



ICOMOS CIAV

International Committee  
on Vernacular Architecture

International Council on  
Monuments and Sites

# CIAV NEWSLETTER

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South-east view of the Marabout of Sidi Abdellah Khalifa in Ksar Ouled Youssef, ©ArCHIAM 2019  
Cover photo: Encroaching sand dunes in Ksar Bonou, M'Hamid Oasis, Morocco, ©ArCHIAM 2017



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# EDITORIAL

**Hossam Mahdy**

President of CIAV

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Dear colleagues and friends,

Warm greetings from CIAV Bureau and from myself.

While the world is still recovering from the shock of the earthquakes that hit Turkey and Syria, the fighting in Sudan broke out very dangerously in residential areas, particularly the capital Khartoum. From a natural disaster to a manmade disaster, we follow the news anxiously. It goes without saying that human safety and wellbeing is the absolute priority during and after such disasters. But we have the professional responsibility of caring for the preservation of cultural heritage during and after such terrible crisis.

The crisis in Sudan is particularly relevant as CIAV is currently leading a collective initiative by eight ICOMOS ISCs and WGs to organize a conference in 2024. The discussions and negotiations for the conference are progressing very well with the aim to organize it in Nairobi, Kenya. As more ICOMOS National Committees are being established in Africa, it is hoped that this initiative will help the formation of ICOMOS Kenya National Committee and the support of other African national committees in the planning and organization of the event.

Another CIAV initiative is the collaboration with ICOMOS International Committee on Intangible Heritage (ICICH) to develop a toolkit or a manual for the documentation of both tangible and intangible attributes of the built vernacular heritage. The working group on this initiative is led by Gisle Jakhell, CIAV Honorary Member and former President. The group has agreed to test ideas by organizing a number of documentation camps in different cultural regions. One potential camp may be planned by Shao Yong, CIAV Vice President and the Editor in Chief of this newsletter, to be held in China next year.

I am writing these words a few days before attending a very interesting international seminar organized in Porto, Portugal by CIAV expert member Mariana Correia: "Which future for vernacular architecture and earthen architecture? I am sure you will read more about the seminar and the outcomes of its roundtable discussions in the next issue of CIAV newsletter.

As we are getting closer to the big event of ICOMOS GA 2023 in Sydney, I very much look forward to meeting many of CIAV colleagues for the first time in years. I find this very exciting not only because of our meeting but also a visit to the event website will prove that it is going to be such an amazing time full of so many events. A wonderful post-conference tour is organized by CIAV Australian expert member Graham Edds on 11th and 12th September: "early to mid 19 century historic building technology tour in the Hawkesbury and nearby districts". And of course CIAV Annual Meeting, in parallel with the meetings of all other ISCs, will be held on September 2nd. Not to mention the scientific symposium and the so many events and tours that you can see on the GA2023 website.

I look forward to seeing you in Sydney.

Yours,

Hossam Mahdy

CIAV President

# EDITORIAL

**Hossam Mahdy**

Presidente CIAV

[hossammahdy1960@yahoo.co.uk](mailto:hossammahdy1960@yahoo.co.uk)



Estimados colegas y amigos,

Saludos afectuosos del Buró CIAV y de mí mismo.

Mientras el mundo aún se está recuperando del impacto de los terremotos que sacudieron Turquía y Siria, los combates en Sudán estallaron de manera muy peligrosa en áreas residenciales, particularmente en la capital, Jartum. Desde un desastre natural hasta un desastre provocado por el hombre, seguimos las noticias con ansiedad. No hace falta decir que la seguridad y el bienestar humanos son la prioridad absoluta durante y después de tales desastres. Pero tenemos la responsabilidad profesional de cuidar la preservación del patrimonio cultural durante y después de tan terribles crisis.

La crisis en Sudán es particularmente relevante ya que CIAV actualmente lidera una iniciativa colectiva de ocho ISC y WG de ICOMOS para organizar una conferencia en 2024. Las discusiones y negociaciones para la conferencia están progresando muy bien con el objetivo de organizarla en Nairobi, Kenia. A medida que se establezcan más Comités Nacionales de ICOMOS en África, se espera que esta iniciativa ayude a la formación del Comité Nacional de ICOMOS en Kenia y al apoyo de otros comités nacionales africanos en la planificación y organización del evento.

Otra iniciativa de CIAV es la colaboración con el Comité Internacional de Patrimonio Inmaterial (ICICH) de ICOMOS para desarrollar un conjunto de herramientas o un manual para la documentación de los atributos tangibles e intangibles del patrimonio vernáculo construido. El grupo de trabajo de esta iniciativa está liderado por Gisle Jakhell, miembro honorario de la CIAV y ex presidente. El grupo ha accedido a probar ideas mediante la organización de una serie de campamentos de documentación en diferentes

regiones culturales. Shaoyong, vicepresidente de CIAV y jefe de redacción de este boletín, puede planificar un campamento potencial, que se llevará a cabo en China el próximo año.

Escribo estas palabras unos días antes de asistir a un seminario internacional muy interesante organizado en Oporto, Portugal por la miembro experta del CIAV Mariana Correia: "¿Qué futuro para la arquitectura vernácula y la arquitectura de tierra? Estoy seguro de que leerá más sobre el seminario y los resultados de sus mesas redondas en la próxima edición del boletín informativo de CIAV.

A medida que nos acercamos al gran evento de ICOMOS GA 2023 en Sydney, espero con ansias conocer a muchos de los colegas de CIAV por primera vez en años. Encuentro esto muy emocionante no solo por nuestra reunión, sino también por una visita al sitio web del evento que demostrará que será un momento increíble lleno de tantos eventos. Graham Edds, miembro experto australiano de CIAV, organiza una maravillosa gira posterior a la conferencia los días 11 y 12 de septiembre: "Tour tecnológico de edificios históricos de principios a mediados del siglo XIX en Hawkesbury y distritos cercanos". Y, por supuesto, la Reunión Anual de la CIAV, en paralelo con las reuniones de todos los demás ISC, se llevará a cabo el 2 de septiembre. Por no hablar del simposio científico y de los tantos eventos y visitas que podéis ver en la web de GA2023.

Espero verte en Sydney.

Saludos cordiales

Hossam Mahdy

Presidente CIAV





## Theme of IDMS 2023: HERITAGE CHANGES

**Time: 18 April, 2023**

**International Day for Monuments and Sites**

In 1982, ICOMOS established 18 April as the International Day for Monuments and Sites (IDMS), followed by UNESCO adoption during its 22nd General Conference. Each year, ICOMOS proposes a theme for activities to be organised by its members and partners- and anyone who wants to join in marking the Day.

### Thematic Abstract | IDMS 2023

This year's IDMS features the following theme: HERITAGE CHANGES.

In keeping with the spirit of open, innovative, constructive intergenerational dialogue, and the strategic focus of ICOMOS Triennial Scientific Plan 2021-2024, as well as the 2020 ICOMOS resolution on Approaches to Cultural Heritage, the IDMS 2023 features the following theme: HERITAGE CHANGES.

The IDMS- 18 April 2023 provides a timely

opportunity to showcase strategies demonstrating the full potential of heritage research and practices which deliver climate-resilient pathways, while advocating for inclusive transitions to low-carbon futures.

The recently published Global Research and Action Agenda- a key outcome of the ICOMOS, UNESCO and IPCC International Co-Sponsored Meeting on Culture, Heritage, and Climate Change- proposes that traditional knowledge, heritage, and cultural practices can act as a bridge between different ways of knowing, embody inherited knowledge accumulated over generations, and serve as entry points for innovative and inclusive solutions to climate action. This requires acknowledging, respecting and implementing a plurality of recommendations, traditional and innovative solutions inherent in culture, heritage and creative practices. These need to engage with

industry and form part of integrated planning methods.

Key messages from this agenda, which might be useful for event organisers include:

- Climate and culture relations need to demonstrate all voices and knowledge systems are equally valuable in terms of their role, function, distinctiveness and contribution to addressing climate change and emerging problems;
- More knowledge is needed about cultural approaches and heritage methodologies in facilitating the use of local knowledge for adaptation planning, and the involvement of local communities in decision-making and policy development;
- Existing knowledge and methods for sustainable ecosystem management are embedded in Indigenous Peoples' and local communities' knowledge systems and practices;
- Urban transformations require methods rooted in local conditions and needs that consider the requirements of energy, sustainability and climate adaptation;
- Heritage drives holistic and transformative change which contributes to achieving the UN Agenda 2030;
- Identifying the ways in which traditional knowledge and practice, particularly in land and water management, could contribute to climate adaptation in the agricultural sector, and thus contribute to food security.

Responses to climate change must acknowledge and respect issues of climate justice and equity. These are particularly acute when engaging with diverse stakeholders and rights-holders. We encourage organisers to consult the ICOMOS Climate Justice and Equity Toolkit which includes ways to increase inclusivity and participation, promote meaningful co-production and be more sustainable.

### How can traditional knowledge inform innovative and transformative climate action?

- Consider the integration of traditional, historic building conservation, adaptive reuse, and/or energy efficiency of heritage buildings and landscapes;

- Feature innovative infrastructure development to showcase the ways in which traditional knowledge, practices and cultural heritage can be part of solutions;

- Capture traditional philosophy and rationale in dealing with the environment (both land and water) and the climate as manifested in built vernacular heritage and cultural landscapes.

ICOMOS Committees, members and all those wishing to celebrate the IDMS were warmly invited to showcase the myriad ways in which traditional knowledge is/can be employed to address climate change in transformative ways.

The theme of HERITAGE CHANGES offers the opportunity to respond to questions regarding learning about traditional ways of knowing and knowledge systems in relation to climate action, and how to use a cultural heritage focus to support equitable protection of vulnerable communities through climate action, while responding to the UN Decade of Action.

While traditional knowledge is respected as a rich source of inspiration and knowledge for places facing climate change consequences on a local level, bottom-up perspectives are not often accessible to Committees. How can we respectfully engage more fully with discourses about traditional ways of knowing and knowledge systems?

ICOMOS calls on all communities to collaborate through partnerships, inclusive practices, and in cooperation with local governments, industry, private sector, academia, community-based organisations, civil society, scientists, indigenous peoples and vulnerable communities. Knowledge exchange must be built on respectful and meaningful multiple perspectives which acknowledge the plurality of knowledge systems.

### Events | IDMS 2023

Events related to discourses about: Disaster Risk (Climate-Induced, Human-Induced), Energy & Sustainability, Indigenous Cultural Heritage, Just Transitions, land management and diverse Heritage Futures.

Examples of empowerment of communities displaced by climate change, low-cost interventions to disaster risk management in the heritage context, heritage and environmental education and just transitions, promotion of



gendered narratives to climate adaptation, and ecological transitions are welcome.

#### Austria: Cultural Bike Ride

**What:** The Wachau is a valley in central Europe along the Danube River, known for its breathtaking river landscape and outstanding cultural and historical value. It features medieval towns and villages nestled among vineyard terraces, which have developed harmoniously over time. The area is also known for its rugged cliffs and undisturbed riparian forests. The Emerging Professionals of ICOMOS Austria are excited to explore the Wachau valley sustainably by bike on April 15th, as part of this year's IDMS. World Heritage Site's unique features, cultural landscape, development of tourism in the region, and climate adaptation measures using the example of Danube flood protection are part of the programme.

**Who:** ICOMOS Austria

**When:** 15 April 2023 at 12:00PM CEST (local time)

**Where:** Spitz an der Donau - Train station, Austria



Cultural Bike Ride - IDMS 2023 event in Austria © ICOMOS Austria

#### China: Cultural Heritage in the Midst of Change

**What:** In order to continue the spirit of openness, innovation, transboundary and intergenerational exchange, and to discuss the dramatic changes that have taken place in the world we live in over the last years as well as their impact, ICOMOS China is addressing the theme of "Cultural Heritage in the Midst of Change".

**Who:** ICOMOS China

**When:** Between 15 April to 30 June 2023

**Where:** China

#### Egypt: Heritage Changes: Discussing our Responsibility

**What:** Cultural trip and seminar.

**Who:** "Abu Simbel 50 Campaign", "Architectural Heritage - Cultural Identity Egypt", and held under the auspices of the Faculty of Engineering at Misr University for Science and Technology "MUST". In partnership with the Museum of Fine Arts of the Egyptian Ministry of Culture.

**When:** 29 April 2023 at 6:00 PM (local time)

**Where:** Museum of Fine Arts in Alexandria, Egypt

#### Germany: Workshop "Socialist Modernism in Central and Eastern Europe"

**What:** The focus of the English-language workshop is the legacy of the "second socialist modernism" (1955-1990) in architecture and urban planning. The aim is to offer experts a cross-border platform for critical exchange. Guided tours to monuments and sites of Eastern Modernism in Berlin-Brandenburg will round off the workshop program.

**Who:** ICOMOS Germany, Max-Lingner-Foundation, BTU Cottbus, Landesdenkmalamt Berlin, Helle Panke, Hermann-Henselmann-Stiftung

**When:** 18 - 20 April 2023

**Where:** Berlin Max-Lingner-Haus

News from: <https://www.icomos.org/>



International Forum 2023 on Disaster Risk Management for Cultural Heritage - IDMS 2023 event in China © ICOMOS China



Workshop "Socialist Modernism in Central and Eastern Europe" - IDMS 2023 event in Germany © ICOMOS Germany





Visit Museum of Fine Arts © Organizer



Architect Hamdy EL-Setouhy © Organizer

international and Egyptian artists, which are rare pearls. The museum was established in 1945.

The main seminar was held in the theater attached to the museum, under the title, the talks were on five main axes: **cultural and knowledge, awareness, education, practice and strategic.**

It is worth noting that the event was attended by many specialists, including Eng. Ahmed EL-Nefaily, Executive Director of the Abu Simbel

Campaign, representatives of the Nubian Club, students and faculty members of Al-Nahda University in Beni-Suef, as well the students of MUST University.

The seminar ended by a discussion with the attendees about what was presented and their proposals for upcoming events related to heritage.

News from: Hamdy EL-Setouhy



Visit the Serapeum of Alexandria © Organizer

## IDMS 2023 | Egypt Heritage Changes: Discussing responsibility

Time: 29 April, 2023

The celebration was organized by "Abu Simbel 50 Campaign" and the "Architectural Heritage - Cultural Identity | Egypt", in cooperation and under the auspices of the Faculty of Engineering at Misr University for Science and Technology "MUST". And in partnership with the Museum of Fine Arts in Alexandria, Ministry of Culture.

### Cultural Trip and a Panel Discussion

More than 120 people participated in the event, students, Architects, specialists in heritage, and non-specialists yet interested in heritage.

At the beginning, they visited the Serapeum

of Alexandria (one of the most important archaeological areas in Alexandria), where they got acquainted with the elements of the archaeological site, and they conducted a number of discussion sessions on the site about the importance of heritage and learning from it, and how it can be an engine for the future with all its challenges.

After that, they went to Museum of Fine Arts, which is a where a panel discussion was held, one of the important cultural and artistic edifices of the Egyptian Ministry of Culture. And it is worth noting that it includes a large collection of art holdings from different eras of famous



# International Seminar: Which future for Vernacular Architecture & Earthen Architecture?

Time: 15-16 June, 2023



## International Seminar Which future for vernacular architecture & earthen architecture?

Session 1 - **Preserving the past:** Vernacular documentation, and World Heritage

Session 2 - **Valuing the present:** Intangible knowledge, and knowledge transfer

Session 3 - **Preparing for the future:** Climate action, and adaptation

Round table - **Which future for vernacular architecture & earthen architecture?**

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During the last years, vernacular architecture and earthen architecture have faced multiple challenges worldwide, which have threaten their survival. In several regions, intangible knowledge is disappearing fast, in part due to the fact there is less people keeping the building culture and its know-how alive.

To discuss the future of vernacular architecture and earthen architecture, interested professionals and researchers were invited to meet in Porto,

on June 15 & 16, 2023.

The event were structured in three sessions with debates and a round-table. The International Seminar on Vernacular and Earthen Architecture were dedicated to vernacular documentation, World Heritage, intangible knowledge, knowledge transfer, climate action, adaptation, and a final round-table discussion with input from participations. The key-purpose of the round-table were to establish ways forward, on

how to keep vernacular and earthen architecture alive.

A publication with the paper's proceedings, and the round-table notes, will be published in 2023.

### Sessions:

Session 1: Preserving the Past

Vernacular documentation & World Heritage

Session 2: Valuing the Present

Intangible knowledge & knowledge transfer

Session 3: Preparing for the Future

Climate action & adaptation

### Round-Table:

Which future for vernacular architecture & earthen architecture?

### Framework:

VERSUS+ | Heritage for People

UNESCO Chair on earthen architecture, building cultures, & sustainable development.

### Partnership:

UPV, Spain; UNIFI, Italy; UNICA, Italy; CRAterre-ENSAG, France.

News from: Dr Giamila Quattrone

Programme of the seminar © Organizer

## International Seminar Which future for vernacular architecture & earthen architecture?

**Day 1 - June 15**

**0900** Opening  
Fernando Ramos, Rector of Portuguese University  
Mariana Correia, Director of DAMG & QALD-UPT  
Miguel Brito Correia, Board member of ICOMOS-Portugal  
Teresa Patrício, President of ICOMOS International

**0930** Keynote speaker  
**0930 Vernacular architecture: challenges & opportunities**  
Teresa Patrício (Bélgica/Portugal), President of ICOMOS International

**Session 1: Preserving the Past  
Vernacular documentation & World Heritage**

Table 1 - Moderation: Mariana Correia

**0945** Keynote speaker  
**0945 Challenges evaluating World Heritage nominations related to vernacular and earthen architecture**  
Olivier Bourde (France), Director of the World Heritage Evaluation Unit of ICOMOS

**1010** Documentation strategies for vanishing ancestral puebloan sites  
Ekaterini Vlahou (USA)

**1015** Threats to the continuity of vernacular Tukul of Lalibela, Ethiopia: forced relocation and consequences of World Heritage inscription  
Blen Teye (Ethiopia/United Kingdom)

**1040** Q&A and Debate  
**1100** Coffee break & Poster Session

Table 2 - Moderation: Camilla Mileto

**1130** From vernacular documentation to a rural sustainability transition: Mapping traditional communal land management and built environment in Northern Portugal  
Bruno Andrade, Celine Verissimo, Mónica Alcázar & David Viana (Portugal)

**1145** Saharan built heritage: The failure of recognition  
Dalia Nabil (Egypt)

**1200** Rediscover the importance and use of lime adobe - from materials and techniques almost forgotten to the experiences of the youngest  
Brigitte Capkova (France)

**1215** The 'strategy of settlement' of rural architecture. An experience of analysis and design on the landscape of the hinterland of Sicily  
Fabio Quarrera (Italy)

**1230** Enhancing knowledge and preservation of rural vernacular assets: a GIS-based approach for surveys and cataloguing  
Rafael Estêvão & Tiago Miguel Ferreira (Mexico, Portugal/UK)

**1245** Q&A and Debate  
**1300** Lunch

**Session 2: Valuing the Present  
Intangible knowledge & knowledge transfer**

Table 3 - Moderation: Hossam Mahdy

**1315** Keynote speaker 1  
**1315 Knowledge transfer in VERSUS+ | Heritage for People**  
Camilla Mileto & Fernando Vegas (Spain), Letizia Dipasquale & Alessandro Merlo (Italy), Maddalena Achenza & Amanda Rivera (Italy), Bakonina Rakotomamonjy & Sébastien Morisset, Nuria Sánchez (France), Mariana Correia & Gilberto Carlos (Portugal)

**1330** Keynote speaker 2  
**1330 Knowledge transfer in earthen architecture**  
Bakonina Rakotomamonjy (France), Chairperson of CRAterre & Associated researchers at CRAterre/ENSAG

**1345** Video tools: Preserving and transmitting the intangible dimension of earthen vernacular architecture  
Angele Keserwany (Lebanon)

**1355** What to do and not to do for the conservation and rehabilitation of vernacular and earthen architecture  
Paulina Faria (Portugal)

**1400** Q&A and Debate  
**1400** Coffee break & Poster session

Table 4 - Moderation: Maddalena Achenza

**1415** Back to the future  
Miguel Ferreira Mendes (Portugal/France)

**1430** Rehabilitation of medieval half-timbered and cob buildings: Contribution of OSTAL Panassac project  
Isabelle Mouille (France)

**1700** Vernacular knowledge of Chilean traditional earthen coatings  
Patricia Marchante & Amanda Rivera (Portugal, Chile)

**1715** From foundations to form: two vernacular and earthen architecture projects through university teaching  
Susana Milão, Ana Lima, Luis Paulo Pacheco & Telma Ribeiro (Portugal)

**1730** Q&A and Debate  
**1800** Closure of the 1st Day

**Day 2 - June 16**

**Session 3: Preparing for the Future  
Climate action, & adaptation**

Table 5 - Moderation: Telma Ribeiro

**0900** Keynote speaker 3  
**0900 Which future for vernacular architecture?**  
Hossam Mahdy, ICOMOS CIWV President

**0930** Keynote speaker 4  
**0930 Which future for earthen architecture?**  
Maddalena Achenza, ICOMOS-ESCEAH President

**0945** Presenting archaeological sites in a changing climate: Barriers to Adaptation in earthen archaeological sites  
Massoud Nabhan, Giancarlo Della Ventura & Mariana Correia (Iran, Italy, Portugal)

**0955** Sustainable use of energy, an idea for the future  
Borut Juvanec (Slovenia)

**1010** Modelling and measuring the adaptation of World Heritage sites to climate change  
Rim Kelouaz, Abbas Jopel (Algeria, Mozambique)

**1025** Q&A and Debate  
**1045** Coffee break & Poster session

Table 6 - Moderation: Valentina Cristini

**1115** An ecological approach to habitat design - the new vernacular  
Sharath Nayak (India)

**1130** Earth and fiber vernacular technologies: Lessons for adapted architecture solutions  
Amanda Rivera & Maddalena Achenza (Chile, Italy)

**1145** Contribution of earthen construction towards a circular and regenerative built environment  
Jorge Fernandes, Livia Cosentino & Ricardo Mateus (Portugal)

**1200** Comfort and sustainability paradigms applied to intervention in Historic Villages in Central Portugal  
Ana Velosa, Hugo Rodrigues & Paulo Silva (Portugal)

**1215** The role of natural materials in reducing carbon emissions and improving the environmental performance of buildings  
Letizia Dipasquale, Riccardo Pulicelli, Giada Guffrida, Saverio Mecca, Rosa Caporretto (Italy)

**1230** Q&A and Debate  
**1300** Lunch

Table 7 - Moderation: Gilberto Carlos

**1415** Built heritage: Screening DFR and CCA options and planning  
Esmeralda Pasquetto & Xavier Romão (Portugal)

**1430** Earth in the construction market  
Ana Arturves (Portugal)

**1500** Heritage Design Guidelines: Conservation Management Plans vs Saudi Building Code  
Adnan Al Jaber (Saudi Arabia)

**1515** New Technologies for earthen construction  
Ana Mafalda Matos & Humberto Varum (Portugal)

**1530** Artificial intelligence, technological development and local constructive cultures  
Clara Pimental do Vale (Portugal)

**1545** Q&A  
Coffee break at the Library

**1600** Round-Table:  
Which future for vernacular architecture & earthen architecture?  
Place: Library of Portuguese University

**1800** Closure of the International Seminar



## 21st Triennial General Assembly of ICOMOS

31 August – 9 September 2023, Sydney

### SYDNEY WELCOMES



#### ICOMOS GA2023 Fast Facts

**Dates:** 31 August – 9 September 2023

**Venue:** International Convention Centre (ICC Sydney) right in the heart of Sydney

**Audience:** Expected up to 1,500 professionals from across the globe representing heritage, archaeology, historians, urban planning, architects and academia just to name a few, providing unrivalled access to high-calibre specialist knowledge and delivering a boost to 'grass roots' interest in cultural heritage and conservation work throughout Australia and globally.

**Theme:** "Heritage Changes" with sub-themes: Resilience – Responsibility -Rights – Relationships.

**Legacy:** GA2023 will leave a lasting positive legacy for the recognition, protection and

management of cultural and natural heritage and for communities that value and care for it in Australia and globally.

#### Message from the Australia ICOMOS President

Welcome!

On behalf of Australia ICOMOS, I am delighted to invite delegates from around the world to Sydney for the 21st Triennial General Assembly of ICOMOS from 31 August – 9 September 2023.

Together we can learn from each other and promote excellent cultural heritage practices.

Sydney is a destination that offers unrivalled natural and cultural beauty with world-class facilities, including the stunning new International Convention Centre, all in the inspirational setting of Sydney Harbour.

The core General Assembly will occur between 4 and 8 September 2023 within an exciting ten



Professor Tracy Ireland, President of Australia ICOMOS. Source: <https://icomosga2023.org/>

day program of site visits, workshops, lectures, expert meetings and social gatherings. Venues will include the World Heritage listed Sydney Opera House, Cockatoo Island / Wareamah, Hyde Park Barracks and Greater Blue Mountains amongst a wide variety of other Aboriginal and

colonial cultural places. We will meet amidst Sydney's vibrant Indigenous and multicultural communities.

The theme of the five-day Scientific Symposium: "Heritage Changes: Resilience – Responsibility – Rights – Relationships", reflects the tumultuous changes taking place in the world, but also a positive message about the role of our heritage in supporting rapid recovery and inclusive approaches.

Australia ICOMOS has one of the largest and most active ICOMOS national committees, and with strong support from the Australian and NSW State Governments and the City of Sydney, we are thrilled to bring an ICOMOS General Assembly to the Pacific region for the first time.

Please join us at the General Assembly – not only to visit Sydney, but to make this event the cornerstone of a visit to the unique cultural and natural heritage of Australia!

Professor Tracy Ireland

President, Australia ICOMOS

More information: <https://icomosga2023.org/>

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## The ICOMOS Annual Report 2022 is available !



The 2022 ICOMOS Annual Report is here. It is delighted to share with you last year's activities and achievements. The report is a testament to the incredible work our global network is carrying out in order to protect and celebrate our cultural heritage. Here's a glimpse of what happened in 2022: - Bangkok General Assembly and Scientific Symposium - 2nd edition of Giving Tuesday - International Day for Monuments and Sites 2022 - 50th Anniversary of the World Heritage Convention - New Charters and Guidelines.....and much more!

### An Active Network

This section consists of key figures, 2022 General Assembly, 2022 Scientific Symposium, International Day on Monuments and Sites 2022, 2nd Edition of the Culture-Nature Prize, activities by ICOMOS Committees, ICOMOS Webinar Highlights, 50 years of the World Heritage Convention, new ICOMOS Committee Presidents, ICOMOS adopts new Cultural Tourism Charter

and Antarctic Archaeological Guidelines.

The network expands presence in 132 countries and territories with 10891 members, 113 national committees and 30 International scientific committees. And national committees with the greatest percentage of members under the age of 30 includes U.S. National Committee of ICOMOS, ICOMOS India and ICOMOS New Zealand.

### 2022 General Assembly

In 2022, ICOMOS held its first hybrid Annual General Assembly in October, a major milestone for the organization. The event brought together over 200 ICOMOS members—heritage experts from around the world to reconnect, exchange ideas, drive ICOMOS' work and share experiences on cultural heritage conservation and management. The hybrid format allowed participants to attend both in-person and online, providing an opportunity for wider participation

and greater accessibility.

The success of this first hybrid event of ICOMOS would not have been possible without the hard work and dedication of the organisers—ICOMOS Thailand and in particular President Borvornvate Rungrujee, Hatthaya Siriphatthanakun and Vasu Poshyanandana, and the support of ICOMOS members.

The Annual General Assembly marked a significant moment for participants who were able to meet again in person after a prolonged period of global pandemic. It was a testament to the resilience of ICOMOS and the larger heritage community and its commitment to continuing its work, even in the face of unprecedented challenges.

### 2nd Edition of the Culture-Nature Prize

Again this year, ICOMOS took part in Giving Tuesday, a global day to give and celebrate generosity. Thanks to donations from our network, we raised 15326€ to fund the 2nd edition of the ICOMOS Culture-Nature Prize which will be awarded in 2024 to the most promising Culture-Nature initiatives undertaken by our members.

In 2022, we had the chance to be able to fund 5 different initiatives from Guatemala, Burkina Faso, Iran, India and China thanks to the 15 000 of donations received for the 1st edition of the Culture-Nature Prize. The 2022 prize winners include:

- the co-creation of an illustrated dictionary and a species inventory (Guatemala)
- the safeguarding of sacred masks through the practice of early brushfires (Burkina Faso)

- the protection of traditional gardens in the city of Qazvin (Iran)

- the development and implementation of a curriculum for the transmission of the Namdapha community culture (India)

- the development of community volunteer workshops on how to document growth on the Great Wall of China (China).

### ICOMOS Webinar Highlights

ICOMOS Spain held a webinar series with National Park Service USA: 4 sessions focusing on the Management Strategies by the National Park Service and examples of National Parks in which Spaniards have left a heritage mark. The APA - Asia Pacific Webinar Series with ICOMOS Philippines, ICOMOS Malaysia and ICOMOS Pakistan addressed several topics including industrial heritage, heritage and well-being, cultural landscapes, heritage interpretation and restoration.

The 20cHTF Seminar Series aimed to bring together professionals, policymakers, academics, and representatives from heritage organizations currently engaged in conserving modern built heritage, with an intent to learn, debate and encourage the use of the Twentieth Century Historic Thematic Framework tool in the European Context. Reconstructing Ukraine's Cultural Heritage with European Quality Principles and Ensuring Quality for Heritage through Sustainable Solutions were the two side events organized by ICOMOS for the European Week of Regions and Cities 2022.

News from: <https://www.icomos.org/>



ICOMOS Webinar highlights. Source: [https://issuu.com/icomos/docs/icomos-annual\\_report\\_2022-r4-okweb-2p](https://issuu.com/icomos/docs/icomos-annual_report_2022-r4-okweb-2p)



## ICOMOS coordinates new global initiative to safeguard heritage from climate change



ICOMOS announced today a new global initiative to safeguard sites of cultural significance from the impacts of climate change.

**Preserving Legacies : A Future for our Past** will equip communities worldwide with the tools to accurately assess worsening and future climate impacts on cultural heritage sites in order to rescue them before it is too late.

ICOMOS is partnering with National Geographic Society and the Climate Heritage Network, as well as with local communities and site management teams to carry out the Manulife-funded project.

People and their cultural heritage, both tangible and intangible, are increasingly vulnerable to climate change hazards. The resulting impacts on monuments, inherited traditions, and knowledge

systems in turn affects values, livelihoods, and identity, with profound consequences for communities. And yet cultural heritage is rarely prioritised in national and international climate change policy agendas. To fill this gap, there is an urgent need to equip communities worldwide with the tools to accurately anticipate and assess worsening and future climate impacts on culture, and help them turn that scientific knowledge into action to safeguard sites.

**Preserving Legacies : A Future for our Past** is carrying out the project on 10 heritage sites, including 2 primary sites:

- the Rice Terraces of the Philippine Cordilleras, Philippines;
- Petra, Jordan;

and 8 observer sites:

- Angkor Archeological Park, Cambodia;
- Border Fields, USA ;
- Historical Mosque City of Bagerhat, Bangladesh;
- Nan Madol, Micronesia;
- Levuka, Fiji;
- Koutammakou, the Land of the Batammariba, Togo and Benin;
- Sceilg Mhichil, Ireland;
- Port, Fortress, and Group of Monuments at Cartagena, Colombia.

At the 2 primary sites, Preserving Legacies will link climate science and site conservation by enabling access to locally downscaled climate change models, and supporting site custodians with the training to organise community-led, values-based assessments of the sites' climate vulnerability as well as impacts on local communities.

Observer sites will engage fully in climate heritage trainings and a peer-to-peer learning experience.

Participants from all sites will help grow an international community of practice focused on climate action at the intersections of cultural heritage and climate adaptation.

The program integrates scientific, local, and Indigenous knowledge to find sustainable and culturally appropriate solutions to the long-term preservation of cultural heritage sites. The goal is to foster better approaches to adaptation and learning from past ancestral practices to safeguard values for the next generations.

'Our ambitious approach to addressing this critical issue will not only lead to tangible protection of cultural heritage sites; it will be the game-changers needed to increase access to heritage adaptation and transform conservation as a field to meet the challenges of a climate changed world.'

**Dr Victoria Herrmann, National Geographic Explorer and Project Director of Preserving Legacies**

'ICOMOS firmly believes in the power of culture and heritage for climate action. This important project will empower communities and site custodians to protect their heritage from the impacts of climate change. It will also provide them with a platform to tell their stories and share their valuable experiences with the world.'

**Dr Will Megarry, Focal Point for Climate Change at ICOMOS, Senior Lecturer at Queen's University Belfast**

'Just as heritage places anchor communities, they should be at the forefront of climate change response. The CHN is proud to be a part of the work of Preserving Legacies to scale up climate action at culturally significant places through global peer learning, networking, storytelling and new open access resources.'

**Andrew Potts, Coordinator, Climate Heritage Network**

'Climate change is threatening the rice terraces and its living traditions. SIRT and ICOMOS Philippines are delighted to partner on this important project, as a learning exchange experience with those involved in heritage protection with climate change preparedness.'

**Tina Paterno, President of ICOMOS Philippines**

'By working and sharing experiences this project can better develop and present culture-based solutions to many climate challenges and build more resilient communities. The joint efforts will document, study and utilize diverse knowledge, skills and practices, inherited and adapted methods of learning and technical know-how to build resilience and transform communities to meet climate-adaptation goals.'

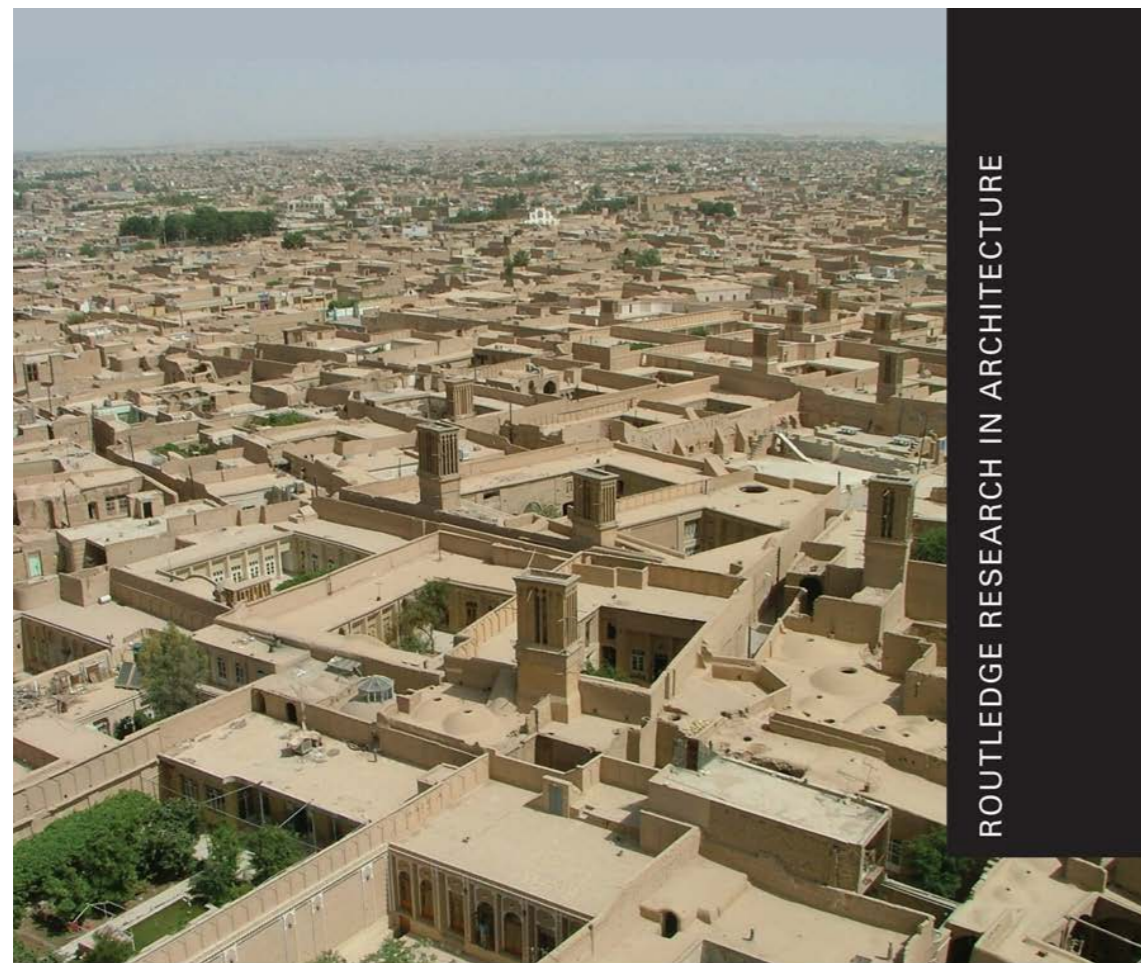
**Zeina Khashashneh, Project Manager, Petra National Trust**

News from: <https://www.icomos.org/>



## Recommended Book/Publication

Thermal Comfort in Hot Dry Climates | Traditional Dwellings in Iran



# THERMAL COMFORT IN HOT DRY CLIMATES

*Traditional Dwellings in Iran*

AHMADREZA FORUZANMEHR



**Language:** English

**Author:** Ahmadreza Foruzanmehr

**Published by:** Routledge

### Author

Ahmadreza Foruzanmehr is an academic and architect who has worked in the UK and the Middle East on a variety of projects in both state and private companies, and was awarded first prize in two architectural competitions in Iran. He has published a number of peer-reviewed journal articles on traditional passive cooling systems in Iranian architecture. In March 2008, his research on vernacular cooling systems and thermal comfort was awarded the top ORSAS (Overseas Research Student Award Scheme) award for outstanding merit and research potential at Oxford Brookes University.

### Abstract

With increases in global temperatures, the risk of overheating is expected to rise around the world. This results in a much higher dependency upon energy-intensive cooling systems and air-conditioners to provide thermal comfort, but how sustainable is this in a world where problems with the production of electricity are predicted?

Vernacular houses in hot and dry central Iran have been adapted to the climate through passive cooling techniques, and this book provides a valuable assessment of the thermal performance of such housing. Shedding new light on the ability of traditional housing forms to provide thermal comfort, *Thermal Comfort in Hot Dry Climates* identifies the main cooling systems and methods in traditional houses in central Iran, and examines how architectural elements such as central courtyards, distinct seasonal rooms, loggias, basements and wind-catchers can contribute to the provision of thermal comfort in vernacular houses.

### Distinctive features of the book

The key themes of vernacular architecture and thermal comfort are woven together across the book to investigate and illustrate, for the first time, the extent to which vernacular architecture in Iran provides thermal comfort to its inhabitants.

This work provides a rich understanding of the interdependence of physical factors and human perceptions in the subject of thermal comfort. It demonstrates that housing form, orientation and simple non-mechanical installations, as well as human interactions, are determining factors in providing energy-efficient methods of achieving thermal comfort in houses subject to hot and dry climates. The book tackles a widespread myth that vernacular architecture is always sustainable and comfortable by changing the way we understand vernacular buildings.

The originality of the existing research is not just apparent from its subject matter, however, but is also to be found in the rigorous way in which scientific and social-scientific methods have been used to investigate not only the actual environmental performance of the buildings but also the way in which the performance of the buildings is perceived by its inhabitants and, critically, how both aspects interrelate.

In doing so, the book contributes to the thematic and methodological advancement of both the field of vernacular architecture studies and the field of thermal comfort studies. This multidisciplinary research demonstrates the interconnections between human behaviour, socio-cultural factors and the physical environment, and raises significant theoretical and practical issues (and answers) that alter how we think about vernacular buildings. It is the first of its kind in Iran to address this urgent issue through empirical research and as such has already been agenda-setting. (In March 2008 the research was awarded the top ORSAS, Overseas Research Student Award Scheme, award for outstanding merit and research potential at Oxford Brookes University.) The book offers a valuable new contribution to the literature on sustainable vernacular architecture.



# M'Hamid Oasis, Morocco: Sustaining Futures amid Desertion and Desertification

Giamila Quattrone, PhD



M'Hamid is inhabited by an ethnic mix of Drawa – the original settlers of the Valley – Berbers (or 'Imazighen' as they call themselves in their native language, 'Tamazight'), Arabs, descendants of sub-Saharan slaves and small groups of Sahrawis, hailing from the western part of the Sahara.

intercept and distribute groundwater in order to cultivate the land and make habitation possible in the harsh desert environment.

M'Hamid is a living example of a typical pre-Saharan vernacular oasis, skilfully established by man through developing a sophisticated irrigation network of channels and wells able to

The oasis is dotted by eleven traditional fortified villages (*ksar*, pl. *ksour* in Arabic; *ighrem*, pl. *igherman* in Berber) inhabited by families of the same tribe or different tribes able to live amicably together. These are: M'Hamid El Ghizlane, Ouled Youssef, Zaouia El Henna, Ouled Mhia, Znaga, Ait Aissa Ou Brahim, Talha, Chourfa, Bonou, Rgabi

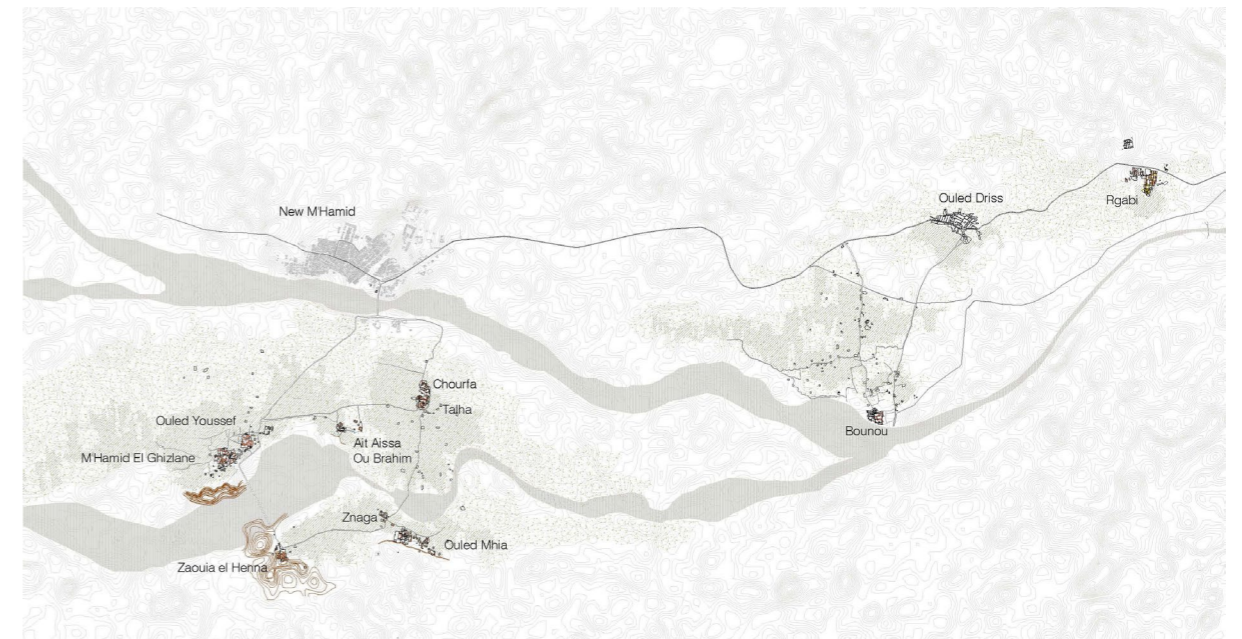


Fig.1 Map of M'Hamid Oasis showing its eleven traditional settlements and the new town, ©Terrachidia 2021.

## 1 Introduction

Like many historical oasis landscapes in North Africa, M'Hamid, once a thriving hub of agricultural production and a vibrant trans-Saharan trade entrepôt, today faces unprecedented threats and challenges. Caught between desertion and desertification, M'Hamid is an exemplary case of both resistance and resilience in the face of poverty and climate change. Work done in partnership with the Spanish NGO Terrachidia and local communities is here presented to show how, even under economic, environmental and social pressure, heritage can be harnessed to improve people's life by bringing cultures together and establishing conduits for knowledge exchange.

## 2 Overview of M'Hamid Oasis

### 2.1 Context

M'Hamid is the last and southernmost oasis of the Middle Draa Valley, in south Morocco, and has a hot and arid climate. It is situated in the so-called 'Coude du Draa', the area where the river Draa turns east to west and, shortly past the oasis, seeps into the ground, where it continues its journey towards the Atlantic Ocean (Fig.1). The Sahara Desert is on its doorstep and the Algerian border around 40 kilometres away. Today,

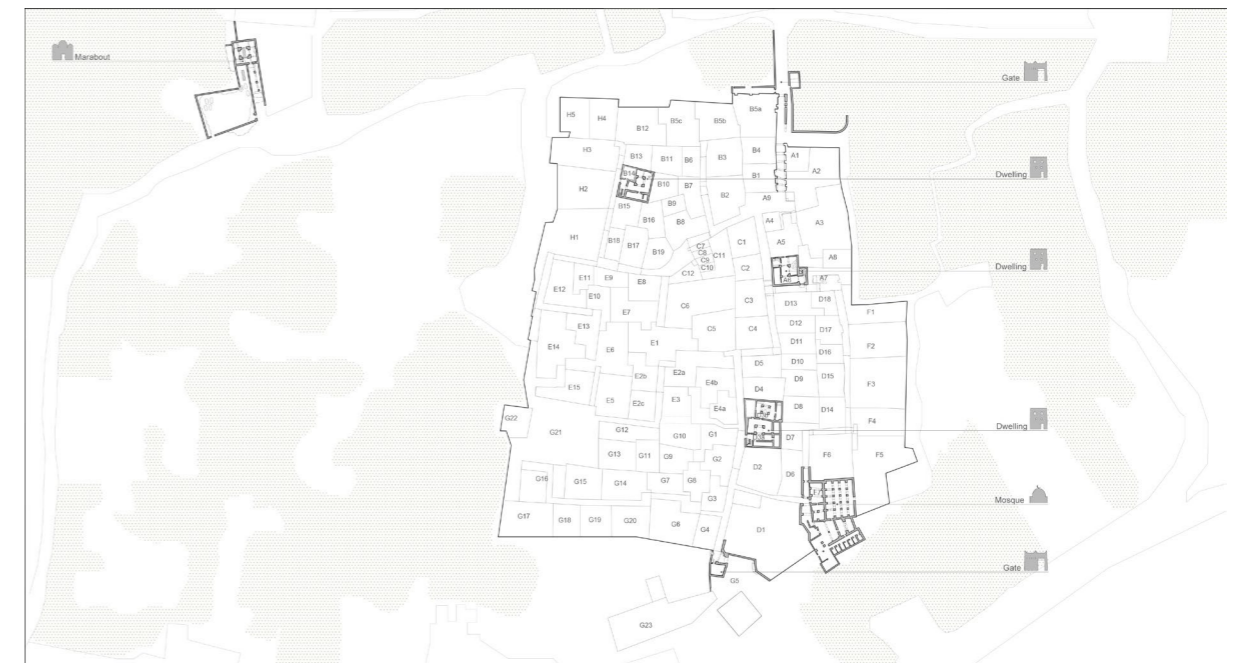


Fig.2 Plan of Ksar Ouled Youssef showing the typical settlement pattern and urban form of the oasis' ksour, ©ArCHIAM & Terrachidia 2021.



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Fig.3 Bottom-up view of house D3's courtyard in Ksar Ouled Youssef, ©ArCHIAM 2019.



Fig.4 Bottom-up view of the domed space around the mihrab in M'Hamid El Ghizlane's Old Mosque, ©ArCHIAM 2017.

and Ouled Driss. In the north part of the oasis lies a new grid-planned town, New M'Hamid, where most of commercial activities take place. Reportedly established in the early 14<sup>th</sup> century CE (Landau, 1969:109), M'Hamid El Ghizlane (also spelt Mehamid el-Rhozlane or el Mehamid), is the largest *ksar* of the oasis.

Owing to its strategic location on the edge of the Sahara, Taragale, as M'Hamid was known in the ancient past, was part of a key gold trade route connecting the Orient and Europe with the Mali Empire, and was the most important stronghold of the Saadian dynasty (1510-1659) in the region (Jacques-Meunié, 1982:568-569). In 1591, with Sultan Ahmad al-Mansur's conquest of Songhai, an era of security and prosperity started for M'Hamid. Berber caravans left from here towards Timbuktu where they exchanged salt for gold dust, which was used to mint coins back home before these were sent to Marrakech (Jacques-Meunié, 1982:567-570).

The economic wealth generated by oasis agriculture and trans-Saharan trade needed to be defended from the attacks of nomadic tribes, hence the need to fortify the settlements

through high, seamless and impenetrable curtain walls defended by tapering corner towers.

## 2.2 Urban and architectural forms

*Ksour* are close-knit settlements built out of earth, palm and tamarisk wood, all locally available. The settlements are organised on a Roman *castrum*-like layout along a longitudinal thoroughfare connecting the two entrance gates. Alleys, which allow movement within the settlement and access to the houses crosswise, branch off this primary street (Fig.2). Protection from the elements – sun, wind, dust and sand – is afforded by the narrow and winding alleys, while overhead rooms straddling streets and alleys offer shaded areas (Colmenares Fernández *et al.*, 2021:32).

Settlements are accessed through fortified gates situated at opposite ends of the thoroughfare. These were organised as a carefully orchestrated spatial sequence. This consisted in an external door in the curtain wall, which leads into a doglegged open space where traders, foreigners and travellers found overnight refuge in the past, and an internal door in an inner wall, which leads into the settlement through a covered passage. The space in between the two doors acts as a buffer between the outside and inside realm, affording defence by slowing down access through forced 90-degree movement, and privacy by concealing the settlements interior. Immediately past the internal door is a large communal open space used as market (*souq*)



Fig.5 South-east view of the Marabout of Sidi Abdellah Khalifa in Ksar Ouled Youssef, ©ArCHIAM 2019.

where goods brought by the caravans were traded (Colmenares Fernández *et al.*, 2021:33).

The vast majority of buildings within the *ksar* are houses (*dar* in Arabic; *tiguemmi* in Berber). They consist in spartan, two-storey-high structures with dark staircases, whose rooms develop around a central, high and narrow courtyard (*wust-ed-dar*). Being the external walls largely windowless, the courtyard works as a lighting and ventilation shaft, channelling natural light and air into the house (Fig.3). On the ground floor the courtyard is defined by four L-shaped corner pillars, around which develops a gallery, where food preparation and consumption takes place, which gives access to perimeter rooms used for storage. On the upper floor, which forms the living and sleeping quarter, the courtyard walls are pierced by apertures, at the top and bottom of which are decorative geometric motifs obtained through protruding bricks laid at an angle, creating dramatic plays of light and shadow. The roof terrace is used in summer for sleeping and throughout the year to hang the laundry as well as sun-dry fruits and vegetables (Colmenares Fernández *et al.*, 2021:36).

Mosques are the main, and often only, civic building of the *ksour*. Their typical location is by the open space between the doors of gates, so that outsiders could go in to pray without having to access the settlement, from which they were banned. Traditional mosques are simple, compact, flat-roofed structures on one floor, though of considerable height, with the only prominent feature being the domed space around the prayer niche (*mihrab*) (Fig.4). The prayer hall is organised into a series of parallel columned aisles. A minaret is not present. Inside are found the pulpit (*minbar*) and the baths (*hammam*) used for the ritual ablutions. M'Hamid El Ghizlane boasts one of the finest and reputedly ancient mosques, thought to have been built during Moulay Ismail's reign, 1672-1727 (Landau, 1969:109), with a large square plan comprising a prayer hall with seven naves and a central open-to-sky courtyard (*sahn*), and the baths (Colmenares Fernández *et al.*, 2021:38). The *intramoenia* location of the mosque is atypical, suggesting that originally the settlement may have ended there and, later, expanded south-east. This might explain the unusual curve of the perimeter wall, though is yet to be confirmed (Domínguez Martínez *et al.*, 2014:129).

Amidst the palm groves between M'Hamid El Ghizlane and Ouled Youssef lies the Marabout of Sidi Abdellah Khalifa, the burial place of a 'holy man' (*marabout*) whom locals pay respect to. The building consists of a cuboid structure with walls punctured by high-level slit openings, a columned porch leading to the entrance door, and a cemetery on the west side (Fig.5). The plan, similar in layout to a courtyard house, is divided by corner L-shaped pillars into a central core, where lies the tomb of the marabout, and a circumambulation gallery all around. A flat rooftop is surmounted by corbelled domes on squinches: four small domes are situated atop the corner areas, and a fifth larger one atop a raised structure over the central core (Colmenares Fernández *et al.*, 2021:62).

## 2.3 Building techniques

In a hostile environment such as a desert oasis, where hardwood and stone are scarce, inescapably earth becomes the primary building material. In M'Hamid, traditional earth construction follows two main techniques: rammed earth (*tallouhat*) and mud bricks (*tob*). Rammed earth is extensively used to make the load-bearing walls of houses, towers, gates, the boundary walls along agricultural plots, and the structure of irrigation wells. Mud bricks, instead,



Fig.6 Construction of rammed earth wall in Ksar Ouled Driss, ©ArCHIAM 2023.



Fig.7 Making of mud bricks in Ksar Ouled Youssef, ©ArCHIAM 2019.



are typically used to create discreet architectural elements such as columns, arches and domes, as well as decorative patterns. Once built, wall surfaces are finished off in either mud plasters and renders, or *tadelakt*.

Rammed earth walls are made by compacting layers of moistened coarse soil inside wooden formworks (*tabout*) using wooden rams (*markaz*). Once a wall section is complete, the formwork is dismantled and reassembled further down or up, thus building the wall in sequential horizontal sections (Fig.6).

Mud bricks are made by hand pressing a mix of clayey mud, water and straw fibres inside metal or wooden moulds, and leaving them to dry in the sun (Fig.7).

*Tadelakt* is a traditional, water-resistant plaster made out of a mix of lime, water and soil. After being applied on the wall surface, it is compressed with a flat river stone, smoothed and polished with a plastic sheet and a river stone, and finally sealed with an olive-oil soap solution, which also fills any remaining cracks.

Roofs and ceilings are built using palm tree and tamarisk wood. Palm tree trunks are laid crosswise, spanning the width of rooms, while tamarisk branches, more resistant and less vulnerable to termite attack, are laid perpendicularly on top. A reed mat and a woven palm leaf mat follow, covered by a thick layer of mud and a thin layer of compacted earth (Colmenares Fernández *et al.*, 2021:88-90).

## 2.4 Intangible heritage

The heritage richness of M'Hamid is evidenced not only by the tangible manifestation of earthen settlements and buildings but also by the spectrum of widely practiced intangible



Fig.8 Encroaching sand dunes in Ksar Bonou, M'Hamid Oasis, Morocco, ©ArCHIAM 2017.

expressions, from oral traditions to performing arts, traditional knowledge and craftsmanship.

*Rasma* is a chanted oral poetry tradition performed by men and accompanied by women's high-pitched notes, a form of sung storytelling about people's everyday life. *Rokba* is a traditional music and dance genre performed, mostly by men, in Talha, M'Hamid El Ghizlane and Ouled Mhia at private festive events and large community gatherings in which, lined in rows facing each other, performers rhythmically lift their knees and stomp their feet accompanied by the beats of drums.

Gastronomic traditions play an important role in the living heritage of M'Hamid. The preparation of mint tea, couscous, tagine and bread lies at the centre of women's life routines, marking as much regular social gatherings as occasional moments of conviviality such as celebrations and festivities. Sharing home-made drinks and food with others is, in M'Hamid, the main way to demonstrate hospitality, respect and friendship.

Women are the sole custodians of an entire domain of traditional knowledge underpinning crafts. These include: hand embroidery of fabrics in typically Berber abstract and colourful motifs, hand weaving of palm fronds to create baskets, trays and containers used to transport and store edibles and goods, as well as for decorative purposes, and hand weaving of palm fronds with yarn on rudimentary looms to make rugs (Colmenares Fernández *et al.*, 2021:78-83).

## 3 Threats, challenges and their impact on cultural heritage

Over the last few decades, M'Hamid Oasis has been experiencing an unprecedented coalescence of threats and challenges linked to climate change as well as socio-cultural and economic development.

The absence of water represents a major threat. The construction of the Mansour Eddahbi Dam in 1972, upstream of the Middle Draa Valley, has progressively turned the Draa, originally a source of surface water, into a seasonal stream, with the result of encouraging a steady increase in groundwater pumping for agricultural purposes and, generally, overexploitation of water. The dam has also been subjected to siltation, which has progressively reduced its capacity, so that a number of downstream oases often do not receive any water for long periods of time. In addition, an increase in salinity of groundwater



Fig.9 The author training an international workshop participant in the documentation of the Marabout of Sidi Abdellah Khalifa in Ksar Ouled Youssef, ©ArCHIAM 2019.

has been recorded in the Valley, which has exacerbated the loss of soil fertility. This, coupled with repeated cycles of drought and the diffusion of water-demanding crops such as watermelon, have caused the progressive depletion of the water table (Karmaoui, 2016:2-4). Water shortage, desertification and growing sand encroachment, which is most severe in the south of the oasis, cause relentless loss of fertile areas, leading the palm tree groves and other crops growing under their canopy either to dry out or be swallowed up by the sand dunes, along with the earthen settlements (Fig.8). As a consequence, food security is under threat and local populations experience economic losses, struggling to survive. As Khalifa Mharzi, owner of Nomadic Life Camp in M'Hamid El Ghizlane, says, 'If the oasis dies, we will die' (from the interview conducted by the author on 12<sup>th</sup> February 2019).

Those who are not willing to migrate shift to tourism or tourism satellite activities as a livelihood option. Tourism is a growing industry here given the proximity to the great expanse of Erg Chegaga and the Taragalte Festival, a well-known annual music event mostly attended by North and Sub-Saharan African artists, which takes place near the point where, in the past, caravans would set off into the Sahara heading towards Timbuktu. According to a classification developed by Dłużewska and Dłużewski

(2017:81) for tourism development and *ksour* transformation, currently M'Hamid would find itself at a stage between the '2<sup>nd</sup> stage - ksour as a home and granary + tourism attraction "untouched by modernity"' and the '3<sup>rd</sup> stage A - ksour destroyed and abandoned'. Abandonment here exceeds by far man-induced destruction. It is triggered by the creation of new villages, often at the expense of agricultural land, the lack of tourism attractions, except for the dunes, the lack of large-scale initiatives to revitalise the *ksour*, and the lack of income (Dłużewska and Dłużewski, 2017:81).

In conclusion, shortage of water in a place, such as this, largely relying on agriculture for survival and the lack of income opportunities are the main reasons pushing locals to migrate to major urban centres in Morocco or overseas as 'people stay in this area only if they have work opportunities' (from the interview conducted by the author with Latifa Aghlan, female resident of Ouled Youssef, on 13<sup>th</sup> February 2019). Besides, socio-cultural change brought about by modernisation has raised people's requirements and expectations, particularly amongst the youth who complain about living in the desert as their parents' generation used to live (from the interview conducted by the author with Moussa Touhami, earthen building apprentice, on 16<sup>th</sup> February 2019). Clearly, if modern-life needs and



aspirations cannot be met in the oasis, the only option for locals is to leave.

The abandonment of *ksour* accelerates the dilapidation of vernacular settlements. However, to be lost forever are not only the traditional earthen fabrics but also the whole domain of traditional knowledge surrounding oasis agriculture and animal husbandry as well as arts and crafts. These living heritage expressions are born out of the oasis eco-system and makes use of its resources. In the absence of both and the lack of intergenerational knowledge transfer, the oasis intangible heritage becomes as much at risk as the tangible.

#### 4 The work of ArCHIAM and Terrachidia

Since 2017, the author and other members of ArCHIAM, Centre for the Study of Architecture and Cultural Heritage of India, Arabia and the Maghreb, have been collaborating with Terrachidia, a Spanish non-profit NGO established by a group of architects specialising in heritage preservation and development cooperation, with an interest in vernacular architecture and traditional crafts. Three architectural heritage international workshops in different *ksour* of M'Hamid Oasis have offered the opportunity to work closely with the local communities to support heritage resilience and sustain future livelihood. This has been done through awareness generation, capacity building, informal education, and material knowledge transfer, thus contributing to deliver the UN's Sustainable Development Agenda, more specifically SDG4 Quality Education (4.3, 4.4., 4.5, 4.7), SDG8 Decent Work and Economic Growth (8.6), SDG11 Sustainable Cities and Communities (11.4), SDG13 Climate Action (13.1), and SDG17 Partnerships for the Goals (17.3, 17.9, 17.16, 17.17).



Fig.10 The author working with schoolchildren of Ksar Ouled Driss during the educational workshop *M'Hamid, Morocco: Your Heritage, Your Future*, ©ArCHIAM 2023.

#### Awareness generation

Extensive architectural and ethnographic documentation has been undertaken, which includes architectural surveys, both drawn and photographic, interviews with locals of different ages and gender, and professional filming of local traditional crafts and performing arts. The award-winning documentary film *M'Hamid Oasis, Morocco*, by Liverpool-based film-maker Monika Koeck, and the open-access wider dissemination book *Ksar Ouled Youssef: An Old Ksar in the M'Hamid Oasis*, were produced with the aim to generate awareness, both locally and internationally, of the oasis historical importance, heritage richness, struggle for survival, and untapped tourism potential. As a Moroccan participant stated, 'Surely, when people come from abroad to work on these buildings ... if these people see this interest I think they understand that there is something to be saved, that ... there is some historical value, something that shouldn't disappear or that should be recorded before disappearing.' (from the interview conducted by the author with Kenza Belahnech, workshop participant, on 14<sup>th</sup> February 2019).

#### Capacity building

A workshop format that brings together local building masters and apprentices with Moroccan and foreign professionals with different backgrounds has provided a unique opportunity for young people from the oasis to develop skills in traditional building techniques, and for international participants from all over the world to receive training in documentation and restoration of vernacular earthen architecture under the supervision of master builders as well as members of ArCHIAM and Terrachidia (Fig.9).

#### Informal education

A children educational workshop titled *M'Hamid, Morocco: Your Heritage, Your Future* was held in Ksar Ouled Youssef in January 2023 involving 23 mixed-gender schoolchildren between 8 and 12 years old, with the purpose of sharing knowledge about the cultural heritage of M'Hamid and, through hands-on activities, readings and quizzes, enhancing their knowledge of geometry and construction in local traditional architecture, couscous preparation, oasis agriculture and their role in the CO<sub>2</sub> cycle (Fig.10). A feedback survey conducted at the end of the workshop showed that 94% of participants found the workshop very interesting, and 62% would consider learning

more about the subject by attending similar workshops in future.

#### Material knowledge transfer

Extensive audio-video documentation of local masters demonstrating the making of rammed earth walls, mud bricks, mud renders and *tadelakt*, complemented by measured sketches and field notes, has allowed to produce a body of information and visual evidence which will be used to prepare a digital illustrated manual of south-Moroccan traditional earth building. Conceived as an interactive flipbook in Moroccan Arabic and English, supported by photographs, videos, audios, links, illustrations and a glossary of terms, the manual will describe traditional earth building step by step – from the sourcing of materials to the creation of mixes, from the manufacturing of components (mud bricks) and building elements (rammed earth walls) to the execution of finishing layers (mud renders, *tadelakt* finishes), including the labour, materials and tools needed. The manual will aid the practice and oral transmission of the material knowledge behind traditional craftsmanship – one of the five ICH domains of UNESCO's 2003 Convention for the Safeguarding of the Intangible Cultural Heritage – through digital communication means which locals are conversant with.

#### 5. What next?

In order to establish the heritage significance of M'Hamid Oasis towards future protection and recognition three lines of enquiry should be pursued, which would also allow to integrate the evidence and knowledge base produced by ArCHIAM and Terrachidia over the years.

Socio-historical archival research, supported by archaeological investigation at reputedly old sites such as the Old Mosque of M'Hamid El Ghizlane, is needed to shed light on the emergence, urban and architectural development of the oasis as a medieval trade entrepôt and the spatial implications of commercial exchanges between caravans from sub-Saharan Africa and locals. If one excludes Jacques-Meunié's study (1947; 1982) on M'Hamid's role in trans-Saharan trade, the impact of this on the settlement's urban and architectural development remains largely unstudied. Similarly, while we know that the late 16<sup>th</sup> century witnessed the commercial monopoly of Jewish communities, the largest of which lived in M'Hamid (Jacques-Meunié, 1982:859-861), their location is yet to be ascertained.

Field ethnographic research is required to clarify how economic shifts, climate and socio-cultural change have impacted this place, pushing people to adapt to rapidly changing life ways. Documenting the daily routines of residents, both males and females across group ages, associated with traditional livelihood activities – from oasis agriculture to animal husbandry, from crafts to festive and religious rituals – and conducting in-depth interviews would help achieve this goal.

Finally, inventorying, photogrammetrically documenting and researching material culture items would allow to create accessible digital experiences of lesser known aspects of the local intangible heritage, with the aim to enhance awareness, knowledge and understanding amongst the wider public.

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# Thermal comfort and practicality: separate winter and summer rooms in Iranian traditional houses

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## 1 Introduction

Throughout the cities of central Iran (and especially in Yazd), the single central courtyard (one or sometimes two storey) is the commonest traditional dwelling type. It generally contains a symmetrical private central courtyard which is flanked by rooms and loggias on two, three or even four sides (Fig.1). It has an average area of around 404 m<sup>2</sup> (Foruzanmehr 2010, 33). The courtyard often has a small pool of water and beds of mixed planting around it. The rooms typically face onto the courtyard, and blank lofty walls are presented to the streets and spaces outside (Abbott 1977, 82; Vaziritabar 1990; Noghsan-Mohammadi 2003, 229).

## 2 Rooms and their seasonal use

A room, according to the Oxford dictionary (Brown 1993), is a portion of space within a building or other structure, enclosed by walls or partitions, floor and ceiling. It might be set aside for a specified purpose or serve multiple purposes.

A room (*otagh*) in a traditional Iranian house is a closed multi-purpose living space which provides for such needs as sitting, eating, sleeping, gathering and entertainment. The

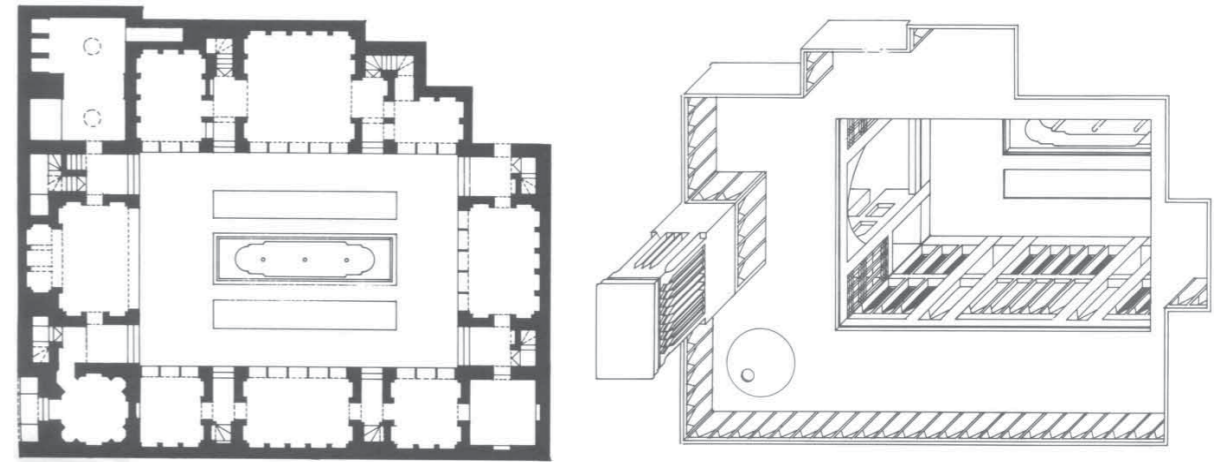


Fig. 1 Plan (left) and perspective (right) of a vernacular house in Yazd (not to scale).  
Source: Ghezlbash and Abolzia (1985).

multi-functionality of the room works well for extended families in traditional societies whose members require a variety of functions from their limited living spaces (Manzoor 1989). The rooms with floors covered basically with carpets and with almost no heavy furniture (Fardeheb 1987; Taghi 1990, 84) make it possible for these spaces to be used simultaneously or alternatively during the day and night, summer and winter, depending on the changes in the weather. Various factors, including size, climate and the demand of privacy and hospitality, might change the function of rooms (Memarian 1998, 124).

Rooms in vernacular central courtyard dwellings are located on two, three or four sides of a central courtyard. They are usually different in size and appearance, and traditionally were occupied and used based on their location according to the season. They are called different names consistent with the season in which they are occupied, and also in relation to their size (Noghsan-Mohammadi 2003, 158). Beds are not present. Instead, pallets and bedding are kept piled against the wall in one or more rooms during the day, and are brought in and spread when and where they are needed. For sitting, mattresses and cushions are used. Dining table or chairs are not present. The table cloth is laid with everyone sitting round on the floor (Vaziritabar 1990). Tin trunks, often of elaborate design, contain the family valuables. Niches, formed in the mud-plaster walls, contain knick-knacks, radio sets and oil lanterns, if electricity has not as yet been made available (Abbott 1977, 82).

Rooms are usually named after the number of their door-windows opening onto the courtyard

(Taghi 1990; Memarian 1998). A door-window is a kind of opening that serves as a window, and consists of double doors which open onto a courtyard (Fig.2). The most common rooms in vernacular Iranian courtyard houses are three-door rooms (*se-dari*), five-door rooms (*panj-dari*) and sash-window rooms (*ors'i*) (Memarian 1998). Seven-door rooms occasionally existed in some larger Yazdi houses.



Fig. 2 A door-window in a house, Yazd.  
Source: Photograph by the author.



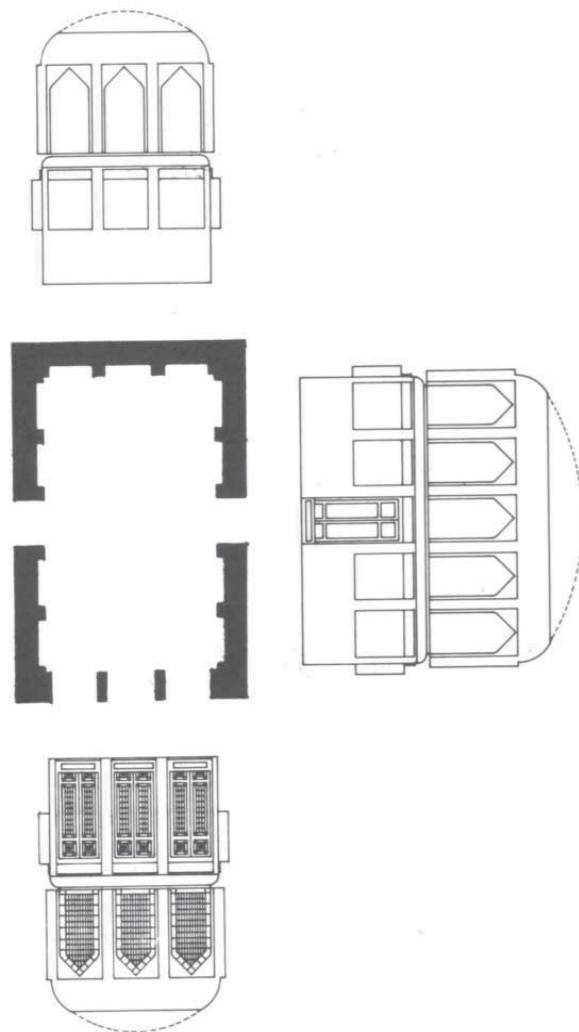


Fig.3 Plan and internal elevations of a three-door room in Yazd (not to scale).  
Source: Ghezelbash and Abolzia (1985).

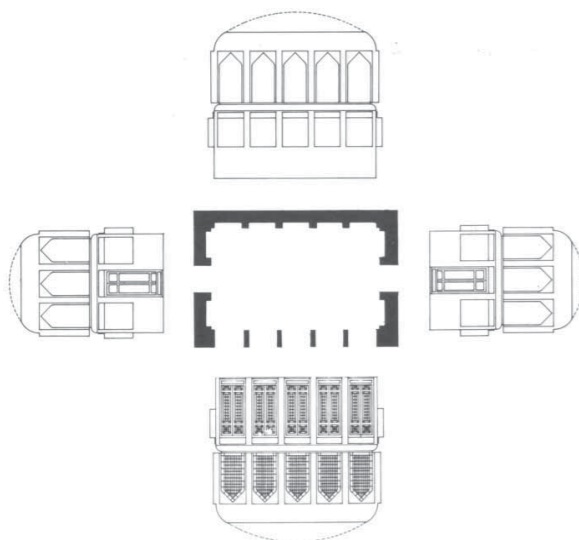


Fig.4 Plan and internal elevations of a five-door room in Yazd – (not to scale).  
Source: Ghezelbash and Abolzia (1985).

A three-door room functioned as a bedroom, a working room, a sitting room and especially in the evenings, as a guest room (Fig.3). In some small houses, three-door rooms were also used as reception rooms (Memarian 1998, 124). The small size of these rooms meant that they could be kept warmer at night in winter. The three-door rooms sometimes have a store room (pastoo) at the rear side specifically designed to hold cushions, mattresses and other sleeping stuff, something that supports the multi-functionality of these rooms (Memarian 1998, 127).

The function of a five-door room (Fig.4) differed according to its location within the house and the size of the traditional house. Generally, it was used as a guest room, a dining room or a family meeting room during the moderate seasons. Five-door rooms in small dwellings served as reception rooms, while in larger houses, they could be used as family living rooms (Kheirabadi 1991, 36).

Sash-windows were normally used for central rooms in large houses (Fig.5). The central room (also called sash-window room) is the large room that is the most centrally placed in the plan or façade. It is usually the largest room of the house, rectangular in plan, and can be placed with its long or narrow dimension adjacent to the courtyard (Memarian 1998, 124). It is usually intended to provide a direct view of the courtyard in any position.

Although a variety of rooms are usually available in a traditional central courtyard dwelling in terms of size, the choice of a living space is determined by the climate in hot dry regions at any particular time of the day or year (Von Hardenberg 1982; Fethi and Roaf 1986, 42; Schoenauer 2000, 148). The strongly contrasting seasons, such as that in Yazd, imply architecture of either contrasting and movable parts or movable functions (Cook 1997, 136). In this kind of climate, the inhabitants of a traditional house may shift their activities according to the seasons (Memarian 1998, 99), and opt for the seasonal use of rooms as one way of adapting to the desert environment (Bonine 2000). The majority of rooms are not designed for a specific function but for very specific internal climate (Fethi and Roaf 1986, 42).

Traditional Yazdi houses usually have a division between summer and winter quarters (Memarian 1998, 136). The northern and southern parts of the building are devoted to winter and summer



Fig.5 A sash-window in Yazd.  
Source: Photograph by the author

use, respectively (Madanipour 1998, 108; Memarian and Brown 2006, 24). Generally, rooms in a typical vernacular house are located on either the south side or the north side of the courtyard. Those rooms which are located in the south are more protected from solar radiation and receive more shade. They are called summer rooms, and the whole southern section of the house is called the summer quarter. The rooms on the north side of the house get most of the sun's heat, and are called winter rooms. Dwellers can migrate through the house when the seasons dictate. Major migration of the year in Iranian vernacular houses usually took place in October, from the north-facing summer quarter of the house to the south-facing rooms of the courtyard, and again between April and May back into the summer quarter and to the basement and roof (Fethi and Roaf 1986, 48; Memarian and Brown 2006, 25). The use of different areas of the house during different seasons has given rise to the term 'four-season houses' (Foruzanmehr 2006, 27) or 'year-

round houses' (Noghsan-Mohammadi 2003, 159).

Not only did dwellers migrate through the house during the year from north to south and back, but they also did likewise throughout the day. In summer they slept on the roof and spent the daytime moving around from the courtyard to the summer quarter to the basement, depending on the outdoor temperature. The family was traditionally in a continual motion around the house both horizontally and vertically, in search of an optimum climatic environment. This behavioural adjustment has been an essential adaptation to the hot climate by the traditional population. It has been possible because vernacular houses have a variety of spaces, and are also equipped with vernacular passive cooling systems (VPCSs) to optimize the internal environment in summer.

### 2.1 North-facing summer rooms

Located on the south side of the courtyard, the summer quarter (*tabestan-neshin*) faces north and away from the sun. This part of the house is also known as the *nisar*, meaning shady (Taghi 1990; Kheirabadi 1991). The summer quarter includes the following components: a loggia (*talar or eyvan*), one or more summer rooms (*otaghe tabestanneshin*), a wind catcher (*badgir*) and a room usually beneath the loggia (the room is called *zir-zamin-e talar* in Persian) (Kheirabadi 1991, 36).

Summer rooms are least exposed to the sun compared to the other rooms. In fact, exposure occurs only in the early and late hours of summer days when the angle of altitude is low and the angle is such that the sun's rays are almost tangential to the surface of the wall (Foruzanmehr 2006). Summer rooms have high ceilings. Their thick walls and roofs retard and reduce the transmission of heat. Heavy structures store and retain heat during the day and release it in the evening and at night (Bonine 2000). Hence, in the summer, summer rooms can be cooler than outside during the day and warmer in the evenings and at early night when the outdoor temperature has dropped (Foruzanmehr 2006). This characteristic is reflected in a traditional daily living: people stayed indoors during the summer days, especially in the mornings, but avoided the inside at night. Instead, they carried on various activities including resting and sleeping in semi-open spaces such as loggias or open spaces such



as courtyards or on the flat roofs of the house (Memarian 1998, 110; Bonine 2000).

## 2.2 South-facing winter rooms

Winter rooms (*zemestan-neshin*) are located on the north side of the courtyard, opposite the summer section and exposed to the winter sun. They are called *aftab-ru* (facing sun) or *aftab-gir* (sun catcher) in Persian (Kheirabadi 1991, 39). In many cities in Iran, such as in Yazd, winter rooms face southwest, following the general street orientation of the city, instead of facing directly south. This direction, incidentally, corresponds to the direction of Mecca (i.e. *ghebleh* or *qibla*) (Kheirabadi 1991, 39), and is also called *roone-raste* by some Iranian scholars (Pirnia 1999).

South-facing winter rooms are planned so that the low rays of the winter sun can shine through their windows. The sunshine passes through the glass of timber doors, and its heat is stored in mud brick walls which are about 70 cm thick (and also in the tiled or earthen floor). The heat is released gradually within 7–9 hours to keep the family warm when the sun moves on (Beazley and Harverson 1982). Winter rooms have lower ceilings compared to summer rooms to help warm the rooms more easily and quickly. In very cold winters, the sun's energy is not sufficient, and extra energy needs to be used to warm up the winter rooms. In order to reduce the energy consumption on winter nights, a smaller place for sitting and sleeping is heated instead of warming the whole winter room. This small place is known as a *Korsi*.

A *Korsi* is a small table (short legged, about 60 cm high) completely covered with a heavy and large quilt, with a container full of burning charcoal placed below it. The *korsi* was traditionally surrounded by mats with cushioned backrests. It acted as a focal point for the family in the winter (Taghi 1990, 84). It was the best place for a family to sit and enjoy a comfortable, warm environment where they could talk and communicate with each other. The *Korsi* is a good example for reducing the energy consumption by limiting the space to be warmed (Foruzanmehr 2006).

## 2.3 East-facing and west-facing rooms

In addition to the north- and south-facing rooms, there may also be rooms located on the east or west side of the courtyard, used as kitchen, storage and stable areas or as regular living areas in various seasons (Kheirabadi 1991, 39).

The east-facing facade faces the sun's rays only from sunrise to noon. It cools down considerably by the evening, making this exposure more suitable for bedrooms. The west-facing facade is exposed to the sun after noon. According to Fathy (1986), a room with a facade opening to the west is generally the worst case encountered, owing to the heat gain of the surrounding environment during the day and the angle of the sun's altitude, which allows the sun's rays to penetrate into the interior. Therefore, rooms on this side are sometimes replaced by a blank wall.

## 3 Gap in knowledge

Roaf (1988) plotted the temperature simultaneously in a number of rooms in vernacular houses on the Persian Plateau against time of the day. She found that different rooms had quite different thermal environments, and the occupants were chasing the best living conditions between a number of alternative environments presented by the different rooms of the house. She also found that the strategy of the occupants of the building in moving from one room to other at different times of the day was, to large extent, decided by the thermal profile of each of the spaces concerned (Nicol 2008).

However, to date in Iran, there has been a lack of research and empirical studies that measure the residents' satisfaction with this traditional change of living spaces. Apart from a limited number of research projects – for example, the works carried out by Foruzanmehr (2010, 2012) and Foruzanmehr and Vellinga (2011) – there is a lack of published research on the practical issues vernacular houses are having with regard to the provision of thermal comfort. In particular, there is a lack of understanding on how suitable, practicable and acceptable it would be to have separate seasonal living spaces in order to deal with the climate. This research aims to bridge this gap of knowledge.

## 4 Methodology – thermal comfort survey

In the summer of 2008, 360 self-completion questionnaires were administered to the 3 sample groups in the city of Yazd, Iran. The first sample was composed of the inhabitants of a traditional neighbourhood (*Fahadan*), who were living in vernacular houses and were thus the actual users of VPCSs including seasonal rooms. The second and third sample groups consisted of inhabitants of a non-traditional neighbourhood (*Safaiyeh*) who were living in non-traditional

Table 1. Response rate of the questionnaire survey.

Sample	One	Two	Three	Total
Distributed	120	120	120	360
Collected	70	80	48	198
Response rate (%)	58	66.7	40	55

houses or blocks of flats, respectively (which did not have traditional seasonal rooms). These two samples thus constituted the potential users of VPCSs. Living in the same city, the inhabitants of non-traditional dwellings were very likely to know about the traditional use of seasonal rooms. They could have either lived in traditional buildings themselves, or had some relatives, friends or acquaintances living in them. Their views on the positive and negative aspects of seasonal rooms could be interestingly different from or similar to that of the first group. Furthermore, they can be the potential users of seasonal rooms if this passive cooling/heating method is to be integrated in the design of new and non-traditional houses. Therefore, their opinions were significantly important in this research.

Out of a total of 360 questionnaires distributed, 198 were collected from 3 samples in the survey, showing a response rate of 55% (Table 1).

In order to explore the findings in further detail, the questionnaires were followed by in-depth semi-structured interviews with 12 of the questionnaire respondents and 12 local experts (i.e. architects, academics, professional builders and local authorities). In addition, spatial patterns, architectural design and elements and levels of use and maintenance were observed, recorded and documented throughout the fieldwork period in the form of photographs, plans, drawings and written notes.

## 5 Results and discussions

### 5.1 Existence of VPCSs in traditional houses

Respondents in sample one (residents of the traditional neighbourhood) were asked which of the VPCSs (i.e. basements, thick walls, central courtyards, separate seasonal rooms, loggias and wind catchers) existed in their houses. Table 2 ranks these VPCSs according to the number of respondents in sample one who claimed to have them in their houses.

As can be seen, of the respondents in this sample, around 70% claimed that they had distinct seasonal rooms; about half mentioned

Table 2. Ranking of VPCSs according to the percentage of the respondents who had them in their houses in sample one.

VPCSs	Percentage of the respondents who claimed they had the system (%)
1 Basements	97
2 Thick walls	94
3 Central courtyards	91
4 <b>Distinct seasonal rooms</b>	<b>69</b>
5 Loggias	51
6 Wind catchers	40

Table 3. VPCSs and the percentage of the respondents who were familiar with these systems in samples two and three.

VPCSs	Percentage of the respondents who claimed they were familiar with the system (%)	
	Sample 2	Sample 3
1 Wind catchers	81	77
2 Central courtyards	75	65
3 Basements	73	71
4 Loggias	66	54
5 Thick walls	62	63
6 <b>Distinct seasonal rooms</b>	<b>61</b>	<b>48</b>

Table 4. The popularity of vernacular cooling systems.

Cooling system/method	Percentage of the respondents who claimed they would use the system (%)
1 Central courtyards	34.8
2 <b>Distinct seasonal rooms</b>	<b>19</b>
3 Wind catchers	17
4 Basements	8
5 Loggias	8
6 Thick mud-brick walls	0

they had loggias, and only 40% said they had wind catchers in their dwellings. Basements, thick walls and central courtyards existed in the houses of more than 90% of the respondents in this sample, suggesting that these passive cooling systems were integrated elements of traditional houses in Yazd.

### 5.2 Familiarity of the residents of non-traditional houses with VPCSs

Respondents in samples two and three were asked if they were familiar with the VPCSs including basements, thick walls, central courtyards, separate seasonal rooms, loggias and wind catchers. Table 3 shows these VPCSs and the associated percentage of the respondents who claimed they were familiar with them in each sample.



In samples two and three, wind catchers were found to be the most familiar VPCS with the highest proportion of the respondents being acquainted with them. The least known VPCS was found to be 'Distinct seasonal rooms', with which, however, at least more than half of the respondents were acquainted.

### 5.3 Popularity of VPCSs

In order to find out the most popular vernacular cooling system, respondents in all three samples were asked if they were to choose only one VPCS (or method) what would be their choice. Analysis of the responses showed that among the six main proposed elements (i.e. wind catchers, central courtyards, basements, loggias, distinct seasonal rooms and thick walls), courtyards were the most favoured. In all, 34.8% of the respondents voted for courtyards. Distinct seasonal rooms and wind catchers were voted for by 19% and 17% of the respondents, respectively. In all, 8% of the respondents voted for basements and loggias, whereas no one selected thick (mud brick) walls. Table 4 summarizes and ranks different vernacular cooling systems according to the percentage of the respondents who claimed they would choose the system.

### 5.4 Moving around the house to deal with indoor heat and cold

The findings show that about 27% of the respondents of the three samples dealt with the indoor heat in their houses by moving to cooler spaces in the house. Results show that 49% in sample one, 14% in sample two and 16% in sample three used this method for cooling themselves in hot seasons. By making a comparison between the three samples, it can be seen that respondents in traditional dwellings move around their houses much more than those living in non-traditional buildings to achieve comfort. This may confirm the notion that traditional buildings provide a variety of thermal environments and that occupants find the most comfortable condition by moving from one space to another (Von Hardenberg 1982; Fethi and Roaf 1986, 49; Roaf 1988, 207; Cook 1997, 136; Madanipour 1998; Memarian 1998, 99; Bonine 2000; Schoenauer 2000, 148; Noghsan-Mohammadi 2003, 159; Foruzanmehr 2006, 27; Nicol 2008). It also suggests that the residents of traditional dwellings are aware that their houses provide them with different temperatures, and they have the possibility to move around in their

houses.

Furthermore, the survey shows that 22% of the respondents dealt with cold temperature inside their homes by moving to warmer spaces in the house. In all, 51% of the people in sample one moved to winter rooms in cold seasons. This indicates that the tradition of the seasonal use of rooms in the vernacular house as a way of adapting to cold weather (in search of a better thermal condition) still exists in some of the vernacular houses in the surveyed traditional neighbourhood, confirming the statements previously claimed by many scholars such as Roaf (1988, 207), Foruzanmehr (2006, 27), Noghsan-Mohammadi (2003, 159), Fethi and Roaf (1986, 49), Cook (1997, 136), Memarian (1998, 99), Bonine (2000), Madanipour (1998), Nicol (2008), Von Hardenberg (1982) and Schoenauer (2000, 148).

### 5.5 Respondents' liking for having distinct seasonal rooms

Using an optional yes-or-no question, the questionnaire respondents were asked whether or not they liked distinct seasonal rooms (separate summer and winter rooms). Table 5 demonstrates the number and percentage of 'yes', 'no' and blank answers to this question, where (F) is the frequency of answers and (%) is the percentage.

As can be seen from the table, in the whole sample 55.1% of the respondents did like and 29.3% did not like to have 'distinct seasonal rooms' in their houses, and 15.7% did not answer the question.

Figures in Table 5 reveal that moving from sample one to sample two and then three, the proportion of the respondents in favour of having distinct seasonal rooms decreases from 68.6% to 51.3% and then 41.7%, respectively, whereas the percentage of the votes against the idea of 'having distinct seasonal rooms' increases from 14.3% (in sample one) to 31.3% (sample two) and 47.9% (sample three).

These figures show that in sample one, having distinct seasonal rooms is favoured by the majority of the respondents, whereas in sample three, the number of people who did not like to have distinct seasonal rooms exceeds the number of those who did so. This is probably because of the fact that the provision of separate summer and winter quarters is highly unlikely in flats whose residents might not have the

Table 5. Responses to the question: 'Do you like to have distinct seasonal rooms?'

	Whole sample		Traditional		Non-traditional			
			Sample 1		Sample 2		Sample 3	
	F	%	Central Courtyard Houses		New Courtyard Houses		Flats	
Yes	109	55.1	48	68.6	41	51.3	20	41.7
No	58	29.3	10	14.3	25	31.3	23	47.9
Blank	31	15.7	12	17.1	14	17.5	5	10.4
Total	198	100	70	100	80	100	48	100

opportunity to experience the pleasure (or displeasure) of having 'distinct seasonal rooms'.

### 5.6 The main positive and negative points about having distinct seasonal rooms

The research has so far identified the users' perceptions of having separate seasonal rooms and a multiplicity of negative and positive factors attributed to it. The next section explains the outcomes of the thermal comfort and temperature variation surveys to find out the extent to which the existence of seasonal rooms can contribute to the provision of comfort in the house.

## 6 Conclusions

A variety of rooms is usually available in a traditional central courtyard dwelling in terms of size. However, the choice of a living space was traditionally determined by the thermal profile of that space at any particular time of the day or year. Different rooms in vernacular houses present different thermal environments to the occupants who can select the most comfortable condition by moving from one room to another. The findings also indicate that the tradition of seasonal use of rooms still exist in some vernacular houses in Yazd.

The paper has identified a variety of positive and negative factors attributed to the existence and use of distinct seasonal rooms in the house. Positive factors include a better adaptation to the climate, energy saving and giving a sense of change and renewal. Negative aspects and drawbacks consist of difficult seasonal moving, low space efficiency, high cost, limited usability and difficult access. The study shows that the seasonal migration within the traditional house is perceived to be inconvenient and uneconomic. The use of 'distinct seasonal rooms' has, therefore, been designed out of non-traditional houses, also because these buildings are now

equipped with (and increasingly reliant on) mechanical cooling and ventilation systems. Consequently, the residents would not need to move their living spaces in search of comfortable internal conditions. This has made them solely dependent on electricity in order to create the desired thermal comfort levels in their dwellings in hot periods. This dependency has put them in a potential vulnerability to the changing climate. This vulnerability is, to a great extent, the consequence of loss of knowledge on methods of natural adaptation to the local climate and loss of vernacular passive cooling features within modern architecture.

By removing the identified drawbacks, the traditional concept of 'having different rooms for different climatic conditions', and the way in which people have traditionally viewed the room in relation to the climate, can create a valuable alternative for future habitat planning in these areas. Perhaps the time has now arrived to rethink the balance between the space efficiency and energy efficiency in architectural designs. At the time of energy crisis, the increase in the size of the dwelling to allow for extra rooms (or spaces), or the design of flexible spaces with moveable rooms and components can seriously be considered as a means to achieve the required comfort in a harsh climate. In so doing, the space and its flexibility can compensate for energy to provide comfortable indoor environments.

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There were some minor modifications during the republication of this paper.



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Conservation and protection administration of cultural heritage: inventories on regional built heritage, cultural landscapes and modern architecture, regional conservation policies on heritage and their operational tools (subsidies, registers, etc.) 1982 - 2017;

Writing and lecturing on conservation and heritage since 1980s;

Conservation consultant for site owners and heritage administration since 1980s;

Elected positions in boards of heritage organisations in Finland and in ICOMOS incl. CIAV, since 1980s;

Participant in ICOMOS' work for World Heritage properties since 1998.

### ARTICLES AND LECTURES

Finding Form in Finnish. In Building Design 1988.

Vernacular Architecture. In Monuments and Sites Finland 1999.

Birch-bark Traditions. In Conservation and Revitalization of Vernacular Architecture 1997.

Conservation Doctrine and ICOMOS. In Tallinn As a World Heritage Site 1998.

Reviving Redundant Farm Houses. In Vernacular Architectural Heritage 1999.

Vernacular Sustainability. ICOMOS Japan Matsuyama 2004.

Views to a castle, a castle street and a castle town. ICOMOS CIAV Xi'an 2005.

Peasant Houses of Eastern Finland. Gävle 2009.

Values, Monitoring and EoH. Suzhou 2011

Shared urban heritage and its conservation. In Common Heritage, the multicultural heritage of Vyborg and its preservation. Helsinki 2015.

Log Structures and Falu Red of the Finnish Vernacular. In Habitat Vernacular Architecture for a Changing Planet. London 2017.

Good ways to Listen to People. In Kulttuuriperintö on meidän. Forssa 2018.

### Projects

#### Meidän miljöö (Engl. Our Milieu, 1987 – 1989)

On the initiative of regional arts councils of Eastern Finland, preparation and publishing a book on the essential features and traditions of built heritage and architecture in Eastern Finland, together with photographer Leena Saraste. Since then, the book is in use in education and training for students and citizens.



Meidän miljöö (Engl. Our Milieu, 1987 – 1989)

#### Venevajat ja rantamakasiinit (Engl. Boat Houses, 2022)

Contribution with articles to a publication of a regional rural association, on bringing into daylight the threatened built vernacular heritage and its traditions on the lakeshores of South Savo, Finland.



Venevajat ja rantamakasiinit (Engl. Boat Houses, 2022)



## New Member

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### WORKSHOPS & TRAININGS

2023: Heritage and Sustainable Development in Africa, ICCROM [online].

Responding to the Climate Emergency: Lessons from the Global South: The physical elements of vernacular architecture, and their relationship to the prevailing climate, Historic England with Climate Heritage Network [online].

Digital Technologies for Visitor Engagement with Cultural Heritage, ICOMOS UK [online].

Earthen Architecture for and by Communities and Understanding Practices and Rethinking Earthen Architecture for Community Development, ICCROM [online].

Information Data Management and Cultural Heritage, ICCROM [online].

2022: Living Heritage and Sustainable Development MOOC, UNESCO [online].

2017: Research Team Leader Programme 2017, University of Liverpool, UK.

2016: Re-Enchanting the City: Designing the Human Habitat MOOC, University of New South Wales, Sydney, Australia [online].

2015: Methods and techniques of architectural restoration. Cases and examples and Contemporary architecture restoration. Experiences in comparison, OAPPC Venezia, Italy [online].

2011: Building Conservation Summer School, RICS Royal Institute of Chartered Surveyors, SPAB Society for the Protection of Ancient Buildings, Cirencester (UK).

### CONFERENCE PRESENTATIONS

2021: Towards a Global Agenda for Humanitarian Heritage Conference, Heritage Borders of Engagement Network (ENGAGE) [online].

2019: Gulf Architecture Project Conference, University of Liverpool and Qatar National Library, Doha.

The Architecture of Migration Symposium, School of Architecture De Monfort University, Leicester, UK.

2018: 2018 INTBAU World Congress "Everything Old is New Again", Royal Society of Arts, London, UK.

Urban Renewal of Heritage Cities Conference, University of Liverpool and Mysore School of Architecture, Bangalore, India.

Traditional Gulf Architecture Week, Qatar National Library, Doha (Qatar).

2012: Heritage 2012, 3rd International Conference on Heritage and Sustainable Development, Green Lines Institute for Sustainable Development, Porto, Portugal.

### Experience

Since 2003 I have worked as an academic in various roles in Italy, Australia and UK, developing extensive research and teaching experience in architectural technology and design, heritage management and adaptive reuse, Arabian and North African vernacular architecture.

I am founding member and co-director of University of Liverpool's ArCHIAM Centre (Architecture and Cultural Heritage of India, Arabia and the Maghreb), Digital Heritage Sub-Theme Lead, and School of the Arts Impact Lead.

I serve on the Scientific Committee of the Journal of Traditional Building, Architecture and Urbanism, INTBAU Spain.

I am a registered architect with design, surveying and construction supervision experience.



## Projects

**Supporting the integrated and sustainable management of historical oasis landscapes in North Africa (2022/2024); Funder: World Bank; Role: Consultant to A.R.S. Progetti S.P.A.**

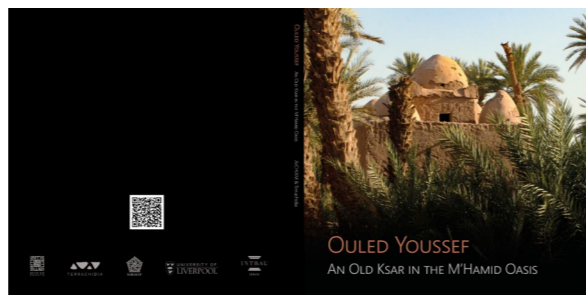
Developing and populating an integrated web-based knowledge sharing platform which will provide the governments of Tunisia, Morocco and Egypt an easy-to-use access point to the latest data and knowledge, best governance practices, approaches and tools for the integrated and sustainable oasis landscape management, and will support policy dialogue and knowledge-sharing at the national and regional level.



Encroachment of sand dunes upon palm tree groves in M'Hamid Oasis, Morocco, ©ArCHIAM 2019.

**M'Hamid Oasis, Morocco: Supporting Heritage Resilience through Documentation, Capacity Building and Awareness Raising (2022/2023); Funder: University of Liverpool; Role: Principal Investigator**

Supporting heritage resilience in the M'Hamid Oasis, Morocco, whose vernacular architecture and material knowledge are threatened by socio-economic and cultural change, desertion and desertification, as well as by a lack of intergenerational knowledge transfer, by generating awareness of its historical significance, heritage richness and struggle for survival, and building capacity in documentation and restoration of earthen architecture.



Cover of the book *Ouled Youssef: An Old Ksar in the M'Hamid Oasis* by Colmenares Fernández, M., Domínguez Martínez O., García Hermida, A., Gómez-Gordo R., Moreno Adán, C., Osés S., Peña López R., Quattrone, G., ©ArCHIAM & Terrachidia 2021.

**Harat al-Bilad, Manah: A Virtual Exhibition (2020/2023); Funder: University of Liverpool; Role: Co-Investigator**

Enhancing knowledge of Harat al-Bilad, Manah (Oman), highlighting its importance in the Sultanate's history, urban, architectural and artistic development, and presenting the settlement's vernacular fabric and material culture in the context of its tribal social history through a website including navigable museum galleries, posts, a film and a repository of photogrammetrically digitised artefacts supported by metadata.



3D photogrammetric model of Harat al-Bilad's key sites, ©ArCHIAM 2022.

**Al-Hamra: Misfat Al-'Abriyin. Tourism Development Plan. Muscat: Ministry of Tourism, Oman (2014/2015); Funder: Ministry of Tourism Oman; Role: Co-Investigator**

Developing a detailed, heritage-led strategy and masterplan for the oasis settlement of Misfat Al-'Abriyin, which integrate sustainable tourism development with heritage preservation through active involvement of private and public stakeholders by promoting self-sustained economic growth, enhancing social and cultural value systems, improving and diversifying the tourism experience, with a combined focus on natural and cultural heritage.



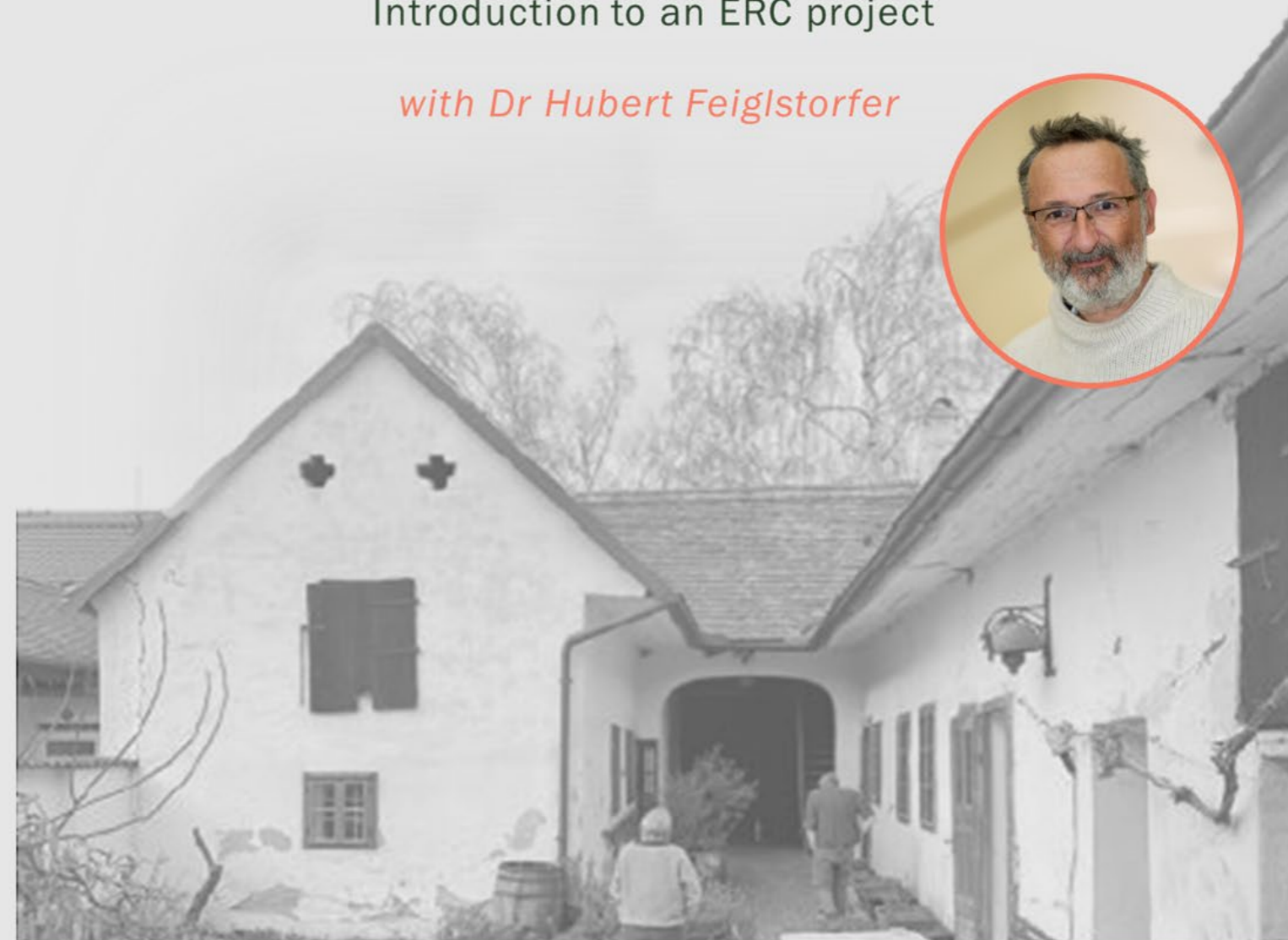
Master plan zoning, Misfat Al-'Abriyin, Oman, ©ArCHIAM 2016.

**ICOMOS**  
CIAV  
international council on monuments and sites

## CIAV web café series

**Climate and Contemporary Transformations of Vernacular Architecture**  
Introduction to an ERC project

with Dr Hubert Feiglstorfer



Saturday, September 23, 2023

14:00- 15:00 CET

Zoom link: <https://mau-se.zoom.us/j/65644590136>