



Sustainable Business Strategies Inspired by Nature

Presentation by Gamelihle Sibanda

OUTLINE

- Biomimicry Primer
- Overview of the Biomimicry Process
- Biological Strategy emulation
- Examples of Biomimicry Applications
- Examples of Business Strategies Inspired by Nature

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A Biomimicry Primer

- Biomimicry?
 - $\hfill \square$ from bios, meaning life, and mimesis, meaning to imitate.
- What is Biomimicry?
 - conscious emulation of nature's creative genius
- Why Biomimicry?
 - 3.8 billion years of R and D

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Outline of the Biomimicry Process

- Define the challenge and the context
- Biologize the challenge
- Discover natural models of success
- Abstract deep principles
- Emulate best practice from nature
 - Evaluate against design criteria



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Water bears (tardigrade) can dry out and live some 120 years and wake up if rehydrated. Can withstand

1)-200 deg C to +151 deg C. 2) 1000 times more radiation 3) withstand 6 times pressure of deepest Inspired by the tardigrade's ability to dry out and function again upon re-hydration sugar stabilised anti-biotics that do not require refrigeration are now being developed.

Medical – Tardigrade – Unrefrigerated Antibiotics

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Pulling the Right Business Levers

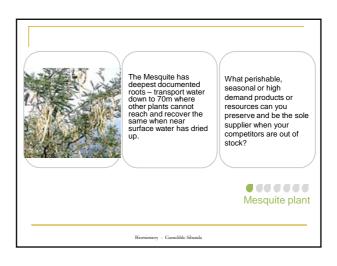
- Ideal business traits
 - □ creative, alert, dynamic, adaptive, agile, resilient
- Niche Positioning
- Dimensions for change
 - □ Culture, People, Process, Product, Infrastructure

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Summary of Featured Organisms

- 1. Plant Mesquite
- 2. Sea organism Siphonophores
- 3. Mammal Skunk
- 4. Mammal Kangaroo
- 5. Bird Black Heron
- 6. Reptile Lizard
- 7. Insect Ants that farm Aphids

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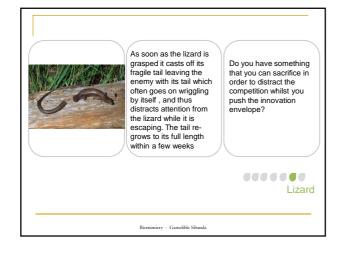


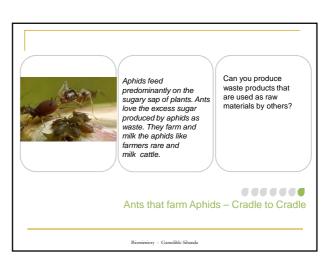


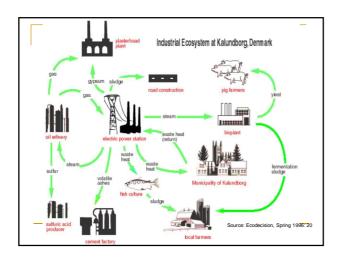












Nature is our Mentor, Model and

Measure

- Mentor The focus of biomimicry is not what we can extract from nature but what we can learn from it.
- Model Biomimicry uses the forms, processes, systems, and strategies employed by the natural world as inspiration for sustainable solutions.
- Measure Looking at the standards set by nature, biomimicry aims to measure the sustainability of inventions using ecology as a benchmark.
- Causing any species to be extinct is like burning a library before others have accessed its knowledge resources.

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