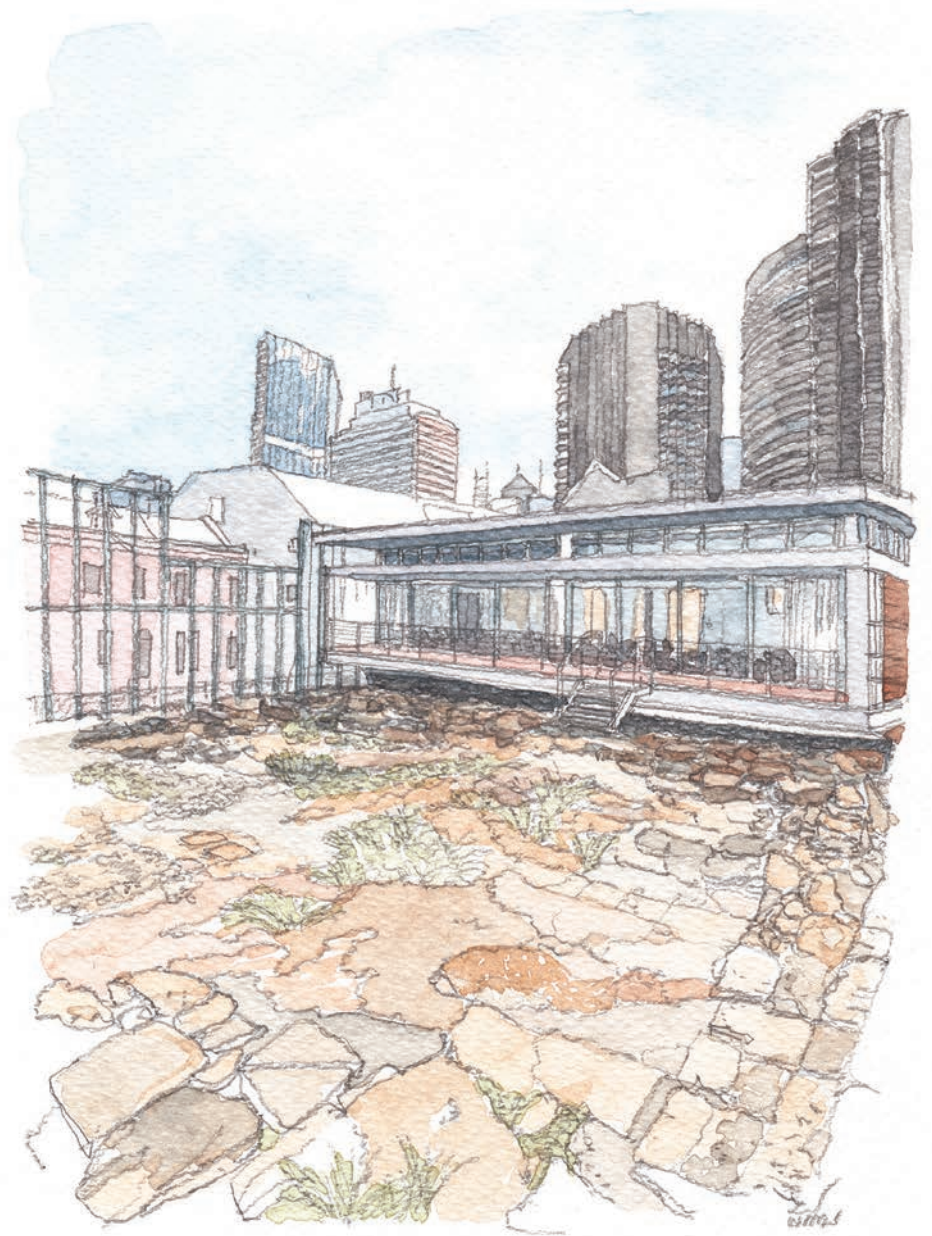
SYDNEY HARBOUR YHA AND THE BIG DIG ARCHAEOLOGY EDUCATION CENTRE

AUSTRALIA

THE PROJECT SUCCESSFULLY PUTS URBAN ARCHAEOLOGY IN THE SPOTLIGHT, SHOWCASING THE SITE THROUGH CREATIVE USE AS A YOUTH HOSTEL AND A PUBLIC EDUCATION CENTRE. IT PROVIDES HANDS-ON ACCESS TO ONE OF AUSTRALIA'S MOST WELL-KNOWN URBAN ARCHAEOLOGICAL SITES, OFFERING VISITORS A GLIMPSE OF EARLY EUROPEAN SETTLEMENT IN THE LATE EIGHTEENTH CENTURY. THE NEW DEVELOPMENT SITS LIGHTLY IN THE SITE, USING INNOVATIVE STRUCTURAL DESIGN TO MINIMIZE THE IMPACT ON THE ARCHAEOLOGICAL REMNANTS. LOCATED IN SYDNEY'S HISTORIC HARBOURSIDE PRECINCT, WITH A VIEW OF THE CITY'S MOST PROMINENT MODERN ARCHITECTURAL ICONS, THE BUILDING'S SLEEK DESIGN STANDS OUT AS A FRESH CONTEMPORARY COUNTERPOINT.

2011

**JURY COMMENDATION
FOR INNOVATION**



CONTEXT

The Big Dig archaeological site is located on Cumberland and Gloucester Streets in the area of Sydney called 'The Rocks'. The Big Dig commenced in 1994 and continued until 2008. During that time archaeologists discovered the remnants of over forty buildings and collected over one million artefacts. The findings of The Big Dig have revealed much about the early history of British colonization of the area and paint a vivid picture of the site's years as a prison colony as well as of the growth of Sydney as an urban site, from the earliest European settlement in 1788 through to the terrace houses constructed for workers in 1914.

In the second half of the twentieth century, the site served as an area for light industry workshops before being hidden from view by bitumen in an ill-advised urban redevelopment scheme, and used as a bus depot and car park.

With the successful completion of the excavation and research at the Big Dig site, thoughts turned to ways of presenting and interpreting the findings about the history of the area and life in earlier times. This sentiment gave birth to The Big Dig Archaeology Education Centre, which aims to tell the story of Sydney's colourful past through its underground records.

The designers of the education centre combined it with a hostel, providing both a learning centre for visitors and locals alike, and a place for visitors to stay. Completed in 2009, the Sydney Harbour YHA is an elevated two-building, three-storey contemporary hostel. Completed the following year, the single-storey Big Dig Archaeology Education Centre, which cantilevers over the exposed archaeological remains, is a key component of the hostel.

PROJECT HISTORY

As a significant archaeological site, The Big Dig is protected under the Heritage Act 1977 (New South Wales) through its listing on the state heritage register, the highest level of protection offered by the state. In 2005, the Sydney Harbour Foreshore Authority (SHFA, now Property NSW) called for public tenders for the adaptive use of the Big Dig site. One of several contenders, the Youth Hostels Association (now YHA Ltd.), a non-profit organization, proposed a revolutionary combination of a hostel and an archaeological education centre. YHA Ltd was successful in its tender and en-



ELEVATION

SYDNEY HARBOUR YHA AND THE BIG DIG IS THE LARGEST URBAN ARCHAEOLOGY DEVELOPMENT EVER UNDERTAKEN IN AUSTRALIA AND HAS BEEN RECOGNIZED FOR THE INTEGRATION OF A MODERN FACILITY WITHIN A SIGNIFICANT ARCHAEOLOGICAL SITE. THE INNOVATIVE DESIGN AND STRUCTURAL RESPONSE HAS CHALLENGED THINKING AND PROMPTED DEBATE REGARDING ARCHITECTURAL SOLUTIONS FOR THE CONSERVATION OF SIGNIFICANT ARCHAEOLOGY.

— QUOTE FROM PROJECT TEAM —



THE INTERIOR OF THE BUILDING HOVERING OVER THE ARCHAEOLOGICAL SITE

tered into a ninety-nine-year lease with Property NSW. Under the lease terms, the archaeological remains would be jointly managed by both parties.

The planning process lasted for approximately three years before construction began. Overseen by the state department of planning, construction began in 2008 and the hostel buildings were completed in late 2009. The design team then installed an interpretive exhibition in such a way that allowed for both protection of the archaeological remnants and exposure of the findings. The Governor General of Australia officially opened the hostel and education centre in April 2010.

PROJECT SCOPE AND FRAMEWORK

The core objective of the project – and what made it stand out from other adaptive use proposals – was the YHA's vision of integrating affordable tourist accommodation with an education centre while retaining the archaeological dig *in situ*.

The YHA's development team fused an innovative design with the principle of minimum intervention. The design limited the impact on the archaeological site by limiting the building's footprint, thereby giving priority to the historic remains over the new structure. The total area of the design was 4,714 square metres, of which the buildings constitute only 1,532 square metres.

DESIGN AND MATERIALS

The major innovation of this project was the light-weight steel-frame building set above the archaeological site. The new building mass provides a vivid counterpart to the largely subterranean ruins and helps to reveal the qualities of the place, including its historical, architectural, cultural and social significance.

Sections of the new buildings enhance the visibility of important areas of the Big Dig, with internal walkways enabling visitors to observe the historic site below. Perforated metal screens provide protection for the archaeological remains and also contribute visually to the site's interpretation as they represent the scale and form of the original buildings, with cut-outs indicating the original window and door openings. Similarly, the metal mesh flooring in the foyer with LED lighting permits a view of the cellar of the former Australian Hotel as guests enter and exit the hostel. Carefully planned, the new buildings also honour two historic laneways, Cribbs

PROJECT TITLE
SYDNEY HARBOUR YHA AND
THE BIG DIG ARCHAEOLOGY
EDUCATION CENTRE

LOCATION
SYDNEY, NEW SOUTH WALES,
AUSTRALIA

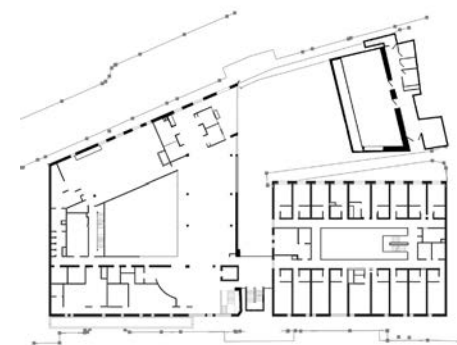
SIZE
4,714 SQUARE METRES

COST
APPROXIMATELY
US\$ 28 MILLION

RESPONSIBLE PARTY
YHA LTD.

HERITAGE ARCHITECT
GODDEN MACKAY LOGAN
HERITAGE CONSULTANTS
TZANNES ASSOCIATES

DATE OF COMPLETION
OCTOBER 2009



PLAN

Lane and Carahers Lane. To maintain the visual integrity of Cribbs Lane, the architects connected the two parts of the hostel with a glass-clad bridge.

To realize the project's aims, the YHA employed the firm of Tzannes Associates to design a lightweight steel truss system, supported by columns. The architects kept the columns to a minimum, thereby decreasing the impact on the site. The limited number of columns also made the ruins below more visible, allowing visitors to see 85 per cent of the archaeological site. The architects determined the location of supports through lengthy consultations with archaeologists, geotechnical experts and structural engineers. The team also designed around the collection of artefacts found on the site, which are displayed in three external cases.

The design team took special care to protect the remnants of the houses, shops and hotels on the site. This effort required the use of an innovative system of horizontal scaffolding and a storm-water management system covering the whole site. Workers also protected vulnerable elements with layers of geotextile, sandbags and gravel.

To avoid causing irreversible damage to the site during construction, the design team specified that all external surfaces of the buildings be clad in pre-finished materials (e.g. metal panelling and durable tiling). The team took the neighbouring heritage buildings into consideration when selecting colours for external finishes (woodland grey and terracotta) so as to complement those properties. Moreover, the interpretive museum was completed offsite and was lifted onto the site with cranes, as vehicular access was prohibited.

Sustainability was incorporated into the building design, which relies on natural ventilation and light, creating voids compatible and appropriate to the site. Providing shading and insulation reduced requirements for energy for heating, cooling and lighting. Other sustainability-oriented initiatives included the incorporation of rainwater tanks (with an 80,000-litre capacity), solar-powered water heaters, a gas generator, building materials low in volatile organic compounds (VOC) and formaldehyde, environmentally-sound rubber flooring and 'no-spill' external lighting.

IMPORTANT ISSUES

Unlike many other redevelopment projects, The Big Dig project placed an emphasis on preservation over construction and had deep engagement with the site's archaeology. To give priority to the archaeological remains and minimally impact the historically-significant substrate, the design team inserted new elements creatively. Access was the key to the design intervention. The project also ingeniously incorporated modern sustainable installations and interpretive displays to serve the goals of conservation, tourism and education without sacrificing the integrity of the site. The success of the project was in its respect for history.

PROJECT IMPACT

The project offered a conscientious solution to the design challenge of constructing contemporary buildings on a nationally significant and fragile archaeological site. The project has enabled public access to a significant site, providing educational opportunities and heritage interpretation while also creating a cultural experience for tourists and locals alike. Overall, the project successfully demonstrated how an urban archaeological site can serve as the centrepiece for an adaptive reuse plan.



SECTION



THE EDUCATION CENTRE



VIEW OF THE BUILDING FROM CRIBBS LANE

TECHNICAL BRIEF

DEVELOPING EDUCATION PROGRAMMES FOR ARCHAEOLOGICAL SITES



SYDNEY HARBOUR YHA BIG DIG

An integral part of the successful bid by YHA Ltd to develop the 'Sydney Harbour YHA and The Big Dig Archaeology Education Centre' was the inclusion of an educational facility on the site, along with a set of site-specific archaeology education programmes. Contributions from YHA hostel guests to a sinking fund are, in part, used to support these programs.

The education programmes were originally developed in 2008-2009 by teacher educator and archaeologist Louise Zarmati, who was part of a committee to develop a new curriculum for Australian schools, implemented between 2012 and 2016. The programmes for The Big Dig Archaeology Education Centre are delivered by a team of dynamic educational guides from Sydney Learning Adventures, the educational unit of Property NSW (a statutory body of the Government of New South Wales that manages state-owned property).

The Big Dig's education programmes began running in early 2010 and in the first nine years of the initiative over 76,000 school students participated in it. While the programmes are very popular today, it took nearly three years to raise widespread awareness of them. This was accomplished primarily through 'word-of-mouth' but also through history teachers' associations, familiarization tours, university student teacher training and participation by the centre in public events, including National Archaeology Week and Sydney Open (an event that

allows the public to visit Sydney's landmark buildings). To inform ongoing improvements, the programme organizers collect feedback from teachers and guides, and consult booking trends.

The programmes at The Big Dig are designed to give students an engaging and fun hands-on experience, in essence to 'work like an archaeologist'. Activities include a simulated excavation for primary school students, where artefacts and the reconstructed remnants of a room are buried in a sandpit. After uncovering the artefacts, the students contextualize them by placing them on a large-scale floor-map of the site and then engage in an artefact-analysis session. While encouraging the thrill of discovery and instilling in learners an interest in archaeology, the programmes also emphasize the need for meticulous record-keeping and reporting of outcomes.

Students also experience a site tour, in which they identify remnants of old buildings, as well as supporting elements, such as wells and cesspits. They also hear stories of the people and families who lived in the old buildings. Students later handle and analyse artefacts from the site, often observing they are like tangible 'port-keys' to the past. Taking students out of a classroom environment and into the physical space of an archaeological site allows them to experience a multi-faceted exploration of how the landscape and geography are related to how people previously lived in 'The Rocks', as the local

area is known. Overall, the physical reality of the archaeological site and its authenticity help students empathize with the people who once lived there, giving a new dimension to both the site and the students' understanding of the past.

Linkage to the curriculum is a key factor in the success of the educational programmes. There was a distinct change in the distribution of bookings of secondary and primary schools following the introduction of the new Australian curriculum, when Australian history became a compulsory area of study in the primary years. Notably, bookings for the *Dirt Detectives* and *Pieces of the Past* programmes, for Years 3 to 6 (ages 8 to 12) increased.

Alison Frappell



EDUCATIONAL ACTIVITIES AT THE SITE

MA'ANQIAO VILLAGE

CHINA

THIS PROJECT AT MA'ANQIAO, ONE OF THE VILLAGES DEVASTATED BY THE SICHUAN EARTHQUAKE IN 2008, IS A NOTEWORTHY EXAMPLE OF POST-DISASTER RECONSTRUCTION THAT FITS COMFORTABLY IN ITS IMMEDIATE CULTURAL AND ENVIRONMENTAL CONTEXT. SIGNIFICANTLY, THE RECONSTRUCTION EFFORT USED TRADITIONAL CONSTRUCTION MATERIALS AND TECHNIQUES RATHER THAN MODERN BRICK OR CONCRETE SYSTEMS. BY ADAPTING VERNACULAR RAMMED EARTH TECHNOLOGY TO MEET MODERN STANDARDS FOR BOTH SEISMIC PERFORMANCE AND GREEN BUILDINGS, THE PROJECT ENSURED THAT THE NEWLY-BUILT HOUSES WILL SUSTAIN TRADITIONAL LIFESTYLES AND PROTECT HUMAN LIVES, WHILE SETTING NEW STANDARDS FOR ECO-ARCHITECTURE IN CHINA.

2011

JURY COMMENDATION
FOR INNOVATION



CONTEXT

Ma'anqiao Village is located near Jinsha River in the southernmost part of Sichuan Province in China. The village is situated in a valley with hot subtropical climate. The two principal ethnic groups of the area are the Dai and the Yi. Like any other remote rural village, Ma'anqiao has few commercial resources and limited transportation facilities. The village has a high level of poverty. The local people have retained the local tradition of rammed earth housing. This tradition distinguishes Ma'anqiao and other small settlements in the area and gives them their character.

PROJECT HISTORY

In 2008, the Wenchuan Earthquake devastated Sichuan Province of China. Another earthquake of magnitude 6.1 followed soon afterward, destroying almost all of the houses in Ma'anqiao. Following that earthquake, the local building department prohibited the use of rammed earth construction, and villagers were required to rebuild their houses using concrete and brick. The government subsidy did not provide sufficient funds for this, however. Not only was the prescribed construction approach beyond the financial reach of villagers, it also ignored longstanding vernacular traditions and the character of the village's architecture.

The conservation project was the first comprehensive village reconstruction demonstration project in rural China after the 2008 earthquake. Designed to help the villagers rebuild their homes and lives in a more sustainable and humane manner, the intervention followed the principle of 'high science, low technology', enabling the villagers to not only afford to rebuild but to also develop the capacity to build and maintain their own houses and pass on those construction skills to future generations.

The idea for the project came from the Wu Zhi Qiao (Bridge to China) Charitable Foundation, and the project was sponsored by the Lee Hysan Foundation and the Hong Kong Girl Guides Association. The local government also contributed, as did volunteers from several universities in Hong Kong SAR and mainland China. The most noteworthy contribution was that of the local villagers.



THE PROTOTYPE HOUSE
BEFORE RECONSTRUCTION



REINFORCING THE RAMMED
EARTH BUILDINGS

ALL ARCHITECTURAL ELEMENTS WERE CAREFULLY DESIGNED TO BE HARMONIOUS WITH THE SURROUNDING ENVIRONMENT AND LOCAL CULTURAL HERITAGE. THE ANTI-SEISMIC RAMMED EARTH BUILDING RESPECTS THE LOCAL CULTURE AND TRADITIONAL ARCHITECTURAL FORM, AND CONTINUES THE LINEAGE OF THE LOCAL PEOPLE.

— QUOTE FROM PROJECT TEAM —

PROJECT SCOPE AND FRAMEWORK

The Ma'anqiao Village project had three phases and was implemented over a period of two years. In the first phase the project team provided the villagers with technical training on building types and technologies as well as on how to retrofit older dwellings for seismic resistance. The team constructed a prototype rammed earth house, with the assistance of members from each family, to demonstrate ways of altering traditional buildings to meet seismic and ecological requirements.

The next phase involved promoting the new technology and supporting local reconstruction. The project team helped the villagers rebuild their houses. Throughout the reconstruction, team members lived with villagers to offer technical supervision and assistance. The project team conducted on-site experiments using earthquake-resistant technologies for rammed earth buildings.

The final stage of the project encompassed improvements to the community as a whole. This phase

focused on enhancing rapport between the villagers and strengthening their communal spaces. The project team built a bridge and created a village centre containing a hall, clinic, kindergarten, library and shop. By providing a venue for local people to celebrate festivals and carry on their traditions, the centre contributed to community cohesion and sense of identity. The project team also set up a rammed earth demonstration centre to allow local inhabitants to continue learning the skills involved. In addition, the team organized public health education workshops and other training opportunities for local residents.

Following the initial work and experimentation, the team published an illustrated construction manual focusing on seismically-responsive construction methods. This way, the knowledge gained at Ma'anqiao was made available to other villages in China with similar housing typologies.

DESIGN AND MATERIALS

The project involved the reconstruction of 33 family homes, each with different designs due to their varying sizes and the differing requirements of each of the families living in the houses. Instead of constructing brick and concrete buildings as advocated by the government, the project team inserted anti-seismic measures into traditional rammed earth houses, using bamboo strips and timber to improve their ductility.

The design team was careful to maintain the original patterns and building styles of local buildings, providing space for agricultural storage and animal husbandry, and a large courtyard. Adherence to the traditional model ensured that the old way of life was preserved after reconstruction. However, in cooperation with the owners of the houses, who contributed their knowledge of local conditions, the team made improvements to the traditional designs. For example, recognizing that the traditional rammed earth houses in the village lacked natural ventilation and light, the design team installed larger windows.

The project relied on readily-available materials, including mud, rubble, straw and bamboo. Approximately 90 per cent of the construction materials were recycled post-quake materials, including mud from collapsed walls, and timber and tiles from collapsed houses. The project team calculated that the resultant embodied energy value of these materials was higher and the environmental impact much lower than that of brick and concrete construction, thus improving the sustainability of the buildings. The team also calculated that the characteristics of the mud-based walls out-performed other types of walls with regard to internal climate control and energy savings.

Local villagers were the key movers for the conservation of Ma'anqiao Village. Villagers served both as contractors and labourers, carrying out the reconstruction of their own homes and thereby making the cost of constructing rammed earth houses very low in comparison with the cost of constructing houses built from concrete and bricks.

IMPORTANT ISSUES

The old rammed earth houses had poor seismic performance due to weak building foundations and the poor tensile strength of the mud walls. In order to

PROJECT TITLE
MA'ANQIAO VILLAGE

LOCATION
SICHUAN, CHINA

SIZE
3,700 SQUARE METRES

COST
APPROXIMATELY US\$ 162,000

RESPONSIBLE PARTY
EDWARD NG
JUN MU
LI WAN
TIEGANG ZHOU
JIE MA
MINISTRY OF HOUSING AND
URBAN-RURAL DEVELOPMENT
WU ZHI QIAO (BRIDGE TO CHINA)
CHARITABLE FOUNDATION

HERITAGE ARCHITECT
EDWARD NG
LI WAN
JUN MU
TIEGANG ZHOU

CONTRACTOR
LOCAL COMMUNITY MEMBERS

DATE OF COMPLETION
AUGUST 2010



perpetuate traditional construction methods for the village houses, it was imperative that anti-seismic performance be improved. Following a series of investigations, the design team discovered that a timber frame along with bamboo stems inside the mud wall gave the structure significantly greater stability. It was necessary, however, to identify the ideal foundation sizes and mortar mixes to maximize anti-seismic performance. The project team found, for example, that the rammed earth wall mixture performed best when a mechanical agitator was employed. These improvements satisfied the demand for seismic strengthening, giving traditional rammed-earth technology a new lease on life.

PROJECT IMPACT

The project relied on the local villagers to build the prototype house, rebuild the houses, and construct the village centre. As an outcome, the local inhabitants are now able to build and maintain their own homes without hiring contractors, thereby ensuring the perpetuation of the building techniques indigenous to Ma'anqiao. Moreover, by improving local living conditions, the project has encouraged many young people to stay in the village, rather than moving to urban areas, as is typical in much of rural China. Thus, the project not only helped to restore a rural settlement but also ensure the continuity of a traditional way of life.

The project also helped empower the community. This came in part from the acquisition of new skills during the project, a circumstance that has increased opportunities for future employment for local residents and will allow the villagers to easily improve and maintain their own houses. In addition, local residents gained greater respect for their own culture and heritage.



CONSTRUCTION OF THE COURTYARD

AWARD OF EXCELLENCE

MBARU NIANG
INDONESIA

AWARD OF DISTINCTION

SETHNA BUILDINGS
INDIA

HISTORIC WATER SYSTEM OF HAMPI
INDIA

AWARD OF MERIT

ZHIZHUSI COMPLEX
CHINA

CHANDRAMAULESHWAR TEMPLE
INDIA

KHILINGRONG MOSQUE
PAKISTAN

HONOURABLE MENTION

WILLIAM STREET PRECINCT
AUSTRALIA

HAR RAJ JI MAHAL, JAISALMER FORT
INDIA

JURY COMMENDATION FOR INNOVATION

READING ROOM FOR THE PORTUGUESE SCHOOL OF MACAU
CHINA

2012

MBARU NIANG

INDONESIA

THIS COMMUNITY-LED REBUILDING PROJECT, INITIATED BY THE VOLUNTARY EFFORT OF INDONESIA'S RUMAH ASUH FOUNDATION, IS EXCEPTIONAL FOR THE WAY THAT IT SUCCESSFULLY ENGAGED WITH A BROAD RANGE OF CONSERVATION ISSUES AT THE LOCAL LEVEL. LOCATED HIGH IN THE MOUNTAINS OF WEST FLORES, THE REMOTE VILLAGE OF WAE REBO IS ARCHITECTURALLY REMARKABLE FOR ITS TOWERING CONICAL TRADITIONAL HOUSES KNOWN AS *MBARU NIANG*. THROUGH COMMENDABLE COOPERATION BETWEEN THE VILLAGERS AND THE ARCHITECTS, THE ORIGINAL FORMATION OF STRUCTURES WAS REINSTATED USING VERNACULAR CONSTRUCTION METHODS. THE PROJECT EXHIBITS EXCELLENCE IN THE COMPLEMENTARY SAFEGUARDING OF BOTH TANGIBLE AND INTANGIBLE HERITAGE VALUES IN A UNIQUE AND ENDANGERED ENVIRONMENTAL CONTEXT. THROUGH VALORIZING TRADITIONAL KNOWLEDGE EMBODIED IN ONGOING ARCHITECTURAL FORM AND CONSTRUCTION PRACTICES, THE PROJECT HAS RE-ESTABLISHED THE SUSTAINABILITY OF THE LOCAL BUILT ENVIRONMENT AND HAS REINVIGORATED THE PRIDE AND SPIRIT OF THE COMMUNITY.

2012

AWARD OF EXCELLENCE



CONTEXT

Wae Rebo is a remote village situated in mountainous terrain on the island of Flores, Indonesia. Its secluded location makes it accessible only by means of a long journey using a combination of modes of transport, culminating in a four-hour trek. Given its location, it is no surprise that Wae Rebo is unknown to most people, including most inhabitants of Indonesia.

Believed to be over 500 years old, the village has a small population and the villagers have developed deep communal ties. This interconnectedness is manifested in their lifestyles. Wae Rebo is the only remaining village in Manggarai (West Flores) with the traditional conical houses known as *mbaru niang*. Each of these houses is occupied by a minimum of six families, which share the kitchen and living spaces of the house. This living arrangement illustrates the sense of community of the people of the village. In this region, houses are not only for family life but also serve as communal spaces for ceremonies and rituals, which in turn further reinforce the integrated character of the settlement. The houses are tangible expressions of intangible skills and traditions, and of the daily lives of people who use them.

This village has seen major changes in recent times, with some residents moving to a lower elevation for easier access to services, schools and employment. The population has therefore declined and its small size combined with its remote location has led to the village being overlooked by governmental agencies, leaving the people unsupported.

BUILDING HISTORY

The layout of the villages of Manggarai and the division of the paddy fields are based on the concept of radial planning, which gives the region its distinct spatial identity. Laid out in a semi-circular arrangement, the typical village has seven conical units (*mbaru niang*). The central, and largest, unit is the *mbaru tembong*. This houses the older members of the community and is a gathering spot for villagers to meet and discuss their concerns.

The *mbaru niang* reflect the conical shapes of the hills. The circular footprint of this traditional house is a symbol of the cultural continuity of the community, the meaningful relationships between the villagers and the unity of the family.



MBARU NIANG BEFORE AND AFTER RECONSTRUCTION

WAE REBO COULD NOT BE SEEN AS MERELY A SET OF UNIQUE PHYSICAL STRUCTURES, BUT RATHER AS AN INTEGRATED SETTING IN WHICH A HARMONIOUS INTERACTION TAKES PLACE BETWEEN THE PEOPLE, THEIR DWELLING SPACES AND THEIR ENVIRONMENT.

— QUOTE FROM PROJECT TEAM —

Traditionally, *mbaru niang* are about 11 metres in diameter, except the *mbaru tembong*, which are usually about 15 metres wide. The houses have five levels; each with a specific significance. The lowest level, the *tenda*, is a place for the residents of the house to engage in their daily activities of cooking, eating and resting. Going up, the next four levels serve successively as: a sleeping area for adults, a sleeping area for children; a storage area and, at the topmost level, a sacred space; the *hekgang kode*, for ancestral offerings. The organization of the houses gives expression to the ideals and beliefs of the community and provide a window into their customs and lifestyle.

The *mbaru niang* represent an assembly of materials; formal ideas and meticulous techniques. Timber and bamboo are the principal materials used for their construction. The core structure is made from *worok* wood, which has a lifespan of 70 years, while *kenti* wood is used for the floors. The outer shell of the building is made of bamboo, covered with thatch, which requires replacement every five to ten years. To make the houses; the builders tie intricate knots using *rattan* and *ijuk* ropes. Lashings provide strength for the structure and also enable the replacement of some parts of the buildings without damaging the rest.

At the time of the project's commencement, most of the houses in Wae Rebo Village were in poor condition; their upkeep was a major challenge for the villagers. Three of the units had been replaced by gable-roofed buildings, while the remaining four were largely intact but had reached the typical lifespan of seventy years.

PROJECT HISTORY

In 1998, two of the *mbaru niang* were reconstructed with the aid of donations. These had faced critical problems, including leaking roofs and failing structural members that could only be addressed by reconstruction. To afford to carry out the repair of the other *mbaru niang* in the village, the residents would have had to sacrifice an entire harvest season of their crops. The villagers therefore could not repair more houses.

In 2008, a group of Indonesian architects visited Wae Rebo. These young professionals were also the founding members of the Rumah Asuh Foundation, an organization of architects dedicated to preserving and reconstructing traditional houses. Their visit to Wae Rebo brought to light the cultural significance of the *mbaru niang* and

the reality of the decaying condition of these buildings. They recognized that the village of Wae Rebo was an embodiment of local intangible heritage, represented in its architecture and planning. The threats facing the houses – and the craft traditions embodied in them – were apparent and stimulated the group to work toward the immediate conservation of the remaining *mbaru niang*.

The project began as a private initiative of the Rumah Asuh Foundation but soon became collaboration between it, the Tirta Utomo Foundation and other donors, as well as the local community. The participation of the inhabitants of Wae Rebo was an integral component of this partnership. The skills and traditional wisdom of the experienced villagers, attained through years of hands-on learning; were central to the conservation effort.

PROJECT SCOPE AND FRAMEWORK

The project to restore and reconstruct the *mbaru niang* had three phases. The first was planning, and included meetings and conversations with villagers. The second phase sought to obtain appropriate materials, and the third phase involved carrying out the conservation and construction work. At this point, students from various Indonesian universities began an apprenticeship in the construction of these houses, while documenting the process of reconstruction and rebuilding.

Each step of the project aimed at both discovery and learning. The aim was to preserve not only the buildings but also the understanding of how these buildings were constructed. The project team carefully dismantled the two dilapidated *mbaru niang* and then reconstructed them, adhering to traditional practices. The work on these two *mbaru niang* served as a template for the next stage of the project, which focused on the construction of three new *mbaru niang*, one of which would function as a guest house. The plan was that this unit would provide short-term accommodation for tourists. To meet this need, the project team added a kitchen and interior plumbing to this unit.

CONSERVATION METHODOLOGY AND MATERIALS

The entire project operated under a broader commitment to preserve local knowledge of traditional buildings and pass this down to younger generations. The conservation of the *mbaru niang* required a shift

PROJECT TITLE

MBARU NIANG

LOCATION

WAE REBO, FLORES,
EAST NUSA TENGGARA,
INDONESIA

SIZE

FIVE CONICAL HOUSES

COST

US\$ 20,000

RESPONSIBLE PARTY

RUMAH ASUH FOUNDATION
THE PEOPLE OF WAE REBO
THE TIRTO UTOMO FOUNDATION
LAKSAMANA SUKARDI

ARIFIN PANIGORO

PARTNERING UNIVERSITIES

HERITAGE ARCHITECT

RUMAH ASUH FOUNDATION
LOCAL COMMUNITY MEMBERS

CONTRACTOR

LOCAL COMMUNITY MEMBERS

DATE OF COMPLETION

MAY 2011

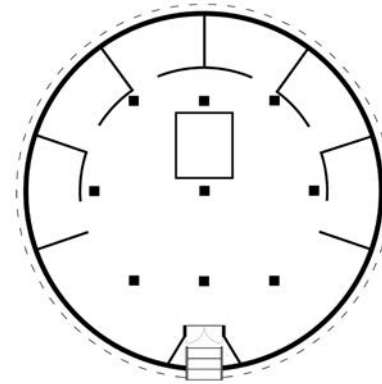




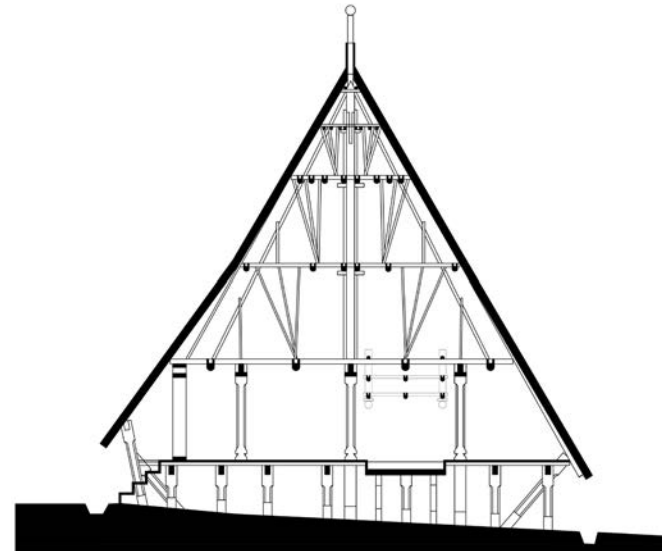
CONSTRUCTION OF THE TIRTA GENA JEKONG



TRADITIONAL CONSTRUCTION TECHNIQUES AND BUILDING MATERIALS



PLAN



SECTION

away from design and towards the incorporation of traditional wisdom. The conservation methodology, therefore, was to understand the authentic systems of construction and respect this knowledge in the reconstruction.

The act of construction served as a tool to train future generations through the rediscovery of traditional architectural principles. In both the dismantling and construction processes, skilled elders of the village worked closely with younger villagers and volunteers,

teaching them the traditional methods of construction. As the work progressed, there was a noticeable improvement in the quality of the work.

The success of the project was embedded in the construction process and not in the physical buildings that resulted from it. The materials and methods used in the project conformed to a model of sustainability that empowers communities to use their local resources and skills effectively.

IMPORTANT ISSUES

The conservation of the *mbaru niang* of Wae Rebo required gaining an understanding of the sustainable system integral to the traditional lifestyle of the local community. It was necessary to recognize that the houses rely on materials that are native to the area, such as local timber. While the use of those materials in the construction of the *mbaru niang* contributes a sense of authenticity to the houses, it also raises questions about the sustainability of those local materials. It is important that in conserving this housing type, people are mindful of the natural resources required for their construction, and that people actively preserve these resources for future generations; for example, by engaging in forest conservation efforts.

The remote location of Wae Rebo presents a challenge for its indigenous peoples. In particular, access to basic services, such as schools and hospitals, is difficult. This factor has led to families moving out of the village and seeking education and employment opportunities in urban areas. As people leave the village, however, they take with them traditional wisdom that has long been a part of their community. Further losses of people will result in erosion of the community and its knowledge assets.

Until the successful conservation of the *mbaru niang* by the team led by the Rumah Asuh Foundation, the village of Wae Rebo was not well known and had not received any governmental support. Today, many people view the restored village as a national heritage asset – so much so that the village now faces a new threat: overtourism. Excessive tourism is increasingly a cause for concern at heritage sites all over the world as it can have a negative effect on fragile resources, and the site of Wae Rebo is no exception. Although still secluded, the village needs to be protected from negative impacts through careful management of tourism.



TOPPING OFF TIRTA GENA NDOROM



PENTI ANNUAL FESTIVAL

PROJECT SUSTAINABILITY AND VIABILITY

With authenticity a key element for conservation, the social engagement of the villagers ensured continuity of knowledge. Dominated mainly by the village elders and not by professionals, the project provided a significant layering of participation and commitment.

By reviving and esteeming the *mbaru niang* and the traditional construction skills involved in building them, the project revived the interest of local residents in their traditional skills and local heritage, and enabled these skills to be passed on to younger generations, thus contributing to the sustainability of these structures.

PROJECT IMPACT

The Wae Rebo project has brought to light the cultural significance of the village, its unique architectural character and its sociocultural attributes. As a result of the project, the village has received increased recognition and support from the national government, and is viewed as an asset for the nation. Also, instead of simply preserving the site as a monument, the project has brought to life an important aspect of the living heritage of Manggarai. Moreover, the project has increased tourism in the village, which, if managed carefully, has the potential to bring benefits to the local community.

SETHNA BUILDINGS

INDIA

THE REPAIR AND RENOVATION OF THESE EARLY TWENTIETH-CENTURY RESIDENTIAL BUILDINGS IN WADIA STREET, MUMBAI, INDIA, REPRESENT AN OUTSTANDING MODEL FOR PROTECTING AND EXTENDING THE USE AND LIFE OF HISTORICALLY-SIGNIFICANT SOCIAL HOUSING UNDER THREAT OF DEMOLITION FROM URBAN DEVELOPMENT. THE COMPLEXITY AND CULTURAL SIGNIFICANCE OF THE PROJECT IS SHOWN THROUGH THE MANNER IN WHICH THE PROJECT HAS SUCCESSFULLY DEMONSTRATED, BOTH IN ECONOMIC AND SOCIAL TERMS, THE IMPORTANCE OF THE RETENTION OF THE SOCIAL CHARACTER OF THIS VALUABLE PART OF MUMBAI'S URBAN LANDSCAPE. THE PROJECT IS A CELEBRATION OF AN OFTEN UNLOVED AND UNDER-APPRECIATED, YET SOCIALLY SIGNIFICANT, PART OF A NATION'S HERITAGE AND SHOULD BE SEEN AS AN EXEMPLAR TO ENCOURAGE AND STIMULATE A CONTINUATION OF THE REHABILITATION OF SOCIAL HOUSING PROJECTS ACROSS THE ASIA-PACIFIC REGION.

2012

AWARD OF DISTINCTION



Wira

CONTEXT

The city of Mumbai possesses a striking legacy of residential buildings. Some constructed by manufacturing companies, others by special foundations, Mumbai's nineteenth and early-twentieth century housing complexes have long served as integral features of Mumbai's city planning, designed originally to address the housing needs of low-income residents.

Located near the Mumbai Central Railway Station and nestled in the rapidly-changing Tardeo housing district, the Sethna Buildings originally served as housing for the local Parsi community. The Parsis emigrated to India from Persia between the seventh and tenth centuries, and most Parsis eventually settled in the Mumbai area. With deep roots in Zoroastrianism, the Parsi community had a strong sense of social cohesion and families lived together in communal housing complexes.

The freezing of rents through the Rent Control Act of 1948 led to the gradual abandonment of many residential properties by landlords, who carried out minimal maintenance. Meanwhile, the tenants occupying rental premises such as the Sethna Buildings did not have the financial capacity to maintain the buildings. Over time, this led to structural deterioration and undesirable living conditions. As a result, the building stock in inner-city areas of Mumbai deteriorated significantly.

In the late 1960s the government initiated a repair fund to improve these buildings. The Bombay Building Repairs and Reconstruction Board Act of 1969 proposed a 'repair cess' (tax) to fund the maintenance and structural repairs of these old buildings. The buildings only received haphazard repairs, however, without consideration of their heritage value.

By the early twenty-first century, there were around 16,000 'cessed' properties in Mumbai facing issues of lack of maintenance, low-quality repairs, inappropriate additions and hazardous living conditions. The old housing stock represented by the Sethna Buildings constitutes a significant portion of south Mumbai residential buildings, and these old residential complexes today face enormous pressure from urban redevelopment. In recent years, rising land prices have incentivized the redevelopment of these properties, and developers have razed many complexes, replacing them with high-rise apartments and modern office towers, which loom over the remaining low-rise housing clusters.



SETHNA BUILDINGS STREET VIEW

WHEN WELL LOOKED AFTER, THESE BUILDINGS, WHICH CONSTITUTE A SIGNIFICANT PERCENTAGE OF HOUSING IN THE CITY, CAN GENERATE GOOD MARKET RENTS AND MEET DEMAND IN THE CONTEXT OF A HOUSING SHORTAGE, THEREBY MAKING IT A WIN-WIN SITUATION FOR THE CITY. THIS PROJECT DEMONSTRATES HOW CONSERVATION CAN WORK AT THE GRASS-ROOTS LEVEL.

— QUOTE FROM PROJECT TEAM —

The city is presently at a crossroads, faced with the choice of redeveloping the properties through demolition and new construction or conserving them to maintain the local character of the neighbourhoods. Redevelopment, which is the current trend, has put enormous strain on the city's infrastructure and the social cohesion of these modest neighbourhoods. Furthermore, affordable housing is decreasing as the rates of newer properties increase.

Although India's official heritage list has existed since 1995, residential complexes such as the Sethna Buildings are not included in it and are therefore vulnerable to demolition. This project aimed to provide an alternative to the demolition of these buildings.

BUILDING HISTORY

A fire in 1803 razed many of the urban residences in the historic core of Mumbai (then Bombay). In its wake, the fire left the potential for new town planning norms. A new building type known as a *chawl* (from the Marathi *chawls*) provided affordable apartment units for mill-workers in Mumbai. Over the next century, the *chawl* became the standard building type for residential development in the city.

Constructed in the early twentieth century, the Sethna Buildings comprise four residential structures of identical scale and form. While the buildings are not grand, they proudly display an urban planning ideal founded on local traditions and community connection, allowing for interaction between the residents and cultural continuity. Three storeys high, these structures have thick brick walls and pitched roofs covered with tiles. The buildings each have a ground-floor veranda with arches and an upper-level corridor linking the units together. An open space on the ground floor has provided a venue for residential interaction for decades, creating a supportive neighbourly network.

Over time, the Sethna Buildings suffered a series of impacts that decreased their structural stability and aesthetic value. The first problem lay with roof configurations that led to water ingress. Excessive water resulted in rotting, dampness, cracks, corrosion and vegetation growth. The latter in turn contributed to further dampness and the presence of pests. A second problem was a lack of maintenance. Due to lack of funds, the buildings were not repaired professionally; instead, tenants took on many repairs themselves. The patchwork

PROJECT TITLE
SETHNA BUILDINGS
LOCATION
WADIA STREET, MUMBAI,
MAHARASHTRA, INDIA
SIZE
1,138 SQUARE METRES
(GROUND COVERAGE)
1,950 SQUARE METRES
(COMBINED BUILT-UP AREA)
COST
US\$ 198,827
RESPONSIBLE PARTY
GARIB ZARTHOSTIONA
REHETHAN FUND
HERITAGE ARCHITECT
VIKAS DILAWARI
DATE OF COMPLETION
FEBRUARY 2011



of short-term solutions undertaken by tenants failed to address the sources of the problems, however. Some interventions, such as the overhead kitchen water tanks and inexpertly-installed electrical wiring, risked the safety of the tenants and the buildings.

PROJECT HISTORY

The owner of the Sethna Buildings is the Garib Zarthostiona Rehethan Fund (GZRF), which was set up in 1911 by local entrepreneur M. K. Murzban to support the Parsi community. In 2009, the GZRF, recognizing the deteriorated condition of the buildings and the need of the local community for improved housing, stepped in. While many advocated demolishing the buildings, the trust decided against the redevelopment model and instead opted for repair and restoration. The trust saw the value in maintaining this piece of historic urban design, which originally served the Parsi community.

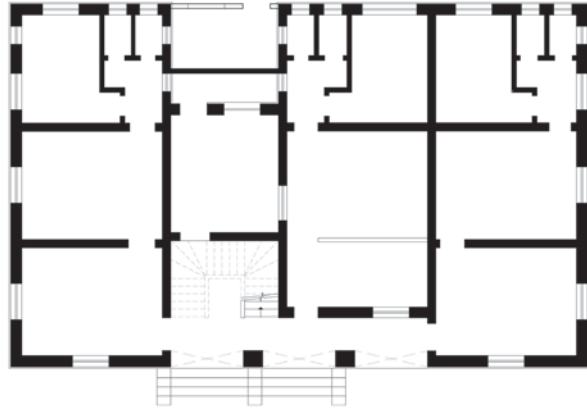
Knowing that the buildings were not protected by heritage listing and faced the threat of redevelopment, the trust took decisive steps to restore the Sethna Buildings as an example of how conservation projects can benefit the community.

PROJECT SCOPE AND FRAMEWORK

Although the commitment to rehabilitation and restoration is more environmentally-friendly than redevelopment and is financially viable, it is not common in rapidly growing cities like Mumbai. A main objective of the project, therefore, was to demonstrate to the government and the public of Mumbai that restoration and repair is a feasible option that has benefits for the community and the city at large.

The extensive project to conserve the residential buildings of Wadia Street, encompassed four structures: the Sethna building, the Patel building, the Gamadiya building and the Dadyseth building, collectively called the Sethna Buildings.

The first of the four buildings to undergo restoration was the Sethna building. It was in poor condition; the structural steel had corroded, the roofing required a comprehensive overhaul and retiling, and the floor slabs were weak and failing. Moreover, the residents had made numerous additions within the property, affecting the stability of the structure and compromising both the aesthetic qualities and functionality of the



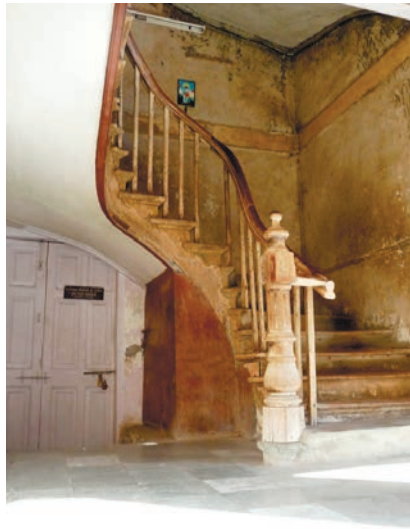
SETHNA BUILDING PLAN



SETHNA BUILDING ELEVATION

building. Overhead water tanks placed excessive weight on load-bearing walls, causing damage and risking collapse. Previous repairs had proven inadequate to the problems they tried to address, leaving new problems for subsequent tenants, and pests were common. Conservation work on the Sethna building began in February 2009 and was completed in May 2010. During this period the tenants were housed elsewhere.

The tenants of the three neighbouring buildings quickly became aware of the benefits of the restoration project and requested that the GZRF carry out similar projects on their properties. By February 2011, the trust had completed work on the Patel building, the Gamadiya building and the Dadyseth building. For uniformity and to acknowledge the trust's generosity, all of the restored buildings received a coat of light blue paint, the colour representing the GZRF. This gave the housing blocks a fresh appearance that conveyed something of the pride of the residents within.



PRIOR CONDITION OF FOYER



REPLACEMENT OF PLASTERWORK



PATEL BUILDING EXTERIOR BEFORE AND AFTER RESTORATION

CONSERVATION METHODOLOGY AND MATERIALS

Overall, the approach was one of minimum intervention. The conservation team intervened not only to repair the structures but also to improve their long-term use and maintenance. A fundamental principle of the project was to use materials that matched the original fabric and to use traditional techniques. The commitment to replacing like with like retained the architectural integrity of the site.

The project team was also committed to retaining the original scale, mass and use of the buildings so as to preserve the cultural significance of the site for the residents. Though the complex was not on Mumbai's heritage list, the project's leadership treated the buildings as if they were legislatively-protected heritage sites.

In the project's early stages, the project team prepared a fabric status report and conducted defect mapping. To ensure the tenants were fully engaged in the process and able to contribute their ideas to the project, the trust organized monthly meetings between tenants and trust managers. In addition, the project provided training for the contractors and artisans involved in the work. This included training masons to take on

the task of re-creating the historic ornamentation and reconstituting the drip moulds, quoins, key stones and cornices, and training carpenters to rebuild the original *chhajja* (awnings).

The first structure to be restored – the Sethna building – exhibited more challenging structural concerns compared to the other buildings, the defects of which were generally cosmetic. The workers repaired and retiled the roofs of all four buildings, however. Likewise, all of the façades were subject to a regime of restoration and repainting. Other work included strengthening components such as steel joists, repairing cracks and replastering. Improper drainage had resulted in dampness and sagging floor slabs, all of which required replacement. Workers also repaired and replaced glazing, and installed new grilles and *chhajja* for aesthetic harmony. They also removed tenant-initiated accretions, most of which had been improperly or insensitively added and, where appropriate, installed new walls and modern facilities. These included safer electrical wiring and new plumbing. Specialists were hired to deal with pests, including termites, and steps were taken to minimize future infestation.

IMPORTANT ISSUES

The conservation effort focused not only on material repairs but also on community engagement and training of artisans. Through this, the project built the capacity of the workers to engage in conservation work and instilled in the workers and wider community a sense of ownership and pride in the overall conservation process.

The cost of conserving the four buildings was 10,339,049 Indian Rupees (US\$ 198,827 in 2011), making conservation a much more economical choice than demolition and the construction of a new building. It also placed a lower burden on the resources and the centuries-old infrastructure of Mumbai.

PROJECT SUSTAINABILITY AND VIABILITY

The project started with one residential building and ended with three more buildings being conserved. This is a good start for a conservation movement that is otherwise focused on colonial landmarks. It is such projects that can make conservation a people-led movement rather than being restricted to elitist public building restoration.

With their revitalized pride in the heritage buildings, the tenants are now more committed to maintaining the structures. The training provided under the project to local artisans has provided a pool of local expertise on which the residents can draw for the maintenance of the buildings.

PROJECT IMPACT

Through rehabilitating these residential structures, the project enabled the area to retain its social networks, and has boosted local pride among residents. Moreover, the Sethna Buildings conservation project, supported by the GZRF, demonstrated that there is an alternative to demolition and new development. As a result of the trust's willingness to take on this type of project, the public and the government have been able to see the effectiveness of rehabilitation on a large scale. The restoration of the Sethna Buildings has demonstrated that repair and conservation can be cost-effective options and have social benefits. This rehabilitation project, by addressing the issue of sub-standard residences, has the potential for an impact not only on policy in South Mumbai but in the entire megacity.

HISTORIC WATER SYSTEM OF HAMPI

INDIA

THE HOLISTIC APPROACH TO HISTORIC SITE INTERPRETATION AND THE REHABILITATION OF A CULTURALLY SIGNIFICANT WATER SYSTEM FOR CONTEMPORARY USE ARE FEATURES THAT SET THIS PROJECT APART. THE FACT THAT THIS OCCURS WITHIN A LIVING CULTURAL LANDSCAPE MAKE IT EXEMPLARY AND STANDARD SETTING. THIS AMBITIOUS PROJECT HAS NOT ONLY RESTORED MANY HISTORIC WATER BODIES OF THE EXPANSIVE HAMPI WORLD HERITAGE SITE, IT HAS ALSO RE-ESTABLISHED CONNECTIONS BETWEEN THE SITE'S NATURAL ELEMENTS AND ITS BUILT HERITAGE COMPONENTS. AT THE SAME TIME, THE PROJECT ADDRESSES THE MODERN-DAY REQUIREMENTS OF THE LOCAL COMMUNITIES LIVING WITHIN THIS RELIC ARCHAEOLOGICAL LANDSCAPE. FURTHERMORE, THE PROJECT DEMONSTRATES THE PRODUCTIVE OUTCOME OF A POSITIVE ENGAGEMENT BETWEEN MULTIPLE PUBLIC AND PRIVATE STAKEHOLDERS AT THE NATIONAL AND LOCAL LEVELS IN USING HISTORICAL KNOWLEDGE TO RESOLVE A RANGE OF IMPORTANT PLANNING ISSUES.

2012

AWARD OF DISTINCTION



2/11/11
V.M.

CONTEXT

Hampi, located in the Karnataka area of southern India, was the capital city of the once flourishing Hindu empire of Vijayanagara 1336-1646. The ancient ruins of Hampi include 56 monuments that were inscribed on the World Heritage list in 1986. With a protected area of 4,187 hectares and a buffer zone of 19,453 hectares, Hampi encompasses magnificent natural landscapes and 29 *pura* (settlements), with a combined population of more than 60,000.

Situated on the Tungabhadra river, the urban settlements of Hampi are similar in that each features a built-up centre and a temple complex, along with a bazaar on an axial street facing the temple. There was no standard model, however. The urban patterns of each responded specifically to their terrain, with each site offering myriad solutions for the management, harvesting and the storing of one very important resource: water.

One of the *pura* of Hampi is Vitthala. Like the other settlements, Vitthala still has many of the structures built for Hampi's complex water infrastructure system and, as in other *pura*, the urban core is situated away from the water collection and supply system to protect the agricultural land from urbanization. Vitthala was the main area of intervention for the project titled 'Landscape Conservation for the Restoration of the Hampi Water System'.

BUILDING HISTORY

A reliable water supply for agricultural purposes and domestic use has always been essential to human settlements. To guarantee this water supply, during the Vijayanagara era, the inhabitants of Hampi designed and constructed a sophisticated watershed management system. The system took into account both the topographic features of the hills and the natural drainage pattern.

A key component of the system was a series of water reservoirs surrounded by steps (so-called 'stepped water tanks'), known locally as *pushkarani*. The steps allowed people to walk down to collect water, which was used for rituals and rites as well as for domestic use. In each *pura*, the *pushkarani* linked the main temple area with dwellings, the bazaar and workshops. It was a physical entity that influenced both the urban patterns and the local lifestyle.

**INTERPRETING AND
RECOGNIZING LANDSCAPE
SYSTEMS AS A KEY ELEMENT
OF THE HISTORICAL
DEVELOPMENT OF
VIJYANAGARA ALLOWED US
NOT ONLY TO RESTORE
HISTORIC WATER BODIES
BUT ALSO TO REJUVENATE
THE COMPLEX WATER
NETWORK COMPRISING BOTH
NATURAL AND MAN-MADE
SYSTEMS, WHICH HAS
ENSURED LONG-TERM WATER
SECURITY IN THE SEMI-
ARID HAMPI WORLD
HERITAGE SITE.**

— QUOTE FROM PROJECT TEAM —

Other components of the ancient water management system in Hampi included depressed ponds, percolation trenches, channels, open wells, seasonal wetlands and swales to direct surface water. The principal function of these components was to slow the flow of water from the highland watersheds. Rather than trapping the water, these complex systems impeded the movement of surface water in order to encourage the absorption of water into the soil, de-silting the water in the process. The flow of water beneath the surface maintained the supply of water in the *pushkarani*. Overall, it was an interconnected network in which the performance of each component relied on its counterparts. Besides their functionality, the water management structures also held spiritual and ritualistic meaning for the local communities.



HAMPI PUSHKARANI

Following the destruction of the city of Hampi in 1565, the water management system fell into disrepair. When Hampi was listed as a World Heritage site, some of the components of the water management system had been excavated and restored, but most were dry. They had dried up due to factors such as silting and the fact that the components of the system were no longer connected, as a result of a lack of understanding of the nature of the system and its importance to watershed management and water storage.

PROJECT HISTORY

While scholars have long been able to identify individual features of the ancient Hampi settlements of the Vijayanagara Empire, efforts at documentation and reconstruction lacked a holistic approach, one that took into account the natural systems, topography, watersheds and drainage patterns, and how natural resources were managed in the past by the local people of the area. Without an understanding of these factors, the built structures lacked both utility and meaning. Recognizing the interconnectedness of the components, the proponents of the project, undertaken in Vitthala, sought to restore the built components of the water system and also the broader system itself. Launched by the Archaeological Survey of India (ASI) and supported by external landscape architects, the project lasted seven years, beginning in 2004 and ending in 2011.

PROJECT SCOPE AND FRAMEWORK

The ultimate goal of the project was to resurrect the Hampi water management system and sustain it in the long term. In particular, the aim was to restore the water system within the Vitthala precinct, taking into account both its built and natural components.

The project activities included restoring the individual components of the system and also making provisions for the maintenance of the system as a whole. This meant the project not only targeted the *pushkarani* but also preserved other indispensable parts of the water management system. Thus, both terrestrial and subterranean structures were conserved.

The project had three major phases: analysis of

PROJECT TITLE
 HISTORIC WATER SYSTEM OF
 HAMPI
LOCATION
 VITTHALA, HAMPI,
 KARNATAKA, INDIA
SIZE
 APPROXIMATELY 100 HECTARES
 (VITTHALA PRECINCT OF
 HAMPI)
RESPONSIBLE PARTY
 INTEGRATED DESIGN
HERITAGE ARCHITECT
 INTEGRATED DESIGN
CONTRACTOR
 ARCHAEOLOGICAL SURVEY OF
 INDIA
DATE OF COMPLETION
 2011



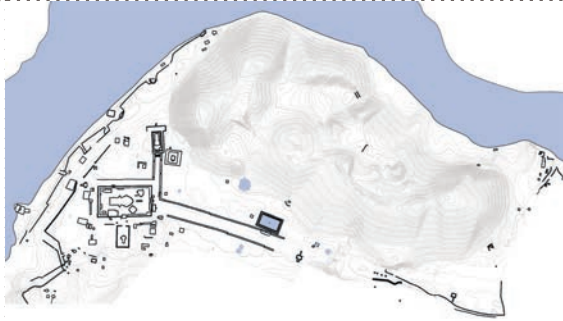
the system, conservation of the built components and preparation of a strategy for future management of the system. The project team began by evaluating the contributions of the various components of the system and laying out the important social relationships embedded within it. Recognition of the important link between water and the livelihoods of local people formed a basis for the studies. With the findings of the various studies and analysis that were conducted in the first phase, the project team could then proceed with the conservation work. An understanding of the way the ancient system worked provided insights into the steps needed for both conservation and interpretation.

Once the various components of the upper portion of the water management system had been repaired, the *pushkarani* of Vitthala gradually filled with water. With this accomplished, the project team could take on strategies for better representation of the site. For site interpretation and preservation, it was important to demonstrate the close link between natural and built features, which lay at the heart of the conservation strategy. The final phase of the project also involved the development of a plan for the sustainable management of the site. The project's planners and advocates took into account the impact of Hampi's designation as a World Heritage site. Re-activation of the water systems throughout the site of ancient Hampi set the stage for other efforts in the precinct and began the process of active reuse.

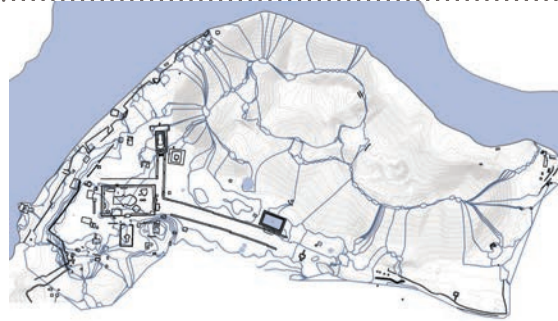
CONSERVATION METHODOLOGY AND MATERIALS

There were no archival materials to testify to the linkages between tangible and intangible heritage. The project therefore sought information through scientific analysis and through engaging with local inhabitants to learn from their traditional knowledge and stories. Throughout the project, the team emphasized the importance of community involvement and also the appropriate application of traditional knowledge in planning, design and conservation practice. In view of Hampi's status as a living heritage site, the project team also endeavoured to employ only members of local communities as labourers on the project.

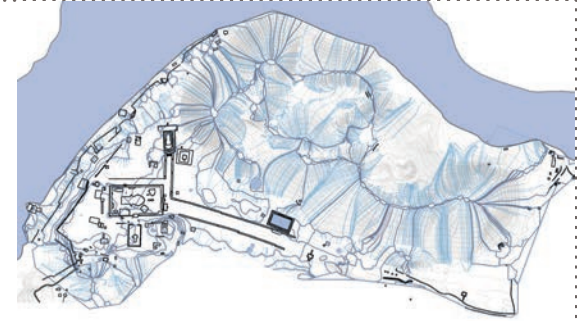
The holistic conservation approach adopted at Hampi acknowledged the spatial design of the ancient capital of



SITE PLAN



WATERSHED



DRAINAGE PATTERNS

Vijayanagara. In the initial phase of the project, the project team undertook mapping to develop an understanding of the watersheds and to define the movement of water and drainage patterns. The team used remote sensing and modelling techniques, including Geographic Information Systems (GIS) and three-dimensional technology that linked the land and heritage structures. Through these studies, the team determined how the water system operated, over a range of scales in space and time.

Extensive site investigations accompanied the research process. The project team explored the area to identify natural features such as ponds, percolation pits and trenches – features not generally treated as heritage but clearly components of the water system at Hampi. Conservation works were based on the findings of the studies and site investigations.

Throughout the conservation process, workers used only traditional materials. Furthermore, workers only used materials found on-site. This meant that all of the stones used in the conservation work were from the site and no new or foreign materials were used. The project also forbade synthetic and modern materials. The only permitted mortar, for example, was natural lime mortar.

The conservation team also specified the use of traditional techniques dating at least to the Vijayanagara era and specified the use of traditional tools. These tools included hand-held implements, such as chisels, hammers, crowbars, chains and pulleys; the team prohibited machinery and earth-moving equipment.



HAMI PUSHKARINI BEFORE AND AFTER RESTORATION OF THE WATER SYSTEM

IMPORTANT ISSUES

This project was realized following analysis of the results of a comprehensive and detailed study of the sophisticated amalgam of human and natural systems found at Hampi. The research findings demonstrated that Hampi's water system was the key element that structured and orchestrated the historical development of the city. That is, water was the primary driver for the planning and spatial arrangement of the built features. The integrated quality of the natural and artificial systems and the relation of both to society and the economy was an important lesson from the project.

This recognition of heritage structures as being part of a larger system and not merely monumental architecture was a major paradigm shift. This raised awareness of the urgent need to strike a balance between conservation practices and development needs. It was also significant in that it highlighted faults in the prevalent building-focused approach of the national government, which does not adequately protect the settings of heritage structures. Thus, the project highlighted the need to not only preserve material remains but to also turn attention to the broader natural and cultural contexts.



LOCAL WORKERS REBUILDING STEPPED WELL

PROJECT SUSTAINABILITY AND VIABILITY

The project provided a source of livelihoods for local people during the conservation work and encouraged the preservation of indigenous traditions, knowledge, and skills, while training local artisans and workers. The project thereby assisted in building the capacity of the local community to conserve and maintain the traditional Hampi water management system while increasing appreciation for this remarkable element of the area's built and natural heritage, which augurs well for its long-term sustainability.

PROJECT IMPACT

The project restored ancient water features and a complex water management network that combines both natural and manufactured systems. The restored water system now allows the community to store water, even in years with little rainfall, ensuring long-term water security and contributing to sustaining local livelihoods and food security.

The Hampi water system project revealed the significance of natural systems in the interpretation and restoration of the broader cultural and historic landscape.



STEPPED WELL AFTER RESTORATION



STEPPED WELL BEFORE CONSERVATION

In particular, the project demonstrated that natural systems should not be treated as merely a beautiful background to monuments and should also not be compromised in the name of urban development.

Acknowledging that the natural environment was a key element in the spatial arrangement of the ancient town has substantially altered the longstanding focus on monuments within the Indian heritage conservation regime. Moreover, acknowledgement of the relationship between features of built heritage and the larger environment has resulted in a key change in the approach to heritage management. This recognition of connection between natural and human systems as a key to understanding a historic urban landscape is a highly significant advancement in heritage policy and thinking. Indeed, the Hampi project has highlighted the intimate and inseparable relationship between nature and humans.

The studies undertaken for this project provided a solid foundation for the subsequent conservation work and also for future conservation efforts. Areas that had no built structures were set aside for future mapping and research. If new structures are discovered that are part of the ancient water management system, they will be the subjects of future conservation work.

The project has given greater visibility to the Vitthala precinct and has contributed to site interpretation for visitors and to improving local visitor management. In addition, by increasing tourism and improving the skills of local workers the project has also raised economic prospects in the area. Accordingly, the reactivation of the ancient system of water retention and distribution developed by past inhabitants has breathed new life into the local community.

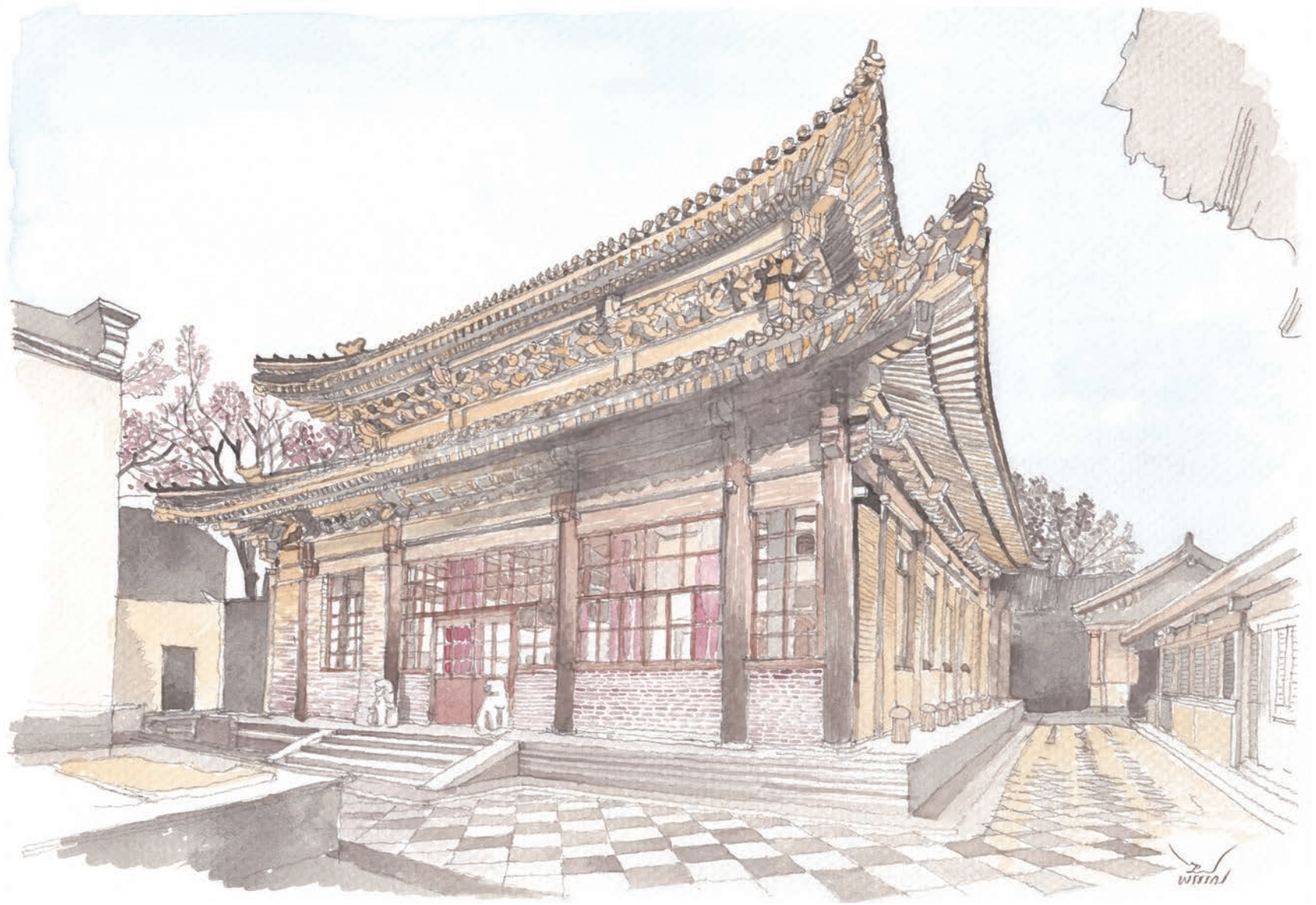
ZHIZHUSI COMPLEX

CHINA

THE COMPREHENSIVE RESTORATION OF THE ARCHITECTURALLY SIGNIFICANT LATE SEVENTEENTH-CENTURY ZHIZHUSI TEMPLE COMPLEX IN BEIJING HAS ENABLED THE RICH LAYERS OF ITS HISTORY TO BE REVEALED, ENHANCED AND CELEBRATED. PRIOR TO THE RESTORATION, THE BUILDINGS OF THE COMPLEX WERE IN A RUINOUS CONDITION, LOST AMONG INCOMPATIBLE NEWLY-ADDED STRUCTURES. THE AMBITIOUS SCALE OF THIS PRIVATE-SECTOR INITIATIVE IS PARTICULARLY NOTEWORTHY FOR ITS DETERMINATION TO RESPECT THE AUTHENTICITY OF THE VARIOUS DIMENSIONS OF HISTORICAL AND ARCHITECTURAL SIGNIFICANCE. THE TECHNICAL COMPETENCY OF THE PARTICIPATING ARTISANS AND PAINTING RESTORERS IS DEMONSTRATED IN THE HIGH QUALITY OF THE RESTORATION WORK CARRIED OUT ON THE 180 EXQUISITELY-PAINTED WOODEN CEILING PANELS. THE TEMPLE COMPLEX HAS NOW BEEN RESTORED, INTERPRETED AND RETURNED ONCE AGAIN TO THE PUBLIC WITH A NEW FUNCTION AS A VENUE FOR CULTURAL EVENTS AND ACTIVITIES.

2012

AWARD OF MERIT



PROJECT SYNOPSIS

Located in Beijing, the Zhizhusi Complex was built in the 1700s by Emperor Kangxi. He commissioned three temples (Songzhu, Fayuan and Zhizhu) on the site. Notably, a figure recognized as a living Buddha, Jangjia Qututgtu, took up residence at the temple complex and it became a centre for teaching and spreading knowledge.

The Zhizhusi Complex (also known as the Zhizhu Temple) today includes a *shanmen* (entrance hall), a *tianwangdian* (receiving hall) and temple pavilions, along with living quarters for Buddhist monks and several buildings constructed after 1949. The original buildings feature outstanding decorative elements, which relate closely to the artistic traditions displayed at the Imperial Palace. The complex is significant for its exceptional historical, architectural, social and religious values to the local community.

The temple complex experienced a number of alterations over the centuries. In particular, years of neglect and damage during the Cultural Revolution (1966-1976) led to a severe undermining of the complex's appearance. Layers of ill-advised renovations gradually hid the distinctive qualities of the temple complex and its original spatial configuration became unrecognizable.

In 1984, the Chinese government designated the Zhizhusi Temple as a protected heritage site, with responsibility for maintenance falling to the Beijing municipality. Despite its protected status, however, the Zhizhusi complex received little or no attention.

In 2007 when the conservation project commenced, the buildings of the complex were in near ruinous condition; illegal structures hid the magnificent exterior and obstructed any sense of the complex's original layout. Only the tip of the stupa hinted at the grandeur beneath the chaos. Families were living in the former monks' quarters. An electronics company occupied one of the newer buildings and used it for the production of loudspeakers and DVDs. A portion of the site housed a motel, and the temple buildings were being used as storage areas and office space. Piles of debris made the corridors impassable, and a recycling cart blocked the main entrance. Moreover, a fire had caused significant damage to some of the principal wooden structures within. Due to the complex's poor condition the government had cited it as a public nuisance. The temple complex required a full-scale restoration, involving the reinforcement of structural members,



EXTERIOR BEFORE RESTORATION



PLAN



EXTERIOR AFTER RESTORATION

THE RESTORATION OF THE ZHIZHUSI COMPLEX REFLECTS THE ECONOMIC REALITIES OF CONTEMPORARY CHINA. THE GOVERNMENT LACKS THE FUNDS TO RESTORE ALL OF THE THOUSANDS OF TEMPLES IN THE COUNTRY; SO WITHOUT INTEREST AND SUPPORT FROM THE PRIVATE SECTOR, ZHIZHUSI WOULD HAVE EVENTUALLY DISAPPEARED.

— QUOTE FROM PROJECT TEAM —

removal of inappropriate additions and reinstatement of missing elements.

The restoration work represented a joint effort of various private groups and individuals, including the Beijing Buddhist Association, which owns the temple complex; the Mudan Group, which formerly occupied the site; and the project organizers. The project involved multiple professionals, including architects, construction companies specializing in heritage restoration work and surveyors registered with the Beijing Municipal Administration of Cultural Heritage.

The conservation team paid particular attention to recapturing the original appearance of the complex. This required the use of traditional materials and methods, and attention to detail. The project, completed in 2011, retrieved an important cultural artefact, one that today provides an educational and cultural platform for the public.

CONSERVATION APPROACH

The project had three main goals: to conserve the Zhizhusi Complex and its construction technology, and details; to restore the original spatial relationship between the ancient buildings; and to rehabilitate the newer secular buildings surrounding the core temple.

The guiding principle of the project was minimum alteration, with the aim of retaining and salvaging as much of the temple's original fabric as possible. The project took care to preserve the many layers of the temple's history. As a result, in the slogans of the Cultural Revolution ('united, alert, earnest and active') were retained along with ancient ceiling panels decorated with Sanskrit lettering. In places where the original building fabric could not be salvaged, the conservation team used in-kind materials and employed traditional techniques for the reconstruction of missing elements.

The conservation work began with the removal of the numerous *ad hoc* additions constructed after 1949. The demolition of these structures required great care as it was possible that the temple buildings, which had not received proper maintenance decades, might collapse following the removal of the later structures, which were essentially props.

The restoration team based the demolition work on original drawings of the site, obtained from the Beijing municipality. These plans, albeit incomplete, allowed the architects and project team to recreate the former organization of the buildings constituting Zhizhusi Complex.

While the project encompassed the whole complex, the restoration team concentrated its efforts on the original temple buildings. This work particularly focused on repairing the main hall's timber roof, which is covered with traditional grey clay tiles. This task required the replacement of decayed beams and careful assessment of the original tiles to select those suitable for reuse. Specially trained artisans with experience in traditional crafts carried out the work, and, in accordance with traditional Chinese construction methods, the repairs were undertaken without nails. The iconic stupa at the apex of the roof required meticulous care, including in the removal of the tiles and bricks and their numbering and reassembly.

Calligraphy master Tang Guo supervised the painstaking restoration of the 180 ceiling panels of the temple hall. He and his expert team used a traditional adhesive known as *you hui* (made of *tung* oil, fine sand

PROJECT TITLE
ZHIZHUSI COMPLEX
LOCATION
23 SHATAN BEIJIE,
DONGCHENG, BEIJING, CHINA
SIZE
APPROXIMATELY
3,500 SQUARE METRES
COST
US\$ 1.9 MILLION
RESPONSIBLE PARTY
LI CHOW
LIN FAN
JUAN VAN WASSENHOVE
HERITAGE ARCHITECT
BEIJING DESIGN INSTITUTE
FOR THE PROTECTION OF
CULTURAL RELICS
CONTRACTOR
BEIJING REAL
ESTATE GROUP CO., LTD.
DATE OF COMPLETION
MARCH 2011



THE RESTORED BUILDING IS NOW AN ARTS VENUE

and lime) and adopted traditional methods for the restoration of the painted motifs. The final product adhered to the level of craft skills and aesthetic expectations of the original temple.

The project also involved the incorporation of modern electrical wiring, insulation and amenities, which were installed with minimal aesthetic impact on the heritage property.

CONSERVATION AND THE COMMUNITY

The project's outcomes reflect the community's active participation in the conservation process, including in frequent passionate discussions about the future of the complex as well as in negotiations over the aims of the project. The various stakeholders brought diverse views about the conservation process to the table. These contributions led to the successful restoration of the site and have helped increase awareness of the value of conserving heritage structures in Beijing.

The restored complex is now open to the community, serving as a hub for music and arts appreciation. In its dilapidated state the temple had lost its authentic spirit of place. This spirit has now been recaptured. The project has resurrected the former significance of the Zhizhusi Complex as a place of learning through its new role as a place to satisfy intellectual curiosity.

CHANDRAMAULESHWAR TEMPLE

INDIA

THE STABILIZATION WORK CARRIED OUT AT THE RUINED SITE OF THE SIXTEENTH-CENTURY CHANDRAMAULESHWAR TEMPLE IN HAMPI SETS A BENCHMARK FOR CONSERVATION PRACTICE AT ARCHAEOLOGICAL SITES IN INDIA. THE PROJECT WAS GUIDED BY METICULOUS TECHNICAL AND ARCHAEOLOGICAL INVESTIGATIONS OF THE STRATIGRAPHY OF THE SITE, WITH A SENSITIVELY EXECUTED CONSOLIDATION OF THE SOIL AND STONE EMBANKMENTS. THE DECISION BY THE PROJECT TEAM TO PRIORITIZE STABILIZATION WORKS BEFORE UNDERTAKING THE AESTHETIC RESTORATION OF THE TEMPLE IS HIGHLY COMMENDABLE, ENSURING THAT FUTURE WORK ON THE TEMPLE STRUCTURE CAN BE ACCOMPLISHED SUCCESSFULLY. THE PROJECT'S SUCCESS OWES MUCH TO THE PARTNERSHIP ESTABLISHED BETWEEN THE LOCAL GOVERNMENT AND THE HAMPI FOUNDATION, WITH FINANCIAL ASSISTANCE FROM THE GLOBAL HERITAGE FUND, WHICH ESTABLISHES A WORTHY MODEL FOR FUTURE CONSERVATION WORK.

2012

AWARD OF MERIT



PROJECT SYNOPSIS

Chandramauleshwar Temple (also called Chandramauleshwara Temple) is situated on an island-like peninsula extending into Tungabhadra River, located in Koppal District of Karnataka, India. Constructed of large blocks of stone, the site consists of two embankment walls that support a platform and a single-storey temple. Rich in its religious associations and iconography and decorated with stucco reliefs, the temple displays a combination of Deccan and Tamil styles of architecture, dating from the sixteenth century.

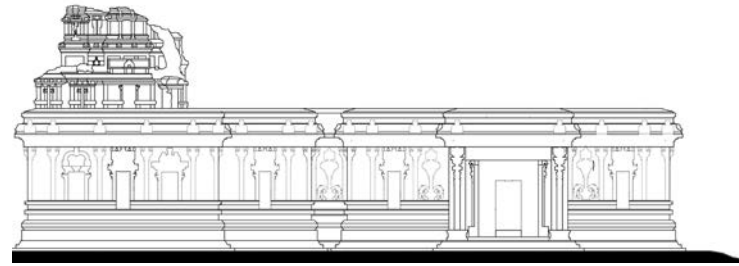
The temple played a sacred role in the ancient city of Hampi and is recognized as the place where Lord Rama, the seventh avatar of the Hindu deity, Vishnu, met Hanuman, the king of the monkeys. A Hanuman temple in the vicinity of Chandramauleshwar attracts religious pilgrims to this day.

Despite its religious significance, over the years Chandramauleshwar Temple fell into ruin. Wilful destruction in the sixteenth and seventeenth centuries and the shifting banks of the Tungabhadra River caused much of the damage. The temple experienced structural collapse, and its stone blocks were scattered over the site. Although stabilized in the past by the Archaeological Survey of India, by the turn of the twenty-first century the central pavilion was in a state of dilapidation and the exterior walls were unstable due to erosion of the soil beneath them. Vegetation growth was causing further damage as trees and vines had dislocated stone blocks. Recognizing that the site was at risk of collapse, a conservation project was launched to stabilize the building's supporting foundations.

The project was a pioneering public-private initiative between the local government and the Hampi Foundation, with support from the Global Heritage Fund and assistance from Jindal Steel Works Group.

CONSERVATION APPROACH

The project team followed the principles of minimal intervention and reversibility, with the key priority being minimal impact to the site. The first stage of the project involved undertaking an extensive technical and archaeological investigation to determine the cause of the damage to the temple. The team found that soil erosion was the principal cause of the temple's instability, so focused on soil stabilization and embankment consolidation.



ELEVATION

THE PROJECT FOCUSED ON THE CORE ISSUE OF PROLONGING THE LIFE OF THE MONUMENT, WITHOUT AN EMPHASIS ON BEAUTIFICATION AND 'AESTHETIC RESTORATION' WHICH WAS THE TREND IN THE PAST.

— QUOTE FROM PROJECT TEAM —



UPPER EMBANKMENT WALL BEFORE AND AFTER CONSERVATION

This process involved numbering and documenting each of the remaining stones of the temple and then dismantling them. The workers mixed coarse sand with the subsidiary soil and consolidated and tamped the soil layer before returning the stone pieces to their original places. Reassembling the stones followed traditional techniques of dry-stone masonry. To ensure structural integrity, the team was careful to support the temple by means of a series of lateral and vertical props during the disassembly and reassembly processes.

The team relied primarily on the stone already at the site but had to procure some new stone to replace broken and missing pieces. Given that the government did not want local communities to use quarries within the World Heritage site of Hampi, the project team identified quarries located outside of the site, and selected new stone to suit the original stone in terms of size, colour, and texture.

The only modern materials introduced into the process were a geo-grid membrane laid between the stone courses (to create greater friction between them) and non-corrosive stainless steel screws. Workers attached the membrane to the stone blocks using the stainless steel screws, which were set at least ten inches (25 centimetres) from the stone face so as not to be visible.

Archaeological investigations conducted at the time of the work found a possible link between the bridge and the eastern face of the temple. The archaeologists also uncovered a stone construction resembling steps. These elements were both reintroduced as part of the overall project.

After the stabilization of the embankments, the team installed monitors in the temple to warn of any movements in the embankments. The results of this monitoring process will help the team decide the degree and type of intervention necessary in the future. True to the project's guiding principles, the work was modest in its visual impact and demonstrated strict adherence to the precept of minimal intervention.

Since the site is surrounded by water on three sides, and large boulders on the fourth, the conservation team had to transport construction materials across the river. The project managers faced a great challenge in developing a transport solution that government authorities would approve. After considering numerous proposals, the team chose a temporary rail track on steel girders.

PROJECT TITLE
CHANDRAMAULESHWAR
TEMPLE

LOCATION
ANEGUNDI, HAMPI,
KARNATAKA, INDIA

SIZE
8.18 ACRES (SITE)
276 SQUARE METRES
(TEMPLE)

COST
US\$ 378,326

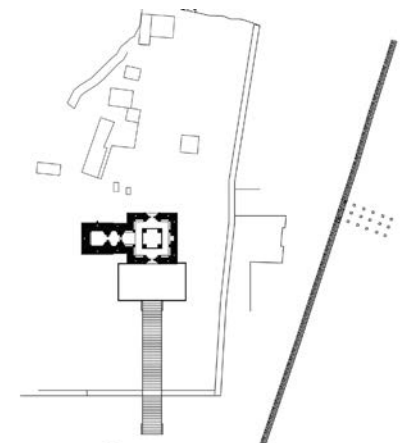
RESPONSIBLE PARTY
DEPARTMENT OF ARCHAEOLOGY,
MUSEUMS AND HERITAGE
(GOVERNMENT OF KARNATAKA)

HAMPI FOUNDATION
JSW FOUNDATION

HERITAGE ARCHITECT
ABHA NARAIN LAMBAH
ASSOCIATES

CONTRACTOR
VIJAY KUMAR

DATE OF COMPLETION
MARCH 2011



SITE PLAN

CONSERVATION AND THE COMMUNITY

A key priority of the conservation team was to ensure the regular engagement of the local community in decision-making and to ensure the project had benefits for the community and other stakeholders. True to its aims, the process of conserving this religious landmark provided employment for local contractors, stone masons and craftspeople. The only project workers external to the local community were the managers and the archaeologists. Religious pilgrims also benefited from the project, as they gained easier access to the site through the restoration of the bridge and the stone steps. Boat owners also benefited by getting more customers and receiving modern safety equipment.

The project's focus on minimal intervention and on prolonging the life of the monument rather than restoring the building's ornamentation has set new standards for conservation in the region. Moreover, the conservation team's strict adherence to the rules about sourcing stone from a quarry outside the World Heritage site and not using cement have established benchmarks of good conservation practice. The project also provided a successful model of public-private partnership for the conservation of archaeological sites in the region.

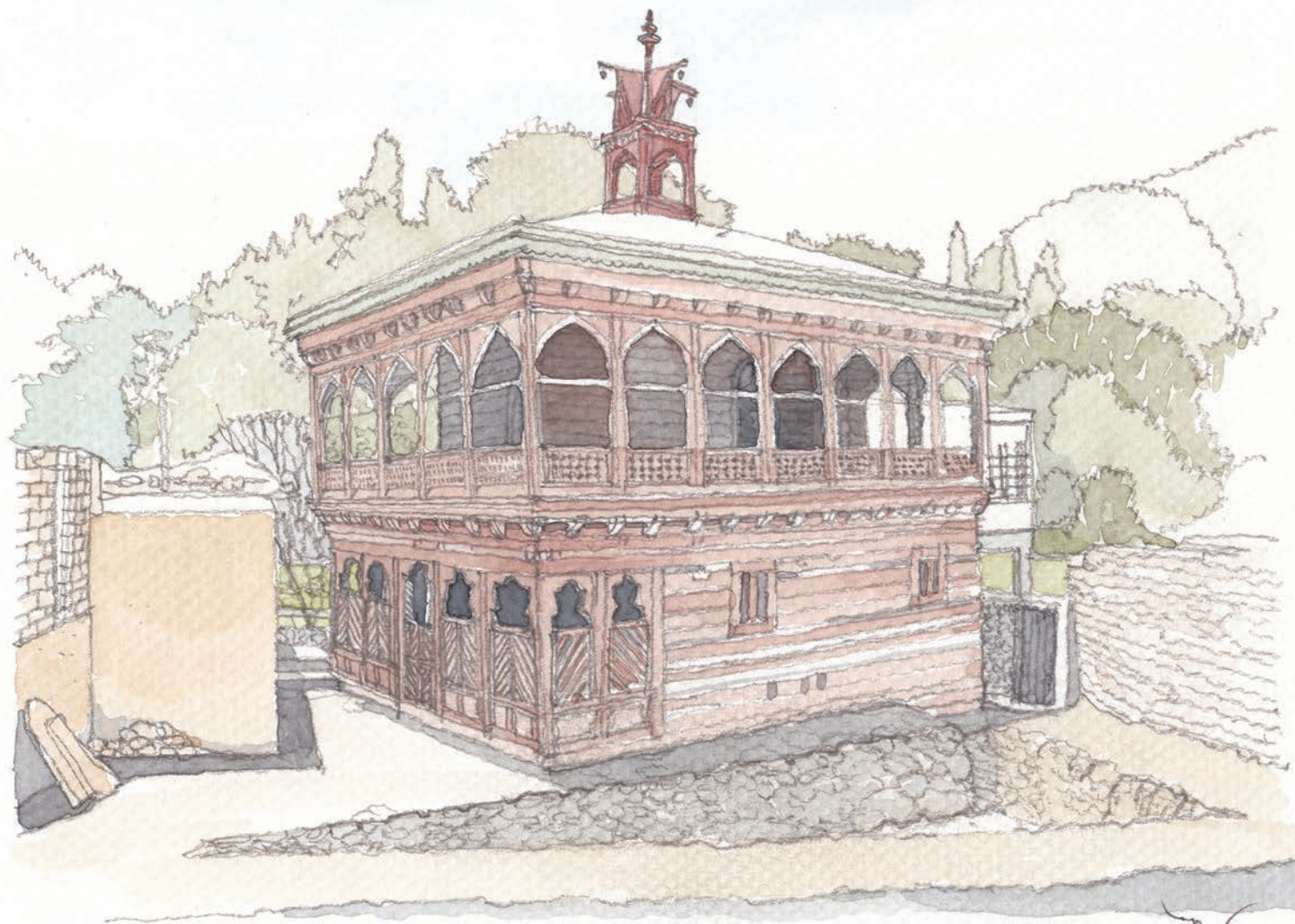
KHILINGRONG MOSQUE

PAKISTAN

CONSTRUCTED FOUR CENTURIES AGO, KHILINGRONG MOSQUE, SITUATED IN THE ISOLATED MOUNTAINOUS REGION OF SHIGAR VALLEY, WAS IN AN ADVANCED STATE OF DETERIORATION WHEN THE AGA KHAN CULTURAL SERVICE OF PAKISTAN BEGAN MUCH-NEEDED RESTORATION WORK. THE PHILOSOPHY OF 'MINIMUM INTERVENTION AND MAXIMUM RETENTION' GUIDED THE CONSERVATION PROJECT, WITH THE ONLY MAJOR WORK UNDERTAKEN BEING THE REPAIR OF THE ROOF, WHICH HAD SUFFERED FROM THE EXTREME WEATHER CONDITIONS OF NORTHERN PAKISTAN. THE COMMUNITY-BASED CONSERVATION APPROACH ADOPTED BY THE AKCS-P HAS REVIVED TRADITIONAL CONSTRUCTION AND CRAFT TECHNIQUES THROUGH A SPECIALIZED SKILLS DEVELOPMENT PROGRAMME TO TRAIN THE LOCAL COMMUNITY AND ARTISANS. NOT ONLY HAS THE PROJECT REINSTATED THE RELIGIOUS FUNCTION OF THE BUILDING, IT HAS ALSO REINVIGORATED AN IMPORTANT PUBLIC SPACE FOR DAY-TO-DAY SOCIAL INTERACTION.

2012

AWARD OF MERIT



WIMJ

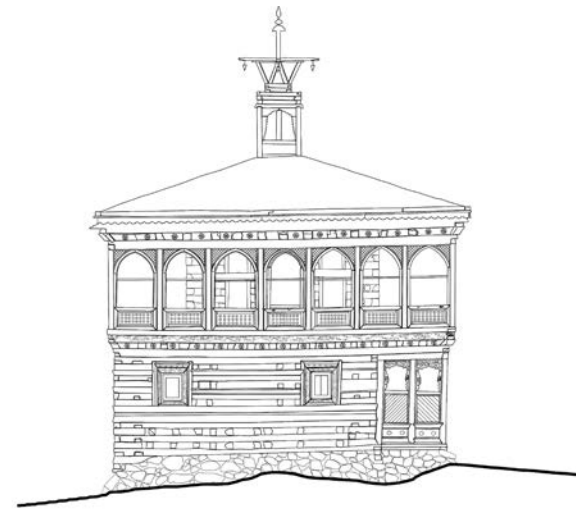
PROJECT SYNOPSIS

Khilingrong Mosque is located in the town of Shigar in the Gilgit-Baltistan region of Pakistan. Situated at an altitude of 2,300 metres above sea level, the 400-year-old mosque is part of the Shigar Fort enclave of monuments, the most prominent of which is Shigar Fort Residence, the conservation of which was recognized in 2006 with an Award of Excellence.

The mosque, constructed in the seventeenth century by the inhabitants of Shigar, with the support of the *raja*, is a rare example of the traditional architecture of Baltistan. At the time of construction, it was the only two-storey mosque in the region. It has a unique floor plan, consisting of a prayer hall on the ground floor and a one-sided veranda, with a second prayer hall on the upper floor, surrounded by verandas on all four sides. The mosque is a showpiece of richly-decorated wooden architecture, with carved spandrels on the lower veranda and intricate ornamental carvings inside the entrance, around the windows and on the mosque's *mihrab* (the niche facing Mecca). The building's ornate decoration suggests that it may have served as the royal family mosque.

When the Government of Pakistan abolished the *raja* system of rule in 1971, the local community was adversely affected. Most of the residents of the Shigar area had been employed by the *raja* as servants, artisans and farmers, and they no longer had a means of income. The local community retained its strong connection to the mosque as a place for collective religious and social gatherings, but with few financial resources were unable to adequately maintain the structure.

In 1999, the Aga Khan Cultural Service – Pakistan (AKCS-P) initiated a project to restore the buildings associated with Shigar Fort. From the start, the fort restoration project was as much about preserving the life ways of the people and the network of relationships as about returning the fort and associated properties to a point of utility. At the time, the fort and Khilingrong Mosque site were both in a severely deteriorated state. The mosque had suffered from the harsh environment of the region, a lack of regular maintenance and repair, and a fire that had damaged the ground floor. The natural colour of the timber elements had faded due to sunlight exposure, and rainwater had penetrated the roof and walls, causing damage to both structural and non-structural components. The mosque's location near



ELEVATION

THE KHILINGRONG COMMUNITY'S ONLY SURVIVING HISTORIC PROPERTY WAS CONSERVED AND A SEGMENT OF SHIGAR'S CULTURAL HERITAGE WAS RETAINED FOR CENTURIES TO COME. THE COMMUNITY ONCE AGAIN HAS A PLACE TO SOCIALIZE AND DISCUSS DAY-TO-DAY LIFE AND ENHANCE COMMUNITY SYNERGY THROUGH HUMAN INTERACTION. THE SOCIAL FABRIC OF THE COMMUNITY WAS REVIVED THROUGH THE CONSERVATION OF KHILINGRONG MOSQUE.

— QUOTE FROM PROJECT TEAM —



EXTERIOR BEFORE RESTORATION



EXTERIOR AFTER RESTORATION



INTERIOR AFTER CONSERVATION



DETAIL OF DECORATIVE CARVINGS

PROJECT TITLE
KHILINGRONG MOSQUE

LOCATION
SHIGAR, SKARDU,
GILGIT-BALTISTAN, PAKISTAN

SIZE
99.58 SQUARE METRES

COST
US\$ 32,369

RESPONSIBLE PARTY
AGA KHAN
CULTURAL SERVICE -
PAKISTAN

HERITAGE ARCHITECT
AGA KHAN
CULTURAL SERVICE -
PAKISTAN

CONTRACTOR
AGA KHAN
CULTURAL SERVICE -
PAKISTAN

DATE OF COMPLETION
OCTOBER 2002



a stream added to the moisture problems threatening the structural stability of the building. Moreover, rat holes in the foundation had created an additional threat to the structure. Throughout, the infill material in the wall, floor and roof was in poor condition, affecting the structural strength of the building.

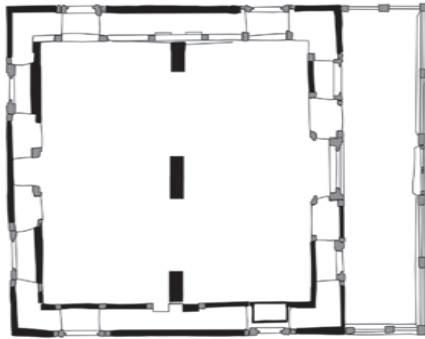
Located at the entrance to the Shigar Fort group of monuments, Khilingrong Mosque is the first landmark visitors see upon arrival. Therefore, it was important to conserve this monument as part of the overall conservation of the fort ensemble. The AKCS-P initiated the project to conserve Khilingrong Mosque in April 2001 and it was completed in October 2002. Like the Shigar Fort project, the main goal of the project to conserve the mosque was to strengthen the community while revitalizing the original use of the building. In addition, the project sought to retain the authenticity of the cultural, built and natural heritage of the site. The local community had intended to demolish the mosque and replace it with a new concrete structure – a step that would have had a negative impact on the overall grouping of monuments – so it was of utmost urgency to undertake the conservation project.

CONSERVATION APPROACH

The principles of maximum retention and minimum intervention formed the core philosophy of this conservation project, which was based on the Venice Charter, Athens Charter, on Authenticity and Burra Charter. The AKCS-P organized the conservation programme, while the wider Khilingrong community, through local artisans, carried it out.

Before any conservation work began, the AKCS-P team conducted a detailed documentation of the building and its context. In addition to preparing a building survey and detailed measured drawings, the team recorded the mosque's oral history and the as-found structural and architectural condition of the site. The general aim of the studies was to identify problems, risks and key areas for intervention.

The first phase of the conservation programme addressed the deterioration of the upper floor, while the second focused on the ground floor. Workers replaced the timber elements damaged during the fire and those that had deteriorated due to rain and moisture. The team treated the wooden supporting members and also replaced missing architectural elements, such as



PLAN

the door and window panels and the lattice work in the arches. They also stabilized the mud render coating the walls, floor and roof. Under the direction of the AKCS-P, workers carried out the work carefully and sensitively so as to not cause further damage to the original fabric.

The third phase of the project focused on the roof. Workers replaced and spliced roof planks to substitute for the old thatched roof, which had been degraded by rain; this followed earlier emergency work that the community had carried out as recently as 1987. The team applied a stain and linseed oil to all timber elements to protect these against the weather and biological growth. Workers also installed electrical lighting during this phase. In the final phase, workers laid wood flooring and a pavement for the pathways and courtyard. These interventions improved the overall hygienic conditions around the mosque.

Artisans working on this project were well versed in the traditional construction methods and materials of the Gilgit-Baltistan area. They employed sustainable, compatible and indigenous materials whenever possible. All interventions ensured the structural and architectural stability of the monument; additions or alterations were minimal. For example, the restoration team stabilized the mortar and render using mud, straw and a very small amount of cement. Throughout the conservation work, the team used methods that respected and articulated the property's heritage value (both tangible and intangible) and that successfully conveyed the spirit of the place.



COMMUNITY MEMBERS GATHERING FOR PRAYERS



PRAYER HALL

CONSERVATION AND THE COMMUNITY

The Khilingrong community was actively involved in the conservation project. Training programmes trained local workers and artisans in traditional construction techniques, helping to revive these competencies. These skills and the experience gained through the project will enable the community to conduct ongoing maintenance and repairs of the mosque.

The community's contribution to the process of safeguarding the mosque has instilled a sense of ownership and pride in the building. That this monument built by their ancestors has been fully conserved for many more generations to use is viewed by many in the community as something of exceptional value.

This project and other efforts by the AKCS-P have had an impact beyond Shigar to the wider community of the Gilgit-Baltistan region and the nation as a whole. They have influenced both the local and national governments to strengthen policy on antiquities and have encouraged the national government to design a comprehensive policy for cultural heritage in Pakistan.

TECHNICAL BRIEF

SUSTAINABILITY THROUGH VERNACULAR BUILDING SYSTEMS

Since 1991, the Aga Khan Cultural Service – Pakistan (AKCS-P) has been assisting communities to conserve vernacular buildings in the high mountainous Hunza and Baltistan valleys, where settlements such as Karimabad, Altit, Ganish, Shigar and Khaplu sit at an average elevation of around 2,400 metres.

The vernacular building systems in this region exemplify the principles of sustainability and resilience as they rely on locally-sourced natural building materials (e.g. agricultural green wood such as poplar; stone; and soil), astute land-use patterns and traditional construction techniques. The traditional wisdom inherent in the buildings and the way they form dense settlements demonstrate a lasting relationship between humans and nature.

Under two per cent of the land is usable in the Karakoram. Therefore, land use has always been rigorously regulated. Clustered housing settlements in the Karakoram occupy land unfit for any productive use. Settlements are also located in areas that are relatively safe from the earthquakes that are prevalent in this seismically-active area.

A key consideration in the vernacular buildings systems of the region is protection against the cold. Heat retention and energy conservation have therefore always been important concerns. Local builders historically constructed houses in suitable microclimates, which had the right combination of natural elements, including sunlight, wind (direction) and vegetation, and they used natural materials found locally, along with energy-efficient design, to maintain internal thermal comfort for

the inhabitants. These traditional building systems thus typify sustainability and living in harmony with nature.

These time-tested vernacular buildings in the high elevations of Hunza rely primarily on passive heating. The cooking space is traditionally located in the middle of the dwelling, allowing for warmth to spread out evenly to all corners and maximize its use. The buildings have no openings other than those facing towards the south. The houses have small doors that are generally positioned to disrupt the entry of cold air. Houses are also built back-to-back or side to side, sharing walls wherever possible and thereby reducing the length of the wall that is in direct contact with outside elements of cold air as well as saving on building materials.

A closer examination of individual vernacular buildings reveals a very simple utilitarian plan. The typical dwelling in Hunza, called a 'ha', has a square plan that is divided into sections. A ha usually includes a number of levels organized around a central cooking space. Each level has its own purpose, e.g. the entrance level is for shoes and firewood. The various areas are covered with thick hand-woven rugs made from yak wool or goat hair, which provide comfortable spaces for sitting, socializing, cooking, eating and sleeping and also for storage, all under one roof. These dwellings represent the optimum use of space within a limited footprint.

The building shells are made of a combination of rubble masonry, green timber (usually poplar) and soil. The four supporting walls are tied together on the roof level with the help of a timber



TIMBER FRAMED STRUCTURE



POPLAR WOOD IS USED ALONGSIDE STONE AND SOIL

frame, which also supports the flat roof. This frame is composed of cross beams placed in both directions at right angles that serve to unite the whole building at its core.

To ensure thermal comfort in both summer and winter, the envelope is rendered in soil plaster, inside and outside. Flat roofs of compressed soil, permeated with apricot juice (to improve durability), feature an underlay of birch-bark, which allows the building to breathe while minimizing water infiltration. The wooden ceiling invariably follows a rotated square pattern with a skylight, a design that allows cooking smoke to escape.

Aga Khan Cultural Service – Pakistan

WILLIAM STREET PRECINCT

AUSTRALIA

THE REVITALIZATION OF THE HERITAGE-LISTED WILLIAM STREET PRECINCT IN PERTH HAS TRANSFORMED AN AREA WHERE THE MAJORITY OF THE BUILDINGS HAD EITHER BEEN NEGLECTED OR UNDERUTILIZED. THE REDEVELOPMENT OF THIS AREA, WHICH WAS CATALYSED BY AN INNOVATIVE PUBLIC-PRIVATE PARTNERSHIP SCHEME LED BY THE WESTERN AUSTRALIA STATE GOVERNMENT, HAS INJECTED A NEW LEASE OF LIFE INTO THIS PRECINCT. BY ANALYSING AND INTERPRETING THE AREA'S HERITAGE VALUES AND CREATIVELY BALANCING CONSERVATION AND INVESTMENT OPPORTUNITIES, THE PROJECT SERVES AS A NOTEWORTHY MODEL FOR OTHER URBAN HERITAGE DISTRICTS. THE SUCCESS OF THE PROJECT CAN BE ATTRIBUTED TO THE PARTNERSHIPS CREATED BETWEEN GOVERNMENT AUTHORITIES AND VARIOUS STAKEHOLDERS, INCLUDING PROPERTY FINANCIERS, HERITAGE EXPERTS, LOCAL ARCHITECTS AND PROSPECTIVE TENANTS.

2012

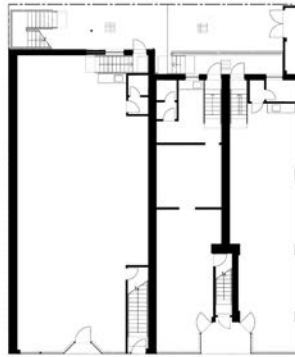
HONOURABLE MENTION



PROJECT SYNOPSIS

William Street Precinct is a collection of 16 heritage-listed buildings in inner-city Perth, Australia. The group of buildings was built on swamp land that had been developed for agricultural use by European settlers. Constructed between the time of the 1890s gold rush and 1925, it is the largest group of commercial buildings in the area to have survived the push for urban development of the late twentieth century and early twenty-first century largely intact. The William Street area has a history of both residential and mixed-use functions, and although the original buildings of the street carry significant architectural value, the essence of the site lies in the combined quality of its overall streetscape.

During the twentieth century, the neighbourhood was settled by migrants from around the globe. Each brought with them cultural traditions, cuisines and languages, and the neighbourhood was known for its multicultural identity. A lack of investment pressure discouraged modernization, however, and over time the neighbourhood fell into disrepair. The buildings suffered from poor maintenance, which led to structural safety and weatherproofing issues, as well as infestations of pests. The buildings also experienced *ad hoc* additions and vandalism. Structural integrity issues meant nearly all of the buildings failed to meet modern safety standards or building code requirements.



PLAN

**THE PROJECT HAS PLAYED
A SIGNIFICANT ROLE IN
TURNING A ONCE NEGLECTED
AND UNDERUTILIZED AREA
INTO A VIBRANT URBAN
QUARTER IN WHICH
CREATIVITY, INDUSTRY AND
CULTURE CAN FLOURISH.**

— QUOTE FROM PROJECT TEAM —

In 2007, the state government's East Perth Redevelopment Authority (EPRA), which is now part of the Metropolitan Redevelopment Authority (MRA), acquired the buildings with the intention of conserving them. The project to restore William Street Precinct had its roots in a conservation plan created in 1995 by Perth's then Building Management Authority. That authority had found the area to have significant heritage value for its unique urban streetscape. This led to the area's inclusion on the State Heritage Register. The main aim of the project was to reinstate the streetscape, rather than to restore the individual properties.

Western Australia's foremost inner-city heritage precinct has been returned to life through a sensitive refurbishment and leasing programme, and offers a new experience for visitors to Northbridge and the Perth Cultural Centre. The success of this ambitious urban renewal project reflects the potential for heritage conservation and contemporary design to reinforce each other, delivering a rich, cosmopolitan inner-city experience that adds significant community value.



ELEVATION



WILLIAM STREET AFTER CONSERVATION

CONSERVATION APPROACH

The conservation management plan conformed to the Burra Charter and was based on the principle of minimum intervention. All restoration, repair and rehabilitation work took cognizance of documentary and physical evidence. Plans were informed by preliminary consultations with key stakeholders, including residents; the Heritage Council of Western Australia and the Department of Culture and the Arts. The project team closely monitored the conservation work through a series of site visits and regular team meetings.



KURB GALLERY BEFORE CONSERVATION



**HISTORIC FAÇADE DETAILS
HAVE BEEN REVEALED**

PROJECT TITLE WILLIAM STREET PRECINCT

LOCATION
196-312 WILLIAM STREET,
NORTHBRIDGE,
WESTERN AUSTRALIA,
AUSTRALIA

SIZE
3,600 SQUARE METRES

COST
APPROXIMATELY
US\$ 6.5 MILLION

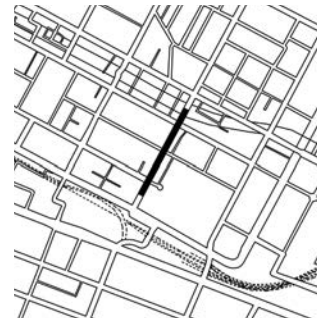
RESPONSIBLE PARTY
METROPOLITAN
REDEVELOPMENT AUTHORITY
(FORMERLY THE EAST PERTH
REDEVELOPMENT AUTHORITY)

HERITAGE ARCHITECT
GRIFFITHS ARCHITECTS
DEPARTMENT OF FINANCE,
BUILDING MANAGEMENT
AND WORKS

MAITLAND CONSULTING
STRUCTURAL ENGINEERING
NS PROJECTS

CONTRACTOR
NORTHERLY GROUP

DATE OF COMPLETION
NOVEMBER 2010



Careful analysis of the architectural values of the site was a hallmark of the project. The conservation team also emphasized the need to use original materials and techniques wherever possible, such as the use of soft mortar in the heritage brickwork, in order to maintain authenticity. When necessary, skilled workers replicated historic features of the streetscape so as to recapture the spirit of the original façades. These features included shop fronts and canopies. Conservation work included the removal of redundant signage, interior and exterior painting, and the installation of plumbing and electrical services to achieve a safe standard for all the properties.

One of the major challenges faced by the project team was working in a congested inner-city location. Ensuring safe access for pedestrians, cyclists and motorists was a primary consideration. The project team also faced the challenge of meeting the needs of the area's new commercial tenants. This was achieved through developing a sustainable leasing plan, which also helped to ensure an appropriate blend of activities and occupancy. Taking this plan into account, the project activated the rear laneways as part of the public realm and created a diverse mix of tenancies, with a focus on activity at street level.

The success of the project to conserve William Street Precinct reflects extensive planning and close cooperation between specialist consultants and the project's leadership. The project successfully expressed the vision of the government authority, which was committed to uncovering and preserving the area's rich past, while contributing to the growth and vibrancy of a modern city.

CONSERVATION AND THE COMMUNITY

The sales and leasing strategy helped to identify tenants appreciative of the values, history and low-rise scale of the site. The new commercial tenants also share a commitment to traditional entrepreneurship, as exemplified by the small businesses in the area. William Street Precinct has become a vibrant and eclectic destination, combining retail, food and beverage outlets and creative industries, all housed in heritage buildings. The focus on independent businesses has resulted in a population mix respectful of the area's history and one that will contribute to the ongoing vitality of the neighbourhood.

HAR RAJ JI MAHAL

JAISALMER FORT

INDIA

RESPONDING TO THE THREAT POSED BY THE PROGRESSIVE DECAY OF THE FABLED SEVENTEENTH-CENTURY HAR RAJ JI MAHAL, WHICH HAD SUFFERED FROM THE RAVAGES OF TIME IN AN UNFORGIVING DESERT ENVIRONMENT, THE PROJECT HAS HEROICALLY RESCUED AND RESTORED THE OLDEST AND MOST MAJESTIC PALACE OF THE IMPOSING JAISALMER FORT. THE WORK IS EXEMPLARY FOR THE ADVANCED ENGINEERING WORK EMPLOYED TO STABILIZE THE BUILDING FOUNDATIONS, WHICH WAS THE MAIN PRIORITY OF CONSERVATION. FUNDING AND EXECUTION FOR A PROJECT OF THIS MAGNITUDE WAS MADE POSSIBLE THROUGH A JOINT EFFORT BY THE OWNER, THE INDIAN NATIONAL TRUST FOR ART AND CULTURAL HERITAGE, THE GIRDHAR SMARAK TRUST, JAISALMER IN JEOPARDY AND THE WORLD MONUMENTS FUND, WHOSE LONG-TERM COMMITMENT TO THE PROJECT IS COMMENDABLE. THE RESTORED PALACE IS NOW USED FOR SOCIAL AND CULTURAL EVENTS, THUS ENSURING A VIABLE AND SUSTAINABLE FUNCTION OF THE SPACE WHILE MAINTAINING ITS HISTORICAL AUTHENTICITY.

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HONOURABLE MENTION



W. J. ...

PROJECT SYNOPSIS

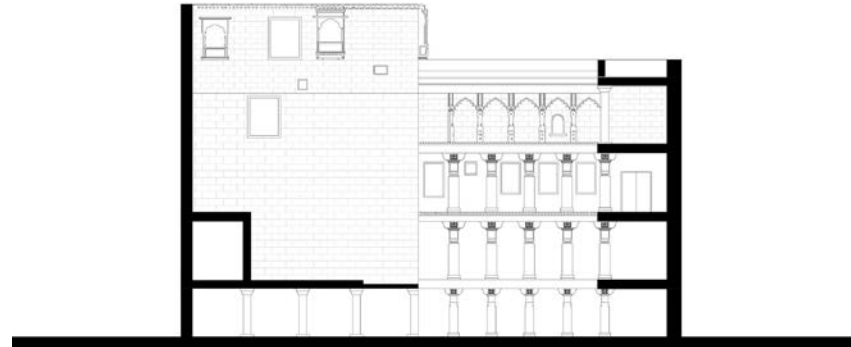
An assortment of palaces, temples, *haveli* (town-houses), shops and lofty gates, Jaisalmer Fort is an iconic heritage site in northwestern India. Among the buildings of the fort is the grand Har Raj Ji Mahal (also known as the Har Raj Ji Ka Mahal), which is located in the oldest part of the Raja ka Mahal (King's Palace). Constructed as an armoury in the twelfth century, it served as a palace between 1618 and 1634, during the reign of Maharawal Har Raj Ji (the King of Jaisalmer) and remained a royal residence until the end of the seventeenth century.

The Har Raj Ji Mahal is an impressive, five-storey structure set on a high natural plinth. The primary structural system is an assemblage of columns and beams, most consisting of yellow Jaisalmer stone. The external load-bearing walls are rubble-masonry blocks with a smooth ashlar stone finish. One of the building's façades faces Dusshera Chowk (street), while its western façade faces Hawa Prol Street. This second façade features a *jharokha* (overhanging balcony) at the third-floor level, surmounted by an octagonal space on the fourth-floor level, used historically by drum beaters. On its southwestern corner, the *mahal* (palace) features several L-shaped, arched verandas, spanning several floors.

The structure's notable features include decorated columns, *jharokha*, *jallie* (latticed screens), *chhajja* (awnings) and fine stone carvings. However, although the fort as a whole is a designated monument, the palace does not have protected status.

By the turn of the twenty-first century, Har Raj Ji Mahal had deteriorated to ruins and was in a fragile state, due to the harsh local climate, a series of earthquakes and an overall lack of maintenance. Recognizing the urgency of safeguarding this cultural resource, in 2002 the Indian National Trust for Art and Cultural Heritage (INTACH) initiated a conservation project centred on the palace.

The project was completed over eight years in three phases. Before conservation work began, INTACH conducted a detailed documentation of the site and a condition assessment. INTACH also established conservation objectives and a framework for the conservation work. The team identified unstable structures as the main threats to the palace, so the first phase of the project consisted of emergency stabilization of the damaged structural system. Work



SECTION

THE CITY OF JAISALMER, WITH ITS RICH HISTORY AND BUILT HERITAGE, IS UNDOUBTEDLY ONE OF INDIA'S MOST MAGNIFICENT ARCHITECTURAL JEWELS. THE PALACE HAS SIGNIFICANT FUNCTIONAL AND ARCHITECTURAL ASSOCIATION WITH THE FORT. IT IS A CULTURAL RESOURCE THAT HAS BEEN RESTORED FOR FUTURE GENERATIONS.

— QUOTE FROM PROJECT TEAM —

EXTERNAL WALL
BEFORE CONSERVATIONEXTERNAL WALL
AFTER CONSERVATION

in this phase included strengthening the foundations and conducting anti-seismic retrofitting of the non-engineered structure. This involved repositioning columns and beams to bring them into alignment. In this phase, workers also consolidated the secondary structures connected to the palace and restored a newly-discovered ivory ceiling and stone inscriptions in the palace. Careful spatial planning that would not compromise the authenticity and character of the site was also part of the initial phase.

Work in the second phase included reconnecting the Payaga Wall and Gateway and re-establishing the staircase connecting the Har Raj Ji ka Mahal and the Hawa Prol (Breeze Gate). In the third phase, the team concentrated on the repair of cracks, floors and ceilings. Work was delayed by heavy floods in 2007 and the discovery of unexploded ordnance (and subsequent abatement). For the purposes of adaptive reuse, the conservation team installed a stage for cultural performances, with a viewing platform and public toilets. Completed in 2010, the project transformed the palace into a centre for culture and the arts.

CONSERVATION APPROACH

Careful intervention and documentation were the guiding principles of the project. The team adopted the Venice Charter and Nara Document on Authenticity, as guides for the project. Analysis of traditional methods also informed the work. On-site excavations revealed a number of dated stone inscriptions, which helped in dating parts of the structure. The team used this and other discoveries to restore the authenticity of the building. The findings also helped in the planning of repairs, a process that employed specialized artisans knowledgeable in traditional construction techniques.

During the conservation process, the supervising team observed that piecemeal repairs had been carried out at several times in the past using inappropriate materials and methods, including the substitution of cement for lime plaster for infilling and pointing. These measures had severely compromised the structural system and the performance of materials. Once identified, workers addressed the issue, employing lime mortar. The team used traditional techniques to prepare the mortar, even employing a camel to power the grinding mill. For stonework, the team obtained Jaisalmer yellow sandstone from the same quarry that the original stone

PROJECT TITLE
HAR RAJ JI MAHAL,
JAISALMER FORT

LOCATION
JAISALMER FORT, RAJASTHAN,
INDIA

SIZE
480 SQUARE METRES
1,350 SQUARE METRES

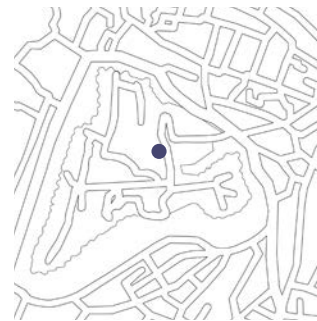
COST
US\$ 282,000

RESPONSIBLE PARTY
GIRDHAR SMARAK TRUST
INDIAN NATIONAL TRUST
FOR ART AND CULTURAL
HERITAGE (INTACH)
WORLD MONUMENTS FUND
JAISALMER IN JEOPARDY

HERITAGE ARCHITECT
ASHEESH SRIVASTAVA,
KRISHNA KISHORE SRIVASTAVA,
ANB CONSULTANTS

CONTRACTOR
SHABEER ALI, ABC
CONSTRUCTIONS

DATE OF COMPLETION
JANUARY 2011



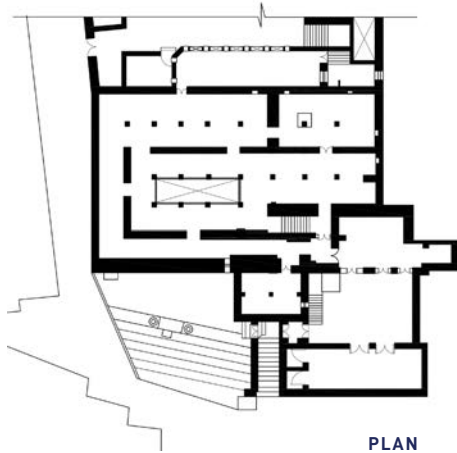
INTERIOR
BEFORE CONSERVATION



INTERIOR
AFTER CONSERVATION

had come from.

The conservation team reconstructed missing elements, only when necessary, using like-for-like materials wherever possible. The exception to this rule was the seismic-retrofitting of the structure, a process that required the insertion of modern materials. The masonry structures of the building had relied on 'through stones' or 'bound stones' placed in a staggered manner and set in layers to strengthen the overall structure. As these were no longer sufficient to stabilize the building, the team inserted steel-reinforced bands in the free-standing walls. Thoughtfully done, this measure did not change the character of the building. An earthquake in April 2009, measuring 5.0 on the Richter scale tested the anti-seismic measures; the building suffered no structural damage.



PLAN

DETAIL OF RESTORED
IVORY-INLAID CEILING

PRODUCING LIME MORTAR WITH TRADITIONAL LIME MILL

CONSERVATION AND THE COMMUNITY

Local artisans played a key role on the conservation work. These workers possessed a great deal of traditional knowledge, including about methods for the manufacture of lime mortar and ways of working with local stone. Many were trained carpenters and masons, and the restoration project provided them with a new source of employment.

The project emphasized public use. One of the core objectives in restoring the *mahal* was to make it accessible for the community. By addressing the structural issues and improving the building's resistance to earthquakes, the conservation team made the palace safe for the community and visitors. Moreover, restoring the original architecture of the palace enhanced the social, cultural and architectural values of Jaisalmer Fort. In its restored state, the palace has become a suitable venue for events such as Dussehra (an annual festival celebrating the victory of the Indian deity Lord Rama over the demon Ravana). This and other uses have brought a new constituency to the palace. Also, with added interpretative programmes, including audio tours, visitors can now learn about and appreciate the rich history of the site as well.

The project attracted media exposure and received many positive reviews. This attention assisted the project in gaining the notice of the Girdhar Smarak Trust and a grant from the Lady Hamelyn Trust UK for the conservation of Annapurna Bhandar, the granary, which is the largest structure of Jaisalmer Fort.



COMMUNITY USE

TECHNICAL BRIEF

EARTHQUAKE RESISTANT RETROFITTING

The Har Raj Ji Mahal palace of Jaisalmer Fort suffered considerable damage in the Bhuj Earthquake in 2001. This and other earthquakes in the vicinity had significantly affected the building's structural elements and surfaces, and at the time of the conservation project the palace faced threats to its structural stability.

The intensity of a shock depends on the type of surface supporting the building: structures built on solid rock and firm soils fare better than buildings constructed on soft ground. Thus, in the event of an earthquake, buildings on soft soils generally experience greater damage than those built on strong foundations, even when they are further away from the epicentre. To better understand the inherent structural conditions of Har Raj Ji Mahal, the project team conducted an extensive analysis of the subsoil and foundations of the palace. This soil testing was fundamental to the project as a whole as it determined what actions to take and which methods to use to stabilize the building.

Looking at layers down to 15 feet below grade, the team found that the palace was standing on loose debris, not on rock. Columns and walls rested on gravel mixed with clayey soil. There were also loose pockets below the foundation level, probably due to washing out of binding material by storm water. Past interventions had been based on the assumption that sinking was caused by weak columns. The soil analysis demonstrated instead that the foundations were not adequate. The team decided to improve the stability of the foundation by addressing both the unstable soil and calibrating to structural and 'use' loads of the place complex.

In addition to the foundation work, the conservation team used transverse masonry, reinforced concrete (RC) bands and improved clamping to strengthen the structure and increase its resistance to earthquakes and wind pressure. The transverse masonry involved installing 'through stones' (also known as 'bond stones') through the entire width of the walls. Retrofitting with RC bands served to aid the structure to further resist lateral loads.

The final step, clamping, was an improvement on previous interventions, in which workers had attached copper clamps by boring holes in the masonry, resulting in an unattractive appearance and inadequately-strengthened walls. When installing the clamps in the new project, the restoration team introduced grooves to support new steel clamps, which improved each clamp's grip on the stone and provided additional stability for the joints, thereby protecting the walls against lateral thrusts.

*Adapted from the "Har Raj Ji Mahal"
UNESCO Asia-Pacific Heritage Awards
entry submission*



MOVING BEAMS INTO PLACE



TRANSPORTING STONWORK

READING ROOM FOR THE PORTUGUESE SCHOOL OF MACAU

CHINA

INSERTED INTO THE COURTYARD OF THE PORTUGUESE SCHOOL OF MACAU, THE NEW READING ROOM HAS PROVIDED AN UNDERSTATED CONTEMPORARY ADDITION TO THIS AESTHETICALLY NOTEWORTHY 1963 MODERNIST COMPLEX. THE NEW STEEL AND GLASS PAVILION SEAMLESSLY INTEGRATES WITH THE ORIGINAL BUILDINGS, RESPONDING SENSITIVELY TO THEIR SCALE AND ARCHITECTURAL LANGUAGE. DEMONSTRATING AN ELEGANT APPROACH TO EXTENDING THE SCHOOL'S USABLE SPACE IN A HIGHLY DENSE URBAN CONTEXT FACING REDEVELOPMENT PRESSURE, THE NEW READING ROOM CONTRIBUTES AN ADDITIONAL LAYER OF ARCHITECTURAL SIGNIFICANCE TO A MODERN HERITAGE LANDMARK AND ENHANCES THE CONTINUED FUNCTIONALITY OF THIS ICON OF THE MACANESE PORTUGUESE COMMUNITY.

2012

**JURY COMMENDATION
FOR INNOVATION**



CONTEXT

The Portuguese School of Macau (Escola Portuguesa de Macau) is a non-profit private international school in Macao SAR, China. It opened in 1998, merging three other Portuguese schools, and occupied the site of the former Escola Comercial, located in Freguesia da Sé in downtown Macao. The only remaining school in Macao offering a Portuguese curriculum, the Portuguese School of Macau is a social asset for the local community. It is owned by Dr José Luís de Sales Marques and is administered by Fundação Escola Portuguesa, a partnership between Fundação Oriente, Associação para a Instrução dos Macaenses and the Government of Portugal.

Designed by Raúl Chorão Ramalho in 1963, the school building is a cornerstone for Modernist Architecture in the city. With a rough concrete exterior, embellished with blue and yellow tiles that evoke the traditional *azulejo* tiles of Portugal, the building stands out as a tangible manifestation of a significant era in Macao's architectural history.

In the early 1990s, the building was delisted as a heritage site. Subsequently, it was threatened with demolition. Its precarious status caused considerable debate regarding the balance between development and heritage conservation in Macao SAR.

PROJECT HISTORY

In 2008, after 10 years of operation, the school management was faced with the need to expand learning spaces in the school without altering the landmark building. Recognizing the need for facilities that would encourage more reading by the students, the school's board initiated a project to construct a comfortable reading room within the existing building.

The overall objective was to create a harmonious insertion that would be easily distinguishable from the older building. To find a way to achieve this, the project architects sought to understand the existing masterpiece, so as to then extend its logic into the new architectural programme. The architects therefore undertook a study of the building, its original vocabulary and ways it could be expanded without interfering with the existing design. Student behaviour and needs were also examined.

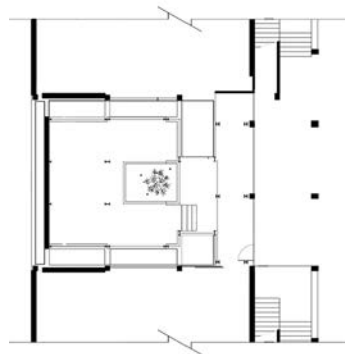
The building's original architect had designed the structure with a repetitive portico interrupted by patios. This arrangement created a counterpoint to the



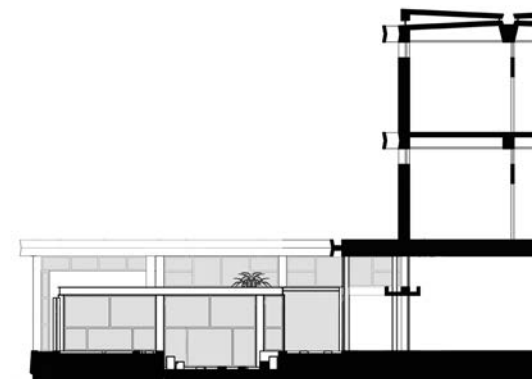
INTERIOR AFTER CONSERVATION

HERITAGE IS NOT FROZEN IN TIME BUT IS RATHER A CONTINUAL AND LIVELY PROCESS OF DIALOGUE AND ENGAGEMENT BETWEEN THE PAST AND PRESENT.

— QUOTE FROM PROJECT TEAM —



PLAN



SECTION

longitudinal section of the building. With an understanding of this structural grid, the design team then established orders of complexity inside one of the patios, thereby extending and subdividing the grid of the Portuguese master into its own fractional geometry. The result was a U-shaped space encircled by greenery, with a great deal of natural light.

PROJECT SCOPE AND FRAMEWORK

The project involved transforming one of the school's three patios into a reading room of 120 square metres. The basic concept was that of building 'a patio within a patio', expanding upon the existing architectural language and creating an atmosphere where visitors could immerse themselves in reading while also enjoying the outdoor setting. The design process began by simply creating an envelope around the bamboo plants that were growing in the centre of the patio. The layout followed the perimeter of the school's footprint, creating a U-shaped space overlooking the courtyard. The project was completed in two and a half months, in the summer of 2008.

DESIGN AND MATERIALS

The design for the reading room demonstrated that a harmonious space could be added by subordinating the new to the old. The new reading room provides a bright and inviting counterpoint to the staggered, yet longitudinal school building, providing a space that reinforces the original design and provides a new kind of environment.

In order to preserve the patio's setting and natural illumination, the architects designed a pavilion of glass walls. The resultant space follows a logic of voids and transparencies, allowing the intervention to enjoy a subtle invisibility while successfully preserving qualities of light and shadow. The space between the new reading room and existing rooms in the school building serves as a track that allows natural sunlight in.

To reduce the impact of the new building, the architects intentionally lessened the addition's height by nearly a metre. This aligned the height of the extension with the existing patio walls, making the new addition invisible from the outside.

The architects chose glass as the main material in order to create the transparency necessary to the design. The room's glass walls not only admit light but

PROJECT TITLE
READING ROOM FOR
THE PORTUGUESE SCHOOL OF
MACAU

LOCATION
AVENIDA DO INFANTE DOM
HENRIQUE, MACAO SAR, CHINA

SIZE
120 SQUARE METRES

COST
US\$ 104,380

RESPONSIBLE PARTY
VLB ARQUITECTURA
E PLANEAMENTO LDA
FUNDAÇÃO ESCOLA
PORTUGUESA AND ESCOLA
PORTUGUESA DE MACAU

HERITAGE ARCHITECT
VLB ARQUITECTURA
E PLANEAMENTO LDA
CARLOTTA BRUNI
RUI LEÃO

CONTRACTOR
J & T CONSTRUCTION
COMPANY LTD.

DATE OF COMPLETION
SEPTEMBER 2008



also project the user into the outdoor environment, with the existing stand of bamboo at the centre.

The relationship between the new extension and the original structure was emphasized through the use of the key construction materials used in the original building: concrete and steel. Moreover, many elements of the new section mimic the original building. The glass walls and sliding doors, for example, share a pattern of glazed divisions that echo the mullioned windows of the existing building. Likewise, the glass façade and the 'borrowed' exterior screen reflect the design of the original building.

IMPORTANT ISSUES

The Portuguese School of Macau is considered an important local example of Modernism, and the building's strong sense of architectural order and geometry are reflected in the new room. Although contemporary in design, the Reading Room not only provides useable space for an institution in a dense urban context but also shows respect for the tangible and intangible attributes of the original building. The thoughtful intervention adds an additional layer of significance to the Portuguese School of Macau and strengthens its identity in the urban landscape.

PROJECT IMPACT

This project to provide additional learning space has served as a solution to the growing challenge of constriction in urban contexts while maintaining the overall scale and setting of the building and retaining the school's association with the community. Furthermore, faced with growing pressure for redevelopment, the school has demonstrated how a modest design can further the life of an existing building while preserving the harmony of the edifice. The Reading Room project provides a counterfoil to the idea that urban expansion requires the loss of something significant to the community as a whole.

AWARD OF EXCELLENCE

PHRA BOROMMATHAT MAHA CHEDI AND
PHARIN PARIYATTITHAMMASALA OF
WAT PRAYURAWONGSAWAS
THAILAND

AWARD OF DISTINCTION

THE GREAT SERAI
AFGHANISTAN

LAL CHIMNEY COMPOUND
INDIA

KHAPLU PALACE
PAKISTAN

AWARD OF MERIT

MARYBOROUGH RAILWAY STATION
AUSTRALIA

ENJOYING SNOW YARD
CHINA

TAI O HERITAGE HOTEL
CHINA

ROYAL BOMBAY YACHT CLUB RESIDENTIAL CHAMBERS
INDIA

OTAKI TOWN HALL
JAPAN

HISTORIC BUILDINGS IN DUONG LAM VILLAGE
VIET NAM

HONOURABLE MENTION

SAIL MAKER'S SHED
AUSTRALIA

THE LOST BOMB SHELTER OF
THE SOFITEL LEGEND METROPOLE HANOI
VIET NAM

2013

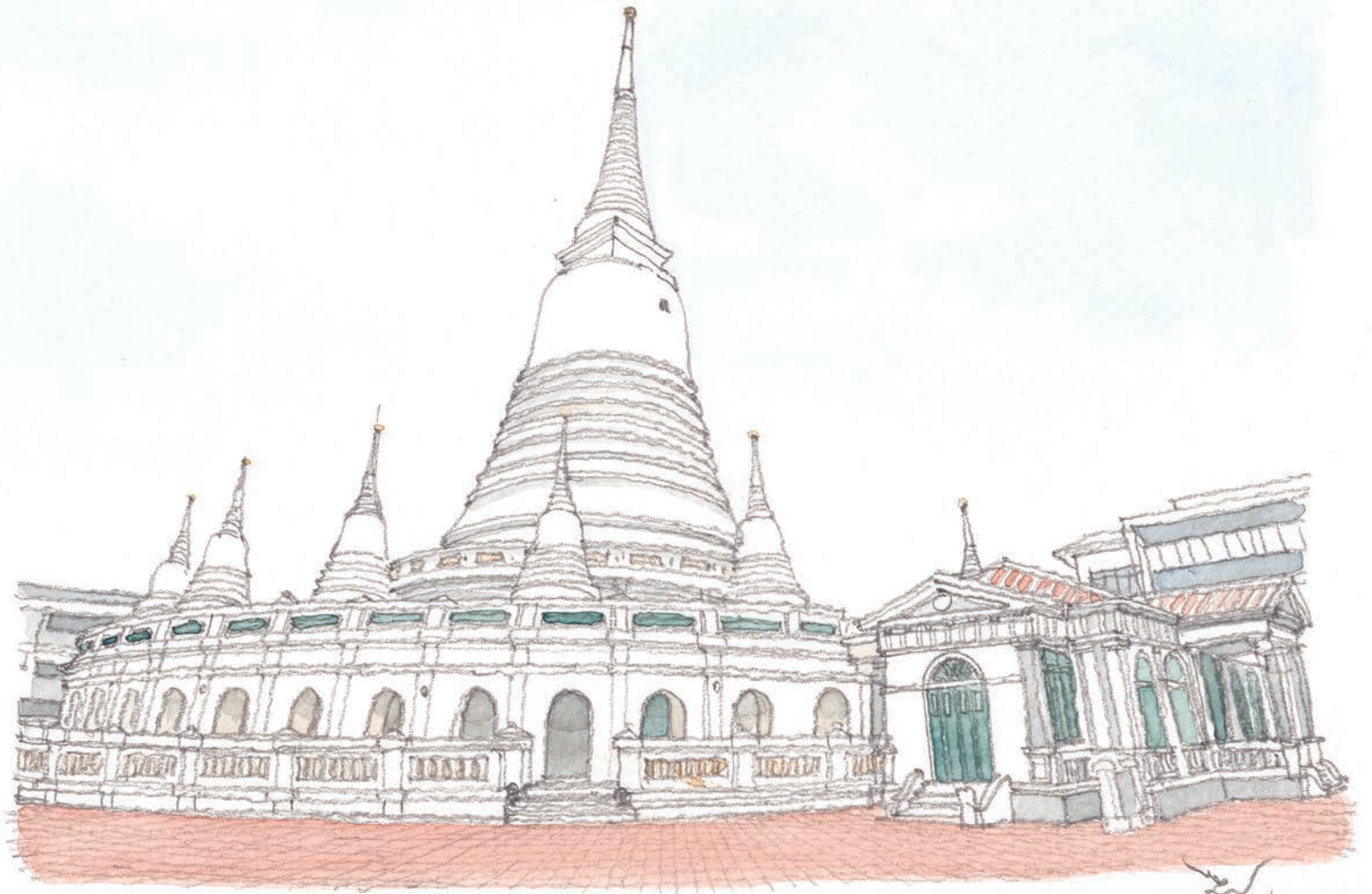
PHRA BOROMMATHAT MAHA CHEDI AND PHARIN PARIYATTITHAMMASALA OF WAT PRAYURAWONGSAWAS

THAILAND

THE RESTORATION OF THIS HISTORICALLY-SIGNIFICANT *CHEDI* (RELIQUARY STUPA) AND ITS ATTACHED HALL HAS PRESERVED ONE OF BANGKOK'S MOST ICONIC RELIGIOUS MONUMENTS, COMBINING AN ACT OF FAITH WITH A MAJOR ENGINEERING FEAT. THE PROJECT HAS CATALYSED EXTENSIVE SOCIAL IMPACT IN THE MULTICULTURAL HISTORIC DISTRICT OF KADEEJEEN. IN STRENGTHENING THE INTERIOR STRUCTURE WHILE MAINTAINING THE EXTERNAL SHELL OF THE DRAMATICALLY LEANING *CHEDI*, THE PROJECT DEMONSTRATED A SOPHISTICATED UNDERSTANDING OF A UNIQUE ARCHITECTURAL TYPOLOGY FROM THE EARLY RATTANAKOSIN ERA. THE TECHNICAL INTERVENTIONS, COMBINING THE LATEST IN SCIENTIFIC ADVANCES WITH TRADITIONAL CONSTRUCTION TECHNIQUES, HELP TO CONVEY A SENSE OF ANTIQUITY AND FEELING OF AGE. THE EXEMPLARY COOPERATION BETWEEN THE MONKS, SPECIALISTS AND LOCALS HAS GIVEN A TWENTY-FIRST CENTURY MEANING TO THE AGE-OLD SYMBIOSIS BETWEEN BUDDHIST MONASTERIES AND THE LAY COMMUNITY IN SUSTAINING A SACRED COMPLEX AS THE CENTREPIECE OF NEIGHBOURHOOD LIFE.

2013

AWARD OF EXCELLENCE



01/17/20

CONTEXT

Wat Prayurawongsawas Worawihan is a Buddhist temple (*wat*) situated on the western side of the Chao Phraya River in the Kaddejeen neighbourhood of Thonburi District in Bangkok, Thailand. The temple dates from the early nineteenth century but, because of its location, it is closely associated with the former Thai capital, Thonburi, which was founded by King Taksin the Great in 1767. The Thonburi Kingdom ended in 1782 when King Rama I founded the Rattanakosin Dynasty and relocated the capital to the other side of the Chao Phraya River.

The most architecturally-significant feature of Wat Prayurawongsawas Worawihan is its principal *chedi* (reliquary stupa), known as Phra Borommathat Maha Chedi. The chedi is the central sacred structure of the temple and enshrines significant Buddhist relics. At a height of 60.525 metres, it is the tallest bell-shaped stupa in Bangkok. Adjacent to the stupa is a small pavilion called Pharin Pariyattithammasala, which serves as an important element of the temple complex.

BUILDING HISTORY

Constructed over an eight year period, Wat Prayurawongsawas Worawihan was founded in 1828 by Somdet Chao Phraya Borom Maha Prayurawong (Dit Bunnag), the Chancellor of Defence during the reign of King Rama III (1824–1851). Ownership of the temple was bestowed upon King Rama III in 1836 and the complex had special status as a second-rank royal temple.

Wat Prayurawongsawas Worawihan was of great importance to the Bunnag family, who were the founders and key contributors to the temple, and the temple also serves as a reliquary for other families in surrounding communities, whose ancestors' remains are housed in Phra Borommathat Maha Chedi and the surrounding gallery area.

The construction of Phra Borommathat Maha Chedi began at the same time as the rest of the temple but the *chedi* remained incomplete at the time of the founder's death in 1855. The founder's eldest son, Somdet Chao Phraya Borom Maha Sisuriyawong (Chuang Bunnag), completed the work.



CHEDI BEFORE AND AFTER

THE RESTORED PRINCIPAL STUPA AND PAVILION HAVE ENHANCED THE OVERALL ATMOSPHERE OF THE TEMPLE DUE TO THEIR SIGNIFICANCE AS THE CENTRAL ELEMENTS OF THE TEMPLE PRECINCT. THE PROJECT HAS HAD A GREAT IMPACT ON THE BUDDHISTS IN THE COMMUNITY AND ALSO ON COMMUNITY MEMBERS WITH DIFFERENT RELIGIOUS BELIEFS.

— QUOTE FROM PROJECT TEAM —

The structure of the *chedi* exhibits some degree of Western influence, most noticeably in the interior where the central core is a 10-metre-high brick pillar weighing 144 tonnes and the walls feature brick ribs, similar to the buttresses of European churches. This design is unique in Thailand.

Pharin Pariyattithammasala was a later addition to Wat Prayurawongsawas Worawihan; it was constructed by Chao Phraya Phasakorawong (Phon Bunnag), the youngest son of the founder. Completed in 1885, this pavilion serves as an extension to the entrance porch and provides a connection to the circular gallery surrounding the base of the *chedi*. Dedicated to Chao Phraya Phasakorawong's parents, Lady Luk In and Somdet Chao Phraya Borom Maha Prayurawong, the pavilion served as a study hall for monks and novices and, in 1916, as Thailand's first public library, operated by the Ministry of Education. Following the library's relocation to another building, the small structure functioned as an office before being abandoned.

Owing to years of neglect, by the end of the twentieth century Wat Prayurawongsawas Worawihan was in a highly dilapidated state. Phra Borommathat Maha Chedi and Pharin Pariyattithammasala were in a particularly poor condition. The *chedi* slanted heavily to one side. Rising damp was a severe issue for both buildings and moisture from the nearby Chao Phraya River further exacerbated the damage. Moreover, the external stucco walls of the buildings had become stained.

PROJECT HISTORY

In 2006, the temple's abbot, Phra Brahmapundit (Prayoon Dhammacitto) initiated steps towards raising awareness and conserving the temple's irreplaceable monuments. The abbot and the custodians of Wat Prayurawongsawas Worawihan liaised with the Fine Arts Department (FAD), whose specialists developed a conservation plan, with advice from engineers at King Mongkut's Institute of Technology Lad Krabang who devised a unique supporting structure for the interior of the principal stupa.

In 2007, the *chedi* and pavilion became the subjects of a conservation project initiated by the FAD and carried out in cooperation with the temple management and the local community. Project personnel included architects and engineers from the FAD as well as numerous artisans familiar with heritage structures and sites.

PROJECT TITLE
PHRA BOROMMATHAT
MAHA CHEDI AND PHARIN
PARIYATTITHAMMASALA OF
WAT PRAYURAWONGSAWAS

LOCATION
BANGKOK, THAILAND

SIZE
PHRA BOROMMATHAT
MAHA CHEDI: APPROXIMATELY
1,500 SQUARE METRES
PHARIN
PARIYATTITHAMMASALA:
APPROXIMATELY
170 SQUARE METRES

COST
APPROXIMATELY US\$ 990,000

RESPONSIBLE PARTY
PHRA BRAHMAPUNDIT
(PRAYOON DHAMMACITTO)

HERITAGE ARCHITECT
KITCHA YUPHO

CONTRACTOR
DAMRONG CONSTRUCTION
CO.LTD., SIVAKORN KARN
CHANG CO.LTD.,
PRADITTANANURUK CO.LTD.

DATE OF COMPLETION
OCTOBER 2010



PROJECT SCOPE AND FRAMEWORK

The aim of the project was to conserve Phra Borommathat Maha Chedi and Pharin Pariyattithammasala and restore them to their original states. The project also sought to preserve the sacred qualities of Phra Borommathat Maha Chedi and to extend its use as a spiritual centre and a repository for relics. In addition, recognizing the loss of utility of libraries in the context of the rising accessibility of digital media to the public, the project sought to convert Pharin Pariyattithammasala into a museum that would exhibit and store relics from the site, thus ensuring its continued relevance to the users.

In particular, the conservation project sought to consolidate the structures, restore the damaged parts and minimize potential for future damage. The project had several stages, beginning with the conservation of Phra Borommathat Maha Chedi and then moving on to the restoration of Pharin Pariyattithammasala.

CONSERVATION METHODOLOGY AND MATERIALS

The conservation approach was one of minimum intervention. Moreover, the project relied on the original materials and forms, and used traditional techniques. When the application of modern materials and methods was required, the project team took care to minimize changes to the original features and appearance of the buildings.

Probably the most significant intervention was the restoration of the core structure of the *chedi*. This process included bracing the structure with steel rings and providing a steel framework ('net') around the central pillar, complemented with additional reinforcing of the exterior and interior surfaces. To ensure future stability, the team also introduced a solid steel frame, consisting of a central supporting element reinforced with welded steel bars. The final step in the stabilization process was to lift the central post using hydraulic jacks, strengthening it to better brace the brick and plaster shell.

Following the work to stabilize the structure, the conservation team reinstated the gold mosaic on the spire of the chedi. Subsequently, new stainless steel stairs and a lightning rod were added. This was followed by the repair and repaving of the flooring. During this work, the archaeological team unearthed several relics and revealed previously unknown aspects of the site. While the team retained some of the relics in place, it

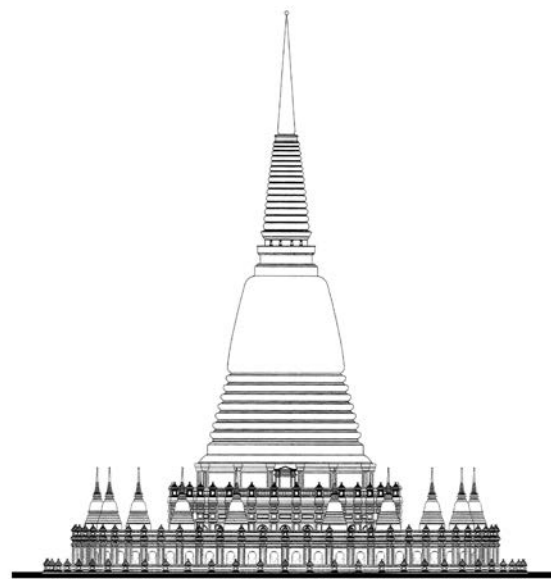
moved some to Pharin Pariyattithammasala for display.

The artisans replaced broken and missing parts of the perimeter balustrade using materials matching those of the original features, restored old niches and introduced new examples based on research by the FAD. The workers then cleaned the exterior surfaces of all of the stupas in the temple grounds and gave them each a fresh coat of lime wash. Subsequently, new exterior lighting, including ambient lights and spotlights, was introduced. Artisans then installed specially-constructed wrought-iron doors and wooden door panels over the niches around the base of the *chedi*.

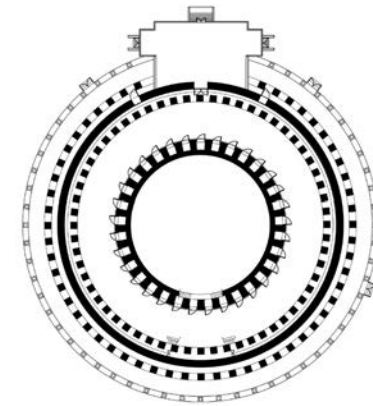
The conservation of Pharin Pariyattithammasala began with research into the original design of the pavilion, an examination of the building's materials, the preparation of full-scale shop drawings for the replacement of roofing elements, monitoring of moisture levels in the pavilion's walls and the development of a comprehensive conservation plan. The initial conservation work included the repair of the roof structure and decorative elements, and the replication of missing elements. Workers then replastered the walls using lime mortar. The team subsequently applied a protective moisture-resistant coating to the exterior walls and repainted them.

Special care was taken to reproduce the original marbled mural designs and to protect finished surfaces. Artisans repaired the lacquer surfaces of the doors and regilded decorative elements using traditional techniques. Restoration of the marble pavilion floor required preparing detailed drawings, based on the original design, and removing the remaining marble pieces, cleaning them, installing a damp-proof course, then reinstalling the marble.

Other work on the pavilion included cleaning the stairs and balustrades, applying treatment for termites and repairing the damaged granite stone lions on either side of the stairs. In addition, the team installed new lights and an improved water drainage system. The team also set up an information board describing the site and the project.



ELEVATION



PLAN



THE LEANING CENTRAL PILLAR (LEFT) WAS STRAIGHTENED AND BRACED (RIGHT)



THE PROJECT CATALYZED THE LARGER REVIVAL OF MULTI-FAITH KADEEJEEEN COMMUNITY

IMPORTANT ISSUES

The success of the conservation project stemmed from the temple owners' strong willingness to comply with legislation relating to monuments and to cooperate with the working team in conserving the structures. The conservation of Phra Borommathat Maha Chedi and Pharin Pariyattithammasala complied with the Act on Ancient Monuments, Antiques, Objects of Art and National Museums, BE 2535 (1992) and the Regulation of the Fine Arts Department Concerning the Conservation of Monuments BE 2528 (1985). These Thai legal frameworks complement the Venice Charter and subsequent international agreements and also address Thai cultural practices and beliefs, particularly those concerning religious and sacred objects. The application of Thailand's legislation helped to ensure that the project not only met with international expectations but, importantly, also respected local Thai traditions.

The conversion of Pharin Pariyattithammasala into a museum was considered by the project team to be necessary to ensure its continued relevance to the community. The pavilion's new use as an exhibition space coincided with the need to display the numerous religious relics, votive tablets and other objects discovered during the restoration work. The new museum space ensures that the sacred artefacts are properly stored and protected, and are also accessible to the public.



THE PAVILION, ONCE THE COUNTRY'S FIRST PUBLIC LIBRARY, IS NOW A MUSEUM

PROJECT IMPACT

Since the completion of the project, Wat Prayurawong-sawas Worawihan has become more popular as a site for celebrations and other cultural activities. Events have included an exhibition on Thai traditional music, which was held in an open area near the pavilion and the *chedi*, and regular temple festivals, which are held beside the *chedi*. Thus, the project not only safeguarded the architectural and spiritual values embedded in the religious structures, but also enhanced the cultural life of the community. The temple remains a significant historic landmark and has become a point of pride for the residents of the Kadeejeen area.

The conservation of key monuments within Wat Prayurawongsawas Worawihan has kindled interest in restoration projects among residents of neighbouring areas and among heritage conservation organizations. Most noteworthy of these is the King Prajadhipok Institute, which has emulated the approach taken by the Wat Prayurawongsawas Worawihan project in its own conservation efforts. The project was also an important catalyst for the conservation of the neighbouring Khlong San area and for the revitalization of the waterfront cultural landscape of the Kadeejeen neighbourhood itself. The project has thus served as an exemplar for other conservation projects, particularly those involving the conservation of registered heritage properties and places of religious heritage.

PROJECT SUSTAINABILITY AND VIABILITY

Several special community events, including a *pha pa* ceremony (a temple feast to raise money), successfully generated funds for the project and for the temple's upkeep. The deep-rooted Thai and Buddhist tradition of 'merit making', in which members of the Buddhist community offers alms and donations to monks and temples, will also support the ongoing conservation of the temple's structures. Moreover, as a registered national monument, the temple is eligible for assistance from the government as new conservation needs arise in the future.

THE GREAT SERAI

AFGHANISTAN

SETTING A PRECEDENT FOR CONSERVATION WORK IN KABUL, THE RESTORATION OF THE LANDMARK GREAT SERAI IS A VALIANT RESCUE OF A HISTORICALLY-SIGNIFICANT NINETEENTH-CENTURY MERCHANTS' PALACE. THE SITE, WHICH ONCE SERVED AS THE CENTRE POINT OF THE CITY'S CARAVAN TRADE, HAS BEEN RETURNED TO ITS FORMER ECLECTIC GRANDEUR. THE PROJECT DEMONSTRATED TECHNICAL SOLUTIONS THAT NOT ONLY CONSERVED THE ORIGINAL MATERIALS AND TRADITIONAL SPACES OF THE STRUCTURE, BUT ALSO RETAINED THE HISTORICAL CONTEXT OF THE PROPERTY. THE ENGAGEMENT OF THE COMMUNITY IN THE RESTORATION PROCESS IS COMMENDABLE IN THE WAY THAT IT HAS RENEWED PRIDE OF PLACE AND RAISED AWARENESS OF THE CONTINUED RELEVANCE OF LOCAL CULTURAL HERITAGE. NOW HOUSING THE NEW INSTITUTE FOR AFGHAN ARTS AND ARCHITECTURE, THE RESTORED BUILDING WILL MAKE AN IMPORTANT CONTRIBUTION TO SUSTAINING KABUL'S CULTURAL HERITAGE.

2013

AWARD OF DISTINCTION



CONTEXT

Located in Afghanistan's capital city, Kabul, Murad Khane (also spelled Morad Khani) is the only surviving ancient neighbourhood of the old city. The area has a unique collection of Kabuli courtyard buildings, including the largest remaining buildings of their type in Afghanistan, and a traditional bazaar. Many of the buildings in the quarter were originally small palaces, housing relatives of the royal family as well as their courtiers, officials and bodyguards. At the heart of this historic precinct lies the Great Serai, once a grand river-front residence of an aristocratic merchant family. The oldest part of The Great Serai dates from the late eighteenth century.

Murad Khane and its community began to decline in the early 1970s with the redevelopment of the eastern edge of Murad Khane under a 'masterplan' introduced by Soviet urban planners. This plan called for the demolition of the old streets and buildings of Murad Khane and their replacement with a series of high-rise concrete buildings. Although city officials implemented only part of the scheme, the government acquired many houses in the area, displacing the occupants and cutting off sanitation and electrical services. Many owners and landlords abandoned their properties, and squatters moved into the area. At the same time, periodic flooding of the Kabul River gradually destroyed the northern part of the district – a cluster of almost a hundred buildings.

EXTERIOR OF THE GREAT SERAI BEFORE RESTORATION



COURTYARD OF THE GREAT SERAI AFTER RESTORATION

AS A RESULT OF THE PROJECT, THE SERAI IS NOT AN ISLAND IN A SEA OF ABANDONMENT AND URBAN DECAY; INSTEAD, IT STANDS AS THE CENTREPIECE OF A REVITALIZED ZONE OF OLD KABUL.

— QUOTE FROM PROJECT TEAM —

Later, commercial development eradicated the western edge of the district. More recently, the Afghani Ministry of Finance demolished the northeast corner of Murad Khane to construct its new headquarters. Collectively, these events devastated the neighbourhood and drastically impacted local communities.

This damage was severely compounded by the wars. Neither the pressure of development nor the schemes of city planners could match the destruction visited on Kabul's old city in the anarchy of the conflicts that began in 1979.

The old city was at the front line of these conflicts, subject to artillery fire from the surrounding hills. When the Taliban took control of Kabul in 1996, Murad Khane had already lost two-thirds of its buildings. By the time the Taliban government fell in 2001, most of Afghanistan's prominent families had emigrated out of Murad Khane, and often out of the country, abandoning their houses. In 2008, Murad Khane, with the Great Serai at its heart, was listed by the World Monuments Fund as the second-most endangered of the '100 Most Endangered Sites' globally.

BUILDING HISTORY

The core of the Great Serai was built in a single campaign in the late eighteenth century but the large domestic complex exhibits architectural features from three periods between the eighteenth and early twentieth centuries. The building is of earthen construction, covered with plaster – stabilized with lime – under an earthen roof. Timber provides the structural frame and roof joists;

The entrance to the residential complex, which is organized around three courtyards, is a fortified gateway, featuring a watchtower. The main courtyard is the largest surviving example of its kind in Kabul. Each side was originally flanked by a carved cedar screen seven metres high. The principal rooms – all of which face the courtyard space – served as reception areas for honoured guests and were adorned with elaborate plaster niches. The rooms at the rear functioned as private living spaces for the family. A key feature of the complex was its two private *hamam* (bath houses), each consisting of three domed rooms, each with a different temperature.

After being abandoned, the remaining structure of the Great Serai was neglected and it became a derelict space that was used for storage. Over time, many of the building's significant architectural and ornamental features, including the decorative *patayi* (sliding timber shutters) and ornate ceilings, were lost. The ground level around the structure rose with the accumulation of debris from surrounding collapsed buildings, and this debris blocked the original drainage system, leading to moisture being absorbed into the building's walls, causing further damage. The vertical timber reinforcements rotted and external walls eroded. Due to the dampness, salt crystallization disfigured decorative plaster throughout the complex. All of these factors threatened the structural integrity of the building, particularly the main courtyard, which by 2008 was on the verge of collapse.

PROJECT HISTORY

In May 2006, the elders of the community of Murad Khane, today a remarkable mix of ethnicities and religions, with Qizilbash, Tajik, Hazara and Pashtun living side by side, requested that the Turquoise Mountain Foundation intervene and begin a process of rehabilitating the buildings and infrastructure of the neighbourhood. At the same time, the government began

PROJECT TITLE

THE GREAT SERAI

LOCATION

KABUL, AFGHANISTAN

SIZE

1,620 SQUARE METRES

COST

US\$ 1.16 MILLION

RESPONSIBLE PARTY

TURQUOISE MOUNTAIN FOUNDATION

HERITAGE ARCHITECT

ANDRE ULLAL

CONTRACTOR

TURQUOISE MOUNTAIN

DATE OF COMPLETION

OCTOBER 2011



to acquire title to much of the land in the area to better manage the area's issues.

In response to the request, in 2009 the Turquoise Mountain Foundation launched a project to rehabilitate Murad Khane, assuming the role of designer and building contractor. Since the former owners of the buildings and the current residents of the area did not have sufficient resources to carry out the conservation work, the United States Agency for International Development (USAID) and the Canadian International Development Agency (CIDA) provided funding for the project.

Four goals guided the project: to retain each property's use as far as feasible; to respect the original layouts and ensure that new buildings and extensions would be compatible with the existing architectural form, scale, mass and typology; to protect the character and form of the historic streets and public areas; and to respect and value the character of the neighbourhood. The project leaders also envisioned the project as a vehicle for the revival of traditional building skills and the development of local expertise.

The project planners, including the Turquoise Mountain Foundation's restoration experts, the funding organizations and the government, identified the Great Serai as the most historically and artistically important building in the Murad Khane area. They recognized too that the restoration of this building was integral to the conservation of the fabric of the neighbourhood as a whole. The repair, conservation and adaptive reuse of the Great Serai within its historical context therefore became the initial focus of the overall scheme to rehabilitate the Murad Khane area.

PROJECT SCOPE AND FRAMEWORK

The primary goal of the project to conserve the Great Serai was to return the elevations and interiors of the building to their former splendour. A second anticipated outcome was that the project would provide a catalyst for further conservation efforts in the Murad Khane area. The project planners also sought to re-link the building to the community, so they decided to convert the residence into the headquarters of the Institute for Afghan Arts and Architecture, which is an internationally-accredited vocational education institution, training a new generation of Afghan artisans, as a vital part of reviving Afghanistan's cultural identity.



DILAPIDATION SURVEY

CONSERVATION METHODOLOGY AND MATERIALS

The conservation efforts at the Great Serai adhered to a holistic approach, ensuring that the complex was not repaired in isolation but was part of a broader scheme for the restoration of the entire urban enclave. Overall, the team treated the project as delaying the decay over time rather than halting it completely.

Following the meticulous assessment of the condition of the Great Serai, which enabled the planners to gain an understanding of the building's materials and techniques of construction, guidelines were established for the appropriate use of materials. Using the principle of 'like for like', the team ensured that replacement elements followed the design of the originals and were of identical materials.

A first priority in the conservation project was to stabilize the structure. This involved replacing much of the building's framework, which consisted mostly of *archor* (Himalayan cedar), a durable wood ideal for carving and joinery. The restoration team also repaired collapsed ceilings, removed broken earthen sections from the damaged roof surfaces and provided significant underpinning for walls and supports. The project also involved significant attention to problems of water damage and drainage. The team introduced a new system of water dispersal and ensured that water would not penetrate the walls and structure.



REFURBISHED INTERIORS

Following stabilization, the team turned to the repair of the interior plaster. Interior work also included restoring the elaborate plaster decorations, reconstituting the *patayi* and repairing the courtyard paving. The decorations required considerable study prior to beginning the restoration work. Based on these studies, artisans used traditional plaster to recreate the original designs on the interior walls and ceilings. They also reinstated the fabric-lined ceilings, using well-documented traditional techniques. The project also restored the hypocausts and recreated the ash plasters of the two *hamam*.

The workers also installed modern electrical and sanitary services. To avoid damaging the core structure

of the Great Serai, many modern additions, including the kitchen and dining hall, were installed outside the Great Serai, in a new annex. The new extension was built using traditional materials, including *pakhsa* (mud), earth bricks and unfired mud-brick, creating an addition compatible with the aesthetic character of the Great Serai and surrounding buildings.

IMPORTANT ISSUES

The significance of the Great Serai is inextricably linked to the community and the quarter in which it exists. Because of this, the conservation project required extensive prior research not only into the building but also into its social and artistic context. A special feature of this project is that it tapped into the community's memory in building up an accurate picture of how the neighbourhood of Murad Khane and the Great Serai had once been, and it also drew on the knowledge and skills of the community.

The Turquoise Mountain Foundation was committed to working with the local community to reconstruct the severely damaged structure. Much of the work was carried by Afghan artisans, using techniques and materials common to traditional construction in the region. As the work proceeded, the project directors increasingly delegated decision-making to local engineers and architects and to the artisans themselves.

PROJECT SUSTAINABILITY AND VIABILITY

The buildings of Murad Khane are characterized by flat roofs, constituted of compacted soil. Such roofs have the advantage of being simple to construct but the effectiveness of flat earthen roofs depends on regular maintenance. Owners traditionally apply a layer of *khargil* mud every year, and every five years the layers are removed to reduce the load on the roof. It would have been easy to replace the mud roof with more permanent materials requiring no annual maintenance, but the project sought to retain not only the building but also the traditions associated with it. By continuing the pattern of use and encouraging the ongoing use of the skills of those who carry out the maintenance, and therefore the continuation of the wages paid to those persons, the project is an inspiring model of commitment to maintaining traditional livelihoods and social connections. As part of the Murad Khane community, the Great Serai nurtures the social context and is, in turn, supported by it.

Economic regeneration was a central part of the Great Serai and Murad Khane rehabilitation projects, the latter employing 9,000 individuals, many of which also received training in traditional building and construction materials and methods.

Establishing the Great Serai as the new centre for the Institute for Afghan Arts and Architecture gave the ancient building a new profile and purpose. The institute is accredited and receives support from the Ministry of Education as well as private charitable donors and intergovernmental grants. These funds will contribute to the maintenance of the Great Serai until 2020. Through the Institute, an additional 300 people have received training so far in jewellery-making, woodworking, miniature painting, calligraphy and ceramic arts, serving to rebuild the traditional handicraft industries of Murad Khane and of Afghanistan. The profits from the sales of handicrafts are reinvested into regenerating the neighbourhood.



GLAZING INSERTS TO IMPROVE THE THERMAL PERFORMANCE OF *PATAYI* WERE MADE REVERSIBLE



WORK IN PROGRESS



TEXTILE DESIGN CLASS AT THE GREAT SERAI

PROJECT IMPACT

Overall, the community development strategy of the conservation of the Great Serai improved the quality of residents' lives without altering the social structure of the area. The project brought an iconic building back to life and, through encouraging the participation of the local community and building their skills in traditional building and maintenance work, supported local livelihoods and ensured the local community's cultural continuum.

The Great Serai stands today a reminder of old Kabul – a place that has largely disappeared but still lives in the memories of many of the city's inhabitants. The new institute displays the beauty of Afghan art and architecture and also serves as a training facility for new generation of artisans, while also supporting local livelihoods and restoring a sense of pride in the local community.

The rescue of the Great Serai and the survival of Murad Khane led to a dynamic debate on heritage values and conservation within Afghanistan. This resulted in several new legislative measures, including a new law drafted for the protection of Murad Khane and the Great Serai. The project also helped stimulate national receptivity to the idea of selective conservation over wholesale demolition.

LAL CHIMNEY COMPOUND

INDIA

THE CONSERVATION OF THE BUILDINGS THAT FORM LAL CHIMNEY COMPOUND IS HIGHLY LAUDABLE FOR ITS ACHIEVEMENT IN SAFEGUARDING A DISTINCTIVE TYPOLOGY OF LATE NINETEENTH CENTURY AND EARLY TWENTIETH CENTURY URBAN COMMUNITY HOUSING THAT HAD BEEN IN A RUINOUS CONDITION AND SLATED FOR DEMOLITION. RESPONDING SENSITIVELY TO THE STRUCTURES' UNIQUE ARCHITECTURAL ELEMENTS, THE DECISION TO REUSE AND CONSERVE ORIGINAL MATERIALS AND ORNAMENTAL DETAILS HELPED RETAIN THE AUTHENTICITY OF THE COMPLEX. MOREOVER, KEEPING THE ORIGINAL FUNCTION OF THE BUILDINGS HAS ENSURED THE CONTINUITY OF THE COMMUNITY. THIS PROJECT SETS A BENCHMARK FOR THE CONSERVATION OF COMMUNITY HOUSING, A HISTORICALLY AND SOCIALLY SIGNIFICANT FORM OF HERITAGE THAT IS ALL TOO OFTEN NEGLECTED, AND THE PROJECT SERVES AS AN EXEMPLARY MODEL FOR FUTURE INITIATIVES.

2013

AWARD OF DISTINCTION



CONTEXT

Lal Chimney Compound is a modest example of a community housing type well represented in Mumbai during the late nineteenth century. The complex occupies a highly built-up plot in the Agripada area of South Mumbai. Known for its location close to both the Central and Western Railways, Agripada was home to a Parsi colony as well as to numerous other ethnic minorities.

Composed of both private and institutional housing complexes, the locale presents a vibrant mix of residents, shops and public institutions that collectively contributes to the overall character of the community and gives the compound its 'sense of place'. For over a century the buildings of Lal Chimney Compound – named after a tall, red chimney once on the site – have retained their distinct architectural style as well as their close social ties to the local area.

Designed to house Parsi families and individuals of modest income, the compound comprises five buildings: Wadia, Cooper, Dadachanji, Modi and Talukdar. These three-storey buildings are notable for their consistent height, mass, volume and scale, and for their cohesion. The architecture of these housing units allows for communal and shared social spaces, a factor absent in modern high-rise residences.

In recent years, Mumbai's acute housing shortage and space limitations have resulted in an enormous increase in the cost of housing to long-time residents and newcomers alike. The city faces a high demand for affordable housing and such a low supply. In response to this demand, the urban landscape is changing rapidly, with numerous redevelopment projects wiping away the historical fabric of the city. This wave of redevelopment is a constant threat to heritage properties such as Lal Chimney Compound. Projects to rehabilitate this distinctive architectural type have increased appreciation for the traditional housing types of Mumbai and are encouraging their retention for future generations.

BUILDING HISTORY

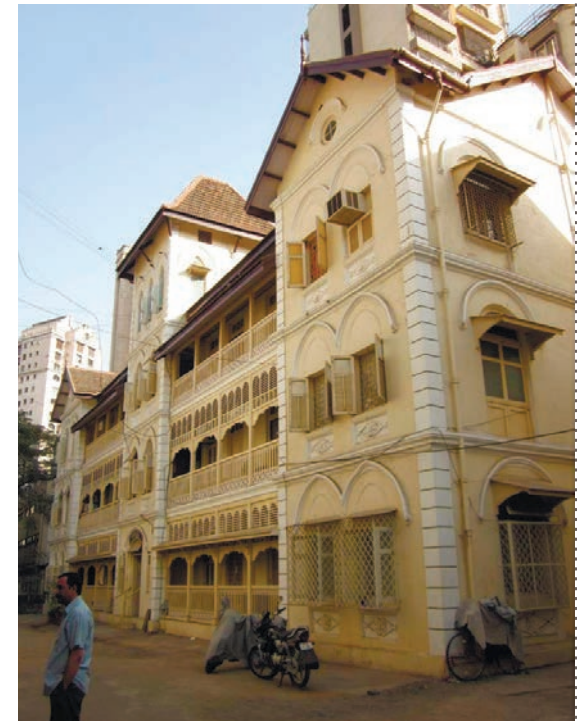
Lal Chimney Compound owes its existence to the Garib Zarhotiona Rehethan Fund (GZRF), one of several Parsi-backed charities in Mumbai. This fund, which was known as the Poor Zoroastrians Building Fund at the time of its origin in 1890, was the brainchild of prominent Parsi



WADIA BUILDING ELEVATION

THE RESTORATION OF LAL CHIMNEY COMPOUND DEMONSTRATES HOW 'REPAIR' CAN BE A MORE ECONOMICAL AND FEASIBLE OPTION THAN 'RECONSTRUCT'.

— QUOTE FROM PROJECT TEAM —



WADIA BUILDING BEFORE AND AFTER RESTORATION

engineer M.K. Murzban. Towards the end of the 1890s, the GZRF constructed two compounds in Mumbai (then Bombay), one near Gilder Lane and the second in Agripada.

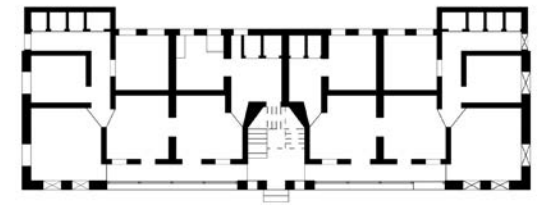
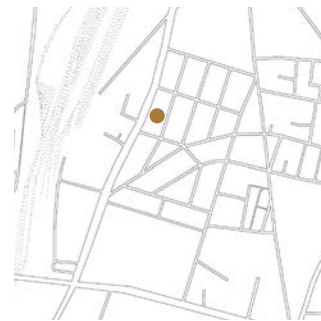
The compound is representative of a distinctive late nineteenth century and early twentieth century residential housing type based on tightly-linked groupings of buildings designed to enhance community cohesion. It is a collection of architectural references fully in the spirit of Queen Anne Revival, a style popular in the final quarter of the nineteenth century. Three storeys high, with a series of intimate courtyard spaces within, the compound presents a unified face to the public street. Reflecting the buildings' traditional wall-bearing construction, brick and wood were the primary building materials.

The buildings are highly functional but nevertheless display a rich level of ornamentation, demonstrating the high level of artisanship common to the building industry of the time, with numerous carefully carved and cast details. Lal Chimney Compound's five buildings feature wide teakwood balconies, gable roofs, carved façades, basalt plinths and arched Gothic windows with wooden shutters. The attic features high-pitched gables, with exposed teakwood trusses (king posts) and extended spindles at the gable end. Other notable features include clay tile (Mangalore tile) roofs, classically-inspired string courses marking the floor divisions, quoins at entrances and corners, and boldly projecting window surrounds. Concessions to Mumbai's tropical climate include three-bay verandas with wooden *chhajja* (awnings), fixed louvered valances and wide overhanging eaves. The rails and balusters tie the verandas to the large pointed-arched windows, as well as to other Gothic elements found in the wood trim. Lozenge panels give further articulation to the wall surfaces.

Over time, poor maintenance led to the deterioration of the complex. Broken and missing roof tiles, for example, led to significant water ingress, which caused damage throughout the complex, including in the window and door openings, leading to the failure of arches and headers. While the rooms remained habitable, decay set in. This was particularly noticeable in the floor slabs, some of which showed significant cracking.

At the same time, the buildings of the compound suffered ill-informed repairs that damaged the original plaster, decorative wooden elements and carved work. The tenants of the buildings, lacking the funds to pay

PROJECT TITLE
LAL CHIMNEY COMPOUND
LOCATION
MUMBAI, INDIA
SIZE
2,736 SQUARE METRES
COST
APPROXIMATELY
US\$ 4 MILLION
RESPONSIBLE PARTY
TRUSTEES OF GARIB
ZARTHOSTIONA REHETHAN
FUND
HERITAGE ARCHITECT
VIKAS DILAWARI
CONTRACTOR
PREMIER CONSTRUCTION
COMPANY
DATE OF COMPLETION
DECEMBER 2012



WADIA BUILDING PLAN

professionals, often carried out these repairs themselves and also made additions and alterations. These interventions were generally piecemeal and insensitive, and disturbed the overall aesthetic unity of the buildings. Moreover, they were incompatible with the original fabric, introducing jarring juxtapositions to the original elegant finishes. Surprisingly, despite the decay and damage, the units themselves retained integrity and form. The same was true for the compound's networks of social interaction.

PROJECT HISTORY

In 2009, the GZRF, recognizing the threats to the compound from deterioration, poor maintenance and encroaching urban development, stepped in to rescue the complex. A well-known Mumbai conservation architect, Vikas. Conservation work on Lal Chimney Compound began in October 2009 and lasted for nearly four years.

PROJECT SCOPE AND FRAMEWORK

The project sought to restore all five buildings within the complex, focusing particularly on returning them to a structurally-sound condition. The most pressing concern for the conservation project team was that the dilapidated state of the buildings had created dangerous and disagreeable living conditions for the residents. The team also sought to retain the deep communal ties of the neighbourhood and revive traditional construction techniques among local artisans.

The common areas of each building were the focus of the work, but nearly every unit received repairs and refurbishment. Specific activities included the removal of incompatible additions and the re-creation and restoration of ornamental work.

The conservation effort had five phases. The first phase focused on the preparation of a detailed fabric status report. This included documentation of the buildings, including mapping and detailed analyses of defects. The next phase covered repairs to the roofs of the buildings – critical for the overall project due to the potential for further damage by rainwater. Phase three, which took almost two years, concentrated entirely on the improvement of the Wadia building. Subsequently, the four other buildings received both internal and external repairs as required. The final phase included material replacement, repairs to building ornaments, replastering and painting, provision of new flooring and refinement of the infrastructural systems, including plumbing and sanitation. Technicians also treated the entire complex for termites.



COOPER BUILDING BEFORE AND AFTER RESTORATION

CONSERVATION METHODOLOGY AND MATERIALS

Retention of as much original fabric as possible was the guiding philosophy of the project. The restoration team therefore aimed for minimal intervention. The programme allowed for alterations but only when necessary for modern-day needs and functions. In such cases, the restoration team used materials compatible with the original fabric, so as to preserve the authenticity of the buildings.

Structural repairs were a key part of the project. Since most of the structural damage had been caused by water ingress, the roofs received priority attention. This work involved replacing and repairing the damaged clay tiles and the teakwood fascia boards.

In addition to structural work, the restoration team also gave considerable attention to the repair of building ornaments, and to their replacement where required. Work included repairs to the cornices, quoins, archivolts and the decorative panels beneath the window sills. Interior walls received a coat of new plaster. Workers also installed a damp-proof course above the skirting level to arrest rising damp.

Much work concentrated on the restoration of the wooden elements. This included strengthening them *in situ* by splicing in new pieces for damaged members and replacing the severely decayed members. As part of efforts to further protect the buildings from rain penetration and to make the verandas and living spaces more habitable, the conservation team repaired the broken wooden *chhajjas* and installed new ones where they were missing. The team also made necessary improvements to the doors and windows. The team found that many of the flat arches over doors and windows were in a poor condition and required mending. To ensure durability, damaged floor slabs were recast.

The work also involved extensive replastering of the building façades. Workers also removed unsympathetic additions, including box grilles and enclosures to the verandas, thereby restoring the façade to its original appearance. Perforated teakwood balustrades replaced the sealed parapets of the verandas; carpenters then installed duplicate teakwood louvers and fixed glass screens. Finally, the entire compound received a new coat of paint.

The conservation team incorporated traditional methods sensitively with the help of local artisans. Trained carpenters carried out the repairs to wooden elements, with teakwood serving as a key material. The entire project emphasized conservation as the key element. Conservation also became the hallmark of a greater effort to educate contractors and the public about the significance of heritage properties and the importance of traditional applications and crafts.

IMPORTANT ISSUES

Lal Chimney Compound's poor condition prior to the conservation effort was a vivid illustration of the need for a better-informed maintenance plan for low-cost housing complexes. The buildings had aged and deteriorated due to poor upkeep, and tenants had made inappropriate and often damaging alterations. While Lal Chimney Compound was fortunate in receiving funding from the GZRF, the poor maintenance of other historic buildings remains a critical issue for Mumbai. One of the city's challenges is that rents have been frozen since 1944 with the Rent Control Act. As a result, around 20,000 old tenement buildings in the city demonstrate problems identical to those of Lal Chimney Compound. Many of these buildings are on the brink of collapse or are already uninhabitable. The redevelopment approach favoured by the Mumbai government has not addressed this issue. The Lal Chimney Compound project underscores the need to revisit existing housing policy and to provide adequate funding for the rehabilitation of existing housing stock.

The process of restoration employed at the century-old complex was simple yet effective in that it adhered to the basic principle of good conservation practice, namely minimal intervention. The project retained the existing socio-cultural relationships and overall harmony of the neighbourhood and thus admirably conserved community housing in a rapidly changing city. The project also helped in reviving lost skills and knowledge. It provides a striking alternative to demolition and redevelopment. Indeed, the Lal Chimney Compound project demonstrates that it is wiser to repair than to reconstruct or redevelop.



CRAFTING FLORAL PATTERNS FOR PANELS BELOW THE WINDOW



MAKING THE TEAK WOOD DECORATIVE RAILINGS



MODI BUILDING BEFORE AND AFTER RESTORATION

PROJECT SUSTAINABILITY AND VIABILITY

In lieu of demolition, the project supports the city's existing infrastructure. It also demonstrates an alternative to the approach of wholesale redevelopment taken by the government and by private developers and contractors. The successful rehabilitation of Lal Chimney Compound proves that a conservation-minded approach is economically viable and contributes both to the lives of the compound inhabitants and to social cohesion more generally. The living conditions of the residents were improved, but the residents were not burdened with higher rents or taxes, therefore enabling them to continue living in the compound. By giving the buildings a new lease on life, the project has inspired pride among the tenants in their housing, and has generated a new determination among the residents to care for and conserve the complex.

PROJECT IMPACT

With its emphasis on conserving the local social fabric, the Lal Chimney Compound project successfully retained the compound's character and communal identity. The project resulted in vastly-improved living conditions for the residents and the retention of the many intangible heritage values of the community. The lifestyles of its residents and the existing levels of social interaction are now preserved. Thus, the project called attention to the idea that conservation is not only about the building fabric but is equally about preserving the life ways of the site's inhabitants. The project's approach offers a viable solution for Mumbai's long-term housing needs.

The buildings of Lal Chimney Compound were not listed as heritage sites or precincts at the time the project commenced in 2009. However, by the time the restoration and repair work was underway the buildings had been listed as Grade III heritage. This indicates a shift in the level of awareness of the value of conservation in the city, and highlights the significance of the funding provided by the GZRF. The recognition of the heritage value of these buildings highlights the importance of residential complexes such as these and, it is hoped, helps set parameters for future investments in the rehabilitation of the city's existing historic housing stock.

KHAPLU PALACE

PAKISTAN

ONCE THE FORMER SEAT OF GOVERNMENT AND ONE OF BALTISTAN'S FINEST ROYAL RESIDENCES, KHAPLU PALACE HAS BEEN RESTORED FROM A DIRE STATE OF DILAPIDATION. THE WORK, UNDERTAKEN WITH A HIGH LEVEL OF TECHNICAL COMPETENCE, ADDRESSED A RANGE OF CHALLENGES, FROM STRUCTURAL CONCERNS TO ALTERED LANDSCAPING, IN A MANNER THAT HAS RETAINED THE AUTHENTICITY OF THE SITE. THE PALACE HAS BEEN REINTEGRATED AS A VITAL PART OF THE COMMUNITY THROUGH ITS NEW FUNCTION AS A SMALL-SCALE HERITAGE HOTEL AND BALTISTANI FOLK MUSEUM. THE UPGRADE OF THE ADJACENT VILLAGE'S INFRASTRUCTURE AND THE CREATION OF NEW LIVELIHOOD OPPORTUNITIES HAVE ENSURED IMPROVED WELL-BEING FOR LOCAL INHABITANTS IN THIS REMOTE RURAL AREA. THE PROJECT IS TESTIMONY TO THE SUCCESS OF THE WELL-TESTED APPROACH TO MOBILIZING CULTURE FOR SUSTAINABLE DEVELOPMENT, PIONEERED BY THE AGA KHAN CULTURAL SERVICE - PAKISTAN.

2013

AWARD OF DISTINCTION



CONTEXT

Khaplu Palace, known locally as Yabgo Khar, is an exceptional royal residence in Baltistan, Pakistan. Located deep within Khaplu Valley and surrounded by the Karakoram mountain range, the palace complex is a rare surviving legacy of the Yagbo dynasty, which ruled the region for centuries.

The site was both the seat of governance as well as a residence, and featured various state rooms and underground granaries. In their home at the palace, the royal family enjoyed landscaped gardens, orchards and a magnificent view of the valley, framed by the mountain landscape of Baltistan.

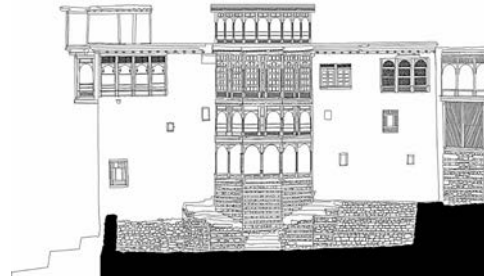
The palace is significant not only for its cultural importance as the former seat of the Khaplu royal government, but also for its quality as a building. A striking example of the local traditional building typology, the palace also shows influences from neighbouring regions, including Kashmir and Ladakh.

With the decline of the dynasty, the site faced a series of changes and years of neglect until being gifted in 2005 by the Yagbo royal family to the Aga Khan Development Network (AKDN), which initiated a conservation and adaptive reuse project to revive the palace as a heritage hotel and an exhibition centre for Baltistani artefacts and handicrafts.

BUILDING HISTORY

The palace complex owes its existence to Raja Daulat Ali Khan of the Yagbo dynasty, who in 1840 built the palace when forced out of the royal family's fifteenth-century fort, Thorse Khar, following an invasion by the Dogra dynasty of Kashmir. Tradition says that a stone was rolled from the heights of Thorse Khar and came to rest on the site where Khaplu Palace was to be built.

The Khaplu Palace complex consists of four components: Khaplu Palace itself, ancillary buildings (Darbar House, Chamantsar Khang and Ra'atsar Khang), stables and ceremonial gardens, all of which display outstanding aspects of local building and design traditions. The palace also reflects Tibetan-style features combined with Muslim Kashmiri manor-house forms, imparting unique characteristics.



ELEVATION

**THE SOCIAL COHESION
AMONGST THE LOCAL
COMMUNITY WAS INCREASED
DUE TO THEIR ACTIVE
PARTICIPATION IN
THE PROJECT EXECUTION
AND NOW IT IS A CENTRE
FOR THEIR CULTURAL
CEREMONIES.**

— QUOTE FROM PROJECT TEAM —



KHAPLU PALACE BEFORE RESTORATION



KHAPLU PALACE AFTER RESTORATION

The principal palace building is a four-storey structure constructed of interlaced wooden cribbage with infill of mud blocks and stone. This building technique follows a longstanding traditional construction method in Pakistan, intended to enable structures to withstand earthquakes. The cribbage and masonry system also strengthened walls against attackers – a necessary secondary outcome for a fortress. In addition to its structural and defensive components, the palace displays many decorative elements. These include elaborately-carved timber posts, delicate fenestration, and panelled ceilings, all of which impart a sense of grandeur. The verandas, for example, feature wooden *jallie* (latticework screens) with intricate Mughal designs.

For a century and a half, the palace served as the residence of the royal family. In 1974, that function came to an end when the government of Pakistan abolished small kingdoms such as the Yagbo. The *raja* (king) could no longer rely on taxes to support the upkeep of Khaplu Palace and without this income the palace quickly fell into disrepair. The royal family vacated the palace in 1990, a move that accelerated the decay.

Over the following decade, Khaplu Palace deteriorated to an extremely poor state. Neglect and exposure to natural elements decayed the structure, especially the wooden components, leading to significant weakening of the frame and its load-bearing capacity. Additionally, cracks appeared at building joints and on exterior walls, and plaster rendering detached, exposing the timber structural beams. By the early 2000s, the wooden

components in the walls and ceilings had largely perished, causing concern for the building's stability.

In addition to this natural decay, the complex suffered from extensive human-induced damage. Low-grade plumbing from the mid-twentieth century resulted in leaking pipes, further eroding the wooden building components. Moreover, between 1995 and 2004, the building suffered significant vandalism, including graffiti, destruction of latticework and theft of decorative elements. Furthermore, a fire on the third floor destroyed a large section of the *pio jaroq* wooden floor. Many of the building's elements were damaged to such an extent that the project team initially feared they could not be retrieved.

PROJECT HISTORY

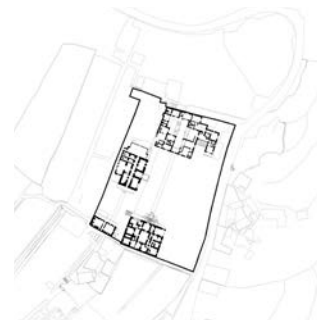
Abandoned for over a decade, the complex was in a poor condition when the Aga Khan Trust for Culture (AKTC) assumed responsibility for it. Overall, a great deal of work was necessary to reconstruct missing elements and restore damaged components – all of which depended on studies of the historical evidence.

In 2006, the Aga Khan Cultural Service Pakistan (AKCS-P) began a multi-year project to conserve the Khaplu Palace complex. With sustainability in mind, the team decided to reuse the site as a 21-room heritage boutique hotel (of which six rooms are inside the palace building) and a Baltistani folk museum. The project, carried out over more than five years, was completed in 2012. Funding from the Royal Norwegian Embassy in Islamabad supported the conservation of the palace complex, while other funding support enabled the AKCS-P to establish the 'Balti Folk Exhibition Centre'.

PROJECT SCOPE AND FRAMEWORK

The project to conserve the Khaplu Palace complex involved the restoration and adaptive reuse of the palace buildings, stables and ceremonial gardens. The AKTC envisioned that the project would be more than the restoration and adaptive reuse of the complex; however, instead, the organization wished the effort to serve as a catalyst for development of the surrounding community, imparting social, economic and technical improvements. As part of this effort, the

PROJECT TITLE
KHAPLU PALACE
LOCATION
BALTISTAN, PAKISTAN
SIZE
6,400 SQUARE METRES
COST
APPROXIMATELY
US\$ 3 MILLION
RESPONSIBLE PARTY
AGA KHAN FOUNDATION
(PAKISTAN)
HERITAGE ARCHITECT
MASOOD KHAN
SALMAN MUHAMMAD
WAJAHAT ALI
CONTRACTOR
AGA KHAN CULTURAL
SERVICE-PAKISTAN
DATE OF COMPLETION
NOVEMBER 2012



AKTC established the Khaplu Town Management and Development Society (KTMDs), an organization that implements local community development projects. The KTMDs was instrumental in creating a sense of trust between the project team and the community members as it enabled the inclusion of the community in decision-making, resulting in strong cohesion around the project, its goals and its long-term viability.

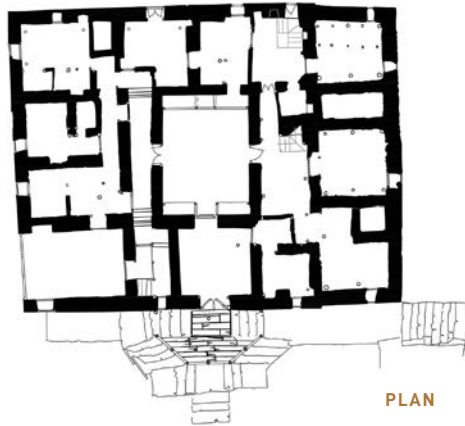
Part of the heritage value of the palace complex is its environmental context. This includes the expansive views from the palace and its physical linkages to nearby sites. The project team believed that the conservation measures for the palace would fall short if this larger context were ignored, so the team took a comprehensive approach, addressing not just the buildings but the entire site, including its physical surroundings.

The plan to reuse the site as a heritage hotel and Baltistani handicraft museum influenced the project design. The vision was that the restored palace complex would not only offer mountain lodge comforts to visitors; but would also provide a stage for displaying the unique history, culture and arts and crafts of the region. The final product was intended to be a 'living museum' that could both garner income for the local community and perpetuate cultural traditions.

CONSERVATION METHODOLOGY AND MATERIALS

Emphasis on authenticity was a priority from the start. It was vital to maintain the historic character of the space and honour the original use as much as possible. Khaplu Palace is not a protected monument under Pakistan's Antiquities Act of 1975, but the project team treated the property as if it were a Grade I listed building, therefore applying the highest standards of conservation construction and reuse design.

The first step in the conservation process was a thorough documentation of the site. The team undertook an extensive and detailed recording and analysis of the buildings and surrounding garden spaces, noting as-found conditions and the areas that would require intervention. The team approached each element of the site with an emphasis on its historic significance, contextual importance and intended reuse. A 'damage atlas' – a visual tool that records damage on-site – was produced for each building and element in order to chart the progress of the work and to have a consistent



baseline. All of the buildings in the site, including the palace building, the ancillary buildings and the stables, were subject to the same study. This study was in part for the assessment of the structure and surface materials but also to create a permanent record of the buildings and their surroundings.

The repair of vandalized elements and the reconstruction of stolen decorative elements was a priority, given the attention to authenticity that characterized the project. Artisans based the reconstructions of missing components on the findings of the study and on historical accounts and photographic evidence.

One of the ancillary buildings, Chamantsar Khang, was on the brink of collapse. Given its lack of foundations the team chose to build secure foundations for the building, using traditional construction techniques and materials (e.g. stone, clay and native poplar). The team decided that one of the other ancillary buildings, Ra'astsar Khang, a residence built in the 1960s, had little historical or cultural significance and therefore replaced it with a new structure that would serve as guest rooms. The design of the new addition was a sensitive response to the other buildings and to the complex's surroundings. Work to rehabilitate the ceremonial gardens focused on historical interpretation and present-day utility. The resuscitated gardens were designed to offer an opportunity for guests to understand local traditional agricultural technology and the prior uses of ceremonial spaces and to provide produce for the hotel guests.

PALACE INTERIOR BEFORE AND AFTER RESTORATION



INTERIOR OF THE LOUNGE AT KHAPLU PALACE AFTER RESTORATION

IMPORTANT ISSUES

A hallmark of the project was the revitalization of local skills in construction and handicrafts. The restoration of Khaplu Palace not only restored the fabric of the heritage buildings but also supported local artisans and invested in the local economy, fostering the development of cultural tourism and increasing community pride in local culture.

The conservation project was able to tap into a pool of skilled artisans trained under the AKCS-P's 'Baltistan Enterprise Development and Arts Revival Programme' (BEDAR), which focuses on training youth in traditional wood-carving and masonry techniques, local handicrafts, and electrical and plumbing trades. At the peak period of the project, over 500 workers from nearby villages were employed on-site.

Due to the complex's special historical value and architectural rarity, the most significant decisions in the conservation process related to retaining authenticity. Accurate restoration and interpretation were considered vital to re-creating an authentic sense of place. The design team therefore placed great importance on interpretive choices, such as whether or not to remove the caked soot that represented a century of cooking, appropriate ways to install modern plumbing in the bathrooms and the most suitable furnishings for the interior. In consideration of the past and present uses of the site, the restoration team, workers and artisans navigated these challenges successfully.

PROJECT SUSTAINABILITY AND VIABILITY

From the start, the restoration team approached the project with sustainability in mind. A decision was reached to share the profits from the hotel and museum between a building fund (30 per cent), a fort reserve fund (30 per cent), the KTMDs fund (20 per cent), the Baltistan Cultural Development Foundation (10 per cent) and the AKCS-P (10 per cent). In this way, the profits are injected into the community and into the future development of the area.

Khaplu Palace is today managed by Serena Hotels, a company that is sensitive in terms of the needs of local communities and of the natural environments surrounding their guest facilities. Adhering to the Aga Khan's vision of 'holistic development', the management of the hotel exemplifies the 'responsible tourism' philosophy, an approach to tourism that preserves, respects and benefits the local people. Accordingly, Khaplu Palace was highly commended under the 'best for poverty reduction' category of the Virgin Holidays Responsible Tourism Awards in 2012. The success of the hotel as a profitable economic asset means that the palace complex is in a sustainable position socially, environmentally and economically.

REBUILDING WALLS WITH LOCAL MATERIALS AND TECHNIQUES

PROJECT IMPACT

The conservation of Khaplu Palace complex has brought numerous benefits to the community, including skills training, increased employment, a revival of local handicrafts and greater community pride in local heritage.

The development of the community institution, the KTMDs, has resulted in increased community participation in regional planning decisions and a rise in the number of community development projects. Local projects implemented by the KTMDs include rehabilitating the historic settlements of Hunduli and Banpi, improving public latrines, installing piped water, repaving streets, installing water filtration systems and rebuilding the Toqsikhar trekking route. These projects have positively impacted the living conditions and long-term livelihoods of the community members.

Visitors had previously only used the area as a starting point for treks into the neighbouring mountains; but with the opening of the Serena Khaplu Palace hotel there was a shift from tourist stopovers to tourist stays, which has had a beneficial impact on the local economy. Moreover, since the opening of the hotel, residents have had opportunities to attend courses, workshops and training exchange programmes. Consequently, the majority of the hotel staff are from surrounding villages. This employment now provides secure livelihoods and income for local residents and their families.

Indirectly, the project has boosted the local economy through increased cultural tourism in the region and through the encouragement of local industries. Through the creation of the folk museum, for example, the project has supported the production and marketing of handicrafts and raised awareness of the value of local cultural heritage.



MARYBOROUGH RAILWAY STATION

AUSTRALIA

THE CONSERVATION OF MARYBOROUGH RAILWAY STATION HAS BREATHED NEW LIFE INTO A FINE AND RARE EXAMPLE OF A VICTORIAN-ERA STATION BUILT IN THE ANGLO-DUTCH STYLE. THE DISTINCTIVE RED-BRICK BUILDING HAD SUFFERED FROM LONG-TERM NEGLECT AND INAPPROPRIATE REPAIR WORKS IN THE PAST THAT HAD MASKED ITS CULTURAL VALUE AND DETRACTED FROM ITS OPERATIONAL FUNCTION. THROUGH METICULOUS RESEARCH AND CONSERVATION INTERVENTIONS, THE CHARACTER AND VALUES OF THE PLACE HAVE BEEN RETAINED AND THE FUNCTION OF THE STATION HAS BEEN ENHANCED. UNDERTAKEN AS PART OF A BROADER URBAN REVITALIZATION SCHEME, THE PROJECT HAS ALSO UPLIFTED THE LOCAL COMMUNITY. VICTRACK'S CONSERVATION OF THE STATION IS EXEMPLARY AS A MODEL TO ENCOURAGE FURTHER CONSERVATION OF AUSTRALIA'S RAILWAY AND INDUSTRIAL HERITAGE.

2013

AWARD OF MERIT



PROJECT SYNOPSIS

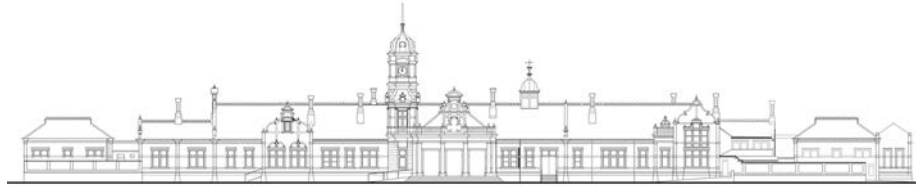
The 1891 Maryborough Railway Station building is a predominantly single-storey structure with a residence located within the roof space at its southern end and a 125-metre railway platform along one side, covered by a veranda. It is an excellent example of Anglo-Dutch architecture, featuring prominent Dutch gables, red brick, rendered cement mouldings and a variety of decorative elements along the roof line. A notable feature of the station is its scale, which was considered disproportionate to the size of Maryborough at the time the station was built.

By the late twentieth century, while damage was not evident from the exterior, the station had deteriorated substantially. The core building's roof was severely compromised and the cast iron columns, which functioned as rainwater drainage downpipes, were in poor condition and failed to operate effectively. Moreover, external timber elements had decayed and the veranda's roof glazing posed a risk to passers by due to glass falling from the rotting wooden glazing bars.

The poor condition of the Victorian-era building was partly the result of long-term neglect, which was a consequence of the suspension of the facility's use as a railway station in 1993. The damage was also the result of inappropriate repair works undertaken in the past. Inapt repairs to the façade, for example, had resulted in coats of modern acrylic paint masking the original brickwork. Moreover, much of the interior remodeling that had been undertaken was unsympathetic to the building's character.

In 2001, the owner of the site, VicTrack, launched a project to address the problems associated with the neglect and inappropriate repair works. The principal objective of the conservation project, conducted in three stages over ten years, was to restore the station to its nineteenth-century appearance and functionality and to provide a safe space for its tenants and users.

In 2010, train services resumed and the railway station reopened to the public. This valuable community asset was thus returned to its original use and has once again become a source of pride for the residents of Maryborough. In recognition of its heritage significance, the station is today registered on the Victorian Heritage Register and is included in a locally-established Heritage Overlay within the Central Goldfields Shire Planning Scheme.



ELEVATION

MARK TWAIN, THE FAMOUS AMERICAN AUTHOR AND PUBLIC SPEAKER, VISITED MARYBOROUGH SHORTLY AFTER THE EXISTING STATION WAS COMPLETED IN THE 1890s AND WAS SO ASTONDED BY THE SCALE OF THE BUILDING THAT HE IS REPORTED TO HAVE COMMENTED THAT 'THIS IS NOT A TOWN WITH A RAILWAY STATION ATTACHED TO IT - THIS IS A RAILWAY STATION WITH A TOWN ATTACHED'.

— QUOTE FROM PROJECT TEAM —

CONSERVATION APPROACH

Key guiding principles of the work were to ensure that no irreversible modifications were made in areas of high significance and to minimize the introduction of new building fabric, through the careful salvaging and reuse of original material.

The first step in the conservation process was a commitment to a conservation management plan (CMP) by VicTrack and Heritage Victoria (the statutory authority). This plan highlighted the rarity and heritage value of Maryborough Railway Station and set out a detailed schedule of necessary conservation work along with recommendations for future use. The availability of funding dictated the sequence and degree of work, with stabilization coming first, followed by repairs to the roofing and water discharge systems, and then repairs to the decorative details.

Before conservation work began, the project team undertook extensive research and detailed forensic surveys to better understand the original features and finishes, and to identify underlying threats to building fabric. As part of the research process, the team examined historic photographs and original drawings of the station, and undertook laboratory analysis to determine the composition of the original materials. The team subsequently developed suitable remediation techniques.

The team then implemented a stabilization scheme for the building's exterior, following recommendations incorporated into the CMP, and reversed some of the additions and modifications that had been made in the past. The project work, implemented across a floor area of 2,600 square metres, included the conservation of cast and wrought iron components; repair and replacement of the sheet lead and Welsh roofing slate, as well as of the cement render, the precast pressed cement elements; the timber work, the terracotta details, the decorative glass and the tessellated floor tiles; repair of the station's historic clock; reconstitution of the two cupolas; and restoration of decorative treatments, including the original colour scheme.

Work included stripping acrylic paint layers to investigate the condition of the various masonry substrates (stone, terracotta, render and brick), detailed render repairs and the application of a new dedicated skim coat of render. Lab analysis of the remnants of original surfaces provided the recipe for the chosen render composition; the original mix included lime putty, stone dust, fine sand, oxblood and 'fool's gold'. The project's materials scientist developed special techniques to accelerate the colour development of the mix.

Workers carried out the surface treatments using traditional techniques and on the basis of research findings and expert advice. Restoration of the original

terracotta decorative ridge capping, for example, was based on a careful study of the original drawings and old photographs of the site. Advice from a ceramics conservator helped ensure that the original detailing for new terracotta ridge capping was faithfully interpreted and delineated. Subsequently, the shop drawings were sent to a Tasmanian terracotta factory chosen for the work.

To ensure the future viability of the roof, workers removed all non-original eave gutters, replacing these with galvanized materials. To improve the roof's performance, workers installed an impermeable substrate beneath the slates. They also installed new lead sheet roofing to the main building tower and lantern. Workers removed the original Welsh roof slates, then cleaned and reinstalled them wherever possible. Second-hand slates that matched the originals served as replacements for broken and missing sections.

Other work included the dismantling of the cast-iron downpipes and the repair or replacement of these. Specialists in cast iron recast the missing elements following the original designs, and artisans reconstructed the cement chimney caps and the finial orbs and timber details. Other specialists undertook minor works on the clock, terracotta detailing and tessellated tiling.

The third stage of the project focused on the platform veranda. This required working around the train schedule following resumption of train services at the station in 2010. The veranda required significant repair, restoration and reconstruction, notably on the decorative lantern, skylight (including the glazing, glazing bars and flashings), and on the complex rainwater drainage system (including curved, structural downpipes, cast iron connectors and unique eave gutters) and the cast iron fringe, lacework, metal roof structure and mild steel rafter ends. Specialist lead beaters installed the replica veranda lantern, skylight using techniques dating to the Victorian era. Workers replaced the decayed metal sheet roofing on the veranda with roofing manufactured to mimic the original design.

The project had to conform to current building regulations, which differ significantly from those of the nineteenth century. The project's designers achieved this while at the same time adhering to guidelines set out in the Australian Disability Discrimination Act of 1992; through negotiation, research and sympathetic installation, so as not to detract from the original aesthetics, function and appearance of the building and surrounding site.

PROJECT TITLE
MARYBOROUGH RAILWAY
STATION
LOCATION
MARYBOROUGH, VICTORIA,
AUSTRALIA
SIZE
2,600 SQUARE METRES
COST
US\$ 3,070,000
RESPONSIBLE PARTY
VICTRACK
HERITAGE ARCHITECT
ROGER BEESTON
CONTRACTOR
PERIOD BUILDING
CONSERVATION PTY. LTD.
LEKKAS CONSTRUCTIONS
PTY. LTD.
DATE OF COMPLETION
2012



CONSERVATION AND THE COMMUNITY

The Station occupies a nodal location on the major north-south Mildura-Melbourne line and serves also as an east-west link between Ararat and Castlemaine. A vital component of a broader urban revitalization scheme, the revival of this architectural landmark has injected new life into the community.

The project has not only restored the cultural significance of an iconic site in Australia's history, but, most importantly, it has recaptured the architectural, scientific, historic and social significance of the place by returning the building to its original function as a railway station. Meanwhile, new commercial tenants in the building have helped to return a sense of vitality to the station. These uses ensure the continuing economic viability of the station, making it once again a place of pride for the town of Maryborough.



EXTERIOR BEFORE AND AFTER
CONSERVATION

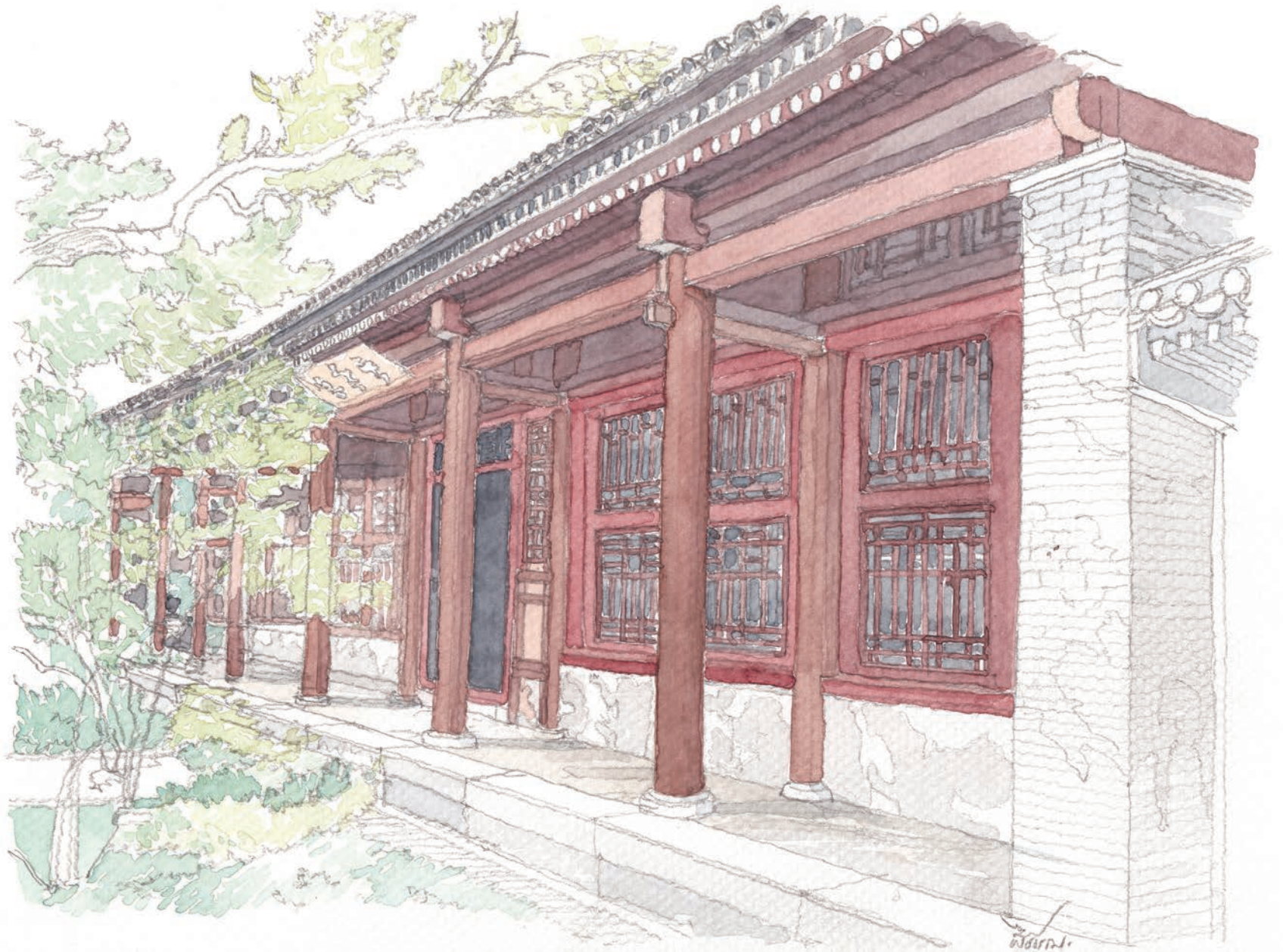
ENJOYING SNOW YARD

CHINA

ORIGINALLY BUILT AS AN IMPERIAL LIBRARY AND LATER USED AS A PUBLIC CALLIGRAPHY MUSEUM, ENJOYING SNOW YARD IS ONCE AGAIN OPEN TO THE PUBLIC AS A MUSEUM FOLLOWING ITS SUCCESSFUL RESTORATION. THE PHILOSOPHY OF 'MINIMAL INTERVENTION AND MAXIMUM RETENTION' GUIDED THE HOLISTIC REINSTATEMENT OF THE AESTHETIC, CULTURAL AND HISTORICAL VALUES ASSOCIATED WITH THE ARCHITECTURE AND TRADITIONAL SETTING OF THE COMPLEX. ESCHEWING THE TEMPTATION TO REPLACE OLD MATERIALS WITH NEW COPIES, THE PROJECT RESTORED THE ORIGINAL TIMBER STRUCTURE OF THE MAIN HALL USING TRADITIONAL BUILDING MATERIALS AND METHODS, IN COMBINATION WITH NEW TECHNIQUES. PUBLIC UNDERSTANDING OF THE HISTORY OF THE COMPLEX HAS BEEN ENHANCED THROUGH THE WELL-CONCEIVED SITE INTERPRETATION.

2013

AWARD OF MERIT

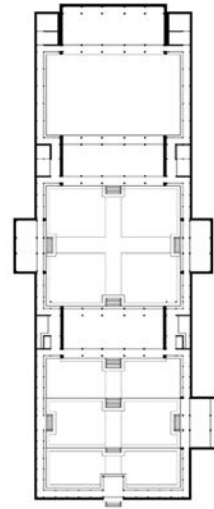


PROJECT SYNOPSIS

Located in Beijing, Enjoying Snow Yard was constructed in 1779 by Emperor Qianlong for use as an imperial library. The pavilion served an important role in documenting China's complex history, as well as in preserving examples of traditional Chinese calligraphy and stone inscriptions, including the precious stone tablets of an ancient book titled *Enjoying Snow in the Sunshine*. With the end of the Qing Dynasty in 1912, Enjoying Snow Yard became a public facility, serving as a library from 1923 to 1988, and then as a calligraphy museum from 1992.

Constructed with the prized exotic material *nanmu* (Persian cedar), Enjoying Snow Yard is a rare example of Imperial-period architecture, symbolic of Emperor Qianlong's reign and the Qing Dynasty at its peak. It is historically significant for having been the headquarters of the Eight-Nation Alliance in 1900 during what is sometimes called the Boxer Rebellion – known in China as the Yihetuan Movement. The building's indisputable heritage value led to its listing as part of China's national heritage in 1961, as well as its inscription on the World Heritage list in 2013 as an important component of the Central Axis of Beijing site.

Repairs to the structure were carried out between 1988 and 1990, prior to its opening as a museum. Subsequently, the building deteriorated significantly, however. By the time of the restoration project in



SITE PLAN

**ENJOYING SNOW HALL
IS REPRESENTATIVE OF
PERSIAN CEDAR (*NANMU*)
PALACES BUILT IN
THE QING DYNASTY,
WHICH ARE RARELY SEEN
TODAY.**

— QUOTE FROM PROJECT TEAM —

2012, the 'Enjoying Snow Yard' complex had suffered a considerable loss of materials and character through many years of neglect, poor maintenance and uniformed repairs. The wood and brick work were in poor condition, and the surrounding pavement had settled unevenly. The traditional decorations 卍 and 寿 painted on the heads of the roof rafters had weathered nearly beyond recognition. A significant issue was the loss of the original character of the *nanmu* wood framing. With the degradation of at least 80 per cent of the protective wax layer, the wooden members had a patchy and dusty appearance, a condition that masked the decorative quality of the original material.

Although the site had been maintained periodically in the past, much of this work had been substandard and inappropriate. A number of *nanmu* doors and windows were missing, and earlier maintenance projects had allowed for their replacement with replicas made of low-quality pine. Moreover, modern electrical, water and heating services had been installed in an inappropriate manner, and these installations presented clear threats to the building.

The conservation project, funded by Beijing Jingxinyue Cultural Development Company Limited, encompassed the restoration of the three yards and three side halls, and several of the covered walkways. The company assigned both the preparatory and on-site work to specialist organizations and departments. The College of Urban and Environmental Sciences of Peking University



ENTRANCE TO THE ENJOYING SNOW HALL
(MAIN HALL) AFTER RENOVATION



INTERIOR OF THE MAIN HALL
BEFORE RENOVATION



INTERIOR OF THE MAIN HALL
AFTER RENOVATION

assumed responsibility for research and documentation; the Cultural Heritage Architecture Conservation and Design Institute of Beijing City prepared the conservation design; and the First Branch Company of Beijing Architecture Construction and Conservation Project Limited Company took the lead in the restoration work.

Significant work included roof repairs, restoration of the brick walls and resurfacing of the courtyard spaces. The project's designers also placed considerable emphasis on the removal of the old wax coating and the polishing of the *nanmu* members of the main hall. Knowledge of the materials and craft skills informed the work at each stage.

Under the supervision of the Beijing Municipal Administration of Cultural Heritage, the project was successfully completed in August 2012, after six months of work. The site currently serves as a calligraphy museum, with plans to introduce exhibitions of rare ancient Chinese books and seals, and performances of ancient Chinese music and dance.

CONSERVATION APPROACH

Anchored in the fundamental concept of 'minimal intervention', the project sought to retain as much of the original materials as possible and to ensure that all materials used for the project were identical to the originals. For example, workers used a traditional method of applying lime mortar, despite it being a time-consuming process. Similarly, bricks for the masonry structure were specially sourced from a traditional brick factory in Hebei Province.

To preserve the authenticity of the structures, the team applied traditional techniques wherever possible. In some cases, however, newer methods were required, such as in the conservation of the *nanmu* members. The process of conserving elements made of *nanmu* involved the careful removal of the protective wax layer, which is traditionally achieved by melting the wax layer with open flames, but the conservation project chose to instead remove the wax through the application of high-pressure steam, as experts considered this to be safer. The steam technique had been adopted in the successful conservation of another example of *nanmu* architecture, Long'en Hall of the Eastern Qing Tombs, a project carried out between 2008 and 2009.

To restore the wooden surfaces, the technicians developed a particular mix of white wax and beeswax

PROJECT TITLE
ENJOYING SNOW YARD
LOCATION
BEIJING, CHINA
SIZE
1,439 SQUARE METRES
COST
US\$ 459,500
RESPONSIBLE PARTY
BEIJING JINXINYUE CULTURAL
DEVELOPMENT LIMITED
COMPANY
MANAGEMENT COMMITTEE OF
BEIHAI PARK
HERITAGE ARCHITECT
ZHAO RUIPING
ZHANG SHUYIN
DATE OF COMPLETION
AUGUST 2012



that had the strong adhesion of the white wax while also having the transparency and softness of beeswax. The beeswax also counteracted the natural brittleness of the white wax. Artisans also employed traditional materials such as *tung* oil, pig blood and gold foil paper to repel moisture, minimize corrosion and prevent damage by insects. These were especially effective in protecting the painted cornice decorations.

One major challenge facing the conservation project was the reinstatement of the original design of the *nanmu* doors and windows of Enjoying Snow Yard's main hall. To ensure the replica elements closely matched the originals, the project team conducted extensive research and thorough comparisons with similar doors and windows at other sites of Imperial-period architecture around Beijing's Beihai Park. Owing to the rarity and high cost of new *nanmu*, the team decided to produce the replicas from ancient *nanmu* furniture.

Other materials and components offered similar challenges. For example, the metal frames and glass panels protecting the stone tablets displayed on the walls of the covered walkways were of later origin, so the team decided not to retain them, but given that frames were necessary for the protection of the tablets, the project team created new frames, but this time using *nanmu*. Another adaptation was the use of thin cement fibreboard to cover the interior walls of the main hall, thereby hiding the electrical wires that had been exposed.

CONSERVATION AND THE COMMUNITY

The project to conserve Enjoying Snow Yard clarified and enhanced the interpretation of the heritage values of the complex. Carried out in accordance with the heritage protection policies and guidelines promulgated by the World Heritage Committee, ICOMOS, the State Council of the People's Republic of China and the local government of Beijing, the restoration project contributes to the greater heritage context of Beihai Park and the Central Axis of Beijing World Heritage site.

The complex is now open for cultural activity and for use by the general public. The planned introduction of exhibitions on traditional imperial seals, as well as classical dance and music performances, will expand its cultural functions and add significantly to the community's cultural and historical continuum.

TAI O HERITAGE HOTEL

CHINA

THROUGH A PIONEERING PUBLIC-PRIVATE INITIATIVE UNDERTAKEN THROUGH THE HONG KONG SAR GOVERNMENT'S 'REVITALISING HISTORIC BUILDINGS THROUGH PARTNERSHIP SCHEME', THE ONCE-ABANDONED TAI O POLICE STATION HAS BEEN GIVEN A NEW LEASE ON LIFE AS A HERITAGE HOTEL. THE PROJECT IS PARTICULARLY COMMENDABLE FOR ITS INVOLVEMENT OF LOCAL COMMUNITY MEMBERS AND FORMER OCCUPANTS OF THE BUILDING THROUGH AN EXTENSIVE CULTURAL MAPPING EFFORT THAT GREATLY INFORMED THE RESTORATION WORK AND HELPED REINVIGORATE THE DISTINCTIVE CHARACTER OF THE HERITAGE PROPERTY. ENHANCED SOCIAL AND ECONOMIC OPPORTUNITIES PROVIDED BY THE BUILDING'S NEW USE ENSURE THE LONG-TERM VIABILITY OF THIS HISTORIC LANDMARK.

2013

AWARD OF MERIT



PROJECT SYNOPSIS

Located on Lantau Island, Tai O is one of the oldest surviving fishing villages in Hong Kong. At the far western end of the village, on a hill overlooking the sea, lies the old Tai O Police Station (known to locals simply as 'the station'). This imposing colonial-style edifice owes its existence to the British government and served as one of the first police stations in the colony. The station housed marine policemen, whose primary tasks were to patrol nearby waters, monitor the border for illegal activities (including illegal immigration) and keep a close eye on activities in Tai O and the nearby mountains.

The Tai O Police Station, which is classified as a Grade II heritage building by the Antiquities Advisory Board, consists of three buildings: the main building, the outhouse and the accommodation block. Constructed in 1902, the main building is the station's oldest structure. The outhouse was built soon afterwards, while the accommodation block was built 60 years later to provide housing for the police officers and their families.

Stylistically, the main building and the outhouse both adhere to the 'Edwardian neoclassicism' style common in Hong Kong's official buildings of the early twentieth century. The accommodation block, built in the 1960s, is of a distinctly different, far more utilitarian style.

In 1996, one year prior to the handover of Hong Kong, the administrators of the Royal Hong Kong Police Force ceased operating the site as a marine station, downgrading it to a patrol post. Its purpose of monitoring illegal immigration was thought to be no longer necessary after reunification took place on 1 July 1997. Then, in 2002, on the anniversary of its hundredth year, the old Tai O Police Station closed permanently.

The station building remained unoccupied until 2008, when it became the focus of the public-private 'Revitalising Historic Buildings through Partnership Scheme' initiated by the Development Bureau of the Hong Kong SAR government. Under this scheme, in 2009, the Hong Kong Heritage Conservation Foundation (HCF) began a three-year adaptive reuse project for the station. Choosing a use compatible with the station's original function as offices and living quarters, the conservation team adapted the rooms to create a nine-suite hotel, with a rooftop restaurant. The project's overall aims were to retain and restore the building, manage change and adapt the facility to fit modern code requirements, while ensuring that the building retained its cultural, aesthetic



ELEVATION

FOR THE REVITALIZATION OF THE OLD TAI O POLICE STATION, WE AIMED NOT ONLY TO RESTORE THE HISTORIC SITE'S BUILDING FABRIC AND TURN IT INTO A HOTEL, BUT ALSO TO USE THE SITE AS A PLATFORM TO CELEBRATE THE RICH HISTORY OF THIS FORMER POLICE STATION, AND HELP TO REJUVENATE THE HISTORIC TAI O FISHING VILLAGE.

— QUOTE FROM PROJECT TEAM —



RESTORED ARCADE OVERLOOKING THE SEA

and social values and continued to convey the spirit of the old police station.

The government, as the building's owner, provided administrative and technical support, while the HCF oversaw the conceptualization and design of the project, including the guidelines outlining the conservation approach. To manage the project, the government and the HCF arranged for the creation of a project-specific non-profit organization, the purpose of which was to oversee the work to conserve the buildings and convert them for use as a hotel.

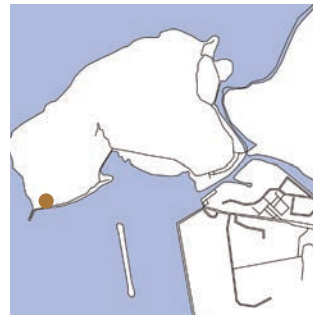
Prior to conservation, the buildings were in a highly deteriorated state. There had been little or no maintenance on the buildings since 2002. The walls and columns of the main building showed cracks, and the rear balcony and its roof had collapsed. Similar instances of disrepair were evident in the other two buildings. These included concrete spalling on the structural members of the accommodation block and surface deterioration on the outhouse.

Today, as a result of the conservation project, the Tai O Heritage Hotel stands prominently on the hillside and welcomes visitors from all over the world. The hotel displays the various traces of the buildings' history and, through a Heritage Interpretation Centre, enables visitors to discover Tai O's rich history and cultural heritage.

CONSERVATION APPROACH

The conversion of the station into the Tai O Heritage Hotel followed the precepts of numerous international guidelines, particularly the Burra Charter. The project followed the principle of minimal intervention and sought to retain as much original fabric as possible, emphasizing repair over replacement. This emphasis ensured the safeguarding of the significant values of the place, as embedded in the site's architectural features and context. The project also insisted on the use of appropriate materials. Accordingly, artisans used lime mortar for plaster work and the repointing of the brickwork, matching the material of the existing building, and laid the roof tiles in the original pattern. A third area of emphasis by the project was on the application of traditional construction techniques; the team therefore provided an opportunity for local workers to receive training in these skills.

PROJECT TITLE
TAI O HERITAGE HOTEL
LOCATION
TAI O, HONG KONG SAR, CHINA
SIZE
1,170 SQUARE METRES
COST
APPROXIMATELY
US\$ 8.72 MILLION
RESPONSIBLE PARTY
GOVERNMENT OF HONG KONG SAR
HONG KONG HERITAGE
CONSERVATION FOUNDATION
HERITAGE ARCHITECT
PHILIP LIAO AND
PARTNERS LTD.
CONTRACTOR
GOLD BANNER CONSTRUCTION
& DEVELOPMENT LTD.
DATE OF COMPLETION
FEBRUARY 2012



SECTION

The conservation team faced challenges in understanding the original structures as very few records remained about the station buildings. The original drawings had been lost and few photographs were on file in local libraries and archives. The remaining building components and fabric were the primary evidence available. The team therefore consulted former policemen who had worked at the station; they provided oral histories, which helped to reinforce the on-site findings. To guide the work, the team produced a detailed set of measured drawings.

The team identified and retained all of the character-defining elements on the building façades and roof, such as the chimney and eaves. The team also took pains to preserve many of the special features reflecting the construction technology of the early twentieth century. These included the brick arches of the fireplace, the French windows, the casement doors and the wooden stairs.

The site required several modern additions to meet modern statutory requirements for hygiene and safety. The team introduced these with negligible visual impact on the façades and interior character of the buildings. One new feature was an inclined passenger lift, which provides easier access to the upper levels of the building for people with disabilities. It was the first of its kind in Hong Kong SAR. The team also arranged for a fire engineering study to be conducted and, consequently, for additional fire services systems and fire safety provisions to be installed, which were introduced with minimal impact on the building's appearance and character.

CONSERVATION AND THE COMMUNITY

Given Tai O's remote location, far from the city center, in the past the journey to the police station would take many hours. Because of this long journey, lodging was constructed on site. With the completion of the accommodation block, the officers and their families became an ongoing presence in the village and a strong bond developed between the police officers and the villagers. In view of this longstanding relationship, the Tai O Heritage Hotel has sought to retain ties with the village. This is achieved through being a strong supporter of the village festivals, customs and community events. Furthermore, the hotel provides local employment opportunities and uses locally-produced ingredients in its restaurant. It also promotes greater understanding of the village's natural surroundings. Conservation of the old Tai O Police Station has thereby not only restored the historic site but is also contributing to the ongoing life of the village. The local community gave the project its full support. Other contributors included the Division of Architectural Conservation Programmes of the University of Hong Kong and the Hong Kong-based non-profit organization 'Hulu Culture'.

The conservation of the old Tai O Police Station placed importance on the conservation of both the tangible and intangible dimensions of the heritage property. Accordingly, the project team went to great effort to conserve the history and spirit of place and to also interpret it for the public. In this regard, the HCF captured local stories about the old station and the Tai O fishing village, including via video interviews with retired marine police officers who had once been stationed there. The process also included collecting documentation and old photos of Tai O and the station that today allow visitors a glimpse into the past. The Tai O Heritage Hotel conducts free guided tours for the public daily and has an annual open day that gives the public insight into the past and current uses of the site.



EXTERIOR OF THE OUTHOUSE AFTER CONSERVATION



CHARGE ROOM AND PRISON CELLS CONVERTED INTO HOTEL RECEPTION AND INTERPRETATION CENTRE (BEFORE AND AFTER)

TECHNICAL BRIEF

COMMUNITY REVIVAL THROUGH CONSERVATION

Building on the belief that conservation projects are only meaningful when they engage the community, the project to conserve the old Tai O Police Station was about more than just restoring a building and reusing it as a heritage hotel. With a focus on the community, this project promoted the conservation of built heritage as well as cultural and eco-tourism. The hotel today operates as a non-profit social enterprise, offering employment to residents of the area, providing services for the elderly and engaging young local people in training programmes and other activities.

Over half of the staff working at the hotel are residents of Lantau Island. Moreover, the hotel makes every effort to collaborate with the people of Tai O to help the community keep its unique culture, festivities and traditions alive. In addition to providing the public with free daily guided tours, the hotel participates in many community programmes, including sponsoring and hosting traditional cultural activities, such as dragon boat parades and village weddings.

As a result of close collaboration with the community and local NGOs during and after the conservation project, the hotel observed the need to develop stronger communal support for the elderly in Tai O. The hotel began organizing regular home visits and providing services for the elderly, enabling them to live in their own homes comfortably, safely and independently. Volunteers provide professional home cleaning services and facilitate the extension of social services to remote areas.

Another example of the hotel's community engagement is the 'Young Ambassador Programme', which was initiated in 2016 to attract and engage young people, in particular those from the surrounding area, to promote sustainable tourism and heritage conservation, as well as the unique culture of Tai O.

As part of the conservation project, interviews were conducted with Tai O residents and with the former marine police officers once stationed at the Tai O Police Station. The hotel compiled these stories in a commemorative book, which supports heritage conservation in the Tai O community, and the hotel highlights this local history as part of its guided tours.

Through partnership with local residents, the hotel is able to offer eco-tourism and cultural packages to enrich guests' experiences. The hotel arranges tours around the village lanes, to ancient temples and iconic stilt houses in the area, enabling visitors to learn about the rich heritage of Tai O. Guests also have the opportunity to participate in cooking classes, taught by local villagers, where they learn how to make local culinary specialties.

The cooperation between the hotel and local community have created positive synergy and stronger bonds within the Tai O community. Through improving local employment prospects and contributing to sustainable socio-economic development, this unique collaboration has encouraged more Tai O youth to stay in the village and participate in its budding sustainable tourism industry.

Betty Wong



TOP: CHRISTMAS PARTY AT THE HOTEL WITH LOCAL COMMUNITY
BOTTOM: HERITAGE EDUCATION ACTIVITIES FOR CHILDREN

ROYAL BOMBAY YACHT CLUB RESIDENTIAL CHAMBERS

INDIA

THE RESTORATION OF THE ROYAL BOMBAY YACHT CLUB RESIDENTIAL CHAMBERS HAS RENEWED A DISTINGUISHED NEO-GOTHIC ARCHITECTURAL MONUMENT AND ONE OF THE CITY'S MOST PROMINENT COASTAL LANDMARKS. THE PROJECT IS COMMENDABLE FOR ITS HIGH LEVEL OF TECHNICAL COMPETENCE AND CAREFUL ATTENTION TO PRESERVING THE AUTHENTICITY OF THE BUILDING'S DESIGN. THIS WAS CHARACTERIZED BY THE RETENTION OF ORIGINAL SPATIAL CONFIGURATION AND EXCELLENT CRAFTSMANSHIP IN TREATING HISTORICAL FINISHES AND FIXTURES. BY RESTORING THE PERIOD CHARACTER AND FUNCTIONALITY OF THE CLUB, THE PROJECT HAS SUCCESSFULLY ENLIVENED THIS MUMBAI HARBOUR ICON.

2013

AWARD OF MERIT



PROJECT SYNOPSIS

The Royal Bombay Yacht Club (RBYC) is located near the waterfront of Mumbai (formerly Bombay), directly opposite the iconic Gateway of India monument. Nestled within an outstanding collection of colonial-era buildings, the original club building of the RBYC and its Residential Chambers are among the oldest surviving buildings in the precinct. Framing the skyline of Mumbai's eastern waterfront, the RBYC is still one of the first sights for visitors arriving by sea. Its monumental scale, combined with the large public plaza between it and the Gateway of India, assures its pre-eminence as a landmark.

The history of the Residential Chambers dates back to the founding of the Bombay Yacht Club in 1846 when Sir Philip Wodehouse, the Governor of Bombay, introduced Western-style recreational sailing to India. The RBYC commissioned architect and engineer Frederick William Stevens, designer of the Victoria Terminus (now the Chhatrapati Shivaji Maharaj Terminus) to design a new residential annex. This building was completed in 1896.

Opened soon after completion, the new RBYC residential chambers would serve after 1898 as the principal clubhouse for the organization, with the original club building falling to new use as government offices.

Noted for its distinctive combination of Neo-Gothic and Tudor styles, the RBYC Residential Chambers dominates its setting, providing a background to the city's most significant urban plaza. Special features of the five-storey building include a tiled sloping roof, half-timber gables, ornate fascia boards and circular turrets.

Following India's independence, the RBYC fell into gradual decline. After independence many of its previous members departed the subcontinent, and the new membership was ill-prepared to take on the burdensome task of maintaining the ornate Victorian building. Interior spaces of the Residential Chambers soon showed their age and a poor state of maintenance. Utilities received cursory attention and became inoperative, insensitive additions were made to the open verandas, and air-conditioning units were installed, piercing the masonry walls. The building consequently faced a litany of problems, including leaking pipes, surface disfigurement, undesirable vegetation growth, termite infestation and loss of clay tiles from the roof.

Recognizing the architectural value and significance of the Residential Chambers building in its urban context, as well as the RBYC's prevailing cultural value as a sailing



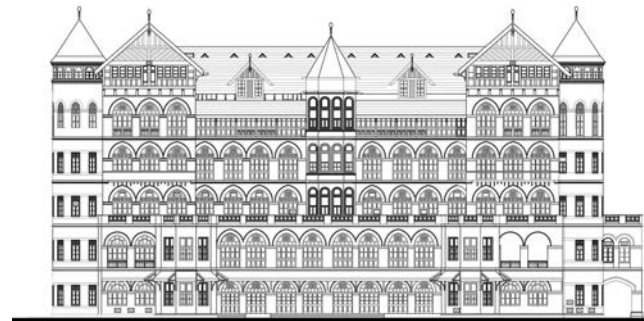
REPAIRS TO THE ROOF (DURING AND AFTER)

club, the members and the General Committee of the RBYC decided to form a restoration and repair committee to address the deterioration of the exterior façades and interiors, and the mechanical, electrical and plumbing issues. In 2010, the committee succeeded in initiating a restoration project to return the Residential Chambers to peak condition and to modernize the facilities to meet contemporary needs.

CONSERVATION APPROACH

The conservation project was anchored in the principles of minimal intervention and reversibility. It sought to incorporate the best modern amenities without tarnishing the site's heritage significance, while simultaneously reviving traditional building arts.

Prior to beginning the work, the conservation team prepared a historic building status report and a detailed map of defects. Three areas were rated as needing the



ELEVATION

THE PROJECT ENCAPSULATES THE GROWING AWARENESS OF THE CONSERVATION MOVEMENT AND MARKS THE BEGINNING OF PRIVATE INDIVIDUALS, TRUSTS AND CLUBS SEEKING PROFESSIONAL GUIDANCE FOR HOLISTIC CONSERVATION WORK.

— QUOTE FROM PROJECT TEAM —

greatest amount of attention. These were: the structural features, the roof and the façade.

Water ingress was one of the principal problems facing the structure and water damage was at the root of several problems. To tackle this issue, the workers carried out repairs to the roof. Work included the removal of the clay Mangalore tiles and tar felt layers, the replacement of the substrata with an improved system of double battens and wood planks, and the insertion of lead flashings. Workers also replaced and/or spliced areas of rotted teakwood to ensure structural integrity, and replaced missing barge and fascia boards. The roof gutters and pipes also received conservation treatment in view of Mumbai's heavy rainfall. Work on the open roof terraces involved reinstalling waterproofing using a traditional Indian waterproofing system – brick bat *coba* with a brown china mosaic finish, completed with a black border.

With the completion of the urgent work, the team turned to necessary repairs to the interior spaces. This included the refurbishment of the common areas as well as some of the private rooms. Following the original designs, skilled workers rebuilt the elegant Victorian-era staircase, reproducing the ornate balusters and rails. Artisans also refurbished the trefoil patterns of the cast-iron elevator cage. On the ground floor, the conservation team rediscovered the original flooring pattern of the encaustic (Minton) tiles and reproduced this.

The project removed all insensitive accretions that had altered the original fabric and used like-to-like materials to ensure compatibility with the character of the building. To incorporate modern day needs, the project installed new services. These were undertaken without compromising the heritage character of the structure. Streamlining the existing mostly *ad hoc* services, including the plumbing, electrical work, and air conditioning, resulted in a dramatic change to the building's appearance.

A highlight of the restoration work was the revival of skills related to stained glass and ornately-carved decorative features. Prior to beginning the restoration, the project's architects and technicians had completed extensive documentation of all such details. Four stained glass specialists were hired to repair the stained glass windows and reconstruct the missing coats of arms. The scope of work also involved replacing the plain glass in the tympanums of the arcade with coloured glass and restoring the fanlight windows.

PROJECT TITLE
ROYAL BOMBAY YACHT CLUB
RESIDENTIAL CHAMBERS
LOCATION
MUMBAI, INDIA
SIZE
8,920 SQUARE METRES
COST
US\$ 640,000
RESPONSIBLE PARTY
ROYAL BOMBAY YACHT CLUB
HERITAGE ARCHITECT
VIKAS DILAWARI
CONTRACTOR
M/s CONSTRUCTION
TECHNIQUE
DATE OF COMPLETION
DECEMBER 2012



REFURBISHED VICTORIAN-ERA STAIRCASE

The restoration of the lobby area included reconstituting the floors, refinishing woodwork and restoring missing features. Appropriate colours figured in the overall restoration scheme for this key area. While only a few of the rooms were refurbished, these serve as examples for future work. The restoration of the remaining residential suites and chambers is planned in subsequent phases of the project.

CONSERVATION AND THE COMMUNITY

Many recreational clubs in Mumbai that have been the subject of restoration work have undergone radical changes that have diminished the original character and heritage significance of the sites. Refraining from mere beautification of the façade, the repair and restoration committee of the RBYC implemented a simple and effective conservation programme that highlighted the existing architectural details and restored the building's authenticity.

Battling the longstanding practice of intermittent neglect and modernization, the RBYC Residential Chambers stands as a benchmark of technical application in aesthetic and structural conservation. The project also showed that a private organization can undertake this kind of work without governmental assistance or expertise.

OTAKI TOWN HALL

JAPAN

THE CONSERVATION OF THE 1959 OTAKI TOWN HALL HAS SENSITIVELY RESTORED A ONCE OVERLOOKED MODERN HERITAGE BUILDING AT RISK OF DEMOLITION, THEREBY REINVIGORATING A HISTORIC PUBLIC SPACE FOR CONTINUED LOCAL USE. IN ADDITION TO THE CONSERVATION WORK, WHICH FOCUSED ON THE DETERIORATING CONCRETE AND STEEL STRUCTURAL ELEMENTS, THE PROJECT ALSO INTRODUCED STRUCTURAL SEISMIC REINFORCEMENT SO THAT THE BUILDING NOW MEETS THE REQUIREMENTS OF PRESENT-DAY BUILDING CODES. THE SUCCESS OF THE PROJECT CAN BE ATTRIBUTED TO THE COMMITMENT OF MULTIPLE PUBLIC AND PRIVATE STAKEHOLDERS AND THE FORESIGHT OF THE JAPAN INSTITUTE OF ARCHITECTS. THE RESCUE OF THE TOWN HALL DRAWS ATTENTION TO THE PLIGHT OF OTHER IMPERILLED LANDMARKS OF TWENTIETH CENTURY JAPANESE ARCHITECTURE AROUND THE COUNTRY.

2013

AWARD OF MERIT



PROJECT SYNOPSIS

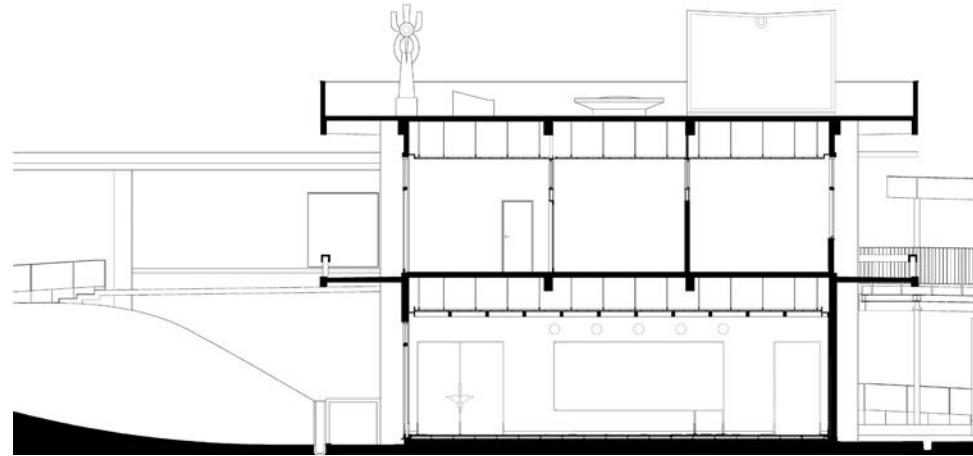
The town of Otaki is located in Chiba Prefecture. Present day Otaki is an amalgamation of the previous town of Otaki and four neighbouring villages, which took place in 1954. In 1959 a town hall was constructed in Otaki to mark the settlement's new status. The building houses the offices of the mayor, police and administrators, providing basic services for Otaki's 9,000-plus residents.

Designed by architect Kenji Imai, the town hall stands as one of Japan's representative works of Modern-period architecture. Typical of Imai's many works, it is a celebration of traditional Japanese craft and decoration. Features include a mosaic wall on the penthouse level and Shigaraki tiles on interior walls, which, together with other details, give the building its unique character. The building also displays examples of innovative technology of its era. Gate-shaped frames, for instance, support the main office space creating a large column-free space.

Unlike many other government buildings in Japan, which are often dark and enclosed, the Otaki Town Hall is a light-filled structure occupying a prominent location. Moreover, the building incorporates many subtle design gestures to emphasize its connection with the local community. The façade of the assembly room in the lower level of the structure, for example, features large window openings that establish a visual and physical tie to the outside. In addition, the exterior decorative elements reflect regional tastes; for example, the natural boulders set in the planting areas and the perimeter rubble-stone wall.

The Japan Institute of Architects (JIA) awarded its annual architectural design prize to Imai for this public edifice the year after its completion, a step that strengthened the architect's reputation and served to influence the development of Japanese contemporary architecture in the following decades.

By the end of the twentieth century, however, Imai's design had retreated from the public's imagination. Furthermore, the building no longer met contemporary regulations regarding structural safety. Poor maintenance and weathering of the building were evident in the rusted reinforcement bars and consequent delamination of the concrete walls. This condition was particularly evident at the foot of the columns and along the eaves. Moreover, the paint had faded, the metal window frames had corroded and the ceramic surfaces were showing their age.



SECTION

THIS INNOVATIVE PROJECT SUCCEEDED IN FAITHFULLY RESTORING THE AUTHENTICITY OF THIS MODERNIST GEM. WHILE KEEPING THE TOWN'S ASSEMBLY HALL IN THE ORIGINAL LOCATION, THIS PROJECT WAS PLANNED SO AS TO MAKE THE OLD TOWN HALL OPEN TO ALL AND LITERALLY FUNCTION AS A GATEWAY, PHYSICALLY AS WELL AS SYMBOLICALLY, TO THE REVIVED TOWN HALL COMPLEX.

— QUOTE FROM PROJECT TEAM —



OTAKI EXTERIOR AFTER RESTORATION

In the early 2000s, the town's leadership put forward plans to significantly expand the existing structure to provide additional office space for the Otaki municipality. This reconstruction plan drew the attention of the JIA, which launched, in cooperation with the Otaki municipal government, an initiative to conserve the Otaki Town Hall. In 2008, the JIA sponsored a competition, inviting entries for proposals to conserve the ageing facility and to construct a new addition, and received around 100 applications. The winning proposal sought to conserve the heritage property while also inserting a new building that would meet the contemporary need for space while complementing the aesthetics of the old town hall.

The project began in October 2010 with the construction of the new building. Once this was complete, many of the functions of the town hall were relocated to the new structure while repairs began on the older building. The conservation work was completed in March 2012.

CONSERVATION APPROACH

Continuing the use of the Otaki Town hall was a key theme of the conservation project. This intention required rethinking the uses and spaces of the older building, however. The project planners carefully assessed potential uses within the old town hall, reassigning functions and opening up spaces while at the same time preserving the overall character of the master architect's work. Once the building was vacated, specialists examined the structure and surfaces of the old building more closely and carried out a detailed analysis of the decorative finishes. Following the identification of the heritage values of the site, the project designers decided that some of the former offices would best serve as a multi-purpose hall for various community uses, whereas the original assembly hall was designated as a gallery space and a place for informal town meetings.

The conservation work included removing and patching the concrete and reinforcement bars, reinforcing supporting walls to accommodate the new open spaces, and repairing and replacing deteriorated components such as handrails, steel window sashes and wall coverings. As much as possible, the project's designers and artisans made the repairs compatible with, though distinguishable from, with the originals. Although the team sought to retain as much of the original materials as possible and use the original techniques, some could not be reproduced, a factor that resulted in unavoidable changes.

One of the major challenges for the design team was to bring the old town hall into compliance with contemporary regulations and building standards. This required undertaking work to stabilize the structure and strengthen its earthquake resistance, as well as installing ramps in various locations for barrier-free access and renovating the washrooms.

The project team faced a number of technical challenges. One such challenge was in the repair of the reinforced concrete in the eaves and at the bottom of the

columns. These areas had been subject to weathering, a process resulting in the rusting of steel reinforcing bars and surface spalling. Following preliminary trials, the design team and workers decided to duplicate the original appearance of the raw concrete, so as to minimally affect the original texture. Workers followed the same procedure throughout the building.

CONSERVATION AND THE COMMUNITY

The project was a collaborative effort involving conservation experts, skilled artisans and technicians, who worked closely with the architectural team in designing and implementing the conservation measures. The local community was actively involved at the planning level. During the open design competition, the opinions of the residents were taken into consideration and their suggestions were reflected in the final project proposal.

The conservation of the old town hall effectively provided a new facility for the people of Otaki. The innovative multi-purpose hall provides opportunities for the local community to gather and hold events that strengthen neighbourhood ties and it provides a platform for the sharing and passing on of traditions.

It is only recently in Japan that post-war contemporary architecture has come to be recognized as cultural heritage. Although the town hall is not designated a cultural asset, the conservation effort displays the growing awareness of the significance of mid to late twentieth-century design and the need to retain important civic, domestic and commercial structures.

PROJECT TITLE
OTAKI TOWN HALL
LOCATION
OTAKI, CHIBA PREFECTURE,
JAPAN
SIZE
7,048.87 SQUARE METRES
COST
US\$ 6,520,000
RESPONSIBLE PARTY
OTAKI TOWN MUNICIPALITY
HERITAGE ARCHITECT
MANABU CHIBA
CONTRACTOR
TAISEI CORPORATION
DATE OF COMPLETION
MARCH 2012



RESTORED PUBLIC SPACES MAINTAINED THEIR MID-CENTURY MODERN CHARACTER

AWARD OF MERIT

HISTORIC BUILDINGS IN DUONG LAM VILLAGE

VIET NAM

THIS PROJECT HAS RESTORED FIVE SELECTED BUILDINGS IN DUONG LAM VILLAGE IN A SUCCESSFUL EFFORT TO SHOWCASE THE VALUE OF VERNACULAR WOODEN ARCHITECTURE IN VIET NAM, WHICH IS INCREASINGLY THREATENED BY DETERIORATION, NEGLECT AND LOSS. THROUGH CAREFUL DOCUMENTATION AND THE REVIVAL OF TRADITIONAL CONSTRUCTION TECHNIQUES, THE RESTORATION HAS RETURNED THE BUILDINGS TO THEIR AUTHENTIC CONDITION AND NOW ASSURES THEIR ONGOING MAINTENANCE BY LOCAL ARTISANS TRAINED OVER THE COURSE OF THE PROJECT. THE EXCHANGE OF KNOWLEDGE AMONG THE CARPENTERS, VIETNAMESE ARCHITECTURAL HISTORIANS AND JAPANESE EXPERTS WAS A KEY FEATURE IN THIS COMMENDABLE COLLABORATIVE INITIATIVE. THE DUONG LAM VILLAGE PROJECT HAS ESTABLISHED A NOTEWORTHY MODEL FOR FUTURE CONSERVATION EFFORTS IN OTHER RURAL VILLAGES ACROSS VIET NAM.

2013

AWARD OF MERIT



wrms

PROJECT SYNOPSIS

Duong Lam is a rural Vietnamese village with a distinctive vernacular architectural tradition and an indigenous community of long standing. The village is located in a designated preservation zone on the edge of the wider Hanoi metropolitan area, around 50 kilometres from the city.

Built primarily in the nineteenth century, the five buildings included in the project are typical of the vernacular wooden architecture of Viet Nam. Three of the five buildings are public, namely On Pagoda, Mong Phu Gate and Giang Van Minh Worship House, while the other two are residential buildings: Nguyen Van Hung House and Ha Van Vinh House. The houses are characterized by laterite brick foundations, timber walls and columns and clay tile roofs.

Due to lack of maintenance, by the turn of the twenty-first century the buildings were in various states of dilapidation. The laterite stone common to all five of the structures had severely deteriorated. In addition, each structure had specific problems. For example, the timber elements of Giang Van Minh Worship House had been subject to extreme weathering, while at Mong Phu Gate one of the original doors was missing and the remaining door had been inappropriately repaired.

The project was a cooperative effort between Vietnamese government agencies, Japanese institutes and the community of Duong Lam. Viet Nam's Ministry of Culture, Sports and Tourism and the Son Tay People's Committee supervised and financed the project, while the Duong Lam Relic Management Board was responsible for project management. On the Japanese side, various institutes and agencies provided technical and financial support. These included the Institute of International Culture at Showa Women's University, the Japan Foundation, Japan's Agency for Cultural Affairs, the Japan International Cooperation Agency (JICA) and the Nara National Research Institute for Cultural Properties. The local community, particularly the residents living in the houses targeted under the project, provided assistance and advice throughout. Two architects from the Hoi An Center for Cultural Heritage Management and Preservation worked with the Japanese restoration experts and the Duong Lam technical staff to supervise the restoration work. The three parties shared experience and exchanged ideas with each other and with the local contractors and carpenters throughout the project.



MONG PHU GATE AFTER RESTORATION



NGUYEN VAN HUNG HOUSE BEFORE RESTORATION

WE HAVE HIGH HOPES THAT THE EXPERIENCE OF THE DUONG LAM VILLAGE PRESERVATION PROJECT WILL SPREAD TO OTHER RURAL VILLAGES IN VIET NAM.

— QUOTE FROM PROJECT TEAM —

The five buildings were restored between April 2008 and November 2011. The restoration efforts have provided continuity to significant village assets and have also allowed for the continuation of associated cultural traditions. Located at the core of a preservation zone, these five sites stand collectively as a model for conservation in rural villages of Viet Nam.

CONSERVATION APPROACH

The team followed international conservation principles throughout the project, minimizing replacement of materials and using original materials and traditional techniques wherever possible. The team's initial step was to design a conservation plan for each of the five buildings, based on the findings of the preliminary survey.

Located at the top of a mound, On Pagoda has laterite walls on three sides, supporting a wooden column-and-beam structure. The absence of a retaining wall had led the mound to collapse, a circumstance that resulted in the western laterite wall slanting outwards. Prior to

restoration, the wall was on the brink of crumbling. The normal practice would have been to replace the wall with new masonry units. However, both the villagers and the consulting team recognized the combined aesthetic and symbolic importance of the original wall and believed that a new wall would compromise this. Hence, the repair team retained the wall, correcting the inclination *in situ*. This required sandwiching the laterite wall on both sides with planks and then pushing the wall into an upright position. Throughout the process, the repair team took utmost care to prevent further damage to the laterite blocks. To provide long-term stability, the foundation was reinforced with gravel and cement. The preliminary survey had revealed that erosion barriers had been placed around the mound and the survey team had found remains of the former retaining wall. The conservation team therefore installed an erosion barrier and rebuilt the retaining wall along the boundary between the mound and the surrounding rice field.

The team's main focus at Mong Phu Gate was the restoration of the doors to an appearance as close as

possible to their original form. Information required for the re-creation of the doors was gained from the careful inspection of the remaining materials and from interviews with older local residents. In consultation with these village elders, the team continued to make modifications to the design until the residents were satisfied. When little was known about a building feature, a compromise was necessary. This too required the concurrence of the elders, who continued their involvement throughout.

With its low eaves and slender columns and beams, Nguyen Van Hung House is a rare surviving example of the farmhouse typology of the area. Recognizing its high cultural value, before this severely damaged building was repaired the team provided local carpenters



HA VAN VINH HOUSE TIMBER STRUCTURE



GIANG VAN MINH WORSHIP HOUSE AFTER RESTORATION

PROJECT TITLE
HISTORIC BUILDINGS IN
DUONG LAM VILLAGE

LOCATION
DUONG LAM, SON TAY,
VIET NAM

SIZE
403 SQUARE METRES

COST
US\$ 151,291

RESPONSIBLE PARTY
MINISTRY OF CULTURE,
SPORTS AND TOURISM,
SON TAY TOWN PEOPLE'S
COMMITTEE AND DUONG LAM
RELIC MANAGEMENT BOARD,
SHOWA WOMEN'S UNIVERSITY
INSTITUTE OF INTERNATIONAL
CULTURE, JAPAN AGENCY FOR
CULTURAL SERVICES, JAPAN
FOUNDATION, NARA NATIONAL
RESEARCH INSTITUTE FOR
CULTURAL PROPERTIES

HERITAGE ARCHITECT
DEPARTMENT OF
ARCHITECTURE AND
CONSTRUCTION PLANNING

CONTRACTOR
PHUONG ANH JSC,
GOLDEN RATIO CONSULTANCY
ARCHITECTURE
CONSTRUCTION JSC

DATE OF COMPLETION
NOVEMBER 2011



with training through hands-on work in repairing two simpler 'practice' houses. Then, with the help of Japanese restoration experts, the trained workers dismantled the timber members of Nguyen Van Hung House completely, repaired them and then reassembled them in their original form. In order to retain as much of the original materials as possible, the carpenters carried out scrupulous repair work on each wooden component. The work on the timber in all of the other buildings followed the same sequence.

The repairs to Giang Van Minh Worship House focused on the 'worship hall' section of the building, which had been added in 1943 when major repair works were carried out in the 'main hall' of the building. While the main hall is sturdy, the worship hall was made using lower-quality timber and, with decades of exposure to the elements, the timber of the worship hall had weathered extensively. The local carpenters repaired the timber members in consultation with Japanese restoration experts and village technical staff.

For Ha Van Vinh House, aside from restoring the wooden elements a major task was to repair the yin-yang tiles on the roof. They had not been functioning correctly, a condition that had led to rainwater seeping into the timber rafters beneath the tiles. Out of respect for traditional methods and materials, the team chose to retain tiles over the contemporary option of metal. Another task was the repair of the plaster valley gutter above the western-style façade, a feature that had been added in the 1920s.

CONSERVATION AND THE COMMUNITY

Members of the local community were active participants in the restoration process and many contributed as contractors, masons and carpenters. Training furthered the local artisans' knowledge of conservation methods, which was a key factor in ensuring a high quality of preservation of the cultural assets.

Through the successful application of traditional conservation methods and approaches, the project demonstrated to local masons, carpenters and residents the importance and value of such techniques and empowered the local community to continue the work in future. It is hoped that this technical knowledge will be diffused by the local carpenters and masons to the next generation and to adjacent villages for the benefit of other conservation efforts.

SAIL MAKER'S SHED

AUSTRALIA

THE RESTORATION OF THE NINETEENTH-CENTURY SAIL MAKER'S SHED IN BROOME HAS SAVED A HISTORIC STRUCTURE THAT, WHILE SMALL IN PHYSICAL SCALE, IS SIGNIFICANT IN TERMS OF ITS HERITAGE VALUES. ONE OF THE LAST REMAINING BUILDINGS ASSOCIATED WITH THE LOCAL PEARLING INDUSTRY, IT WAS SAVED FROM DEMOLITION AND IS NOW PART OF THE BROOME HISTORICAL MUSEUM. LOCATED IN AN AREA FREQUENTLY BATTERED BY STORMS, THE SHED WAS STRUCTURALLY REINFORCED IN COMPLIANCE WITH MODERN BUILDING CODES AND IS NOW SAFE FOR PUBLIC USE. DEDICATED TO KEEPING ALIVE THE MEMORY OF THE PEARLING INDUSTRY, THE PROJECT HAS NOT ONLY SAVED A UNIQUE HERITAGE ASSET BUT HAS ALSO REINVIGORATED A SENSE OF LOCAL PRIDE AMONG THE BROOME COMMUNITY.

2013

HONOURABLE MENTION



G. BAGGE
SAIL MAKER

W. J. Miller

PROJECT SYNOPSIS

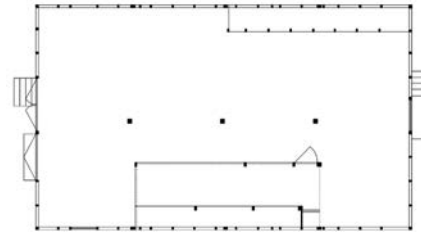
Originally constructed for making traditional sails, the Sail Maker's Shed is a single-storey, timber-frame structure, clad in corrugated sheet metal. Following a simple, yet practical design, the shed has a timber floor supported by concrete piers. The interior large open space and the lack of supporting vertical members made possible the 'lofting' of sails and allowed sail makers to spread out the sails on the floor.

The Sail Maker's Shed, located near Roebuck Bay, served a large contingent of ships and boats involved in the pearling trade, supplying replacement sails, especially during the monsoon season. As one of the few surviving examples of the vernacular architecture associated with Broome's pearling industry, the Sail Maker's Shed is a cherished reminder of this once-flourishing industry and of life in the frontier pearling town.

While the exact date of construction remains unknown, pictorial evidence suggests that the Sail Maker's Shed was built between 1897 and 1900. One of the most significant remnants is the original sign 'C. Bagge, Sail Maker', still visible on the east elevation. This is the key identifier of the builder, Charles Bagge, who was a 'pearler' and sail maker, and is believed to have operated the first substantial commercial sail-making venture in Broome. The Sail Maker's Shed was abandoned during the First World War (1914) then, after 43 years of dereliction, was occupied by the Public Works Department's Water Supply section in 1957.

Prior to its restoration, the shed was in a severe state of disrepair. The damage was so great that at one point the Shire of Broome issued both a dangerous building notice and a demolition notice for the shed. The building's concrete piers had deteriorated, by spalling or splitting with the exposed reinforcement, and the resulting lack of adherence to the piers (exacerbated by the frequent cyclones of Broome) had led to the Sail Maker's Shed shifting. Moreover, many of the building's structural elements were missing. The east elevation of the shed, which was particularly susceptible to the weather, had deteriorated to a point of near failure. Only the sign, faded to near illegibility, still remained to explain the original purpose and significance of the old building.

In 2009, the landowner, the Water Corporation of Western Australia, offered the Broome Historical Society a nominal lease, allowing the organization to apply for grants to repair and conserve the Sail Maker's Shed.



PLAN

THE RESTORATION OF THE BROOME SAIL MAKER'S SHED IS NOT ONLY IMPORTANT TO THE HISTORY OF BROOME AND WESTERN AUSTRALIA, BUT ALSO TO AUSTRALIA'S PEARLING INDUSTRY. ONLY A FEW ORIGINAL PEARLING BUILDINGS REMAIN IN BROOME. THE SAIL MAKER'S SHED, ON THE EDGE OF ROEBUCK BAY, NOW FULLY RESTORED, STANDS AS A MONUMENT TO THOSE WHO WORKED AND PLAYED HARD IN THE PEARLING FIELDS OF BROOME.

— QUOTE FROM PROJECT TEAM —



INTERIOR OF THE SAIL MAKER'S SHED DURING CONSERVATION PROCESS

A three-stage restoration project began the following year and was completed in October 2012 after 24 months of work.

The Sail Maker's shed is today part of the Broome Historical Museum's special heritage precinct, where it houses displays and exhibitions associated with the maritime industry in Broome, especially sail making. Moreover, the property is now listed on the Western Australian State Register of Heritage Places and in the Shire of Broome's Municipal Inventory of Heritage Places.

CONSERVATION APPROACH

Avoiding the temptation to simply reconstruct the Sail Maker's Shed in its entirety, the project managers chose to restore the building, employing a philosophy of minimal intervention. The project team placed particular emphasis on salvaging and retaining damaged building fabric and components, only replacing deteriorated elements with replicas when they were too damaged to repair.

The first step was a carefully-prepared scope of work for the conservation project. This adhered to the principles of the Burra Charter and to the Building Code of Australia. Next, the project team conducted an extensive investigation of the extent of termite infestation and took steps to mitigate this. Subsequently, an engineer conducted a study to identify the reasons for the failing structural stability of the roof, walls and subfloor piers.

To avert collapse, the construction team installed a contemporary steel frame into the shed structure. To guarantee the structure's stability, this addition satisfied Australia's cyclone rating specifications. Not only did this insertion circumvent the need for reconstruction, it also ensured that all original structural elements were left *in situ*. Following repairs to the framework, workers replaced missing elements of the roof with sheets of treated steel, and installed galvanized flashing and trim to ensure compatibility with the original roof fabric.

All of the remaining components of the shed, including the shutter openings, the timber doors on the west and east elevations, and the original timber shelving were repaired and restored to their original states. Special care was taken to preserve the historically-significant sign on the east elevation. The workers also removed later additions, such as partition walls and the ceiling, thereby returning a sense of authenticity to the site.

Although the entire frame for the flooring had to be reconstructed, the old floor boards were retained and repaired whenever possible. The conservation team used a pre-tested method of resin infill to restore the damaged timber flooring. As the original type and specifications of timber boards could not be sourced, the conservation team introduced a new type of timber board to replace missing pieces, and clearly delineated the original floor boards and the replacements. The workers then treated the timber flooring using a traditional treatment of oil and sand. To prevent further erosion of the piers, workers installed a perimeter drainage system, applying appropriate gradients for the discharge of rainwater.



SAIL MAKER'S SHED BEFORE AND AFTER RESTORATION

PROJECT TITLE
SAIL MAKER'S SHED
LOCATION
BROOME, AUSTRALIA
SIZE
APPROXIMATELY
138 SQUARE METRES
COST
US\$ 160,000
RESPONSIBLE PARTY
BROOME HISTORICAL
SOCIETY
HERITAGE ARCHITECT
HERITAGE INTELLIGENCE
(LAURA GRAY)
CONTRACTOR
WOOD & GRIEVE ENGINEERS
DATE OF COMPLETION
OCTOBER 2012



The final stages of the project included replacing missing external corrugated sheets and corner flashings, installing mesh infill panels on all external faces (between the concrete piers and the underside of the floor to ground/gutter) and inserting two opening panels to prevent a build-up of leaf litter and to allow better access for periodic inspections. Whitewashing the exterior walls of the shed with a specifically designed and tested mix and the plugging of the nail holes in the corrugated iron wall cladding, were among the final steps. Future plans for the Sail Maker's Shed include the addition of an accessibility ramp and electricity and security installations.

CONSERVATION AND THE COMMUNITY

As in many other old towns and cities, urban development pressure in Broome has resulted in the wholesale demolition of much of the town's built heritage. The successful restoration of the Sail Maker's Shed was therefore a pivotal step in exposing the heritage significance of the city's older buildings. The conservation of the Sail Maker's Shed not only safeguarded rare surviving evidence of the once-vibrant pearling industry and a valuable historical and cultural asset for the local community, it also rekindled public interest in Broome's multicultural history.

Recognizing the building's significance to the community, the Shire of Broome included the Sail Maker's Shed in its 'Strategic Plan 2004-2009', further contributing to safeguarding its future. Meanwhile, the addition of the Sail Maker's Shed to the heritage precinct has not only provided a wider range of facilities and services for the public but has also encouraged greater community engagement with the space.

Publicity for the project in local papers and the radio highlighted the significance of the project and helped the site to attract a wider crowd and incentivize visits to the Broome Historical Museum. The museum, maintained by the Broome Historical Society, is the only museum in the region dedicated to the representation of Australia's pearling industry and the people who worked in it. It also tells the story of the area's role in Australia's development, and of important events in and around Broome, including an air raid during the Second World War.

THE LOST BOMB SHELTER

THE SOFITEL LEGEND METROPOLE HANOI

VIET NAM

THE RESTORATION OF THE LOST BOMB SHELTER HAS REVEALED ANOTHER LAYER OF THE RICH HISTORY OF THE METROPOLE HOTEL, ONE OF HANOI'S MOST NOTABLE HERITAGE BUILDINGS. FORGOTTEN FOR DECADES UNTIL ITS REDISCOVERY IN 2011, THE BOMB SHELTER HAS BEEN RETURNED TO ITS ORIGINAL CONDITION, WITH THE UNOBTRUSIVE ADDITION OF MECHANICAL AND ELECTRICAL INSTALLATIONS TO MAKE THE SPACE ACCESSIBLE AND SAFE FOR PUBLIC VIEWING. THROUGH A SENSITIVE APPROACH AND THOUGHTFUL INTERPRETATION, THE PROJECT HAS ENABLED A RARE GLIMPSE INTO AN IMPORTANT CHAPTER OF VIET NAM'S CONTEMPORARY HISTORY.

2013

HONOURABLE MENTION



PROJECT SYNOPSIS

Built in 1901, the Sofitel Legend Metropole Hanoi is an acclaimed French Colonial-style hotel at the centre of Hanoi's Hoan Kiem District. For its first half century, it was known as the Hôtel Metropole and was frequented by heads of state, luxury travellers, writers (including Graham Greene and Somerset Maugham) and actors – notably Charlie Chaplin, who stayed at the hotel in 1936. Renamed the Thong Nhat Hotel (Reunification Hotel) after Viet Nam's independence, it then served as a meeting place for communist leaders and for Soviet and Chinese visitors. The hotel remained the official residence for visiting VIPs, the press and diplomats during the war (1955-1975), even when under threat by American bombs.

In 1987, the Pullman chain of hotels entered into a joint venture with the Vietnamese government to restore the hotel. Rebuilding much of the hotel and restoring other parts, the new owners rebranded it the Pullman Metropole Hotel, reopening in 1992. Four years later, ownership and management transferred to the Sofitel chain, which added a 135-room Opera Wing. This and a converted office tower were part of another refurbishment in 2008. Proud of the hotel's history, the Sofitel Legend Metropole took special care to highlight the significant historical features of the buildings. Despite the many changes, the hotel has retained its original character. With its classic white façade, green shutters, wrought iron details, wood panelling and lush lawn, the hotel evokes a bygone era.

During excavations as part of the renovation of the hotel's Bamboo Bar in 2011, workers discovered a bomb shelter, dating to the time of the war, in the courtyard of the hotel, buried in soil and reinforced with concrete. There had long been rumours of this shelter, but it had not been visible. Under the careful supervision of the hotel's general manager, the engineering team excavated more than two square metres of earth and reinforced concrete. After jackhammering through a 278 mm concrete ceiling, the construction crew unearthed the subterranean space measuring approximately 38 square metres that included corridors, chambers and stairways. Workers discovered eight separate chambers as well as six steel and two wooden doors within the shelter. Visible features included a ventilation cap and pipe, a ceramic electric connector and steel reinforcing bars. Much of the area was under water.



ENTRANCE TO THE BOMB SHELTER

THIS BOMB SHELTER SAFEGUARDED MANY GUESTS DURING HEAVY BOMBARDMENTS. THE SITE, UNIQUE IN THE COUNTRY'S HISTORY, HAS BECOME A WAR MEMORIAL OF ITS OWN KIND.

— QUOTE FROM PROJECT TEAM —

Built by the Viet Minh army, which employed heavy machinery to create a hole ten by ten metres wide and five metres deep, the shelter was used to protect hotel guests during the war. It saw particular action during Operation Linebacker, an American bombing operation that lasted from 9 May to 23 October 1972. By the end of the campaign, American B-52 aircraft had dropped approximately 150,237 tons of bombs on Hanoi and the surrounding areas. It and its sequel, Linebacker II, were the last major aerial offensives before the Paris talks brought a ceasefire to the conflict.

The bomb shelter was in operation continuously during this turbulent period, and the historic site has significant heritage value. Among the most famous guests of the time was actress and anti-war activist Jane Fonda, who visited on a peace mission in June 1972. Singer Joan Baez also visited that year, though she stayed in the nearby Hoa Binh Hotel (Peace Hotel). There she recorded her song 'Where Are You Now, My Son?' during an air raid, the sound of bombing audible in the background.

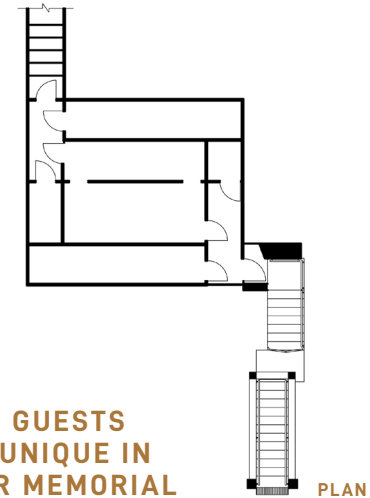
After the rediscovery of the bomb shelter, hotel management faced a decision regarding how it should be used. While adaptive reuse as part of the hotel was an option, the historical values and the collective memories of the place proved to the hotel management

that the shelter was better suited as a memorial site in which to display exhibits relating to the hotel's history and the part played by the hotel staff during the war. The hotel initiated a project to preserve the bunker as a tribute to the hotel's wartime employees, many of whom risked their lives to usher the guests into the relative safety of the underground chamber during the raids. On 21 May 2012, the hotel hosted a public ceremony to officially open the preserved bunker and an exhibit commemorating 110 years of the Metropole's history.

CONSERVATION APPROACH

Conservation of the Hotel Metropole bomb shelter began with a thorough investigation of the site and its surroundings by engineers. The specific concerns included assessing the strength of the structure's roof and walls and gaining a better understanding the methods that had been employed in its construction. Due to potential soil collapse and the necessity of breaking some of the existing concrete structure – as thick as 800 mm in places – worker safety was a primary concern, and the project team took special precautions to ensure this.

The shelter was located beneath the Bamboo Bar,



PLAN

which meant that its original entrances were no longer accessible. The greatest challenge for the project's engineering team was, therefore, to create new access to the shelter and to be certain that the underground structure would not pose any threat to guests of the bar or of the adjacent swimming pool. To avoid the accumulation of ground water and underground flooding, in the future, workers installed automatic pumps in the shelter.

Preservation of the original aesthetic and form of the bunker was of utmost importance, so minimal changes were made to the interior of the shelter. New additions, such as electrical lighting, a ventilation system and a drainage system followed carefully-prepared construction specifications and were installed unobtrusively.

In addition to conserving the bomb shelter in its original state to honour its past, the project leaders also wanted to capture the emotions of the war and the human relationships formed between the hotel guests and staff during those hard times. The hotel contracted a historian to create an exhibition titled 'The Path of History', which provided interpretation of the site and commemorated the Metropole's history. The thirteen exhibit panels display a timeline of historical events relating to the hotel and Hanoi, noting the role of the hotel employees. Among the displays are pictures of over 300 of the hotel's famous guests, ranging from Charlie Chaplin in the 1930s and Jane Fonda in the 1960s to Angelina Jolie in the 1990s. The exhibit also includes a section on famous writers who stayed at the hotel.

To support interpretation, the exhibiton designer trained several employees to become 'ambassadors of history' and guide guests through the exhibition, providing additional information. To complete the setting of the place, a section of Baez's recording 'Where Are You Now, My Son?' plays in the background, reminding people of the importance of the site and the bravery of the hotel employees.

PROJECT TITLE
THE LOST BOMB SHELTER OF
THE SOFITEL LEGEND
METROPOLE HANOI

LOCATION
HANOI, VIET NAM

SIZE
38 SQUARE METRES

COST
US\$ 72,766

RESPONSIBLE PARTY
SOFITEL LEGEND METROPOLE
HANOI

CONTRACTOR
VIET TIEN ENGINEERING JSC
HDBC CONSTRUCTION AND
ENGINEERING JSC

DATE OF COMPLETION
MAY 2012



CONSERVATION AND THE COMMUNITY

The bomb shelter has played a significant role in the history of the hotel and of Hanoi. The restored shelter honours the employees who put guest safety above their own during a time of conflict and serves as a memorial to their courage. The thoughtful restoration successfully showcases life inside the bunker and the dangers faced from without its walls.

In the first year of the Metropole Bomb Shelter memorial and the 'Path of History' exhibition some 7,000 guests visited it. The memorial quickly became a 'must see' for hotel guests, tourists, researchers and students. The memorial not only enhances local tourism but also commands the attention of the local community. The Lost Bomb Shelter of the Sofitel Legend Metropole Hotel now stands as testimony to Hanoi's past.



THE OLD BOMB SHELTER (ABOVE), NOW HOUSES AN EXHIBITION AND MEMORIAL SPACE (BELOW)

AWARD OF DISTINCTION

SARYAZD CITADEL
ISLAMIC REPUBLIC OF IRAN

AWARD OF MERIT

EXETER FARM
AUSTRALIA

SHRI SAKHARGAD NIWASINI DEVI TEMPLE COMPLEX
INDIA

FRANKTON BOATSHED
NEW ZEALAND

WAK HAI CHENG BIO
SINGAPORE

PHRAYA SI THAMMATHIRAT RESIDENCE
THAILAND

HONOURABLE MENTION

SHAHZADA HUSSAIN MAUSOLEUM
AFGHANISTAN

CAPE INSCRIPTION LIGHTHOUSE KEEPERS' QUARTERS
AUSTRALIA

ROTTNEST ISLAND WORLD WAR II COASTAL DEFENCES
AUSTRALIA

NANJING YIHE MANSIONS
CHINA

ESPLANADE HOUSE
INDIA

DE DRIEKLEUR
INDONESIA

GALI SURJAN SINGH
PAKISTAN

JURY COMMENDATION FOR INNOVATION

LUCKY SHOPHOUSE
SINGAPORE

2014

SARYAZD CITADEL

ISLAMIC REPUBLIC OF IRAN

THE IMPRESSIVE RESTORATION OF THE SARYAZD CITADEL HAS RESCUED AN ISOLATED DESERT COMPLEX THAT HAD SUFFERED FROM LOOTING AND NEGLECT, RETURNING IT TO ITS FORMER PROMINENCE. THE AMBITIOUS SCOPE OF THE PROJECT ENCOMPASSED A CASTLE, CARAVANSERAI AND BATH HOUSE, BUILT OVER SEVERAL DYNASTIES. THE CONCEPTION, PLANNING AND EXECUTION OF WORK WERE THE RESULT OF EXEMPLARY COOPERATION BETWEEN A LOCAL FOUNDATION AND COMMUNITY PARTNERS, INCLUDING LOCAL ARTISANS. A CAREFULLY-CONCEIVED MASTER PLAN PROVIDED STEP-BY-STEP GUIDANCE THROUGHOUT THE PROJECT, FROM EVALUATION TO REPAIR, ALLOWING FOR MAXIMUM RETENTION OF THE ORIGINAL FABRIC AS WELL AS LATER ADDITIONS DEEMED OF HISTORIC SIGNIFICANCE. THE USE OF TRADITIONAL CONSTRUCTION MATERIALS AND TECHNIQUES AND THE PROTECTION OF THE SURROUNDING LANDSCAPE HAVE ENSURED THAT THE CITADEL AND ITS SETTING HAVE BEEN CONSERVED WITH A HIGH DEGREE OF AUTHENTICITY.

2014

AWARD OF DISTINCTION



CONTEXT

The village of Saryazd, also known as Arg-e Saryazd, is located about 25 kilometres southeast of Yazd, also known as Yezd, in Iran. Historians estimate that Yazd, a city largely comprised of buildings made of adobe (earth and other organic materials), dates back almost 6,000 years, making it one of the oldest living adobe cities in the world. The city is punctuated by impressive examples of Persian architecture, including Zoroastrian temples and underground water channels. Surrounded by desert, the city is seen as a living testament to the intelligent use of limited resources and the wise management of a human settlement in a harsh environment.

Situated on the spice route that connected Rey County of Tehran Province to the Persian Gulf in the south of Iran, Saryazd, known as 'the Friendship Village' because of the hospitality of its residents, stands as a vivid reminder of the commerce of ancient times and the impacts of trade. Saryazd has several historically-significant monuments, some 2,000 years old. In 1975, in recognition of the heritage value of Saryazd Castle, the Iranian Cultural Heritage, Handicrafts and Tourism Organization (ICHHTO) designated it a registered national monument.

BUILDING HISTORY

The citadel comprises multiple heritage properties, including: Saryazd Castle, the Caravanserai, Farafar Portal, Four Winds Tower Reservoir, the Pakeneh (*qanat* entrance), Najari House and the Old Baths.

Saryazd Castle, also known as Saryazd Fortress, was built during the Sassanid Dynasty (224-651). It stands three storeys high and is notable for being the only registered monument in Iran that is constructed entirely from mud and clay. The castle was built not only as a residence but also as a bastion against invaders. When under siege, the castle became a place of refuge for nearby villagers and it was a site for safekeeping their valuable items, including food, military equipment, gold and jewels. The fortress is formed by two concentric walls that create a kind of labyrinth. High towers and fortified baileys (courtyards enclosed by a curtain walls) are the most noteworthy features of the ancient structure. The surrounding moat, six metres wide, once provided a key line of defence.

THE RESTORATION OF THE HERITAGE PROPERTIES REVEALED THIS PEARL OF THE DESERT AND BROUGHT EMPLOYMENT OPPORTUNITIES FOR THE RESIDENTS, ESPECIALLY FOR THE YOUTH, WHILE BUILDING PRIDE AMONG THE COMMUNITY IN THEIR CULTURE AND HERITAGE PROPERTIES.

— QUOTE FROM PROJECT TEAM —



BEFORE RESTORATION



INTERIOR COURTYARD AFTER RESTORATION

The Caravanserai (the term originates from the combination of 'caravan', meaning convoy or group of travellers, and 'serai', meaning house) represents a significant Persian building type that functioned as a guesthouse for travellers. The first caravanserai of Saryazd Citadel was built in the Seljuk Empire (1037-1194); its principal construction material was adobe. Due to significant deterioration of some parts of the building, the caravanserai required reconstruction and retrofitting. A second caravanserai, built during the Safavid Empire (1501-1722), was of brick. Like the castle, this building is a registered monument.

Farafar Portal is the only remaining structure in the complex pre-dating the rise of Islam in the region (i.e. pre-dating the Sassanid Dynasty). This large fortified entryway is a vestige of an earlier settlement that was destroyed by invaders and left to deteriorate prior to its incorporation into Saryazd Citadel.

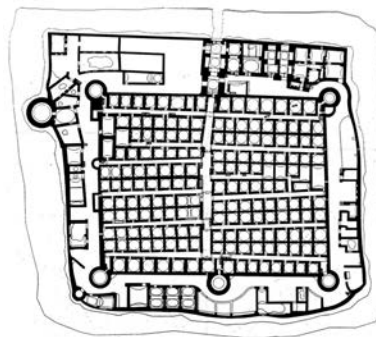
Located in a desert, the original architects of the complex put surprisingly put emphasis on facilities to store water. The fortress and caravanserai share six reservoirs, all of which have been subject to restoration efforts and are now registered national monuments. The reservoirs represent several distinct building periods. Four Winds Tower Reservoir pre-dates the Safavid Empire, so is over 500 years old. The roof of this reservoir is domed and it is designed so that two of the wind towers suck cold air into the reservoir while two other towers suck hot air out, thereby keeping the stored water cool. The Paye Borj Reservoir, which is estimated to be around 400 years old, operates using a similar system. Also covered by a domed roof, it has two towers to regulate the interior temperature.

The reservoirs are connected to the ancient system of underground water channels (*qanat*) and some still deliver water to this day. The entrance to the *qanat*, the Pakeneh in Saryazd is an entryway and set of stairs leading down to the reservoirs along the village's main street, and serves to enable residents to access the stored water.

Najari House is a small adobe building constructed during the Qajar Dynasty (1789-1925) that once served as accommodation. The Old Baths building, also built during the Qajar Dynasty, once housed a set of bathing pools of varying sizes. It is today listed as a national monument.

Once the site of international trade, the Saryazd Citadel complex and village served travellers and facilitated the exchange of ideas between the East and

PROJECT TITLE
SARYAZD CITADEL
LOCATION
SARYAZD, YAZD,
ISLAMIC REPUBLIC OF IRAN
SIZE
10 HECTARES
COST
US\$ 3 MILLION
RESPONSIBLE PARTY
TOWSE-EH VA ABADANI-YE
ARG-E SARYAZD COMPANY
CULTURAL HERITAGE HANDICRAFTS
AND TOURISM ORGANIZATION
HERITAGE ARCHITECT
MAJID SARYAZDI
CONTRACTOR
TOWSE-EH VA ABADANI-YE ARG-E
SARYAZD COMPANY
DATE OF COMPLETION
2013

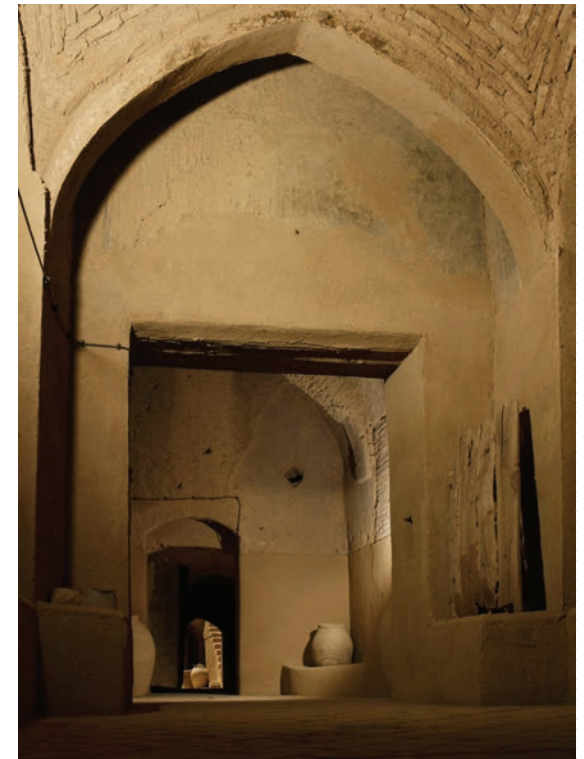


PLAN

West. In modern times, however, with the decline of the spice routes and with few rural employment opportunities, most of the village youth moved away, leaving behind a beautiful but largely abandoned village.

With the decline in the population, many of the sites of Saryazd Citadel deteriorated, damaged by the harsh conditions and threatened by neglect. By the turn of the twenty-first century, the monuments were largely deserted. They had weathered years of decay and had also suffered vandalism. The lure of possible artefacts and treasures had led to looting of the site. Lack of public awareness of the historical importance of the site, combined with safety and management issues, had resulted in a low level of interest and even antipathy for the ancient structures. Over time, the abandoned structures accumulated garbage and debris, and became a shelter for squatters, a situation that further discouraged broader access to the site.

INTERIOR VIEW AFTER RESTORATION



PROJECT HISTORY

Recognizing the need for conservation work to preserve this magnificent site, Majid Saryazdi, owner of the local Arg-e Saryazd Development Company, appealed to the Iranian government for approval to restore and revitalize seven key buildings of the adobe ensemble of Saryazd Citadel. As he hailed from the village, he was familiar with both the context and the residents and was able to mobilize community support for the initiative. The project to conserve the Arg-e Saryazd monuments began in 2007 and a large part of the project was finished in 2013.

PROJECT SCOPE AND FRAMEWORK

Headed by Majid Saryazdi and supported by local residents and various governmental and academic organizations, the project sought not only to revitalize the ancient site but also to create a new level of local knowledge and pride in the site's heritage. The team's long-term goal was for the project at Saryazd to serve as a model for restoration work in other villages.

The project encompassed restoration, reconstruction and adaptive reuse of Saryazd Castle, the Caravanserai, Farafar Portal, Four Winds Tower Reservoir, the Pakaneh, Najari House and the Old Baths. Due to the poor condition of the structures, a large amount of reconstruction was necessary. While some structures retained their original uses, others were approved for adaptive reuse. The Caravanserai, for example, was restored to serve its original purpose of accommodating visitors to the village.

The project also included the construction of new buildings to serve as additional visitor accommodation. These were built using traditional designs and materials so as to blend in with the ancient structures around them. Post-project plans called for the resumption of regional activities for visitors and locals, such as camel riding and the preparation of traditional dishes.



HANDMADE ADOBE BRICKS



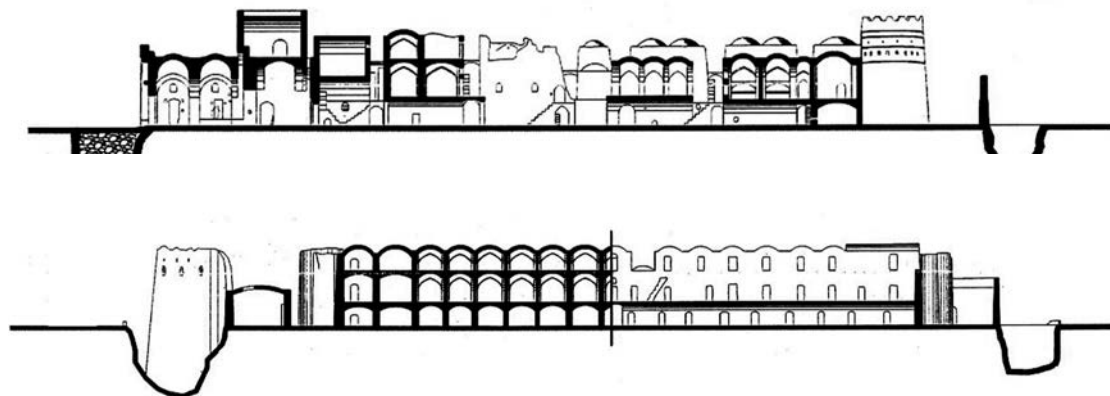
ROOF DETAIL

CONSERVATION METHODOLOGY AND MATERIALS

The team adopted conservation principles and guidelines set by the ICHHTO. To guarantee authenticity, the project design team ensured that each structure retained its original use or was adapted for a similar use, such as using the caravanserai as a guesthouse.

Thorough documentation was a major component underpinning the work. Scholars from Yazd University joined the conservation team and studied historical records extensively, assessing the damage and potential risks. The seven structures targeted under the project differed in their designs, materials, ages and past uses, and the team referenced traditional construction methods in order to understand the history of each structure and the original uses of each. The findings of this research served as a guide to the use of appropriate materials and techniques during the conservation project. The original materials included adobe, mud, straw and traditional bricks.

As specialists in architectural history and conservation, the Yazd University scholars brought a high level of understanding to the project and shared their technical expertise with local workers. With support from ICHHTO, local workers received training in traditional skills to ensure appropriate repair and restoration of the monuments.



SECTION AND ELEVATION

IMPORTANT ISSUES

Due to the varying construction dates of the monuments – spanning a period of two thousand years – accurate documentation was particularly important. Scholars, government authorities and artisans worked side by side to reveal the various layers of history. In this and other areas, the local community, including village organizations, were invaluable sources of information. Cooperation by various government organizations, including the governor's office, municipal departments and the local housing and urban development organization, assisted in linking the project to other economic and social initiatives in the area. The attention to the social context helped to revitalize the village and reinvigorate the site's spirit of place.

PROJECT SUSTAINABILITY AND VIABILITY

If not for the project to restore the Saryazd Citadel complex, these monuments would have slowly faded away as part of a forgotten past. By restoring and reinvigorating the complex, the project team safeguarded the citadel for the long term. Moreover, with clear objectives and plans for conservation and adaptive reuse, the project, supported by ICHHTO, has led to tens of thousands of tourists visiting the site annually. Visitor management innovations, such as entry limits for specific structures, have helped to protect the monuments and ensure their sustainability.

With thoughtful planning and governmental and organizational support, the project employed a combination of restoration and tourism to support the residents, draw youth back to the village and sustain the local culture. The project has helped to reinvigorate the area by bringing new kinds of employment and visitors. New skills and jobs have enabled stronger financial independence and have helped to support sustainable livelihoods for members of the local community.

PROJECT IMPACT

The project not only rescued an ancient site, it also revived key aspects of village life. The reconstruction of components of the village's traditional public water system, a key aspect of the project, has had an immense impact on the lives of the local residents. The conservation of the Pakaneh, for example has once again enabled public access to fresh water for domestic use.

Moreover, by training local workers in traditional construction skills the project increased their long-term employability in the building industry. The training will also have benefits for other conservation projects in the region.

The project to conserve the ancient complex received substantial news coverage, attracting travellers and researchers interested in the site and the culture of Yazd people. Revitalizing the ancient buildings and sites and reinstating their original uses has facilitated better interpretation of the site as well as of Yazd culture, and enabled visitors to interact with the local people and their customs. This has created not only an invaluable experience for visitors but also a platform by which local residents can share and pass down their knowledge and culture.

About 30,000 people visit the Saryazd Citadel site annually. By attracting tourists, the project led to greater employment possibilities for the community in the tourism industry, including in hotel management, food and beverage services and cultural tourism activities. This attention and the appreciation by tourists for the local history, heritage, traditional accommodation and cuisine, have sparked a renewed sense of pride in the local culture among residents of the area as well as a rise in national and international awareness of the importance of the country's heritage sites. Moreover, greater interest in the locality has led to an increase in land values.



INTERIOR PASSAGE
BEFORE AND AFTER RESTORATION

EXETER FARM

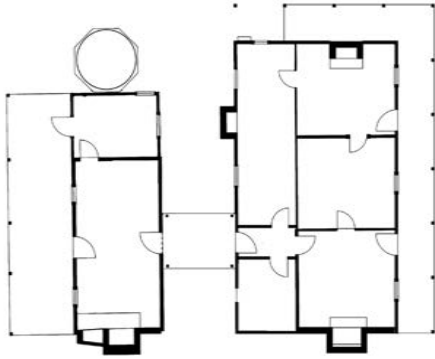
AUSTRALIA

THE RESTORATION OF EXETER FARM DEMONSTRATES THE EFFECTIVENESS OF COMBINING PUBLIC-PRIVATE INVESTMENT WITH LOCAL COMMUNITY EFFORTS IN THE CONSERVATION OF VULNERABLE HISTORIC PROPERTIES. FINANCED THROUGH ITS ENDANGERED HOUSES FUND PROGRAMME, THE HISTORIC HOUSES TRUST OF NEW SOUTH WALES RESCUED THE SEVERELY-DETERIORATED NINETEENTH-CENTURY FARMSTEAD AND RETURNED THE BUILDING TO PRIVATE OWNERSHIP. THE EXTENSIVE RESTORATION WORK INCLUDED REPAIRING, REPLACING AND CONSOLIDATING EXISTING FABRIC, WHILE REMOVING LATER MATERIALS AND ADDITIONS OUT OF KEEPING WITH THE HISTORIC CHARACTER OF THE PROPERTY. OCCUPIED SINCE 2013 AS A PRIVATE RESIDENCE, THE FARMHOUSE DEMONSTRATES HOW INVESTING IN HERITAGE PROPERTIES GIVES THEM A FUTURE THAT IS AS VALUABLE AS THEIR PAST.

2014

AWARD OF MERIT





PLAN



BEFORE AND AFTER CONSERVATION

THE PROPERTY SERVES TO REMIND US WHAT HAS BEEN LOST OVER THE YEARS AS OUR SOCIETY EVOLVES AND OUR HISTORIC STRUCTURES ARE ALL TOO OFTEN DESTROYED.

— QUOTE FROM PROJECT TEAM —

PROJECT SYNOPSIS

Exeter Farm consists of two rare examples of vernacular timber-slab cottages, erected sometime between 1845 and 1860. These timber-slab cottages were once common, and are representative of cottages of early colonial Australia, reflecting a style introduced as early as the 1790s. Their scale, siting and techniques of construction give insight into the early history of European settlement in Australia.

The date of construction of the cottages coincides with the early years of agricultural development in New South Wales (NSW), a highly significant period in the former colony's history. Situated in what is today the suburb of Glenwood on the outskirts of Sydney, Exeter Farm's cottages were built by 'emancipists', British and Irish convicts who had been transported to Australia under a pardon. The cottages represent a distinct aspiration of emancipist families seeking a new start, and indicate an attempt to be accepted into society in the colonial era.

According to a document signed by Governor Macquarie, the then 110 acre Exeter Farm was granted to emancipist Daniel Brien (also spelled Bryan) in 1821. The property remained with the Brien Family for four generations until it was sold in 1923. The buildings were then occupied by a succession of other families for

a further 50 years.

With suburban expansion around Sydney, the owners gradually sold off parts of the land originally belonging to the cottages. In 1923, the farm was known as 'Eighty Acres'. During the mid-twentieth century the acreage shrank further, as new residential and industrial uses spread into the surrounding area. By 1976, Exeter Farm was vacant, and one year later the property was gifted to the New South Wales state government.

Recognizing the property's heritage value, in 1995 the Heritage Council of NSW imposed a permanent conservation order (PCO) on the property, soon afterward purchasing the adjacent lots. In this way, the Heritage Council of NSW was able to retain the open rural setting of the cottage buildings, which had been threatened by urban sprawl, and allowed for the survival of landscape features. Following years of neglect, Exeter Farm was in a state of extreme disrepair, however. Structurally, it was in extremely fragile condition, with its foundation badly damaged from rot, termites and fungal attack.

In 2007, a transfer of ownership to the Historic Houses Trust of New South Wales (HHT), a government statutory authority, allowed for a conservation project focused on the cottage buildings and their setting. Through

the Endangered Houses Fund, the HHT brought Exeter Farm back to life. Conservation work, which began in 2008, included structural repairs, floor stabilization, the incorporation of modern services and landscaping. All conservation work was based on existing site evidence and documentary records. The project was complete by 2010 and in 2013 the HHT sold Exeter Farm for use as a private residential property.

CONSERVATION APPROACH

The Exeter Farm conservation project followed the philosophy and approach outlined in the Burra Charter. The guiding principle was 'do as much as necessary but as little as possible', an aphorism emphasizing the protection of the architectural integrity of the cottage buildings, including their original configuration and design.

Before work began, the team undertook detailed historical research and an inspection of the building and the context. The results of this study informed the conservation management plan, which set out the best way to preserve the site's historical and architectural significance.

As the approach was one of minimal intervention to the original fabric, the team retained the original elements, including timber shingles, weatherboards and joinery, wherever possible. If the original materials were not available, the team sought out matching materials that were equivalent in terms of density and strength, and the team integrated these into the buildings sensitively. Thus, newly-introduced materials respected and complemented the original fabric, but remained distinguishable from older components. The team also removed inappropriate additions, including the concrete flooring, which had been added in the late twentieth century.

Traditional timber-slab structures such as those of Exeter Farm were typically built with all load-bearing elements (frame, wall slabs and timber floor) directly on the ground. This construction technique leaves these types of structures extremely vulnerable to termite and rot. To counteract this, the restoration team introduced a new concrete footing and structural support system. Taking special care, the team jacked up both buildings to insert the new footing and also rectified tilts from structural weakening. This provided protection for the timber structures while also retaining their traditional 'ground-hugging' profile.

Following the excavations to replace the footings, workers cleaned out the sub-floor spaces, installed drains and created new sub-floor ventilation spaces of about 100 mm. This creative solution allowed for an improved flooring system without altering the original scale of the buildings.

Other work at the site included replacing the deteriorated galvanized steel roofs. The designers chose new roof sheeting compatible with the traditional compacted galvanized steel. Workers repainted the exterior masonry using traditional lime wash and reconstructed the timber deck verandas, and also built a new connecting link between the cottages, based on physical evidence of a prior one.

For the interior, workers installed new tiles on suspended fibreboard flooring. The workers also stabilized and reconstructed the fireplaces with the original bricks, using traditional technology and skills. The interior plasterwork relied on traditional methods of application, with specialists employing three coats of lime plaster on stainless steel expanded mesh. This method allowed the new plaster to match the remaining original plaster.

PROJECT TITLE

EXETER FARM

LOCATION

GLENWOOD,
NEW SOUTH WALES,
AUSTRALIA

SIZE

3,000 SQUARE METRES
(BUILDINGS AND GROUNDS)

COST

APPROXIMATELY US\$ 876,000

RESPONSIBLE PARTY

HISTORIC HOUSES TRUST OF NEW
SOUTH WALES (NOW
SYDNEY LIVING MUSEUMS)

HERITAGE ARCHITECT

DESIGN 5 – ARCHITECTS PTY LTD.

CONTRACTOR

SYDNEY RESTORATION
COMPANY

DATE OF COMPLETION

OCTOBER 2010



The conservation team also sought to conserve the remaining integrity of the surrounding land. The team introduced new planting that complements the cottages and enhances the rural setting.

CONSERVATION AND THE COMMUNITY

The conservation and restoration of Exeter Farm offers a successful model for returning heritage buildings to the community. In the context of a tight housing market, with more demand than supply, this project has practical as well as heritage value. It has brought abandoned structures back into use and enabled these houses to be used as originally intended.

This project not only rescued houses of historical significance, but also served as an educational tool for the local community and the wider professional field. As relatively intact building structures, the cottages are a valuable source of information on early colonial construction techniques. The lead contractor employed young apprentices who worked on the project throughout the restoration process. As an outcome, this group of artisans can take on future projects employing traditional building skills and applying best conservation practices. Demonstrations were also provided on-site for trades professionals in order to educate others involved in construction and the general public about the restoration work.

Today, the houses have strictures on their use that adhere to specific guidelines imposed by the trust. These include using traditional building and construction techniques whenever the property requires repairs in future. In addition, the owners of the houses are contractually bound to retain the heritage features and to allow public visits several times per year. These Endangered Houses Fund rules were designed to financially sustain building ownership, as well as protect heritage features and promote ongoing use and enjoyment of significant heritage buildings for future generations.

The conservation of Exeter Farm has enlightened the wider public on the importance of the structures. Public open days continue to promote awareness of this site and of the methods and technology used for its conservation. The entire site continues to be a source of knowledge for professional conservationists, historians and the general public, and, as an important heritage asset, it enriches the suburban area and the state of New South Wales.

SHRI SAKHARGAD NIWASINI DEVI TEMPLE COMPLEX

INDIA

THE STRIKING TRANSFORMATION OF THE SHRI SAKHARGAD NIWASINI DEVI TEMPLE COMPLEX TESTIFIES TO THE COMMUNITY'S COMMITMENT TO THE REVITALIZATION OF A UNIQUE RELIGIOUS MONUMENT. FUNDED PRINCIPALLY BY THE KULKARNI FAMILY, DESCENDANTS OF THE TEMPLE'S ORIGINAL BUILDERS, THE PROJECT REQUIRED WIDE-RANGING REPAIRS COUNTERACTING CENTURIES OF WEATHERING, BIOLOGICAL GROWTH AND VANDALISM. EXTENSIVE RESEARCH REVEALED THE COMPLEXITY OF PAST INTERVENTIONS, PROVIDING A TEMPLATE FOR INFORMED CONSERVATION DECISIONS. PAINT ANALYSIS DISCLOSED THE VIBRANT PALETTE OF THE ORIGINAL MONUMENT, A KEY FACTOR IN SELECTING THE COLOURS AND DESIGNS FOR THE TEMPLE'S RENEWAL IN A MANNER CONSISTENT WITH THE COMMUNITY'S EXPECTATIONS FOR A LIVING RELIGIOUS MONUMENT. THE UPGRADING OF THE COMPLEX HELPED ENSURE THAT THE SITE WILL CONTINUE TO SERVE AS A PLACE OF DEVOTION AND VENERATION FOR MANY YEARS TO COME.

2014

AWARD OF MERIT



PROJECT SYNOPSIS

The Shri Sakhargad Niwasini Devi Temple Complex, located near the village of Kinhai in Satara District of Maharashtra State, India, was built in 1745 AD. The property symbolizes the deity 'Yamai Devi', the patron goddess of the Pratinidhi family. This family is important in the area as they were the *kulkarni* (accountants) of Kinhai when it was part of the princely state of Aundh.

The temple complex is owned and managed by the Shri Sakhargad Niwasini Devi Devasthan Trust, a non-profit organization that is under the responsibility of the Charity Commissioner of the Government of Maharashtra. The temple complex receives large numbers of devotees, both foreign and local. The trust depends on donations and the charity work of these devotees to carry out its daily activities and annual festivals.

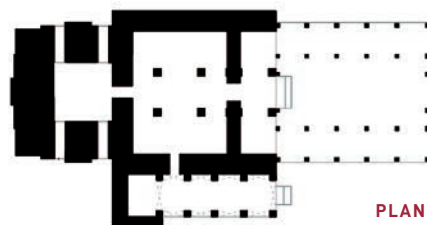
The complex consists of a *yamai mandir* (house of the deity) topped with a *shikhar* (spire), four *deepmala* (light towers), a gateway building, a priest's residence and a janitor's residence. The form, scale and proportions of the *shikhar* and the *deepmala* make them dominant features of the complex, and they are oriented to be visible from a distance. Located on top of a mountain, the complex is protected by enormous defensive walls and bastions, which impart an imposing presence. A majestic flight of stairs leading to the gateway adds to the fortification's impressive character.

Combining Yadava and Bahmani styles of architecture, the complex displays many examples of unique folk art and a strikingly high level of artisanship. A similar level of accomplishment can be seen in the *wada* (traditional houses) of Kinhai village. As a relatively unknown site, the fortified temple complex is a rare surviving heritage asset, featuring unique religious and civil monuments and exhibiting extraordinary decoration.

Prior to the conservation project, the temple complex faced several significant issues. The region's humid, tropical climate had weathered the stones and caused structural deterioration, while strong winds and lashing rains had worn down the *shikhar*. Similarly, nearly all of the 144 iconographic images, floral bands and cornices had deteriorated significantly from extreme weathering. The heavy rain and the harsh winds had also caused the colours of the complex to fade. Cracks were evident on the walls, along with water seepage and related problems, and weeds grew in the crevices. Inadequate security measures had enabled vandalism along the fortress



COMPLEX BEFORE AND DURING RESTORATION



PLAN

THE TEMPLE COMPLEX IS NOT A LISTED HERITAGE STRUCTURE; HENCE IT WAS NOT BOUND TO ANY HERITAGE REGULATIONS. YET, THE CONSERVATION WORKS WERE DONE IN ACCORDANCE WITH SELF-IMPOSED REGULATIONS LIKE THE USE OF LOCAL MATERIALS AND TRADITIONAL TECHNOLOGY.

— QUOTE FROM PROJECT TEAM —



RESTORED SHIKHAR AND DEEPMALA

walls, and the entire complex had suffered from insensitive additions and alterations.

The project aimed to re-establish and preserve the complex's important historic and religious associations and to maintain the site's reputation as an architectural landmark that showcases material heritage in an amalgamation of styles and craftsmanship. In particular, it aimed to preserve the Shri Sakhargad Niwasini Devi Temple Complex's authenticity and delay the processes of deterioration. The project also sought to remove additions and restore the site's beauty.

Conservation measures, directed and financed by the descendants of the Pratinidhi family, relied on consultation with the community and other stakeholders and addressed immediate issues of structural, spatial and material consolidation and renovation. Initiated in 2009, the project was completed in 2013.

CONSERVATION APPROACH

Prior to undertaking conservation work, the project team undertook a careful study of the original paint layers on the painted surfaces and the original construction materials and techniques. A combination of traditional materials (notably stone, lime, sand, wood, brass and brick) and newer materials (including polymer paints, aluminium sheeting and stainless steel) provided the basic ingredients for the restoration project, as set out in the project guidelines.

In repairing the main entrance gateway, the artisans carefully removed layers of blue paint to expose the original shade. To ensure historical accuracy, the project designers decided not to alter the hand-painted mural on the arched ceiling of the gateway building, which had discoloured over time.

Enamel paint had been applied to other stone and wooden surfaces as well, hiding the original finish of the materials. To restore their original appearance, workers carefully chiselled away the paint. This process exposed other defects that required rectifying.

For the restoration of the various parts of the *yamai mandir*, such as the *gabhara* (inner sanctum) and the *sabha mandapa* (assembly pavilion), the workers removed incompatible materials, including oil paint that had been applied to original stonework and woodwork, taking care not to damage the original surfaces. Following cleaning, they were able to address the many structural defects, such as cracks in the stonework and woodwork.

PROJECT TITLE
SHRI SAKHARGAD NIWASINI DEVI
TEMPLE COMPLEX

LOCATION
KINHAI, MAHARASHTRA, INDIA

SIZE
1,500 SQUARE METRES

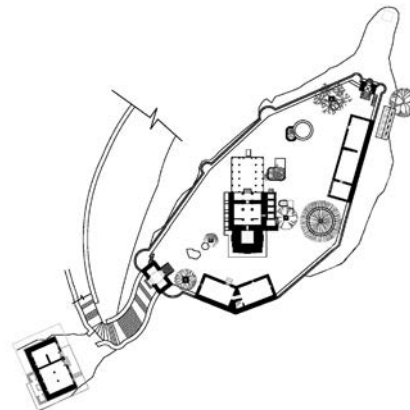
COST
APPROXIMATELY US\$ 100,000

RESPONSIBLE PARTY
KINHAIKAR KULKARNI
FAMILY PATRONAGE

HERITAGE ARCHITECT
KIRAN KAAJALI
ANJALI KALAMDANI

CONTRACTOR
SAVANI CONSTRUCTIONS PVT. LTD.

DATE OF COMPLETION
AUGUST 2013



SITE PLAN

For the spire, workers addressed the damaged sections, which accounted for almost 20 per cent, by removing them and applying new material. The workers then applied a 1:3 lime-sand traditional mortar. Artisans replicated the external finish of the lime stucco with its integral pigments, repainting finer details, such as the eyes and fabric-like designs.

Restoration of the *deepmala* proved particularly difficult as it required the workers to scale the 13 metre high stone towers, dismantle the carved stone courses and remove deeply-rooted vegetation growing on the surfaces, then, following all this, meticulously reassemble the stonework.

The project also included weatherproofing the roofs through installing a layer of aluminium sheeting to prevent rainwater leaking through gaps in the clay tiles, and involved removing layers of cement-based materials and replacing them with lime-based materials.

CONSERVATION AND THE COMMUNITY

The conservation of the Shri Sakhargad Niwasini Devi Temple Complex has reinvigorated the spiritual significance of the site by protecting the architectural features and religious elements that lie close to the heart of the local community. The restoration work has also lengthened the lifespan of the temple complex.

Substantial media coverage provided important publicity for the site that has raised local awareness and highlighted the need for conserving such heritage assets. The publicity has also increased visitation to this remote site.

The project received positive feedback from the community and has instilled an upbeat attitude to heritage structures among communities in the region. The pride exhibited by the owners offers hope that this initiative will lead to similar projects elsewhere in the future.

FRANKTON BOATSHED

NEW ZEALAND

SAVED FROM DEMOLITION, THE FRANKTON BOATSHED COMPLEX IS AN OUTSTANDING EXAMPLE OF A HISTORIC PROPERTY REGENERATED THROUGH A COMBINATION OF BROAD-BASED STAKEHOLDER INVOLVEMENT AND PRACTICAL BUSINESS ACUMEN. A CITIZEN'S GROUP MOBILIZED PUBLIC AWARENESS ABOUT THE HISTORIC BUILDINGS AND SECURED LEGAL PROTECTION AND FUNDS FOR THE RENOVATION WORK. DATING TO 1870, WITH VARIOUS LATER ADDITIONS, THE BOATSHED AND ASSOCIATED BUILDINGS WERE RESTORED AFTER IN-DEPTH RESEARCH AND INVESTIGATIONS WERE UNDERTAKEN. THE FACILITY CONTINUES TO SERVE AS A BOAT STORAGE AND REPAIR YARD, WHILE NEW FUNCTIONS SUCH AS A CAFÉ AND RESTAURANT ANCHOR ITS NEW ROLE IN THE COMMUNITY AT LARGE.

2014

AWARD OF MERIT



Wittm

PROJECT SYNOPSIS

The Frankton Boatshed is located on the shore of Lake Wakatipu in the Central Lakes District of New Zealand's South Island. Lake Wakatipu was once an active site for shipping and trade, serving as a platform for transporting goods, such as food and wool, and supplies for local miners.

The Frankton Boatshed site consists of two buildings: a boatshed and a timber-framed cottage. According to historical records, the cottage, which was not originally constructed on the site, dates from the 1870s and was likely first used as a store elsewhere in the town of Frankton. It was later used as offices for the Lake Wakatipu Steam Shipping Company, and was then acquired by New Zealand Railways in 1902 for use as a shipping office.

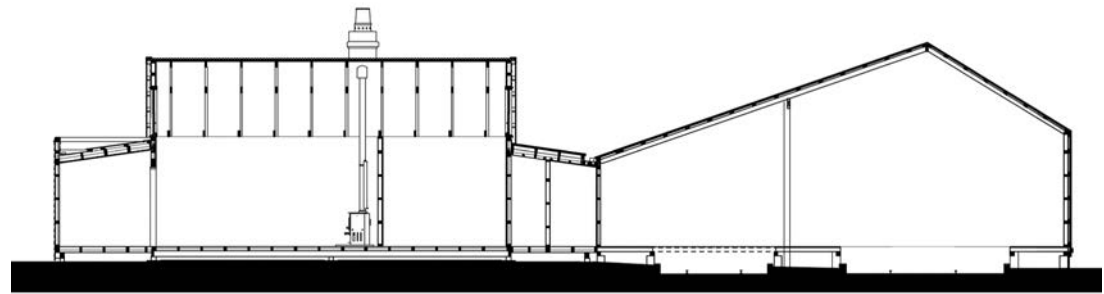
In 1934, a local boatman named Frank G. Duncan constructed a boatshed (slipway) next to the lake using salvaged timber. Two years later, Duncan purchased the then-defunct shipping office building, dismantled it and reassembled it near his boatshed, to be used as his holiday house.

Between 1966 and 1995 the buildings changed owners and underwent a series of renovations. The various owners made insensitive modifications to the structures, such as the removal of old windows and external wall claddings, as well as the addition of a roof of modern steel sheeting to the cottage, diminishing the building's appearance. One of the most significant alterations to the site occurred in 1995 when the owner installed new supports for the cottage, demolished a lean-to and constructed a two-storey house next to the cottage and boatshed.

By 2002, the buildings were vacant and were in a severe state of disrepair. Not only had they suffered significant weathering and storm damage, they had been vandalized. Given the poor condition of the buildings, the local council ordered them to be demolished and the site cleared. This order was opposed, however, by a small group of local residents who had been advocating for the protection of the site since 1999.

In 2005, the champions of the boathouse and cottage established the Wakatipu Community Maritime Preservation Society (WCMPS) to raise funds for a project to conserve the buildings. After many years of advocacy and struggle the WCMPS won the battle, and the conservation project commenced in January 2012.

The project, which took nine months to complete, sought to preserve the boatshed and return it to its original use as a boat ramp and site for boat repair, and to



SECTION

THE WORK TO THE BOATSHED WAS JUST REPAIR, BUT THE CHALLENGE WAS NOT TO DO TOO MUCH SO THAT THE HERITAGE VALUES AND *AD HOC*, ARTISAN QUALITIES OF THE BUILDING WERE LOST. FROM A CONSERVATION POINT OF VIEW, IT IS QUITE GRATIFYING THAT DESPITE MONTHS OF WORK AND A NOT INCONSIDERABLE AMOUNT OF MONEY, MANY PEOPLE CANNOT SEE WHERE THE REPAIR WORKS WERE DONE.

— QUOTE FROM PROJECT TEAM —



BEFORE: LARGER SLIPWAY LOOKING FROM THE LAKE. NOTE THE DISTORTION IN THE TIMBER FLOOR ON THE RIGHTHAND SIDE.



AFTER: THE LARGER SLIPWAY LOOKING FROM THE OPPOSING DIRECTION. THE SMALLER SLIPWAY IS ON THE LEFT AND HAS THE REMOVABLE FLOOR COVERING IN PLACE FOR WORKSPACE AND SAFETY REASONS.

convert the cottage into a restaurant. This new use has provided public recreational and educational venues; thereby ensuring its continued relevance to the community. The reuse of the cottage has been highly successful and the restaurant is frequented by both tourists and locals alike, while the boatshed is used and maintained by the Queenstown Kayak Club. The site is today listed in the Inventory of Protected Items of the Queenstown Lakes District Council District Plan.

CONSERVATION APPROACH

A guiding principle of the project was to ensure that the conservation and adaption of the buildings matched the original spirit and approach of the original builders; who were resourceful in view of the remote location and barren terrain of the site, and therefore the lack of building materials such as hardwood. Another guiding principle was minimal intervention.

To better understand the site's cultural heritage values – both tangible and intangible – the WCMPSC conducted systematic documentation, oral research and physical investigations of the buildings. The findings of these studies and the results of an archaeological investigation informed the conservation work.

Considering the site's heritage value, the restoration team decided that the large house that stood between the cottage and boatshed should be demolished. The 1995 building obstructed the views between the cottage and the boatshed and overpowered the surroundings.

In view of the many modifications to the cottage over the years, the team decided to restore the appearance of the building to the time of its use as a railway shipping office. The intention of the team was to bestow upon the cottage a familiar identity that could be readily understood and appreciated by visitors. The team also hoped that the re-created shipping office would engage visitors in the history of the site. Overall, the team's aim was to reflect historical accuracy and to interpret the history of the site for future generations.

The conservation work focused on correcting structural and weatherproofing issues. The cottage had no proper valley gutter when it was relocated, resulting in trapped water, which had led to the decay of timber elements. Along with a new gutter system, the team reinstated the lean-to and reintroduced drainage zones. The materials-focused examination of the property had revealed the

PROJECT TITLE

FRANKTON BOATSHED

LOCATION

QUEENSTOWN, OTAGO,
NEW ZEALAND

SIZE

425 SQUARE METRES
(INCLUDING THE NEW
ADDITIONS)

COST

APPROXIMATELY US\$ 675,000

RESPONSIBLE PARTY

WAKATIPU COMMUNITY
MARITIME PRESERVATION SOCIETY
QUEENSTOWN LAKES
DISTRICT COUNCIL
NEW ZEALAND HISTORIC
PLACES TRUST
RAIL HERITAGE TRUST
OF NEW ZEALAND

HERITAGE ARCHITECT

DAVID STRINGER ARCHITECTS LTD.
JACKIE GILLIES + ASSOCIATES LTD.

CONTRACTOR

EDGE CONSTRUCTION

DATE OF COMPLETION

OCTOBER 2012



exact location and size of the former windows, along with two four-pane window sashes in the cottage's roof; and these served as major inspiration for the incorporation of a dining space at its front elevation.

To stay true to the spirit of the original builders, the project's designers used salvaged timber materials and locally-sourced materials for the repairs. The team also resisted steps that would have 'upgraded' the site to meet more modern expectations. For example, workers repaired a basic plexiglass window using plexiglass, with no effort to improve its visual clarity.

For the decayed timber piles of the boatshed that needed replacement, the contractor used salvaged wood, while ensuring that the new piles were distinguishable from the remaining original piles. The tin roof of the boatshed was removed and re-rolled, then reinstalled in its original position.

On the interior, new work addressed safety issues and ensured the buildings were watertight. The team preserved the existing patina, including visible wear and paint spillage from previous use. This helped retain the buildings' sense of place. In addition, on a wall inside the cottage they displayed the original 'New Zealand Railways Shipping Office' sign that had once been on an exterior wall.

As part of the site's adaptive reuse and financial sustainability, the conservation team introduced a restaurant on the site. The revenue generated from the restaurant not only supports the maintenance of the buildings, but draws visitors to the area and helps to sustain the local economy.

CONSERVATION AND THE COMMUNITY

The Frankton Boatshed conservation project has demonstrated the viability of preserving heritage buildings and therefore the value of preventing the demolition of structures, even when they are considered to be irreparable. While raising awareness of heritage conservation the project has also rekindled public interest in the site's nautical history. Furthermore, with the region under extreme redevelopment pressure, the conservation project has served to safeguard vulnerable heritage while contributing to the socio-economic development of the area.

WAK HAI CHENG BIO

SINGAPORE

THREATENED BY TERMITES, MOISTURE PENETRATION AND NEGLECT, THE WAK HAI CHENG BIO TEMPLE BECAME THE FOCUS OF A TIMELY CONSERVATION AND RENEWAL EFFORT DUE TO THE INTERVENTION OF THE NGE E ANN KONGSI, THE TEMPLE'S TRADITIONAL CUSTODIANS. DATING TO THE EARLIEST YEARS OF CHINESE MIGRATION TO SINGAPORE, THE HISTORIC BUILDING FACED AN ARRAY OF PROBLEMS, INCLUDING STRUCTURAL INSTABILITY AND A SUCCESSION OF INAPPROPRIATE REPAIRS OVER MANY YEARS. GUIDED BY LONGSTANDING INTERNATIONAL RESTORATION PRINCIPLES AND SENSITIVITY TO RETAINING THE BUILDING'S PATINA, THE HISTORIC ARCHITECTURAL ORNAMENTATION, INCLUDING GILDING AND TIMBER DETAILS, WERE METHODICALLY AND METICULOUSLY CONSERVED. AN ICON FOR SINGAPORE'S TEOCHEW COMMUNITY, THE RESTORED TEMPLE TODAY CONTINUES ITS FUNCTION AS A PLACE OF WORSHIP AND A SYMBOL OF COMMUNITY PRIDE.

2014

AWARD OF MERIT



PROJECT SYNOPSIS

Located in the heart of the central business district, Wak Hai Cheng Bio (also known as Yueh Hai Ching Temple) is one of the Singapore's oldest Chinese Teochew temples. Situated amidst the city's high-rise buildings, protected by a boundary wall topped with green glazed coping tiles and decorative features, the temple functions as an urban oasis for devotees, residents, office workers and tourists alike.

Believed to have been established in the 1820s, the temple is an example of Chaozhou (Teochew) regional architecture, with distinctive Southeast Asian (Nanyang) influences. The temple consists of two buildings that were built by immigrants to Singapore from Guangdong Province in China. They travelled to Singapore by sea and built the temple buildings on arrival to express gratitude for their safe journey. The temple buildings contain shrines dedicated to the goddess of the sea (Mazu) and to Xuan Tian Shang Di (also known as Lao Ye), an ancestral deity of the people from the Teochew region of Guangdong Province. The two buildings are believed to have been merged in 1826 and the temple was named Wak Hai Cheng Bio (Yueh Hai Ching Temple) at that time. Its name, which translates as 'Temple of the Calm Seas for the people from Yueh' who originated from what is now modern-day Guangdong. By including the ancestral roots within its title, the temple represents the early history of immigration to Singapore of the Teochow people and underscores the temple's connection to the larger Teochow community in China.

The temple has historic and cultural importance as it was the focal point of social and spiritual activities for the Chinese Teochew immigrant community in the former British colony. It has continued to occupy an important place in local life for almost 200 years, serving the religious and cultural needs of the local community and playing an important social role in linking the various Chinese groups in Singapore. Recognizing the temple's significance, on 28 June 1996 it was gazetted as a national monument of Singapore. It is also protected under the Preservation of Monuments Act 2009.

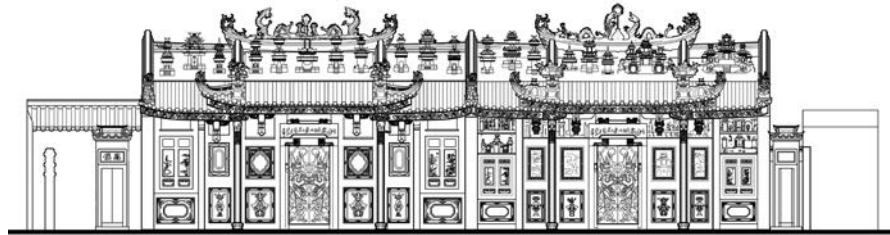
Research suggests that the temple was expanded between 1852 and 1855 and reconstructed between 1895 and 1897. There is little documentation or evidence of repairs over the following hundred years. A renovation project was carried out between 1994 and 1997, but following this effort the site deteriorated. *Ad-hoc* repairs

were undertaken to the temple's architectural finishes and to address termite and moisture damage but these were inadequate for long-term protection.

In 2011, recognizing the cumulative problems, the owner of the temple, the Ngee Ann Kongsi, made the decision to carry out a full-scale conservation of the site. The conservation project had seven specific aims: retain the original components as much as possible; guarantee the safety and functional longevity of the buildings; rectify structural issues; reinstate missing components based on extant evidence, without conjecture and with a clear differentiation between old

and new; retain the historic authenticity of the temple; use techniques and materials based on conservation requirements; retain evidence of time, including evidence of a place's evolution; and document all conservation decisions and interventions.

The project, which began on 8 February 2012, required cooperation between academics and local practitioners, and employed both traditional methods and contemporary scientific tools. With the completion of the project on 31 March 2014, Wak Hai Cheng Bio today once again welcomes devotees and visitors, including local families and international tourists.



ELEVATION

THE HOLISTIC APPROACH ADOPTED FOR THIS PROJECT, TOGETHER WITH ITS VARIETY OF CRAFT AND INTRICATE ARCHITECTURAL DETAILS WILL HOPEFULLY ASSIST IN THE SHARING OF THE CONSERVATION EXPERIENCE AND KNOWLEDGE WITH THE PUBLIC AND AID IN THE ADVANCEMENT OF CONSERVATION AWARENESS IN THE FUTURE.

— QUOTE FROM PROJECT TEAM —



FRONT ELEVATION OF TEMPLE AFTER CONSERVATION

CONSERVATION APPROACH

The conservation project was guided by the basic principles of minimum intervention and reversibility, as well as by the recommendations of the Venice Charter, the Burra Charter and the Principles for the Conservation of Heritage Sites in China (the China Principles). Moreover, the project adhered to construction regulations set by the Singaporean government and, in view of the temple's designation as a national monument, to the guidelines issued by the Preservation of Sites and Monuments division of the National Heritage Board.

The team began the conservation process by developing a comprehensive understanding of the technical issues facing the temple complex. This was achieved through an extensive investigation of the buildings and their fabric. The issues consisted primarily of structural weaknesses, material degradation and the loss of architectural and aesthetic finishes. The conservation team conducted visual and photographic surveys, condition assessments, LiDAR, three-dimensional imaging and structured light scanning, and compiled a record of past documentation and measured drawings. Material investigations involved the application of electronic resistographic inspections of the structural timber, as well as the use of scanning electron microscopy (SEM) with energy-dispersive x-ray (EDX) and x-ray fluorescence (XRF) spectroscopy to examine the buildings' plaster, paint finishes and frescoes.

The project placed a particular emphasis on the use of appropriate techniques by master artisans, skilled workers and surveyors. Due to the high level of craft skills represented in the temple's intricate ornamentation, the project required skilled artisans specializing in Chinese and Teochew architecture. The initial stage of the conservation project therefore also included trips to Chaozhou to study temples there and to find artisans with the traditional skills required to conserve the structures. The decision to employ experts contributed to the authenticity of the temple's conservation and helped to support the continuation of traditional skills.

The project sought to retain as much as possible of the temple's original materials and features, and therefore repaired elements rather than replacing them. When an original component could not be repaired, the conservation team replaced it using materials of similar physical and chemical properties. For example, the team replaced degraded timber elements with a similar species

PROJECT TITLE

WAK HAI CHENG BIAO

LOCATION

30B PHILLIP STREET,
SINGAPORE

SIZE

1443.9 SQUARE METRES

COST

APPROXIMATELY

US\$ 5.95 MILLION

RESPONSIBLE PARTY

NGEE ANN KONGSI
YUEH HAI CHING TEMPLE
RESTORATION SUB-COMMITTEE

HERITAGE ARCHITECT

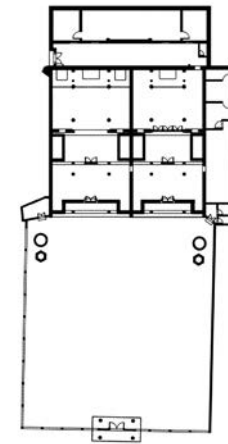
YEO KANG SHUA
RAYMOND WOO & ASSOCIATES
ARCHITECTS

CONTRACTOR

JI CHUANYING ANCIENT
ARCHITECTURE BUILDING
CCM INDUSTRIAL PTE LTD.

DATE OF COMPLETION

MARCH 2014



PLAN



SHRINE BEFORE AND AFTER RESTORATION



COMPONENTS ON THE ROOF BEING REMOVED FOR CONSERVATION TREATMENT



MOCK-UP ROOF TILING



CRAFTSMAN OVERPAINTING THE CERAMIC ORNAMENTATIONS

of hardwood to the original. This avoided creating an appearance that never existed historically. Workers also made certain that the new finishes matched those of the old, while still being distinguishable from the early work.

In cases where traditional materials and techniques could not adequately address the issues, the project team used modern materials and chemicals. For example, workers applied protective polymer coatings, after extensive trials, on the plaster ornamentations and frescoes, and used chemical waterproofing methods to curtail the problem of rising damp. Likewise, workers inserted corrugated stainless-steel sheets under the soffit tiles and clay tiles of the roof to improve waterproofing.

CONSERVATION AND THE COMMUNITY

Since the project's completion, the temple has gained in popularity and aside from devotees also attracts local and international visitors interested in Singapore's culture and heritage. Thus, by conserving the temple and retaining its function as a religious site, the project has enabled the temple to continue to serve an active group of devotees as well as open the site and its history to visitors from various groups and nationalities. Overall, the Wak Hai Cheng Bio project has increased public awareness of heritage sites as well as providing an important example for other temple restorations in Singapore.



FRONT VIEW OF THE ENTRANCE GATEWAY WITH THE BOUNDARY WALL RECONSTRUCTED USING ARCHIVAL DOCUMENTATION

TECHNICAL BRIEF

USE OF ANALYTICAL TESTING TOOLS IN CONDITION ASSESSMENT

In the restoration of Wak Hai Cheng Bio, the project team employed several analytical testing tools and procedures to gain a better understanding of the historic materials. The use of such tools is valuable in cases in which visual and tactile surveys alone are insufficient for ascertaining the condition of the materials.

During the restoration, the project's technicians discovered that the highly carved hanging struts, the *chuihuatong* (垂花筒), at the front elevation of the twin shrines were subject to wet rot and termite infestation in their mortise joints. The technicians had differing opinions regarding the treatment of the *chuihuatong*; some thought it was possible to repair them, others felt it was necessary to completely replace them. To detect the level of wood decay and identify hollow areas and cracks, the team employed resistance drilling, a fast, accurate and non-destructive testing method that uses an electronic, high-resolution needle drill to measure resistance in timber. With a maximum needle diameter of three mm, the drill hole 'closes' itself with sawdust as the needle exits the wood; the size of the hole (damage) is therefore considered negligible. The results of the analytical test indicated that the original timber was strong enough to allow for the repair of the *chuihuatong*. This repair process involved removing degraded sections of timber and replacing them with new timber pieces, connecting the old and new timber with splice joints.

Another analytical tool used on-site by the conservation team was a portable x-ray fluorescence (XRF) spectrometer. The team used this to determine the



WOODEN ELEMENTS WERE INVESTIGATED



PLASTER RELIEF PANELS

elemental composition of the pigments of the frescoes on the plaster relief panels; XRF spectrometers establish the elemental composition of a sample by measuring the fluorescent x-ray emitted when excited by a primary x-ray source.

In addition, the team collected small cross-section samples of materials at the site (surface to substrate) and tested these in the laboratory using scanning electron microscopy (SEM) with energy dispersive x-ray spectroscopy (EDX). The SEM obtains detailed high-resolution images of the sample, rastering focused electron beams across the surface and detecting the backscattered electron signal. The EDX provides quantitative compositional information about the elements. This data can then be compared with the XRF data about the surface pigments. The team also analysed older layers of pigments, as well as the substrate.

The information provided by the XRF and the SEM/EDX, together with data gathered through visual and tactile surveys, assisted the project team to formulate a suitable restoration method for the plaster relief panels and frescoes. After cleaning the fresco surfaces, the team consolidated the panels chemically. Technicians then applied to the panels a layer of reversible protective coating (this can be removed with acetone or ethanol). With the application of this protective coating, however, the traditional method of fresco painting could not be used, so the restorers therefore used the 'secco' method, involving applying paint to dry plaster, to touch up the panels, without interfering with the original fresco painting.

Yeo Kang Shua

PHRAYA SI THAMMATHIRAT RESIDENCE

THAILAND

THE RESTORATION OF THE EARLY TWENTIETH-CENTURY PHRAYA SI THAMMATHIRAT RESIDENCE IN BANGKOK'S PATHUMWAN DISTRICT IS A PRIME EXAMPLE OF MULTIPLE-STAKEHOLDER COMMITMENT TO THE PRESERVATION OF A BUILDING WITH SIGNIFICANT HERITAGE VALUE. THE OWNER, THAILAND'S CROWN PROPERTY BUREAU, AND THE TENANT, THE THAI-CHINESE EDUCATION AND CULTURE FOUNDATION, ENLISTED CONSERVATION EXPERTS TO RESEARCH THE HISTORY OF THE BUILDING, A PROCESS THAT SHED LIGHT ON THE BROADER CONTEXT OF THE HERITAGE SITE AND REVEALED ITS ARTS AND CRAFTS-STYLE DECORATION, NOTABLY A SUITE OF INTRICATE MURAL PAINTINGS AND DECORATIVE ELEMENTS. THE PROJECT RENEWED THE LANDSCAPE SETTING AND EXTERIOR FINISHES AND REINSTATED THE RICH INTERIOR TREATMENT OF THE FORMER PRIVATE HOUSE, NOW HOUSING THE SITABUTR BAMRUNG SCHOOL. AFTER RESTORATION, THE PROPERTY ENJOYS A VIBRANT ROLE AS A CENTRE FOR CULTURAL EXCHANGE AND EDUCATION FOR THE THAI-CHINESE COMMUNITY.

2014

AWARD OF MERIT



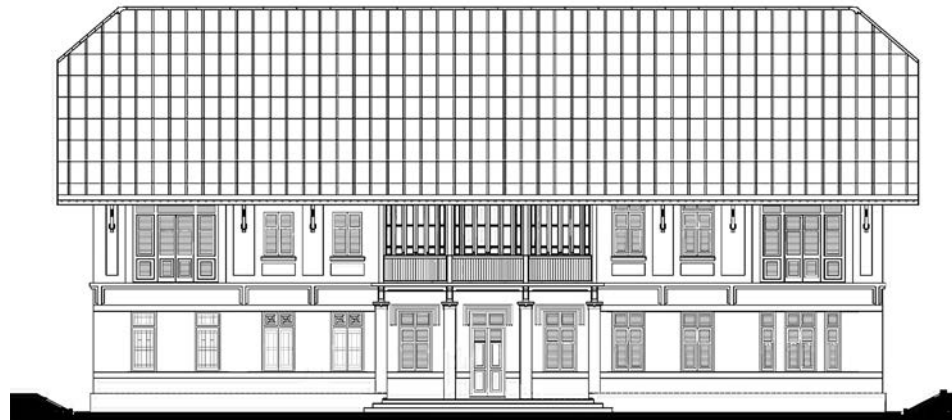
PROJECT SYNOPSIS

Phraya Si Thammathirat Residence was formerly the home of Phraya Si Thammathirat, a high-ranking official who aided in developing the administrative system during the reigns of King Rama V (1868-1910) and King Rama VI (1910-1925). While the exact construction date is unknown, the house was likely built in the early 1900s. Located in the Rong Muang area of Pathumwan District in Bangkok, Thailand, the residence occupies former rice-growing land designated by King Rama V for residential development. Around 1910, ownership of Phraya Si Thammathirat Residence transferred to the Crown Property Bureau (CPB), which rented out the site. Since 1947, the house has had an educational function, under lease by the Thai-Chinese Education and Culture Foundation (TCECF).

Between the 1860s and 1920s, the Rong Muang area was popular among high-ranking officials and the houses built in the area at the time reflected the modernization and Westernization of housing of the period. Over time, however, changes in Thai society and property ownership transformed the Rong Muang area, such that by the turn of the twenty-first century all of the original houses in the area had been demolished, with the exception of the Phraya Si Thammathirat Residence. It remains as a testimony to the life and times of a particular era in Bangkok's history.

The rectangular two-storey Arts and Crafts-style residence is made of brick covered with plaster. Its most prominent exterior features are its simple white walls, an ornate recessed entry, a full-width colonnade and glass-enclosed veranda and a large overhanging roof. The roof displays decorative brackets and dramatically-clipped gable ends. Although the building shows the influence of Western architectural styles, the inclusion of elements such as Chinese zodiac horse motifs and auspicious dot-designs are a testament to the original owner's heritage. The interior presents elaborate murals, mouldings and intricately carved decorative woodwork, revealing a high level of artisanal skill and keen attention to detail.

Over its history, the site lost a significant amount of historic fabric and character. Weathering resulted in the degradation of external building surfaces and details, and the roof began leaking. The building remained structurally sound but the overall appearance diminished over time. Occupants removed most of the garden features and, accommodating the building's use as



ELEVATION

THE CONSERVATION PROJECT HAS RESTORED ALMOST 100 PER CENT OF THE ORIGINAL APPEARANCE OF THE RESIDENCE – AN ACCOMPLISHMENT THAT RESULTED FROM A CONSERVATION PHILOSOPHY THAT AIMED TO RESTORE THE AUTHENTICITY AND ORIGINALITY OF THE HOUSE AS MUCH AS POSSIBLE. TECHNICAL INTERVENTION WAS MINIMAL DUE TO THE ADEQUATE CONDITION OF THE BUILDING, WHICH DID NOT SUFFER FROM STRUCTURAL DAMAGE. MOST OF THE TECHNIQUES THEREFORE CONCERNED THE RESTORATION OF THE ORIGINAL FEATURES OF THE BUILDING.

— QUOTE FROM PROJECT TEAM —

a school, later introduced playground equipment to the site. Moreover, toilets were installed in an insensitive manner, diminishing the site's character further.

In 2008, unaware of the house's heritage status, the TCECF began steps to demolish the house and build a high-rise building on the site. However, a process had been initiated earlier by the Fine Arts Department (FAD) of the Ministry of Culture to register the house as a historic site and the TCECF's plans were put on hold while negotiations took place. After several years the stakeholders, including the CPB, the FAD and the TCECF, reached an agreement to save the old building and undertake a restoration project.

In 2011, a restoration project was launched with the aim of returning the Phraya Si Thammathirat Residence and landscape to their original condition. The owner of

the site, the CPB, was responsible for the preliminary planning and technical assistance during the project, while the tenant, the TCECF, covered most of the costs. The CPB funded the conservation of wall paintings discovered during the restoration, a separate effort costing approximately US\$50,000. Several academic institutions, including King Mongkut's Institute of Technology Ladkrabang, Chulalongkorn University and Rajamagala University of Technology contributed to the project, with their faculty members and students completing a set of architectural measured drawings and designing interior lighting. Under the supervision of staff from the Conservation Management Department of the CPB and other experts, the Phraya Si Thammathirat Residence project was completed in February 2013 after 19 months of work.

CONSERVATION APPROACH

The key principles guiding the project were the retention of original features and materials and the use of the construction techniques of the era during which the house was built. Prior to the work, the team prepared detailed drawings and conducted studies of the building's materials in order to determine the methods and process of conservation.

The project team resolved issues relating to the leaking roof through replacing the asbestos roof tiles with glassfibre reinforced concrete (GRC) tiles. The construction workers also placed a layer of waterproofing material under the overlapping portion of the tiles to prevent moisture ingress.

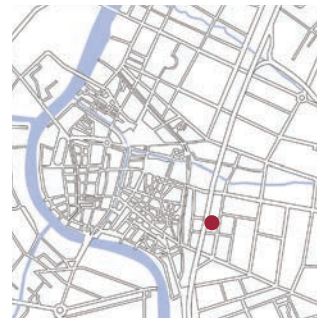
During the removal of paint layers from the interior walls to determine the original colours, the team discovered impressive murals in almost every room. Recognizing their high value, professional conservators appointed by the CPB took on responsibility for their repair and repainting. These conservation specialists cleaned the murals to expose the original colours and filled and repainted missing parts. While most of the walls were restored to their original state, the CPB decided to leave a few sections of the walls untouched or only partially restored so as to show visitors how the building had changed over time.

Restoration of the interior floors involved removing later flooring (made from layers of sand and concrete) that had raised the floor height. During an excavation of the ground level, the archaeological team discovered a significant number of artefacts as well as an original floor of cement tiles. The team installed improved drainage and flood protection systems, repaired the broken tiles and laid replica tiles to replace missing ones. The reinstatement of the original ground level largely restored the original appearance of the house.

CONSERVATION AND THE COMMUNITY

Prior to conservation, the residence was inaccessible to the general public due to its use as an educational facility. During the project, the CPB arranged for public tours of the building and site. These visits attracted a diverse crowd, including students, professionals and journalists. The restoration team encouraged the visitors to publicize the project and these efforts to disseminate information about the house

PROJECT TITLE
PHRAYA SI THAMMATHIRAT
RESIDENCE
LOCATION
BANGKOK, THAILAND
SIZE
530 SQUARE METRES
COST
US\$ 500,000
RESPONSIBLE PARTY
CROWN PROPERTY BUREAU
HERITAGE ARCHITECT
RONARIT DHANAKOSES
CONTRACTOR
PRADITTANARURUK COMPANY LTD.
DATE OF COMPLETION
MAY 2013



MURALS WERE DISCOVERED AND CONSERVED DURING THE RESTORATION

helped to kindle greater interest in and appreciation of conservation among the general public. The TCECF continues to promote the heritage property and has begun a process to develop an exhibition about the original owner and the restoration process. The conserved building now serves as offices for the organization's headquarters and as a venue for special events.

SHAHZADA HUSSAIN MAUSOLEUM

AFGHANISTAN

THE RESTORATION OF THE MAUSOLEUM DEDICATED TO SHAHZADA HUSSAIN REPRESENTED A PIONEERING CONSERVATION EFFORT IN A REMOTE AND UNSTABLE AREA IN AFGHANISTAN. THE WORK ON THE LATE TWELFTH-CENTURY FUNERARY MONUMENT INCLUDED THE STABILIZATION OF EIGHT BRICK VAULTS AND REMOVAL OF LATER ADDITIONS THAT OBSCURED THE HISTORIC CHARACTER OF THE BUILDING. THE PROCESS USED TRADITIONAL CONSTRUCTION TECHNIQUES AS WELL AS NEW MATERIALS WHERE COMPATIBLE WITH THE HISTORIC FABRIC. THE PROJECT INCLUDED A TRAINING COMPONENT TO HELP PERPETUATE TRADITIONAL SKILLS AND KNOWLEDGE, WITH SKILLED ARTISANS AND LABOURERS FROM THE COMMUNITY WORKING UNDER THE GUIDANCE OF CONSERVATION SPECIALISTS. THE RESTORED MAUSOLEUM NOW SERVES AS A RENEWED FOCUS OF DEVOTION.

2014

HONOURABLE MENTION



Winn

PROJECT SYNOPSIS

The mausoleum of Shahzada Hussain is an important example of funerary architecture dating from the twelfth century. Located in the village of Karez, about five kilometres from Lashkargah in Helmand Province, the 317-square metre mausoleum is one of eight large funerary structures in a massive cemetery that runs along the eastern bank of the Helmand River. Its good condition in the context of a harsh, arid region is due to its sophisticated structural system and the inventiveness of its designers in the use of robust, but decorative, brick masonry. In addition to its architectural value, the monument also carries strong social and religious importance. Despite being located in an area that has experienced much conflict in recent decades, the mausoleum receives many visitors.

Historians and art historians have long recognized the significance of Shahzada Hussain Mausoleum, but it was not until 2011 that those entrusted with safeguarding Afghanistan's heritage could begin the process of conserving the mausoleum. An initial survey involved

consultations with community leaders and relevant authorities in Lashkargah and Kabul. A subsequent proposal to the United States' Ambassadors Fund for Cultural Preservation was approved and conservation work began in September 2012. The work was carried out over multiple stages and was completed in October 2013.

Prior to the project, the mausoleum was in an extremely poor condition. Of the original eight brick vaults that once supported the central dome, three had collapsed and two showed indications of deflection (leaning and/or settlement). Despite these circumstances, the dome was still in place. A second issue was the erosion of the traditional mud plaster and of the decorative elements on the interior and on the uppermost section of the dome. A further issue was inappropriate additions to the building, which detracted significantly from its character. These included mud-brick walls that had been erected within the arched openings along the sides of the building.

The work began with the team removing the unsuitable

additions to restore the original character of the building. Next, the workers stabilized the structure; this entailed repairing the brick masonry of the eight piers as well as reconstructing the collapsed vaults. During this stage, experts repaired the decorative elements on the soffits of the vaults, inside the central space and on internal surfaces. Attention then turned to the consolidation of the graves located in the central space of the mausoleum. This step required installing brick paving to facilitate visitor traffic and to mitigate rising damp around the base of the building. The final stage was exterior landscaping. Here, workers restored the surrounding area and created an adjoining walled garden, donated by the community, all of which is today accessible to the general public. The garden, which includes mature mulberry trees, also houses public toilets and a small room for the site caretaker.

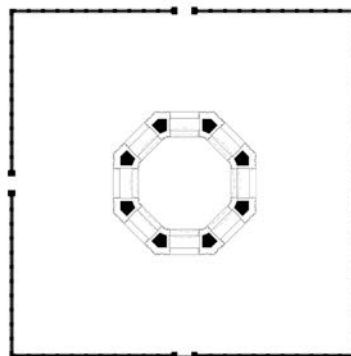
Today, the mausoleum continues to serve its original function as a place of pilgrimage and recreation. After completion, it has welcomed a large number of visitors, indicating its ongoing significance to the community.

THE FACT THAT SUCH A MONUMENT SURVIVED PERIODS OF CONFLICT AND INSTABILITY THROUGH THE AGES ADDS TO ITS VALUE IN A COUNTRY WHOSE BUILT HERITAGE HAS SUFFERED SIGNIFICANT DAMAGE AND DESTRUCTION. DURING THE COURSE OF THE CONSERVATION WORKS, IT BECAME CLEAR THAT THE MAUSOLEUM, DESPITE BEING RELATIVELY ISOLATED, RETAINS SOCIAL AND RELIGIOUS SIGNIFICANCE FOR COMMUNITIES WHO VISIT IT REGULARLY, PARTICULARLY DURING RELIGIOUS FESTIVALS. LOCAL LEGEND HAS IT THAT A BRICK FROM THE DOME OF THE MAUSOLEUM FLIES EVERY YEAR TO MECCA.

— QUOTE FROM PROJECT TEAM —



BEFORE CONSERVATION



PLAN



AFTER CONSERVATION

CONSERVATION APPROACH

The team adopted an approach that prioritized conducting proper documentation, intervening cautiously, and resolving defects and problems with minimum intervention. In the design stage the team studied similar conservation projects, and these studies informed the methodology use.

Given the location and fragile condition of the site, conservation work at the mausoleum had to defer to contextual limitations and complexities. However, the team adhered to best practice as much as possible, including the use of traditional construction methods and materials. The team also considered issues of material compatibility and the impacts of visitors on the site.

Using specially-fired bricks that matched the specifications of the original bricks, the team reconstructed the collapsed arches that spanned the piers. To achieve the correct geometry of the arches, local masons worked with traditional formwork of 'dry' bricks (set in mud mortar), using the surviving arches as a reference. In the subsequent reconstruction of the three collapsed vaults, the masons again used the specially-fired bricks to replace damaged bricks, using traditional lime mortar to lay them. Other structural work included replacing disintegrated horizontal timber ties with more durable ones set in lime mortar. Additionally, the team repaired the masonry 'skirt' around the dome and they stabilized engaged columns and panels on the external elevations. In some cases, entire sections required restoration to make the building 'complete'; in other instances, the team left the elements unfinished to distinguish these parts from new fabric.

Following the stabilization of the supporting structure, the team reconstructed the masonry dome, following its original geometry, and filled cracks on the west side with lime mortar. To aid precipitation runoff, the project team decided to repoint the exposed brick masonry of the dome with lime mortar, even though there was no previous evidence of this finish.

The next step was the restoration of the decorative elements of the mausoleum. This included stabilizing the medallions and capitals on the underside of arches and in the squinches at the base of the dome. Every effort was made to document the inscriptions along the parapet prior to dismantling and reinserting them in the new parapet.

PROJECT TITLE
SHAHZADA HUSSAIN
MAUSOLEUM

LOCATION
KAREZ, HELMAND,
AFGHANISTAN

SIZE
317 SQUARE METRES

COST

US\$ 388,810

RESPONSIBLE PARTY
SAYED JAWAD JAWED
MINISTRY OF INFORMATION
AND CULTURE OF THE ISLAMIC
REPUBLIC OF AFGHANISTAN

HERITAGE ARCHITECT
SAYED JAWAD JAWED

CONTRACTOR
HAFO CONSTRUCTION AND
PRODUCTION PVT LTD.

DATE OF COMPLETION
OCTOBER 2013



DETAILS OF DECORATED BRICK SQUINCH

CONSERVATION AND THE COMMUNITY

From the initial conservation planning stages to the completion of the project, the community was an invaluable asset to the work. Because of the mausoleum's location, communication with the community from the surrounding villages and local authorities, and their inclusion in decision-making, was crucial. Engaging the community, also resulted in conservation planning that answered to the needs of contemporary Helmand.

In undertaking the work, experienced conservation professionals worked side-by-side with local personnel. This allowed artisans to share their expertise, while enabling them to further develop skills specific to this type of site. Because of this collaboration, there is great hope for the long-term maintenance of the mausoleum, as well as for future conservation initiatives in the region.

The project received local and national media coverage portraying the positive steps leading to the restoration of a valued cultural asset. More accustomed to news of devastation and loss, the public welcomed news that celebrated the success of conserving and safeguarding Afghanistan's built heritage.

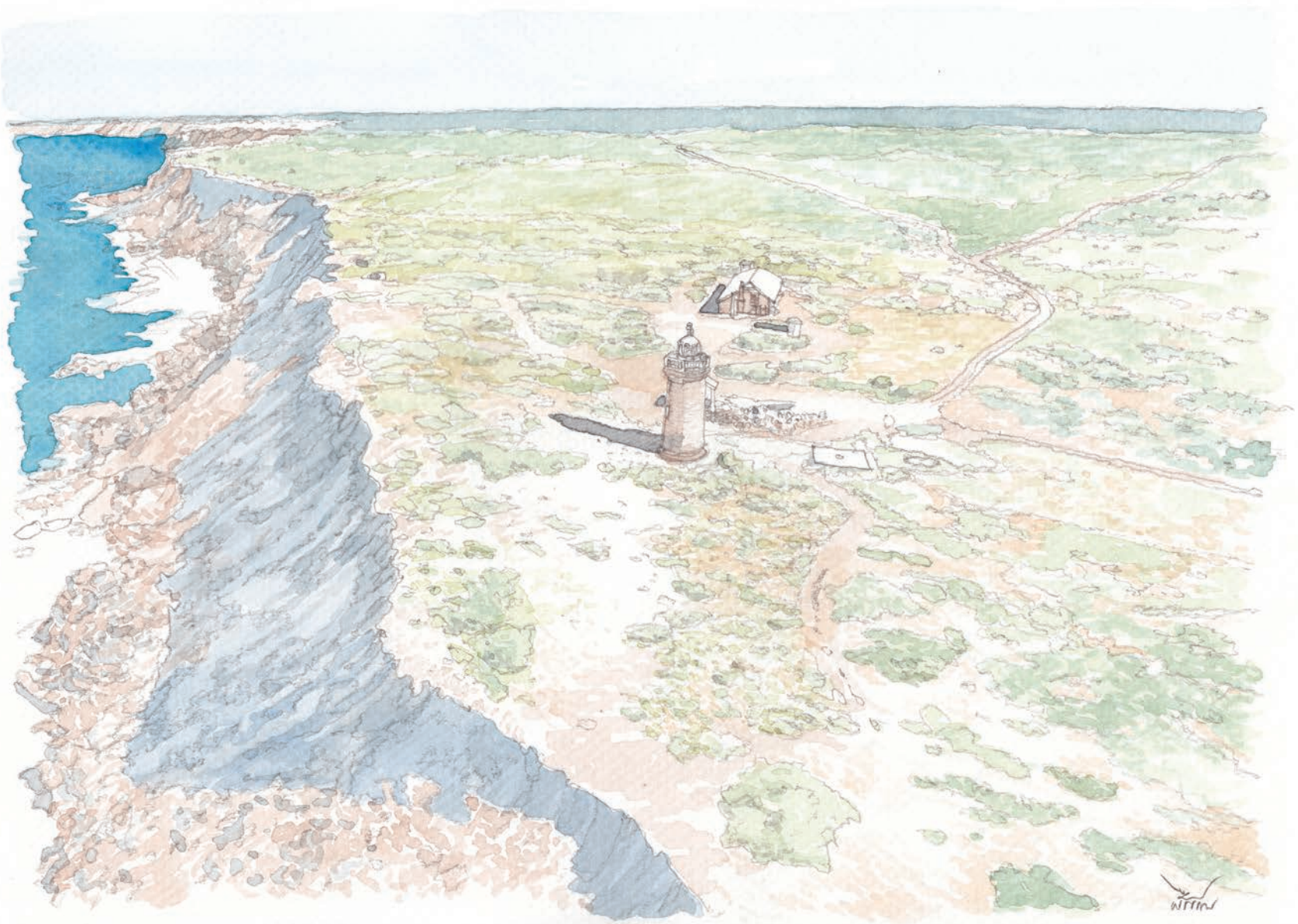
CAPE INSCRIPTION LIGHTHOUSE KEEPERS' QUARTERS

AUSTRALIA

THE RESTORATION AND REPAIR OF THE CAPE INSCRIPTION LIGHTHOUSE KEEPERS' QUARTERS SET A NEW STANDARD FOR HERITAGE CONSERVATION EFFORTS IN AUSTRALIA. OVERCOMING THE REMOTE SETTING WAS IN ITSELF A NOTEWORTHY ACHIEVEMENT AS THE BUILDING IS LOCATED ON DIRK HARTOG ISLAND, OFF THE MOST WESTERNLY POINT OF AUSTRALIA WITHIN THE BOUNDARY OF THE WORLD HERITAGE SITE OF SHARK BAY. PRIOR TO THE START OF THE PROJECT IN 2005, THE TWENTIETH-CENTURY PROPERTY WAS IN A SEVERE STATE OF NEGLECT AND HAD BEEN SUBJECT TO VANDALISM. THE METICULOUSLY-STAGED CONSERVATION EFFORT, UNDERTAKEN BY THE DIRK HARTOG ISLAND COMMITTEE, DEMONSTRATED A CONSISTENT RESPECT FOR THE CONSTRAINTS AND THE FRAGILE ECOLOGY OF THE PROTECTED AREA. THE BUILDING NOW PROVIDES HOUSING FOR WARDENS. MOREOVER, FACILITIES FOR AN EDUCATIONAL PROGRAMME ARE BEING PLANNED.

2014

HONOURABLE MENTION





DELIVERY OF MATERIALS BY HELICOPTER.

PROJECT SYNOPSIS

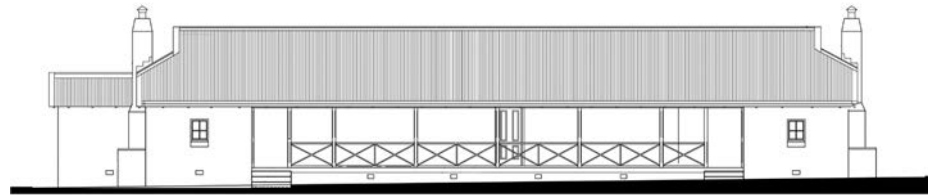
In 1616, a Dutch East India Company ship captain named Dirk Hartog encountered the Australian landmass. Reaching land, he nailed an inscribed pewter dish to a wooden post to commemorate his discovery. The site, now called Cape Inscription, is the first recorded landing point by a European in Australia. Other travellers, including Willem de Vlamingh (1697), Jacques Félix Emmanuel Hamelin (1802), Louis de Freycinet (1818) and John King (1822) also stopped in the area during their travels. The cape later became the site of the Cape Inscription Lighthouse and its associated keepers' quarters.

Located in what is today a nature reserve within the Shire of Shark Bay in Western Australia, the lighthouse and keepers' quarters were constructed in 1909. The lighthouse, which commenced operation in 1910, was one of a series of structures built to facilitate coastal navigation along the northern coast of Western Australia. Designed by the Public Works Department, the structures were made of massed concrete with little reinforcing steel. The lighthouse remains an especially fine example of this early construction technique.

With the control of lighthouses transferred to the Commonwealth in 1915 and the automation of lighthouse operations in 1917, the lighthouse keepers' quarters were abandoned and partially dismantled. This included the removal of the roof, timberwork and other fixtures. Although the lighthouse remained in operation, the surrounding structures suffered from vandalism and salvaging of materials, along with natural deterioration. Prior to the conservation project, all that remained of the old keepers' quarters were the concrete outer walls.

In 2003, a local advocacy organization, the Dirk Hartog Island Committee (DHIC), began an effort to restore the lighthouse keepers' quarters and the associated outbuildings. This move reflected growing public interest in the lighthouse and better access to the headland. With funding from Lotterywest, in 2005 the DHIC initiated the first phase of the conservation work, targeting the structural components. The second phase of works followed in 2012, with funding from the state and federal governments. Setting a benchmark for the restoration of remote buildings and structures, the Cape Inscription Lighthouse Keepers' Quarters restoration project received acknowledgement from the Heritage Council of Western Australia in their 2014 Heritage Awards.

The components of the site, the lighthouse and the nearby quarters, today form an attractive collection of built elements, accentuated by their dramatic natural setting. With its unified construction system, striking geometry and mellow colours, the complex is a favourite site for excursions by historians, the local community and domestic and international visitors. Since the completion of the restoration work in 2012, the Cape Inscription Lighthouse Keepers' Quarters has been used as lodging for wardens and as an interpretive centre.



ELEVATION

THE REMOTE LOCATION FOR THE WORKS PRESENTED SIGNIFICANT CHALLENGES TO THE PROJECT, BUT ALSO EXEMPLIFIES THE GREAT VALUE IN ADAPTING THE PLACE NOW THAT NATIONAL PARK STAFF ARE REQUIRED ON THE ISLAND AND CAN ASSIST WITH THE MANAGEMENT OF THE HERITAGE VALUES OF THE AREA.

— QUOTE FROM PROJECT TEAM —



BEFORE AND AFTER RESTORATION

CONSERVATION APPROACH

The conservation effort at the Cape Inscription Lighthouse Keepers' Quarters closely adhered to the tenets of the Burra Charter. Given the value of the site, the DHIC took a cautious approach and used historic techniques to protect the material fabric of the building.

Prior to beginning the conservation work, the conservation team researched archival documents, including drawings and building specifications, to gather technical and historical information on which to base the overall project and to inform reconstruction. The team also made several site visits to document the structures and the original building materials and to conduct studies of the composition of plaster mixes and other components. The conservation architect developed specifications for the works programme based on the original designs, following the guidance set out in the Burra Charter.

The project sought to restore the ruined structures to a known earlier state and to ensure the longevity of the structures for future generations. In the initial phase the restoration team constructed new timber framing, installed corrugated galvanized iron roofing and ceilings, and reconstructed important details and components of the quarters. The team's subsequent work focused on reinstating joinery and flooring, as well as on plastering and painting the internal surfaces and the external timber.

The site's remote location and environmental sensitivity presented significant challenges. The surrounding landscape, the Shark Bay World Heritage site and Dirk Hartog Island National Park, are protected areas. Fragile landscapes without standard roads mean that the transportation of heavy materials risks environmental damage. Moreover, the Cape Inscription site, located on Dirk Hartog Island, is a four-hour overland drive from the nearest crossing on the Australian mainland, a distance that hindered the transportation of materials and labour. This was made more difficult by the fact that access is seasonal and vehicle size restrictions exist. Because of the restrictions, the team developed innovative approaches to bringing materials to the site. These included using barges and helicopters. The team's approaches helped protect the environment and ensured that the project would have a light 'footprint'.

PROJECT TITLE
CAPE INSCRIPTION
LIGHTHOUSE KEEPERS'
QUARTERS

LOCATION
SHARK BAY,
WESTERN AUSTRALIA,
AUSTRALIA

SIZE
1,300 SQUARE METRES

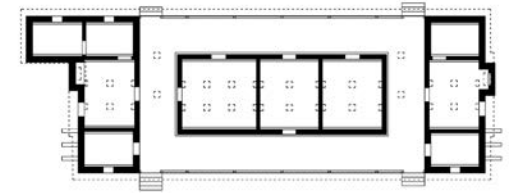
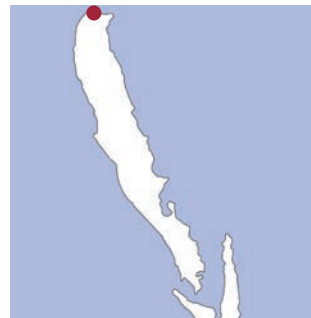
COST
APPROXIMATELY US\$ 338,000

RESPONSIBLE PARTY
DIRK HARTOG ISLAND
COMMITTEE

HERITAGE ARCHITECT
JOHN TAYLOR ARCHITECTS

CONTRACTOR
S&L MARINICH PTY LTD.
AVILAKE CONSTRUCTIONS PTY LTD.

DATE OF COMPLETION
JULY 2012



PLAN

While the DHIC and the Shire of Shark Bay initiated and oversaw the project, the actual work required skilled labourers such as roofers and carpenters, technicians and artisans who applied appropriate conservation techniques and ensured quality control. These specialists, already familiar with the environment and conditions, offered crucial advice and knowledge throughout the restoration work.

CONSERVATION AND THE COMMUNITY

Since its completion, the restored site has served as an additional tourist attraction within the Dirk Hartog Island National Park as well as complementing the existing attractions at Shark Bay World Heritage site. This benefits local businesses and therefore generates further employment in the area.

With increased public access, the lighthouse and keepers' quarters provide a useful interpretation hub to inform the public about the site's long-ago function as a lighthouse as well as calling attention to the unique physical evidence left at Cape Inscription by early European explorers.

As a successful restoration project in the offshore area of Western Australia, the work also supports ongoing conservation projects in the Dirk Hartog Island National Park. Moreover, it serves as a model for the restoration and preservation of remote sites elsewhere in Australia and the world.

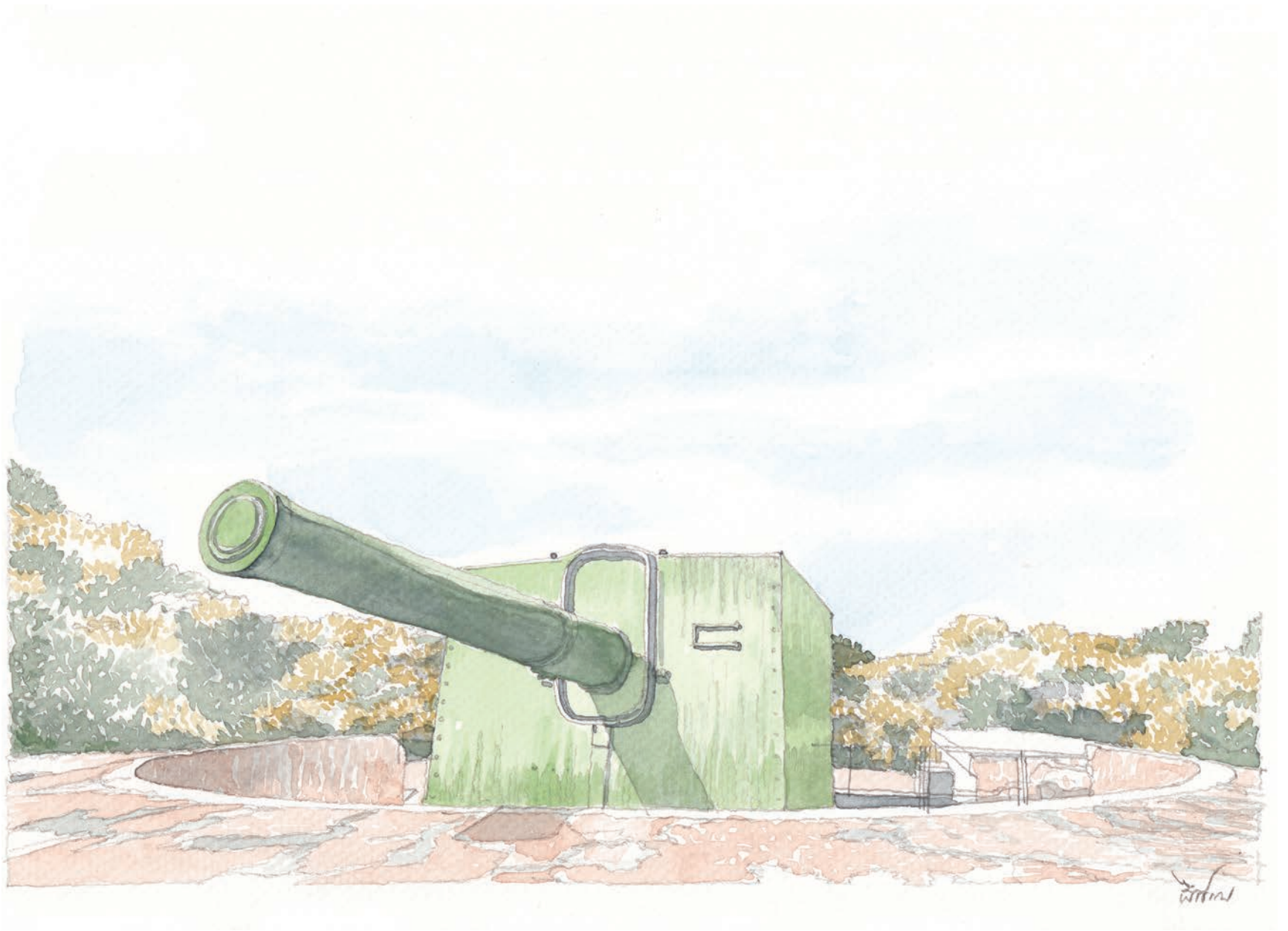
ROTTNEST ISLAND WORLD WAR II COASTAL DEFENCES

AUSTRALIA

THE CONSERVATION OF THE COASTAL DEFENCE NETWORK AT ROTTNEST ISLAND, WESTERN AUSTRALIA - A PROJECT INVOLVING TWELVE BUILDINGS, FOUR GUN EMPLACEMENTS AND TWO SETS OF TUNNELS, ACROSS FOUR ISOLATED LOCATIONS - WAS AN EXEMPLARY ACHIEVEMENT IN RESEARCH, PLANNING AND EXECUTION. SPONSORED BY THE ROTTNEST ISLAND AUTHORITY, WITH CONSIDERABLE EXPERT GUIDANCE AND MANY HOURS OF VOLUNTEER CONTRIBUTIONS, THE PROJECT INVOLVED SPECIALIZED SURFACE TREATMENTS, SUCH AS THE CLEANING, REPAIR AND PAINTING OF METAL GUN HOUSING AND BARRELS. THE PROJECT HAS ENSURED THE PRESERVATION OF A HISTORIC ASSET OF SIGNIFICANT IMPORTANCE TO AN UNDERSTANDING OF AUSTRALIA'S ROLE IN THE SECOND WORLD WAR.

2014

HONOURABLE MENTION



PROJECT SYNOPSIS

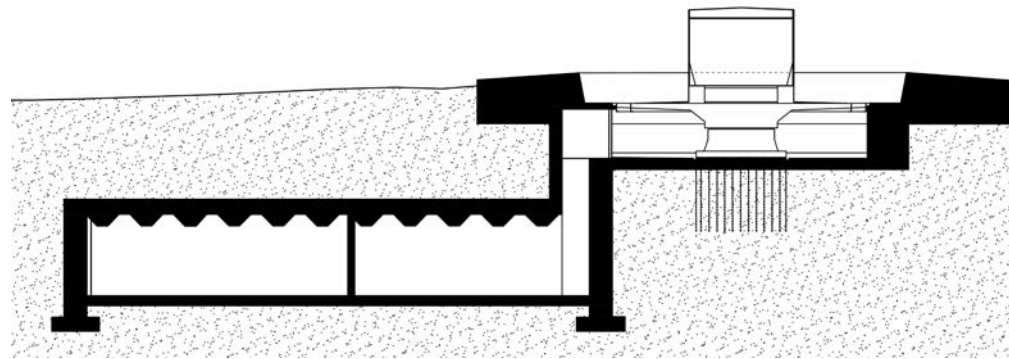
Rottnest Island is located off the western coast of Australia, approximately 20 kilometres offshore from the city of Perth. The island is a popular holiday destination, hosting around 500,000 visitors each year, who are drawn to its natural beauty, leisure activities and historic sites.

The Coastal Defences site on Rottnest Island spans four locations and many hectares of land. It includes numerous buildings, gun emplacements, tunnels, a searchlight emplacement, fixed military hardware, walking trails and interpretive signage. These elements of the Coastal Defences site are rare surviving examples of Second World War fortifications. For example, built between 1936 and 1938, Oliver's Hill Battery protected the allied submarine base at the Port of Fremantle and defended the Australian mainland. It housed large guns that targeted enemy warships approaching from the northwest. Bickley Battery likewise housed guns, and these defended the southern approach to Fremantle.

After the war, with the decommissioning of defence installations across Australia, military buildings were demolished and their artillery scrapped. On Rottnest Island, however, the demolition process was not completed due to the remoteness of the site and the high cost of decommissioning. Accordingly, many intact installations remain in place today.

In 1984, the Commonwealth handed over the abandoned defence installations of Rottnest Island to the Western Australia state government, which granted management responsibilities to the Rottnest Island Authority (RIA). Subsequently, some installations were opened to the public as tourist attractions. Because the RIA did not have sufficient funding to adequately conserve the island's defence sites, however, they deteriorated over time.

In June 2009, recognizing the extent of the deterioration and the threat to the heritage sites, the RIA launched a project to conserve several of the structures, including Bickley Battery (including the Jubilee Observation Post) and Oliver's Hill Battery (including the Battery Observation Post at Signal Ridge). Work included stabilization and repair activities and the reinstatement of original materials. The RIA funded the restoration project through its commercial tourism operations, with support from the Western Australia state government. Additional funding came from the federal 'Your Community Heritage' programme (2011-13).



SECTION

THE GOAL IS TO ACHIEVE BALANCE BETWEEN THE NEEDS OF VISITORS AND THE SENSITIVE, AUTHENTIC AND UNIQUE NATURE OF THE ISLAND'S CULTURAL HERITAGE. AT EVERY LEVEL, OUR CULTURAL HERITAGE IS BEING CONSERVED FOR THE ENJOYMENT OF PRESENT AND FUTURE GENERATIONS OF VISITORS IN A HIGHLY ACCESSIBLE AND ENJOYABLE WAY.

— QUOTE FROM PROJECT TEAM —



OLIVER HILL LOOKOUT BEFORE AND AFTER RESTORATION

With considerable expert guidance, accompanied by countless hours of volunteer work, the Rottneest Island World War II Coastal Defences project was a successful process of conservation that has contributed to preserving elements of the invaluable military heritage of Western Australia. The coastal defence site reopened as an interpretive centre on 19 October 2013, a date marking seventy-five years of artillery on Rottneest Island, and was commemorated with a parade and a public celebration by veterans, officers and the public.

CONSERVATION APPROACH

The project's priorities were to maximize site integrity and authenticity. With these notions in mind, the conservation team invoked the Burra Charter's principle of minimum intervention: doing as much as necessary, but as little as possible. The project therefore focused on ensuring structural stability and improving site safety, and the team only made changes where necessary, based on evidence and reversibility. A uniform approach was needed and, given the remoteness of the locations on the island and the complexity of the work involved at each site, strong organizational skills and a clear chain of command were crucial.

The RIA began with planning and research, including studies of the building materials and the threats they faced. Understanding the original fabric allowed for technical consistency and site-specific recommendations for the materials, which included concrete, limestone, timber and metal. The team conducted pilot studies at the battery observation posts to ensure the effectiveness of techniques before applying them to the Oliver's Hill and Bickley batteries.

The research and preparation phase required collaboration between the various professionals, which included the RIA team, structural engineers, material scientists and architects. Stakeholder consultations with the National Trust of Western Australia ensured that all values were identified and managed.

The conservation work included stabilization, repair and the reinstatement of original materials, including doors and camouflage netting. The team used traditional construction techniques for limestone repairs and carpentry, but used modern techniques and materials for surface treatments and protection against further rusting. Other introduced elements included concrete corbels, which were date-stamped to distinguish them

PROJECT TITLE
ROTTNEEST ISLAND
WORLD WAR II
COASTAL DEFENCES

LOCATION
ROTTNEEST ISLAND,
WESTERN AUSTRALIA,
AUSTRALIA

SIZE
12 BUILDINGS, 4 GUN
EMPLACEMENTS, 2 SETS
OF TUNNEL STRUCTURES,
SEARCHLIGHT EMPLACEMENT,
FIXED MILITARY HARDWARE,
WALK TRAILS AND
INTERPRETIVE SIGNAGE,
LOCATED ACROSS 4 ISOLATED
LOCATIONS AND MANY
HECTARES OF LAND

COST
APPROXIMATELY
US\$ 1.7 MILLION

RESPONSIBLE PARTY
ROTTNEEST ISLAND AUTHORITY

HERITAGE ARCHITECT
PALASSIS ARCHITECTS

CONTRACTOR
SAFEBAY BUILDING AND
RENOVATIONS PTY LTD.
RESOLVE FM

DATE OF COMPLETION
OCTOBER 2013

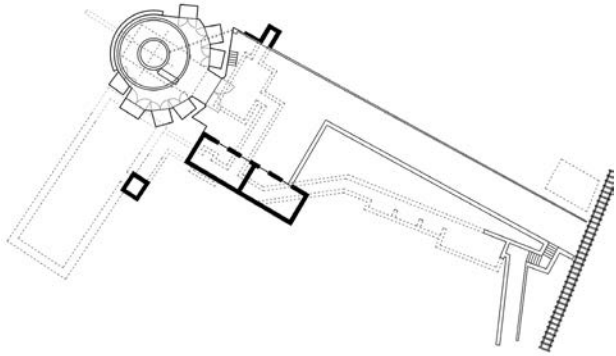


JUBILEE OBSERVATION POST BEFORE AND AFTER RESTORATION

from the original fabric of the site.

Several components, such as the gun barrels, required more detailed restoration techniques than others. Both of the guns at Oliver's Hill, for example, required metal and surface treatment. Heavy rusting had exposed lead-based products, which required particular handling to avoid lead contamination of the surrounding area. The presence of asbestos also required special attention and techniques.

The RIA and the conservation team considered interpretation to be integral to the project's success and to safeguarding the values of the sites. The RIA therefore developed oral history programmes, museum exhibitions and tours for the public. These were based on the results of the prior research and the consultations with stakeholders. Complementing the physical interventions, the interpretation communicates the importance of the island's historic defensive structures.



PLAN



VISITORS TO THE MILITARY INSTALLATION

CONSERVATION AND THE COMMUNITY

Community involvement was vital in planning and executing the conservation works. Local stakeholders, including volunteer guides, the Army Museum of Western Australia and the Royal Australian Artillery Historical Society (RAAHS), provided valuable input. The associations aided particularly in the interpretation of the installations and in promoting them after the project.

Successful interpretation has greatly enhanced the island's tourism industry and the site's financial and social sustainability. Today, the island hosts school visits and engages in educational programmes that support the state and national curricula. Rottneest Island makes an annual economic contribution to the state economy worth an estimated AU\$ 117 million, an infusion of funds that benefits the community as a whole.

With active conservation efforts focused on the built structures, the surrounding environment and the unique stories of Rottneest Island, the Coastal Defences site has been revitalized. Overall, the restored site contributes greatly to the country's understanding of the Second World War and Australia's role in that conflict.



BICKLEY BATTERY WINDOWS BEFORE AND AFTER RESTORATION

TECHNICAL BRIEF

METAL SURFACE AND CONCRETE CONSERVATION

Overcoming the challenges of the harsh coastal environment of Rottneast Island required highly technical repairs and paint systems, which in turn necessitated extensive research and experimentation. The researchers drew on the knowledge of multiple specialists, including heritage architects, structural engineers, materials scientists, military historians, paint specialists, creative designers and artisans. The results of the studies led to refinements in the conservation of the two main materials used at the site, namely concrete and metal.

Concrete

The ageing concrete of the defensive sites was affected by cracking, delamination and spalling, resulting from corrosion caused by chloride (from sea salt) in the air and in rainwater.

An analysis of possible repair methods revealed that an acrylic coating would be best for the concrete wall interiors, while the recommended treatments for the exposed external surfaces were patch repairs and an epoxy coating. The conservation team recommended modern, translucent coatings to conserve the concrete fabric and slow down the decay mechanisms of water, salt and carbonation.



CONCRETE DETERIORATION
AT F1 MAGAZINE



METAL ELEMENTS AFFECTED BY
SALTWATER CORROSION

These coatings included:

- A silane-siloxane anti-carbonation barrier to resist carbon dioxide diffusion and water migration into the concrete, to reduce the rate of corrosion of the internal reinforcement bars.
- An aliphatic acrylate protective coating to prevent water seepage through the concrete.

Metal

To reduce corrosion, the conservation team treated all exposed metal elements with protective surface treatments, either deeply-penetrating oil or well-tested paint systems, with up to six layers of protective coatings.

The original paint was lead-based. To avoid contaminating the surroundings with lead, the researchers sought an alternative type of paint for the restoration work. They selected new low-maintenance coatings that would withstand the harsh coastal environment and found inspiration from the boating industry in the form of a paint system typically used for metal ships. Maritime technology also supplied a lightweight, easily-transportable, shrink-wrapped shroud to encapsulate the guns while they were being prepared and painted. The shroud system substituted for expensive enclosed scaffolding, which, given the remoteness of the site, would have posed logistical difficulties for the team.

Studies of the remaining paint on the guns led to the choice of the final colour for the guns and other painted metalwork. Through the use of colour charts and taking into account decay mechanisms in the paint colour, the team identified an appropriate colour: 'deep bronze green', which was similar to the colour of items displayed in a 1938 defence publication. A historic paint specialist in London confirmed the colour selection. To verify the colour choice *in situ*, the team constructed mock-ups, which allowed them to compare the selected colour with other colours and assess their suitability against the coastal health vegetation surrounding the guns.

*Adapted from
the "Rottneast Island WWII Defence"
UNESCO Asia-Pacific Heritage Award
entry submission*

NANJING YIHE MANSIONS

CHINA

THIS ENCLAVE OF LATE 1920s MANSIONS IS A TESTIMONY TO THE PERIOD OF MODERN CHINESE ARCHITECTURE KNOWN AS THE 'REPUBLIC' OR 'NATIONAL' STYLE, WHICH IS INCREASINGLY UNDER THREAT FROM DEVELOPMENT PRESSURE. NEGLECTED AND IN MANY CASES DILAPIDATED, THE TWENTY-SIX PROPERTIES INCLUDED IN THE YIHE MANSIONS PROJECT STILL CONVEYED A SENSE OF THEIR PAST ELEGANCE. THEY HAVE NOW BEEN INCORPORATED INTO A MODERN HOTEL, WITH EACH HOUSE SERVING AS A SEPARATE UNIT. THE PROJECT FOCUSED ON THE CAREFUL RENOVATION AND RESTORATION OF THE BUILDING EXTERIORS AND THE ADAPTATION OF INTERIOR SPACES TO MODERN USE. THE STUCCO-COVERED BRICK BUILDINGS CARRY A STRONG SENSE OF THEIR ORIGINAL CHARACTER, PROVIDING A GLIMPSE INTO AN IMPORTANT TRANSITIONAL PERIOD IN CHINA'S HISTORY.

2014

HONOURABLE MENTION



PROJECT SYNOPSIS

The Nanjing Yihe Mansions project focused on the conservation and revitalization of a cluster of historic mansions built in the 1920s when Nanjing was the seat of the Nationalist government. This period in China's history exhibited a distinct cultural renaissance – a spirit that is reflected in the original design of the mansions. The surviving 26 mansions, which once housed ambassadors, wealthy residents and members of the military, are valuable records of an early venture into the 'Republic' or 'National' style, a style of architecture that fused Eastern and Western design philosophies. In acknowledgment of their rarity, the buildings are listed as important cultural architectural relics and are subject to heritage protection as part of the conservation plan administered by the City of Nanjing.

Over their history, ownership of the mansions changed from foreign embassies to private residents to companies. This transition in ownership and occupation, resulting in *ad hoc* alterations and improper additions, led to a gradual loss of character. Prior to the start of the project the mansions exhibited numerous defects both on the interior and exterior. Fortunately, in most cases the damage was superficial.

Recognizing the need for conservation, in 2010 the local government, under the auspices of the 'Nanjing City Historical and Cultural City Protection Plan', initiated a restoration and reuse project centred on the cluster of houses. Assessing the condition and ownership, the project team identified twenty-five mansions suitable for rehabilitation. The twenty-sixth building was in poor condition and required reconstruction. The project involved a complicated series of acquisitions, followed by the restoration or reconstruction of the individual buildings.

The project team aimed to retain and enhance the buildings' sense of place, as well as preserve the unique historic and architectural imprints from the Republic period. The adaptive reuse initiative highlighted the importance of the site and transformed the mansions into a cohesive urban boutique hotel. In this way, the project has ensured the buildings' long-term physical and financial sustainability.



MANSION EXTERIOR BEFORE AND AFTER RESTORATION

THE OBJECTIVES OF THE PROJECT WERE TO RETAIN THE HERITAGE PROPERTIES IN A SUSTAINABLE MANNER AND TO CURATE AN EXPERIENCE THAT THE PUBLIC COULD PARTICIPATE IN AND EXPERIENCE FIRST-HAND, TO THEREBY PERPETUATE THE USAGE, LIVES AND SENSE OF THE PLACE. THE INDIVIDUAL MANSIONS WERE RESTORED IN ACCORDANCE WITH CONSERVATION AND PROTECTION GUIDELINES, WITH NO MAJOR ALTERATIONS TO THE CHARACTERISTIC ARCHITECTURAL ELEMENTS.

— QUOTE FROM PROJECT TEAM —

CONSERVATION APPROACH

The 'Nanjing City Historical and Cultural City Protection Plan' prioritizes minimal alteration and additions, forbids demolition and seeks to preserve existing façades. The plan allows for internal modifications, however, as well as changes that extrapolate from existing buildings.

In accordance with the plan, the project aimed for a minimalist intervention that would restore the original character of the place while integrating the practical requirements of a modern hotel. The guiding ideal was to create a natural progression from private to public spaces by seamlessly integrating the mansions and the landscape features. The team emphasized that interventions to the site must be as gentle as possible; little altering the character of the buildings or their

immediate surroundings. The project plan carefully considered the existing streetscape, scale, intimacy and landscaping – all of which help to convey the collective memory of the place.

Recognizing the heritage value of the sites, the local municipal government had conducted an extensive research project to provide baseline information for later work. This research focused on Republic style architecture in general as well as that of the Nanjing mansions. As a result, there was already a wealth of data available to the team at the start of the project. The team then conducted additional research and investigations on site. These included structural surveys, electrical plans and adaptive reuse feasibility studies.



SITE PLAN

While the project made no major alterations to the main architectural characteristics of the mansions and retained original elements, such as colours and textures, along with the external perimeter wall and most of the main doors and doorways, some changes were required. For example, many of the wrought iron windows were in an irreparable condition and had to be replaced. The traditional craftsmanship and aesthetics of the windows were replicated by artisans with expert knowledge of the style of various 1920s Nanjing iron works.

Local materials such as textural paint, local stone, and traditional Jiangsu glazed ceramic featured strongly in the conservation work. Artisans replicated traditional Chinese carvings on wainscoting panels and Art Nouveau patterns on Chinese porcelain plates. These served as internal decorative elements to reflect the period of the mansions. Minimal changes to the external façades retained the scale, ambiance and intimacy of the site. Moreover, landscaping work incorporated trees and plants native to the region.

The restoration team took particular care to graft new service equipment, including air-conditioning units, to the existing building structures. The aim was to make new features appear as parts of the old mansions and not detract from the character of the site. Again, all of the work followed the guidelines of the Nanjing authorities.

PROJECT TITLE
NANJING YIHE MANSIONS
LOCATION

3 JIANGSU ROAD, NANJING,
JIANGSU, CHINA

SIZE
APPROXIMATELY
20,000 SQUARE METRES
(BUILDINGS AND GROUNDS)

COST
APPROXIMATELY
US\$ 22 MILLION

RESPONSIBLE PARTY
NANJING STATE-OWNED
ASSETS SUPERVISION AND
ADMINISTRATION COMMISSION

OF THE STATE COUNCIL
HERITAGE ARCHITECT
BHD SYNTHESIS LTD.

CONTRACTOR
VARIOUS CONTRACTORS

DATE OF COMPLETION
DECEMBER 2012



CONSERVATION AND THE COMMUNITY

The Yihe Mansions boutique hotel features luxury spaces that reflect the Republic period while providing modern amenities. The hotel seeks to maintain the identity and significance of the site and to simultaneously help revitalize the historic core of Nanjing.

Due to the prominent location and historic value of the buildings, the project to restore Yihe Mansions attracted a significant amount of attention from the local community and had an impact on local perceptions of restoration and conservation. The community participated in the project at several levels. In particular, local artisans contributed their knowledge and expertise to the project, notably in replicating the deteriorated wrought iron window features.

Through the successful adaptive use of the buildings, the identity of the Yihe Mansions has shifted from being elite private homes to a living exhibition. The publicly accessible parts of the hotel, such as the Yifeng Gallery and the Reading Room, are open for people to explore and experience the past. Furthermore, the hotel has initiated a visitor outreach programme that includes public exhibitions, seminars and cultural events to further inform the public about local culture and Nanjing's important role in China's history.



THE HOTEL ORGANIZES EXHIBITIONS, SEMINARS AND CULTURAL EVENTS RELATING TO LOCAL HISTORY

HONOURABLE MENTION

ESPLANADE HOUSE

INDIA

CARRIED OUT OVER A DECADE, CONSERVATION WORK ON ESPLANADE HOUSE HAS PRESERVED A ONCE DILAPIDATED MANSION AS A PROMINENT EXAMPLE OF LATE NINETEENTH-CENTURY ARCHITECTURE IN MUMBAI. THE RENAISSANCE REVIVAL MANSION HAD SEEN SEVERAL PERIODS OF CHANGE AND REDECORATION OVER ITS 120-YEAR LIFE AND PRIOR TO COMMENCEMENT OF THE WORK THE BUILDING HAD SUFFERED FROM YEARS OF NEGLECT AND POOR MAINTENANCE. CONDUCTED IN STAGES, THE PROJECT INVOLVED SIGNIFICANT RESEARCH AND THE APPLICATION OF NEARLY-FORGOTTEN DECORATIVE TECHNIQUES. AFTER REINFORCING THE STRUCTURAL COMPONENTS AND REFURBISHING THE INTERIOR AND THE EXTERIOR FAÇADE, THE HOUSE WAS REPURPOSED AS OFFICES. THANKS TO THE PROJECT THE RENEWED ICONIC MANSION WILL REMAIN PART OF THE DISTINCTIVE ARCHITECTURAL ENSEMBLE OF THE MUMBAI CITYSCAPE FOR THE FORESEEABLE FUTURE.

2014

HONOURABLE MENTION



WMM

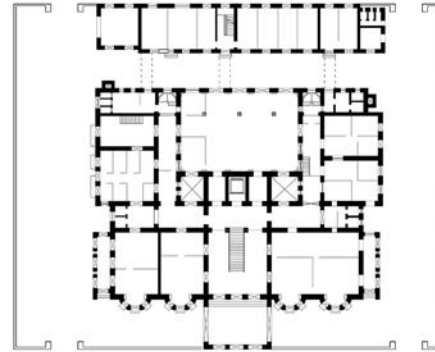
PROJECT SYNOPSIS

Esplanade House is situated in Fort George, a defensive structure built in 1769 by the British East India Company. It is at the heart of the old city in an area now referred to as the Fort Precinct. An active financial and business district, the area features numerous historic buildings and spaces associated with the city's early development.

In 1862, following the demolition of the Fort George walls, the government made land in the vicinity of the fort available for long-term lease. Esplanade House, built on a plot of this land in 1887, was the residence of Sir Jamsetji Nusserwanji Tata – best known as the founder of the TATA group, an Indian multinational holding company and charity. He built Esplanade House at the cost of Rs. 6 lakh (approximately US\$ 9,000), a massive fortune at the time. A lavish private mansion, Esplanade House was intended to display the wealth and success of this Parsi trader and entrepreneur. The splendid residence remained in the Tata family's ownership until 1932, when R.D. Sethna purchased the property to support his scholarship fund trust.

The mansion was an important architectural addition to the city. Sir J.N. Tata had partnered with James Morris of the architectural firm of Gostling and Morris to design the house in a Neoclassical style, with strikingly ornate Baroque-style interiors. The core building has four storeys and is adjoined by a two-storey annex. The lower three storeys of the core building are original; the fourth floor was added in the 1930s. The building features decorative masonry, fine cast iron works and stained glass, with façades exhibiting various kinds of ornamental detailing. One exceptional element of the house is the glass-roofed central courtyard. The house also features a number of early building innovations, including plumbing and concealed electrical wiring, a first in Mumbai; the mansion was also the first residential building in the city with its own elevator. For both its architectural details and its technology, Esplanade House represented an important step forward in the domestic architecture of British India's most important commercial city. Moreover, the house stands as a legacy of the fascinating life and vision of Sir J. N. Tata.

Over its history the building suffered a number of modifications and a gradual downgrading of maintenance that detracted from its beauty and resulted in a loss of architectural integrity. Several factors played into this decline. One such factor was that the Rent Control Act of



PLAN

THIS PROJECT IS A UNIQUE EXAMPLE SHOWING THE CITY AND ITS ADMINISTRATION HOW ADAPTIVE REUSE AND THE REVIVAL OF TRADITIONAL SKILLS COUPLED WITH PATRONAGE AND THE INTRODUCTION OF MODERN TECHNOLOGY CAN LEAD THE PAST TO A GOOD FUTURE.

— QUOTE FROM PROJECT TEAM —



RESTORED BAROQUE INTERIORS

1944 prevented property owners from increasing rents, a situation that while enabling tenants to have affordable housing resulted in a lack of maintenance for many properties across Mumbai. Esplanade House, which was converted into apartments in the 1930s, suffered from this lack of maintenance.

Another factor in the mansion's decline was that the property had experienced structural alterations and insensitive refurbishment in line with its various uses, including serving as offices in its later years. Accordingly, a key issue at the time of the project was that conspicuous defects, including corroding steel and major cracking of structural members, threatened the structural safety of the building.

In the early 2000s, the trustees of the R. D. Sethna Scholarship Fund invited consultants to advise on the restoration of the heritage property in accordance with international conservation standards. The trustees hoped that the restoration of Esplanade House and its adaption for modern living would bring new life to the property. At the time, however, the thrust of Mumbai's approach to urban development was of 'beautification through new construction', as opposed to conservation or revitalization. This approach, which spread largely because property owners were not aware of the cultural significance and financial value of their buildings, led to the demolition of many fine heritage buildings. The Esplanade House project team was determined to alter this mindset by providing a successful example of rehabilitation, and thus encourage more people to safeguard heritage buildings.

The goal of the project was to restore the building to its original grandeur and to update infrastructure to modern standards while respecting authenticity. The team's efforts were a success and the project manifestly demonstrates the viability of privately-initiated conservation projects in Mumbai.

CONSERVATION APPROACH

The project team adopted an approach in line with international conservation principles. Preliminary work included comprehensive documentation with defect mapping and analysis of decay. The outcomes of the research and the fabric status report informed the subsequent targeted repairs.

Unexpectedly, the preliminary studies found that most of the structural defects were in the top floor of

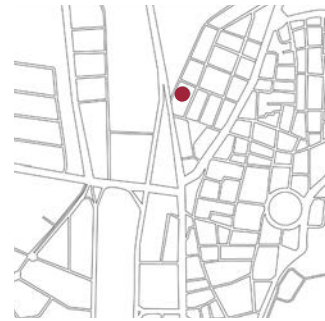
the two-storey annex rather than in the core structure. The defects were not limited to the annex, however. The reinforced concrete used to create the annex had introduced excessive stress to the original building load. This was evidenced by wide stress-induced cracks in the main structural members and on the third floor of the core building.

The ten-year conservation project had five phases, as follows: making structural repairs to the main building and to the annex, refurbishing interior areas, improving outdoor landscaped areas, and installing modern amenities, including new plumbing and drainage systems. The first phase involved resolving the load-induced stress on the core building's structure. In accordance with the project plan, workers repaired cracks and corroded structural members and reinstated missing elements. This phase of the project also included making polymer repairs to exposed steel reinforcing beams, lintels and columns – work guided by a structural engineer. On the third floor, work included resurfacing the floor slab, a process that involved applying a thin cement-based coating.

Other work included the repair and strengthening of wood balconies, using new teakwood joists attached with steel cleats. The balconies also received new teak decking and teakwood soffits. Workers also repaired wall and ceiling cracks, made repairs to broken decorative string courses and mouldings, and replastered interior spaces with lime mortar. In these and other works, workers used traditional techniques. Skilled carpenters accurately restored the many wooden elements of the building, including the curved rafters and balcony decoration. One particularly time-consuming task was the production and application of plaster of paris in the first floor office spaces. When original materials were impossible to obtain, the workers used new materials that matched the originals. This was evident in the reproduction of several of the terracotta urns.

The conservation approach emphasized a close partnership between contractors and heritage experts. Contractors learned to respect old properties and work within heritage guidelines, and also learned to comply with modern day needs without compromising heritage values. In the process, heritage experts learned something of the constraints facing contractors, builders and artisans when taking on a large conservation project such as this.

PROJECT TITLE
ESPLANADE HOUSE
LOCATION
29 HAZARIMAL SOMANI MARG,
FORT, MUMBAI, INDIA
SIZE
2,678 SQUARE METRES
COST
APPROXIMATELY US\$ 565,000
RESPONSIBLE PARTY
THE TRUSTEES OF THE R.D.
SETHNA SCHOLARSHIP FUND
HERITAGE ARCHITECT
VIKAS DILAWARI
CONTRACTOR
SEAN NORONHA & COMPANY
PREMIER CONSTRUCTION CO.
D.I. CONSTRUCTION
S.M. CHOUHAN
DATE OF COMPLETION
MARCH 2013



CONSERVATION AND THE COMMUNITY

The conservation of Esplanade House helped revive disappearing trades in Mumbai, including lime plastering, stained glass making and repair, and the application of precast ornamentation. The project demonstrated the value of these traditional skills and supported ongoing employment of such artisans.

Even without government financial backing, the project team managed to unlock the adaptive reuse potential of Esplanade House. They did so by restoring the building to its original palatial form, supporting traditional techniques, installing modern amenities and highlighting the character-defining elements of the historic site. Thus, the Esplanade House project is an example of a successful and fiscally-realistic conservation of a privately-owned mansion in a prime urban setting.

FAÇADE BEFORE AND AFTER RESTORATION



HONOURABLE MENTION

DE DRIEKLÉUR

INDONESIA

DE DRIEKLÉUR EXEMPLIFIES BANDUNG'S REMARKABLE COLLECTION OF ART DECO AND ART MODERNE BUILDINGS, WHICH DATE BACK TO THE 1930s. ORIGINALLY A PRIVATE HOUSE, THE THREE-STOREY BUILDING HAD UNDERGONE VARIOUS CONVERSIONS AND HAD MOST RECENTLY SERVED AS A BANK. EARLIER CONVERSIONS HAD DEPRIVED THE BUILDING OF MUCH OF ITS DISTINCTIVE CHARACTER, HOWEVER. IN ORDER TO RECAPTURE THE DISTINCTIVE 'SPIRIT OF PLACE' OF THE ORIGINAL DESIGN, THE RESTORATION ARCHITECT CONDUCTED DETAILED HISTORICAL ANALYSIS AND MATERIAL EXAMINATION, THEN REMOVED LATER ADDITIONS AND RECREATED MISSING ELEMENTS. WITH ITS HERITAGE INTEGRITY REINSTATED, THE BUILDING CONTINUES TO SERVE AS A BANK AND AS PART OF THE LEGACY OF MODERN ARCHITECTURE IN INDONESIA.

2014

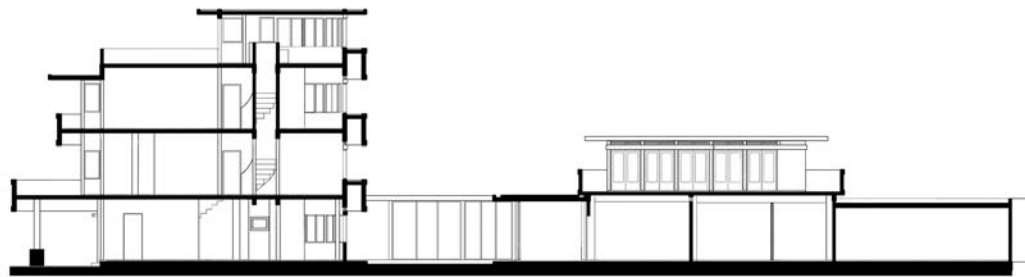
HONOURABLE MENTION



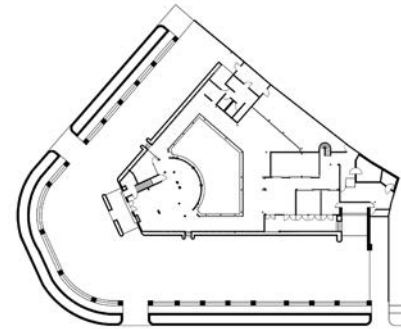
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De Driekleur

Wittent



SECTION



PLAN

ONE OF THE KEY INTERVENTIONS WAS TO OPEN UP THE SPACE AND LINK IT BACK TO THE COURTYARDS, THE HEART OF THE BUILDING. THIS REASSERTED THE SPIRIT OF BANDUNG AS A GARDEN CITY WHERE THE SPACE INDOORS AND OUTDOORS MEETS.

— QUOTE FROM PROJECT TEAM —

PROJECT SYNOPSIS

Located at the junction of Dago Street and Sultan Agung Street in the city of Bandung, Indonesia, De Driekleur is situated within Java's most prominent Art Deco district. In colonial times, the locale was home to elite Chinese and Dutch officials. The name of the building, 'De Driekleur', is Dutch for 'tricolour', an appellation referencing the Dutch flag, which is red, white and blue. The site was the venue for the second reading of the Proclamation of Indonesian Independence in 1945 and therefore has historic significance.

De Driekleur was designed by Albert Frederik Aalbers, whose work experts consider the most representative expression of Art Deco in Bandung. The De Driekleur building is symbolic of Bandung's outstanding collection of Art Deco, Streamline Moderne, Modernist and Art Nouveau architecture. Built in 1938, the three-storey structure evidences functionalist ideals in its massing and clean curving lines.

Originally a private residence, De Driekleur was divided into three areas: a main family area, a service area and a guest area. The latter could be leased out as temporary accommodation. The floor plan resembled a half sphere and two trapeziums, which created the illusion of a larger space. The building's exterior structure emphasised a strict linear architectural vocabulary with some small but significant ornamentation.

De Driekleur experienced a significant number of modifications and accretions over its history, including changes to its façade, and the building was unused for a short period of time. Most of the changes to De Driekleur detracted from the appearance of the property and, due to the wide range of styles employed, also confused its history.

Prior to the conservation project, the building was functioning as the main branch of Bank Tabungan Pensiunan Nasional (BTPN) in Bandung. When the BTPN had taken over the site it had found the interior layout clumsily arranged, with many inefficiently-configured spaces. A suspended ceiling had been installed and poor colour choices engendered a feeling of claustrophobic enclosure. Although identified as a Grade I building with outstanding merit, the building lacked its original integrity. Prior to the project the building had a bleak and dusty appearance and was in need of conservation work to reinstate the spirit of the place.

The BTPN decided to initiate a project to conserve the property as a gift to the city of Bandung on the anniversary of the bank's 55 years of service. The bank also wanted to restore the original character of the building while at the same time providing for functional needs. The conservation architect recognized the significance of the building and its contribution to Bandung, noting its functional form and simple decorative features. The architect sought to recapture

the soul of the building through targeted restoration and minimal intervention.

The project began in 2012 and was completed in around 18 months. During the project the bank continued regular operations and was open to public. The project succeeded in restoring the building to its original condition with minimum intervention and has raised the standard for conservation practice in Bandung.

CONSERVATION APPROACH

An understanding of the Art Deco movement was a core aspect of the project. Derived from the earlier Art Nouveau style, Art Deco eschewed the naturalistic decoration of Art Nouveau for simpler, more abstract forms. Gaining an understanding of the approach of the original architect required a significant amount of data collection, a process that encompassed structural, mechanical and electrical elements of the building as well as the building's overall history.

Accordingly, the first phase of the project involved conducting site and feasibility studies. Experts and university students carried out extensive research on the original uses of spaces, investigated existing materials and documented the building. The team catalogued the building through detailed drawings and three-dimensional (3D) renderings, identifying the various additions that had been made over time to the orig-



RESTORED ART DECO LOUNGE

final structure. Photographic documentation supported the measured drawings, allowing insights into the house's construction history. This process ensured accurate evaluation of the altered parts of the building and allowed the development of a list of priorities for conservation work, based on relative aesthetic and functional importance.

The idea of 'holistic healing' became a central theme of the project; the aim was to return De Driekleur to its former 'health' by reinforcing its structure and appropriately adapting the building to current needs. The project focused on reviving the spirit of the place and reinstating the identity of the heritage building by eliminating architectural elements regarded as being of negative significance. Among the most egregious accretions was the entrance canopy. The project team removed this to reinstate the original front elevation of the structure. The team also removed steel columns that had been added in an earlier intervention. The team was careful to retain early decorative elements. The original doors and windows had been lost, so replicas were made based on the research findings. For replacement pieces, the team sought environmentally-friendly materials such as recycled teakwood. The team then modified the interior layout to suit the functions of the bank.

A detailed examination of another building in Bandung with a similar architectural style suggested

PROJECT TITLE

DE DRIEKLEUR

LOCATION

8 JALAN IR. H DJUANDA,
BANDUNG, WEST JAVA,
INDONESIA

SIZE

1,185 SQUARE METRES

COST

US\$ 690,000

RESPONSIBLE PARTY

BANK TABUNGAN PENSIUNAN
NASIONAL

HERITAGE ARCHITECT

PT. BUDI LIM ARSITEK

CONTRACTOR

PT. POLYMATRA BANGUN
GRAHA

DATE OF COMPLETION

FEBRUARY 2014



the appropriate finishes for the interior and exterior surfaces of De Driekleur. The architect chose textured cement tiles for the interior floor finish and dark grey and beige terrazzo tiles for the exterior. Local craftsmen in Yogyakarta and Bandung made these, following historic designs. The material study had revealed that the various previous owners of De Driekleur had painted the building various colours in the past. The most common colour was white, so this was eventually chosen as the colour for the restored building.

The landscape and courtyard spaces were essentially negative spaces before the restoration work and had never been well incorporated into the overall design. The project therefore made a particular intervention in these spaces. The project architect intended that these outdoor spaces would serve as a significant expression of the relationship between the interior and exterior, and achieved this through installing large glass panels.

CONSERVATION AND THE COMMUNITY

The project to conserve De Driekleur brought positive changes to the city of Bandung and raised awareness of the importance of conserving local cultural heritage sites. This project demonstrated the value of joint endeavours in safeguarding the precinct's valuable assets and led to a fresh discovery of the architectural glory of Bandung. In particular, it gave fresh impetus to other restoration projects within the city's Art Deco district and strengthened the city's reputation as the capital of Art Deco in Indonesia.

Now a functioning commercial bank building, De Driekleur pays homage to the original building fabric and shows respect for its specific elements and layout. Aside from its commercial activities, the bank hosts social and cultural events in the building, including yoga classes, prayer sessions and seminars, further engaging the local community. The BTPN has also received requests from architecture schools to hold study tours.

GALI SURJAN SINGH

PAKISTAN

THE GALI SURJAN SINGH URBAN CONSERVATION PROJECT REPRESENTS A HEROIC EFFORT TO COMBINE RESTORATION WITH MUCH-NEEDED INFRASTRUCTURAL UPGRADING IN THE HISTORIC URBAN CENTRE OF LAHORE. OVERSEEN BY THE AGA KHAN CULTURAL SERVICE - PAKISTAN IN PARTNERSHIP WITH THE GOVERNMENT OF PUNJAB, THE PROJECT RELIED ON A HIGH LEVEL OF PRELIMINARY PLANNING, INCLUDING MAPPING OF WATER, SEWAGE AND POWER LINES; ASSESSMENTS OF SOCIAL IMPACTS; AND DETAILED ANALYSIS OF INDIVIDUAL HISTORIC PROPERTIES WITHIN THE PRESCRIBED AREA. WORK CONSISTED OF STRUCTURAL REINFORCEMENT, REMOVAL OF INAPPROPRIATE LATER ADDITIONS AND THE INTRODUCTION OF NEW SERVICES. RENOVATIONS OF INDIVIDUAL RESIDENTIAL UNITS EMPHASIZED THE RETENTION OF ORIGINAL FEATURES AND THE INSERTION OF NEW MATERIALS FOLLOWING TRADITIONAL PATTERNS. BENEFITING A TOTAL OF THIRTEEN RESIDENCES, THE PROJECT DEMONSTRATED THAT CONSERVATION IS A VIABLE APPROACH TO URBAN RENEWAL.

2014

HONOURABLE MENTION



W. Schmidt

PROJECT SYNOPSIS

The Gali Surjan Singh site (consisting of two laneways: Surjan Singh and Charkh Garan) is located within the Walled City of Lahore, the historic core of the Lahore megacity, which is home to over 10 million people. The walled city consists of lanes and cul-de-sacs (*gali* and *kucha*), which are as narrow as one metre wide. These passageways serve not only as thoroughfares but historically as spaces devoted to the commercial and residential life of the ancient city.

Combined, Gali Surjan Singh and the adjacent cul-de-sac Kucha Charkh Garan are 90 metres in length and have around 23 buildings along them, most of which were constructed in the late nineteenth century and early twentieth century. The houses are multi-storey and are each around 36 square metres in size, on average. The site is situated in a densely populated area of the old city that faces multiple issues including overcrowding, substandard and deteriorated buildings and a history of haphazard repairs. In recent decades, inappropriate commercial activities have encroached onto residential spaces. Moreover, rising rents and property values have led to the aggressive eviction of tenants and the replacement of the existing housing stock with inferior new buildings.

Prior to the project, the site exhibited severe decay and dilapidation, the result of minimal and inappropriate repairs by owners. Furthermore, residents in need of modern living amenities had installed systems themselves, in the cheapest ways possible, with the result that unsightly additions, including water and gas pipes, marred the buildings. Another major issue was the seepage of solid waste from underground storm drains as a result of broken street surfaces.

The Gali Surjan Singh urban conservation project was conceived in 2007 as a public-private partnership between the Aga Khan Trust for Culture (AKTC) and the Government of Punjab. Financed by the AKTC and implemented by the Aga Khan Cultural Service – Pakistan (AKCS-P), the project officially commenced in 2009.

The initiative was intended as a pilot project that would inform rehabilitation work in other urban areas of Lahore and Pakistan. The operative notion was that a comprehensive approach to revitalizing and upgrading this urban heritage site would provide valuable knowledge for the conservation of similar places.



SECTION

IN THE SPIRIT OF AN INTEGRATED AREA DEVELOPMENT PLAN, THIS DEMONSTRATION PROJECT NOT ONLY REHABILITATED URBAN HOUSING STOCK IN A LOW-INCOME AREA, BUT ALSO BALANCED THE DELIVERY OF VARIOUS URBAN INFRASTRUCTURE SERVICES WITH THE REQUIREMENTS OF INDIVIDUAL HOMEOWNERS.

— QUOTE FROM PROJECT TEAM —



URBAN SERVICES WERE UPGRADED.



GROUND FLOOR BEFORE AND AFTER RESTORATION

The project restored ageing buildings while installing functional infrastructure, thereby retaining the residents and improving their quality of life. The project also maintained the original land use patterns in the area, thus enabling the continuation of local cultural traditions.

CONSERVATION APPROACH

The project team implemented a meticulously-planned approach that aligned strictly with international conservation principles and applied a methodical programme for the restoration of thirteen buildings situated along the lane and cul-de-sac.

Prior to beginning the conservation work, the team carefully documented the neighbourhood as part of a citywide topographical survey. This survey subsequently served as the blueprint for interventions proposed by the AKCS-P architectural team. Once the team had identified the buildings that would be conserved under the project, they began a minute documentation of each property. Internal documentation involved hand-drawn measurements (during which local residents received training in spatial mapping methods) and, later, use of applications such as rEDM (R-package for Empirical Dynamic Modelling) for making more accurate measurements and comparisons.

The conservation work revolved around two main project components. The first component pertained to upgrading the underground infrastructure and improving the overhead service distribution networks. Sub-surface infrastructure, including water supply, sewage systems and natural gas piping, needed replacement to improve sanitation and living conditions. The work included the provision of more effective water seals and maintenance of pipe networks. Overhead cables for power and telecommunication revealed a history of haphazard installation over the years and were replaced with bundled cables arranged to follow the contours of the building façades. Workers mounted the new streamlined cables on the façades by means of brackets and fasteners spaced at regular intervals. In this way, the project was able to minimize the visual impact of modern infrastructure. The project thus restored a sense of order to the laneways without compromising liveability.

The second component of the project dealt with the ageing building stock and aimed to address obsolescence and structural degradation. Interventions focused on repairing foundations and superstructure; settlement cracks caused primarily by water ingress. After locating the sources of water ingress, the team excavated and underpinned the site using materials sympathetic to the originals.

The team improved building façades using appropriate materials that conveyed a familiar sense of place. This often meant removing added elements and restoring the appearance to an earlier state. Workers removed additions such as steel joists and girders from the buildings and replaced failing timber structural members within the buildings, using original timber types as much as possible. As the floors and roofs were mostly too badly

damaged to be repaired, they were replaced.

Workers also installed wooden windows, replacing later steel examples. The team removed parapets and reconstructed them employing traditional perforated terracotta *jallie*. They also removed cantilevered concrete balconies and replaced them with traditional lightweight concrete known as *jharokha*. Lime plaster replaced concrete sand plaster. Overall, the team swapped out heavy non-breathable materials with traditional lightweight materials that greatly improved the appearance and visual integration of the individual houses with the character of the neighbourhood.

To combat the issue of broken street surfaces and the resulting waste seepage, the team introduced brick paving and concrete grating. These additions tremendously improved sanitation and the appearance of the streets. The brick paving follows a herringbone pattern, except around manhole covers where the bricks are laid in a circular design.

CONSERVATION AND THE COMMUNITY

The Gali Surjan Singh project demonstrated the importance of engaging residents from the start to the end of the initiative. Stakeholders and project staff met monthly during the project to discuss the work scope. This participatory sharing of information instilled a sense of ownership of the project in the beneficiaries, who would ultimately be responsible for maintaining their homes and the overall site.

The project sought to support local livelihoods and the future maintenance of the buildings by providing on-the-job training in spatial mapping, building documentation and architecture/engineering. Since the completion of the project, a number of these young trainees have pursued higher education and employment in planning, construction and tourism. The Walled City Authority also played a role in training, engaging and employing local youth in tourism services.

A key result of the project is that it has influenced how the public sector delivers urban services in similar contexts. Since the completion of the pilot project in 2011, local authorities have replicated the project's formula in delivering infrastructure services to some 57 streets in the northeastern section of the old walled city. The Gali Surjan Singh project serves as a best practice for such initiatives.

PROJECT TITLE
GALI SURJAN SINGH
LOCATION
LAHORE, PAKISTAN
SIZE
1,177 SQUARE METRES
COST
US\$ 333,000
RESPONSIBLE PARTY
AGA KHAN CULTURAL SERVICE – PAKISTAN
AGA KHAN TRUST FOR CULTURE
HERITAGE ARCHITECT
MASOOD AHMED KHAN
CONTRACTOR
AGA KHAN CULTURAL SERVICE - PAKISTAN
DATE OF COMPLETION
DECEMBER 2011



LUCKY SHOPHOUSE

SINGAPORE

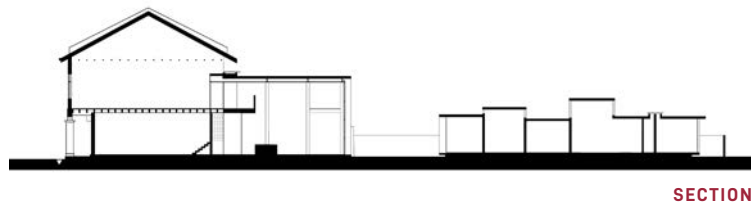
THE LUCKY SHOPHOUSE PROJECT COMBINED CONSERVATION AND MODERN DESIGN TO CREATE A NEW HOME IN THE HEART OF A RESIDENTIAL CONSERVATION AREA IN SINGAPORE. AS WITH OTHER SHOPHOUSES, THE TWO-STOREY PROPERTY OCCUPIED A DEEP AND NARROW LOT, THE DEPTH OF WHICH WAS EXAGGERATED FURTHER BY AN ADDITIONAL SECTION OF UNUSED LAND AT THE REAR. ADHERING TO SINGAPORE'S STRINGENT BUILDING CODE, THE PROJECT'S DESIGNERS RETAINED THE FOOTPRINT OF THE ORIGINAL 1920s STRUCTURE. NON-STRUCTURAL INTERIOR ACCRETIONS WERE REMOVED, EXPOSING OLD BRICK WALLS, TIMBER RAFTERS AND FLOOR JOISTS. NEW ELEMENTS WERE CONFINED TO A SERIES OF SINGLE-HEIGHT OFFSET BOX-LIKE STRUCTURES, INTERSPERSED WITHIN THE REAR GARDEN SPACE. THE FINAL PROJECT CONTRASTS EXISTING AND NEW COMPONENTS, GIVING FRESH EMPHASIS TO HISTORIC TEXTURES AND COLOURS, WHILE CELEBRATING THE UNADULTERATED FUNCTIONALISM INHERENT IN EARLY TWENTY-FIRST CENTURY DESIGN.

2014

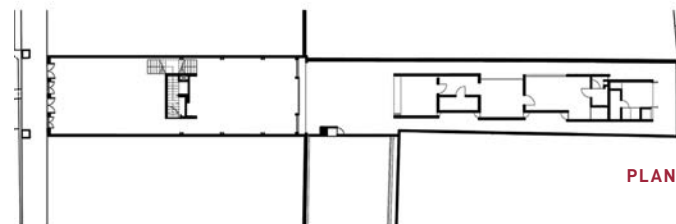
JURY COMMENDATION
FOR INNOVATION



W. S. S. S.



SECTION



PLAN

THE PROJECT HAS TURNED AN OBSOLETE COMMERCIAL PROPERTY INTO A CONTEMPORARY RESIDENTIAL DWELLING WITH A COMMUNALITY OF INTERCONNECTED SOCIAL SPACES – SIMPLE AND ADAPTIVE – THAT IS REFRESHING.

— QUOTE FROM PROJECT TEAM —



**VIEW OF THE KITCHEN-DINING AREA
FROM THE CENTRAL GARDEN**

CONTEXT

Lucky Shophouse is located within the Joo Chiat conservation area of Singapore, the city's first 'Heritage Town' – a title bestowed on the district due to its rich architectural heritage and the strong expression of traditional Peranakan (Straits Chinese) culture. Originally part of a plantation owned in part by Chew Joo Chiat, a penniless migrant from China who became a successful entrepreneur, the conservation area includes rows of two-storey buildings that were once shophouses.

Built in the 1920s, the 'Lucky Shophouse' functioned originally as a book shop called the 'Lucky Book Store'. As with many of its neighbours, the building had commercial use on its ground floor and residential space on the upper level. The shophouse also featured a mezzanine on the upper level, a space used for storage. At the rear of the shophouse was an open yard. An extension had been built on this space in the past but was later demolished.

PROJECT HISTORY

In 2006, the former book store was purchased by a Singaporean couple that had lived in the Joo Chiat district as children. They wished to convert the old shophouse into a modern residence for themselves and create a structure at the rear to accommodate visits

from their extended family. They also wanted to revive the sense of place and community in Joo Chiat they knew when they were growing up. At that time, homes had been simple, flexible, useful and liveable, and had been interconnected social spaces in which neighbours interacted freely, and everyday life in the neighbourhood was a series of richly interwoven rituals.

PROJECT SCOPE AND FRAMEWORK

With its location in the Joo Chiat conservation area, changes to Lucky Shophouse were limited by area-wide renovation guidelines, including mandatory restoration of the building's front portion and a four-storey height limit for any rear portion redevelopment. In line with the guidelines, the owners and the architect decided that the main house would be the principal residence and the façade would be restored but not changed. They intended the concrete-covered yard at the building's rear to be transformed into a garden area with a single-storey house extension. Although permitted to build a four-storey structure, they chose to build a low building to minimize the impact on their neighbours, who live in close proximity. The project commenced in September 2010 and was completed in January 2012.

DESIGN AND MATERIALS

Careful to preserve and recover significant original elements and reinstate the original character of the property, the project began with the restoration of the historic colour scheme of the front façade. Specialists also conserved the faded sign on a front pillar reading 'Lucky Book Store'. Inside the old shophouse, all non-structural partitions, ceiling boards and illegal extensions were removed, keeping the main structure as intact as possible. This work revealed the core characteristics of the building, including its brick walls, timber rafters and floor joists. The architect left the rear portion of the shophouse open and added design elements such as full-height sliding wooden doors, which allow for an interesting architectural dialogue between old and new materials. When the door panels are opened, the rear space of the shophouse extends into the outdoor area at the back of the building.

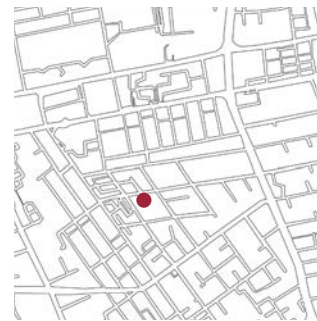
The owners and the architect worked together to create an extension at the rear of the shophouse that, through passive design respectful of the past, added value and contributed positively to the neighbourhood. The owners and architect also sought to ensure that the extension was compatible with the architectural style of the shophouse building.

The architect designed a single-storey extension consisting of cubed structures set at the rear of the long plot. The buildings are set back one metre from the side boundaries of the plot, giving a feeling of space around the buildings. By playfully arranging the series of staggered cubes, the designer optimized room widths, cross-ventilation, daylight and access to the outdoor area.

Part of the design strategy was that only the first box is visible from the front shophouse, to ensure an element of surprise and fuel curiosity as one moves beyond the first cube. The first cube was also kept to a similar height to the lower level of the old shophouse, as a gesture of respect and tribute to it. The designer also used textures and colours sympathetic to the shophouse building, and in creating the cube extensions, replicated the functionalism inherent in the design of the shophouse.

The concept for the design of the extension stemmed from the view, shared by the client and architect, that architecture should articulate untested ideas and inspire new ways to experience an existing building.

PROJECT TITLE
LUCKY SHOPHOUSE
LOCATION
125 JOO CHIAT PLACE,
SINGAPORE
SIZE
316 SQUARE METRES
COST
US\$ 470,000
RESPONSIBLE PARTY
CHANG YONG TER
DENISE WONG HUIWEN
HERITAGE ARCHITECT
CHANG YONG TER
CONTRACTOR
GOH SEE KOOI
DATE OF COMPLETION
JANUARY 2012



Hence, the extension is not directly joined to the rear of the shophouse but is instead separated from it by a central garden space. The introduction of the garden goes against the trend in Singapore, which is towards maximizing built-up areas, and offers a sensitive transition between the old shophouse and the modern extension at the rear.

IMPORTANT ISSUES

In planning the shophouse restoration and extension, the architect considered the tropical climate of Singapore, a climate for which the shophouses of the city are adapted. The architect transferred aspects of the shophouse design to the new extension, including mechanisms to allow filtered daylight and to shield from rain without fully shutting out the air flow, and decorative fenestrations and vent holes. The resultant modern residence is energy efficient, with spaces generally lit by natural sunlight and cooled by natural ventilation. The open garden space allows light into the various parts of the residence and facilitates air flow through it.

One unique feature of this project is the notion of a 'borrowed landscape'. Large trees in the neighbouring yards provide a backdrop for the new extension, and the neighbours happily share this foliage. The neighbours benefit from the light that the garden oasis provides.

The Lucky Shophouse project involved various stakeholders and partners, including the National Heritage Board, which, with input from local Joo Chiat area residents, contributed to historical research into the property. This preliminary work provided valuable information for the project and assisted in design decisions.

PROJECT IMPACT

Through careful design and thoughtful planning, the project revived the site and rekindled the communal spirit of yesteryear, while enriching the rituals of everyday life through architecture. Consideration of the neighbouring community and of the overall character of the area was a leading factor in the project's success. The cooperative spirit of this project has had a positive and lasting impact upon the Joo Chiat neighbourhood.

CONCLUSION

CONCLUSION

When looking at trends in cultural heritage conservation in the Asia-Pacific region over the past few decades, it is clear that the field has not only expanded beyond its conventional definition to encompass emergent forms such as modern heritage, cultural landscapes and intangible cultural heritage, it has also come to involve a plurality of new actors, moving beyond governments and specialist agencies to include the private sector and civil society.

Heritage is no longer viewed as the preserve of experts focusing solely on technical conservation matters, or as a real estate proposition to add value to a historic property. Rather, heritage is increasingly seen as an integral pillar for sustainable development in all its dimensions, and therefore deeply relevant to everyone. Indeed, the 2030 Agenda for Sustainable Development recognizes heritage, both cultural and natural, as a fundamental part of the global development agenda.

The UNESCO Asia-Pacific Awards for Cultural Heritage Conservation programme shows that cultural heritage is more than an expression of cultural identity and a means to empowerment, it is essential for sustainable development. The engagement of the private sector is fundamental to these awards, as UNESCO believes that recognizing private efforts to restore and adapt historic structures will encourage other property owners to undertake conservation projects. Community participation is also essential, and is required throughout the entire process – from awareness-raising to fundraising efforts to practical involvement in actual conservation work. Contributions by local stakeholders in any initiative create a sense of ownership and responsibility that is necessary for long-term viability. Moreover, partnerships between the various stakeholders leverage cultural heritage towards improved well-being for all, the creation of meaningful work and more peaceful coexistence.

The sustainability of many of the winning projects was predicated upon improving local quality of life along with extending the cultural continuum of communities, combining heritage conservation with development objectives. Skilled local artisans worked alongside conservation specialists in projects such as the Great Serai (2013 Award of Distinction), which generated employment and ensured that the restored buildings could be readily conserved using local know-how in the future. In addition to restoring historic buildings, projects such as Gali Surjan Singh (2014 Honourable Mention) also upgraded urban infrastructure, provided access to clean water and services such as electricity and transformed open spaces to be safe and welcoming for users from all walks of life. Effective heritage education and advocacy was often the linchpin for mobilizing resources, with projects such as Hong San See Temple (2010 Award of Excellence) creating a sense of buy-in from the larger community in Singapore beyond the immediate circle of the temple's devotees. In many award-winning projects, community members continue to have a central role and to reap benefits even after the completion of conservation work, such as in the case of the Tai O Heritage Hotel (2013 Award of Merit) which is run as a social enterprise, creating sustainable livelihoods for local villagers and providing assistance to elderly people. Innovative new architecture in heritage contexts demonstrated how local wisdom can be transformed into future-forward and resilient design, as seen in the Ma'anqiao Village post-earthquake project (2011 Jury Commendation for Innovation).

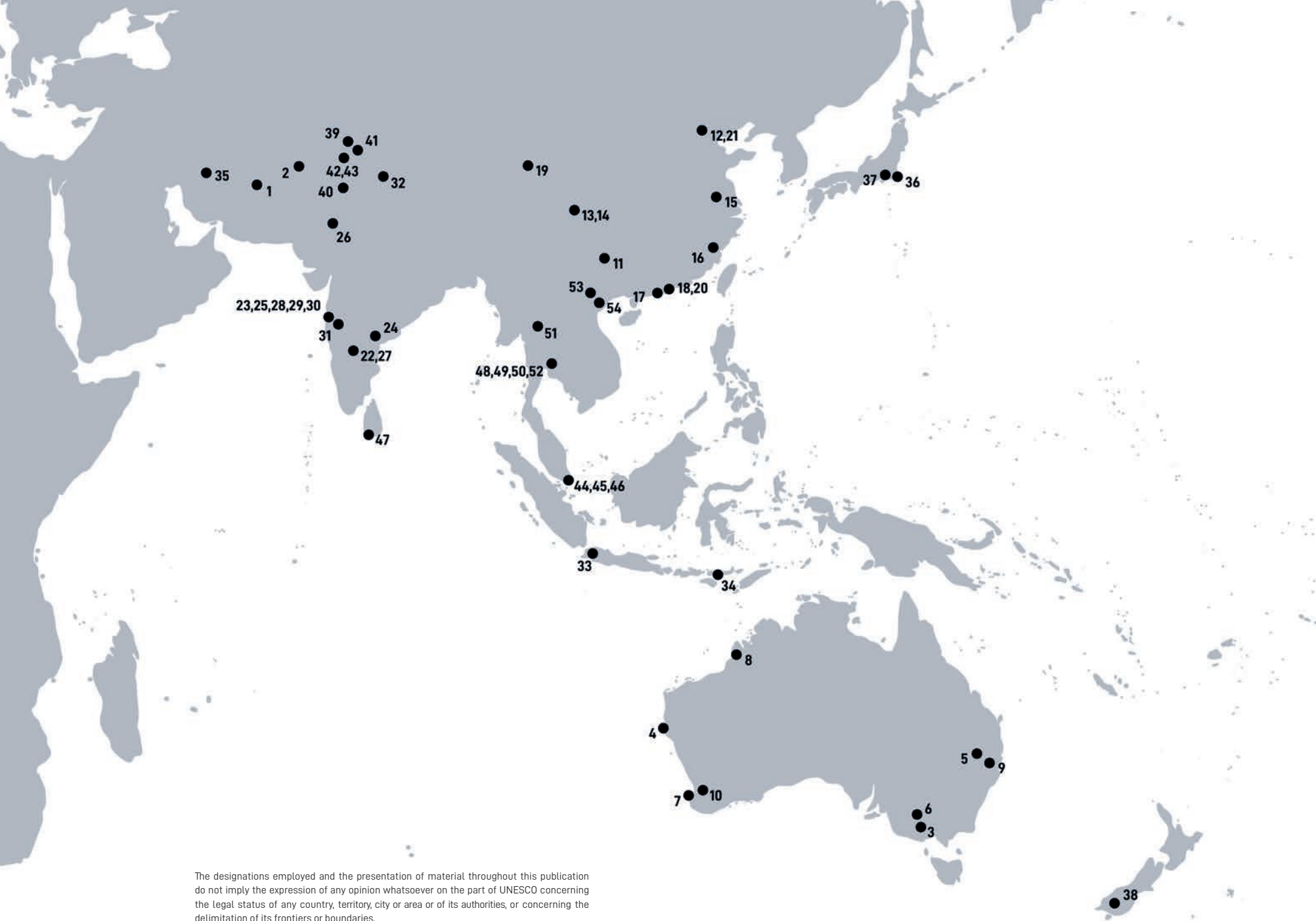
Together, the best practices from the UNESCO Asia-Pacific Heritage Awards demonstrate how the participation of civil society, partnerships between stakeholders, local ownership of initiatives and a sensitivity to cultural values are cornerstones not only of successful heritage conservation, but also of sustainable development.

'A RENEWED EMPHASIS ON CULTURE WILL HELP SPUR GREATER INTERCULTURAL DIALOGUE TO ENCOURAGE A CLIMATE OF PEACE, WHICH IS A PREREQUISITE FOR SUSTAINABLE DEVELOPMENT.'

**AUDREY AZOULAY
DIRECTOR-GENERAL OF UNESCO**



ALTIT FORT (2011 AWARD OF DISTINCTION)



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REGIONAL MAP OF WINNING PROJECTS

AFGHANISTAN

- 1 Shahzada Hussain Mausoleum, 2014 Honourable Mention
- 2 The Great Serai, 2013 Award of Distinction

AUSTRALIA

- 3 Ballarat Mechanics' Institute, 2010 Honourable Mention
- 4 Cape Inscription Lighthouse Keepers' Quarters, 2014 Honourable Mention
- 5 Exeter Farm, 2014 Award of Merit
- 6 Maryborough Railway Station, 2013 Award of Merit
- 7 Rottneat Island World War II Coastal Defences, 2014 Honourable Mention
- 8 Sail Maker's Shed, 2013 Honourable Mention
- 9 Sydney Harbour YHA and the Big Dig Archaeology Education Centre, 2011 Jury Commendation for Innovation
- 10 William Street Precinct, 2012 Honourable Mention

CHINA

- 11 Baojiatun Watermill, 2011 Award of Excellence
- 12 Enjoying Snow Yard, 2013 Award of Merit
- 13 Fulong Taoist Temple, 2010 Award of Merit
- 14 Ma'anqiao Village, 2011 Jury Commendation for Innovation
- 15 Nanjing Yihe Mansions, 2014 Honourable Mention
- 16 North Xinjiao Street, 2010 Honourable Mention
- 17 Reading Room for the Portuguese School of Macau 2012 Jury Commendation for Innovation
- 18 SCAD Hong Kong (Former North Kowloon Magistracy Building), 2011 Honourable Mention
- 19 Serkhang Monastery, 2011 Award of Merit
- 20 Tai O Heritage Hotel, 2013 Award of Merit
- 21 Zhizhusi Complex, 2012 Award of Merit

INDIA

- 22 Chandramauleswar Temple, 2012 Award of Merit
- 23 Chhatrapati Shivaji Maharaj Vastu Sangrahalaya (Prince of Wales Museum), 2010 Honourable Mention
- 24 Chowmahalla Palace, 2010 Award of Merit
- 25 Esplanade House, 2014 Honourable Mention
- 26 Har Raj Ji Mahal, Jaisalmer Fort, 2012 Honourable Mention
- 27 Historic Water System of Hampi, 2012 Award of Distinction
- 28 Lal Chimney Compound, 2013 Award of Distinction
- 29 Royal Bombay Yacht Club Residential Chambers, 2013 Award of Merit
- 30 Sethna Buildings, 2012 Award of Distinction
- 31 Shri Sakhargad Niwasini Devi Temple Complex, 2014 Award of Merit
- 32 Sumda Chun Gonpa, 2011 Award of Excellence

INDONESIA

- 33 De Driekleur, 2014 Honourable Mention
- 34 Mbaru Niang, 2012 Award of Excellence

IRAN, ISLAMIC REPUBLIC OF

- 35 Saryazd Citadel, 2014 Award of Distinction

JAPAN

- 36 Otaki Town Hall, 2013 Award of Merit
- 37 Red Brick Warehouses, 2010 Award of Distinction

NEW ZEALAND

- 38 Frankton Boatshed, 2014 Award of Merit

PAKISTAN

- 39 Altit Fort, 2011 Award of Distinction
- 40 Gali Surjan Singh, 2014 Honourable Mention
- 41 Gulabpur Khanqah, 2010 Award of Distinction
- 42 Khaplu Palace, 2013 Award of Distinction
- 43 Khiligrong Mosque, 2012 Award of Merit

SINGAPORE

- 44 Hong San See Temple, 2010 Award of Excellence
- 45 Lucky Shophouse, 2014 Jury Commendation for Innovation
- 46 Wak Hai Cheng Bio, 2014 Award of Merit

SRI LANKA

- 47 Old Houses in the World Heritage Fort of Galle, 2010 Award of Merit

THAILAND

- 48 Na Phra Lan Historic Shophouses, 2011 Honourable Mention
- 49 Phra Borommathat Maha Chedi and Pharin Pariyattithammasala of Wat Prayurawongsawas, 2013 Award of Excellence
- 50 Phraya Si Thammathirat Residence, 2014 Award of Merit
- 51 Salarian Pavilion of Wat Kutao, 2011 Honourable Mention
- 52 Scriptures Hall of Wat Thepthidaram Worawihan, 2011 Award of Merit

VIET NAM

- 53 Historic Buildings in Duong Lam Village, 2014 Award of Merit
- 54 The Lost Bomb Shelter of the Sofitel Legend Metropole Hanoi, 2013 Honourable Mention

左图源自：审图号：GS(2016)1611号 中国自然资源部监制

REGIONAL DIRECTORY

HERITAGE ARCHITECTS, DESIGNERS AND CONTRACTORS

AFGHANISTAN

ARCHITECTS AND DESIGNERS

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211 Street 11J, Karte Seh, Kabul, Afghanistan
*Shahzada Hussain Mausoleum, Karez Village,
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Distinction*

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211 Street 11J, Karte Seh, Kabul, Afghanistan
*Shahzada Hussain Mausoleum, Karez Village,
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*William Street Precinct, Perth, Western Australia,
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5 Queen Street, Chippendale, NSW 2008, Australia
*Exeter Farm, Glenwood, New South Wales, Australia,
2014 Award of Merit*

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*Ballaarat Mechanics' Institute, Victoria, Australia,
2010 Honourable Mention*

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Bay, Western Australia, Australia, 2014 Honourable
Mention*

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Zhizhusi Complex, Beijing, China, 2012 Award of Merit

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Baojiatun Watermill, Guizhou Province, China, 2011 Award of Excellence

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Cultural Heritage Architecture Conservation & Design Institute, 21 Dongjing Road, West District, 100050, Beijing, China

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Enjoying Snow Yard, Beijing, China, 2013 Award of Merit

Carlotta Bruni and Rui Leão

VLB Arquitectura e Planeamento
Pátio da Adivinhação n1B, Weng Keong R/C, Macao SAR, China
Reading Room for the Portuguese School of Macau, Macao SAR, China, 2012 Jury Commendation for Innovation

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Philip Liao & Partners Ltd.

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107-109 Wai Yip Street Kwun Tong, Kowloon, Hong Kong SAR, China

SCAD Hong Kong (Former North Kowloon Magistracy Building), Hong Kong SAR, China, 2011 Honourable Mention

J & T Constructor Company Ltd.

Alameda Dr. Carlos d'Assumpção, 335 Centro Hotline, 20/F, Unit K-M, Macao SAR, China

Reading Room for the Portuguese School of Macau, Macao SAR, China, 2012 Jury Commendation for Innovation

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Department of Architecture, College of Architecture and Urban Planning, Tongji University, Siping Road 1239, 200092, Shanghai, China

North Xinjiao Street, Zhejiang, China, 2010 Honourable Mention

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Tai O Heritage Hotel, Hong Kong SAR, China, 2013 Award of Merit

The Guangxi Conservation Centre

No. 160, Wewu Road, Nanning City, Guangxi, China

Fulong Taoist Temple, Sichuan, China, 2010 Award of Merit

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Enjoying Snow Yard, Beijing, China, 2013 Award of Merit

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Integrated Design

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Sethna Buildings, Wadia Street, Mumbai, India, 2012 Award of Distinction
Lal Chimney Compound, Mumbai, India, 2013 Award of Distinction
Royal Bombay Yacht Club Residential Chambers, Mumbai, India, 2013 Award of Merit
Esplanade House, Mumbai, India, 2014 Honourable Mention

Abha Narain Lambah and Associates

201-B Wing, Amrit, Carter Road, Khar, Mumbai 400052, India
Chandramauleshwar Temple, Anegundi, Hampi, Karnataka, India, 2012 Award of Merit

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Royal Bombay Yacht Club Residential Chambers, Mumbai, India, 2013 Award of Merit

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 Award of Distinction*

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*Saryazd Citadel, Yazd, Islamic Republic of Iran, 2014
 Award of Distinction*

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 153-0052, Japan
*Red Brick Warehouses, Yokohama, Japan, 2010 Award
 of Distinction*

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*Otaki Town Hall, Chiba Prefecture, Japan, 2013 Award
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*Frankton Boatshed, Queenstown, New Zealand, 2014
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Altit Fort, Hunza, Pakistan, 2011 Award of Distinction
*Khaplu Palace, Baltistan, Pakistan, 2013 Award
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*Gali Surjan Singh, Lahore, Pakistan, 2014 Honourable
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Fort of Galle, Galle, Sri Lanka
Old Houses in the World Heritage Fort of Galle, Sri Lanka, 2010 Award of Merit

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257/2 Mu 17, Sala Thammasop Road, Khet Thawiwat-thana, Bangkok 10170, Thailand
Na Phra Lan Historic Shophouses, Bangkok, Thailand, 2011 Honourable Mention

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532 Chua Thong Street, Son Loc, Son Tay, Viet Nam

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Van Mieu, Duong Lam Village, Son Tay, Viet Nam
Historic Buildings in Duong Lam Village, Son Tay, Hanoi, Viet Nam, 2013 Award of Merit

HDHC Construction and Engineering Joint Stock Company

Room 706, C7 Block, My dinh 1, Tu Liem Commune, Hanoi 10000, Viet Nam

Viet Tien Engineering Joint Stock Company

8th floor, HCMCC Building, 249A Thuy Khue Str., Tay Ho Dist., Hanoi 10000, Viet Nam
Lost Bomb Shelter of the Sofitel Legend Metropole Hanoi, Viet Nam, 2013 Honourable Mention

GLOSSARY

<i>ad hoc</i>	A solution designed for one specific problem or task that is usually non-generalizable and not intended to be used for other purposes.	brick bat coba	A traditional Indian waterproofing method applied on terraces, roofs and basements. Method involves putting brick bats (broken pieces of bricks) on the slab to create a slope and then grouting with mortar admixed with various proprietary waterproofing compounds.
Art Deco	A design style popular during the 1930s and 1940s that combines traditional craft motifs with modern imagery and materials.	cantilever	A structural element that is fixed at one end and is free at the other.
Art Nouveau	A style of fine and applied art that flourished from 1890-1914 in Europe and North America. Characterized by fluid, undulating motifs, often derived from natural forms.	caravanserai	An inn with a central courtyard, built for accommodating traders who travelled in convoys along trade routes in central and western Asia.
ashlar	A thin square and dressed stone for facing a wall of rubble or brick.	cathodic protection	A technique to protect a metal surface from corrosion by making it serve as an electrical cathode.
azulejo	A painted glazed ceramic tile in the Spanish and Portugese style.	chhajja (chajja)	A projecting eave or overhang.
Bahmani architecture style	A blend of Persian and local architectural styles that originated during the Bahmani Sultanate (1347-1527).	charbargh	A quadrilateral garden divided by walkways or flowing water into four smaller parts. Often found in West and South Asia, including in Iran and India.
balustrade	A railing supported by a row of balusters (upright, often vase-shaped posts).	charr (charlen)	A parapet that surrounds the roof typically found in Ladhaki architecture.
Baroque	A style of architecture popular during the seventeenth century emphasized by ornamentation and extravagance.	chawl	A large building divided into separate tenements, providing cheap, basic accommodation for labourers.
basalt	A dark igneous rock.	cho-fah (chofa)	A Thai architectural decorative element, resembling a bird's beak, that adorns temple and palace roofs.
bazaar	A market consisting of rows of shops or stalls selling miscellaneous goods.	chorten	Stupa
Beidi	A deity of Chinese origin, frequently a representation of the God of Water.		

chuandou	A timber framing system in which tall purlin-to-ground columns are used along the full length of the gable end and are secured by horizontal tie beams that penetrate the vertical timber members.	Dussehra (Dusshera)	An annual Hindu festival celebrating the victory of the Indian deity Lord Rama over the demon Ravana.	Hanuman	The king of the monkeys in the Hindu mythology of Ramayana.
corbel	A structural element (made of concrete, stone, wood, metal, etc.) jutting from a wall, that serves to carry the weight of another element of the structure.	eave	An edge of a roof, usually extending beyond the walls of the structure it covers.	haveli	A mansion, often featuring a courtyard (found in the Indian sub-continent: Bangladesh, India, Nepal and Pakistan).
cribbage	A wooden cage holding blocks or bricks of a building in place.	embankment	A raised area of earth or stone, either built to prevent flooding or to separate a road or railway from surrounding land.	hekang kode	The fifth level of the traditional house from Manggarai, Indonesia (mbaru niang) which is used for ancestral offerings.
cul-de-sac	A street, lane, or passage closed at one end, with no outlet except by the entrance.	enamel paint	A type of paint, oil, latex or water-based, which air-dries to a hard, glossy finish.	ijuk	A type of palm fibre, native to Indonesia, used to make rope.
cupola	A small, usually dome-like, structure on top of a building that is often used to allow light and air into the building.	epoxy resin	A type of strong glue.	jallie	Carved wooden screen used for privacy and also to allow air-flow through a building.
dado	The lower part of an interior wall, often demarcated by a dado rail – which is at around waist height.	fascia board	A long, straight board that runs along the lower edge of the roof (facing the front).	jharoka (jharokha)	A type of overhanging enclosed balcony projecting from an upper storey of a building.
Deccan and Tamil Style	A stylistic tradition of Indian Hindu temple architecture primarily used in the Deccan region of north India.	fibreboard	An engineered composite construction material, generally made of wood fibres.	jun nuo	The symbolic worship of Beidi (the god of water).
deepmala	A lamp tower, usually erected outside a temple compound.	Functionalist (Functionalism)	A principle of architecture that buildings should be designed solely according to their intended purpose.	kanal	A traditional unit of measuring area that is used in parts of Pakistan and India. One kanal is equivalent to approximately 506 square metres.
deflection	The condition of being bent, leaning or curved.	fresco	A mural or wall-painting painted onto wet lime plaster.	kenti	A type of wood in Manggarai, Indonesia.
dui-chang	'Rival building' method of construction that involves two construction teams competing with each other for the completion of a building.	gali	An alley or narrow lane.	kha basi	An orchard or garden.
		gabhara (garbhagriha)	The innermost sanctum of a Hindu temple.	khanqah	A Sufi religious building designed specifically for assemblies and spiritual retreat.
		hamam (hammam)	A bath house; a space for bathing and washing.	lama	A type of monk.
		hang hongse	A Thai architectural decorative element, resembling a swan's tail, that adorns temple and palace roofs.		

lean-to	A simple structure added to an existing building, with its rafters 'leaning' against the wall of the existing building.	mbaru tembong	A traditional conical house for the village elders, from Manggarai, Indonesia.	Nizam	Monarch of Hyderabad.
LiDAR	A method of surveying that measures the distance to a target by illuminating the target with pulsed laser light and measuring the reflected pulses with a sensor.	Minton tiles	A type of encaustic tile produced by Minton's Limited, a major English ceramics manufacturing company.	parapet	A wall-like barrier at the edge of a roof, terrace, balcony or other structure.
lime mortar	A mixture of lime putty and sand used in brick or masonry buildings. It is softer and takes a longer time to harden than Portland cement mortars.	mihrab	A niche in the wall of a mosque that indicates the direction of the Kaaba (holy building at the centre of the Great Mosque of Mecca) and hence the direction that Muslims should face when praying.	Parsi	A descendant of the Zoroastrian Persians who fled to India after the Islamic conquest of Persia to escape persecution.
lintel	A horizontal beam above a window or door opening; borne by two vertical supports.	Modernist architecture	A style of architecture based on new construction technologies in the twentieth century, that embraced minimalism and rejected ornamentation.	Peranakan	An Indonesian and Malay word that means 'local born' and generally refers to descendants of Chinese immigrants to the British-controlled 'Straits Settlements' of Singapore, Penang and Malacca.
louver	A slat on a window or shutter that is angled to admit light and air, but to keep out direct sunlight and rain.	mortar	A mixture of cement or lime with water and a fine aggregate such as sand; used to bind blocks of stone and other materials together in construction.	phugma	Wheat straw.
mahal	A palace or summer house of palatial scale.	mullioned windows	Windows that feature slender vertical members that form divisions between the units of the window.	plaster of paris	A white gypsum plaster that does not shrink or crack when dry.
mane	A prayer wall made of slate stones inscribed with holy prayers or religious motifs.	massed concrete	A form of concrete used around the turn of the twentieth century (1850-1910) that was set with little or no reinforcement. Not to be confused with modern 'mass concrete'; this refers to concrete of large dimensions that requires measures to be taken to manage the heat generated from the hydration of cement.	plaster (noun)	A mixture of lime, sand, water and other ingredients that becomes hard when dry and is used for making a smooth surface on walls and ceilings.
Mangalore tiles	Red tiles made of laterite clay; first produced in the city of Mangalore, India, in the late nineteenth century.	niche	An alcove in the wall of a room, or a shallow recess to display an ornament.	plaster (verb)	An act of applying plaster to a wall surface.
masonry	A construction unit, such as brick and stone, and the process of building with these units and binding them together with mortar.			plinth	A block used as the base of a column or support.
mbaru niang	A traditional conical house from Manggarai, Indonesia.			pointing	A process of pressing mortar into masonry joints so as to make a wall watertight or achieve a desired appearance or effect.

pura	Sanskrit word meaning 'settlement' or 'city'.	rising damp	The rise of water moisture from the ground through the porous wall cavity via capillary action. The evaporating water leaves salt deposits on the surface, often resulting in staining and damage to the interior finish.	stupa	A Buddhist reliquary.
pushkarani	Sanskrit word meaning deep water reservoir (tank) with steps for access, situated near a temple.	sabha mandapa	A pavilion or open space in front of a temple, where people assemble.	tashak	Monks' residence.
qanat	An underground channel to transport water, serving as an underground aqueduct.	shenjhaq	Soft clay. Applied to buildings in the Baltistan region.	teakwood	A tropical hardwood tree species native to South Asia and South-east Asia; a yellow-brown timber.
rafter	One of a series of structural members that extend from the ridge of the roof to the eave; designed to support the roof deck.	Shigaraki tiles	A type of clay tile made in the Shigaraki region of Japan.	tenda	The lowest level of the traditional conical house from Manggarai, Indonesia (mbaru niang).
raja	A monarch or princely ruler.	shikari	A watchtower	terrazzo	A type of mosaic flooring made by embedding small pieces of marble or granite in a cement base. The surface is then polished.
Rama	A Hindu deity.	shikhar	In the temple architecture of India, shikhar refer to domes, towers or spires, usually tapering in a convex curve.	tham	A monarch or ruler.
rani	A queen; a raja's wife.	soffit	The horizontal underside of an architectural structure (e.g. architrave, overhanging cornice, lintel, vault, arch, balcony or eave).	through stone (bond stone)	A stone inserted through an entire wall's width, locking together the inner and outer walls.
rattan	From the Malay/Indonesian word 'rotan'. A climbing palm with a flexible woody stem that is used to make rope and other items.	spalling	Flaking. Falling away of many small pieces of material.	transit shed	A building used for the temporary storage of cargo. Usually located near a pier or wharf.
render (noun)	A mixture of lime, sand, water and other ingredients that becomes hard when dry and is used for making a smooth surface on walls and ceilings	squinch	A straight or arched support constructed across an angle in order to carry a superstructure.	trefoil	An ornamental design in the form of three overlapping circles, like a clover leaf.
render (verb)	An act of applying plaster to a wall surface.	Streamline Moderne	A style of Art Deco architecture and design that emerged in the 1930s, emphasizing curving forms, long horizontal lines and sometimes nautical elements.	tsa	Mud, soil or clay.
restoration	The return of a structure or site to a known historical period by the reassembly of fabric and materials and by the removal of incompatible accretions.	Stripped Classicism	A classicist architectural style stripped of most or all ornamentation.	tsogspa	Youth association.
				tympanum	The semi-circular or triangular decorative wall surface over an entrance, door or window.
				verandah (veranda)	A roofed porch, partially enclosed by a railing.
				wada	A traditional house in Maharashtra State, India.

wet rot	Decaying of timber that occurs when moisture builds up and leads to fungal growth in the wood.
worok	A type of wood in Manggarai, Indonesia.
Yadava architecture	A style of architecture developed during the Yadava Dynasty (850–1334).
yaksis	Dried grass.
you hui	A traditional adhesive in China.
zhuba	A framework for a wall made from bamboo splints that are woven together tightly. Cow dung is applied on the surface as plaster.

INTERNATIONAL AND REGIONAL CHARTERS AND CONVENTIONS

UNESCO

1954 Convention for the Protection of Cultural Property in the Event of Armed Conflict (The Hague Convention)

http://portal.unesco.org/en/ev.php-URL_ID=13637&URL_DO=DO_TOPIC&URL_SECTION=201.html

- *First Protocol to the 1954 Convention for the Protection of Cultural Property in the Event of Armed conflict*

http://portal.unesco.org/en/ev.php-URL_ID=15391&URL_DO=DO_TOPIC&URL_SECTION=201.html

- *Second Protocol to the 1999 Convention for the Protection of Cultural Property in the Event of Armed Conflict*

http://portal.unesco.org/en/ev.php-URL_ID=15207&URL_DO=DO_TOPIC&URL_SECTION=201.html

1956 Recommendation on International Principles Applicable to Archaeological Excavations

http://portal.unesco.org/en/ev.php-URL_ID=13062&URL_DO=DO_TOPIC&URL_SECTION=201.html

1968 Recommendation Concerning the Preservation of Cultural Property Endangered by Public or Private works

http://portal.unesco.org/en/ev.php-URL_ID=13085&URL_DO=DO_TOPIC&URL_SECTION=201.html

1970 Convention on the Means of Prohibiting and Preventing the Illicit Import, Export and Transfer of Ownership of Cultural Property

http://portal.unesco.org/en/ev.php-URL_ID=13039&URL_DO=DO_TOPIC&URL_SECTION=201.html

1972 Convention Concerning the Protection of the World Cultural and Natural Heritage

http://portal.unesco.org/en/ev.php-URL_ID=13055&URL_DO=DO_TOPIC&URL_SECTION=201.html

1972 Recommendation Concerning the Protection, at National Level, of the Cultural and Natural Heritage

http://portal.unesco.org/en/ev.php-URL_ID=13087&URL_DO=DO_TOPIC&URL_SECTION=201.html

1976 Recommendation Concerning the Safeguarding and Contemporary Role of Historic Areas

http://portal.unesco.org/en/ev.php-URL_ID=13133&URL_DO=DO_TOPIC&URL_SECTION=201.html

1976 Recommendation Concerning the International Exchange of Cultural Property

http://portal.unesco.org/en/ev.php-URL_ID=13132&URL_DO=DO_TOPIC&URL_SECTION=201.html

2001 Convention on the Protection of the Underwater Cultural Heritage

http://portal.unesco.org/en/ev.php-URL_ID=13520&URL_DO=DO_TOPIC&URL_SECTION=201.html

2001 Universal Declaration on Cultural Diversity

http://portal.unesco.org/en/ev.php-URL_ID=13179&URL_DO=DO_TOPIC&URL_SECTION=201.html

2003 Convention for the Safeguarding of the Intangible Cultural Heritage

http://portal.unesco.org/en/ev.php-URL_ID=17716&URL_DO=DO_TOPIC&URL_SECTION=201.html

2005 Convention on the Protection and Promotion of the Diversity of Cultural Expressions

http://portal.unesco.org/en/ev.php-URL_ID=31038&URL_DO=DO_TOPIC&URL_SECTION=201.html

2011 Recommendation on the Historic Urban Landscape

http://portal.unesco.org/en/ev.php-URL_ID=48857&URL_DO=DO_TOPIC&URL_SECTION=201.html

2015 Recommendation Concerning the Protection and Promotion of Museums and Collections, their Diversity and their Role in Society

http://portal.unesco.org/en/ev.php-URL_ID=49357&URL_DO=DO_TOPIC&URL_SECTION=201.html

2017 Operational Guidelines for the Implementation of the World Heritage Convention

<https://whc.unesco.org/en/guidelines/>

ICOMOS

International Charter for the Conservation and Restoration of Monuments and Sites (The Venice Charter), 1964

https://www.icomos.org/charters/venice_e.pdf

Historic Gardens (The Florence Charter), 1981

https://www.icomos.org/images/DOCUMENTS/Charters/gardens_e.pdf

Charter for the Conservation of Historic Towns and Urban Areas (The Washington Charter), 1987

https://www.icomos.org/images/DOCUMENTS/Charters/towns_e.pdf

Charter for the Protection and Management of the Archaeological Heritage, 1990

https://www.icomos.org/images/DOCUMENTS/Charters/arch_e.pdf

Guidelines for Education and Training in the Conservation of Monuments, Ensembles and Sites, 1993

<https://www.icomos.org/charters/education-e.pdf>

Charter on the Protection and Management of Underwater Cultural Heritage, 1996

https://www.icomos.org/images/DOCUMENTS/Charters/underwater_e.pdf

Principles for the Recording of Monuments, Groups of Buildings and Sites, 1996

<https://www.icomos.org/charters/archives-e.pdf>

Charter on the Built Vernacular Heritage, 1999

https://www.icomos.org/images/DOCUMENTS/Charters/vernacular_e.pdf

International Cultural Tourism Charter: Managing Tourism at Places of Heritage Significance, 1999

https://www.icomos.org/images/DOCUMENTS/Charters/INTERNATIONAL_CULTURAL_TOURISM_CHARTER.pdf

Principles for the Preservation of Historic Timber Structures, 1999

https://www.icomos.org/images/DOCUMENTS/Charters/wood_e.pdf

ICOMOS Charter – Principles for the Analysis, Conservation and Structural Restoration of Architectural Heritage, 2003

https://www.icomos.org/images/DOCUMENTS/Charters/structures_e.pdf

ICOMOS Principles for the Preservation and Conservation-Restoration of Wall Paintings, 2003

https://www.icomos.org/images/DOCUMENTS/Charters/wallpaintings_e.pdf

ICOMOS Charter on Cultural Routes, 2008

https://www.icomos.org/images/DOCUMENTS/Charters/culturalroutes_e.pdf

ICOMOS Charter on the Interpretation and Presentation of Cultural Heritage Sites, 2008

https://www.icomos.org/images/DOCUMENTS/Charters/interpretation_e.pdf

Joint ICOMOS – TICCIH Principles for the Conservation of Industrial Heritage Sites, Structures, Areas and Landscapes, 2011

https://www.icomos.org/images/DOCUMENTS/Charters/GA2011_ICOMOS_TICCIH_joint_principles_EN_FR_final_20120110.pdf

Valletta Principles for the Safeguarding and Management of Historic Cities, Towns and Urban Areas, 2011

<http://civvih.icomos.org/sites/default/files/Valletta%20Principles%20Book%20in%205%20languages.pdf>

ICOMOS-IFLA Document on Historic Urban Public Parks, 2017

https://www.icomos.org/images/DOCUMENTS/Charters/GA2017_6-3-2_HistoricUrbanPublicParks_EN_adopted-15122017.pdf

ICOMOS-IFLA Principles Concerning Rural Landscapes as Heritage, 2017

https://www.icomos.org/images/DOCUMENTS/Charters/GA2017_6-3-1_RuralLandscapesPrinciples_EN_adopted-15122017.pdf

Principles for the Conservation of Wooden Built Heritage, 2017

https://www.icomos.org/images/DOCUMENTS/Charters/GA2017_6-3-4_WoodPrinciples_EN_adopted-15122017.pdf

Salalah Guidelines for the Management of Public Archaeological Sites, 2017

https://www.icomos.org/images/DOCUMENTS/Charters/GA2017_6-3-3_SalalahGuidelines_EN_adopted-15122017.pdf

REGIONAL (ASIA-PACIFIC)

Nara Document on Authenticity, 1994

<https://www.icomos.org/charters/nara-e.pdf>

ASEAN Declaration on Cultural Heritage, 2000

<http://cultureandinformation.asean.org/wp-content/uploads/2013/11/ASEAN-Declaration-on-Cultural-Heritage.pdf>

Nizhny Tagil Charter for the Industrial Heritage, 2003

<http://ticcih.org/wp-content/uploads/2013/04/NTagilCharter.pdf>

Hoi An Protocols for Best Conservation Practice in Asia, 2005

<https://unesdoc.unesco.org/ark:/48223/pf0000182617>

NATIONAL (ALPHABETICAL BY COUNTRY)

AUSTRALIA

The Burra Charter – The Australia ICOMOS Charter for Places of Cultural Significance, 2013

<https://australia.icomos.org/wp-content/uploads/The-Burra-Charter-2013-Adopted-31.10.2013.pdf>

CHINA

Principles for the Conservation of Heritage Sites in China, 2015

http://openarchive.icomos.org/1650/1/china_prin_heritage_sites_2015.pdf

INDIA

Charter for the Conservation of Unprotected Architectural Heritage and Sites in India, 2004

<https://architexturez.net/doc/az-cf-21208>

INDONESIA

Indonesia Charter for Heritage Conservation, 2003

<https://www.icomos.org/charters/indonesia-charter.pdf>

NEW ZEALAND

ICOMOS New Zealand Charter for the Conservation of Places of Cultural Heritage Value, Revised 2010

https://www.icomos.org/images/DOCUMENTS/Charters/ICOMOS_NZ_Charter_2010_FINAL_11_Oct_2010.pdf

THAILAND

Thailand Charter on Cultural Heritage Management

[https://www.icomosthai.org/THcharter/Thailand%20Charter\(1\).pdf](https://www.icomosthai.org/THcharter/Thailand%20Charter(1).pdf)

PROFILES OF JURY MEMBERS (2000 – 2019)

Susan Balderstone, PSM LFRAIA, is an architect who has worked on the conservation of heritage places for over 40 years. She holds a BArch (Hons) from the University of Melbourne, Australia, and an MA in Conservation Studies from the University of York, United Kingdom. She is a member of the Advisory Board for the Australian Centre for Architectural History, Urban and Cultural Heritage (ACAHU) at the University of Melbourne and an honorary research fellow at the Australian Institute of Archaeology. She was an advisor on World Heritage to the International Council on Monuments and Sites (ICOMOS) from 2008 to 2016 and has participated in various international projects in the Asia-Pacific region, including the Urban Heritage Conservation Strategy for Tianjin, China, and the AusAid Planning and Development Control Project for Hanoi, Viet Nam. As an adjunct professor in the Faculty of Arts at Deakin University, Australia, she was instrumental in setting up the post-graduate coursework programme in Cultural Heritage. (Jury member 2000, 2001)

Arash Boostani is a graduate in Civil Engineering and Architectural Conservation from Azad University in Tehran, Iran. In 1997 he began working in the field of heritage conservation and restoration and has managed a conservation research company since 2000. He has directed conservation projects in Iran, in the Nakhchivan Autonomous Republic (in the Republic of Azerbaijan) and in Afghanistan. His Herat Old City heritage conservation project in Afghanistan was honoured with the Award of Excellence in 2008. He worked as a heritage consultant before taking charge of the Aga Khan Trust for Culture Historic Cities Programme in Herat. In 2009, Mr. Boostani was appointed secretary-General for ICOMOS Iran. He also works as a consultant with the UNESCO office in Tehran. (Jury member 2010-2012, 2014)

Robert G. Boughey established his practice in Bangkok in 1973. His company, which provides various services, including architecture, interior design, project management and construction supervision, has been active in the field for 40 years and has been the recipient of numerous architectural awards for its projects. In 2004, the Association of Siamese Architects named him Architect of the Year. He has given talks at numerous universities and has been on the evaluation panels for various international design competitions. (Jury member 2000, 2003)

Sheridan Burke is a conservation planner and has worked in cultural heritage management for over 35 years – in urban planning, heritage impact assessment and site interpretation. She has special interest in twentieth-century heritage and heritage management planning. She has worked in both the government and private sectors, including for the Heritage Council of NSW and the Historic Houses Trust, and is a former partner and director at GML Heritage. She is an adjunct professor at the University of Canberra, Australia, and is an ICOMOS Scientific Council officer and the Secretary-General of the Twentieth Century Heritage International Scientific Committee. She is an expert member of the Sydney Opera House Conservation Council and its Design Advisory Panel. She is a founding member of the Documentation and Conservation of Buildings, Sites and Neighbourhoods of the Modern Movement (DoCoMoMo) Australia working party and is currently its vice president. She was awarded Australia ICOMOS honorary membership in 2015 and was appointed Deputy Chair of the NSW Heritage Council in 2018. (Jury member 2015–2019)

Mark Chang teaches at Showa Women's University in Tokyo, Japan. Trained in economics, he has been involved in several collaborative heritage conservation projects between Japan and Viet Nam, including in the UNESCO World Heritage site of Hoi An, Viet Nam. He participated in the Hoi An Town preservation cooperation project and the Vietnamese Traditional Folkhouses project, which received UNESCO Asia-Pacific Heritage Awards in 2000 and 2004. In 2005, he was recognized with a Viet Nam Ministry of Culture and Information medal for distinguished service in the field of cultural heritage. (Jury member 2005)

William Chapman is the Dean of the School of Architecture at the University of Hawaii at Manoa. His work has included assessments of heritage sites and training throughout the Pacific islands and mainland South-East Asia. Professor Chapman, who holds a D.Phil in Anthropology and Archaeology from Oxford University and an advanced degree in Historic Preservation from Columbia University, is a frequent participant in international conferences. He has been a consultant to UNESCO in its traditional building crafts training project in Luang Prabang, Lao PDR, and also to the World Monuments Fund, particularly in its training initiatives in Cambodia. His most recent book is *Ancient Sites of Southeast Asia: A Traveler's Guide through History, Ruins, and Landscapes*. (Jury member 2000-2011, 2013-2017, 2019)

Bundit Chulasai teaches at the Department of Architecture at Chulalongkorn University in Bangkok, Thailand. He studied at Chulalongkorn University, at the University of Illinois at Urbana-Champaign in the United States, and at Unité Pédagogique d'Architecture No. 1 in France. A member of the Association of Siamese Architects (ASA), he served twice as the chair of ASA's Fine Arts Commission, which has promoted greater public understanding of urban and architectural conservation since 1982. His design for the renovation of the Railway Hotel in Hua Hin, Thailand, is one of the country's finer examples of adaptive reuse of historic buildings. His other conservation work includes the renovation of Chulalongkorn University's Ruen Pharoetracha in Bangkok and Daraphirom Museum in Chiang Mai. These projects were recognized with the ASA Architectural Conservation Award. (Jury member 2005)

Dong Wei is UNESCO Chair in Cultural Management at Southeast University's Department of Architecture, director of the Academic Committee of Urban Planning History and Theory, UPSC, and head of the SEU Key Laboratory of Urban and Architectural Heritage Conservation of the Ministry of Education in China. He was educated at the Xi'an Institute of Metallurgy and Building (now Xi'an Architecture University), the Traditional Architecture and Garden Design Institute of Xi'an and Nanjing Institute of Technology (now Southeast University). After obtaining his Ph.D. at the Norwegian University of Science and Technology, he was a post-doctoral researcher at Tsinghua University in Beijing. In 1998, he led an architectural survey of intact traditional buildings in the Xijin Ferry area in Zhenjiang, Jiangsu Province, a project that received a 2001 Award of Merit. He was involved in the restoration of Zhongshan Road in Quanzhou, Fujian Province, China, a project that was also recognized with an Award of Merit in 2001. (Jury member 2004, 2006, 2017, 2018, 2019)

Richard A. Engelhardt was the UNESCO Regional Advisor for Culture in Asia and the Pacific between 1994 and 2008. During his tenure, UNESCO conceived and initiated the Asia-Pacific Awards for Cultural Heritage Conservation programme. After his retirement from UNESCO, Engelhardt served from 2010 to 2015 as a senior research professor in the Faculty of Architecture at the University of Hong Kong. Today he is concurrently the UNESCO Chair Professor of the Conservation and Management of Historic Towns and Urban Centres at the National College of Art in Pakistan; Guest Professor in the School of Architecture and Urban Planning at Southeast University in Nanjing, China; Honorary Professor in the College of Architecture and Urban Planning at Tongji University in Shanghai, China; and Visiting Professor in the World Heritage International Research Center at Southwest Jiaotong University in Chengdu, China. Engelhardt has received numerous honours and awards in recognition of his contribution to the conservation of Asian heritage from governments of the region as well as from the Global Heritage Fund. In 1994, H.M. King Norodom Sihanouk of Cambodia knighted him with the title of Commandeur de l'Ordre Royal du Cambodge for his efforts in safeguarding the monuments of Angkor. (Chair 2000-2008, Jury member 2009-2019)

Nobuko Inaba is a professor of World Heritage Studies at the University of Tsukuba, Japan. Trained as a conservation architect and architectural historian, she received her doctoral degree from the Tokyo Institute of Technology. Between 1991 and 2008, she served in the Japanese government's Agency for Cultural Affairs and its affiliated research institute. In April 2008 she took up her current position as professor, while continuing her advisory role to the Japanese central and local authorities on heritage matters. She is a member of the Committee on Cultural Landscapes of the Council for Cultural Affairs and a former member of the Japanese National Commission for UNESCO. (Jury member 2010)

H. Detlef Kammeier was a professor at the Asian Institute of Technology (AIT) in Bangkok between 1976 and 2000, during which time he conducted research and taught in the field of urban, environmental and regional development and planning. Since leaving AIT, he has been engaged in international consulting work in South-East Asia and the Middle East. He also continues to teach as a visiting lecturer in various countries. His long-term interest in urban conservation is reflected in his teaching and research for the postgraduate programme in World Heritage Studies at Brandenburg Technical University in Cottbus, Germany (2002-2005). Since 2005 he has also been part of the international postgraduate programme in Urban Management at the Technical University of Berlin. He has also been a visiting professor at the international summer school of Ren Min University of China, Beijing, each year since 2014. (Jury member 2000–2002, 2008, 2013, 2014)

Pinraj Khanjanusthiti received her B.Arch. from Chulalongkorn University, her M.Arch from the State University of New York at Buffalo in the United States, and her M.A. and Ph.D. in Conservation Studies from the University of York in the United Kingdom. She is currently an associate professor in the Faculty of Architecture of Chulalongkorn University in Bangkok, Thailand. Her areas of specialization include architecture, heritage conservation and cultural heritage management. She is a member of the Association of Siamese Architects (ASA) and has served as a member of ASA's Conservation Commission. She has been a committee member of ICOMOS Thailand Association since 2009. (Jury member 2006–2012, 2015, 2018, 2019)

Anna Sum-yea Kwong is a registered architect in China and Hong Kong SAR, China and has over 30 years of professional experience. She graduated from the Department of Architecture of Hong Kong University after which she taught at the university as an Adjunct Professor. She served as the conservation architect for many projects commissioned by the Catholic Diocese of Hong Kong, three of which have won UNESCO Asia-Pacific Heritage Awards: Catholic Cathedral of the Immaculate Conception, St. Joseph's Chapel and Saltpans Revitalization in Yim Tin Tsai Island, Sai Kung, Hong Kong SAR of China. She was awarded the Award of Distinction for the revitalization of the Saltpans in Yim Tin Tsai in 2015. She was the president of the Hong Kong Institute of Architects in 2009 and 2010 and a member of the Hong Kong SAR government's town planning board. Her volunteer service to the community was recognized with a Medal of Honour awarded by the Government of Hong Kong SAR, China. (Jury member 2008, 2009, 2016, 2017)

Abha Narain Lambah is a conservation architect based in Mumbai. She has a master's degree in Architectural Conservation from the School of Planning and Architecture, New Delhi, and over two decades of experience in the field. She was awarded the Sanskriti Award, the Eisenhower Fellowship, the Attingham Trust Fellowship and the Charles Wallace Fellowship, and in 2016 was nominated by Arc Vision as one of the Top 20 Women Architects Globally. She has been a consultant to ICCROM, UNITAR, World Monuments Fund, Global Heritage Fund, the Archaeological Survey of India, and has served on the heritage committees of both Delhi and Mumbai.

Her architectural practice covers historic sites all over India, including ancient Buddhist sites of Ajanta and Bodhi Gaya, fifteenth-century temples in Ladakh and Hampi, medieval mosques, palaces, forts and caravanserais in Rajasthan, Hyderabad, Madhya Pradesh and Punjab, urban and regional conservation sites in Kancheepuram and Shekhawati, nineteenth-century colonial heritage in Delhi, Shimla, Pune, Bangalore and Mumbai and twentieth-century modern heritage in Corbusier's Chandigarh and Art Deco Mumbai. (Jury member 2014)

Rui Leao is a partner and founder of LBA Architecture & Planning Ltd. He has worked in the field of urban design and planning since 1996. He was part of the project team for the Reorganization Plan of Coloane (1995-1997) elaborated by MV Lda. He worked as a consultant for CEEDS to prepare a strategic plan of Macau (2008), for which he wrote the essay 'The City of Cities and the Pearl River Delta' – the Macau Master Plan Guidelines (www.cplan2008.gov.mo) in partnership with Jorge Gaspar and Manuel Vicente. From 1999 to 2012 he was editor of Macau Architecture, published by AAM. From 2016 to 2019, he was president of the International Council of Architects of Portuguese Language (CIALP). His design work has won several awards, including the Arcasia Gold Medal for Architecture (2005, 2009) and a UNESCO Asia-Pacific Award for Cultural Heritage Conservation (2012). (Jury member 2015, 2017)

Lee Sang-hae has two main research interests: the analysis of the characteristics of architectural sites and the study of Korean architecture in the context of East Asian culture and history. After graduating from Seoul National University, Korea, with an architecture degree, he obtained his master's degree in architectural design and his Ph.D. in architectural history at Cornell University, United States. Since 1986 he has been a professor of architecture at Sungkyunkwan University in Korea. Over the years, Professor Lee has been president of the Korean Association of Architectural Historians, president of ICOMOS Korea, and an advisory member of the National Committee for Cultural Heritage Administration of Korea. He has written many books, in Korean and English, including *Korean World Cultural Heritage, Palace and Confucian Architecture in Korea* and *Hahoe Korean Historic Village*. (Jury member 2012)

Spencer Leineweber (1947–2015), FAIA, was a professor and the director of the Heritage Center at the University of Hawaii at Manoa, as well as the chair of Professional Programs at the university's School of Architecture. Educated at Cornell University, she was a licensed architect in the state of Hawaii. Her architectural design firm, Spencer Architects, Inc., established in 1978, has been recognized for its sensitive design work in Hawaii and throughout the Pacific. The firm is particularly well known for its work within historic districts and new work on historic buildings. Professor Leineweber had a passion with regard to early construction techniques in Hawaii and her project on the Plantation Village ethnic history museum was recognized for outstanding research-supported design with the first Design Honor Award ever given to a project in Hawaii by the American Institute of Architects. (Jury member 2000-2003, 2005, 2006, 2008, 2010, 2011, 2012)

Budi Lim is a Royal Institute of British Architects chartered architect and urban designer with special interests in conservation and restoration. He established his private practice, PT. Budi Lim Architects, in Jakarta, Indonesia, in 1984, shortly after returning from studying and working in England. The revitalization of Jakarta's old city between 1999 and 2009 is one of the many projects that demonstrate Lim's longstanding passion for conservation and restoration. He was the 1998 recipient of the Indonesian Eisenhower Exchange Fellowship and his restoration of Indonesia's National Archive Building won the 2001 Award of Excellence. His team also designed the award-winning Indonesian Pavilion at the 2010 World Expo Shanghai. (Jury member 2002-2009, 2012)

Laurence Loh is recognized as a leading conservation architect and cultural heritage expert in Malaysia and the Asia-Pacific region. Best practice exemplars of his work in Malaysia include Cheong Fatt Tze Mansion (2000 Most Excellent Project), Cheng Hoon Teng Temple (2003 Award of Merit), Stadium Merdeka (2008 Award of Excellence) and Suffolk House (2008 Award of Distinction). His project for the adaptive reuse of the UAB Building in Penang won the Malaysian Institute of Architects 2018 Building of the Year Award. In 2019, the Institute honoured Loh with the PAM Gold Medal Award for Design Excellence for his lifelong contribution to the advancement of architecture in Malaysia and internationally. He lectures annually at the University of Hong Kong and is currently engaged with the Getty Conservation Institute to deliver a bi-annual Urban Conservation Planning course for ASEAN countries. He is an honorary fellow of the Hong Kong Institute of Architectural Conservationists and a director of Think City, a community-based organization that undertakes urban rejuvenation. (Jury member 2001, 2003-2007, 2009-2015, 2017-2019)

David Lung is a registered architect and held the Lady Edith Kotewall Endowed Professorship in the Built Environment and Professorship of Architecture at the University of Hong Kong until his retirement in 2017. For over three decades, professor Lung researched, taught and published widely in the area of cultural heritage, including a worldwide massive open online course (MOOC), launched via the Harvard/MIT based EdX platform, on the subject of Asian vernacular architecture. Over the course of his career he was a key member of the UNESCO-ICCROM Asian Academy for Heritage Management network. (Jury Member 2002, 2004, 2005 and 2007)

Nimish Patel (1948–2018) studied architecture at the Centre for Environmental Planning and Technology in Ahmedabad, India, and continued his post-graduate studies at the Massachusetts Institute of Technology in the United States. Following his return to India in 1979, he and his partner Parul Zaveri established an architectural practice, Abhikram. Apart from heritage conservation, their focus is on the use of passive human comfort systems in buildings. Aside from their architecture and design work, over the past 40 years, they have given lectures, officiated on projects, conducted workshops and published papers, both nationally and internationally. Their work has been recognized with design awards for educational, residential and public buildings, and their conservation projects have received awards. Their project to restore Chanwar Palkhiwalon-ki-Haveli was recognized as an Excellent Project in 2000. (Jury member 2001-2004, 2008-2009, 2012)

Chatvichai Promadhattavedi was Director of the Birasri Institute of Modern Art between 1976 and 1988. Today he works as a designer with his own firm mostly conducting public interior design works. In 2002, he spearheaded the setting up of the Office of Contemporary Arts and Culture within the Ministry of Culture of Thailand and became an advisor to the Ministry of Culture. Chatvichai was appointed chairman of the Sub-committee for Cultural Management Policy, and became its acting director in 2008. He is on the Bangkok Art and Culture Centre Board, is a member of the Executive Committee and acts as its secretary. Chatvichai was an advisor to the Bangkok Governor in 2012 and now chairs the sub-committee for the museum section. He is a member of the Siamese Heritage Trust Steering Committee of the Siam Society of Thailand. (Jury member 2000, 2003, 2004, 2006-2009)

Que Weimin completed his master's degree at Hangzhou University in 1987 and completed his Ph.D. in historical geography at Peking University in 1999. He taught in the Department of Geography at Hangzhou University between 1987 and 1995 as an assistant and lecturer, and later as an assistant professor (1995-1999). Between 2000 and 2004 he was a professor in the Department of History at Zhejiang University and since 2004 he has been a professor in the College of Urban and Environmental Sciences at Peking University. He is also the vice-dean of the Research Center of World Heritage at Peking University. He was the vice-chair of the Executive Committee of UNESCO-AAHM between 2009 and 2018, and formerly was the Chinese representative of TICCIH (2006-2015). Five of Professor Que's conservation projects have won UNESCO Heritage Awards: Cangqiao Historic Streets (2003 Award of Merit), Zhangzhou City Historic Streets (2004 Honourable Mention), Houkeng Timber-Arched

Corridor Bridge (2005 Award of Excellence), Heritage Buildings in Cicheng Historic Town (2009 Honourable Mention) and Enjoying Snow Yard (2013 Award of Merit). (Jury member 2008, 2010, 2011, 2014, 2016)

Gurmeet S. Rai is a conservation architect and a heritage management specialist based in New Delhi. In 1996, she established CRCI India Pvt Ltd, which has since become a leading firm in heritage practice in India. Some of CRCI's noted conservation and management plans include those for the World Heritage sites of Red Fort, New Delhi and Ellora Cave, Maharashtra, and for the historic settlements of Amritsar and Puri. Other notable projects include sustainable strategies for the development of cultural tourism in Jammu and Kashmir and integrated conservation and development of tangible and intangible heritage for governments, the private sector, and bilateral and multi-lateral agencies. CRCI has provided expertise in the countries of Nepal, Myanmar and India. Within India, CRCI has worked in Punjab, Rajasthan, Odisha, Madhya Pradesh, Gujarat, Delhi, Jammu and Kashmir, among other states and cities. Rai has directed two projects that have received UNESCO Asia-Pacific Awards for Cultural Heritage Conservation: Krishan Temple and Lakhpat Gurudwara, awarded in 2001 and 2004. She is currently the vice president of ICOMOS India and an expert voting member on the ICOMOS International Scientific Committee on Cultural Tourism. (Jury member 2005-2007, 2010, 2011, 2013, 2015-2019)

Johannes Widodo is an associate professor with the Department of Architecture of the National University of Singapore. He received his degree in architecture from Parahyangan Catholic University in Bandung, Indonesia, his Master of Architectural Engineering from Katholieke Universiteit Leuven in Belgium, and his Ph.D. in Architecture from the University of Tokyo, Japan. His research areas include architecture history, typology, morphology and heritage management. He is the director of the NUS Tun Tan Cheng Lock Centre for Asian Architectural and Urban Heritage in Melaka, Malaysia, and executive editor of the Journal of Southeast Asian Architecture (JSEAA). He is the founder of the modern Asian Architecture Network (mAAN), an executive committee member of the Asian Academy for Heritage Management (since 2019), a jury member for the UNESCO Asia-Pacific Heritage Awards for Cultural Heritage Conservation, a member of the ICOMOS International Scientific Committee, a founding member and director of the ICOMOS National Committee of Singapore, a founding member and director of DoCoMoMo Macao SAR, China and DoCoMoMo Singapore and the founder and executive director of the International Network of Tropical Architecture (INTA). He also serves as an advisory board member of the Preservation of Sites and Monuments of the National Heritage Board of Singapore. (Jury member 2002-2011, 2014, 2019)

Yeo Kang Shua is Associate Professor of History, Theory and Criticism at the Singapore University of Technology and Design. He received his Bachelor of Architectural Studies, Master of Architecture and Ph.D. (Architecture) from the National University of Singapore. From 2014 to 2018 he was the inaugural Hokkien Foundation Career Professor in Architectural Conservation. He serves on the boards of numerous non-governmental organizations, including the Singapore Heritage Society and Singapore Society of Asian Studies, and is a founding member of ICOMOS Singapore (National Committee). He also serves as a member of the Heritage Advisory Panel of the National Heritage Board (Singapore), and the Heritage and Identity Partnership of the Urban Redevelopment Authority (Singapore). (Jury member 2015-2018)

Josie Zhou graduated from University of Oxford with a D.Phil from the Department of Philology (Cognition and Communication), and has since worked for various United Nations agencies and international non-profit institutions. An elected member of the United Kingdom's Society of Authors (1991-2013), she was an initiator of the Peace and Development Foundation and is on the advisory board for the Jackie Chan Charitable Foundation and Bridge-to-China (WZQ) Charitable Foundation. She supports a number of public service and environmental organizations. From 2005 to 2014, she served as the chief advisor for UNDP China in Hong Kong SAR and Macao SAR; and is currently an honorary advisor for the UNESCO Asia-Pacific Awards for Cultural Heritage Conservation programme.

AWARD REGULATIONS

2010-2011 UNESCO ASIA-PACIFIC AWARDS FOR CULTURAL HERITAGE CONSERVATION

ARTICLE 1 - OBJECTIVE

- 1.1 The UNESCO Asia-Pacific Heritage Awards recognize the achievement of individuals, organizations and companies in the conservation/restoration of a structure or a series of structures in the private sector which is/are more than 50 years old. Residential, commercial, cultural, religious, industrial and institutional buildings, gardens, landscapes, bridges and heritage sites are all eligible for consideration. Public-private partnership projects such as historic towns, urban quarters and rural settlements, where the essential elements are more than 50 years old, are also eligible.

ARTICLE 2 - AWARD AND FREQUENCY

- 2.1 The Award, which is established for an indeterminate period, shall be awarded on an annual basis.
- 2.2 The Awards shall consist of a number of winners to be determined by the Jury in the following categories:
 - a. **Award of Excellence**, which demonstrates exceptional achievement in all criteria and has major catalytic impact at the national or regional level.
 - b. **Award of Distinction**, which demonstrates outstanding achievement in all criteria and has significant impact at the national or regional level.
 - c. **Award of Merit**, which demonstrates superior achievement in all criteria.
 - d. **Honourable Mention**, which demonstrates noteworthy achievement in selected criteria.
- 2.3 Each Award winner will receive one bronze plaque.
- 2.4 Certificates of recognition will be presented to all parties included on the entry form.
- 2.5 The form and number of the awards may be varied from time to time at the discretion of UNESCO.
- 2.6 The award will be made out in the name of the project entry.

ARTICLE 3 - ELIGIBILITY

- 3.1 To be considered for the Awards, the conserved or restored structure or structures must be over 50 years old.
- 3.2 Structures must be privately owned or leased, and restoration must be the result of private initiative or a public-private partnership. Projects financed, owned and undertaken wholly by government entities are not eligible.
- 3.3 The works must have been completed within the last 10 years and before the announcement date of the awards. The project must also have been occupied or put to viable use for at least one year.
- 3.4 Entries which have been previously submitted will not be eligible for resubmission unless invited to do so by the jury or unless substantial additional restoration has been carried out.

ARTICLE 4 - SELECTION OF AWARD RECIPIENTS

- 4.1 The award recipients shall be selected on the proposal of an internal jury.

ARTICLE 5 - THE JURY

- 5.1 The Jury shall be composed of
 - a. 1 representative from UNESCO and
 - b. 6-8 international conservation experts renowned for their knowledge of conservation in the Asia-Pacific region.
- 5.2 UNESCO shall appoint the Jury for the full period of the Awards process.

ARTICLE 6 - CONDITIONS OF ENTRY

- 6.1 Entries may be submitted by the registered owner, registered lessee or conservation consultant, architect or designer, any of whom would have had to be involved in the process, preferably throughout the entire project duration.

- 6.2 Each entry must be submitted to UNESCO before 31 March.
- 6.3 Submission of an entry will be taken to imply the granting of permission to publish all material and particulars of the successful schemes, including the jury report, without charge to UNESCO.
- 6.4 The wording of plaques and certificates will be based strictly on the details given on the entry form.
- 6.5 All submitting persons or firms will be responsible for delivery of their respective entries. Entry materials will not be returned.
- 6.6 One or more entries may be submitted by the same individual or institution.

ARTICLE 7 – ANNOUNCEMENT AND PRESENTATION OF THE AWARDS

- 7.1 Winners will be announced in September. The entry submitter will be notified in strict confidence if their project is selected for an Award. UNESCO reserves the right to disqualify any entry which is subject to unauthorized prior disclosure.
- 7.2 Certificates and plaques will be presented to, and will record, the names of the project, the architect/designer, structure owner and the contractor of the winning projects. When appropriate, they will also list those consultants who were key to the realization of the project. Only one plaque per award will be presented by UNESCO. Additional plaques may be ordered at cost.

ARTICLE 8 - CRITERIA FOR THE AWARDS

- 8.1 The Award recipients will have conclusively demonstrated excellence in:
 - a. The articulation of the structure's heritage values in order to convey the spirit of place through the conservation work.
 - b. Appropriate use or adaptation of the structure.
 - c. The interpretation of the cultural, social, historical and architectural significance of the structure(s) in the conservation work.
 - d. The understanding of the technical issues of conservation/restoration in interpreting the structure's significance.
 - e. The use and quality control of appropriate building, artisan, and conservation techniques.
 - f. The use of appropriate materials.
 - g. How well any added elements or creative technical solutions respect the character and inherent spatial quality of the structure(s).
 - h. The manner in which the process and the final product contribute to the surrounding environment and the local community's cultural and historical continuum.
 - i. The influence of the project on conservation practice and policy locally, nationally, regionally or internationally.
 - k. The complexity, sensitivity and technical consistency of the project methodology.

ARTICLE 9 - ENTRY MATERIALS TO BE SUBMITTED

- 9.1 **Entry Form**

Each entry must be submitted with an official entry form together with the following materials.
- 9.2 **Drawings**
 - Required: maps showing location of project in neighbourhood, in city, in country.
 - Required: site plan, floor plans and sections, showing pre- and post-restoration condition. All alterations/new additions should be clearly marked in colour.
 - Optional: elevation drawings.
 - All drawings should be reduced to A4 size.

9.3 **Photographs**

A minimum of 20 high-resolution colour photographic prints measuring 5" x 7", showing:

- Pre- and post-restoration conditions, including interior and exterior views and the overall appearance of the structure (minimum six pairs of photographs).
- Details of the restoration project, including materials and techniques used in conservation. All photographs must be clearly labelled. The locations of the photographs should be indicated on a floor plan.

9.4 **Project Description (in English)**

The description should explain how the project demonstrates the criteria of the UNESCO Awards. Please explain each criterion separately.

A report of 6-8 pages (A4 sheets) should describe in detail each of the following points:

- Synopsis of conservation project (2 paragraphs maximum).
- Conservation project's goals and objectives (client's brief).
- The background of the property (1 page maximum).
 - o Historical background
 - o Present context, condition, use of the property
 - o Heritage/protection status of the property
- Scope of the conservation project.
 - o Stages in restoration and time frame
 - o Project size (in square meters) and cost (in US\$)
- Articulation of heritage values and significance
- Appropriate use/adaptation.
 - o Changes made to the structure (repairs and additions), and the relationship of new to old
 - o If restoration involved changing original use, the rationale for changing use
- Interpretation of the significance of the structure(s) in the conservation work.
 - o The methodology of restoration
- Understanding of technical issues of conservation in the interpretation.
 - o Issues of conservation/restoration considered and justifications for solutions
- Use of appropriate building, artisan, and conservation techniques.
- Use of appropriate materials.
- How well new elements and creative technical solutions respect structure's character.
- Contribution to community's cultural continuum.
 - o Key stakeholders and involvement of local community in project
- Impact of project on conservation practice and policy.
- Ongoing socio-economic viability and relevance of the project.
 - o Regulatory framework of the project
 - o Mobilization of financial and in-kind support from public and private sectors
 - o If the project is a public-private initiative, the contributions of each partner should be clearly indicate
 - o Provision for future use and maintenance
- The complexity, sensitivity and technical consistency of the project methodology.

The points of the project description should be well documented through text and linked to the submitted photographs and drawings. A sample report format is available from the UNESCO office or the Awards programme website. Please also submit text and images in electronic format (i.e. on diskette or CD-ROM) as well as hard copy.

9.5 **Occupant Comments**

A brief statement from the structure's occupants describing their evaluation of the restored structure's usefulness and functionality, and their impressions of its contribution to the community's historic continuum must accompany the entry.

A form (optional) for these comments is available from the UNESCO Bangkok office or the Awards programme website.

9.6 **Owner Consent**

The written consent of the structure or property owner must be obtained prior to submitting the entry. This consent should be submitted on either the owner's letterhead or the form available from the UNESCO Bangkok office or the Awards programme website.

9.7 **Additional Materials**

Additional supporting documentation may be submitted, such as photos, videos, articles, etc. See website for guidelines.

2010 - 2011 JURY COMMENDATION FOR INNOVATION

JURY COMMENDATION ARTICLE 10 – OBJECTIVE

- 10.1 In addition to the announced Awards, the Jury will, through its special Jury Commendation, recognize newly-built structures that demonstrate outstanding standards for contemporary architectural design which are well integrated into historic contexts. Projects should have been undertaken within the framework of a larger conservation project or within a conservation zone whose essential elements are more than 50 years old. Building annexes, new buildings, new public spaces, and new structures such as bridges, for example, are all eligible for consideration.

JURY COMMENDATION ARTICLE 11 - AWARD AND FREQUENCY

- 11.1 The Jury Commendation will be given at the discretion of the Jury.
11.2 The Jury Commendation will consist of a bronze plaque for a selected number of entries.

JURY COMMENDATION ARTICLE 12 – ELIGIBILITY

- 12.1 To be considered for the Jury Commendation, the works must have been completed within the last 10 years and before the announcement date of the awards. The project must also have been occupied or put to viable use for at least one year.
12.2 The submission must demonstrate that no structures of heritage significance were altered or cleared from the site for the purpose of the project submitted for the Jury Commendation.
12.3 Projects which are new structures built as historic replicas, built against historic facades, and historic theme parks will not be considered within the scope of the Jury Commendation.
12.4 Projects which are submitted for consideration to the UNESCO Heritage Awards programme in the same year are not eligible for submission for the Jury Commendation. Projects which are jointly submitted will be disqualified.

The guidelines for "Selection of Awards Recipients", "Jury", "Conditions of Entry" and "Announcement and Presentation of the Awards" shall be subject to Articles 4, 5, 6, and 7, respectively.

JURY COMMENDATION ARTICLE 13 - CRITERIA FOR THE JURY COMMENDATION

- 13.1 The recipients of the Jury Commendation will have conclusively demonstrated excellence in the following areas:
- a. Outstanding design concept that demonstrates critical thinking in articulating an innovative response to the specific historic context.
 - b. The new structure helps to reveal the qualities of the place, including historical, architectural, cultural, and social significance.
 - c. The compatibility and appropriateness of the new structure's programme/function in its context.
 - d. The new structure integrates with the existing built and natural context. Factors include, but are not limited to, the following: typology, siting, massing, form, scale, character, colour and texture.
 - e. The justification of selection and quality control of materials and building techniques (either contemporary, vernacular or a combination of both).
 - f. The manner in which the process and the final product extend the local community's cultural and social continuum.
 - g. The influence of the project on architectural practice and design policy locally, nationally, regionally and/or internationally.

JURY COMMENDATION ARTICLE 14 - ENTRY MATERIALS TO BE SUBMITTED

14.1 **Entry Form**

Each entry must be submitted with an official entry form together with the following materials.

14.2 **Drawings**

- Required: maps showing location of project in neighborhood, in city, in country.
- Required: drawings explaining the concept of the project.
- Required: site plan, floor plans, sections and perspective(s).
- Required: elevation drawing(s), showing principal public façade and immediate neighbouring buildings (if any).
- All drawings should be reduced to A4 size.

14.3 **Photographs**

- A minimum of 20 high-resolution colour photographic prints measuring 5" x 7", showing:
 - a. Interior and exterior views and the overall appearance of the building (minimum 6 pairs of photographs).
 - b. Details of the project, including materials and techniques used in the project.
- All photographs must be clearly labelled. The locations of the photographs should be indicated on a floor plan.

14.4 **Project Description (in English)**

A report of 6-8 pages (A4 sheets) should describe in detail each of the following points:

- Synopsis of the construction project (2 paragraphs maximum).
 - o Function/programme
 - o Construction phases and time frame
 - o Project size (in square meters) and cost (in US\$)
- Description of the design concept, with reference to concept diagrams.
- Project's goals and objectives (client's brief).
- The background of the site (1 page maximum).
 - o Historical background
 - o Description of last structure that occupied the site (if any) and the date and justification of its demolition
 - o Context of the site (physical as well as socio-economic)
 - o Heritage/protection status of the area in which the project site is located
- Project's demonstration of the criteria for the jury commendation. Please explain each criterion in Article 13 separately.

The points of the project description should be well documented through text and linked to the submitted photographs and drawings. A sample report format is available from the UNESCO office or the Awards programme website. If possible, please submit text and images in electronic format (i.e. on diskette or CD-ROM) as well as hard copy.

14.5 **Occupant Comments**

See Article 9.5

14.6 **Owner Consent**

See Article 9.6

14.7 **Additional Materials**

See Article 9.7

2012-2014 UNESCO ASIA-PACIFIC AWARDS FOR CULTURAL HERITAGE CONSERVATION

ARTICLE 1 – OBJECTIVE

- 1.1 The UNESCO Asia-Pacific Awards for Cultural Heritage Conservation (“the Awards”) recognize the achievement of private sector and public-private initiatives in successfully conserving or restoring structures, places and properties of heritage value in the region.

ARTICLE 2 – AWARD AND FREQUENCY

- 2.1 The Awards, which are established for an indeterminate period, shall be awarded on an annual basis.
- 2.2 The Awards shall consist of a number of winners to be determined by the Jury in the following categories:
- a. **Award of Excellence**, which demonstrates exceptional achievement in all criteria and has major catalytic impact at the national or regional level.
 - b. **Award of Distinction**, which demonstrates outstanding achievement in all criteria and has significant impact at the national or regional level.
 - c. **Award of Merit**, which demonstrates superior achievement in all criteria.
 - d. **Honourable Mention**, which demonstrates noteworthy achievement in selected criteria.
- 2.3 Each Award winner will receive one bronze plaque.
- 2.4 Certificates of recognition will be presented to all parties included on the entry form.
- 2.5 The format and number of the Awards may be varied from time to time at the discretion of UNESCO and the Jury.
- 2.6 The Awards will be made out in the name stated on the project entry form.

ARTICLE 3 – ELIGIBILITY FOR THE AWARDS

- 3.1 To be considered for the Awards, the conserved or restored heritage structure, place or property must be over 50 years old. For settlements and landscapes, the essential historic elements must be more than 50 years old.
- 3.2 The following are eligible for consideration: residential, commercial and institutional buildings; religious properties; urban and rural settlements; historic towns and villages; archaeological heritage; cultural landscapes, parks and gardens; military properties; modern heritage; agricultural, industrial and technological properties; burial monuments and sites; cultural routes; vernacular architecture; and symbolic properties and memorials.
- 3.3 The project must be the result of private sector initiative or public-private partnership. The involvement of private individuals or organizations in terms of ownership, tenancy, financing or other contributions to the project should be clear. Projects which are financed, owned and undertaken wholly by government entities are not eligible.
- 3.4 The work must have been completed within the preceding 10 years at the time of submission. For buildings with a new use, the project must also have been occupied or put to viable use for at least one year at the time of submission.
- 3.5 Entries which have been previously submitted will not be eligible for resubmission unless invited to do so by the Jury, or unless substantial additional restoration has been carried out since the previous submission.

ARTICLE 4 – CRITERIA FOR THE AWARDS

- 4.1 The Awards recipients will have conclusively demonstrated excellence in:

Understanding the Place:

- a. How well the conservation/restoration work articulates the property’s heritage values in order to convey the spirit of place.

- b. How well the conservation/restoration work interprets the property's cultural, social, historical and architectural significance.
- c. Appropriate use or adaptation of the property.

Technical Achievement:

- d. The understanding of the technical issues of conservation/restoration in interpreting the property's significance.
- e. The use and quality control of appropriate building, artisan and conservation techniques.
- f. The use of appropriate materials.
- g. How well any added elements or creative technical solutions respect the character and inherent spatial quality of the property.

Social and Policy Impact:

- h. The overall complexity, sensitivity and technical consistency of the project.
- i. The ongoing socio-economic viability and relevance of the project, and provision for its future use and maintenance.
- j. The manner in which the process and the final product contribute to the surrounding environment and the local community's cultural and historical continuum.
- k. The influence of the project on conservation practice and policy locally, nationally, regionally or internationally.

ARTICLE 5 – SELECTION PROCESS AND JURY

- 5.1 The Awards recipients shall be selected on the proposal of an internal Jury.
- 5.2 The Jury shall be composed of
 - a. 1 representative from UNESCO, and
 - b. 8-10 international conservation experts renowned for their knowledge of conservation in the Asia-Pacific region.
- 5.3 UNESCO shall appoint the Jury for the full period of the Awards process.

ARTICLE 6 – CONDITIONS OF ENTRY

- 6.1 Entries may be submitted by the registered owner, registered lessee or conservation consultant, architect or designer, any of whom would have had to be involved in the process, preferably throughout the entire project duration.
- 6.2 Each entry must be submitted to UNESCO before 31 March 2012.
- 6.3 Submission of an entry will be taken to imply granting UNESCO the rights to use, publish, display and communicate all materials and particulars of the successful schemes, without charge to UNESCO.
- 6.4 The wording of plaques and certificates will be based strictly on the details given on the entry form.
- 6.5 All submitting persons or firms will be responsible for delivery of their respective entries. Entry materials will not be returned.
- 6.6 One or more entries may be submitted by the same individual or institution.
- 6.7 The use of the UNESCO logo for any purposes related to the Awards requires prior written authorization from UNESCO.

ARTICLE 7 – MATERIALS REQUIRED FOR SUBMISSION

Each entry must be submitted with the following documentation in full (see Awards website for details and forms):

- 7.1 Official entry form
- 7.2 Heritage Awards project description (using the provided official format)
- 7.3 Occupant's comments
- 7.4 Owner consent
- 7.5 Drawings, A4 format
- 7.6 Photographs
- 7.7 Additional materials (articles, videos, etc) may be provided, as per guidelines on the Awards website
- 7.7 CD ROM (including entry dossier in PDF format, drawings and photographs)

2012-2014 JURY COMMENDATION FOR INNOVATION

JURY COMMENDATION ARTICLE 1 – OBJECTIVE

- 1.1 In addition to the announced Awards, the Jury will, through its special Jury Commendation, recognize newly-built structures which demonstrate outstanding architectural design that is well-integrated into historic contexts.

JURY COMMENDATION ARTICLE 2 – AWARD AND FREQUENCY

- 2.1 The Jury Commendation will be given at the discretion of the Jury.
- 2.2 The Jury Commendation will consist of a bronze plaque for a selected number of entries.

JURY COMMENDATION ARTICLE 3 – ELIGIBILITY FOR THE AWARDS

- 3.1 Projects should have been undertaken within the framework of a larger conservation project or should be located within or adjacent to a historic area whose essential elements are more than 50 years old.
- 3.2 Building annexes, new extensions, new buildings, new public spaces and new structures such as bridges are all eligible for consideration.
- 3.3 To be considered for the Jury Commendation, the work must have been completed within the preceding 10 years at the time of submission. The project must also have been occupied or put to viable use for at least one year.
- 3.4 The submission must demonstrate that no structures of heritage significance were altered or cleared from the site for the purpose of the project submitted for the Jury Commendation.
- 3.5 Entries which have been previously submitted will not be eligible for resubmission unless invited to do so by the Jury.
- 3.6 Projects which are new structures built as historic replicas, built against historic facades and historic theme parks will not be considered within the scope of the Jury Commendation.
- 3.7 Projects which are submitted for consideration to the conservation category of the UNESCO Heritage Awards in the same year are not eligible for submission for the Jury Commendation. Projects which are jointly submitted will be disqualified.

JURY COMMENDATION ARTICLE 4 – CRITERIA FOR THE JURY COMMENDATION

- 4.1 The recipients of the Jury Commendation will have conclusively demonstrated excellence in the following areas:
 - a. Outstanding design concept that demonstrates critical thinking in articulating an innovative response to the specific historic context.
 - b. The new structure helps to reveal the qualities of the place, including historical, architectural, cultural and social significance.
 - c. The compatibility and appropriateness of the new structure's programme/function in its context.
 - d. The new structure integrates with the existing built and natural context. Factors include, but are not limited to, the following: typology, siting, massing, form, scale, character, colour and texture.
 - e. The justification of selection and quality control of materials and building techniques (either contemporary, vernacular or a combination of both).
 - f. The manner in which the process and the final product extend the local community's cultural and social continuum.
 - g. The influence of the project on architectural practice and design policy locally, nationally, regionally or internationally.

JURY COMMENDATION ARTICLE 5 – SELECTION PROCESS AND JURY

- 5.1 The Awards recipients shall be selected on the proposal of an internal Jury.
- 5.2 The Jury shall be composed of
 - a. 1 representative from UNESCO and
 - b. 8-10 international conservation experts renowned for their knowledge of conservation in the Asia-Pacific region.
- 5.3 UNESCO shall appoint the Jury for the full period of the Awards process.

JURY COMMENDATION ARTICLE 6 – CONDITIONS OF ENTRY

- 6.1 Entries may be submitted by the registered owner, registered lessee, or conservation consultant, architect or designer, any of whom would have had to be involved in the process, preferably throughout the entire project duration.
- 6.2 Each entry must be submitted to UNESCO before 31 March 2012.
- 6.3 Submission of an entry will be taken to imply granting UNESCO the rights to use, publish, display and communicate all materials and particulars of the successful schemes, without charge to UNESCO.
- 6.4 The wording of plaques and certificates will be based strictly on the details given on the entry form.
- 6.5 All submitting persons or firms will be responsible for delivery of their respective entries. Entry materials will not be returned.
- 6.6 One or more entries may be submitted by the same individual or institution.
- 6.7 The use of the UNESCO logo for any purposes related to the Awards requires prior written authorization from UNESCO.

JURY COMMENDATION ARTICLE 7 – MATERIALS REQUIRED FOR SUBMISSION

- Each entry must be submitted with the following documentation in full:
- 7.1 Official entry form
 - 7.2 Jury commendation project description (using the provided format)
 - 7.3 Occupant's comments
 - 7.4 Owner consent
 - 7.5 Drawings, A4 format
 - 7.6 Photographs
 - 7.7 Additional materials (articles, videos, etc) may be provided. See website for guidelines
 - 7.8 CD ROM (including entry dossier in PDF format, drawings and photographs)

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Turquoise Mountain

Turquoise Mountain

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LUCKY SHOPHOUSE
SINGAPORE

THIS THIRD VOLUME IN THE *ASIA CONSERVED* SERIES OFFERS A COMPLETE OVERVIEW OF THE PROJECTS RECOGNIZED BY UNESCO'S ASIA-PACIFIC AWARDS FOR CULTURAL HERITAGE CONSERVATION BETWEEN 2010 AND 2014. THE AWARDS PROGRAMME ACKNOWLEDGES ACHIEVEMENTS BY THE PRIVATE SECTOR AND BY PUBLIC-PRIVATE INITIATIVES IN CONSERVING AND RESTORING HERITAGE BUILDINGS AND PROPERTIES IN THE ASIA-PACIFIC REGION.

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