

## REPAIR Good Practice Example: Zejtun, Malta, renovation of historic house



***It is generally believed by many heritage protection specialists and authorities that energy efficient solutions, renewable energy and environmentally sound installations do not fit historic buildings.***

*In this house in Zejtun, Malta, many such solutions: Photovoltaic panels, solar water heater, passive solar energy, and water management were implemented.*

Maltese heritage consultancy, Heritage Enterprise, defies that view by introducing modern solutions in historic buildings without compromising requirements for heritage protection.

Built in c.1740, the property has been used for many years as a form of secure storage area for goods. Evidence through graffiti depicting galleys in action show that for a period the house was possibly used for military storage and as most houses in the area built against the threat of attack from the sea. Security measures were undertaken with the installation of metal grills and lock up doors. The property has also been used to house animals till the early 20th century.

Through communication with our direct community various families lived within this property during the 20th century. The front rooms were also used as two separate shops. The house was left derelict for over 25 years, the last resident living with the basics of sanitation. We purchased the property in 2008.

Although authenticity was conserved through minimum intervention technology was adopted to better living



space. The cellar, which has been adopted into a study/studio, is used for acclimatizing the rest of the house. Cool in summer and warm in winter the old ventilation shafts were reopened and through convection and mechanical means warm and cool currents are carried to the centre of the house. The dehumidifiers, which produce water, are used for filling the well, watering plants, washing floors etc. Ventilation is promoted through the design of the new extension. The whole compensates and promotes further energy efficiency doing away with mechanical air conditioning and exploiting the house micro-climatic conditions fully.

For example we have two dehumidifiers within the basement that produces more water during the summer then within the water, this is due to the building material absorbing more water from the winter months but releasing it during the summer months. This water is used for filling the well, watering plants, washing floors etc. Ventilation is promoted through the design of the new extension as well as the old building working in together to create a vacuum of recycled air.

The basic concept behind the project was green restoration. The minimum intervention regime, the use of lime based mortars and 'home-made' lime washes and the use of technology was directed at authenticity and integrity with a focus on energy-efficiency and renewable energy sources.



*However the main objective in the restoration project was to address EE and RES but with technology as an aid to established traditional microclimates in the local vernacular, which concepts are often overlooked. Provide a quasi self-sufficient cell and contribute to reduce the carbon footprint.*

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