Choosing the Future: Global Challenges, Local Solutions.

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Human Population Growth Trends

World Industrial Production, relative to the base year 1963, also shows clear exponential increase, despite fluctuations due to oil price shocks. The 1970-1990 growth rate in total production has averaged 3.3% per year. The per capita growth rate has been 1.5% per year.
(United Nations: Population Reference Bureau)

World Population has been growing exponentially since the beginning of the Industrial Revolution. In 1991 the world population growth rate was estimated to be 1.7%, corresponding to a doubling time of 40 years.

Sources: United Nations, D.J. Bogus, Meadows: "Beyond the Limits" Share, Reddish: "Environment and Society"
Human Population Growth Trends

Human Population: Urbanisation

Percentage of World Population

Fossil Carbon Emissions

- Top: Increasing atmospheric carbon dioxide levels as measured in the atmosphere and reflected in ice cores.
- Bottom: The amount of net carbon increase in the atmosphere, compared to carbon emissions from burning fossil fuel.
Loss of Biodiversity

The Living Planet Index is an indicator of the state of the world’s biodiversity: it measures trends in populations of vertebrate species living in terrestrial, freshwater, and marine ecosystems.
Global Temperature Increases

Expansion of the Instrumental Record
Climate Change Consequences

- Expansion of the Oceans and Inundation of Islands and Lowlands.
- Loss of biodiversity.
- Collapse of ecosystems.
- More violent weather.
- Heavier flooding and soil erosion.
- Droughts.
- The collapse of Agriculture.
- Famine.
Possible Futures 1 and 2

STRUCTURAL CAUSES
of
THE FOUR POSSIBLE BEHAVIOUR MODES OF THE WORLD ECONOMY

Continuous growth results if:
- Physical limits are very far off, or
- Physical limits are themselves growing exponentially.

Sigmoid growth results if:
- Signals from physical limits to growing economy are instant, accurate, and responded to immediately, or
- The population or economy limits itself without needing signals from external limits.
Possible Futures 3 and 4

Overshoot and oscillation results if:
- Signals or responses are delayed, \textit{and}
- Limits are not erodable or are able to recover quickly from erosion.

Overshoot and collapse results if:
- Signals or responses are delayed, \textit{and}
- Limits are erodable (irreversibly degraded when exceeded).
- IF Rate of die-off exceeds rate of erosion of carrying capacity
Possible Futures 5: EXTINCTION

EXTINCTION occurs if:

- Signals or responses are delayed, \textit{and}
- Limits are erodable (irreversibly degraded when exceeded), \textit{and}
- Rate of die-off does not exceed rates of erosion of carrying capacity
Peak Oil: Depletion of Oil

Peak Oil possibly occurred in 2010 or is imminent.

**Consequences of Peak Oil:**
A series of interrelated potential consequences:
- Collapse of the banking system, the stock & financial markets.
- Loss of confidence in currencies.
- Collapse of value-added chains.
- Collapse of monetary systems and international supply chains.
- Extreme increase in unemployment in all modern societies.
- State bankruptcy.
- Collapse of critical infrastructure.
- Famine.

Dropping supply in the face of increasing demand is sure to cause oil prices to spike to the benefit of the fossil fuel companies.

Peak oil depletion scenarios graph, which depicts cumulative published depletion studies by the ASPO and other depletion analysts.
Unsustainable and Vulnerable to Peak Oil
If world society proceeds along its historical path of economic growth and consumption for as long as possible without major policy change, a permanent economic downturn is inevitable within the next century.

Population and industrial output grow until a combination of environmental resource constraints eliminates the capacity of the capital sector to sustain investment.

Industrial capital will begin to depreciate faster than new investment can rebuild it. As it falls, food and health services also fall, decreasing life expectancy.

(From Meadows, Meadows, and Randers: Beyond the Limits)
A Positive Vision for the Future

This future is ONLY POSSIBLE IF local communities and nations implement policies to ensure that:
- The human population growth rate is limited to 2 children max. per family, and
- Agricultural land is protected, land degradation is reversed, and
- Industrial output and consumption of goods per person is moderated, and
- Technologies are developed to conserve resources, abate pollution and utilise non-nuclear renewable natural energy sources, and
- The loss of biodiversity and natural ecological systems is reversed.

NOTE: that this scenario also assumes that we can also double our resource base without creating extra pollution.

BUT HOW????
Making the Transition 1

Necessary strategies:
Immediately boosting ALL communities’ access to ALL local resources by:

- Legalization of Cannabis / hemp/Dagga.
- Biogassing of sewage for methane.
- Local and Urban Agriculture as a PRIORITY.
- Seed Saving and Local Biodiversity.
- Household Water Catchment and storage.
- Equity in the distribution of food.
- Wind Power
- Concentrating Solar Thermal Power.

Also:
- Co-investment by established neighbourhood co-operatives.
- De-urbanization to rural villages.
- Complete stabilization of population at present levels.
- Job swap to work closer to home.
- Recycle and Reuse everything.
- Protection of all remaining wild areas.
Making the Transition 2.1: As it is now:

Figure 1: Existing Linear, Unsustainable flow of materials through a Village
Making the Transition 2.2: Redesign.

Figure 3: Proposed Cyclic, Sustainable Material Flow Through a Village.
Making the Transition: The ECOVISION

An ecosystem is a self-regulating sustainable system of inter-relationships between living and non-living elements in a specific environment occurring through interactions between the water cycle, the mineral cycle, the flow of energy and a natural succession of species.

P.D.C. Oct 2009 BERG-EN-DAL

Redrawn and Developed from:

Fig 4: The EcoVision Model: Diagram showing an ecological, balanced, economic model operating for the benefit of a local community. This model can be applied at city level, at neighbourhood level, and at the level of village or farm.
Community-based Change: The only way

- Food Gardens Everywhere.
- Seed Saving
- Raintanks and guttering on every house.
- Community Co-operation
- Home Built Wind Power
- Recycle all water
Health Risks of Corporate GMO’s & Pesticides

Lifelong feeding study on Rats: From left: 
GMO’s only, GMO’s and Roundup, Roundup only.

“GMOs aren't meant to feed the world... they're designed to sell Monsanto’s herbicide Roundup”
-Ronnie Cummins
Organic Consumers Assoc.

“Control the Food and You Control the people.”
Henry Kissinger
Replace Corporate Food with Local Supply

Corporate Supply:
High Cost, Low Quality

Local Supply:
Low Cost, High Quality
The Community as a Living Cell: The EcoVillage
In assessing the sustainability of a community, the existing numbers of citizens and livestock will require an area of photosynthesis sufficient to cover for ecosystem energy losses at every trophic level.
ESSENTIAL:
Cannabis to replace Fossil Carbon.

Megascale planting of Cannabis to replace fossil carbon, using hurds, (cellulose from insides of sticks) for energy and plastics after extraction of fibers.
Making the Transition: LEGALIZE!!!
Material Uses of Cannabis

DAGGA IS
FOOD, FUEL,
OIL, TEXTILES,
TOURISM,
BUILDING
MATERIALS,
MEDICINE,
CULTURE,
SUSTAINABILITY,
EMPLOYMENT
The Shared Vision

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VOTING TO LEGALIZE 2014

ACTIVISM FOR CHANGE
Form a local Dagga Party Group
Promote Community and co-operation.
Initiate Food and Water Security Projects.
Register to Vote.
Vote Dagga Party at Elections (as if your life depends on it.)

LEGALIZE 2014 !!!

www.daggaparty.co.za
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