

What is the problem?

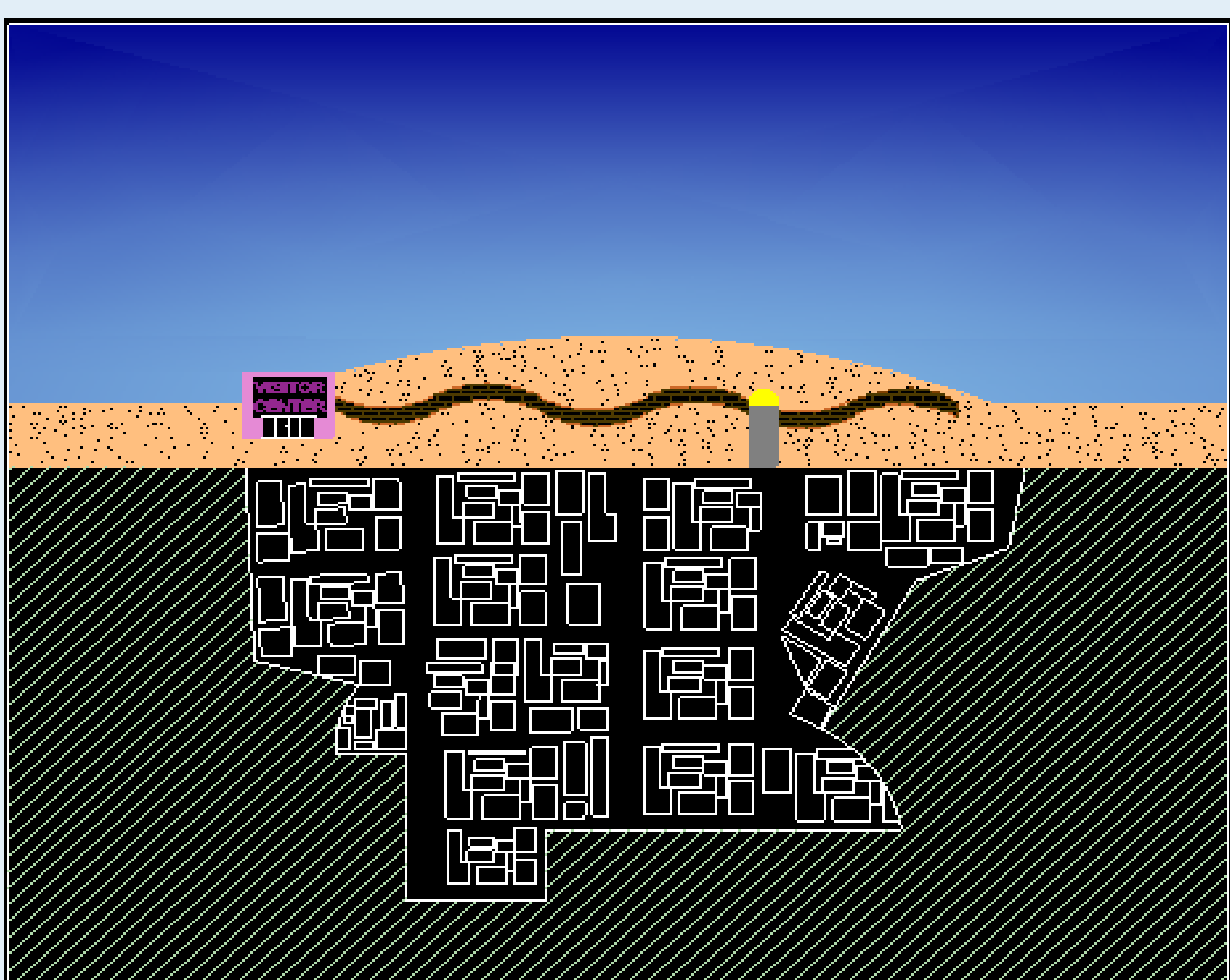
Rising sea levels are threatening to flood large parts of the Dutch coastal village of Westend (see figure 1). Eventually, maintaining the protective sand dunes will become too costly. In order to ensure the safety the people that live in the village, it is necessary to **adapt the town's urban design**. This is a **major challenge** to local governments, as it requires **drastic changes** to the existing environment.



Figure 1: Predicted flooding for 2m sea level rise in case of a storm surge.

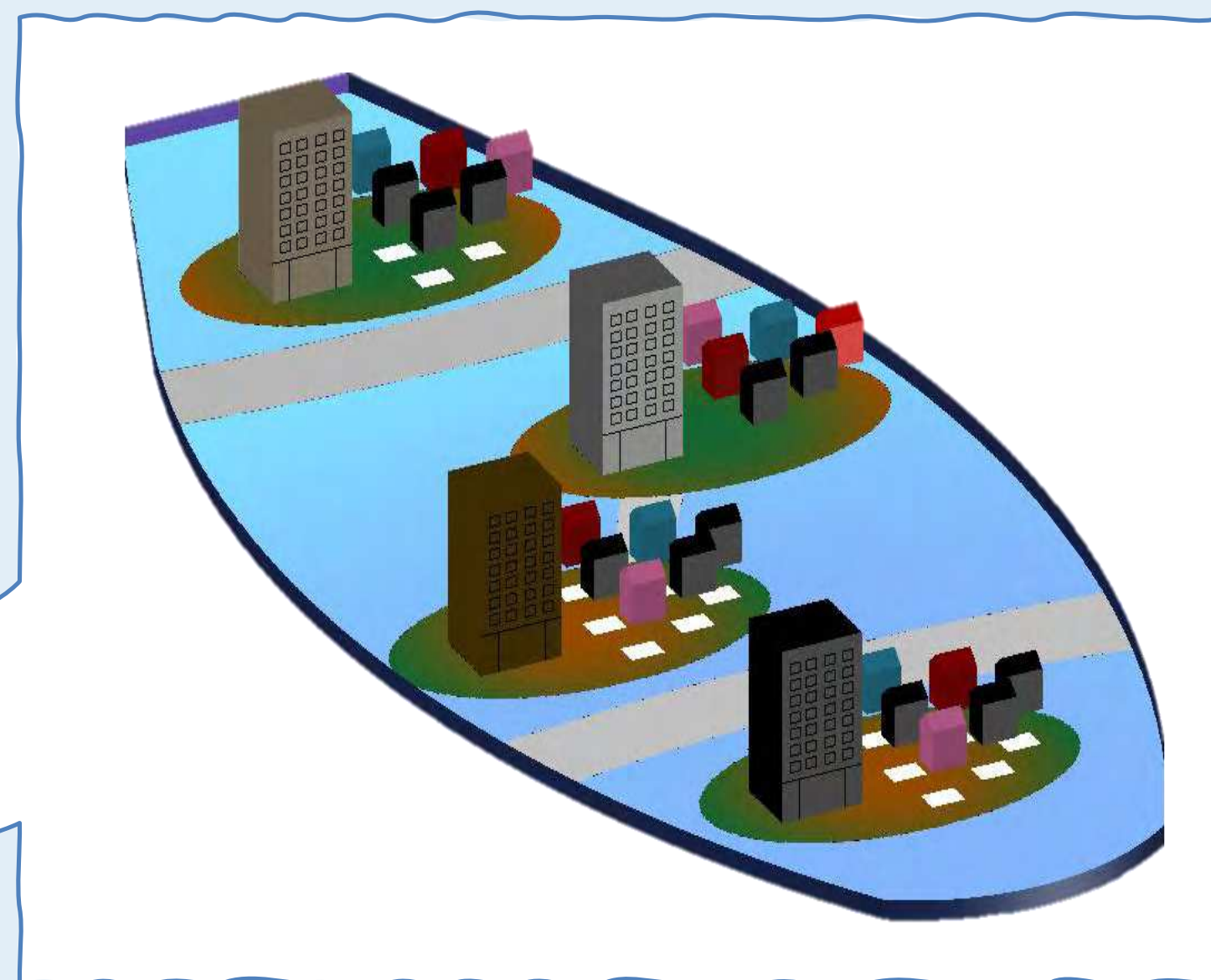
Our solution: a **strategy** to help the village adapt to sea level rise in a **gradual and safe manner**, by means of **three steps**:

1. PROTECTION

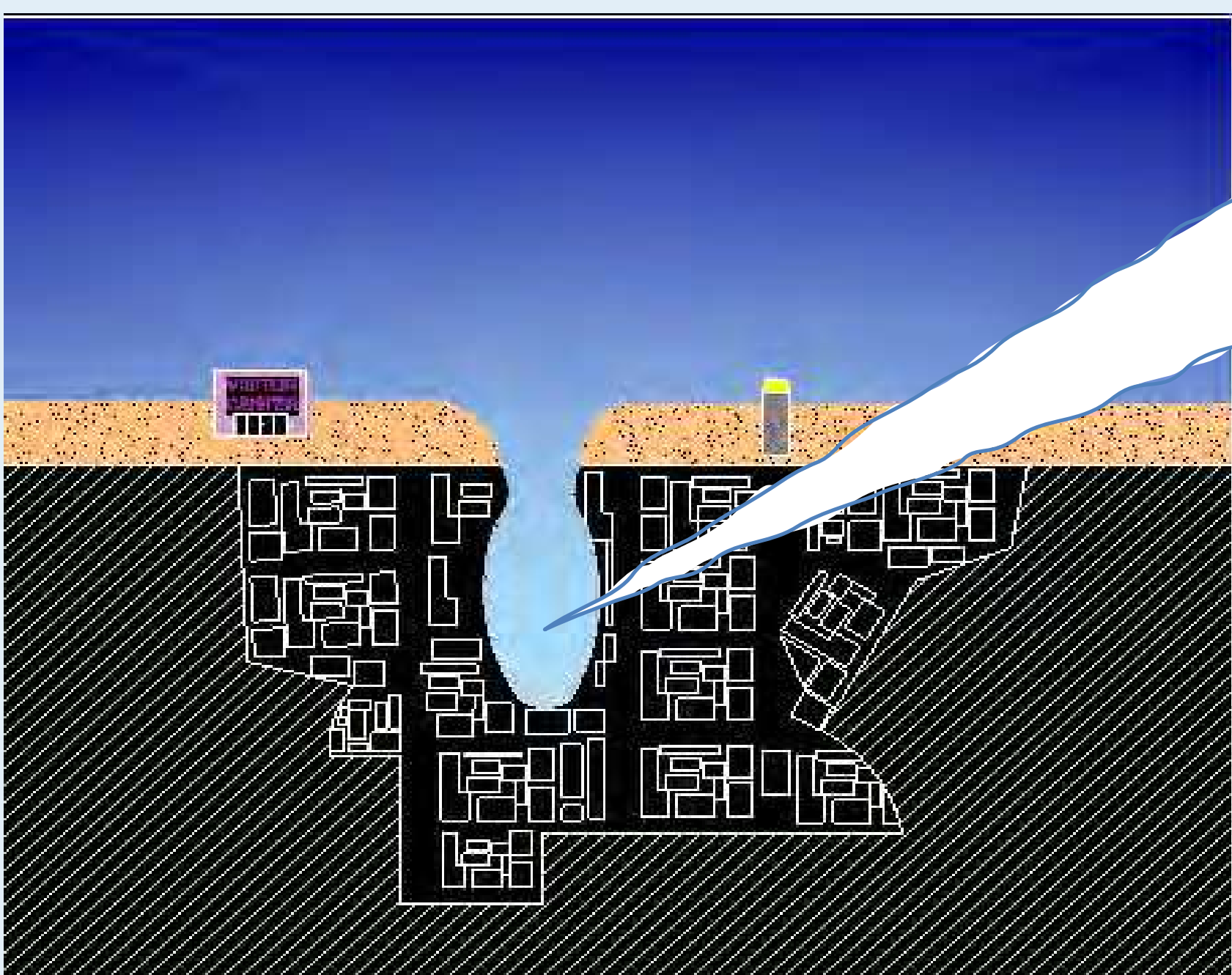


1. Reclaiming land to buy time

- Beach nourishments protect the village until 2100, buying time for gradual adaptation
- Start raising citizen awareness about future water challenges with a visitor's center and a coastal walk



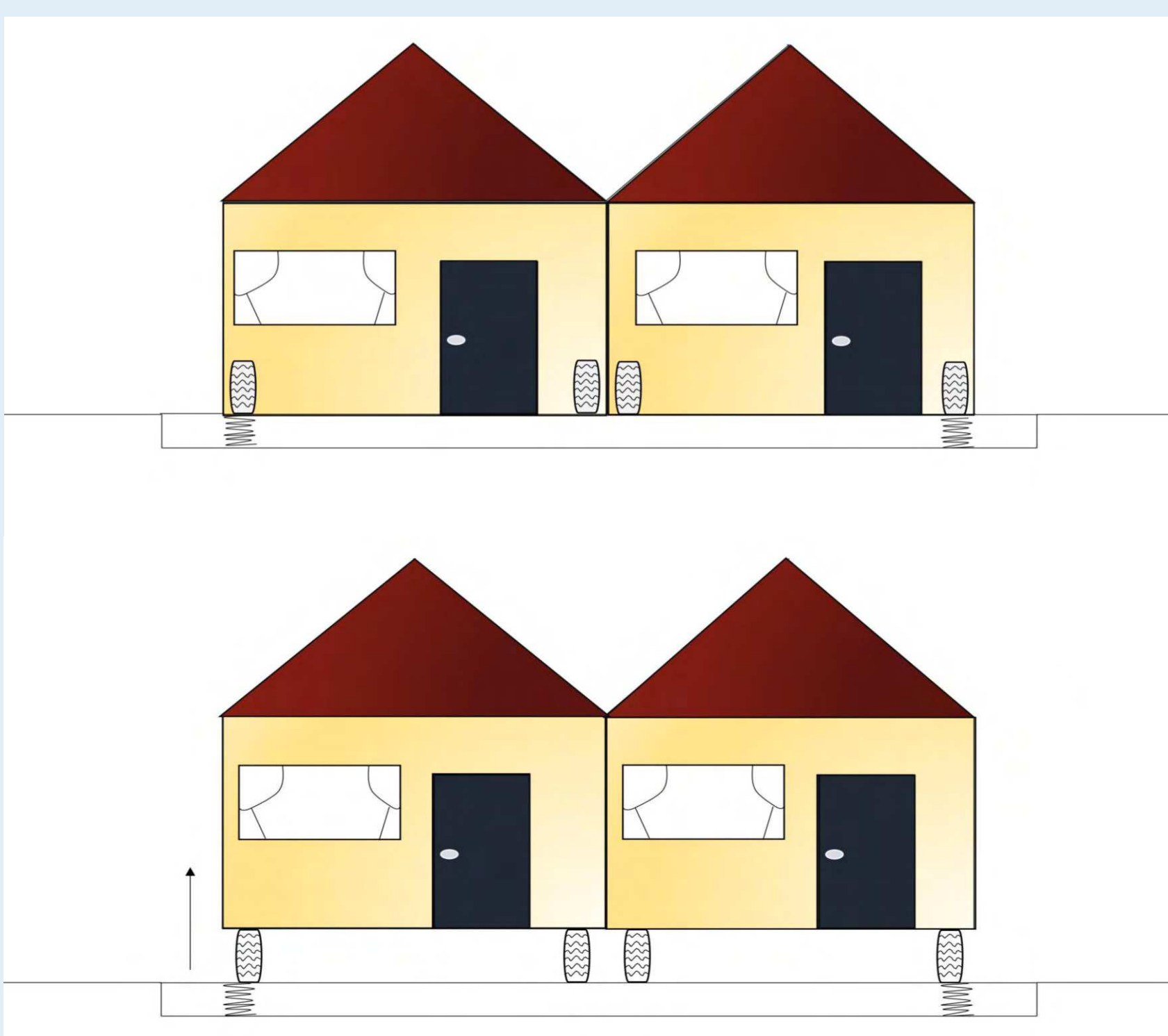
2. ACCOMMODATION



2. Sea lake communities

- Contains habitable artificial islands, connected by bridges
- Creation of a lively, attractive space to live, work and recreate
- Keeping culturally significant buildings

3. RETREAT



3. Portable homes

- People in potentially vulnerable areas can stay in place until relocation is necessary
- Design and size represents traditional building style, reusing old materials
- Easy to relocate to a safe area
- Homes can be combined to create more living space

Benefits

- **Cost-effective** in the long run
- **Enough time** for citizens to embrace their town's future design
- Maintenance of the **town's identity**
- Creating new social and economic **value**
- Solution for **rain-related flooding issues** as well
- Environmentally **sustainable**

Implementation strategy

Research

- Safe areas
- Stakeholder analysis
- Public opinion
- Exact costs

Design

- Design long-term adaptation plan
- Involve all relevant stakeholders

Practice

- Collect funds from government and investors
- Small-scale pilots