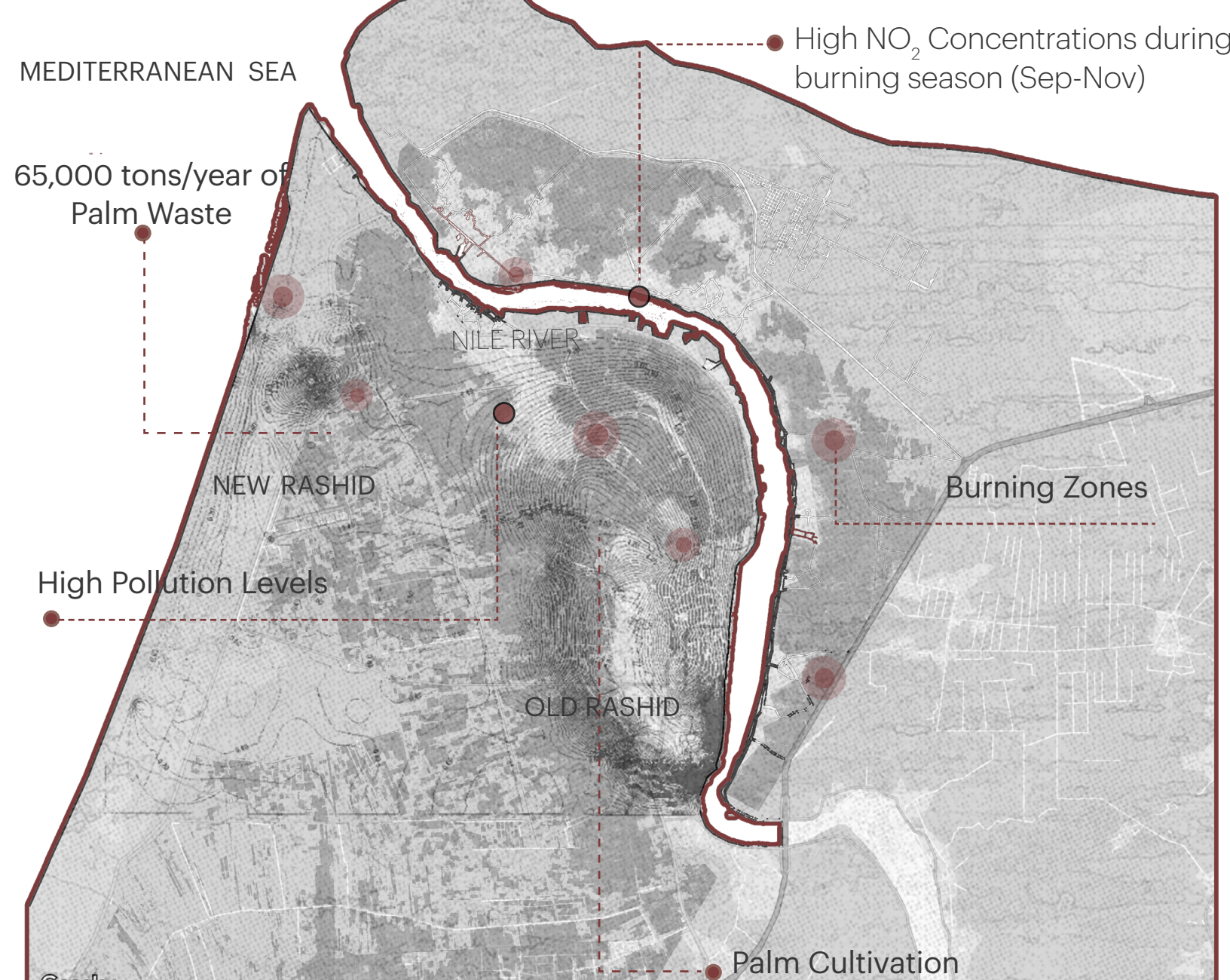


SITE LOCATION AND CHALLENGES

NEW RASHID, EGYPT



Rashid is estimated to generate 65,000 tons of palm waste and 20,000 tons of CO₂ emissions annually, of which up to 90% is likely burned due to limited waste management infrastructure.

EVOLUTION OF PALM-FROND CRAFTS IN RASHID

PALM AS A DAILY RESOURCE
Palm fronds were once a daily resource for the community, used for building, weaving, and storage containers, forming an integral part of everyday life.



A LIVING CULTURAL HERITAGE
For generations, families passed weaving techniques down from one generation to the next, making palm crafts an important expression of identity and collective memory.

Indicators that transform agricultural residues into economic resources by generating local jobs and income.

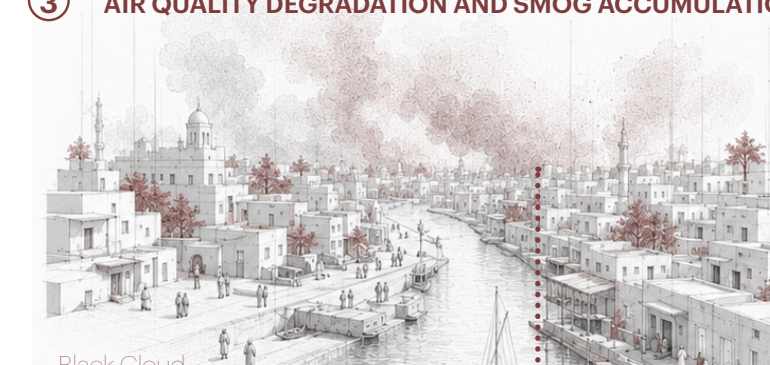
PROBLEM VISUALIZATION

1. PALM WASTE ACCUMULATION



Palm Trunks as Leaves Waste

2. BURNING SEASON



Palm Burning in Palm Residues and Associated Carbon Emissions

3. AIR QUALITY DEGRADATION AND SMOG ACCUMULATION



Black Cloud Phenomenon

4. PALM CRAFT REVIVAL



Palm Craft Revival

Thick smog drifting toward Rashid's urban fabric and agricultural landscape, reduced visibility and air quality, posing health risks and hindering economic development.

Palm residues are transformed into traditional crafts, reducing waste and promoting community engagement.

SUSTAINABILITY IMPACT AND SDG CONTRIBUTION

9. ECONOMIC DEVELOPMENT

Creates employment opportunities through palm-waste industries, craft workshops, tourism activities, and local entrepreneurship.

12. RESPONSIBLE CONSUMPTION AND PRODUCTION

Transforming discarded palm waste into useful products promotes circular economy principles, reduces waste burning.

13. CLIMATE ACTION

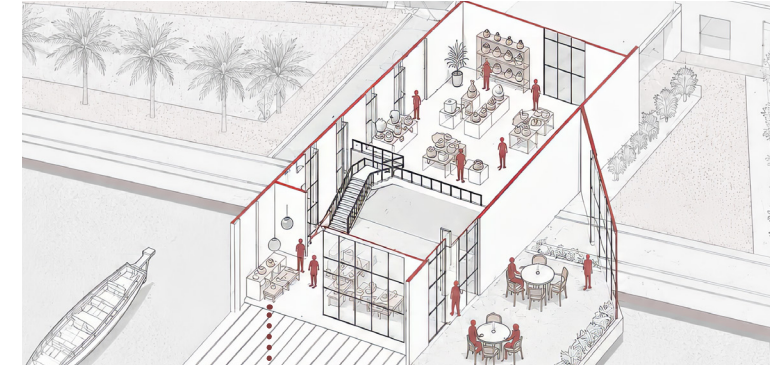
By reducing coastal burning of palm residues and lowering pollution emissions, the project contributes to climate mitigation.

15. LIFE ON LAND

The project supports healthier land ecosystems by managing agricultural waste pollution, promoting responsible land use.

PALM WASTE TRANSFORMATION SYSTEM

1. COLLECTION



The process begins with collecting palm waste generated from seasonal pruning and agricultural activities in Rashid's palm groves. These materials are collected, creating the raw material base for the transformation process.

2. SORTING



Collected palm waste is sorted into fronds, fibers, and trunk sections, then pruning and agricultural activities in Rashid's palm groves. These materials are cleaned, dried, and stored according to material type. This preparation stage creates organized material streams ready for processing and fabrication.

3. RESEARCH AND PROTOTYPING

Palm materials are tested and refined through experimental prototyping to evaluate their performance in different applications. This phase ensures the materials are validated and improved before moving into full production.

4. MATERIAL PROCESSING

Palm materials are processed according to their application, with fibers prepared for weaving, fronds cleaned and dried, and trunk sections prepared for carpentry. This phase combines traditional craft techniques with material fabrication, shaping local life through hands-on demonstrations, they preserve and transmit intangible heritage as a living cultural memory.

5. PRODUCTION AND FABRICATION

Palm materials are transformed into handcrafted products such as mats, baskets, and furniture. Within the museum galleries and educational spaces, the history of palm crafts is presented across different historical eras, highlighting their role in shaping local life. Through hands-on demonstrations, they preserve and transmit intangible heritage as a living cultural memory.

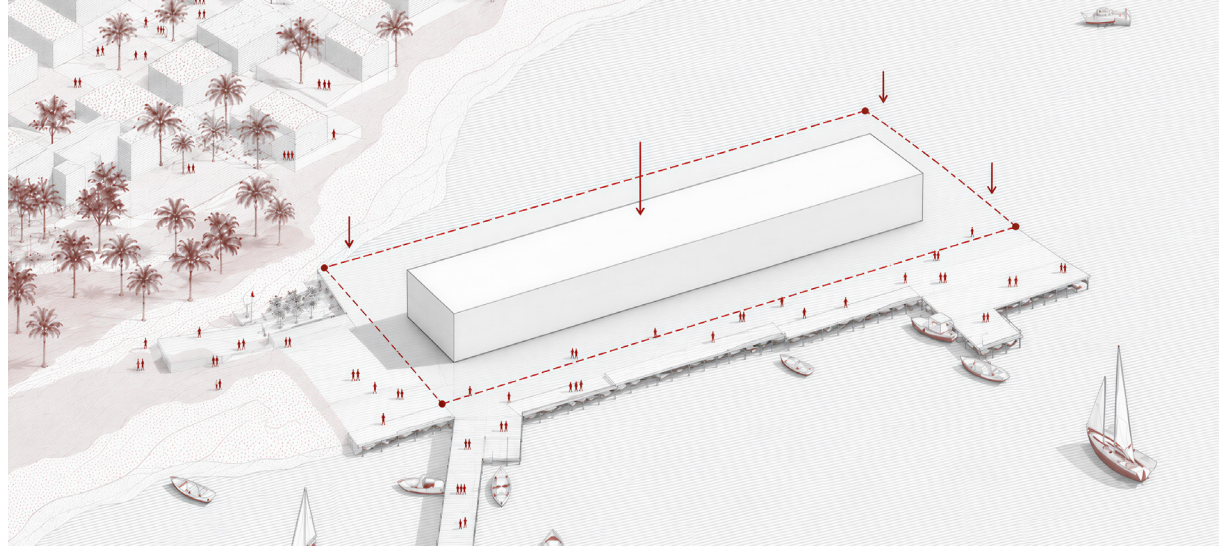
6. CULTURAL INTERPRETATION

Within the museum galleries and educational spaces, the history of palm crafts is presented across different historical eras, highlighting their role in shaping local life. Through hands-on demonstrations, they preserve and transmit intangible heritage as a living cultural memory.

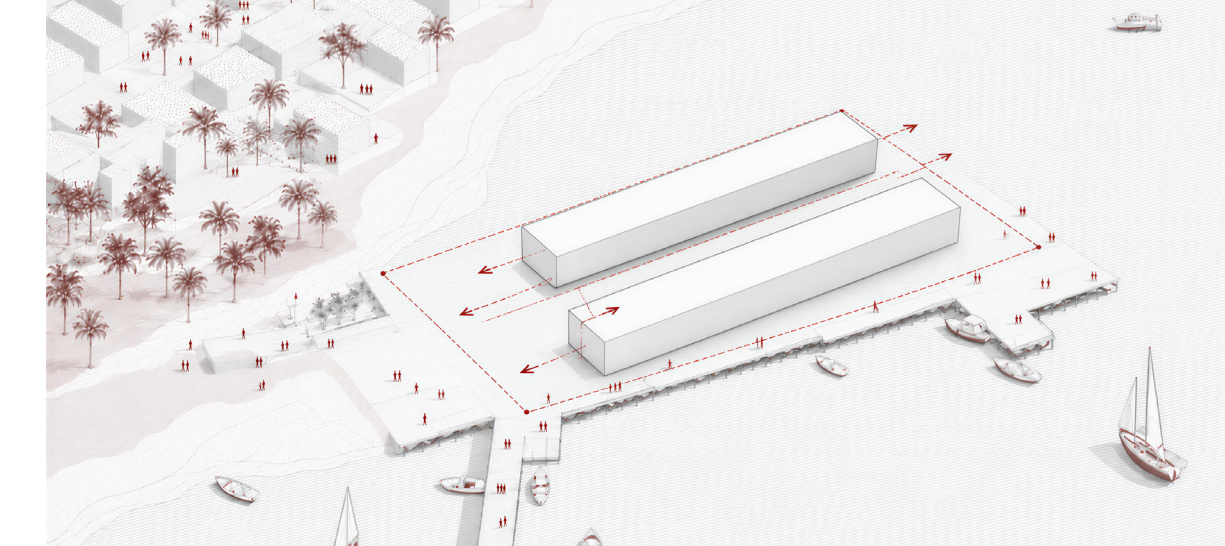


GROUND FLOOR PLAN SCALE 1:200

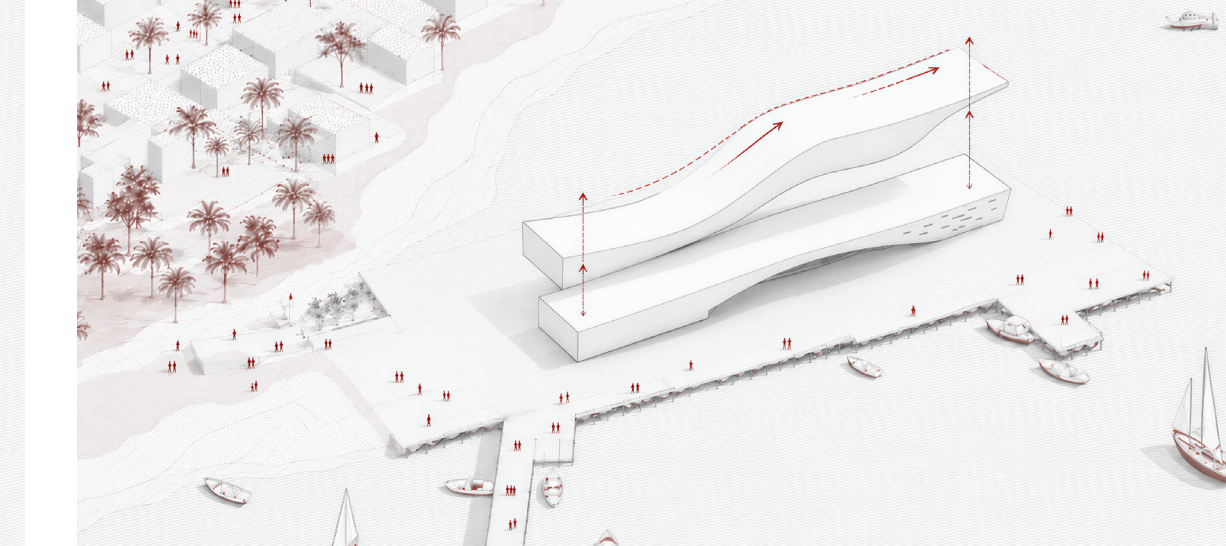
FORM GENERATION



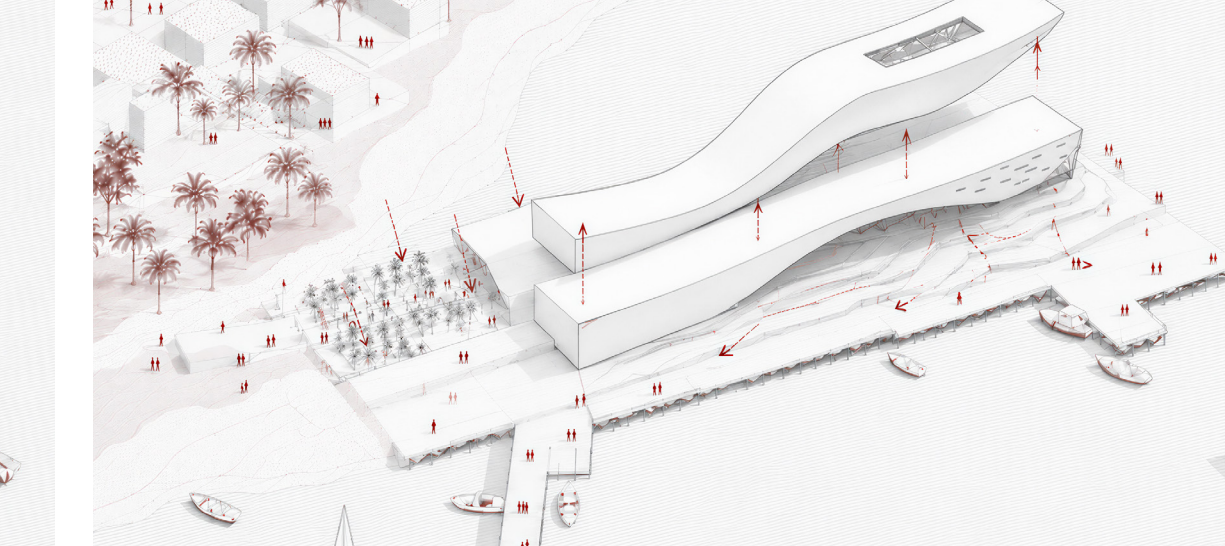
1. BASE VOLUME IN A FLAT SITE PLOT



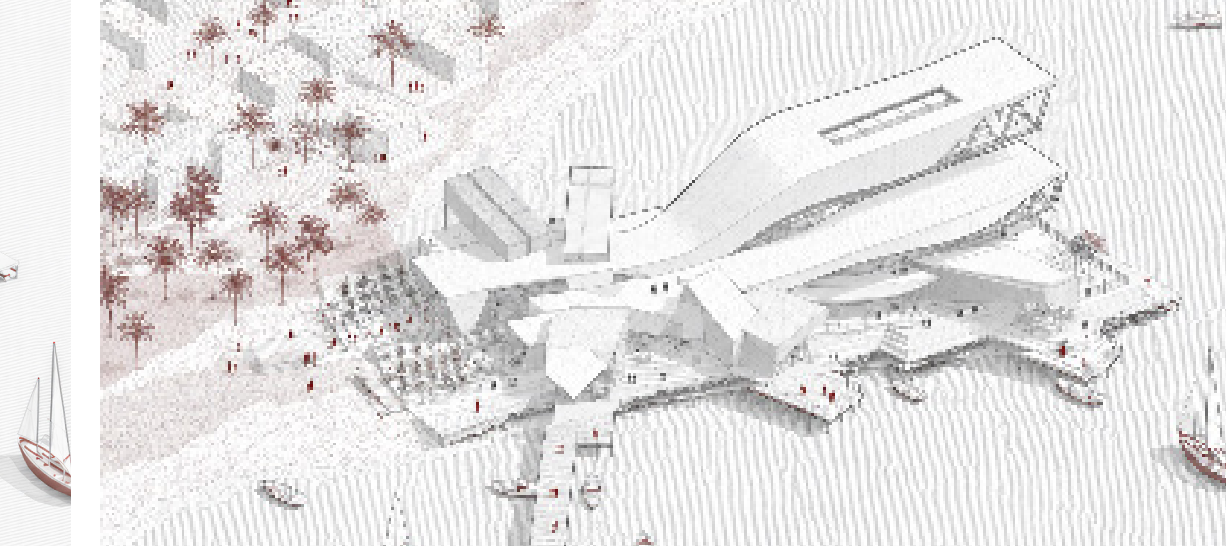
2. SPITTING THE VOLUME FOR DYNAMIC FLOW



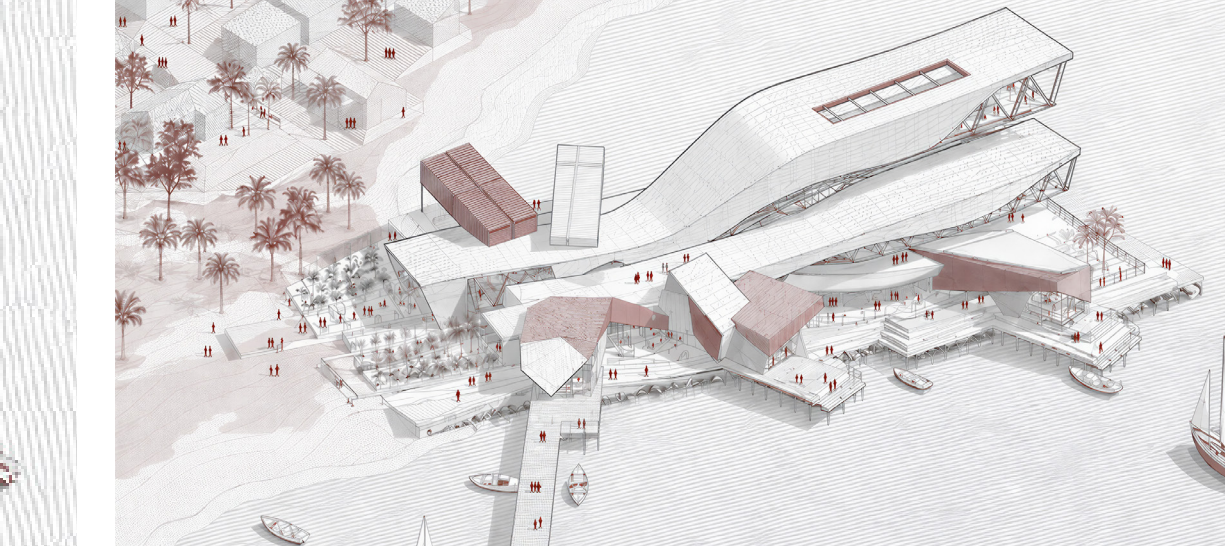
3. VERTICAL LIFT AND CURVE FOR PROGRAMMIC HIERARCHY



4. TERRACING FOR BETTER WATERFRONT VIEWS



5. PROGRAMMATIC CLUSTERS ANCHORING THE COMPOSITION



6. FINAL FORM AND SPATIAL ARTICULATION