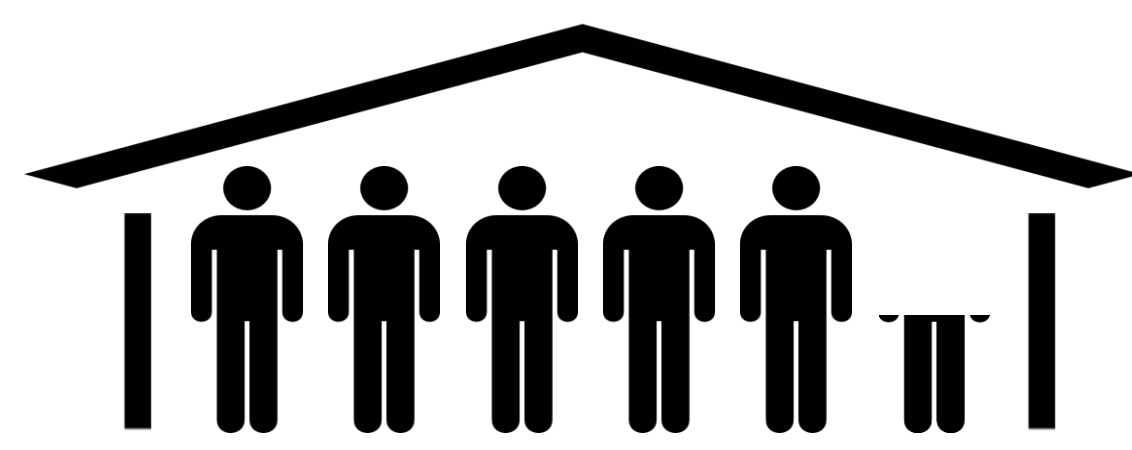
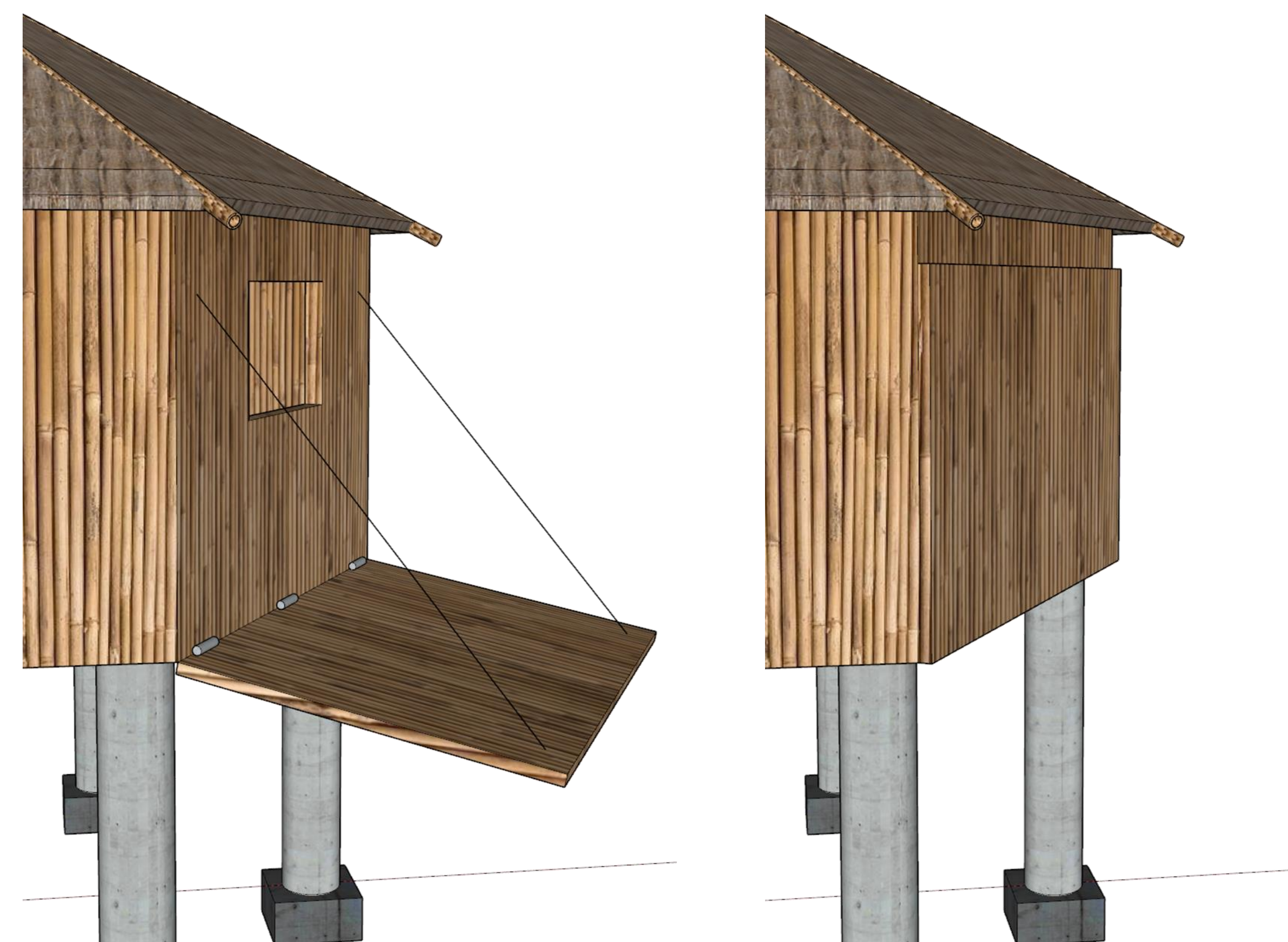
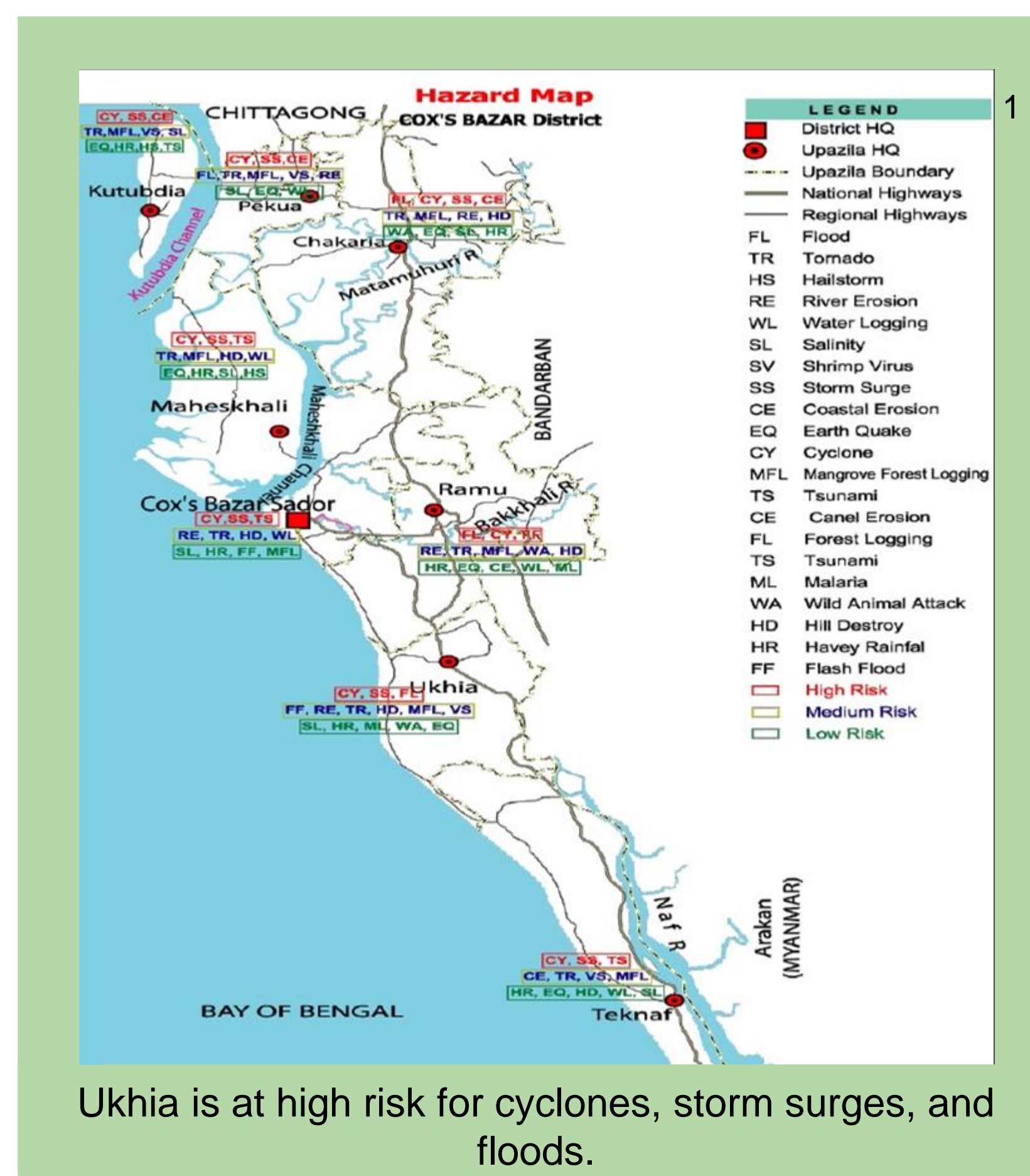


Introduction

- Located in the Ukchia Upazila of Bangladesh
 - This region faces floods, cyclones, and storm surges
 - Varying monsoon season causes up to 15 days straight of constant rain¹
- Poor, rural area
 - Most farmers live on "less than three acres of land"²
 - Average wage for males is \$3.76 and for females is \$2.16 per day³



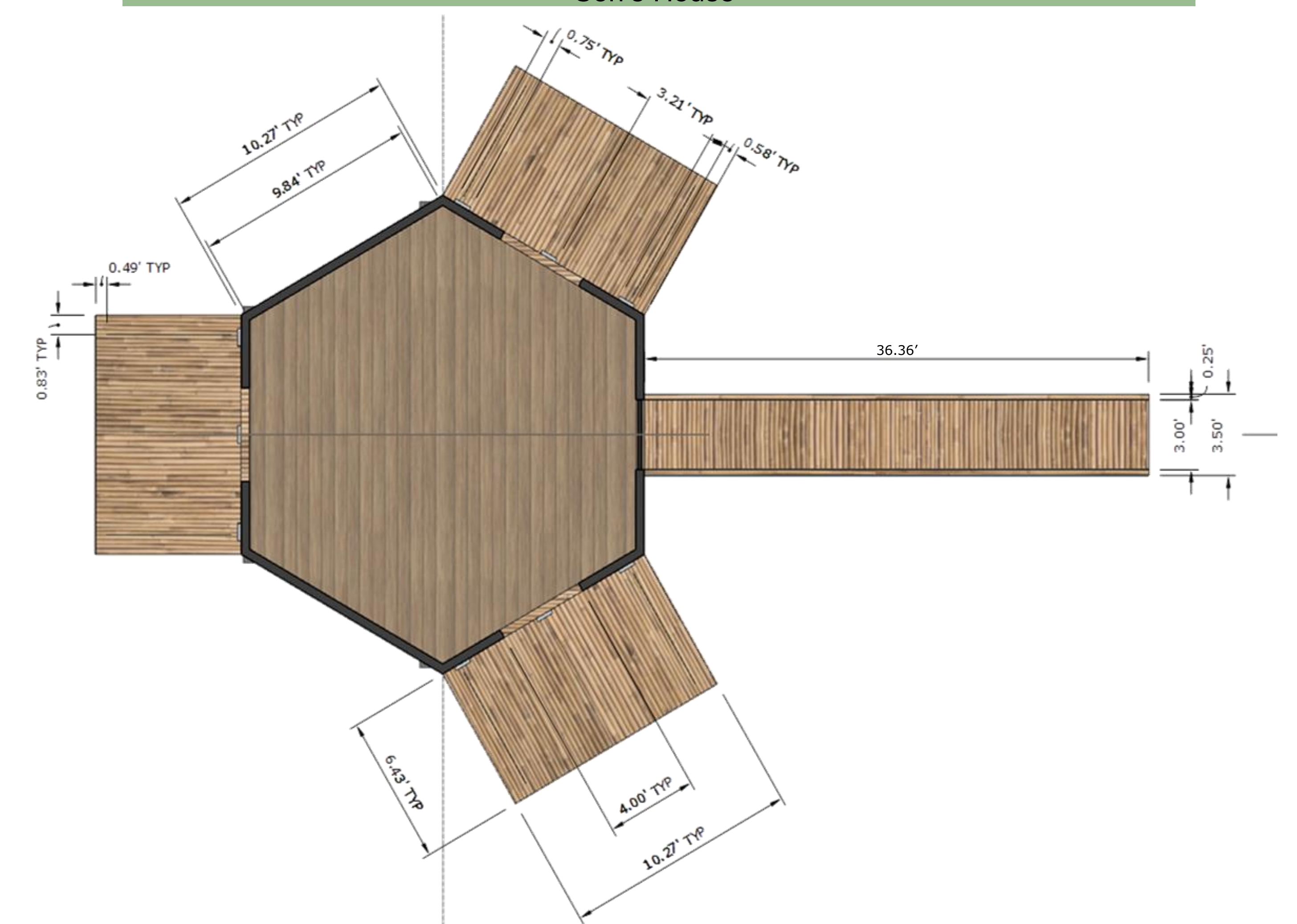
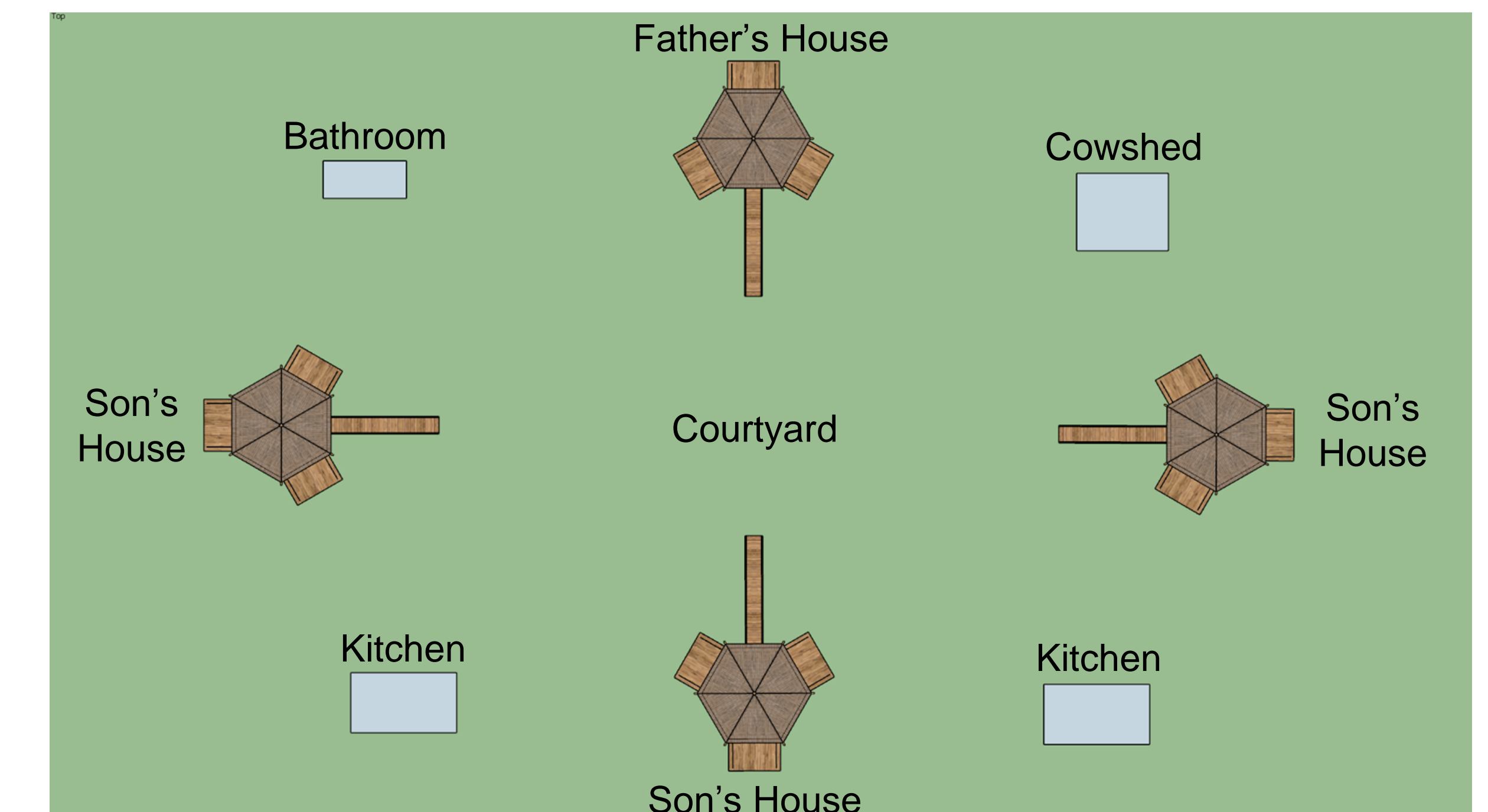
5.4
Average Family Size



The verandas folding up to protect the windows during a storm.

Background

- Natural Disasters
 - Highest Multiple Mortality Risk Index
 - Climate change increases vulnerability
- Culture
 - Once adult sons get married they live on the same homestead as their father, but have their own house⁴
 - Courtyard is a shared space for the nuclear and extended family while providing a space for Muslim women to maintain their modesty
- Traditional houses
 - Made by the residents themselves from local materials, such as bamboo and straw
 - Efficient with limited resources, but need engineering help



Objectives

- To protect residents from floods, cyclones, and storm surges
- To provide permanent and affordable housing
- To incorporate the residents' culture in the design

Conceptual Design

- Hexagon-shaped shelter and Hip-roof
 - Aerodynamic
 - Maximizes interior space
 - Improves interior ventilation
- Stilts and Ramp with railings
 - Raised 7.56 feet to prevent floodwaters from damaging the house
 - During flood, ramp floats to serve as a dock
- Verandas
 - Traditional feature of Bangladeshi homes
 - Used to cover windows in rain and harsh winds

References

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2. Harris, M. S. (n.d.). Bangladesh. Retrieved September 28, 2018, from <https://www.everyculture.com/A-Bo/Bangladesh.html>
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4. Harris, M. S. (n.d.). Bangladesh. Retrieved September 28, 2018, from <https://www.everyculture.com/A-Bo/Bangladesh.html>