


City Centre Sustainable Housing Design Competition

Workshop 3: Sustainable Housing Case Studies

Date: 3 April 2024
Time: 16:00-18:00
Venue: Online hosted by the CIB

Presenter: Jeremy Gibberd



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Structure

- What is the most sustainable housing design?
- Case studies

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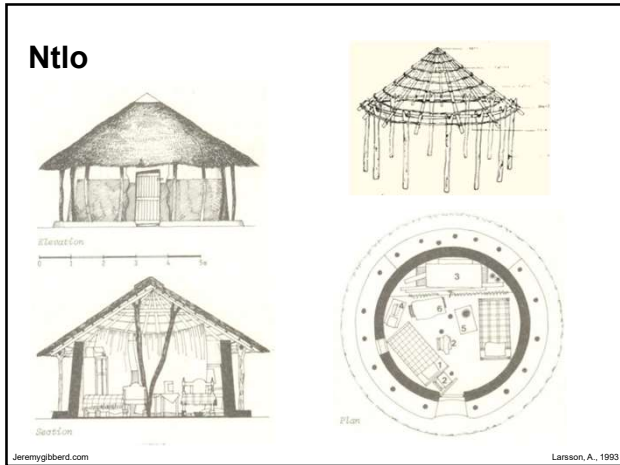
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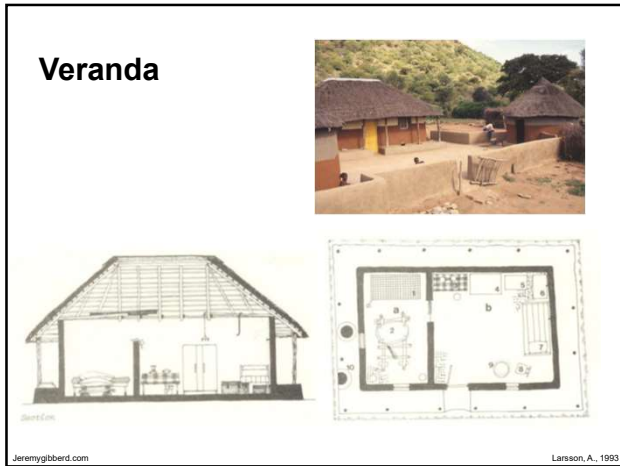
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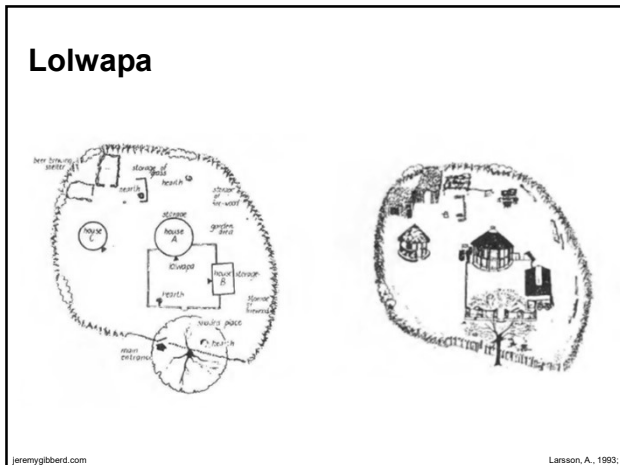
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Structure of space

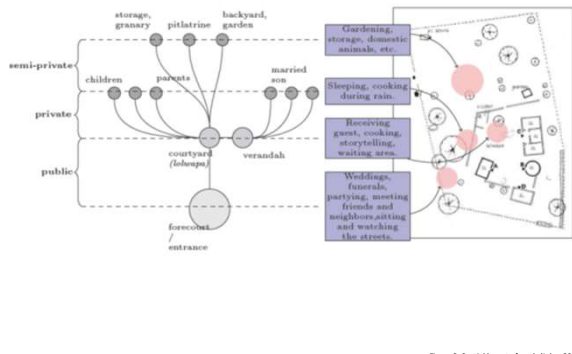


Figure 3. Spatial layout of yards (Jobe, 2017).

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Densification

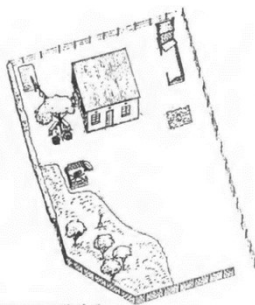


jeremygibberd.com

Kalabamu and Boleane, 2013

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Material banking



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Larsson, A., 1993. Jobe and Williams, 2016

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Informal and Modular Building Systems

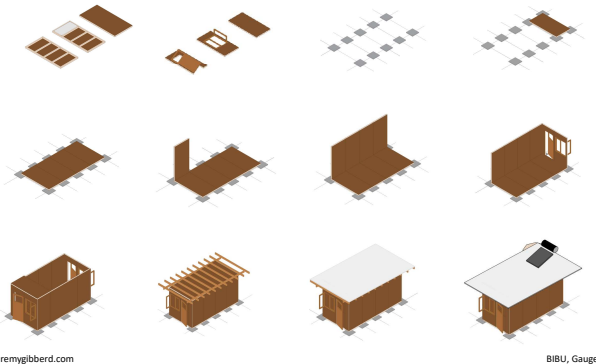


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Phillipi, Gaborone

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Building in a Box Unit (BIBU)



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BIBU, Gauge

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Tiny houses



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Pod itaalia

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Tiny houses



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Cabinville

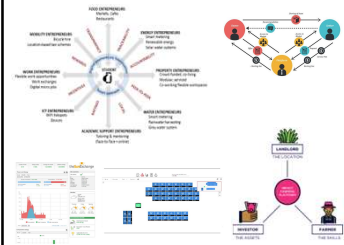
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Alexandra: Alternative Housing Models



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New Business Models



Digital ecosystems to create new enterprises, improved efficiency and increased affordability and access to services:

- Accommodation, energy, food, water, ICT, academic support, mobility services provided by circular entrepreneurs
- Improved access and a affordably through smart metering, tokenisation, crowd funding, work exchanges.

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Gibberd, Fedgroup | Sun Exchange, Local Clean Energy

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Modular Adaptable Mixed-use Buildings: Housing, Small Business and Social Enterprises

The image shows a 3D architectural rendering of a modular building with colorful sections (blue, yellow, red, green). Below it are several 2D floor plans of different building units. To the right is a site plan showing the building's placement within a neighborhood grid.

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Building Services

The diagram shows a vertical cross-section of a building facade with various service lines. A legend on the right lists the components:

1. Rainwater gutter
2. Solar water heater
3. PV panels
4. Hot water cylinder
5. Hot water, electricity, grey/rainwater, potable water supply and meters
6. Apartment
7. PV inverter, battery and controls
8. Incoming potable water mains
9. Rain/grey water storage

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Onsite Service Enterprises (OSE)

Mixed-use passive buildings with

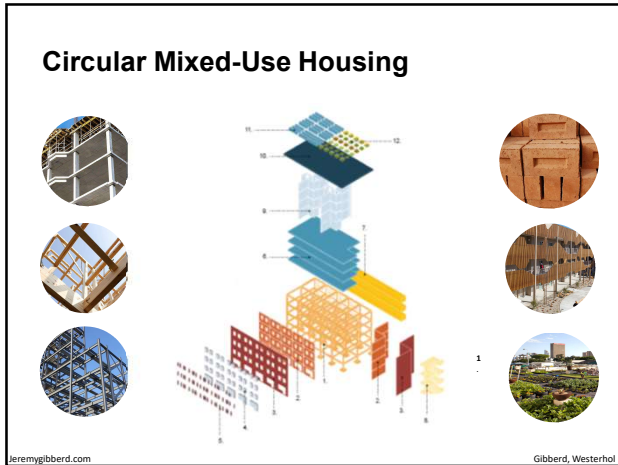
- Renewable energy, hot water, recycling, mobility, childcare, ICT, food onsite enterprises (OSEs)

OSEs:

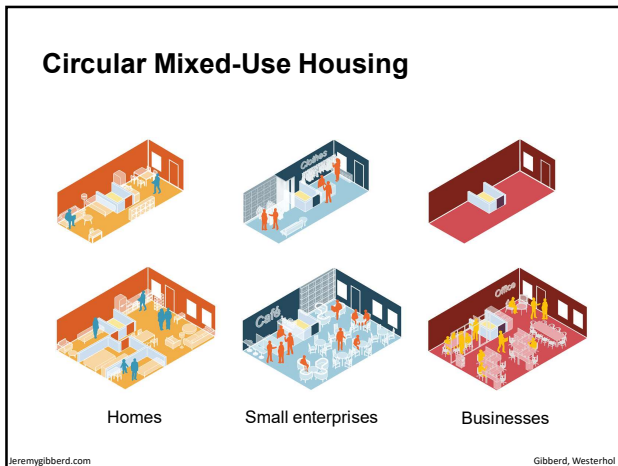
- Optimise performance of systems, reduce waste, reduce capital and operating costs (potential for net zero)
- Enable diversified resilient economy, with a variety of symbiotic enterprises which create local jobs

A collage of circular icons and images illustrating different types of onsite enterprises: solar panels, a farm, a community garden, a recycling bin, a person working, and various service icons.

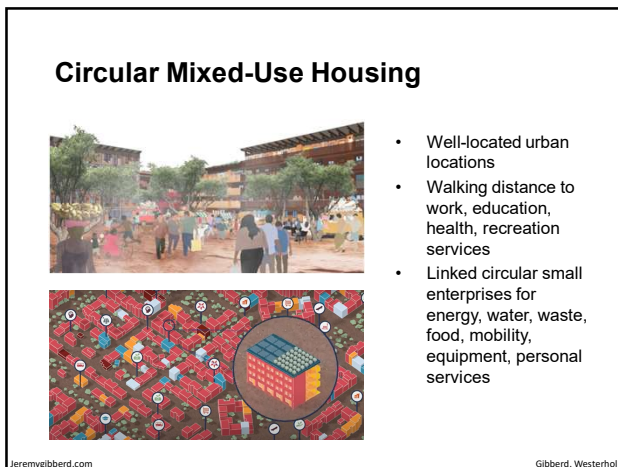
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Thank you, Questions?

Jeremy Gibberd
Coordinator Smart and Sustainable Built Environments W116 CIB

What are the key... Sustainable Building Design

Climate Construction Process

What are the key... Building Design

Sustainable and Energy Efficient

Updating Traditional

How Can Circular Approaches

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