QM

ARCHITECTURE | 19 NOVEMBER 2020

Beirut Based Architecture Firm, TheOtherDada, Uses Local Materials To Design Sustainable Residence

Beirut -based integrated design and architecture firm, theOtherDada, uses local, natural materials to design Landform, a residence in Saudi Arabia.

Images © theOtherDada

ARCHITECTS: THEOTHERDADA

SITE: RIYADH, SAUDI ARABIA

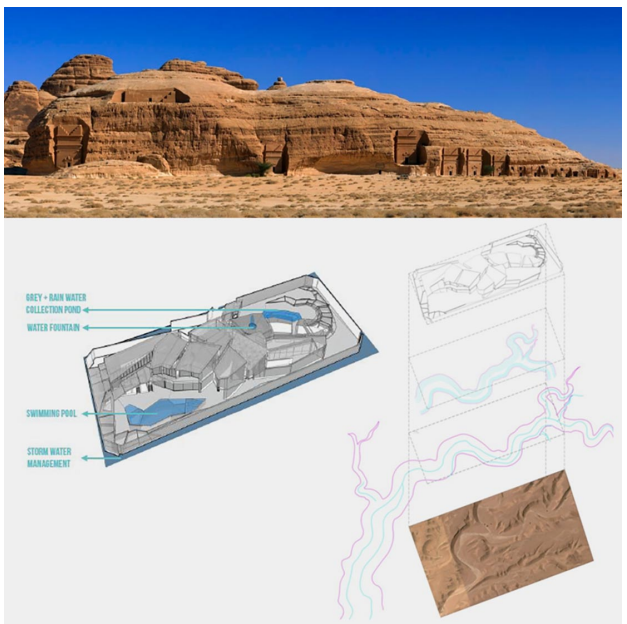
TYPOLOGY: HOUSING

YEAR: 2017

Beirut -based Integrated Consultancy & Architecture firm, theOtherDada , used local, natural materials to design Landform, a **residence** in Saudi Arabia. The building appears to be carved out of the earth, creating a rustic charm similar to the traditional style of buildings seen throughout the Middle East, but with intriguing design elements and sustainable-design techniques.

QM

Their Landform project draws inspiration from the land-embedded monuments the Nabateans created. Local **materials** like natural **stone** were used to translate **landscape** into architecture. A reinterpretation of the Garden of Paradise, the structure of the residence has serpentine form, starting with a series of planted terraces that articulate a spatial experience leading to an accessible **roof**. Three garden typologies, Janna, Bustan, Rawda, inspired by the traditional Islamic garden, unwind in a procession gradually revealing the totality of the residence.



In the middle east, privacy aspects in residential **architecture** are crucial and also a cultural requirement. Even while the architecture may reflect design elements from around the world, the house will usually be built with a high fence, which will be designed as an integral part of architecture itself. Landform **residence** is inwardly-oriented, with the programmatic spaces opening to the exterior using courtyards and shaded alleys, creating an effective separation between the public, private and service spaces.

theOtherDada has used different sustainable techniques to ensure users' comfort in this house in the desert. Occupants receive generous natural light within spaces that are strategically open and yet completely private. The total water consumption is reduced, and water recycling points are enabled at various areas in the plot, while grey water is used for irrigation. The project is anchored by two water features: the permanent chemical-free pool and the seasonal pond sized to collect the total annual rainfall from site, which also acts as an oasis through evaporative cooling process.

Being in a desert area, Landform projects utilizes several renewable resources to minimize the energy usage. CFD and building simulation were used to inform the shape of the building to optimize energy production and enhance ventilation. Natural ventilation is achieved by mimicking the Malkaf, a traditional wind catcher, reinterpreted in a hybrid ventilation strategy, fitted with a sensor-controlled mechanical louvers. The harsh desert **climate** is mitigated using design features such as narrow alleys offering shade and echoing the alleys of the traditional medina. The ascending progression of different landscapes and architectural elements create diverse **micro-climates**, thus extending the cooler season.

theOtherDada has conducted extensive research and cross-referencing of local flora and fauna to find out the most appropriate native trees and shrubs that will attract birds and urban pollinators to the site. Migratory species were also studied, as the city, Riyadh, is located on an important bird migratory path.

theOtherDada's works reflects intensive study of design elements, **passive techniques** for user comfort, **cultural** and heritage factors as well as modern features. Check out other projects by the firm **on their website**.

Project Images