Utopian Palestine

A Future Sustainable Hub

By Georgina and Rafael Abboud

As the world's population grows, architects of this generation should alter the concept of design to wisely accommodate this growth. Our vision should focus on increasing efforts to introduce new self-sufficient, eco-friendly buildings that can serve various needs. Ecological architects are desperately working to create viable building designs that can function in the near future as machines or industries to generate energy from all available environmental sources: sun, wind, and water.

Solutions and smart designs must be available for future cities and buildings in every climate type, given the impact of climate and other natural factors. Designing sustainable and eco-friendly structures does not always have to be "complicated" or "expensive." There are many ways to achieve ecologically sound and sustainable structures, whether through the materials used in construction, the construction process itself, or even the function of the building.

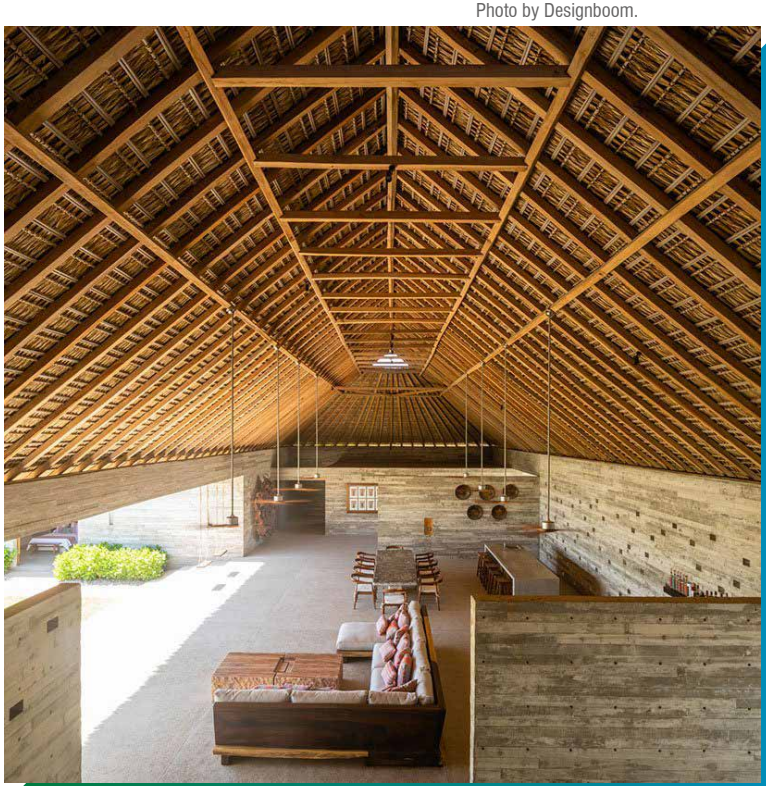
Some principles of sustainable and ecological architecture can be characterized by simply taking care of the environment around us, saving energy, and being efficient in every action we take. We are seeing more sustainable architectural projects being implemented worldwide to address the consequences of climate change and to lower carbon emission. Architects are working on more efficient and environmentally friendly designs through the use of materials, space, and energy in moderation, without harming the environment. The same must be done in Palestine.

Palestine's climate offers great variety and beauty – from forests to deserts, salty seas, and subtropical beaches – each and every environment is unique. Our land provides us with many resources that we can benefit from when it comes to building ecologically. We need to cooperate with the surrounding nature to give character to every building design and to allow its story to be told – the story of passion for a land that dates back millions of years. Geography and architecture (exterior and interior) must intertwine. Advanced ecological soundness does not mean high technology but rather simplicity. We need to give back to nature what it really deserves, starting today, right now.

Environmentally friendly structures in Palestine can have great advantages, namely, energy efficiency and a healthy environment, among others. Using locally sourced materials might help reduce carbon emission. Buildings in Jericho, for example, can use mud, rammed-earth walls, dried

Ecological design does not have to be "complicated" or "expensive," regardless of the challenges that come with designing sustainable and eco-friendly buildings. Let's build a better future for ourselves and our children; nature will thank us! #PALIstainable2040

Example of dried palm leaves on ceiling. Photo by Designboom.



Example of a roof garden. Photo by the American Society of Landscape Architects.

palm leaves, sheep wool, and other locally available materials to ensure sustainability, thus benefiting the local economy and creating more jobs. Dried palm leaves can be used to clad roofs, and sheep wool can be used as thermal insulation.

Governments should mandate the exclusive use of construction materials that do not emit ozone-depleting substances, have low to no inherent toxicity, have low embodied energy, and have minimal overall environmental impact.

Buildings that are designed for countries with hot climates, such as Palestine, should generate energy from the sun. Photovoltaic panels – in other words, solar panels – are a great example of how a building can be self-sufficient. Producing power with a solar system is an energy-saving measure that will help the environment and also reduce the monthly electricity bills of Palestinian families.

An alternate way of preserving energy in the built environment is through benefiting from old Palestinian buildings. In the Old City of Jerusalem, for example, there are many old homes. Some are not in great condition for various reasons. Through a process of rethinking the interior spaces, they can be reused to their best possible potential. Designers need to emphasize the importance of using recycled and reclaimed materials, reusing old furniture, and eliminating unnecessary items. One could argue that by doing so, we would limit our designs and ideas. On the contrary, we are thinking outside the box, especially when we find a meeting point between highlighting the beautiful story of a building while still being able to integrate modern interior design. By reusing a large percentage of the existing building and carefully dismantling the old sections, we not only reduce material and construction waste and maximize energy efficiency, we relive a beautiful story from the past and showcase the simplicity of past generations.

Architecture can serve to enhance quality of life even as it reduces negative environmental impact. This can be done by implementing green and sustainable measures and design techniques when building a residential or commercial project. First, through the use of a durable and efficient building envelope. Again, let's take a building in Jericho for example. The average temperature in the city of Jericho can reach 45°C in the summer, and 26°C in winter. Stone facades will help to increase the thermal mass of the building while giving it a cooler interior. A water improvement system and low-flow plumbing systems can also be used. This would allow the users to save water and only use it as needed. Another design technique might be as easy as using drought-tolerant plants, such as lavender, sage, thyme, cactus, and succulents, to decorate the landscape. This is an efficient way to create a beautiful landscape without the need for excessive amounts of water for irrigation.

Integrating greenery and plants as part of the design is another way to promote a healthier environment in ecological buildings. Buildings in Jerusalem lack green spaces. The empty roofs of buildings are used to collect junk. We need to transform these wasted areas to create biodiversity in our city. Green roofs can be used to generate organic produce, store rainwater to be used for irrigation in the drought months of the year, and even use it to generate power. Green roofs will help purify air and regulate indoor temperatures, especially in densely populated Palestinian neighborhoods.

There are always advantages to building sustainably, but there are also challenges in constructing green buildings. Our research has found that one of the main reasons sustainable buildings are not common practice in Palestine is that there is not enough information provided to support a fully functional construction system. The various local organizations and entities involved in architecture and building codes in Palestine lack the information needed to promote green building requirements and guidelines. This itself is an obstacle that many local and international architects have to live with, despite their interest in and passion for building an ecological future.

The empty roofs of the houses in the Old Clity of Jerusalem. Photo by Welcome to Palestine.

Palm trees in Jericho. Dry leaves can be used for roofs. Photo by FreeBibleimages.

Ecological and eco-friendly buildings are one of the solutions to help reduce our carbon emission. If the practice of eco-design is taken seriously, it will yield great social and environmental benefits. We need to change the way we think, and as architects, we have to be creative and introduce a new global lifestyle. We need to design and develop sustainable buildings and spaces that connect people. All buildings of the future should create their own energy and be eco-friendly. Ecological systems pertain not only to buildings, they are a lifestyle. People need to change the way they live and adapt to a new lifestyle in order to make the ecological systems work. If its many resources are used in the built environment, Palestine would become a utopian country for its people and a role model for the world. Despite the struggles, we Palestinians should ensure that everything we do as a nation be of benefit not only to ourselves but also to nature.

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Photo by Firas Jarrar.