

*NURTURING BUSINESSES
OF THE FUTURE*

TOWARD AN AFFORDABLE HOUSING ECOSYSTEM

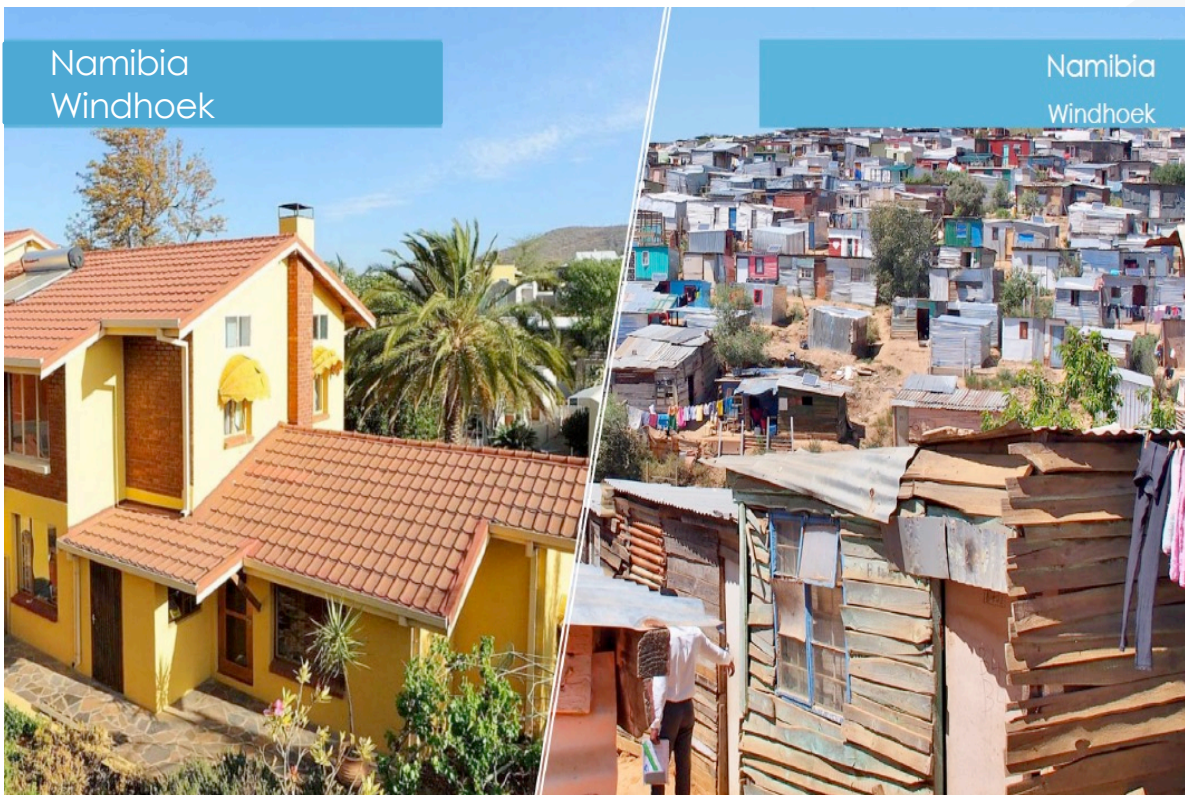
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*ALTERNATIVE HOUSING TECHNOLOGY'S
APPLICABILITY & VIABILITY*

30 MARCH 2022

VETUMBUAVI MUNGUNDA

CONTENT



Introduction



Namibian Housing Context



Alternative Housing Considerations



International Case Studies



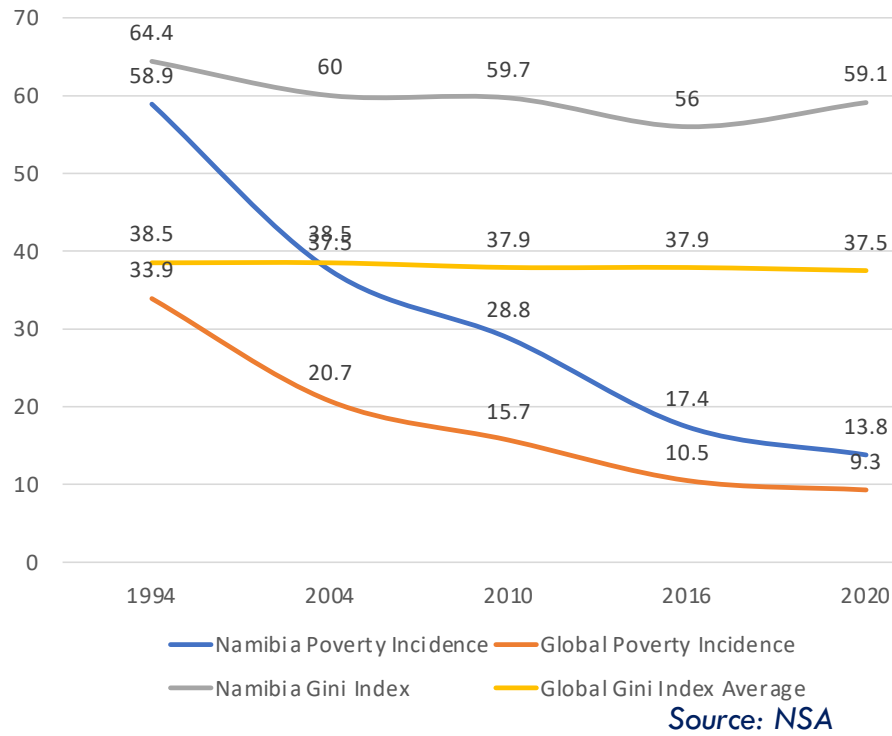
The BioHab Project



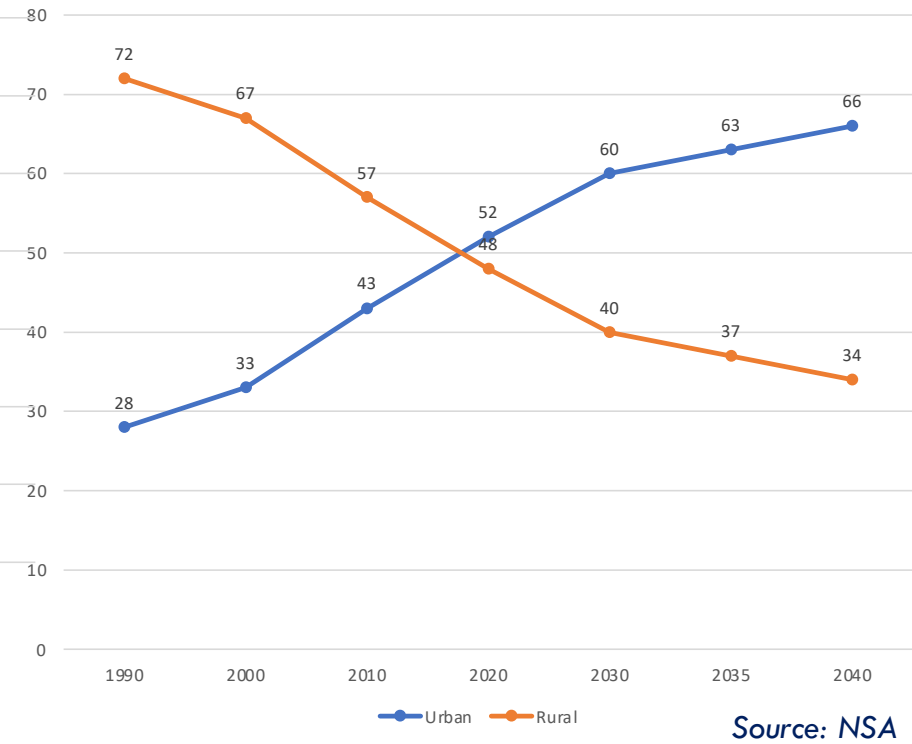
Close

Unemployment, Inequality & Urban Migration

Inequality



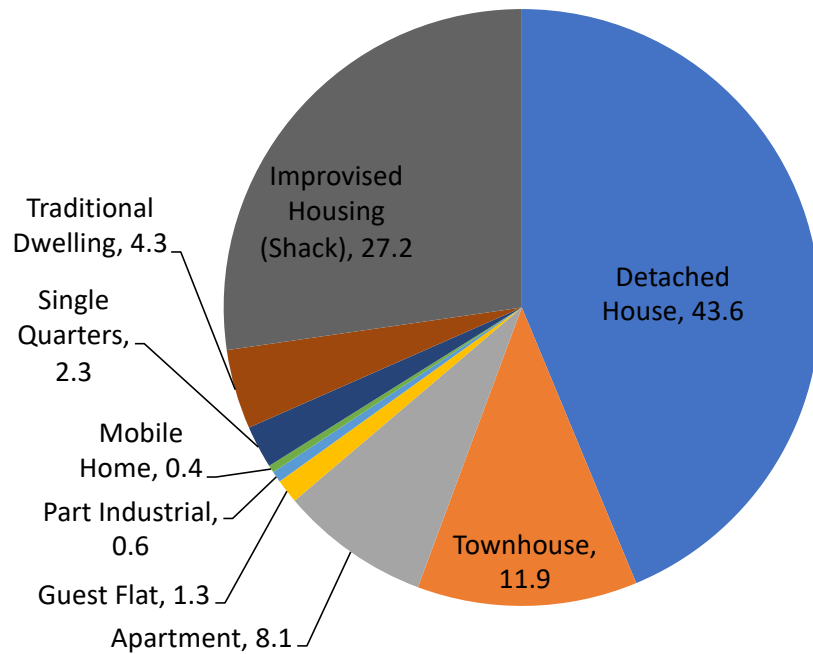
Rural - Urban Migration



CONTEXT | Urban Migration

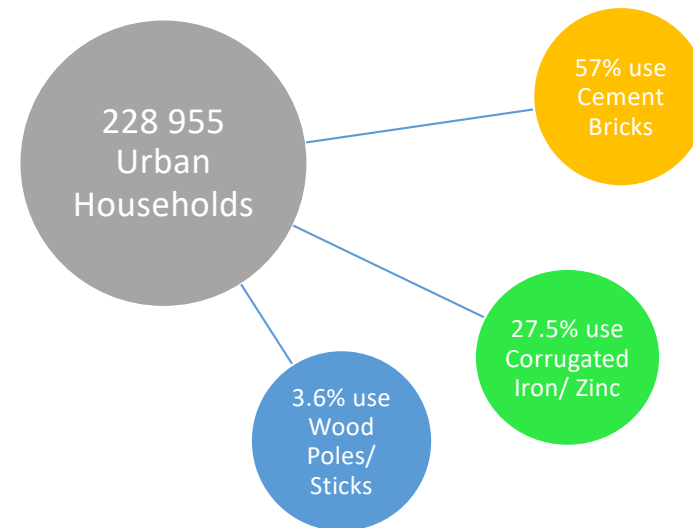
Housing & Demographic Profile

Types of Housing Units (Urban Areas)



Source: 2011 Census

Urban Housing by Materials Used



Source: NSA

Household Income & Affordability

Ave. Annual Household Income	Ave. Monthly Household Income	Percent of Households	Market Segment Designation	Maximum Loan Amount	Housing Loan Provider
N\$11,417	N\$951	24.0	Ultra Low	N\$32,000	Gap
N\$18,137	N\$1,511	25.0	Low	N\$35,432	Gap
N\$29,361	N\$2,447	25.0	Higher Low	N\$57,358	Gap
N\$59,718	N\$4,977	15.0	Lower Middle	N\$116,663	NHE
N\$117,109	N\$9,759	5.0	Middle	N\$228,779	NHE & Banks
N\$183,227	N\$15,269	4.0	Higher Middle	N\$357,945	NHE & Banks
N\$339,455	N\$28,288	2.0	High	N\$663,145	Banks

Source: White Paper on Housing (2016)

- Urbanisation rate higher than population & GDP growth rate.

- 52% of population live in urban areas in 2020, expected to increase to 60% and 66% by 2030 & 2040 respectively.

- Over ½ million Namibians live in informal housing structures

- The average conventional house is unaffordable for 74% of the population.

- With Unemployment & low earnings, only less than 15% of population can access housing loans from commercial banks.

CONTEXT

Household Income & Affordability

| Alternative Housing Considerations

- *Type of Housing Units (Town house, Flats, etc)*
- *Housing Delivery Model (Ownership, Lease to Own, Rental, etc)*
- *Type of Building Material (Brick, Clay, Corrugated Iron, etc)*
- *Costs & Source of Building Material (Local or Imported)*
- *Duration of construction (Time of Essence)*
- *Design Standards (Are the Design Standards & Approval process fit for a developing country?)*

ALTERNATIVE
HOUSING

| *Definition*

| Key Points

- The Shack Dwellers Federation of Namibia provide housing for as little as N\$30,000 – N\$40,000 per house - the most visible & successful low cost housing initiative in Namibia.
Why are they able to do that?
- Construction of clay houses on a 50 square metre clay house average around N\$70,000.
- The target group's maximum affordable house is around N\$35,000 – therefore requires subsidies to make it affordable to over 75% of the population.

CASE STUDIES



- The South African government adopted the RDP Programme in 1994 to provide low cost housing.
- 1.1 million low cost houses were provided whilst access to portable water and electricity was also improved.

- Under the RDP, the government provided a subsidy of R15,000 to beneficiaries earning less than R3,500 p.m.
- In order to target no-to-low income residents, provincial governments provide low cost rental units to those who cannot afford RDP houses.

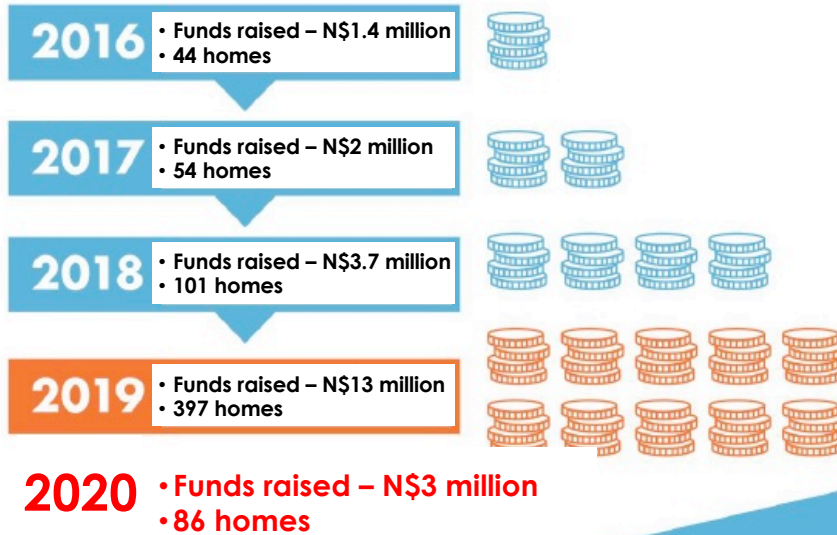
CASE STUDIES



- In Singapore, public housing is regarded as a permanent solution for the majority of its residents.
- In 1947, 300,000 people lived in shacks.
- Following independence in 1959, the government committed itself to subsidizing housing for the entire population.

- Public housing programme with a clear pro-poor goal.
- Provides rental accommodation and allows residents to access funds from the country's social security programme.
- Along with providing grants & subsidies, the government offers flats according to affordability.

The Buy-A-Brick Initiatives



To contribute further to the Buy-a-Brick initiative, direct deposits can be made into the following account:

Bank: Standard Bank Namibia
Account Name: Buy-a-Brick
Account Number: 60001469613
Branch Number (Windhoek Branch): 082372

You can also donate using the PayPulse app. To download the app, simply scan the QR Code.

For more information, contact Magreth Mengo or Saphy Moutan on +264 (0)61 294 2200.



BIOHAB

Alternative Building Methods Initiatives

| The Buy-A-Brick Initiative

The house that 10 cents built

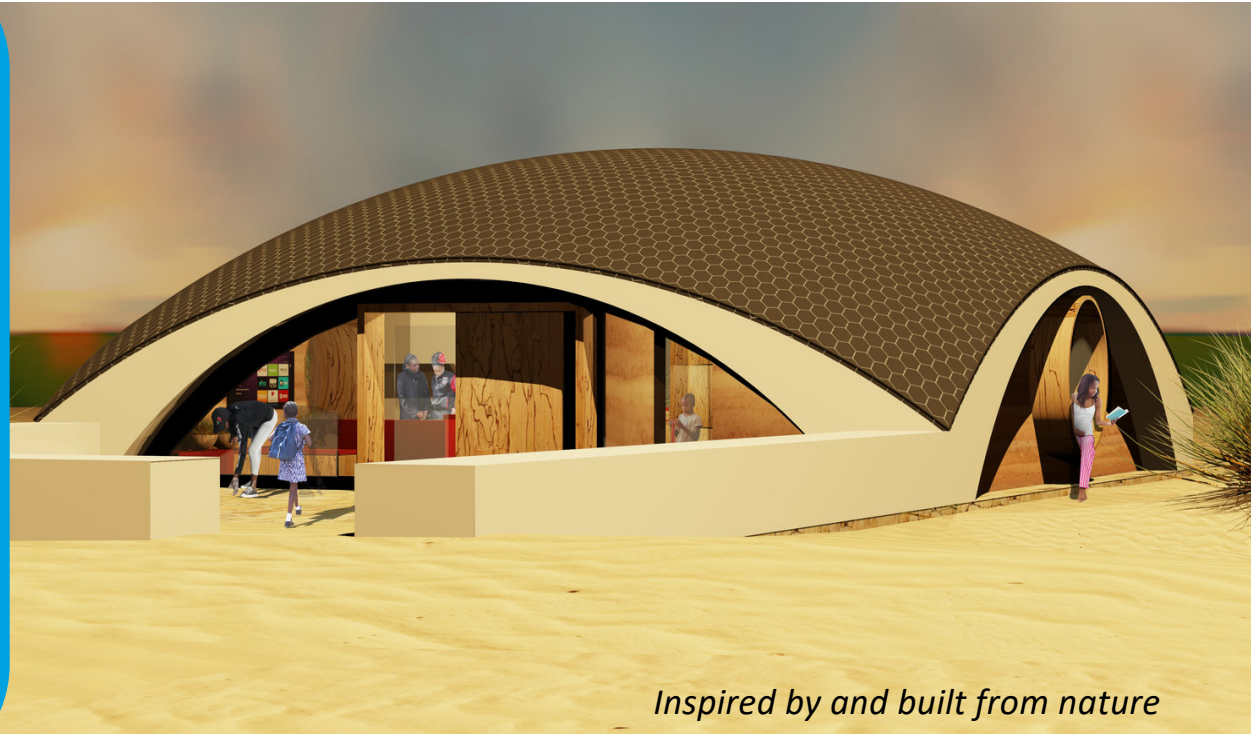


"I want to thank God for inspiring the people behind the Buy-a-Brick initiative, because without them we would not have a decent home. I would also like to urge anyone who doesn't have a home to join the SDFN so they can empower you to also get one through the Buy-a-Brick initiative."

BIOHAB | *Alternative Building Methods Initiatives*

Mycelium revolution is upon us

BioHAB is an inexpensive structure for housing employing a novel and sustainable building practice using mushroom mycelium, that leverages innovation and technology from NASA's MARS project....



BIOHAB | *Alternative Building Material Initiatives*

| The BioHAB Initiative

Standard Bank and MIT Center for Bits and Atoms (CBA) are partnering to develop an *innovative way of building houses.*

BioHAB is not simply creating a building, *it's creating an ecosystem.*



Namibia is the pilot country for BioHAB.

BIOHAB

| *Alternative Building Material Initiatives*

The BioHAB Initiative



The successful Buy-A-Brick Initiative has given rise to the search for alternative building material and methods

Support research & innovation in the end-to-end biological value chain & ecosystems from encroacher bush to mushrooms, mycelium bricks and fertilizer – Turning undesirable encroacher bush into innovative, value-added products

Support the creation of potential new products and economic ecosystems such as bricks, doors, ceiling, partitioning boards and table-tops.

Support the creation of new innovations, skills, know-how and capabilities

Contribute to food security and potential new export foreign revenue

Creation of a lab for new technological, innovative and entrepreneurial opportunities and employment creation.

Potential for even further diversified value-added products (Ganoderma/reishi mushrooms) – Tea, coffee, dietary supplements, vitamins and herbal medicine.

Testing of enhanced new technological capabilities (Traceability) that can easily be replicated in the agriculture, fishing and other related sectors.

BIOHAB

Alternative Building Material Initiatives

| The Brakwater Laboratory

Infrastructure on site completed



Remaining Infrastructure work to be done

- 1x BioFAB Lab Building



BIOHAB

Alternative Building Material Initiatives

Holistic Design

By utilizing the waste cycles of agriculture, the fabrication of materials, creates a closed loop system whose processes support:

- Water security
- Hygiene
- Food Security and Commerce



Thank you