UNESCO
SUSTAINABILITY & HISTORIC CITIES

Energy Performance and Indoor Comfort in Historic Buildings

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RCV ARCHITECTS

Agenda

1.0 Introduction
2.0 Local Distinctiveness
3.0 Conclusion & Way Forward

1. Introduction

The importance of historic reference - The starting point of Integrity and Origin

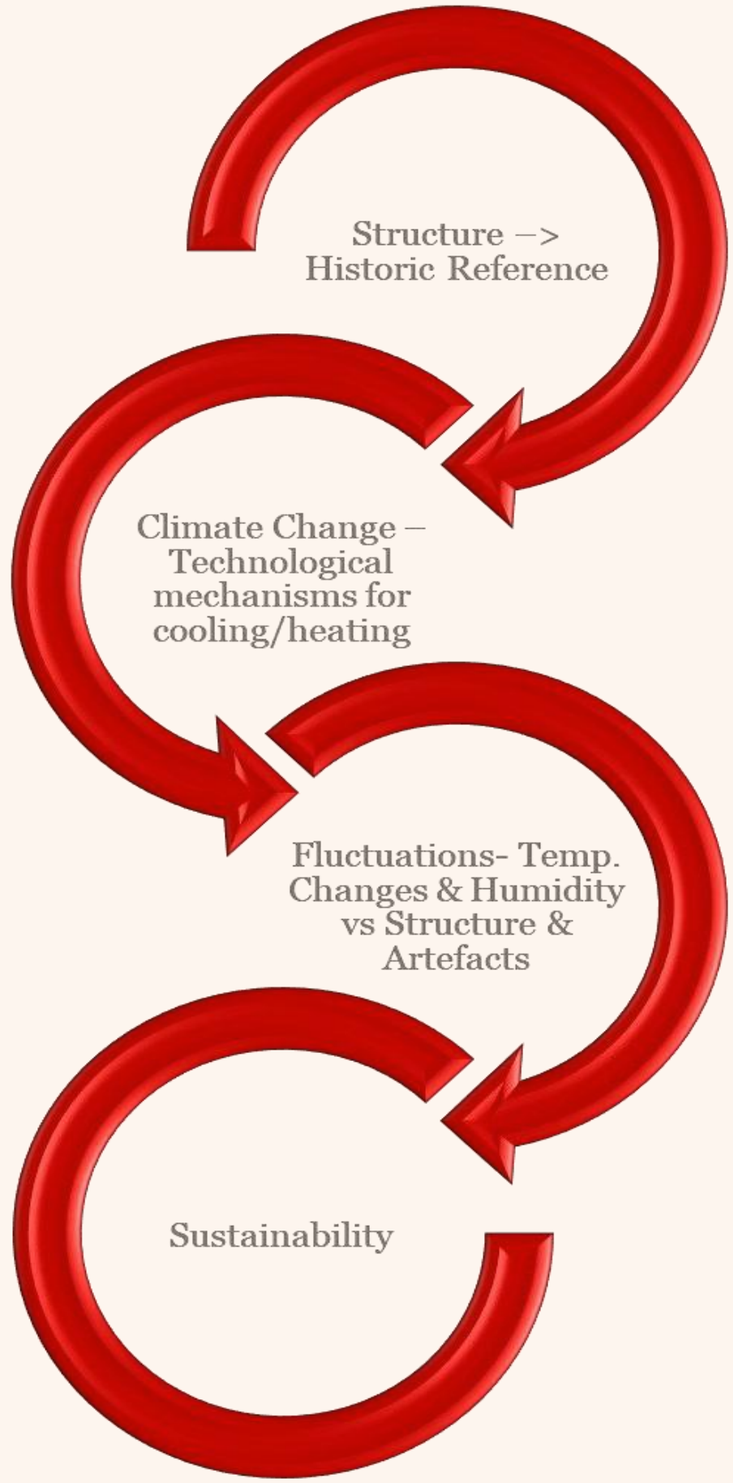
The Knights of St. John (1530-1798) The French Occupation (1798-1800) The British Period (1800-1964) Independent Malta (1964-to date)

Historic reference aid to ***reveal information*** on the sustainability of Historic Buildings since their ***origin*** is attributed to the ***different periods of time under which Malta was colonised***, resulting in structures having unique characteristics pertaining to the era in question.

Integrity of the structure include; ***building materials and construction methodologies***, all providing insight to address challenges and opportunities for enhanced efficiency and comfort.

Indoor comfort with particular consideration to preservation of artefacts

which are being challenged and threatened by Climate Change and resulting contemporary interventions due to unwarranted fluctuations.



2. Local Distinctiveness

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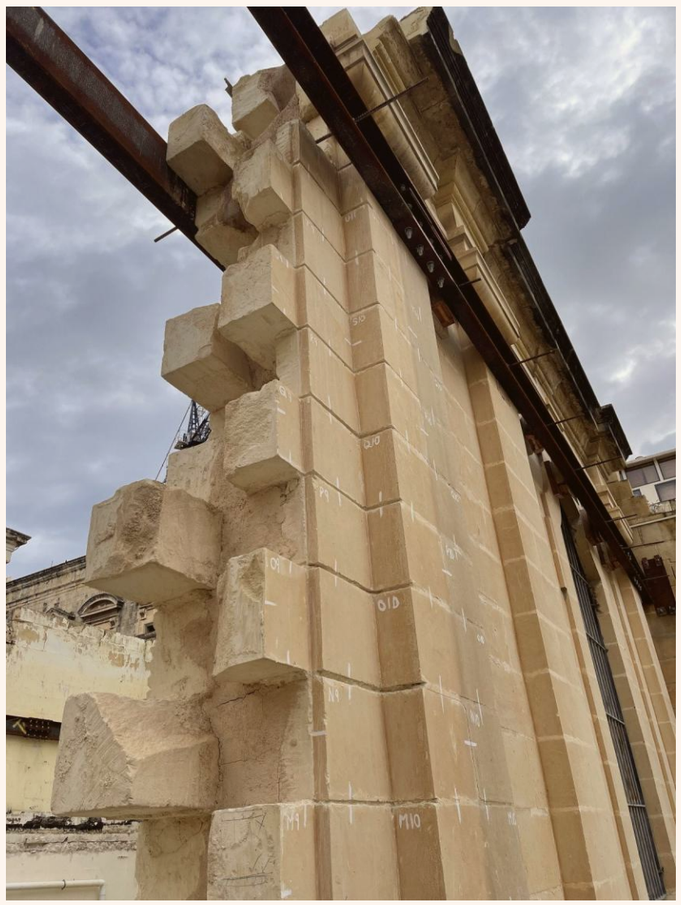
02. **Local Distinctiveness**



MATERIAL AND RESOURCE SUSTAINABILITY

Photographs by author *RCV (2018).*

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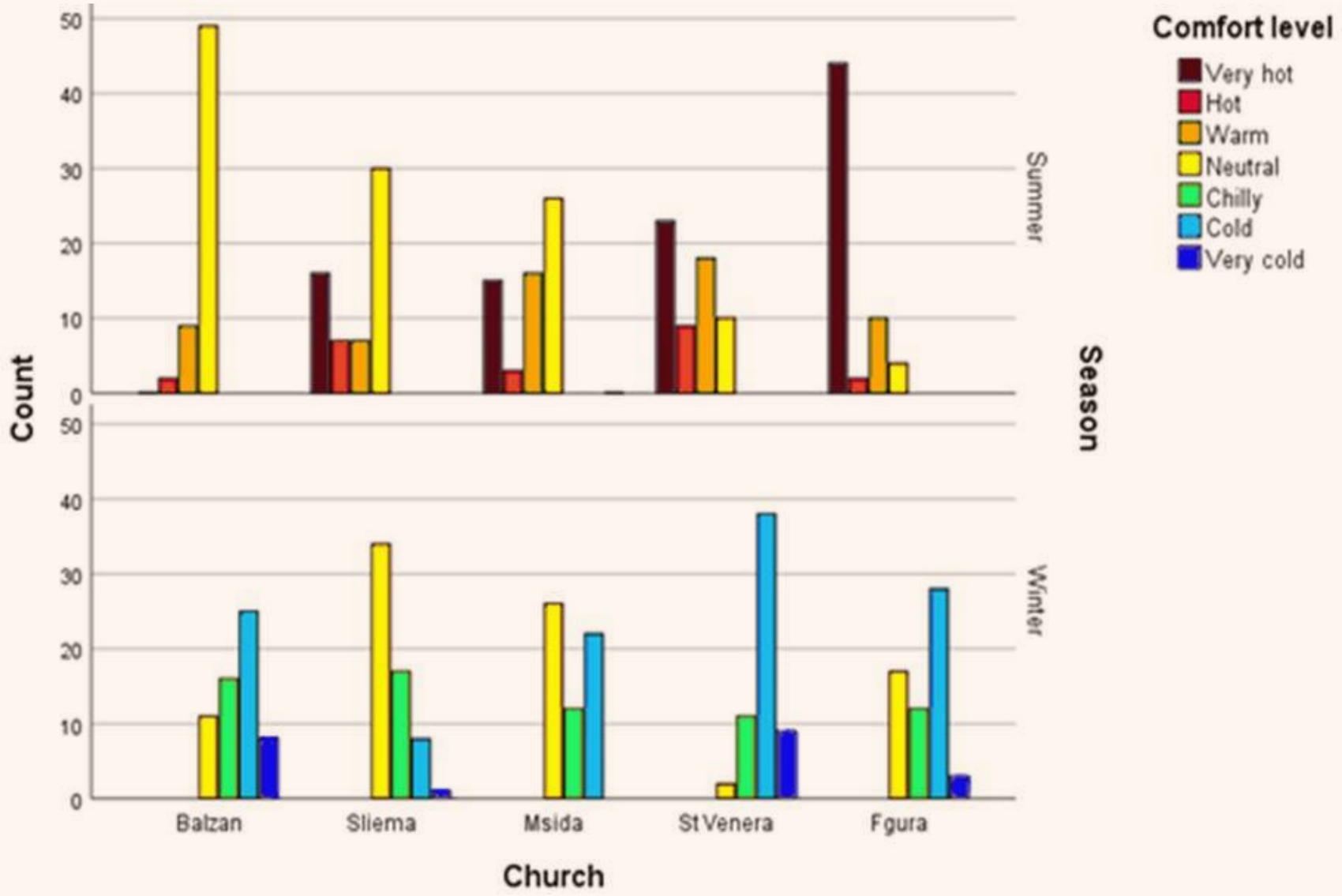


Bar graph representing different comfort levels in the different parish churches in summer and winter.

Case Study - Fluctuations

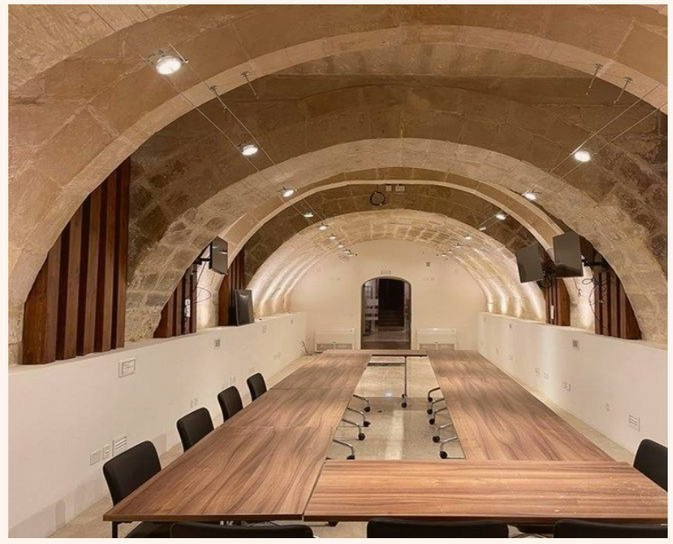
Effect

BALZAN PARISH CHURCH

Detail of part of the falling painting depicting the Plan of Salvation by Chevalier Emvin Cremona in 1977. Courtesy of the Balzan Heritage Commission 2006.

Right Bottom: Restored picture of the dome painting in the Rosary lateral chapel of Balzan Parish Church. Photographs by author *RCV (2018).*

02. **Local Distinctiveness**



Case Study - Natural

Ventilation

PALAZZO PARISIO

PROJECT , VALLETTA

Early 18th century Grade 1 scheduled building for its prestigious historical significance and its Baroque aesthetic and architectural importance. Photographs by author *RCV (2018).*

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3. Conclusion & Way Forward

Conclusion

Though it is becoming the norm were low-cost, low-energy, passive solutions for naturally ventilated historical buildings become side-lined in the quest for a single engineering solution, this is not sustainable.

Way forward for Sustainable Historic Cities

- Implementing solar control measures alleviate heat discomfort.
- Thermal management strategies improve the thermal performance of the building envelope.
- The heritage building typology can preserve balanced environmental conditions for artefacts while achieving indoor occupant comfort criteria through passive and hybrid techniques.

Thank you

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