

MAURICE ILE DURABLE

The process to sustainability

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&

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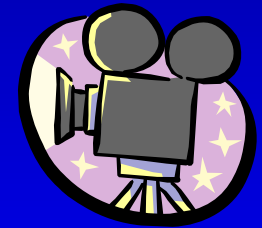
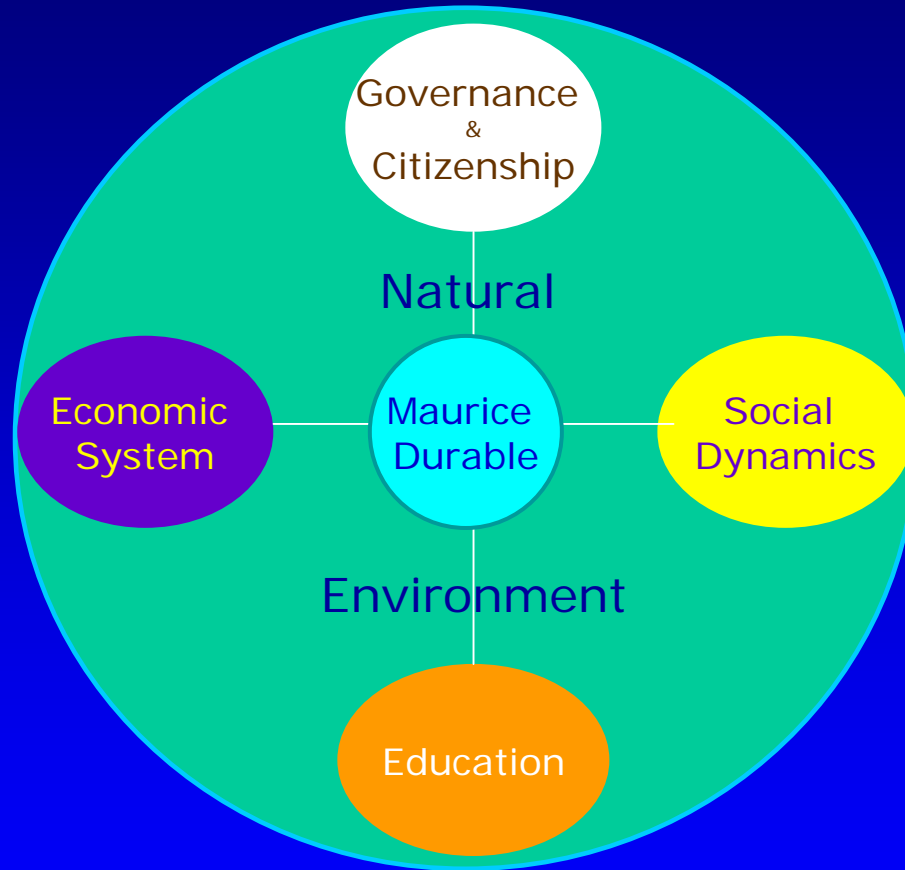
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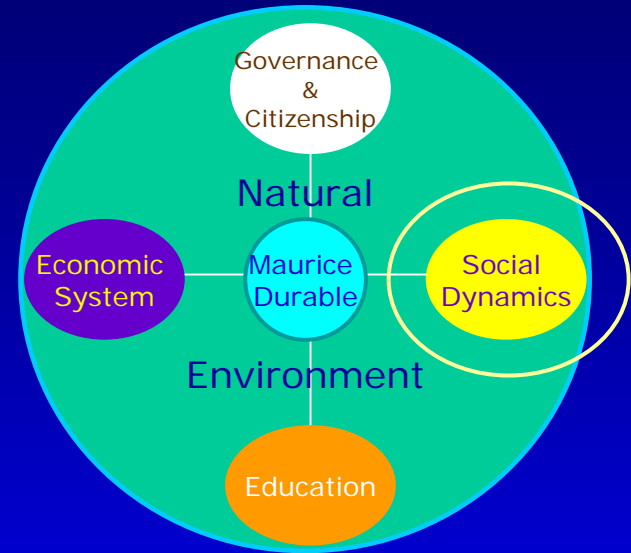
Some elements of Sustainability



Sustainability Indicators

Social Dynamics

- Poverty & Inequity
- Population dynamics



Poverty in Mauritius

GDP per capita increased from US\$779 in 1976 to US\$5137 in 2004 – i.e. an increase by 6.6 times.

Nevertheless, 11.4% of the population lived in poverty in 2005

World Development Indicator (World Bank)

Human Development Report 2007 (UNDP)

(In)Equity Mauritius

Income Distribution

- Income Ratio of highest 20% of households to lowest 20% of households in 2006/07 was 7.5 (6.9 in 2001/02)
- GDP per capita almost doubled between 1991 and 2002 while income redistribution did not change significantly [Gini Index = 0.371 (2001/02) vs 0.389 (2006/07)]

For perfect equity, Gini = 0

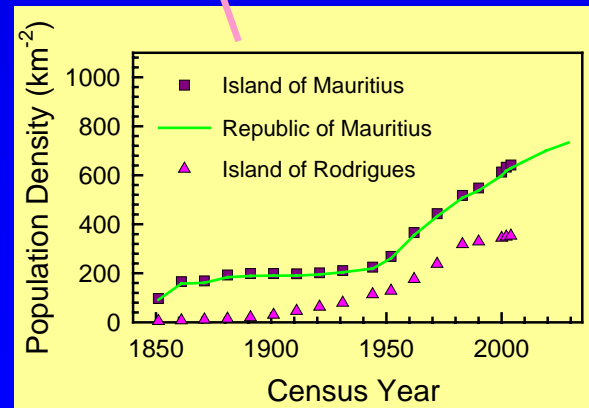
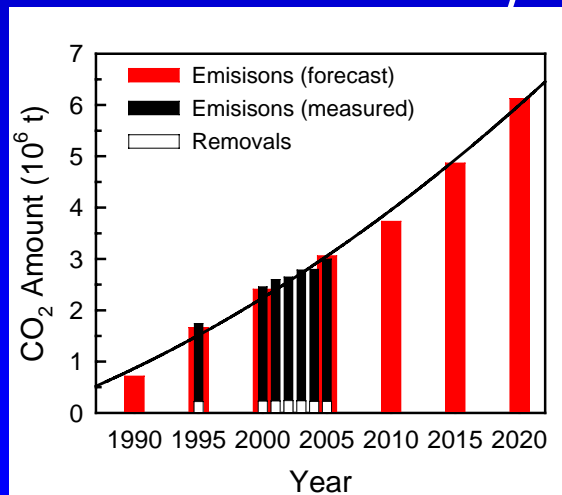
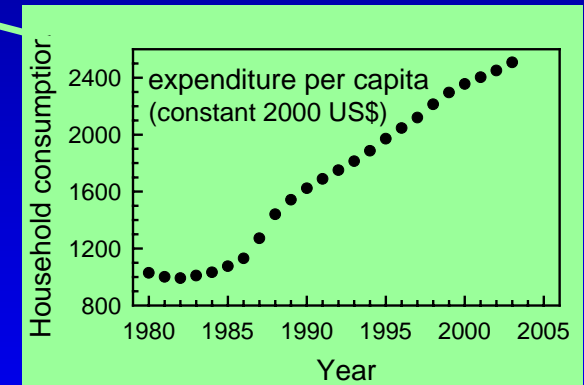
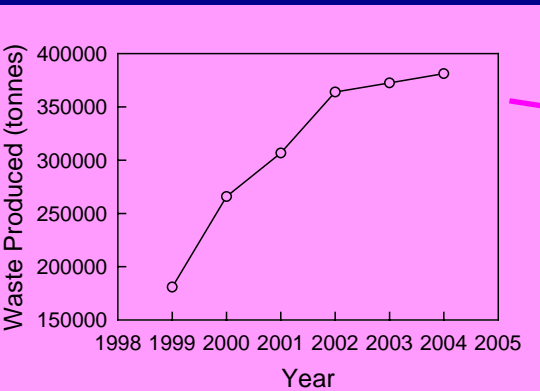
CSO, 2006/07 Household Survey

Population Dynamics

Impact = Population X per Capita Consumption X Technology

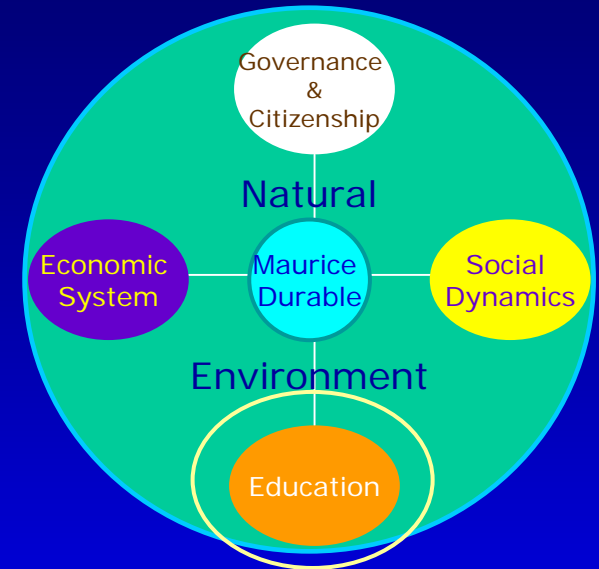
$$I = P \times A \times T$$

T1 (↑) /
T2 (↓)



Education

- The paradox of Education
- Education for Sustainability



Education

The paradox of Education

1. More often than not, the more ‘educated’ we get, the heavier impact we have on the natural environment!
2. If we look at ‘education’ as an institution, then we are confronted with yet another paradox – i.e. institutions have inertia and tend to reinforce the ‘past’

Education

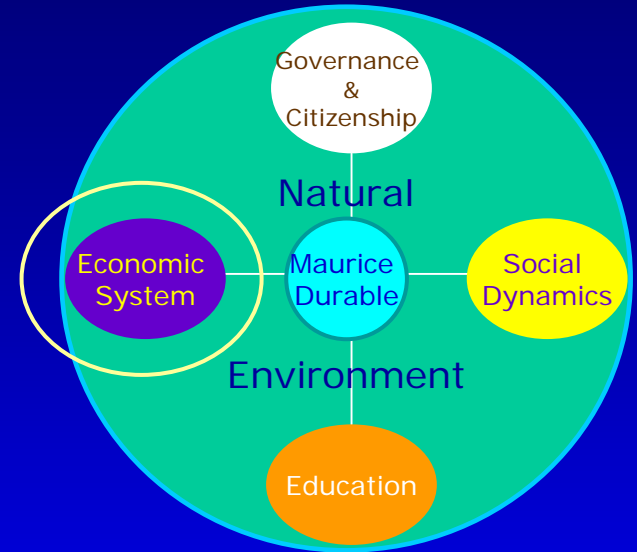
Education for Sustainability

Need to promote (among others):

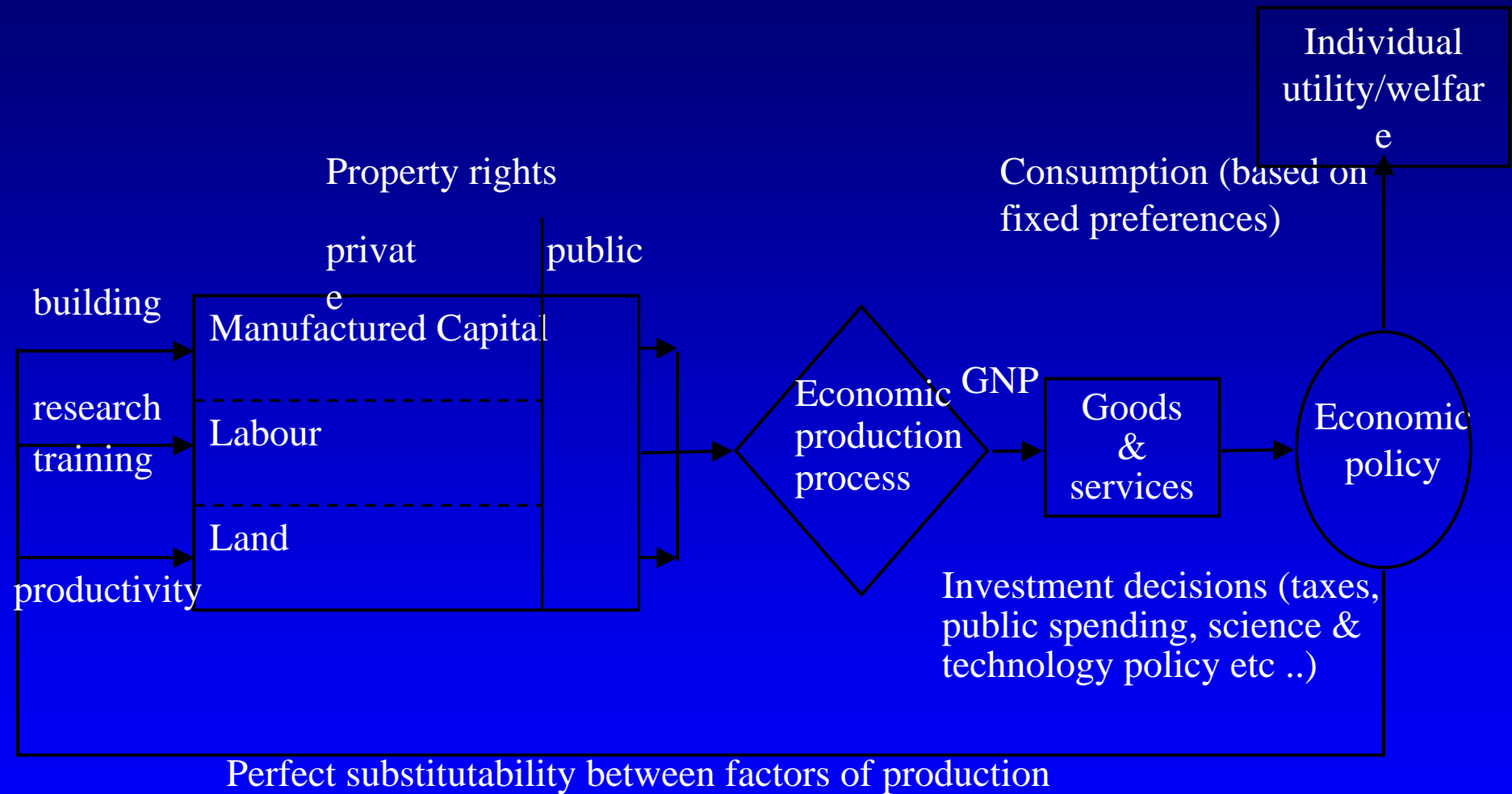
- System thinking
- Transdisciplinarity
- Experiential learning (highest retention rate at 90%)
- Self-development (i.e. learning to BE, and learning to RELATE to others)

Economic System

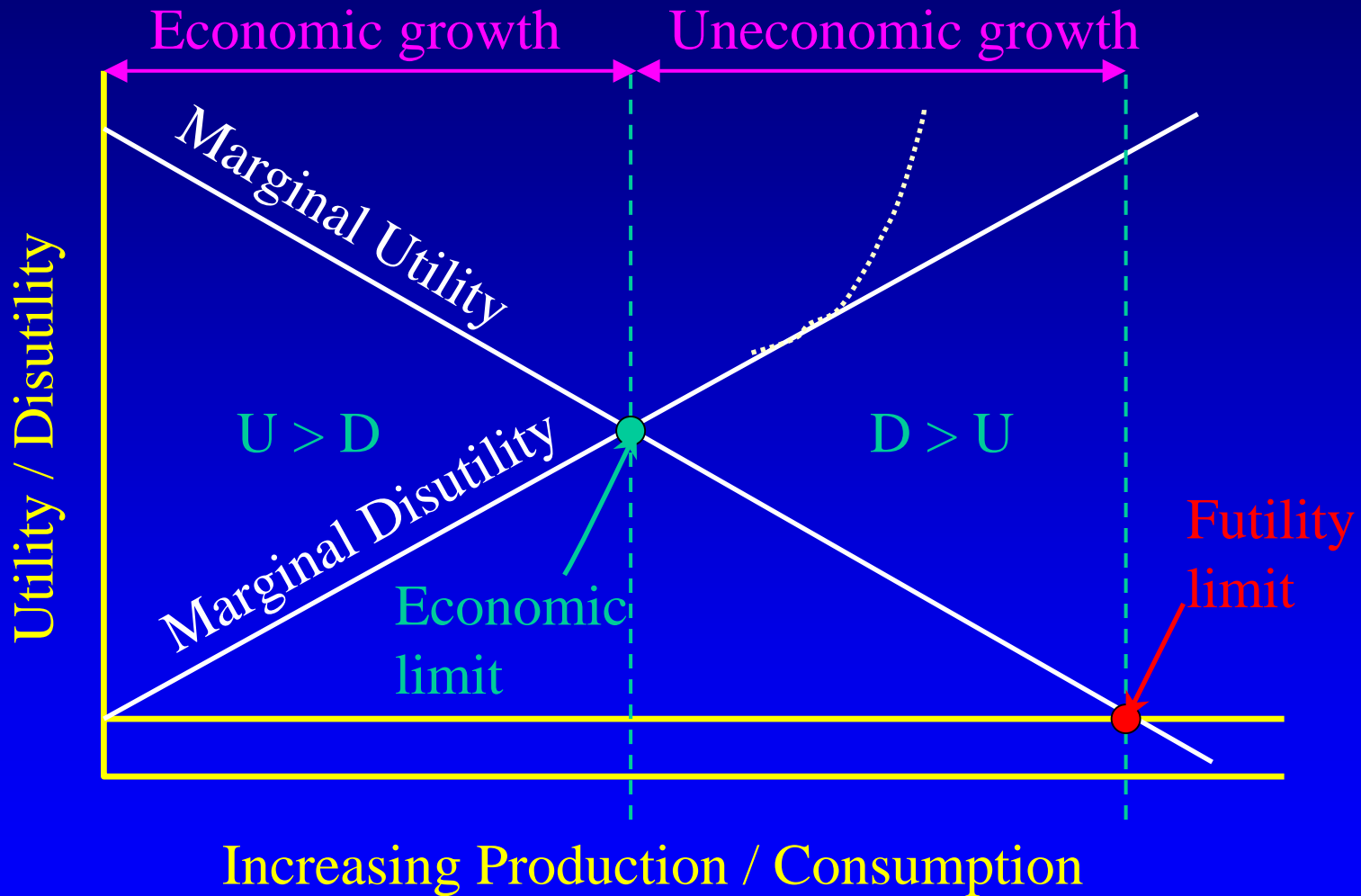
- Conventional Economy
- Ecological Economy



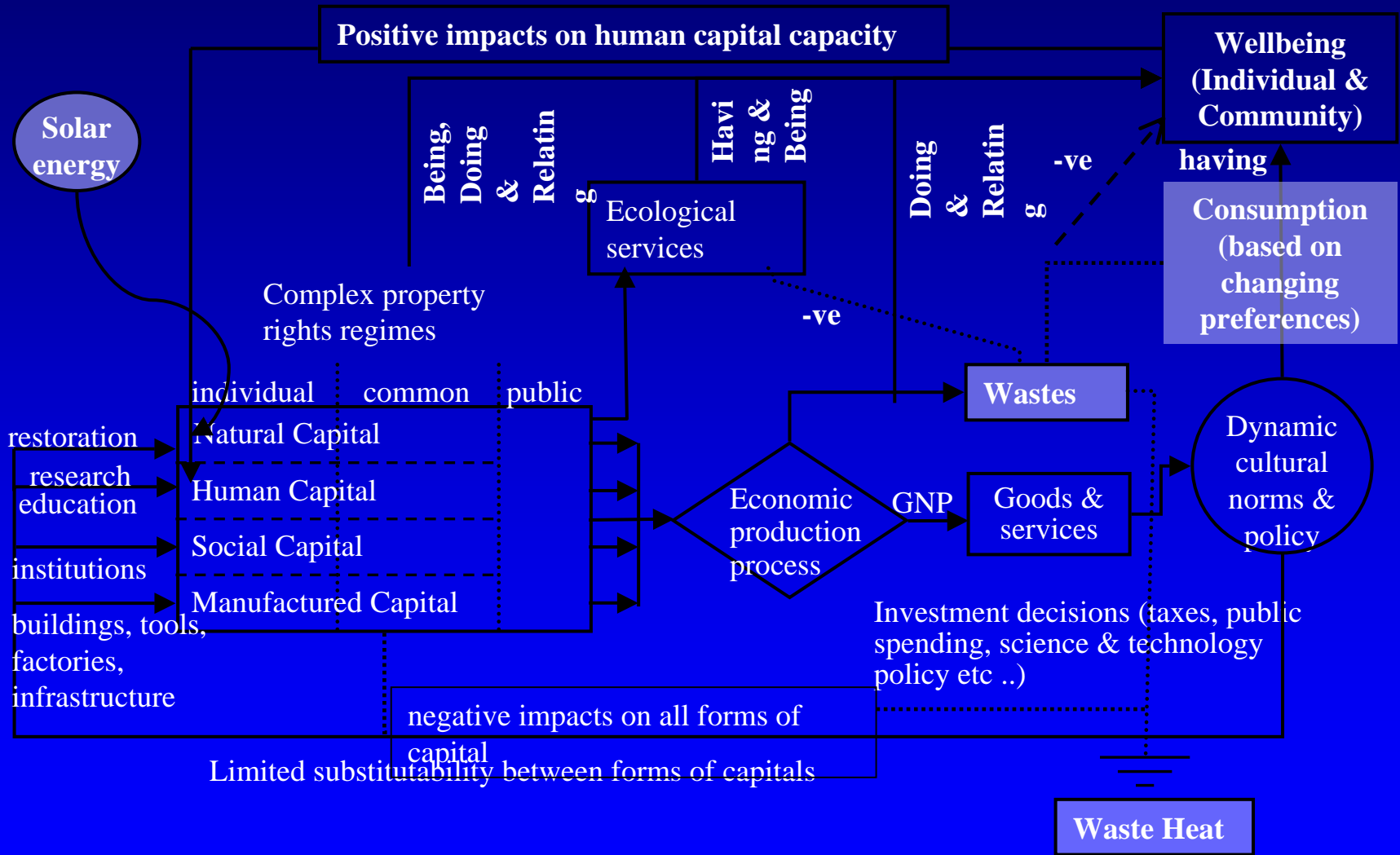
Conventional Model of Economy



Uneconomic Growth

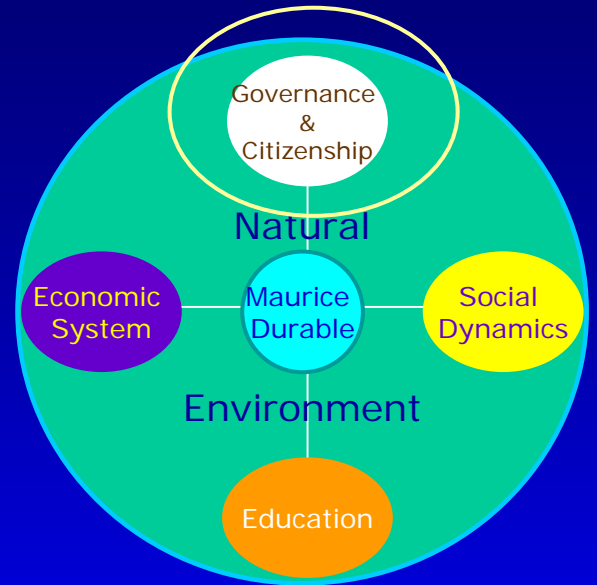


Ecological Model of Economy



Governance & Citizenship

- Institutional Design
- Democractization
- Precautionary Principle



Governance & Citizenship

Institutional Design

Paradox – Institutions have structures/cultures that tend to maintain past behaviour

Need to assess the *responsiveness* of institutions to doing things differently

Governance & Citizenship

Democractization

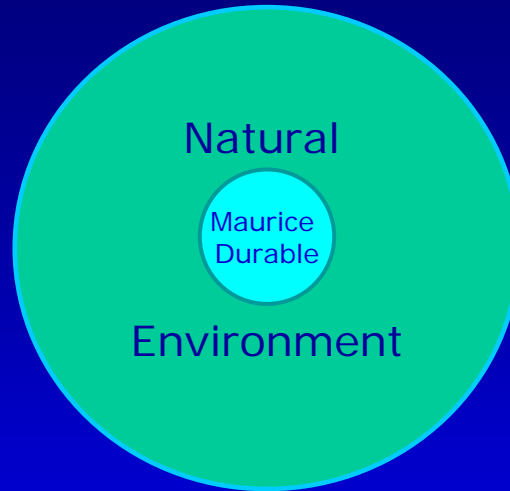
1. Need to use a combination of top-down and bottom-up approaches to try and reach a consensus about what is 'Maurice Ile Durable'
2. The 'citizen' should be actively involved in the debate

Governance & Citizenship

Precautionary Principle

“A moral and political principle which states that if an action or policy might cause severe or irreversible harm to the public or to the environment, in the absence of a scientific consensus that harm would not ensue, the burden of proof falls on those who would advocate taking the action”

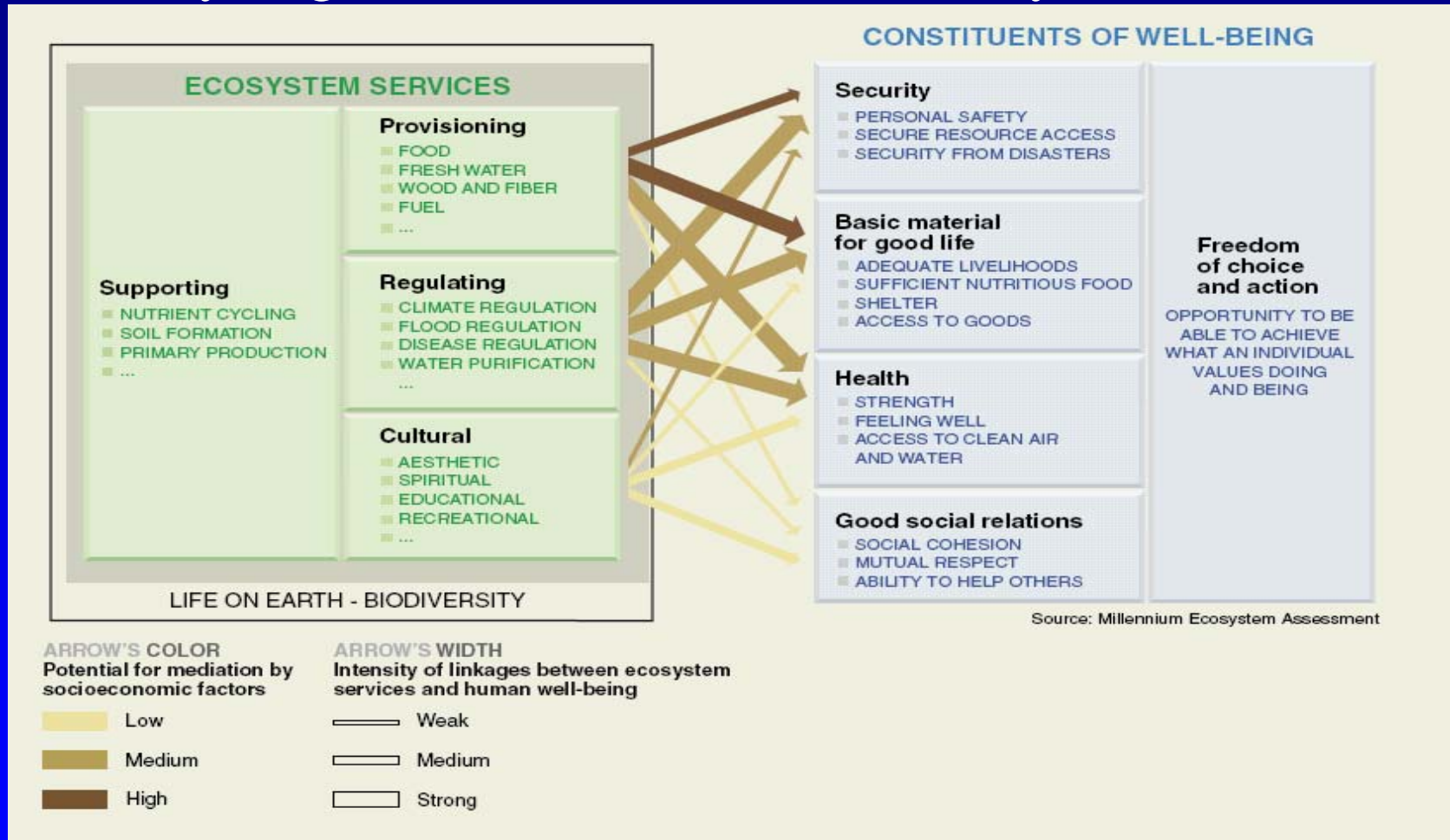
Natural Environment



Biodiversity
&
Ecosystem
Services

Ecosystem Services

“15 of 24 ecosystem vital for life on Earth have been seriously degraded or used unsustainably”



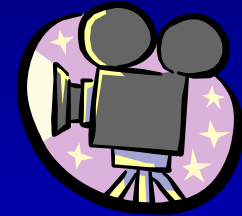
Enhancing Biodiversity

Building resilience in the long-run, and safeguarding ecosystem services, will come through restoration of biodiversity

The Economics of Ecosystems and Biodiversity (TEED), 2008

Sustainability Indicators

- Wellbeing of Nations
- Ecological Footprint
- Quality of Life / Life Satisfaction
- Genuine Progress Indicator (GPI)



Sustainability
Indicators

Wellbeing of Nations

Human Wellbeing Index (HWI)

1. Health & population
2. Wealth
3. Knowledge & culture
4. Community
5. Equity

Ecosystem Wellbeing Index (EWI)

1. Land (diversity & quality)
2. Waster (inland & sea)
3. Air (global & local)
4. Species & genes
5. Resource use (energy & materials)

Wellbeing Index (WI)

Prescott-Allen, 2001

Wellbeing of Nations

Country	HWI	EWI	WI	Rank
Sweden	79	49	64.0	1
Finland	81	44	62.5	2
Norway	82	43	62.5	3
Australia	79	28	53.5	18
USA	73	31	52.0	27
Singapore	66	32	49.0	43
Mauritius	54	44	49.0	45
Madagas.	24	50	37.0	124
China	36	28	32.0	160
India	31	27	29.0	172

Moderate
double
deficit
country

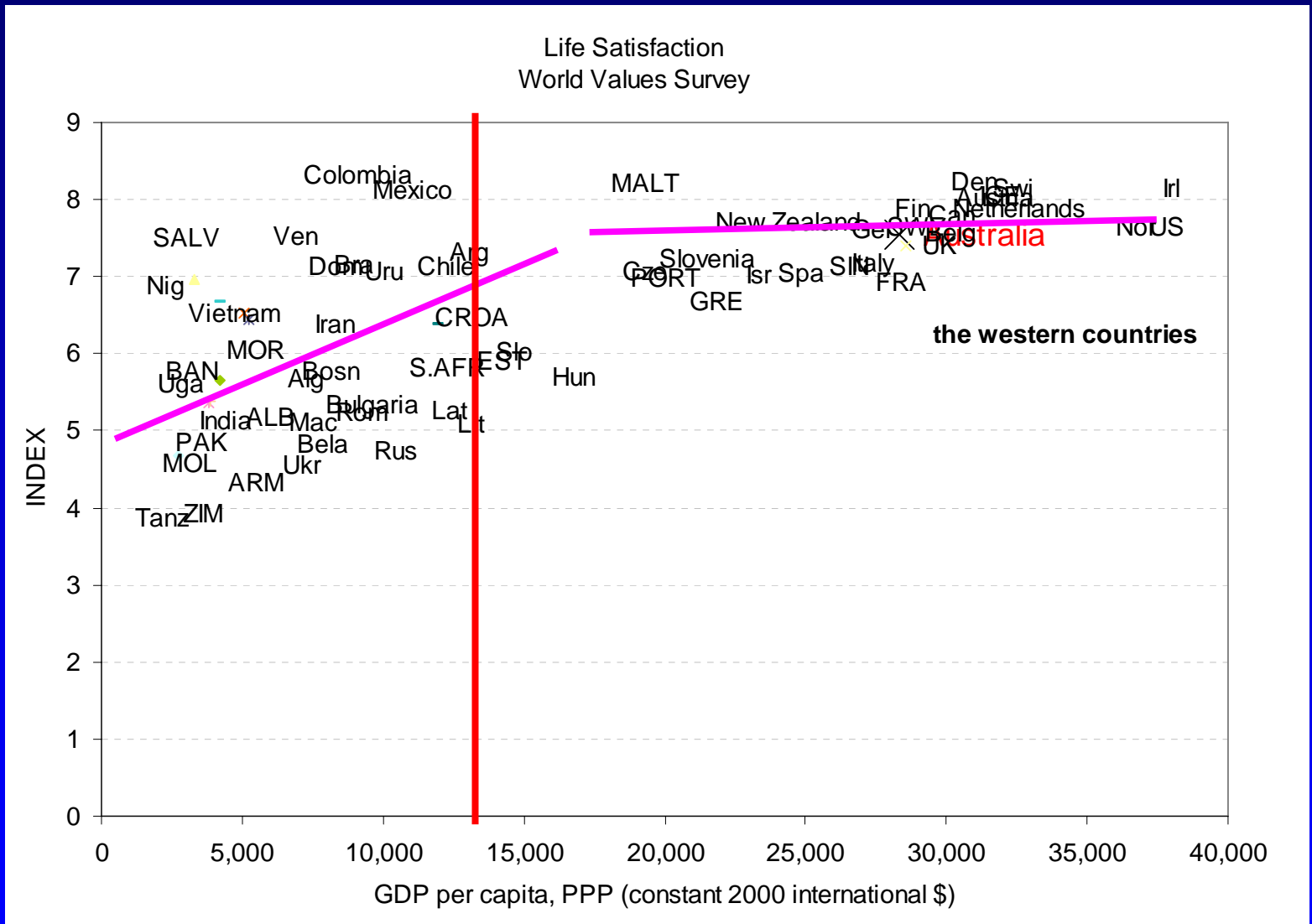
Ecological Sustainability: $WI \geq 81$

Ecological Footprint

Country	EF (G.ha)	Country	EF(G.ha)
USA	9.57	Malaysia	2.99
Australia	7.09	World	2.18
UK	4.72	China	1.36
Japan	3.91	Madagasc.	0.97
S. Africa	3.52	India	0.76
Mauritius	3.25	Banglad.	0.50

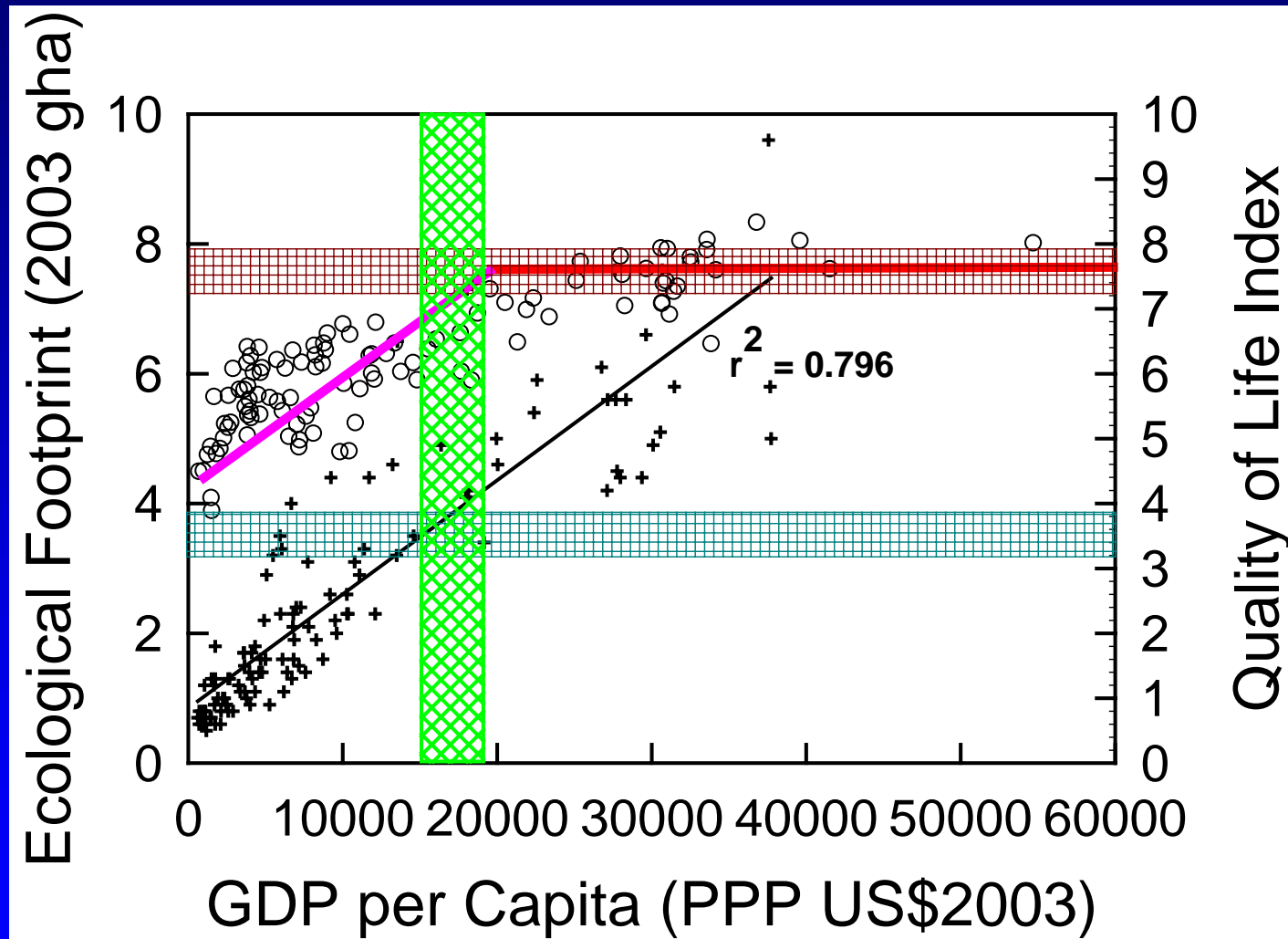
Bioproductive capacity of planet is 1.7 ha/person
Biocapacity of Mauritius is only 1.29 ha/person

Life Satisfaction vs Per Capita GDP



WVS 1995/2000 (Courtesy: Dr Paul Frijters, ANU)

Potential Metrics for Sustainability



Interpretation

- No noticeable gain in life satisfaction from economic growth after around 15000\$ a year.
- Other benefits of growth (rule of law, life expectancy, literacy rate, reduced murder rate) also disappear around 20000\$.
- With growth beyond 20000\$, we see continued increases in energy consumption and pressure on nature. From about 10,000\$ we see below-replacement fertility rates.
- *Mauritius at the threshold Should we be thinking differently??*

GDP vs GPI

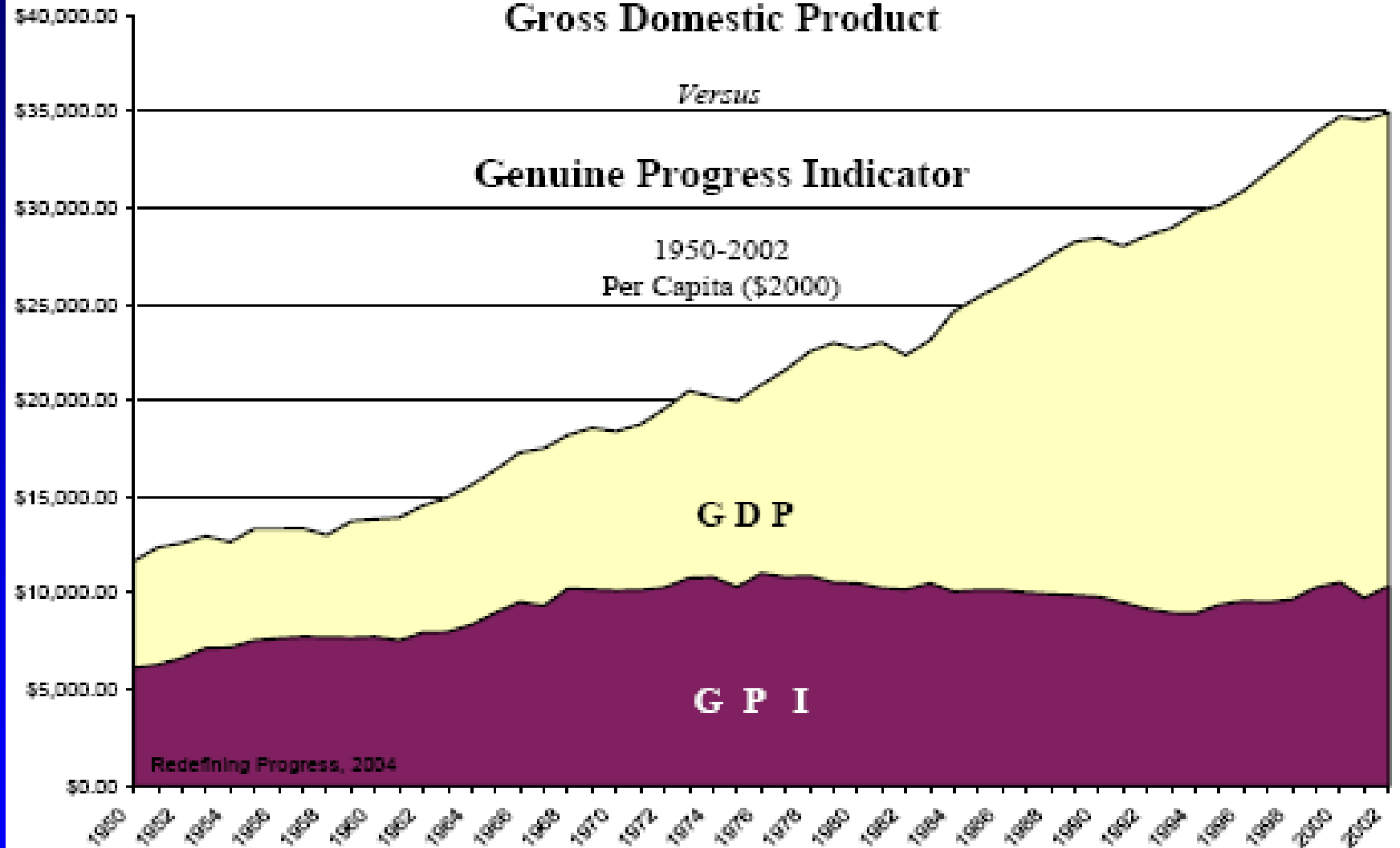
Gross Domestic Product

Versus

Genuine Progress Indicator

1950-2002

Per Capita (\$2000)



Redefining Progress, 2004

Redefining Progress, 2004

Thank you!

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