

EID-101A RAMESSES II



SEA²M³

Thornton Tomasetti Foundation



10 million?



Displaced Persons in Sub-Saharan Africa

**= 1.2 times the
population of NYC**

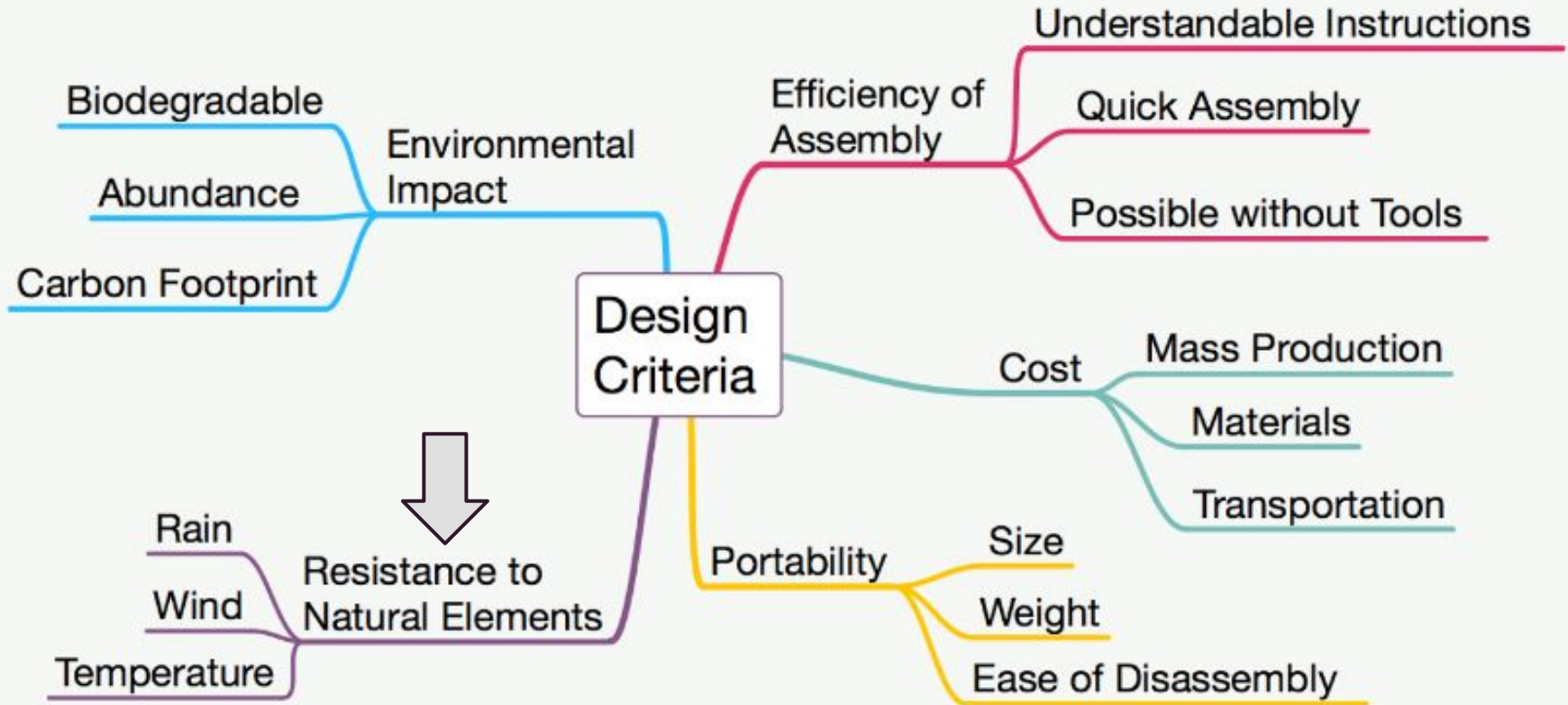
Problem Statement

Create a safe and durable emergency shelter kit for refugees and internally displaced persons in Sub-Saharan Africa

RAMESSES I



Design Goals



Group subdivision

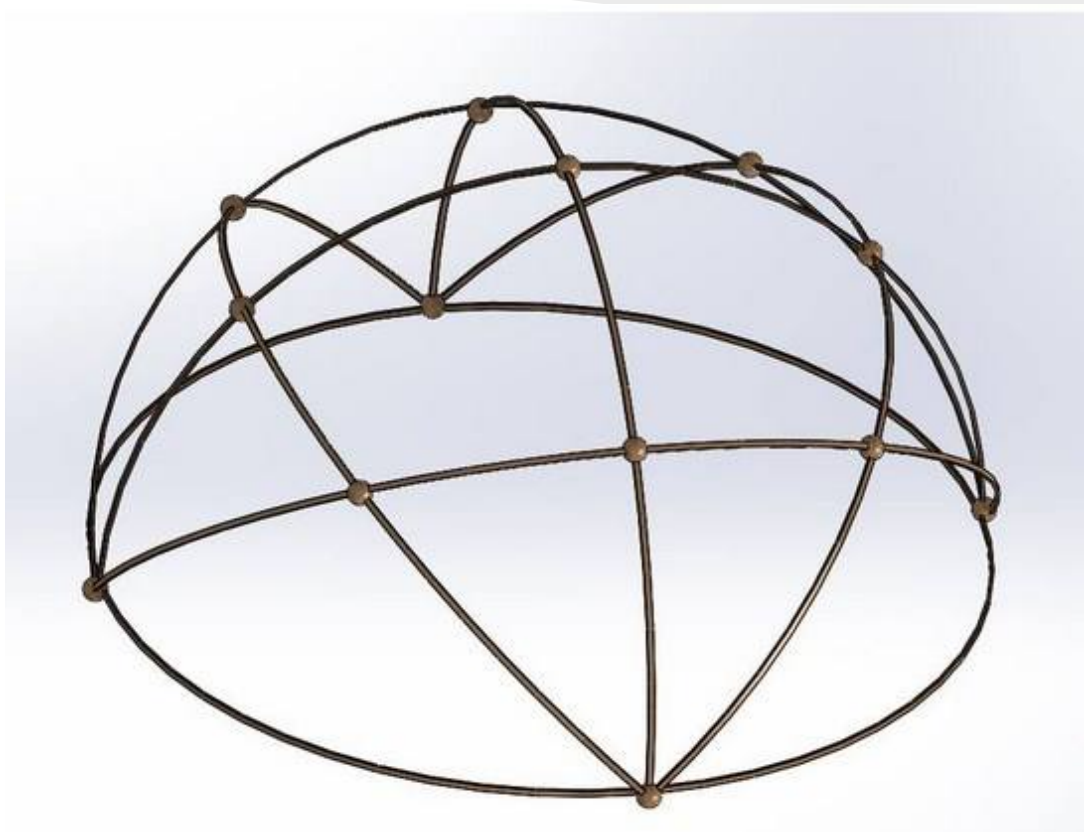
COORDINATION
EVALUATION
KIT
LOGISTICS
SKIN
FRAME
CULTURE

Frame

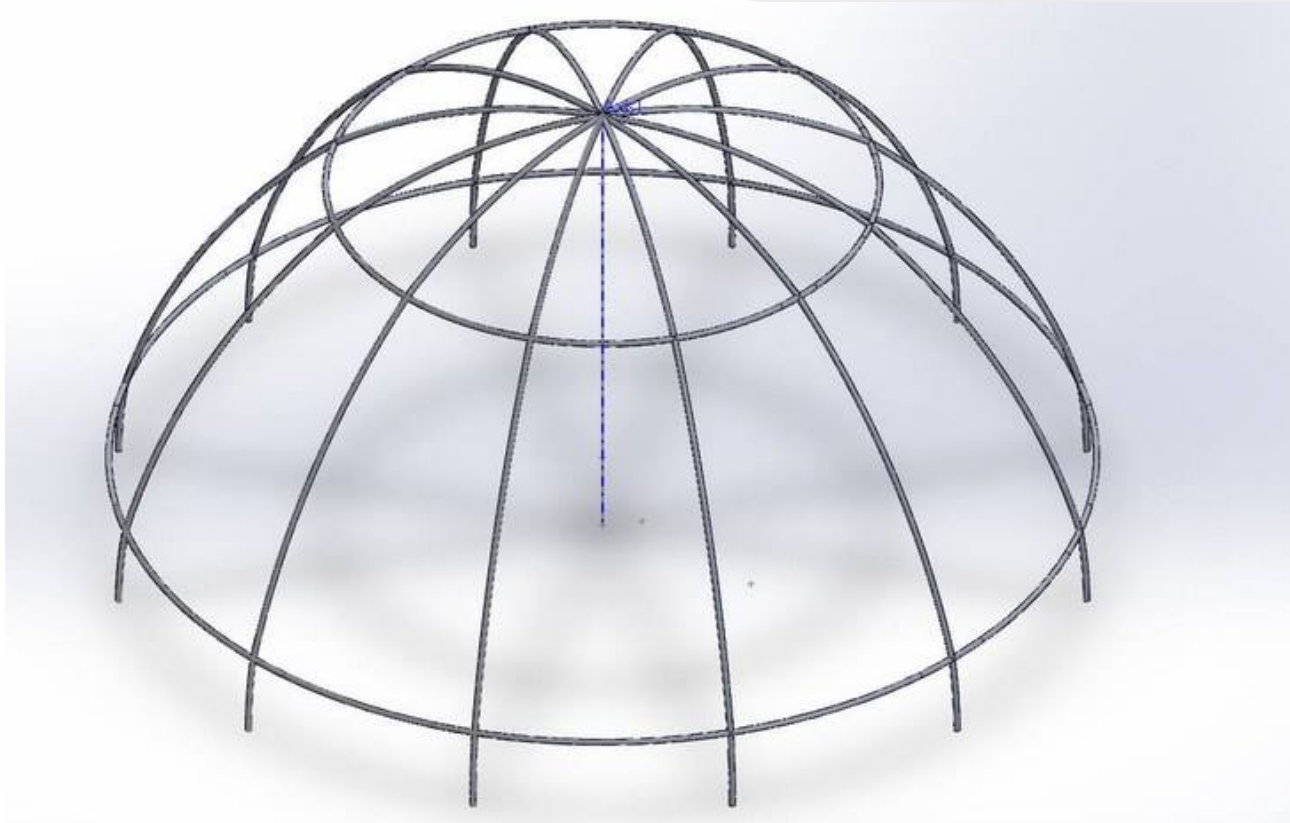
Mission Statement:

Create a stable frame for RAMESSES II that is easy to assemble

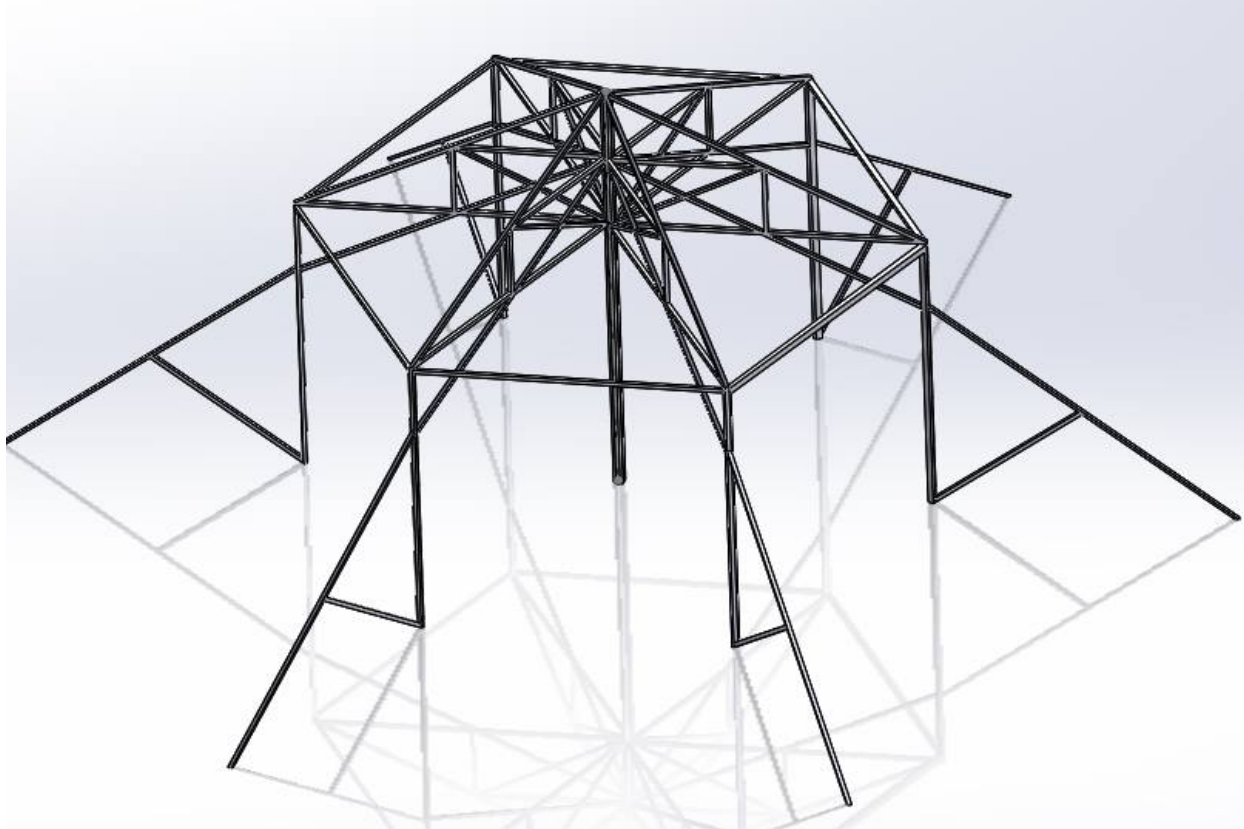
Folding Fan



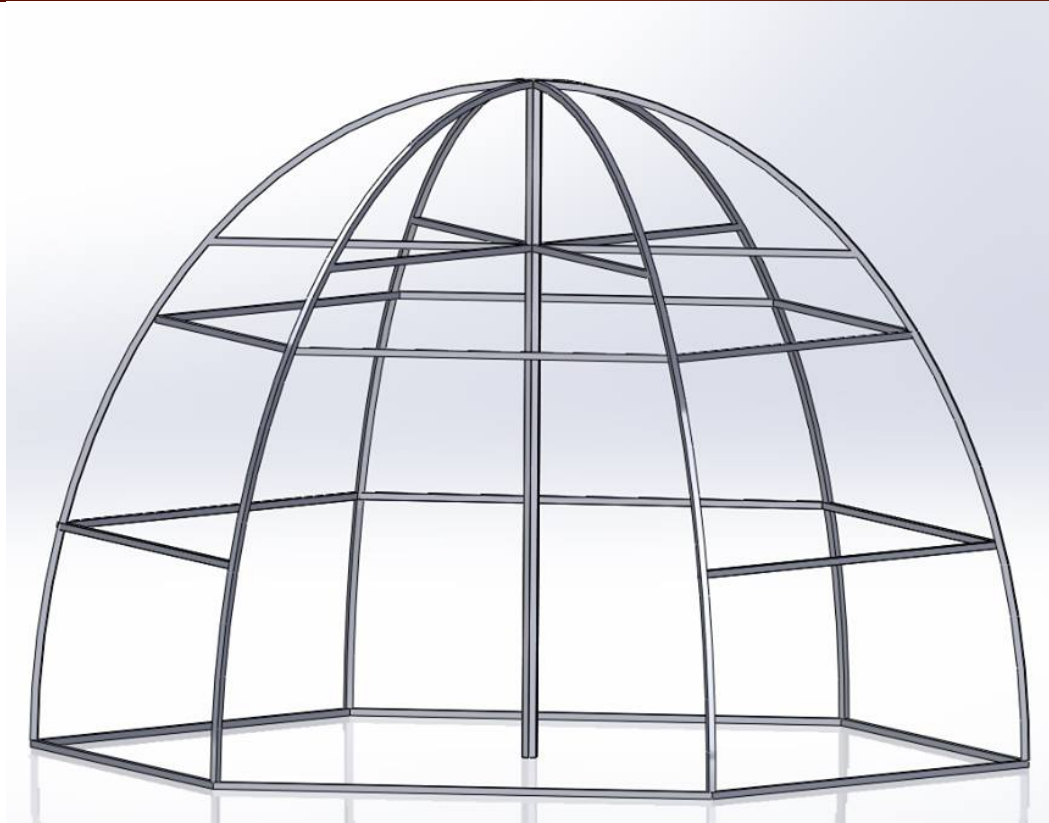
Basic Dome

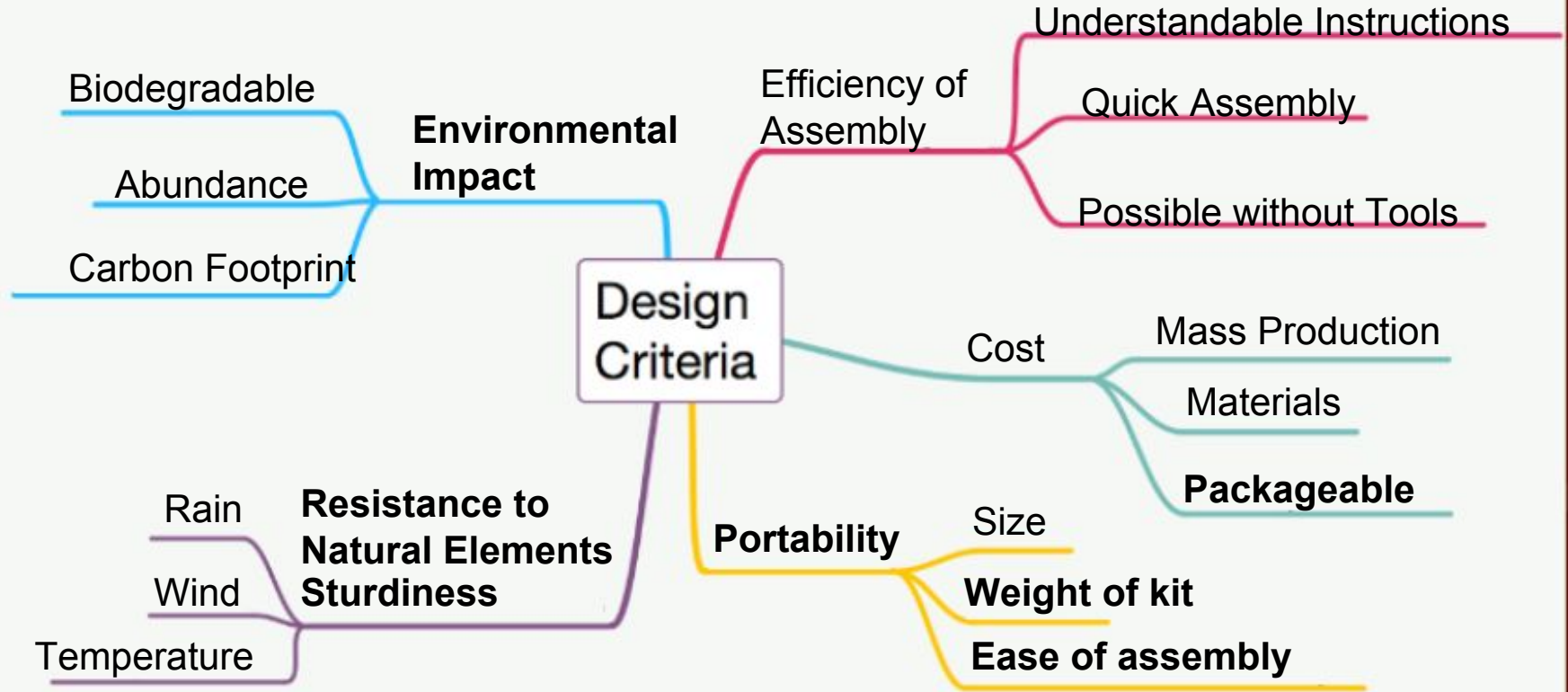


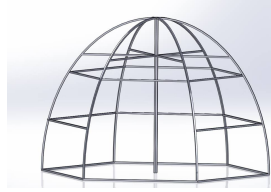
Truss Design



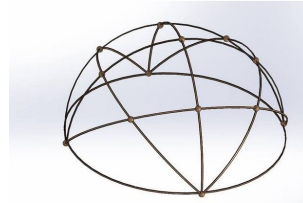
Hexagonal Gumdrops



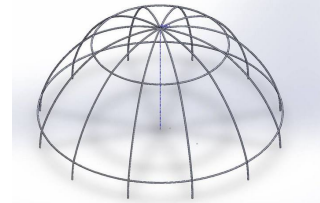




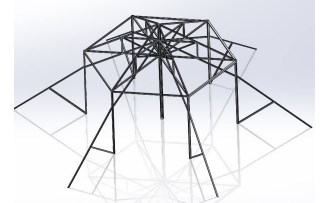
Hex Gumdrops



Folding Fan

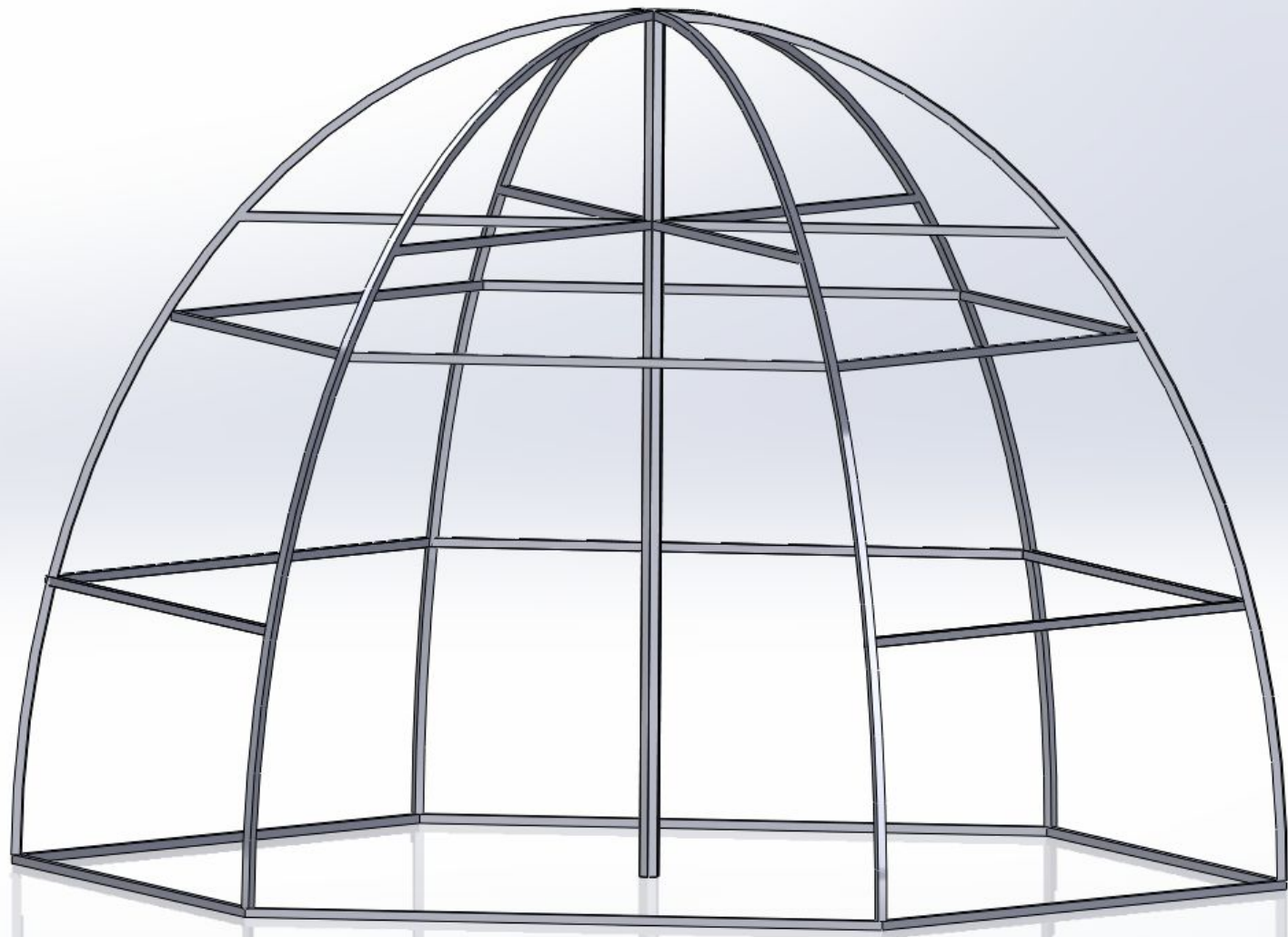


Basic Dome



Truss

Sturdiness	6	2	4	8
Portability	2	4	3	1
Ease of assembly	3	2	2	4
Packageable	2	3	4	1
Comfort	2	4	3	1
Weight of kit	2	1.5	1	1
Total points	17	16.5	17	16



Why Bamboo?

Pros:

- Abundant in Sub-Saharan Africa
- Light-weight
- Sturdy

Cons:

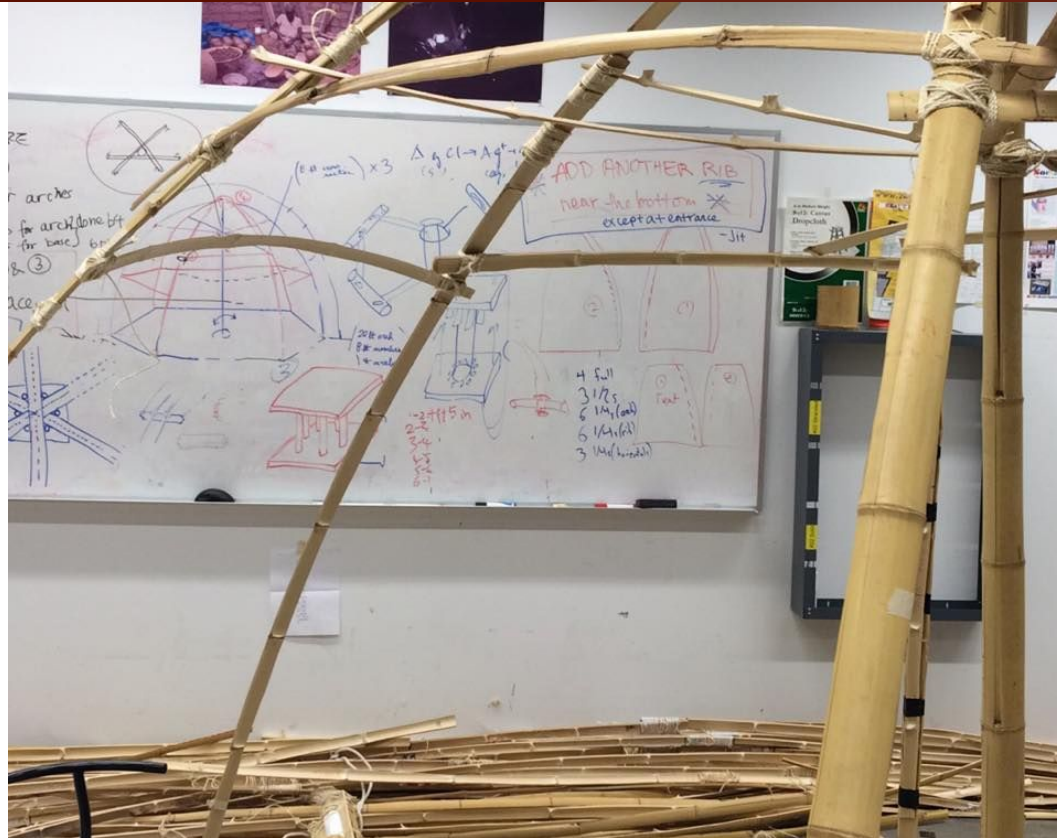
- Splits in dry climate







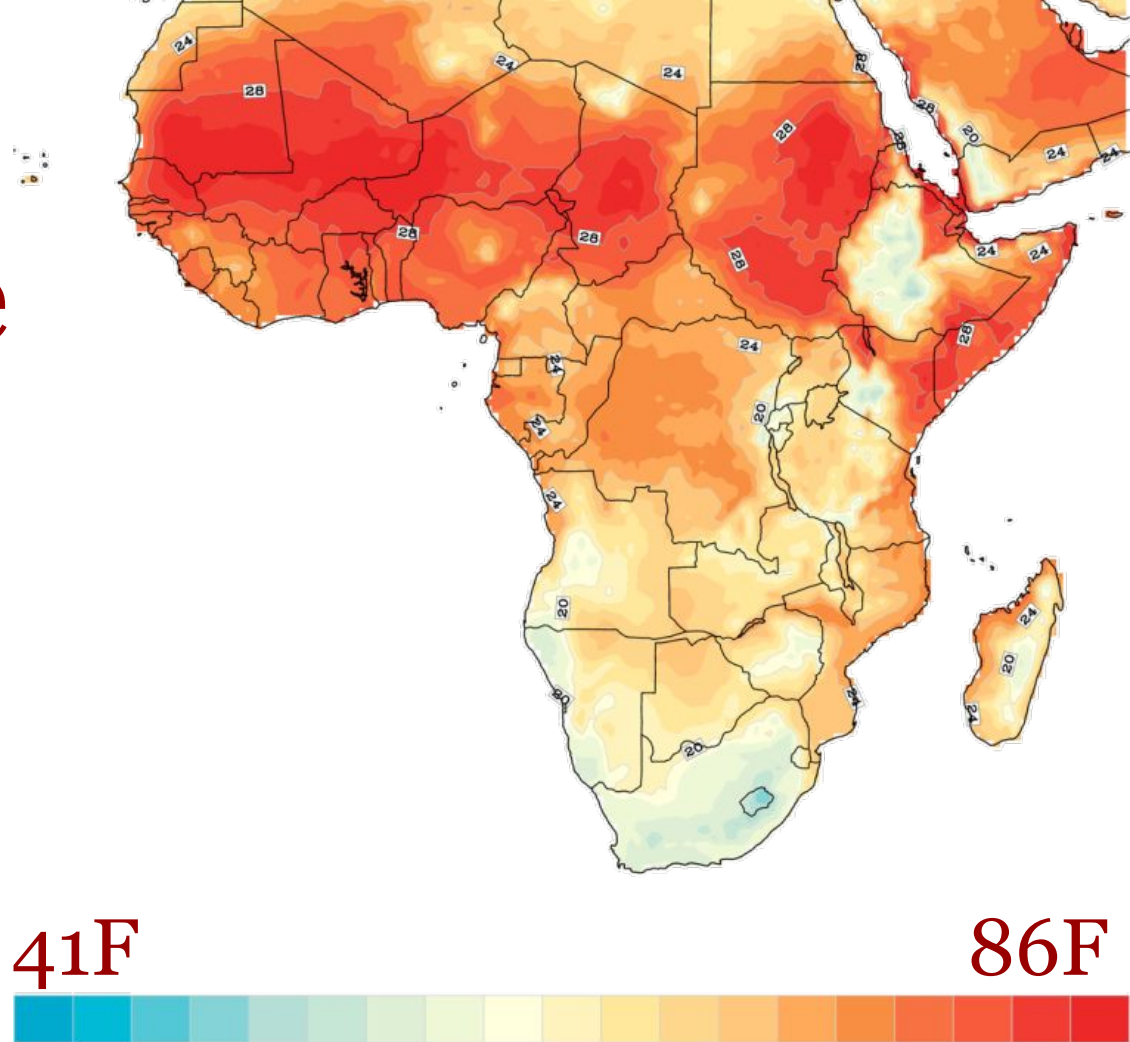
Frame Evaluation

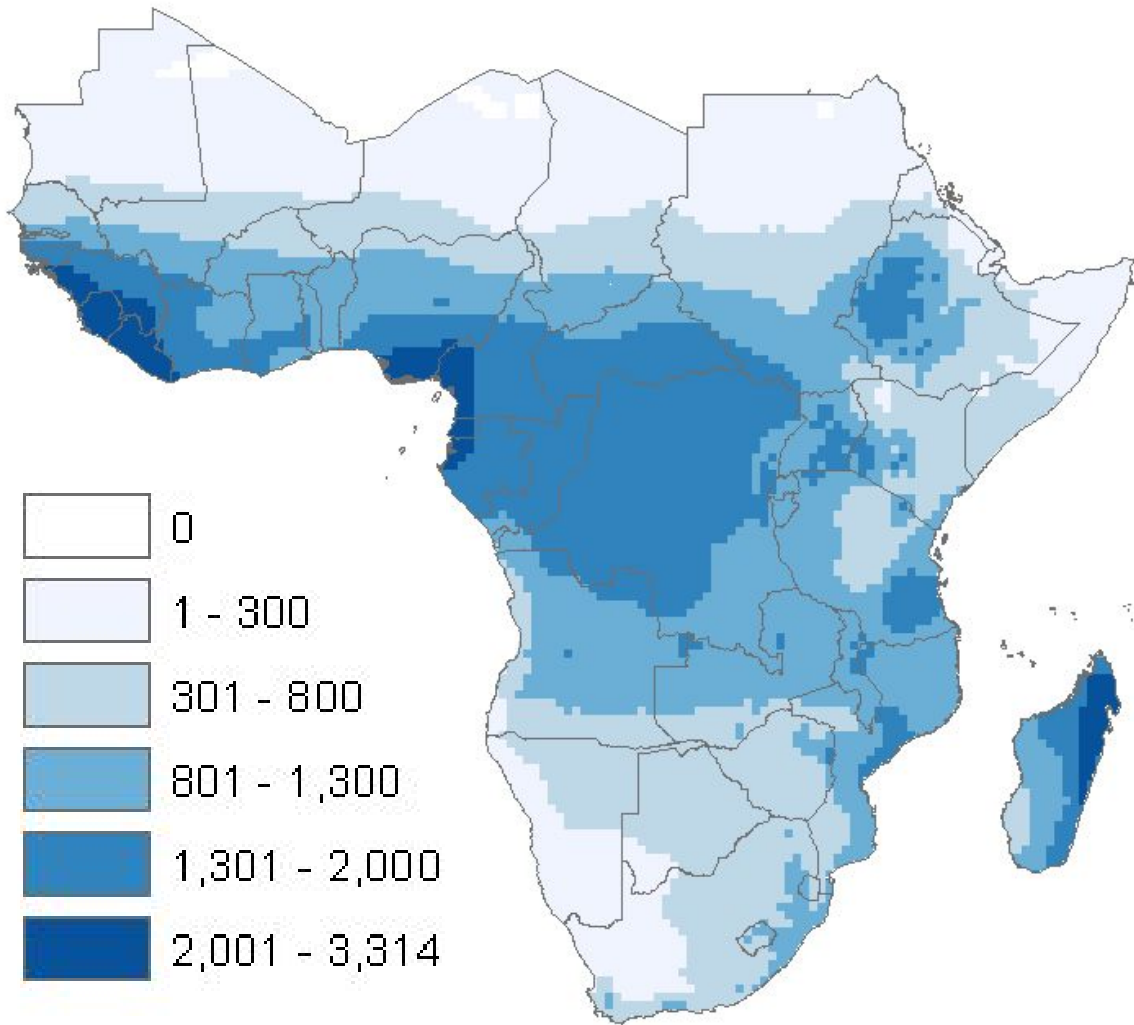




Skin

Mean Temperature in Africa





Annual Rainfall in Sub-Saharan Africa (mm)

Walls



Raincoat



Netting



Shelter Kit

What we started with..



Where can we deploy RAMESSES?

Burkina Faso

- Familiar with location
- Poor conditions of living
- Proximity to countries with resources





What's Next?

