

DHOW PARK

CONCEPT STATEMENT

The concept is inspired from traditional Emarati Culture boats (Dhow)

Dhow (Pronounced as "dāwa" or Marathi "dāw") is the generic name of a number of traditional Emarati sailing vessels with one or more masts with settee or sometimes lateen sails, used in the Indian Ocean region. Typically sporting long thin hulls, dhows are trading vessels primarily used to carry heavy items, such as fruit, fresh water, or other heavy merchandise, along the coasts of Eastern Arabia. Larger dhows have crews of approximately thirty, smaller ones typically around twelve.

Energy Technologies: piezoelectric linear alternator, Skysail(TM)

Annual generated energy: 15,074.5 MWh

Annual harnessed water: 12,775 Gallon



Source of Inspiration



Emarati Cultural Sustainability

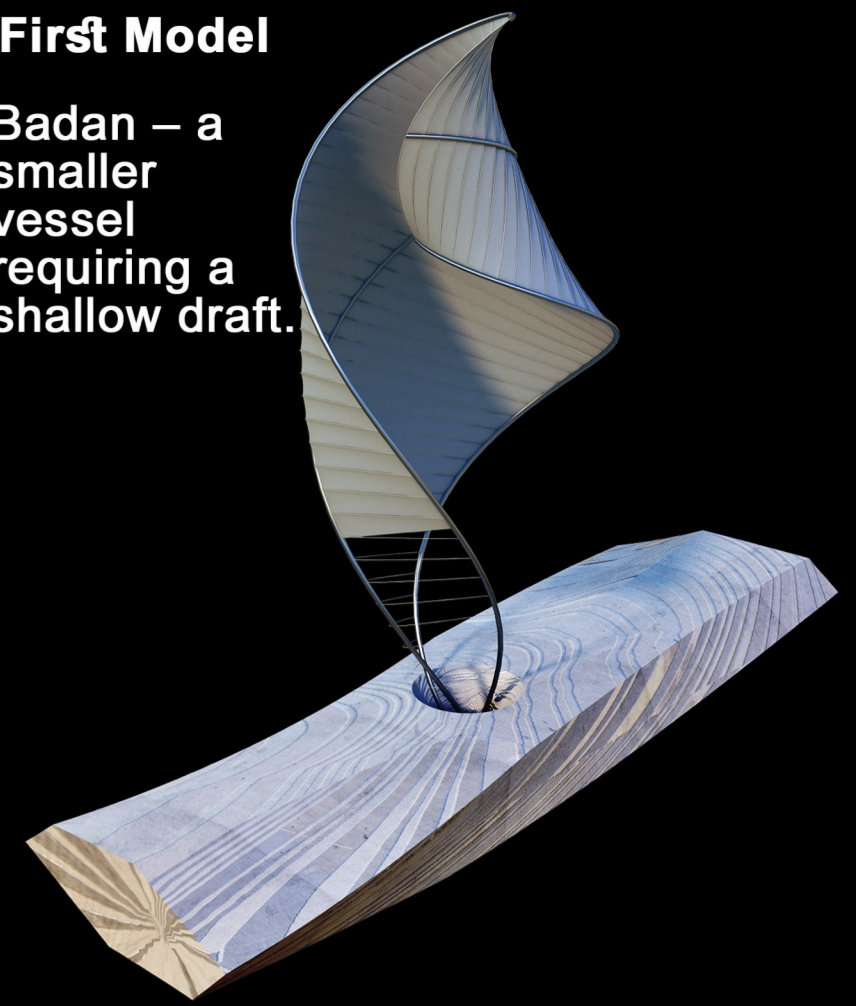
Renewable energy generation

3 Axes concept

Clean water harnessing from FOG

First Model

Badan – a smaller vessel requiring a shallow draft.



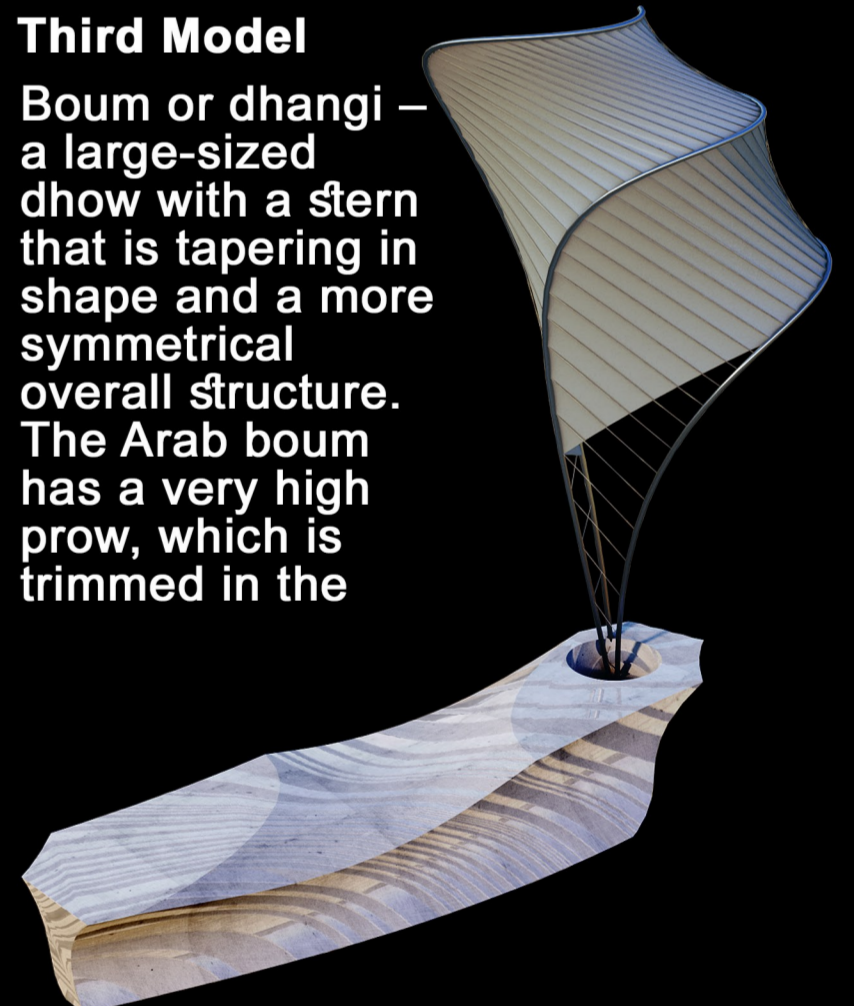
Second Model

Baghlah – from the Arabic language word for "mule". A heavy ship, the traditional deep-sea dhow.



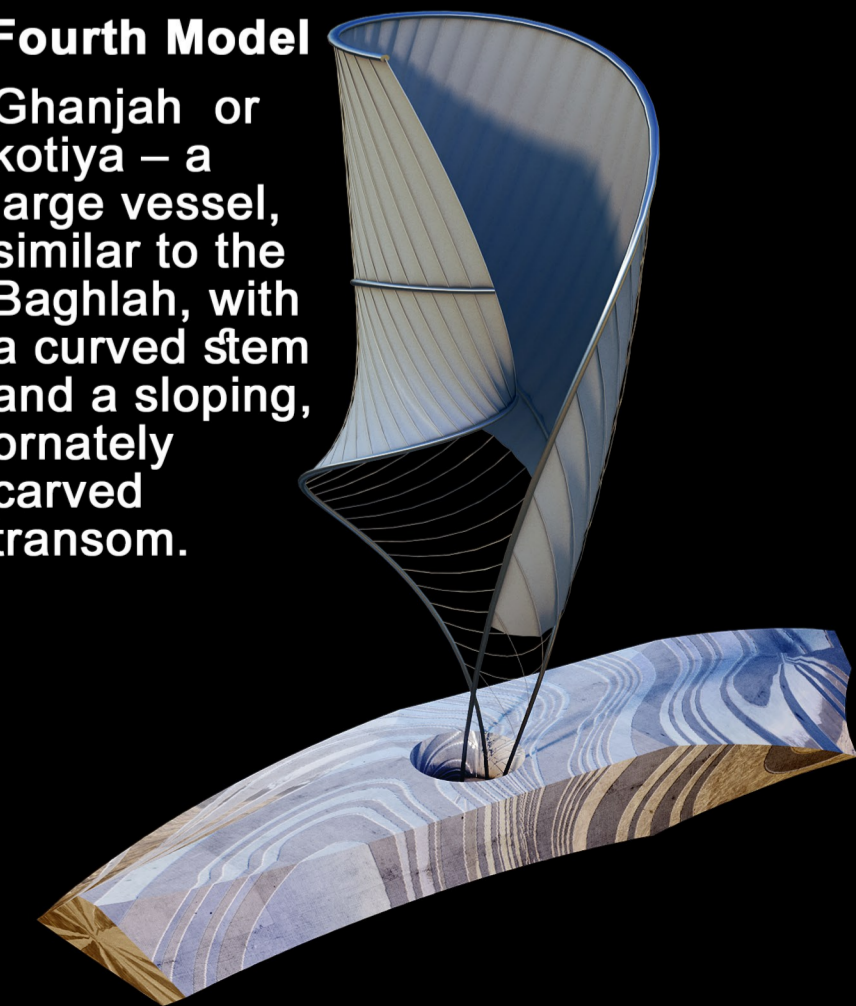
Third Model

Boum or dhangi – a large-sized dhow with a stern that is tapering in shape and a more symmetrical overall structure. The Arab boum has a very high prow, which is trimmed in the



Fourth Model

Ghanjah or kotiya – a large vessel, similar to the Baghlah, with a curved stem and a sloping, ornately carved transom.



The main design intention is to visualize the Dhow park in an abstract interpretation that carries sustainable features regarding the clean renewable energy and water collection

RENEWABLE ENERGY TECHNOLOGY

The used technology is a hybrid system composed of: Piezo-electric system used in the ground units mimicing the DHOW sailing boats in addition to the Skysail kites mimicing flocks of birds flying above the coastal areas in Emirates.

1st Source: Ground unit of Piezoelectric Motors, They generate electricity through the continuous fluctuations of generated by wind on the vertical rods of the sail system

2nd Source: Sky unit of SkySails TM of GmbH & Co. KG is a Hamburg-based company that sells kite rigs that generates energy by wind energy.

CULTURAL SUSTAINABILITY

Cultural sustainability represented in visualizing a traditional Emarati heritage as it relates to sustainable development (to sustainability), has to do with the maintaining of Emarati craftsmanship of traditional sailing boats, as its own entity, and attempts to sustain that culture in the context of the future to younger generations. This concept has been intertwined within renewable energy and water gathering domains, and as such, have become one of the more important concepts of sustainability.

CLEAN & FREE WATER HARNESSING

The same ground sails used for energy generation are used as Fog nets

They gather water from fog using the large pieces of vertical canvas to make the fog-droplets flow down towards a trough below the canvas, known as a fog fence.

Through a process known as condensation, atmospheric water vapour from the air naturally condenses on cold surfaces into droplets of liquid water known as dew. In Emirates the rate of fog enables to gather approximately 5 gallons from each unit as the atmospheric moisture condenses at a rate greater than that of which it can evaporate, resulting in the formation of water droplets.