



Indigenous Ingenuity

THE FOOD SHELTER

At a moment when the effects of climate change are becoming ever more apparent across the world, local solutions to global problems are being conceived of as a way to push back against the destructive effects brought on by systemic changes, one community at a time. At the UAE's Al Ain oasis, a group of innovators have taken up the UN Convention to Combat Desertification (UNCCD)'s call to revive traditional building practices that could act as a bulwark against climate change-driven problems in the community.

By Kate Dannies

Although palm leaf construction in the UAE has traditionally provided a means to erect structures suited to local conditions while making use of an abundantly available local material, the practice has rapidly been replaced by more modern construction techniques in parallel with developments in the country's economy and society in the past several decades.

But palm leaf construction just might hold the key to fighting intensified desertification as a result of climate change. A team of international innovators, led by architect and lead consultant Dr. Sandra Piesik, is looking to revitalize the dying art of palm leaf construction in the UAE, starting with Al Sabla, the Food Shelter project at Al Ain Oasis.

Dr. Piesik is the founder of 3 Ideas Limited, an architectural consultancy that specialises in joining architecture and cultural research. She has a long track record on projects in the UAE that seek to restore the connection between the UAE's present environment and historic culture, and is a specialist in the use of palm leaf construction techniques. Together with partners TCA Al Ain Historic Environment Department, BuroHappold Engineering Ltd, Mehler Technologies and Ocma Emirates Industries, Dr. Piesik has conceived of a sustainable solution to food storage at the Al Ain oasis, which is also a UNESCO World Heritage site. The project addresses the issue of food waste in the local community, where resources are often

lost due to inadequate shelter. The Food Shelter combines the aims of architectural ingenuity, revitalization of local knowledge and humanitarian and social development goals, providing an attractive model for future projects in the region.

The structure blends seamlessly into the surrounding landscape and looks less like a major innovation than something that has been there for ages. But the shelter's continuity with its site belies the extent of the research and innovation that was necessary to achieve the final result, which involved six years of research and development.

The shelter is composed of a palm leaf arch structure with a fabric covering, an approach that has been modernized by the addition of the palm leaf bundling technique which allows for the date palm fibres to be formed into arched structures covered with tensile fabric. The final product is a collection of nine 8x8 metre modules providing a total shaded area of over 600 metres.



This simple yet effective design that demonstrates how blending traditional materials and modern building techniques can deliver rapid, sustainable and cost effective solutions to local needs. Using the Food Shelter as an example, local communities can revive palm leaf construction, which relies on free and plentiful materials and can be done by hand without the aid of heavy machinery. While Al Sabla has met one major need in to local community by sheltering its food, palm leaf construction has the potential to provide for the expansion of shared spaces from schools to health clinics and community centres in Al Ain and beyond.

The Food Shelter (Al Sabla) Project Team:

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