GLOBE/HEDRON ROOFTOP FARM

Conceptual Devices

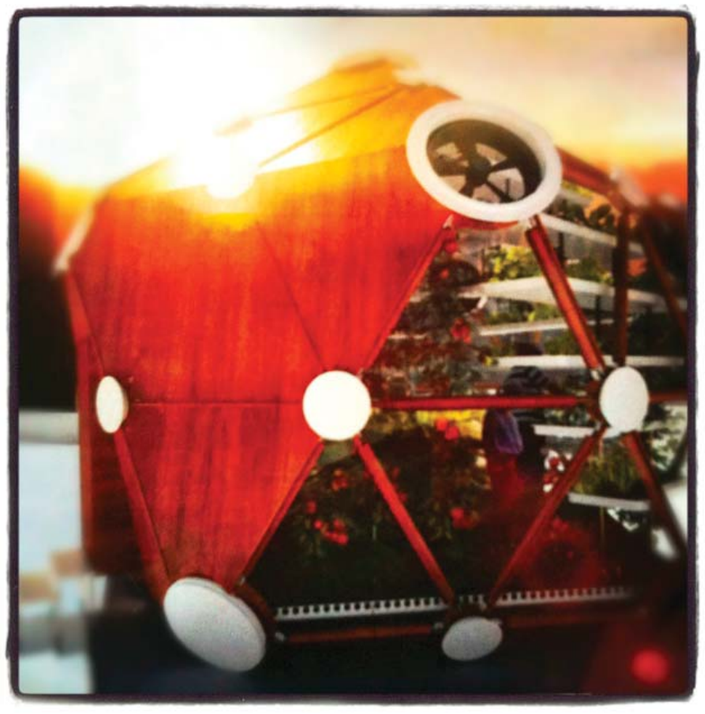
- bamboo greenhouse designed to organically grow fish and vegetables on top of generic flat roofs

- optimized to feed four families year-round

- designed to be manufactured and retailed at low-cost

- geodesic dome frame redistributes the load of the fishtank to a larger surface

- organically farmed bamboo chosen for its biodegradability



2 THE GLOBE - AQUAPONIC SYSTEM

AQUAPONIC FARMING IS A TECHNIQUE THAT COMBINES THE CULTIVATION OF FISH WITH THE GROWING OF VEGETABLES. THE FISH PROVIDE RICH FERTILIZER FOR THE PLANTS AND IN RETURN, THE PLANTS CLEAN THE WATER FOR THE FISH. THE FISH AND THE PLANTS CO-EXIST IN A SYMBIOTIC RELATIONSHIP.

COLD SEASON HARVEST

CARROTS

PEAS

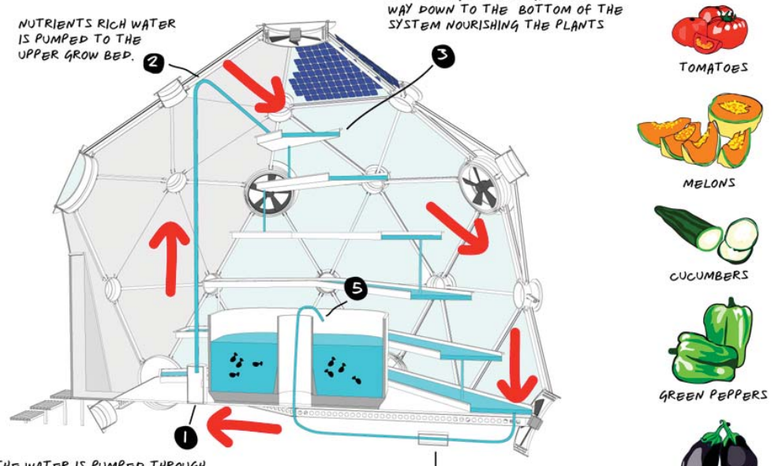
LETTUCE

CABBAGE

BROCCOLI

SWISS CHARD

SPINACH



HOT SEASON HARVEST

TOMATOES

MELONS

CUCUMBERS

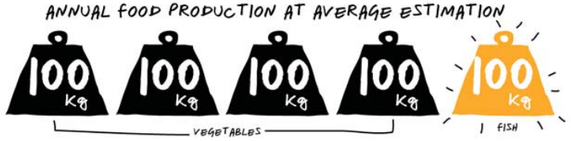
GREEN PEPPERS

AUBERGINES

GREEN BEANS

SQUASH

ANNUAL FOOD PRODUCTION AT AVERAGE ESTIMATION



OPTIMAL FISH SPECIES FOR AQUAPONIC FARMING

GREYFISH

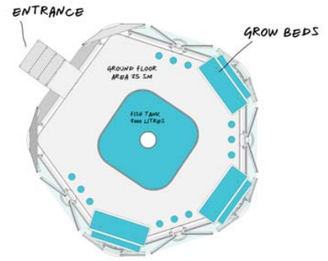
CARP

TROUT

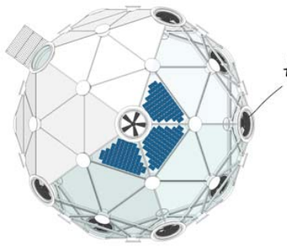
TILAPIA

SALMON

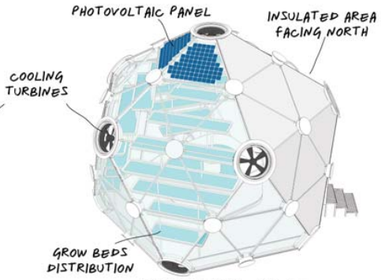
3 THE GLOBE - ANATOMY



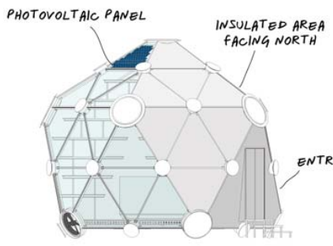
GROUND FLOOR



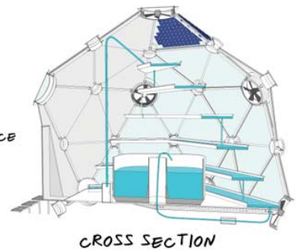
TOP VIEW



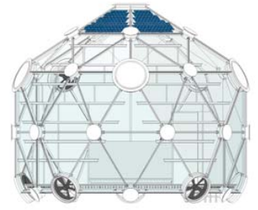
VOLUMETRIC VIEW



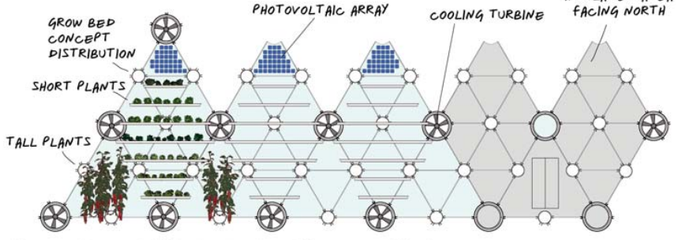
NORTH-EAST ELEVATION



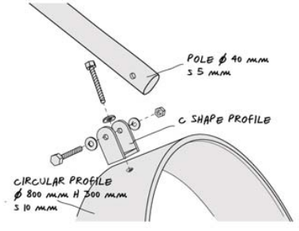
CROSS SECTION



SOUTH ELEVATION

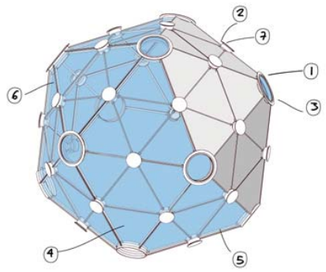


FACADES UNWRAPPING AND FUNCTIONAL MAPPING



LOW-TECH JOINT SYSTEM DETAIL

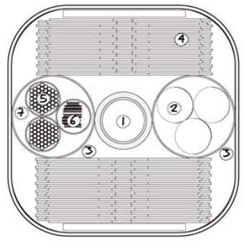
5 THE GLOBE - TRANSPORTABILITY



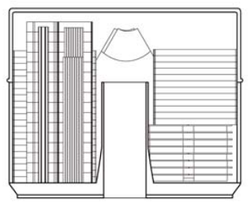
COMPLETED GLOBE (Hedrom) DOME

THE GLOBE (Hedrom) DISASSEMBLED. THE GLOBE (Hedrom) IS DESIGNED IN A WAY THAT, ONCE DISASSEMBLED, IT CAN BE CONTAINED IN THE FISH TANK, WHICH IS USED AS PACKAGING.

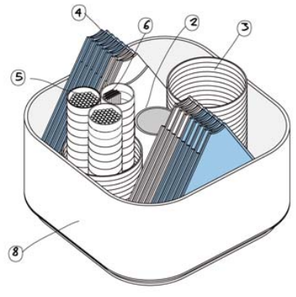
PACKAGING SYSTEM



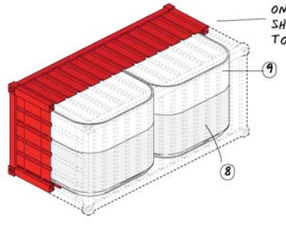
PLAN VIEW



SECTION



PACKAGING AXO



ONE STANDARD 15' CARGO SHIPPING CONTAINER WOULD BE ABLE TO FIT TWO DOMES

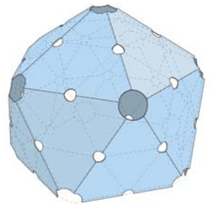
4 THE GLOBE - IMPLEMENTAL FEATURES

THE GLOBE (Hedrom) IS CONCEIVED WITH IMPLEMENTAL FEATURES TO MEET LOCAL ENVIRONMENTAL OPTIMIZATION

BASIC STRUCTURE

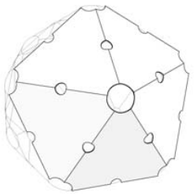
THE GLOBE (Hedrom) CAN BE DELIVERED AS A BASIC GEODESIC STRUCTURE DESIGN TO HOST AN AQUAPONIC FARM. THIS OPTION IS SUITED TO WARM ENVIRONMENTS.

GREENHOUSE PANELS



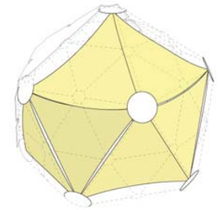
THE GLOBE (Hedrom) BASIC STRUCTURE CAN BE COMPLETED WITH POLYCARBONATE PANELS TO CREATE A GREENHOUSE.

INSULATING PANELS



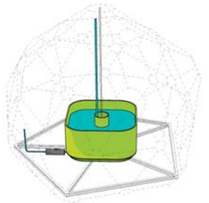
IN COLD ENVIRONMENTS HEDRON CAN BE FEATURED WITH INSULATING PANNELSFACING NORTH.

INTERNAL SHADING SAIL



AN INNER PVC CLOTH CAN BE SUSPENDED INSIDE AS A LIGHT COATING OR ASSUPPLEMENTAL INSULATION IN CASE OF EXTREME COLD WETHER.

WATER TANK + BIOFILTER



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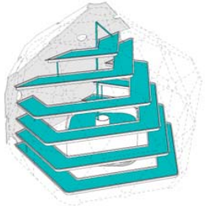
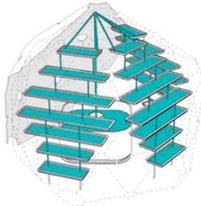
AQUAPONIC TRAY SYSTEM A*



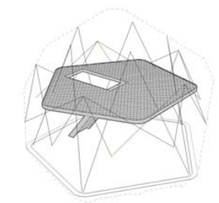
GROW BEDS CAN BE INSTALLED IN DIFFERENT CONFIGURATIONS ACCORDING TO COST, ENVIRONMENTAL NEEDS AND OPTIMIZED INSULATION. THIS CONFIGURATION WOULD ALLOW 40 SQM OF GROW BEDS AREA.

AQUAPONIC TRAY SYSTEM B*



THIS CONFIGURATION IS LIGHTER AND DISTRIBUTES THE TRAYS ALONG THE PERIMETER. IT FACILITATES THE GROWTH OF TALLER PLANTS LIKE TOMATOES, FOR A TOTAL AREA OF 40 SQM.

SUSPENDED MEZZANINE



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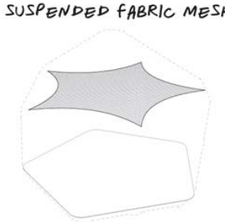
SUSPENDED FABRIC MESH



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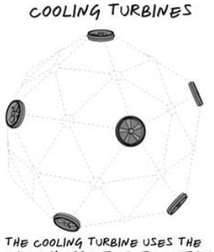
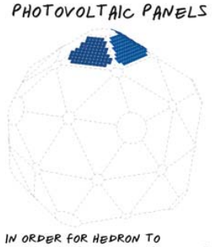
COOLING TURBINES



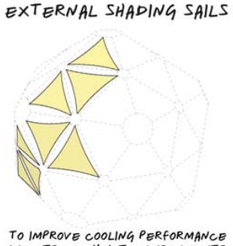
THE COOLING TURBINE USES THE CHIMNEY EFFECT CRETED WITHIN THE GREENHOUSE TO GENERATE ENERGY.

PHOTOVOLTAIC PANELS



IN ORDER FOR HEDRON TO GENERATE POWER INDEPENDENTLY PHOTOVOLTAIC PANELS CAN BE PROVIDED.

EXTERNAL SHADING SAILS



TO IMPROVE COOLING PERFORMANCE IN EXTREMELY HOT ENVIRONMENTS EXTERNAL SHADING SAILS CAN BE ADDED TO THE BASIC STRUCTURE.

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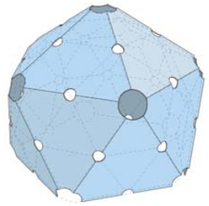

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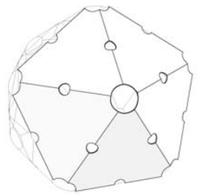

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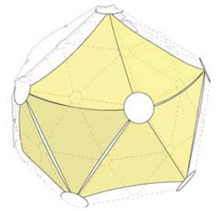

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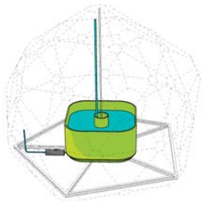

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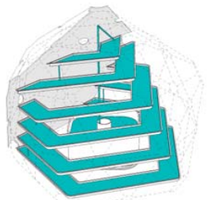

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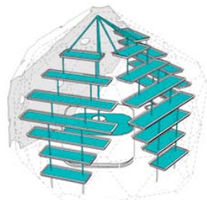

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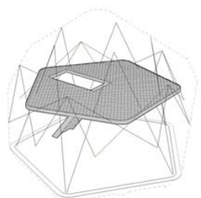

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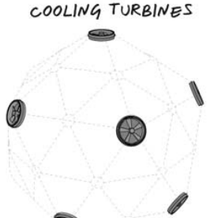

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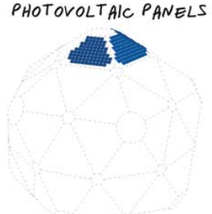
PHOTOVOLTAIC PANELS



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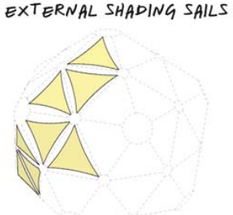

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