In order to understand the concept of Container Housing in the Philippines, the concept must be broken down to its components, namely:

- Container Housing
- Local Context (i.e. Philippine Setting)

**Introduction**

Reasons for recycling used shipping container as a livable space:

- reduce the sources of pollution / eyesore that abound in local ports
- shipping containers are structurally sound especially when provided with a good foundation
- walls, floor, and ceiling are already provided
- may be purchased at a relatively low price

Shortcomings of shipping container as a livable space:

- material
- cost

Possible Reasons for Incompatibility with Local Setting:

- ventilation issues
- typhoon issues

Establishment of Parameters for the Study

- Parameters Studied:
  - Engineering Details
  - Thermal Comfort
  - Alteration Issues
  - Tentative Construction Cost
Potential of Container Housing in the Philippines

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Foreign Examples of Container Housing
Conventional MRH in the Philippines
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Establishment of Parameters for the Study
Creation of a Conceptual Container Housing Unit based from Documentary Analysis and Interviews

Comparison of Conventional MRH with the Conceptual Container Housing Unit
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Drawing of Conclusions
**To better gauge the performance of the conceptual container housing unit in comparison with the conventional MRH unit, a color-coding system is used wherein:

- **GREEN** shall signify that the conceptual unit performs better in that category than that of the conventional unit;
- **YELLOW** shall mean that their performance are relatively equal; and
- **RED** shall mean that the container housing unit has a lower performance or requires additional intervention in order to perform as well as that of the conventional unit.**

### To Incorporate Utilities

- Pipelines are concealed beneath floor and wall finishes.

### To Respond to Natural Disasters

- May be stacked up to 8 or 9 livable stories.
- Usually stacked 4 or 5 stories high.
- 5 stories high.

### To Perform Well

- Designed for harsh environments or circumstances brought by sea voyage.
- Perform well in hurricane and earthquake prone areas.
- Does not respond well with ground moisture hence the need to be elevated.

### Structural Components

- Requires good footing.
- Needs to keep the posts and beams of the container intact.

### Comparative Analysis

- Water and waste plumbing are often located in the basement.
- Requires sound structural design.

### Conclusions and Recommendations

- Improves the stability and integrity of the container housing unit.
Potential of Container Housing in the Philippines

**Introduction**

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**Tentative Construction Cost**

<table>
<thead>
<tr>
<th>CATEGORY: TENTATIVE CONSTRUCTION COST</th>
<th>CONVENTIONAL MEDIUM-RISE HOUSING UNIT</th>
<th>CONTAINER HOUSING UNIT</th>
</tr>
</thead>
<tbody>
<tr>
<td>• as of May 31, 2004, <em>data are provided</em></td>
<td>Php 492,380.00</td>
<td>Php 469,350.00</td>
</tr>
</tbody>
</table>

• ODD Cubes Inc. sells a livable unit at Php 360,000

• For on-site construction:

• Mr. Alfonso bought 20 20' Class C containers for Php 39,000.00

• therefore, the 2-20' container for the prototype unit had a cost Php 78,000.00

• As priced by ODD Cubes Inc., each fenestration on the unit would cost Php 60,000.00

• therefore the prototype unit with 4 window and 2 doors would cost Php 60,000.00

• as of May 31, 2004, units are priced at Php 227,000.00 to Php 469,350.00

**Thermal Comfort**

For a 5-storey building, the 2 housing types exhibit similar characteristics.

- Container housing units need to be elevated above ground level for flood reasons but also to keep ground moisture from corroding the material.

**Alteration Issues**

- While both may be insulated by the same means (i.e., foam insulation), the conventional unit does not actually need this insulation while the container housing unit requires it.

**Engineering Details**

- The container housing unit may be constructed for the same cost as that of the conventional housing unit.

Based on the parameters used, Container Housing is feasible for Low-Cost Housing in the Philippines or at least, it performs as well as a Conventional MRH.

However, it is recommended that further studies be made, particularly in gauging the actual performance of the unit through the construction of a prototype unit.

Also, further studies are needed with regards to how receptive local regulations are to this type of construction as well as to what rules and regulations are needed for this particular type of construction.