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Creating a Sustainable and Desirable Future



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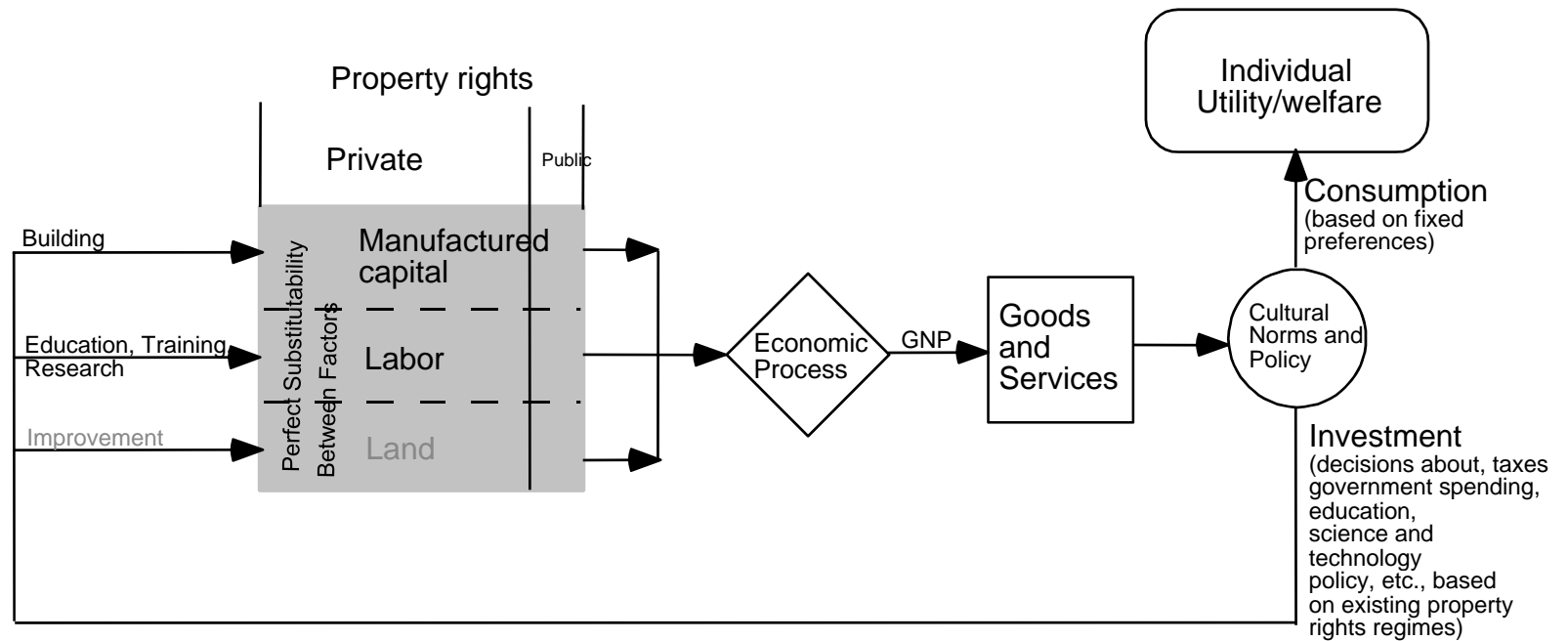
Practical Problem Solving Requires the *Integration* of:

- **Vision**
 - a. How the world works
 - b. How we would like the world to be
- **Tools and Analysis**
 - appropriate to the vision
- **Implementation**
 - appropriate to the vision



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"Empty World" Model of the Economy



Basic premises:

More is always better

The economy can grow forever (scale is not an issue)

Poverty can best be solved with more growth

Nature is a side show

Private property is always best



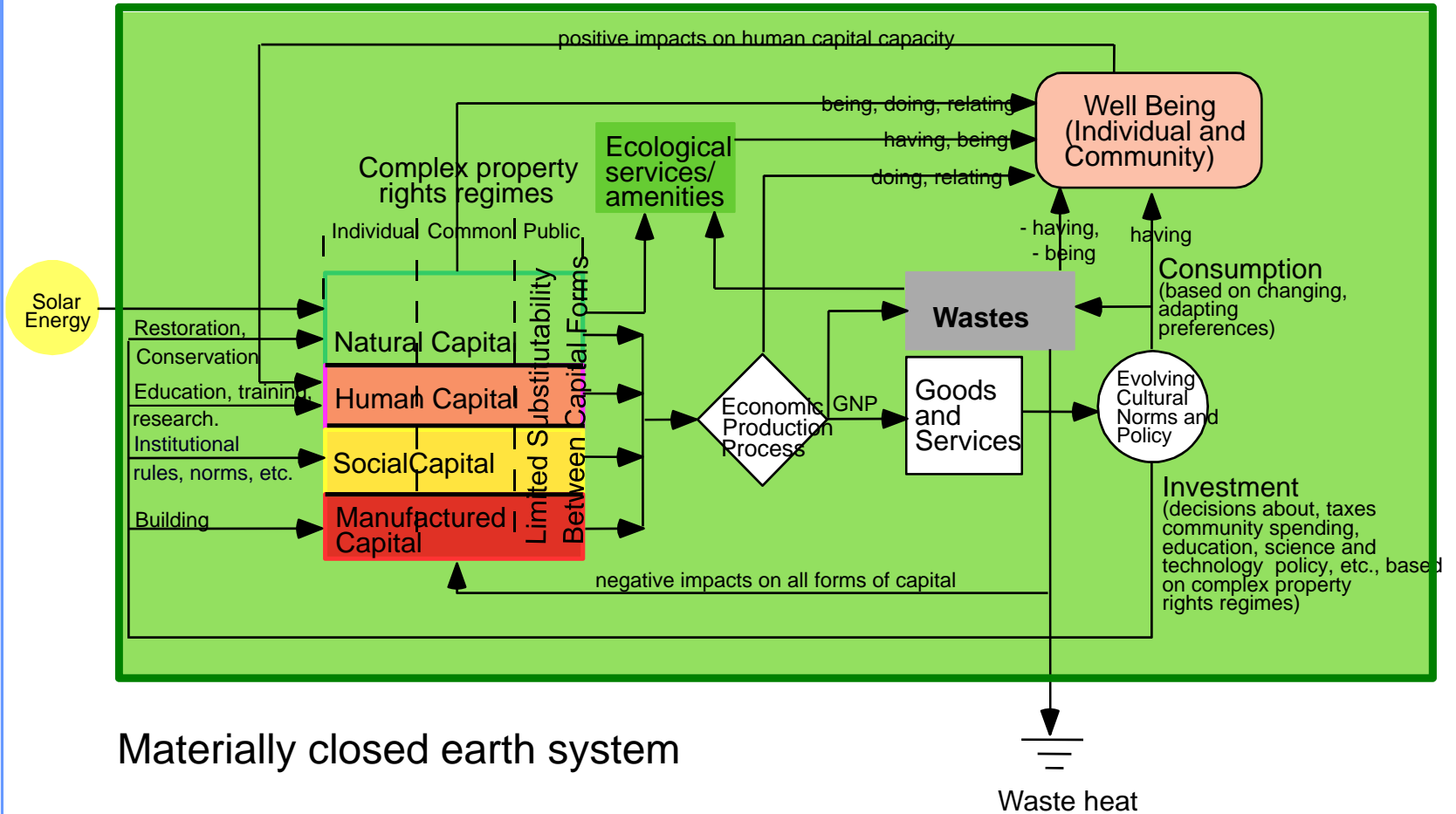
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In a full world context, what is “the economy” and what is it for?



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“Full World” Model of the Ecological Economic System



Materially closed earth system

From: Costanza, R., J. C. Cumberland, H. E. Daly, R. Goodland, and R. Norgaard. 1997. *An Introduction to Ecological Economics*. St. Lucie Press, Boca Raton, 275 pp.



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Well-being vs. GDP

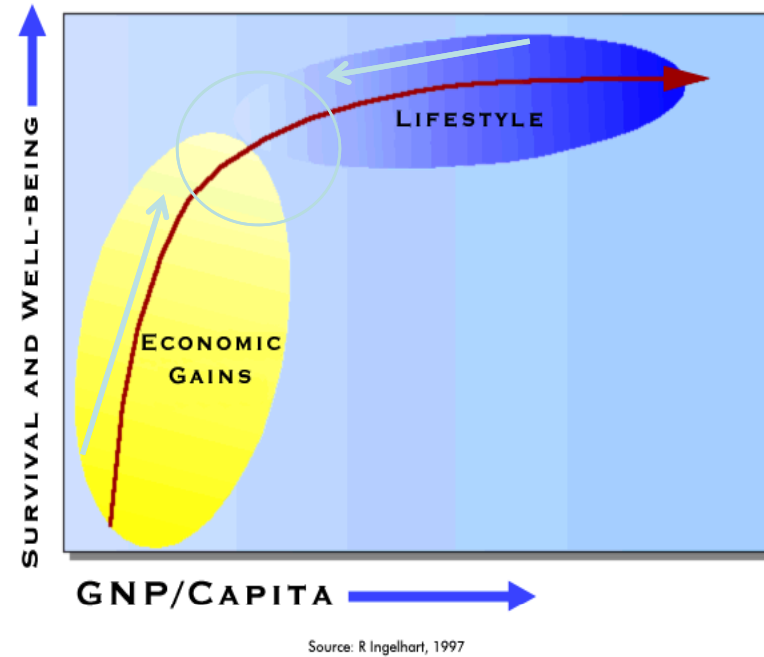
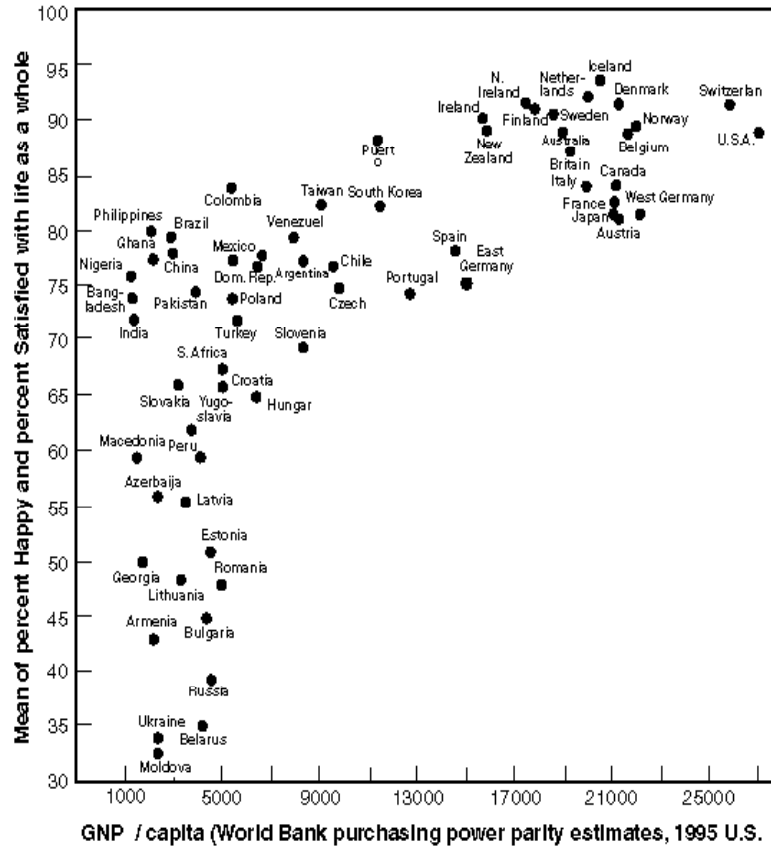
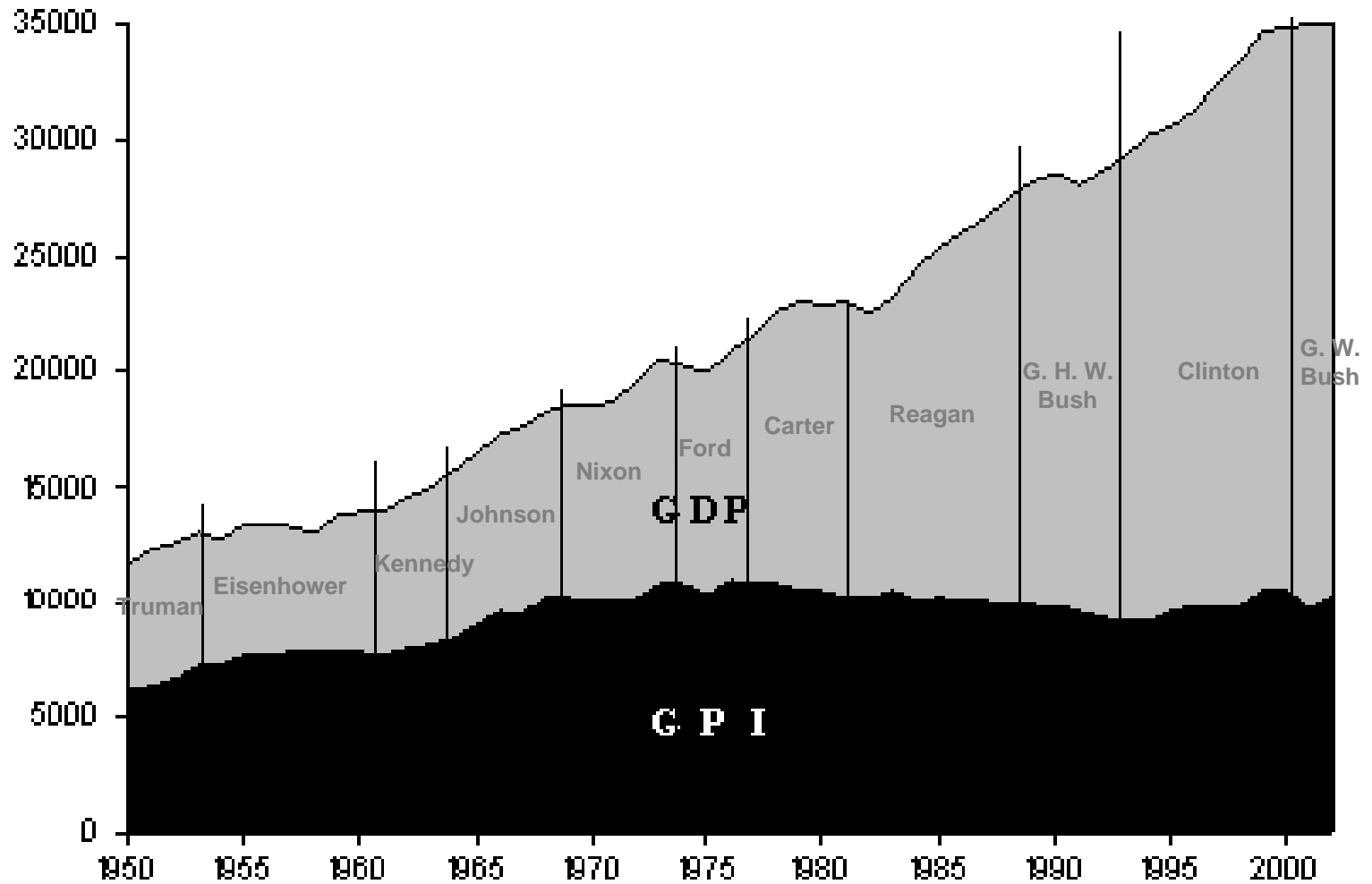


Figure 2. Subjective well-being by level of economic development.
Source: World Values Surveys; GNP/capita purchasing power estimates from World Bank, World Development Report, 1997.
R = .70 N = 65 p < .0000



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Gross Production vs. Genuine Progress for the US, 1950 to 2002

(source: Redefining Progress - <http://www.rprogress.org>)



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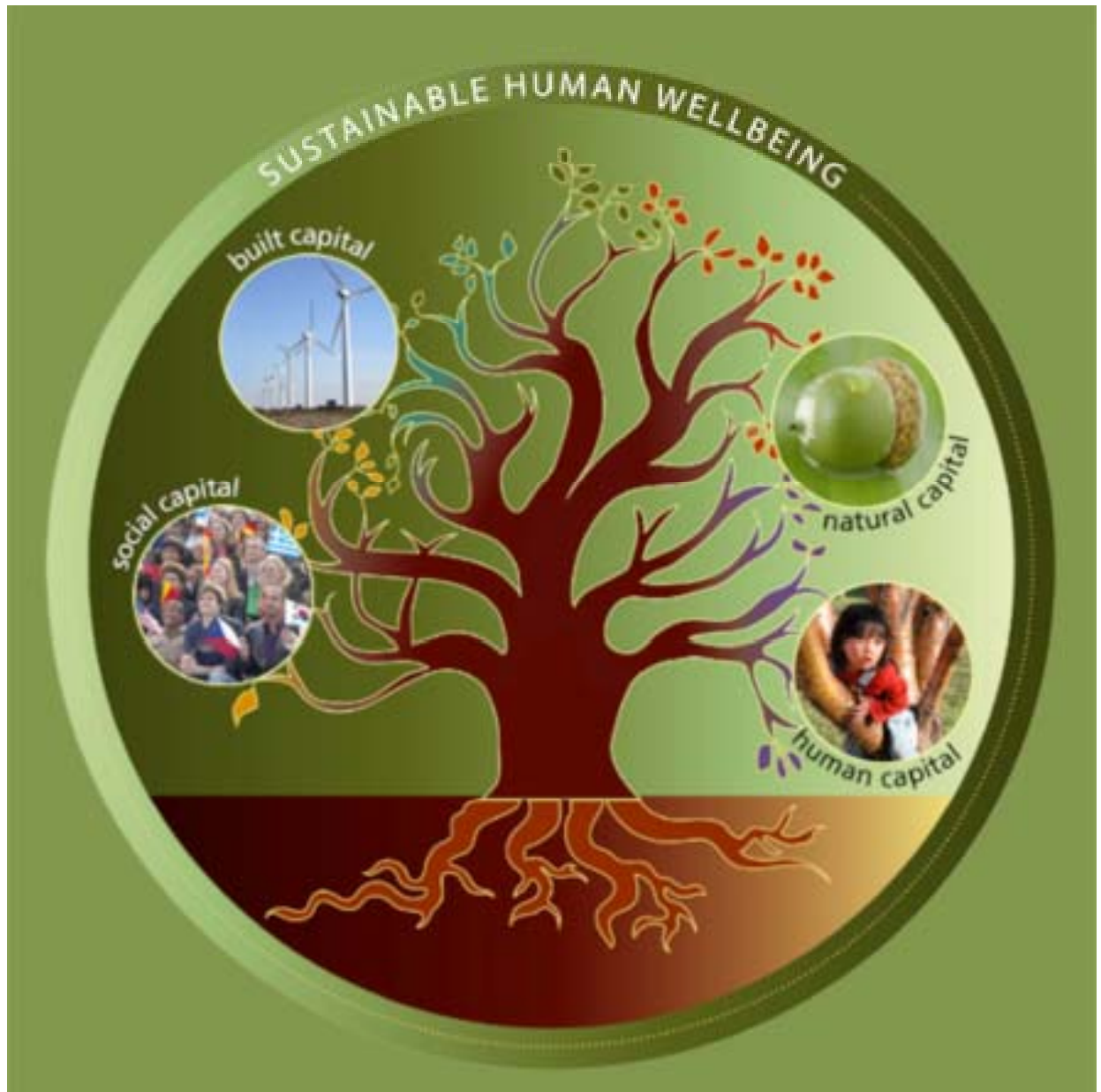
We've been getting
growth without prosperity.

What we need is
prosperity without growth



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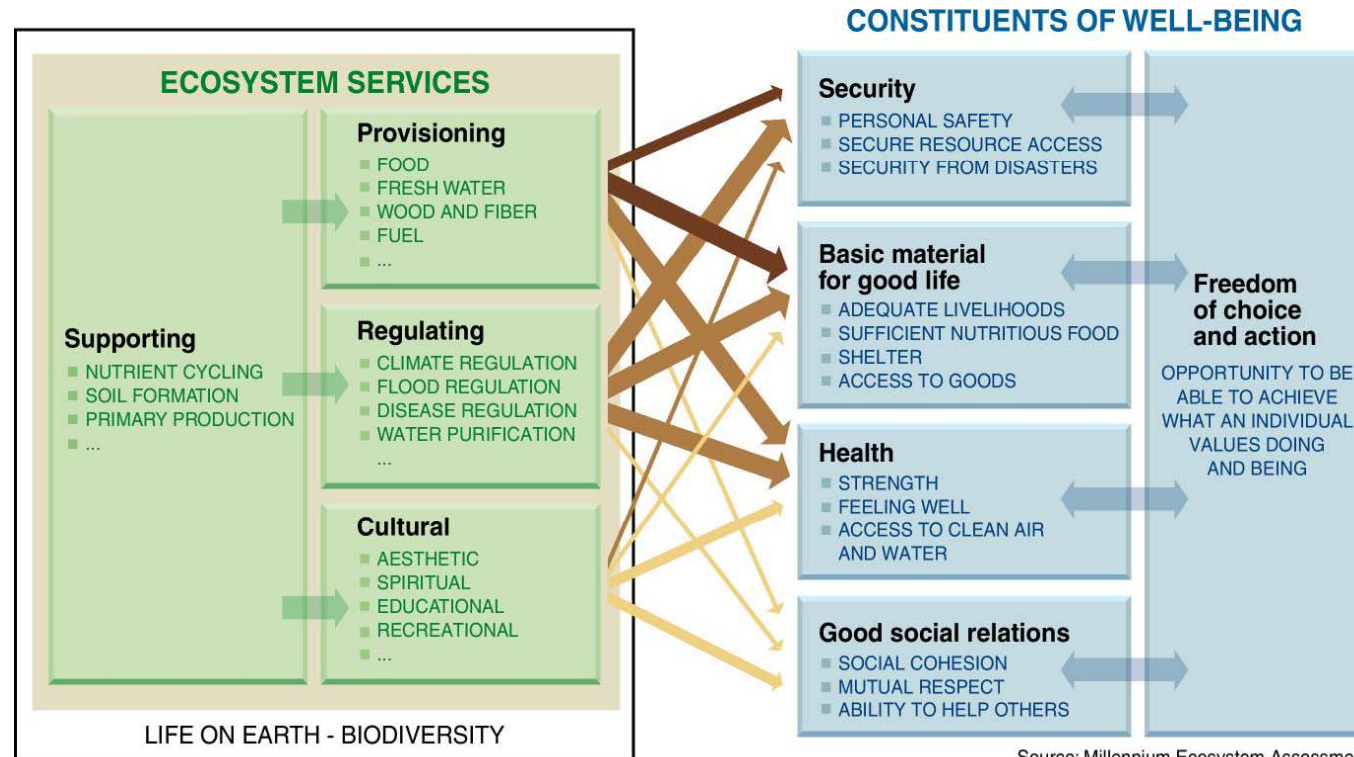
The key is
developing a
better
understandin
g of the
opportunities
to create a
sustainable
future with a
high quality
of life



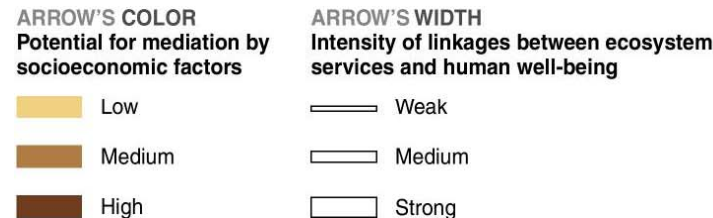


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Ecosystem Services: the benefits humans derive from ecosystems



Source: Millennium Ecosystem Assessment





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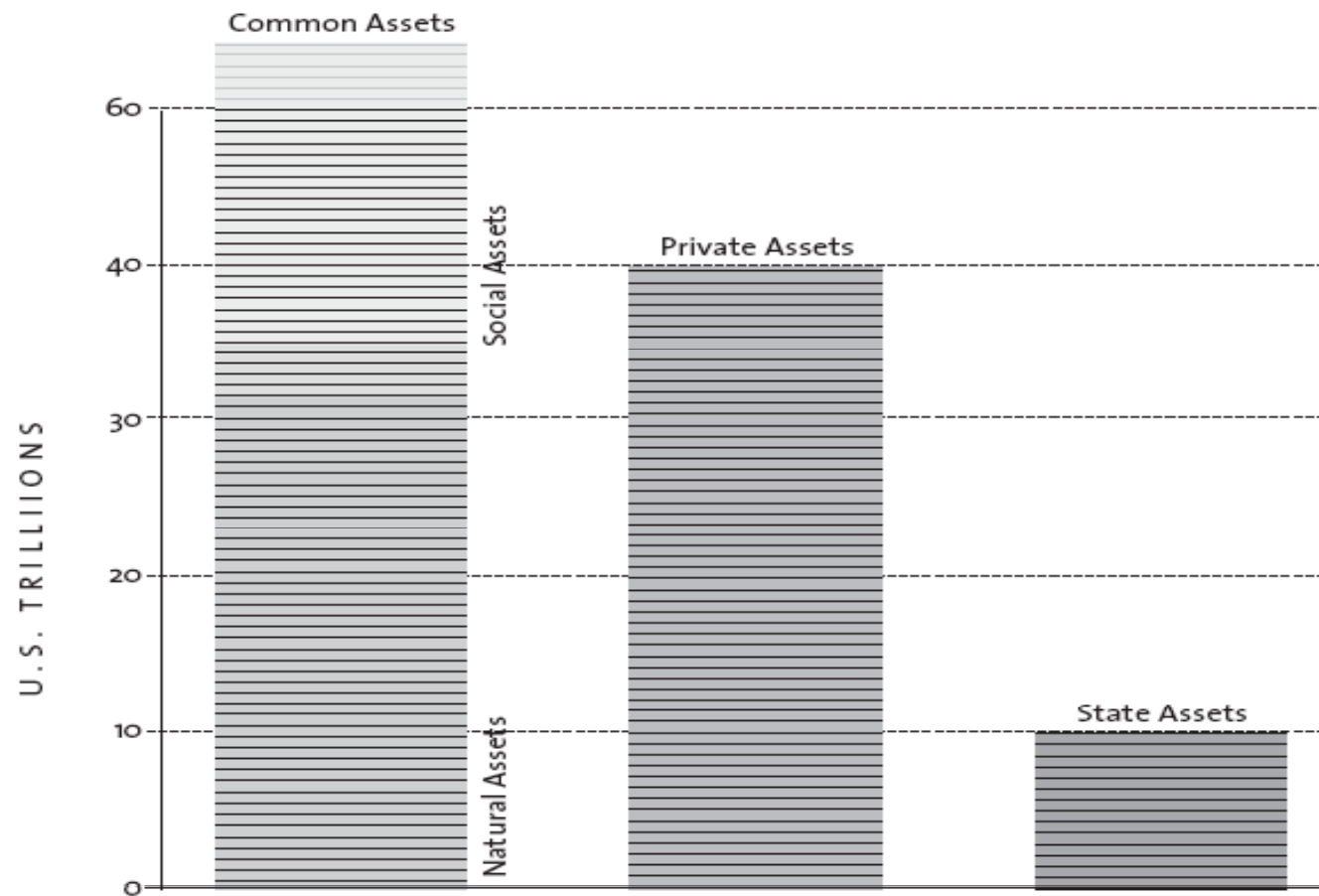
Summary of global values of annual ecosystem services (From: Costanza et al. 1997)

Biome	Area (e6 ha)	Value per ha (\$/ha/yr)	Global Flow Value (e12 \$/yr)
Marine	36,302	577	20.9
Open Ocean	33,200	252	8.4
Coastal	3,102	4052	12.6
Estuaries	180	22832	4.1
Seagrass/Algae Beds	200	19004	3.8
Coral Reefs	62	6075	0.3
Shelf	2,660	1610	4.3
Terrestrial	15,323	804	12.3
Forest	4,855	969	4.7
Tropical	1,900	2007	3.8
Temperate/Boreal	2,955	302	0.9
Grass/Rangelands	3,898	232	0.9
Wetlands	330	14785	4.9
Tidal Marsh/Mangroves	165	9990	1.6
Swamps/Floodplains	165	19580	3.2
Lakes/Rivers	200	8498	1.7
Desert	1,925		
Tundra	743		
Ice/Rock	1,640		
Cropland	1,400	92	0.1
Urban	332		
Total	51,625		33.3



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Figure 5.1
APPROXIMATE VALUE OF COMMON, PRIVATE, AND
STATE ASSETS, 2001 (\$ TRILLIONS)



Reflects only quantifiable assets.

Source: Friends of the Commons, *State of the Commons 2003-04*.

<http://friendsofthecommons.org/understanding/worth.html>. Reprinted with permission.



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Differences between the current, empty world model and the full world model

From: Costanza, R. 2008. Stewardship for a “full” world. *Current History* 107:30-35

	Current Development Model: the “Washington Consensus”	Sustainable and Desirable Development Model: an emerging “Green Consensus”
Primary policy goal	More: economic growth in the conventional sense, as measured by GDP. More is always better.	Better: Focus must shift from merely growth to “development” in the real sense of improvement in quality of life
Primary measure of progress	GDP	GPI (or similar)
Scale/carrying capacity	Not an issue since markets are assumed to be able to overcome any resource limits via new technology	A primary concern as a determinant of ecological sustainability. Real limits exist
Distribution/poverty	Lip service, but relegated to “politics” and a “trickle down” policy: a rising tide lifts all boats	A primary concern since it directly affects quality of life and social capital and is often exacerbated by growth
Economic efficiency/allocation	The primary concern, but generally including only marketed goods and services (GDP) and market institutions	A primary concern, but including both market and non-market goods and services – natural and social capital.
Property rights	Emphasis on private property and conventional markets	Emphasis on a balance of private, state, and common property rights regimes appropriate to the nature and scale of the system, and a linking of rights with responsibilities
Role of Government	To be minimized and replaced with private and market institutions	A central role, including new functions as referee, facilitator and broker in a new suite of common asset institutions
Principles of Governance	<i>Laissez faire</i> market capitalism	Lisbon principles of sustainable governance



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The transition to a “sustainable quality of life” economy requires:

- **The wide-scale conversion of built capital** to use sustainable, renewable energy with massive targeted investments in wind and solar, high efficiency smart power grids, effective mass transit, and high efficiency buildings and cars.
- **The full utilization of human capital** by focusing on fulfilling work, full employment, universal access to quality education through college and beyond, universal access to high quality preventive health care, and limiting population.
- **The rebuilding of social capital** by rewarding community involvement and participation, reducing the gap in income and wealth, and providing fewer work hours and more leisure time to allow connection to friends, family, and the community.
- **The restoration of natural capital** by focusing on protecting and enhancing the ecosystem services on which the quality of all human life depends. Aspects of this include limiting carbon emissions to keep the atmospheric concentration below 350 ppm (an atmospheric trust/cap, auction and dividend system would work well for this), greatly expanding marine protected areas, charging fees for the depletion of and investing in the restoration of natural capital.



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