URBAN PERMACULTURE

creating regenerative cities

Alaska Cold Climate Permaculture

Lisa DePiano
Mobile Design Lab

August 2016

TWO CORE BELIEFS

- It is possible and necessary to adapt our cites to provide food, water, energy and reuse waste while increasing the health of the soil, water & air

- It is possible and necessary to do this while increasing local ownership and access to resources

lack of traditional knowledge

oppressed

pollution!

lack of apprecation of materials

species extinction

monoculture... green lawns

dependence on fossil fuels

energy inefficiency

entitlement

GREED

marginalized

lack of solidarity

impatience

desensitization

"The American Dream"

POLITICS

as entertainment

over-consumption

wealth gap U.S. + global

Materialism

HUNGER

technology

land-use

inequity

media

lack of investment in renewable resources

corporation big business

lack of COMMUNITY

overpopulation

homelessness

deforestation

capitalism

lack of education on wholism

POVERTY

generalizations

waste management

underconsumption of good food

quick fixes

what do we really need?

lack of accountability

suburbanization

disconnection

WHY WERE CITIES CREATED?

Community

Commerce

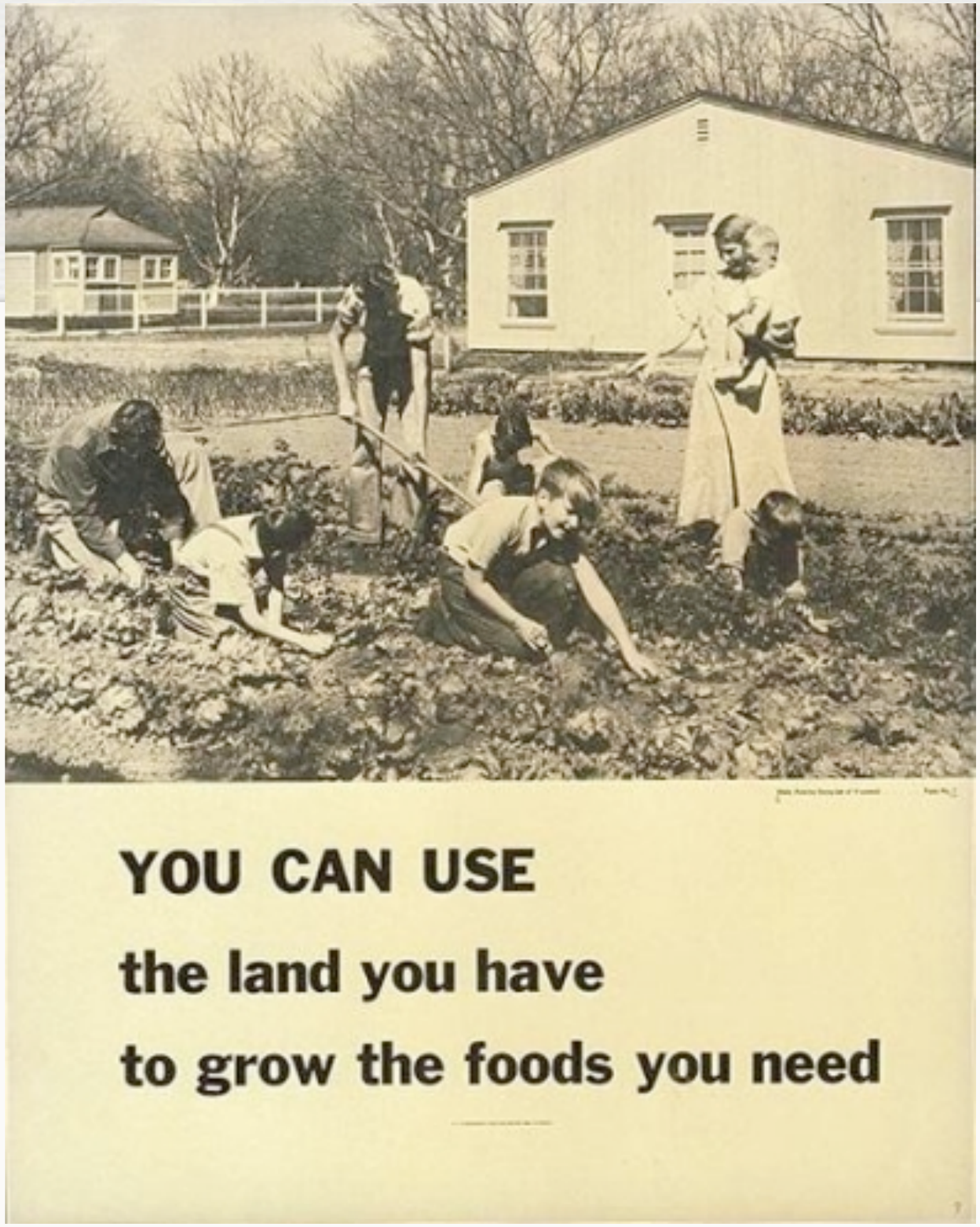
Security

Functions: identifies needs, yields, relationships and goals

CITIES AS A LEVERAGE POINT FOR CHANGE

- Over 50% of the worlds population lives in cities and that number is increasing
- Cities have existing infrastructure that can be adapted
- Start at sites that are already disrupted
- 80% of gardeners live in urban areas
- Cities are sites of culture → shift

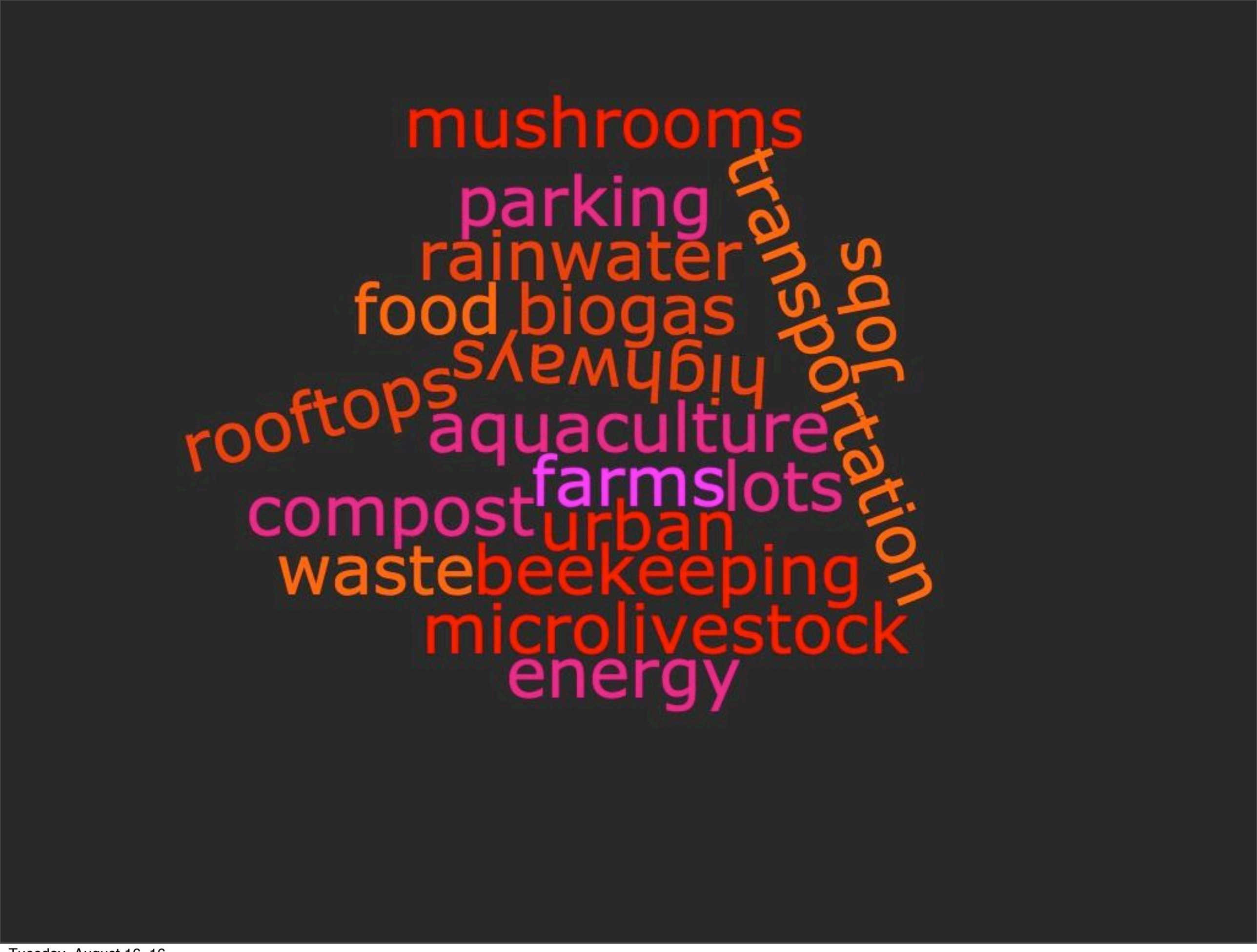
"We'll have lots to eat this winter, won't we Mother?"
Grow your own
Can your own


YOU CAN USE
the land you have
to grow the foods you need

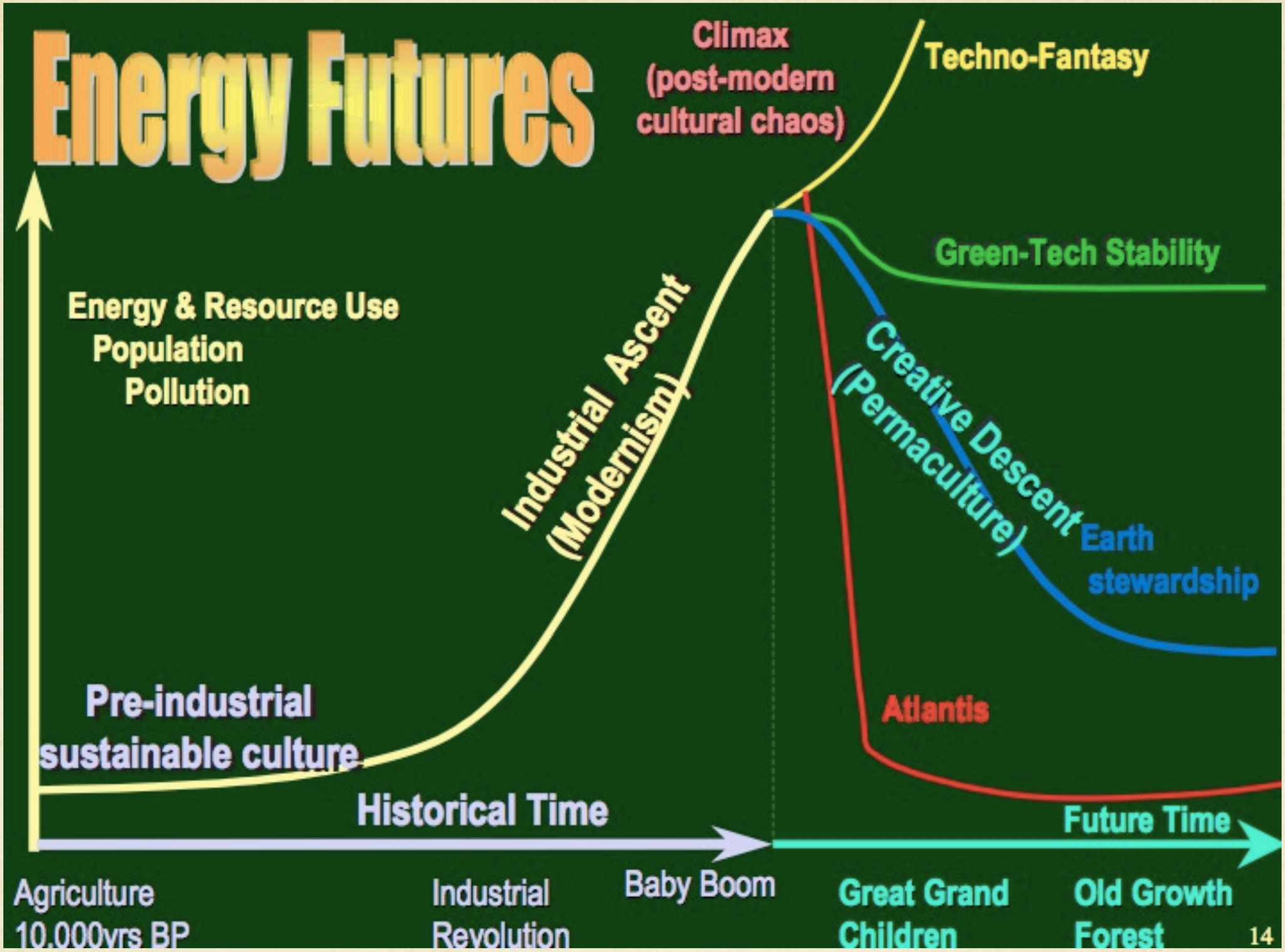
SAVE MONEY THE EASY WAY
GROW A GARDEN
IT'S THRIFTY
IT'S PATRIOTIC
PLANT TO-DAY!

VICTORY GARDENS

In 1942, roughly 15 million families planted **victory gardens**; by 1944, an estimated 20 million **victory gardens produced** roughly 8 million tons of **food**—which was the equivalent of more than 40 percent of all the fresh fruits and vegetables consumed in the United States


mushrooms
parking
rainwater
food
biogas
highways
rooftops
aquaculture
transportation
jobs
farmslots
compost
urban
wastebeekeeping
microlivestock
energy

Energy Futures



Energy Futures

Energy & Resource Use
Population
Pollution

Techno-Fantasy

Climax
(post-modern
cultural chaos)

Green-Tech Stability

Industrial Ascent
(Modernism)

Creative Descent
(Permaculture)

Earth
stewardship

Atlantis

Pre-industrial
sustainable culture

Future Time

Historical Time

Agriculture
10,000yrs BP

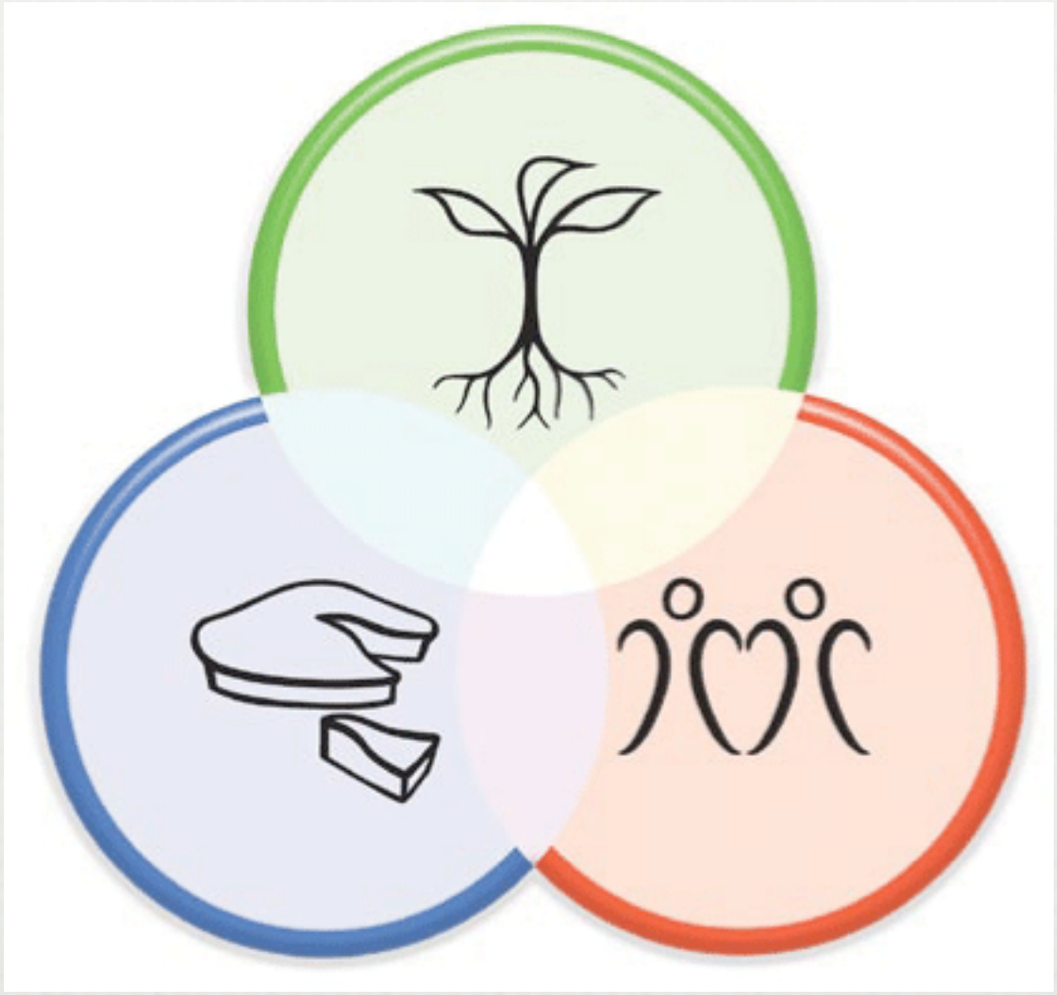
Industrial
Revolution

Baby Boom

Great Grand
Children

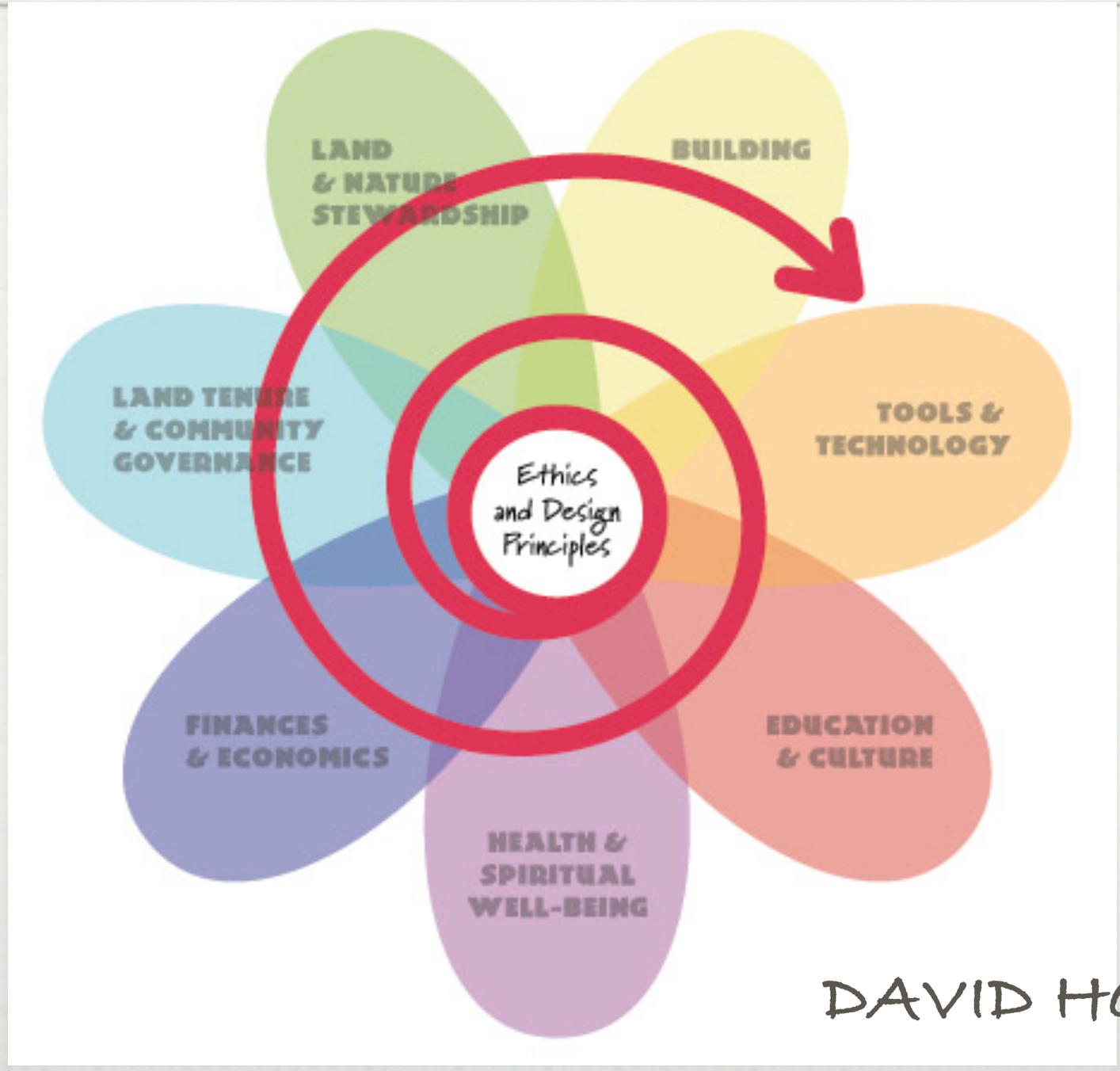
Old Growth
Forest

PERMACULTURE ETHICS



DAVID HOLMGREN

PERMACULTURE IS MORE THAN GARDENING



DAVID HOLMGREN

THE PROBLEM IS THE SOLUTION

COLD CLIMATE CASE STUDIES

CASE STUDY

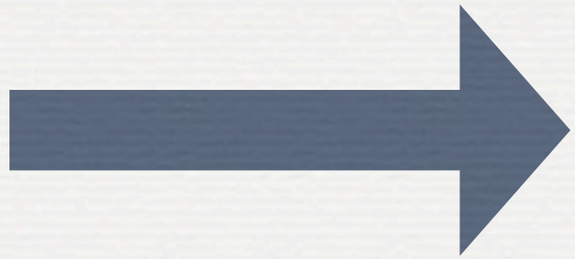
TOXIC SOIL BUSTERS

WORCESTER, MA

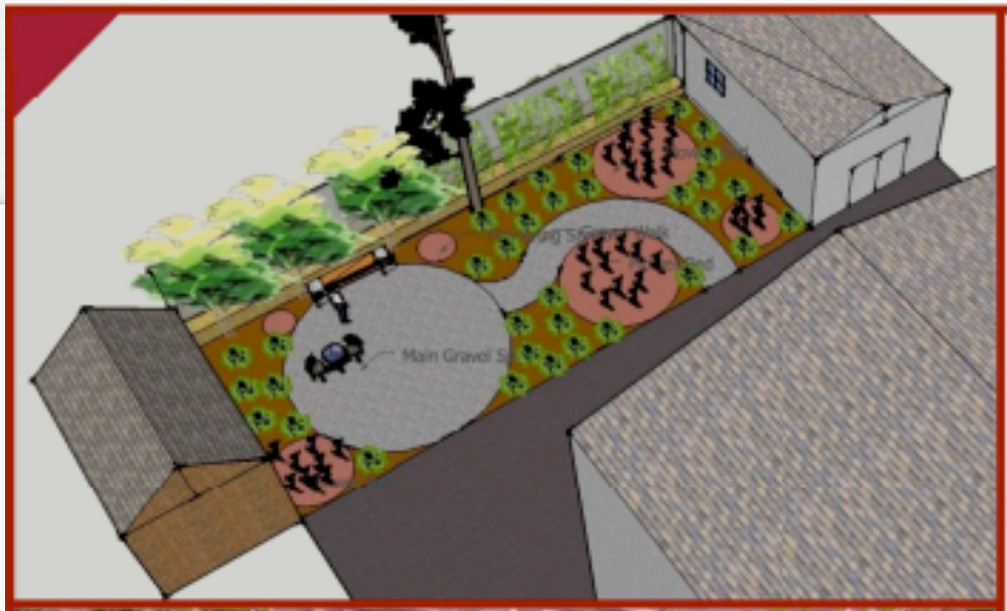
waste
food
desert
worker
coops
youth
jobs

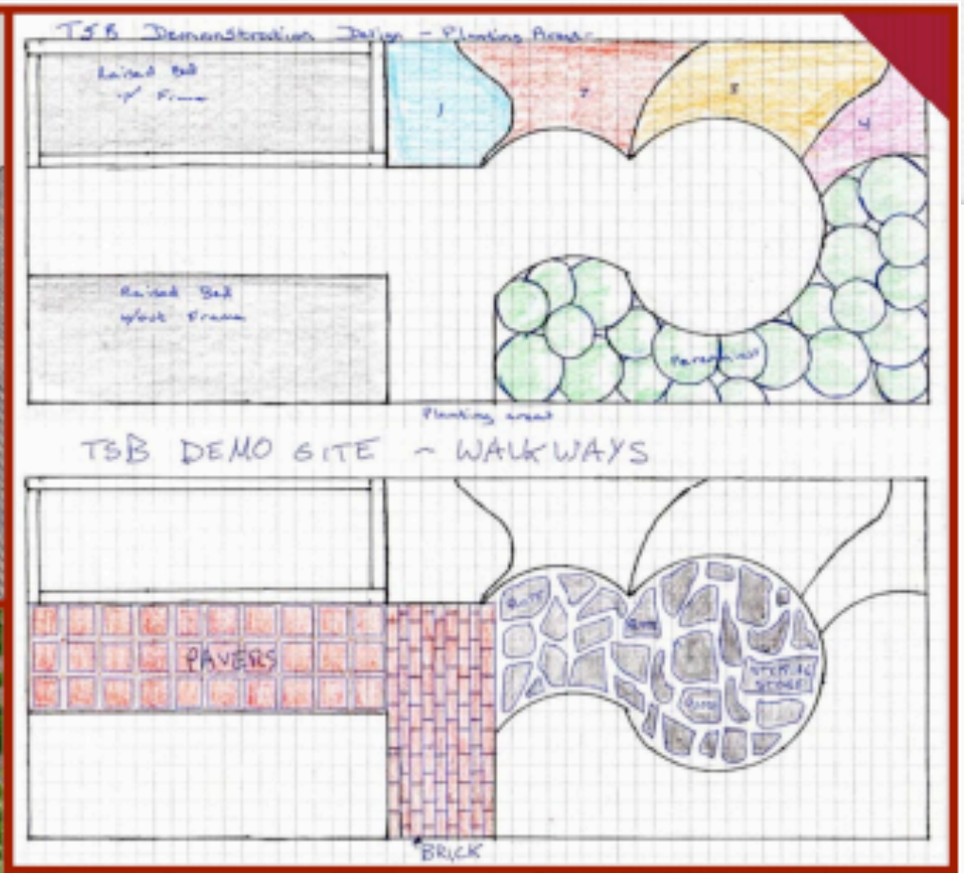
PROBLEM IS THE SOLUTION

Youth
Unemployment
Food Deserts
Toxic Soil
High lead levels



Jobs
Youth
Empowerment
Fresh Food
Health




TSB Demonstration Design - Planting Areas
Raised Bed w/ Fence
Raised Bed w/out Fence
Planting Areas
TSB DEMO SITE ~ WALKWAYS
PAVERS
BRICK

TOXIC SOIL BUSTERS!

BIOREMEDIATION

- A process that uses microorganisms, fungi, green plants, or their enzymes to return the natural environment altered by contaminants to its original condition.

aquaculture

vertical
production
training
center
growing
greenhouse
vermiculture

GROWING POWER
MILWAUKEE, WI

- Mission: end World Hunger
- 6 Million dollar budget

- 1 million pounds of food on 3 acres
- 10,000 fish
- Year round without heat

#1

feed

fresh water

fish

ammonia
and other
fish waste

slide from Rafter Ferguson

#2

fresh

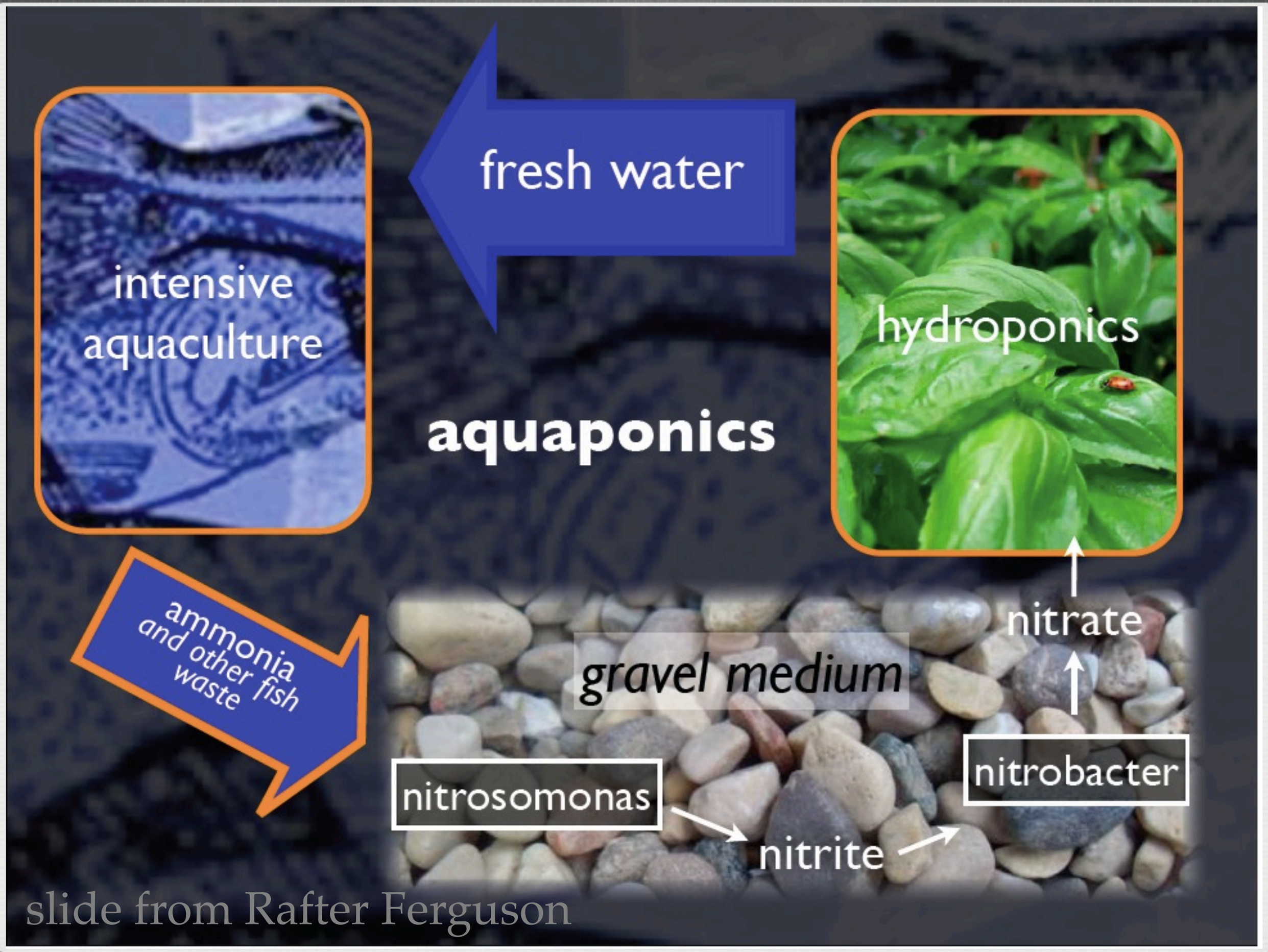
mineral fertilizer solution

water

crops

water depleted of nutrients

slide from Rafter Ferguson


intensive aquaculture
fresh water
hydroponics
aquaponics
ammonia and other fish waste
gravel medium
nitrate
nitrobacter
nitrosomonas
nitrite
slide from Rafter Ferguson

Worms

honey•eggs
meat•milk

bees
chickens
goats

URBAN
WASTE
STREAMS
food scraps
brewery grain
coffee grounds
wood chips

mushrooms

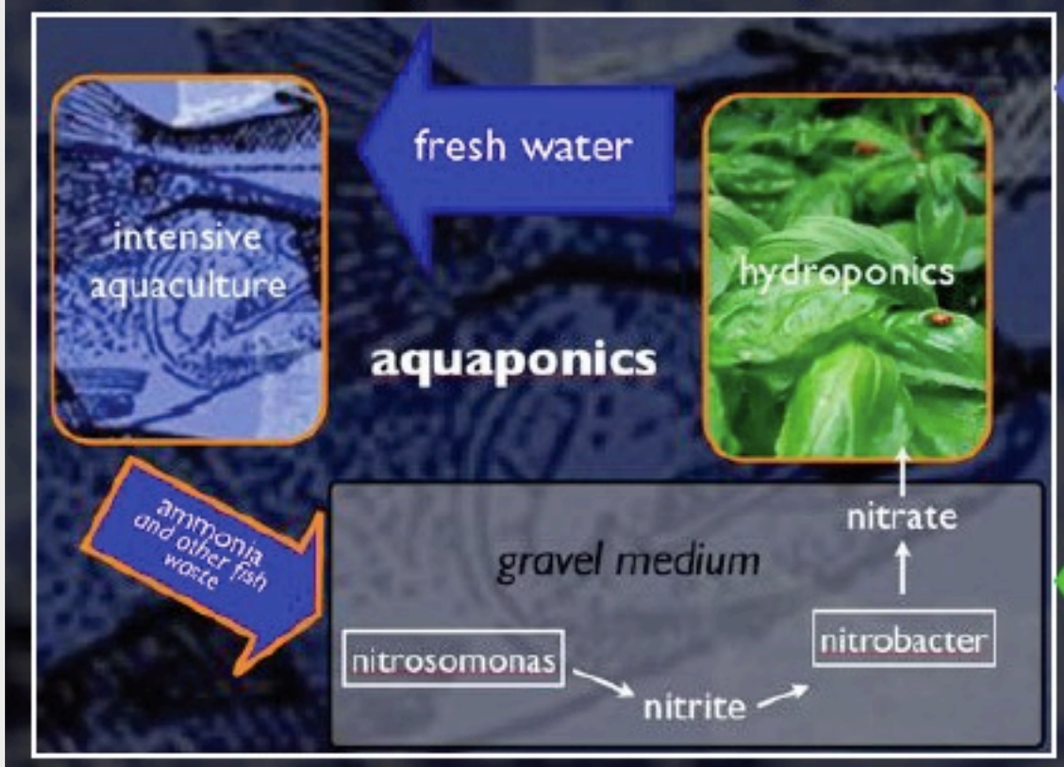
worms•compost•castings•sprouts

perch • tilapia • micro-greens

fish feed

vermicompost

potting mix



slide from Rafter Ferguson

Growing Food and Justice

Youth Corps

On-site Workshops

School Gardens

National Training Centers

Int'l Development

Research Partnerships

slide from Rafter Ferguson

MAGIC HAT BREWING
BURLINGTON, VERMONT

WASTE IS AN UNUSED RESOURCE

"WASTE" FROM BEER

SPENT GRAIN

HOPS

WATER

OTHER FLAVORING

TRUCKING WASTE

ANIMAL FODDER

COMPOST THAT DOESN'T LEACH NITROGEN

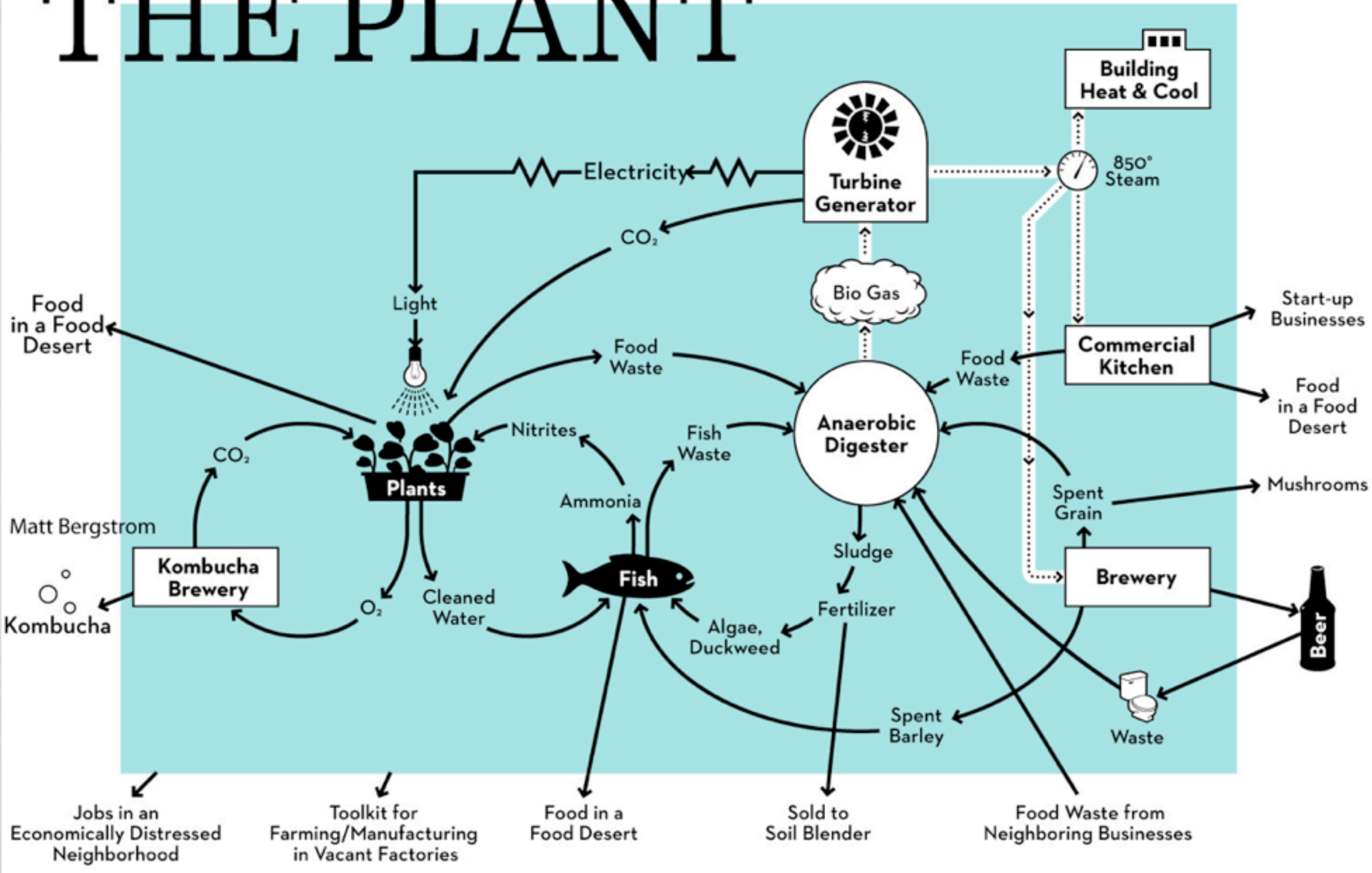
ENERGY

JOBS

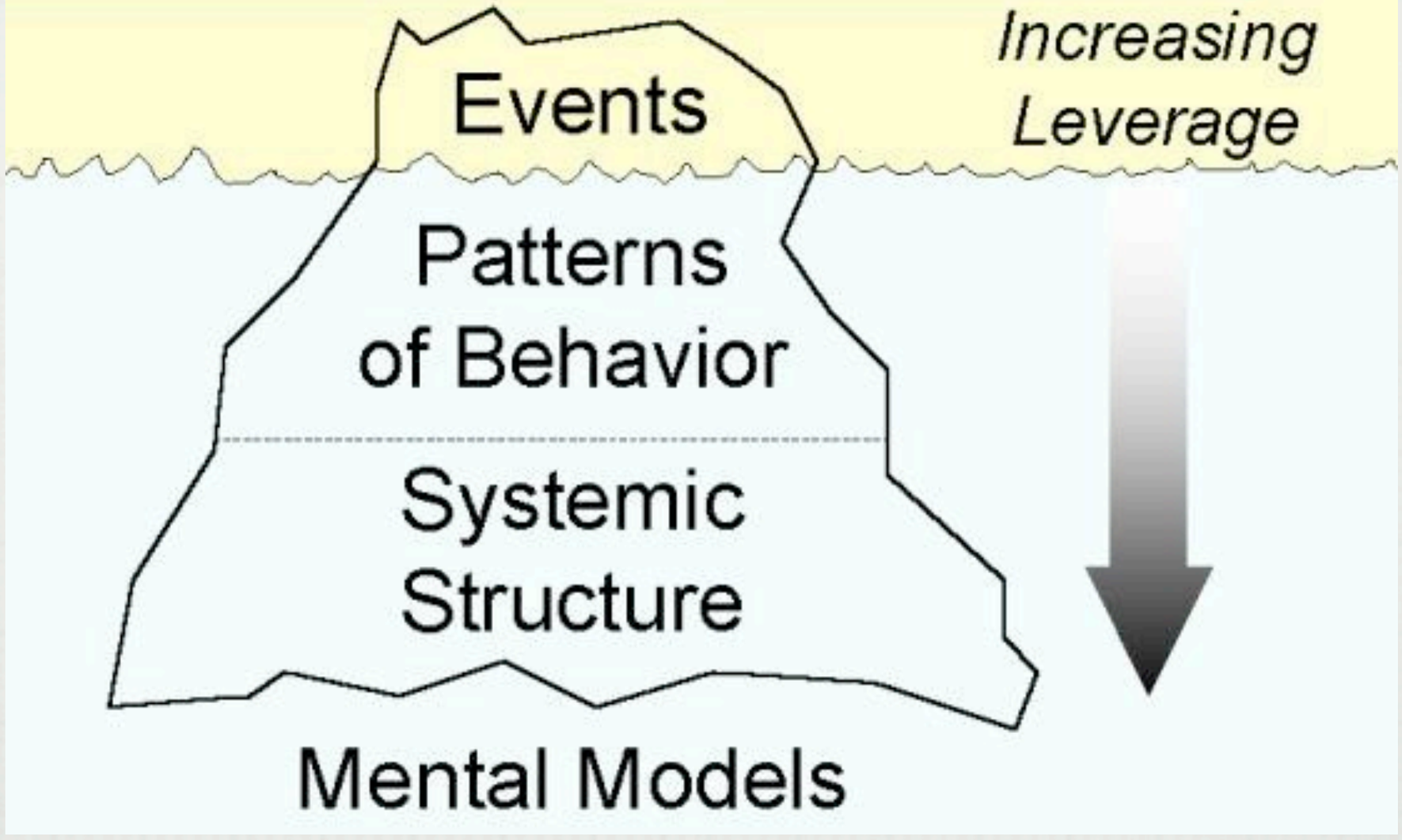
CLEAN WATER

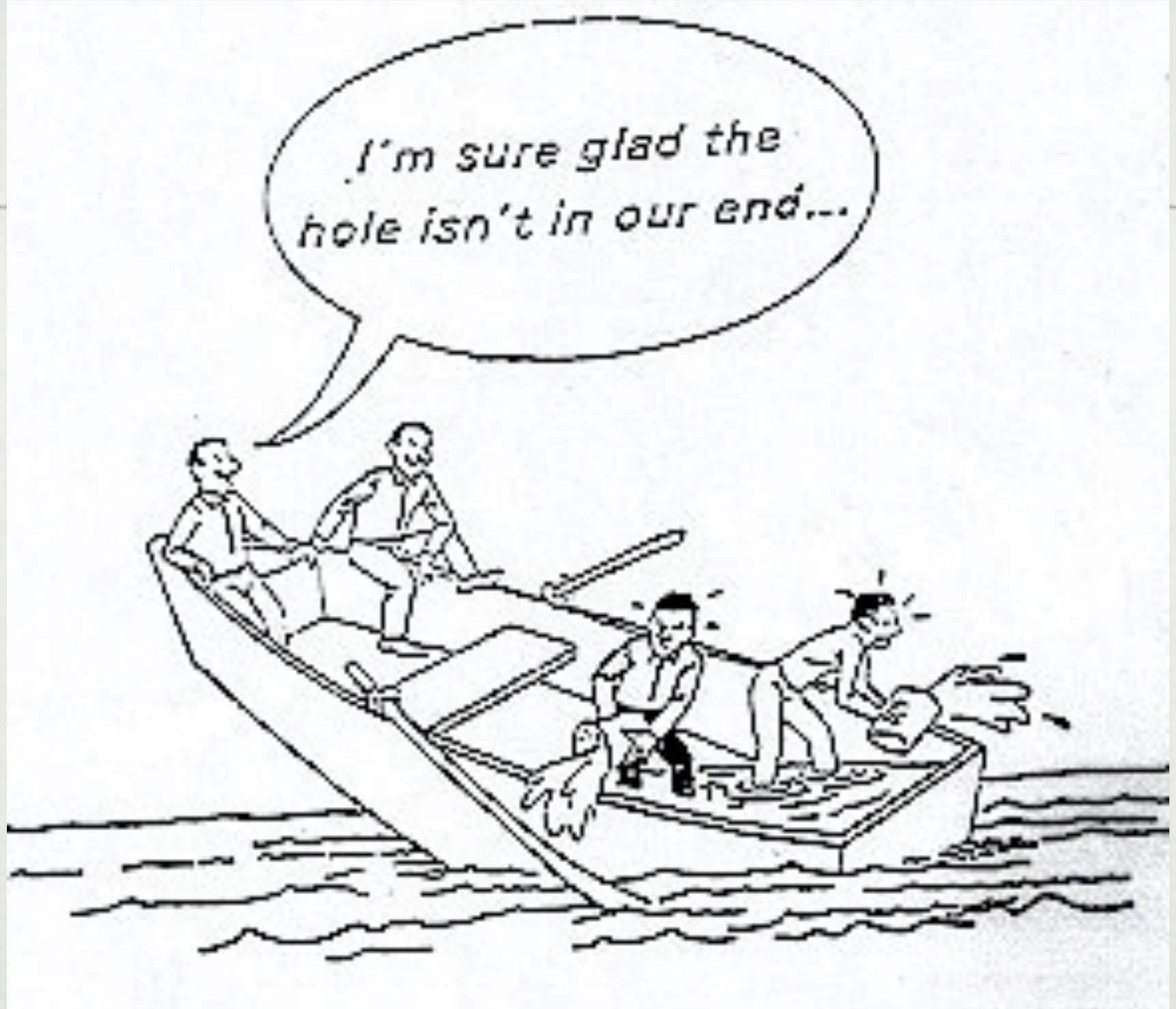
BIO GAS DIGESTER

THE PLANT

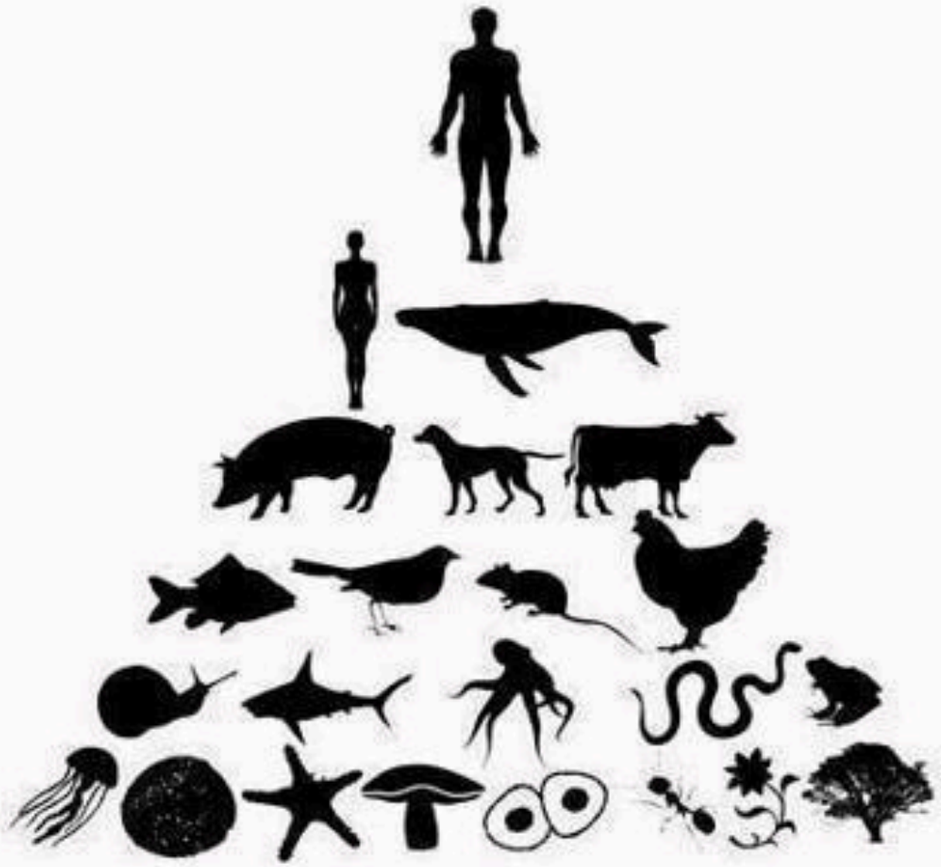

Building Heat & Cool
Turbine Generator
Electricity
850° Steam
CO_2
Bio Gas
Light
Food in a Food Desert
Food Waste
Start-up Businesses
Commercial Kitchen
Food Waste
Food in a Food Desert
Nitrites
Fish Waste
Anaerobic Digester
CO_2
Plants
Ammonia
Spent Grain
Mushrooms
Matt Bergstrom
Sludge
Kombucha Brewery
Fish
Brewery
Kombucha
O_2
Cleaned Water
Fertilizer
Algae, Duckweed
Beer
Spent Barley
Waste
Jobs in an Economically Distressed Neighborhood
Toolkit for Farming/Manufacturing in Vacant Factories
Food in a Food Desert
Sold to Soil Blender
Food Waste from Neighboring Businesses

The Iceberg

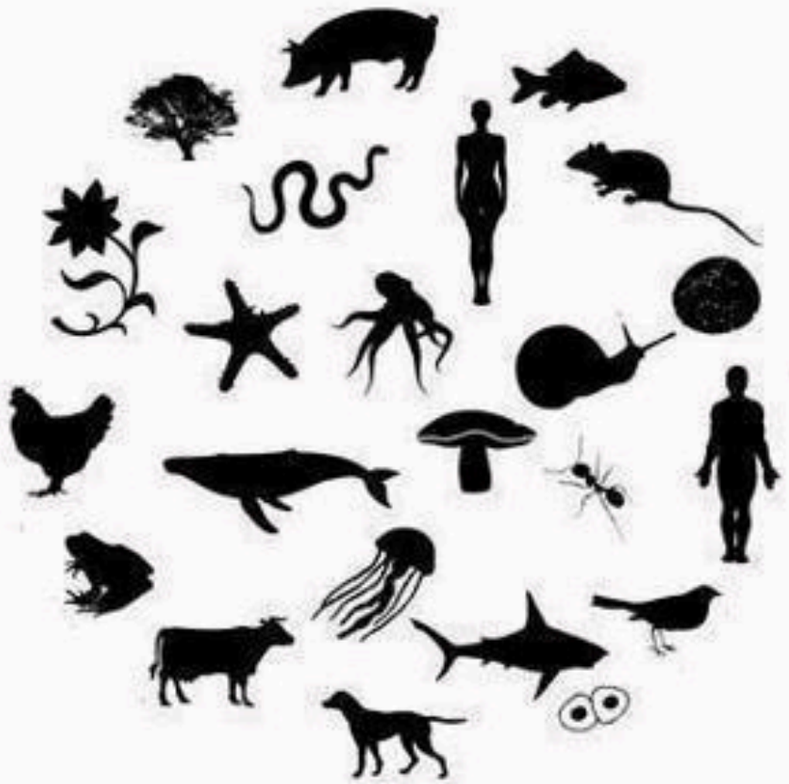

Increasing
Leverage
Events
Patterns
of Behavior
Systemic
Structure
Mental Models


I'm sure glad the hole isn't in our end...

EGO



ECO



Egosystem	Ecosystem
Centralized	Distributed
Scheduled / Their time	Real-Time / My-time
All invented inside	Invented anywhere
Owned and closed	Shared and open
Hyper-competition	Hyper-collaboration
Pyramids	Nodes
Spend and trash	Use and renew
One-way / One to many	2-way / Many to Many
Monolithic	Networked
Proprietary	Interoperable

GERD FUTURIST

"To save the planet, we do not need miraculous technical breakthroughs, or vast amounts of capital. We need a radical change in our thinking and behavior",

Ted Trainer

REGENERATIVE ANCHORAGE

- What existing resources do you have?
- How can you leverage that to create change?

URBAN SUSTAINABILITY INTENSIVE

- Join us to learn more!
- Hands on experience
- Food Forests
- Aquaculture
- Microlivestock
- Mushroom Cultivation
- Permablitz Wednesday