Key design parameters towards urban resilience

- Insights into the transforming city of Tainan

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Outline

1. Background
2. Method
3. Result
4. Discussion
5. Conclusion
1. Background
1. Background

Won First place
The Urbanists Collaborative + MVRDV

Design By The Urbanists Collaborative and Dutch MVRDV

2. Method

Data
- Get & Manage Information

Analysis
- Analyze & Assess Information

Design
- Create or Recreate
  - Manage Geo-Spatial Information
  - Analyze Geo-Spatial Information
  - Geo-Spatial Design “Geodesign”
2. Method

Data Collection → Flood Risk → City Model → Key design parameters

3. Result

Data collection
STEP 2 Flood Risk

- 1Day, Rain 300mm
- 1Day, Rain 450mm
- 1Day, Rain 600mm

Flood Potential

- Sea Level 0 +2M
- Sea Level 0 +4M
- Sea Level 0 +6M

DEM

Input Dataset → Geoprocessing Tool → New Dataset
**STEP 2**  
**Flood Risk**

Buffer Analysis

**STEP 3**  
**City Model**

1. Input Parcel  
2. Input road
STEP 3 City Model

3. Input River & Green Space

4. Input DEM

5. Rule-base Modeling
**STEP 4** Key Design Parameters

1. River Buffer
2. DEM
3. Flood Potential

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**Raster Calculation**

1. River Buffer
2. DEM
3. Flood Potential

Flood Impact
STEP 4  Key Design Parameters

- Flood Impact 0m
- Flood Impact 0.5m
- Flood Impact 1.0m
- Flood Impact 1.5m

BUILDING + 0.0 公尺
BUILDING + 1.5 公尺
BUILDING + 3.0 公尺
BUILDING + 4.5 公尺

STEP 4  Key Design Parameters

Building Height

<table>
<thead>
<tr>
<th>Design parameters</th>
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<tr>
<td>BUILDING FORM</td>
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<tr>
<td>Roof_Heights</td>
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<tr>
<td>Floor_Heights</td>
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<tr>
<td>Z_Heights</td>
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Adaptation Futures 2016
practices and solutions
STEP 4 Key Design Parameters

Green Space design

Design parameters
4. Discussion

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5. Conclusion

Co-Design Platform
Thanks for your attention

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References

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