

SUSTAINABLE DEVELOPMENT

Week 6 Outline


Economic Performance – Production & Consumption

- 1. SUSTAINABILITY - select REMINDERS (continued)**
- 2. ASSUMPTIONS about “MAN”**
- 3. MODES OF SOCIAL COORDINATION**
- 4. ECONOMIC PERFORMANCE – Production & Consumption**

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Collapse

“A society has collapsed when it displays a rapid, significant loss of an established level of sociopolitical complexity”

(Tainter 1988 p. 4).

“... . the overarching structure that provides services to the population loses capability or disappears entirely”.

(Tainter 1988, p. 20.)

Anarchy's anatomy

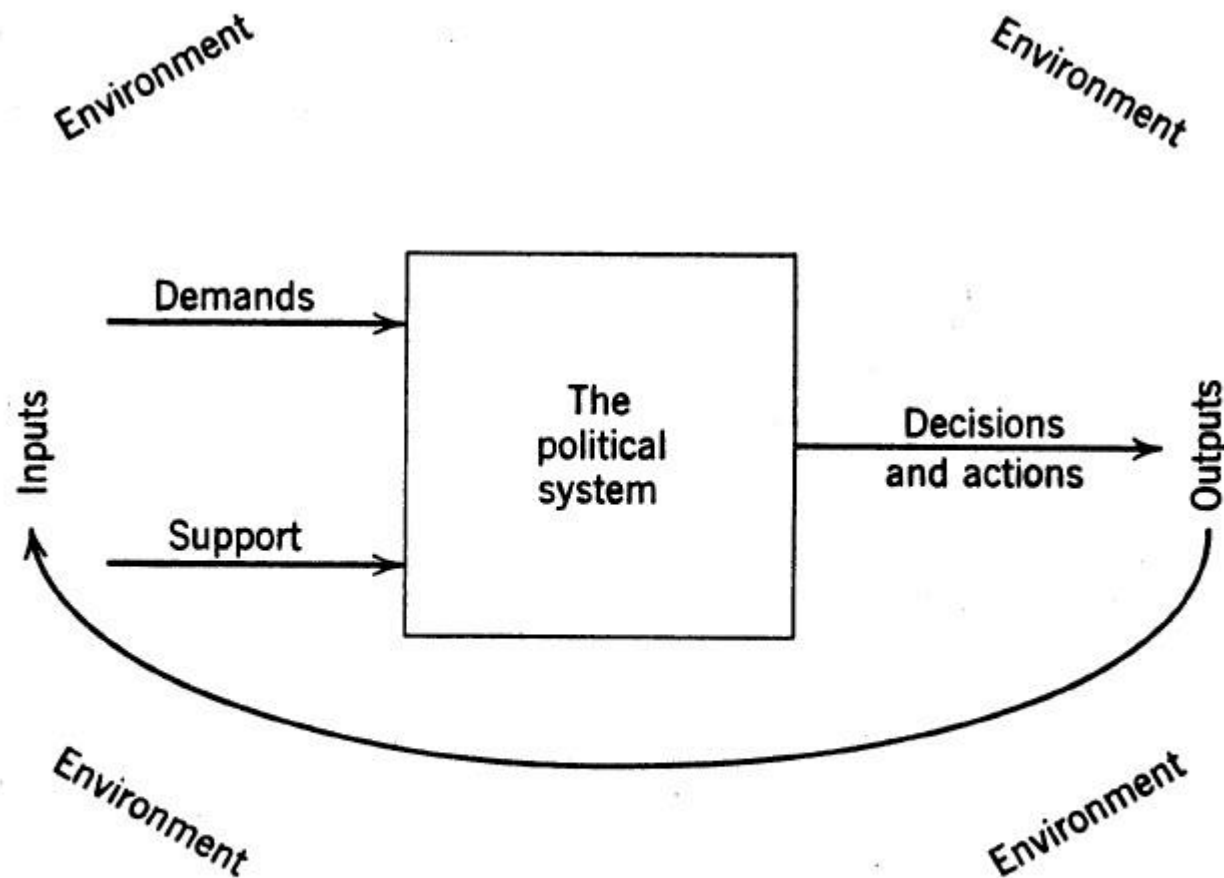
Failed states, 2010

Country (<i>Population, m</i>)	Failed states index, score*	Life expectancy, years	Symptoms
Somalia (9.4)	114.3	51.5	Anarchy, civil war, piracy
Chad (11.5)	113.3	50.0	Desertification, destitution, meddling neighbours
Sudan (43.2)	111.8	59.8	Ethnic, religious strife, illiteracy, tyranny
Zimbabwe (12.6)	110.2	50.4	Economic collapse, kleptocracy, oppression
Congo (67.8)	109.9	48.8	Civil war, massacres, mass rape, looting
Afghanistan (29.1)	109.3	45.5	Civil war, drugs, no infrastructure, terrorism
Iraq (31.5)	107.3	70.2	Ruined infrastructure, sectarian strife, terrorism
Central African Republic (4.5)	106.4	48.6	Desertification, destitution, disease, terrorism
Guinea (10.3)	105.0	60.1	Destitution, drugs, kleptocracy
Pakistan (184.8)	102.5	68.0	Coups, drugs, illiteracy, terrorism
Haiti (10.2)	101.6	62.1	Deforestation, destitution, crime
Côte d'Ivoire (21.6)	101.2	59.6	Incipient civil war, post-election deadlock

Sources: The Fund for Peace, *Foreign Policy*; UN; *The Economist*

*Out of a potential 120, based on 12 indicators

"Where Life is Cheap and Talk is Loose." *The Economist*, March 19, 2011. © The Economist Group. All rights reserved. This content is excluded from our Creative Commons license. For more information, see <https://ocw.mit.edu/help/faq-fair-use/>.



**DIAGRAM 2 A SIMPLIFIED MODEL
OF A POLITICAL SYSTEM**

Easton, David. *A System of Analysis of Political Life*. John Wiley & Sons, Ltd, 1965 © John Wiley & Sons, Ltd. All rights reserved. This content is excluded from our Creative Commons license. For more information, see <https://ocw.mit.edu/help/faq-fair-use/>.

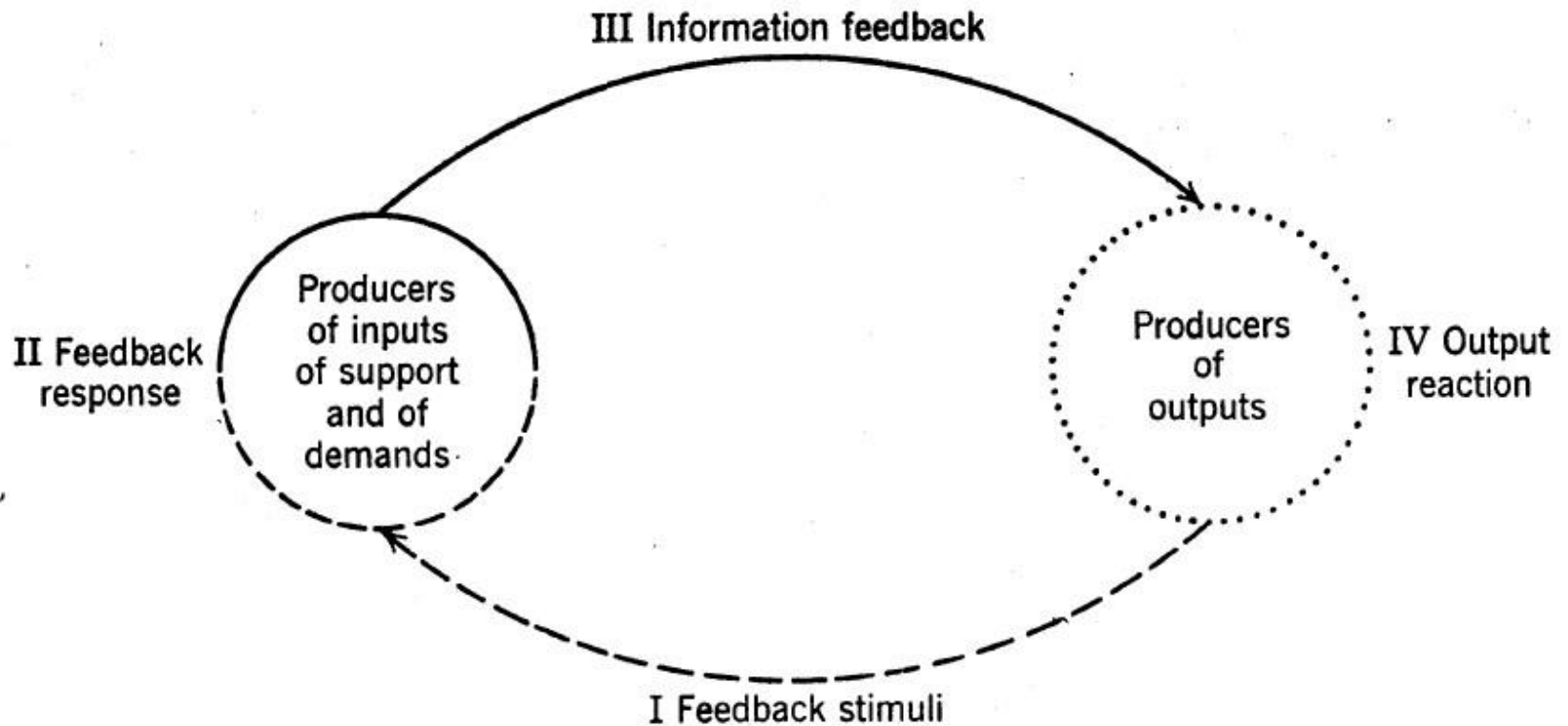


DIAGRAM 7 THE FOUR PHASES OF THE SYSTEMIC FEEDBACK LOOP

Easton, David. *A System of Analysis of Political Life*. John Wiley & Sons, Ltd, 1965 © John Wiley & Sons, Ltd. All rights reserved. This content is excluded from our Creative Commons license. For more information, see <https://ocw.mit.edu/help/faq-fair-use/>.

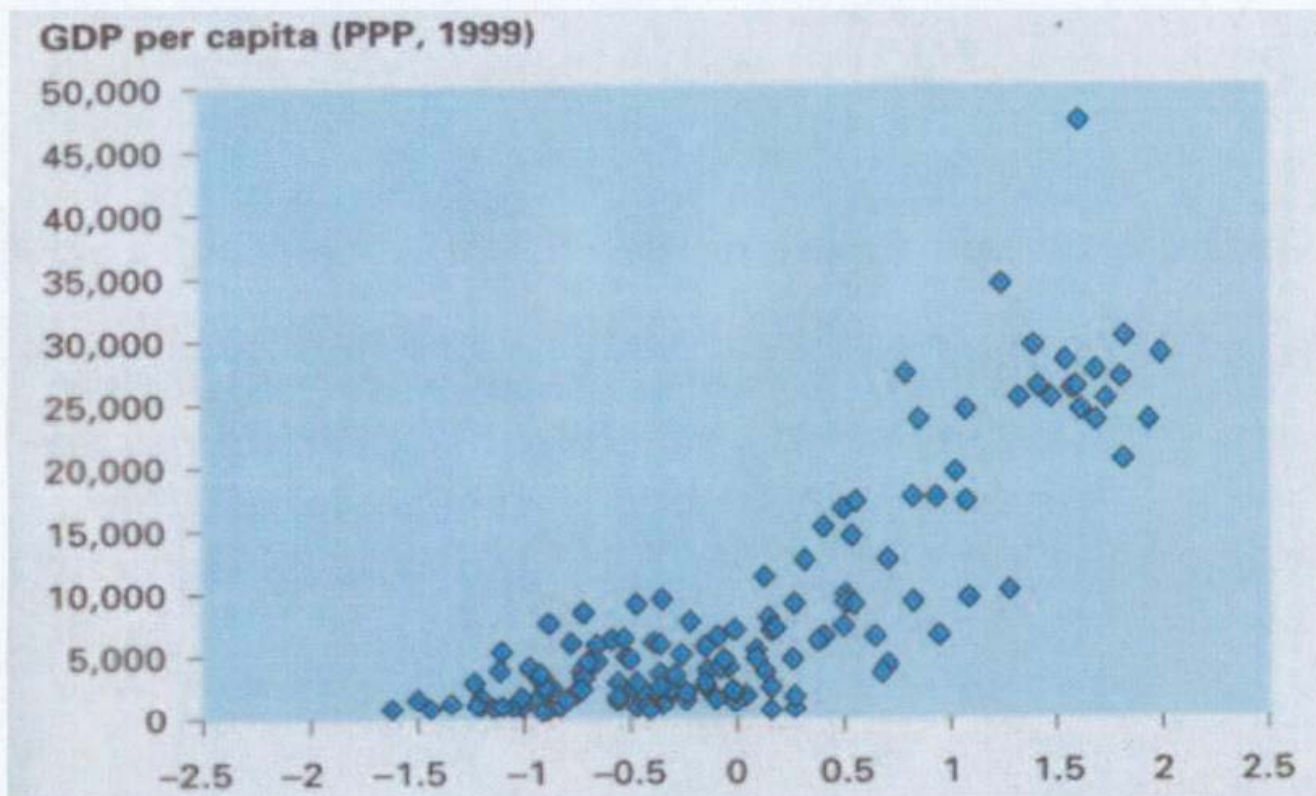
INSTITUTIONAL CAPACITIES The institutional capabilities referred to in equation (2) are specified more fully as follows:

(4) Institutional Capacity (IC)
consists of a set of capabilities involving:

Finance	(FC):	taxation and other forms of public levy
Distribution	(DC):	systems of revenue–expense balances
Regulation	(RC):	exercise of ‘law and order’
Response	(RC):	accountability in governance
Symbolism	(SC):	identity formation and maintenance

Choucri, Nazli. "The Political Logic of Sustainability." In *Sustainability and the Social Sciences: A Cross-Disciplinary Approach to Integrating Environmental Consideration into Theoretical Reorientation*. Edited by Egon Becker and Thomas John. Zed Books, 1999. © Zed Books. All rights reserved. This content is excluded from our Creative Commons license. For more information, see <https://ocw.mit.edu/help/faq-fair-use/>.

The Relationship between institutional quality and national income




World Bank. *World Development Report 2003: Sustainable Development in a Dynamic World: Transforming Institutions, Growth, and Quality of Life*. Oxford University Press, 2002. © Oxford University Press. All rights reserved. This content is excluded from our Creative Commons license. For more information, see <https://ocw.mit.edu/help/faq-fair-use/>.

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Assumptions

The Individual & The State

- Homo Economicus
- Homo Politicus
- Homo Sustainabilus
- Homo Cybericus
- Homo Globalis
- Homo Individualis

**All Operate in a Political System
Embedded in the 3 Domains**

Homo Individualis

- **Energy using**
- **Information Processing**
- **Driven by Perceptions & Cognitions**

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Continuum of Degrees and Types of Government Intervention

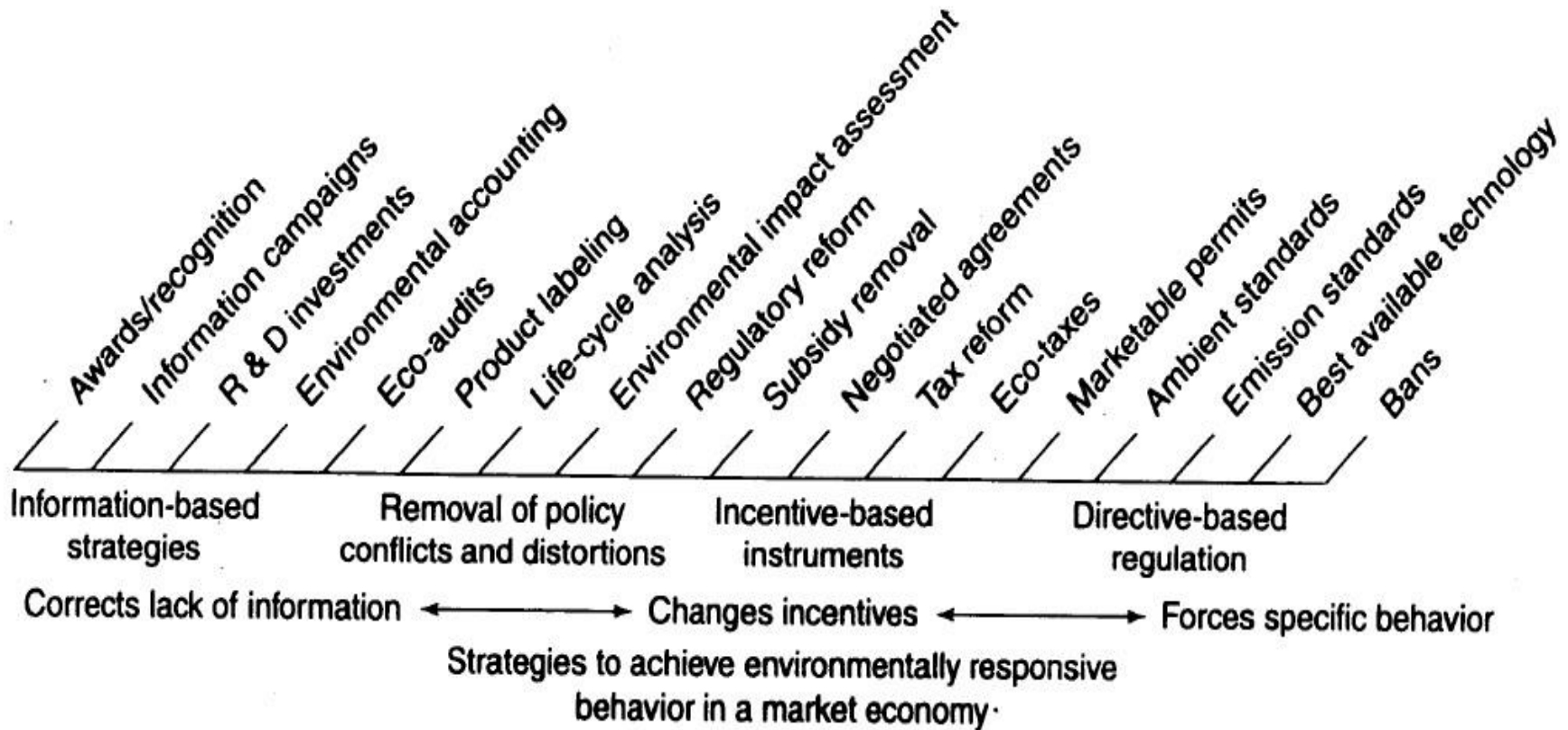


FIGURE 13.4 Continuum of degrees and types of government intervention. Regulations utilizing mechanisms on the left and middle of the scale are more appropriate for managing complex systems than those on the right.

Source: Bill Long, OECD, presented at ECO '97 International Congress, Feb. 24–26, 1997; Paris

Allenby, Braden R. *Industrial Ecology: Policy Framework and Implementation*. Prentice-Hall, 1998. © Prentice-Hall. All rights reserved. This content is excluded from our Creative Commons license. For more information, see <https://ocw.mit.edu/help/faq-fair-use/>.

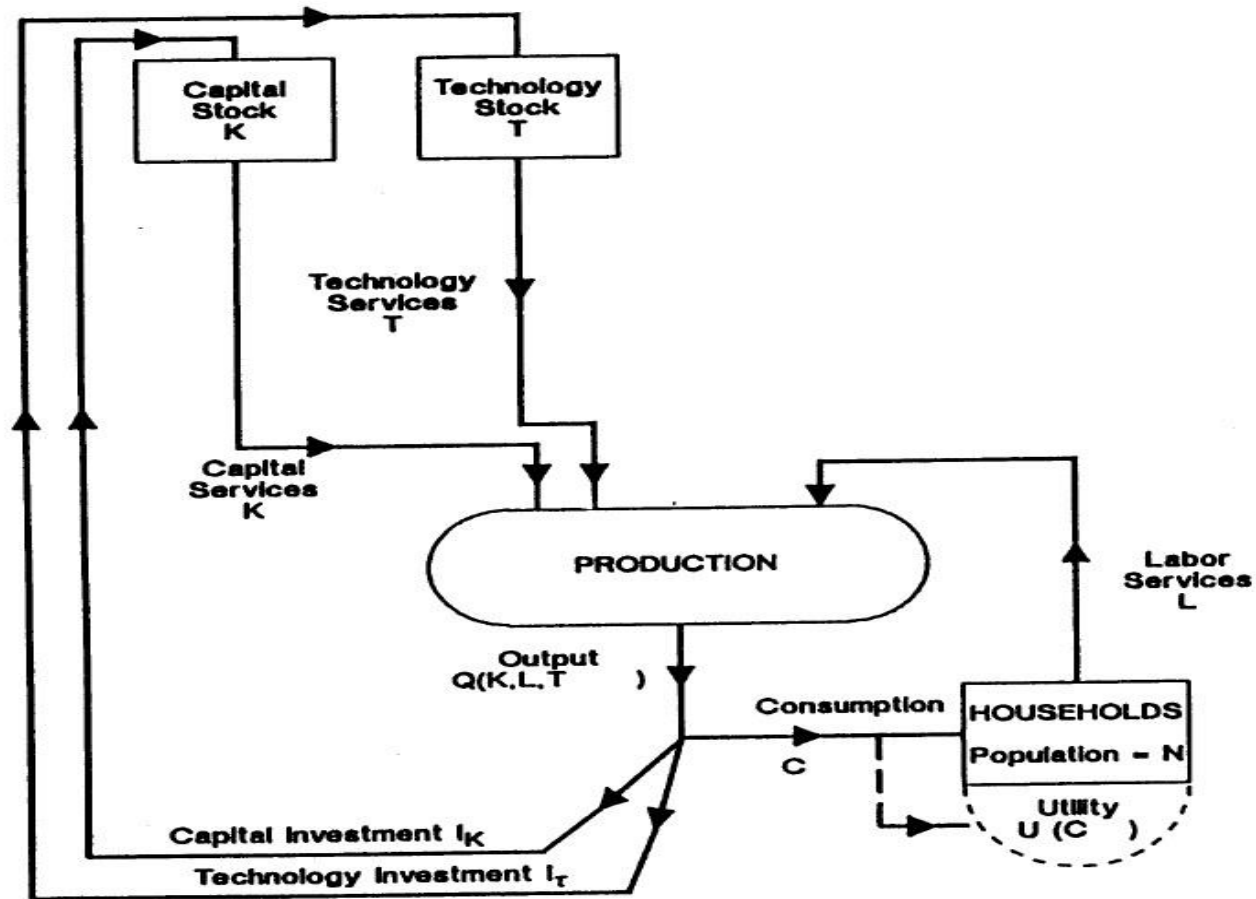
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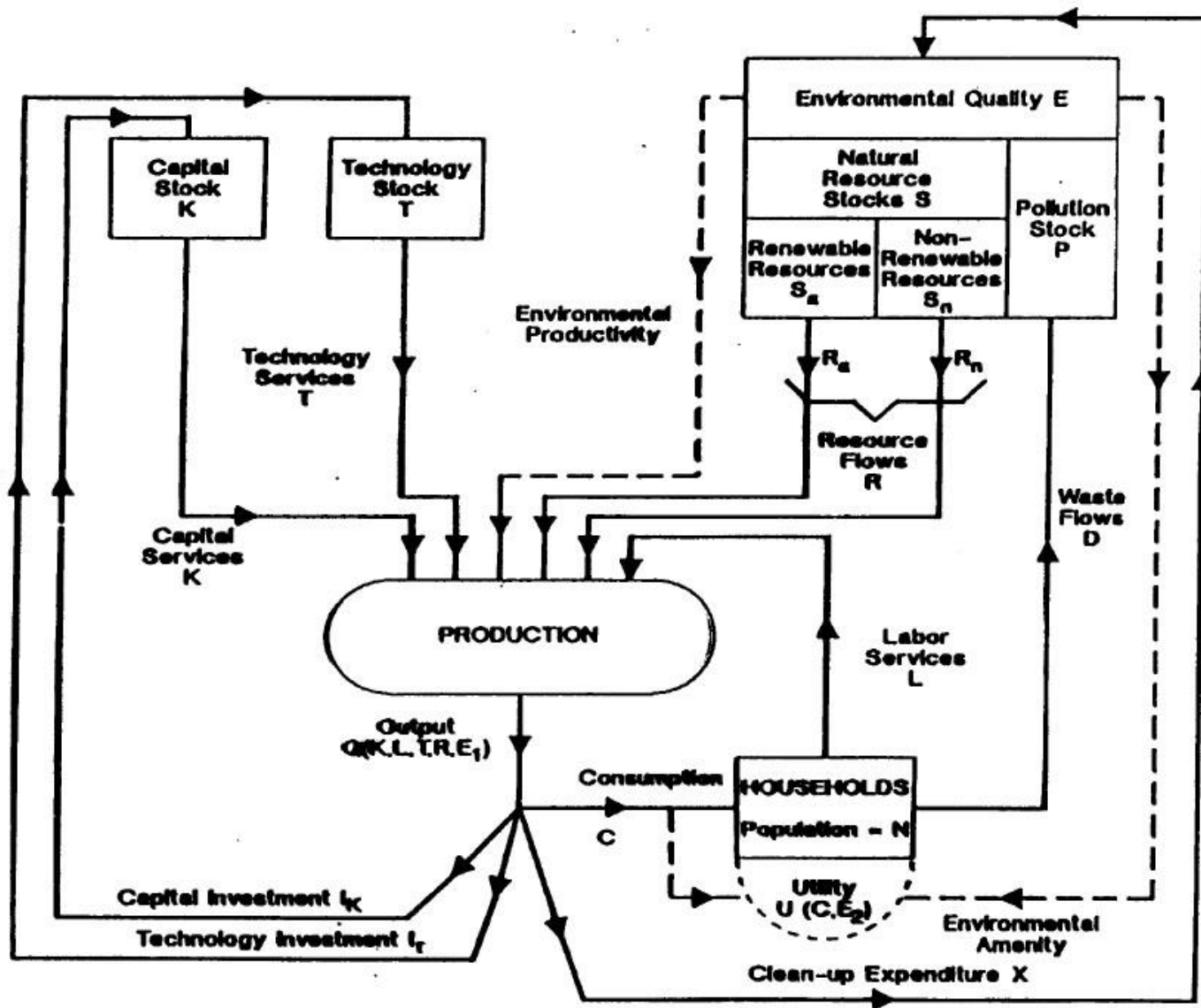
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Figure 2: A PURELY ECONOMIC MODEL



Pezzey, John. "Economic Analysis of Sustainable Growth and Sustainable Development." Working Paper No. 15. World Bank Policy Planning and Research Staff, Environment Department, 1989. © World Bank Policy Planning and Research Staff, Environment Department. All rights reserved. This content is excluded from our Creative Commons license. For more information, see <https://ocw.mit.edu/help/faq-fair-use/>.



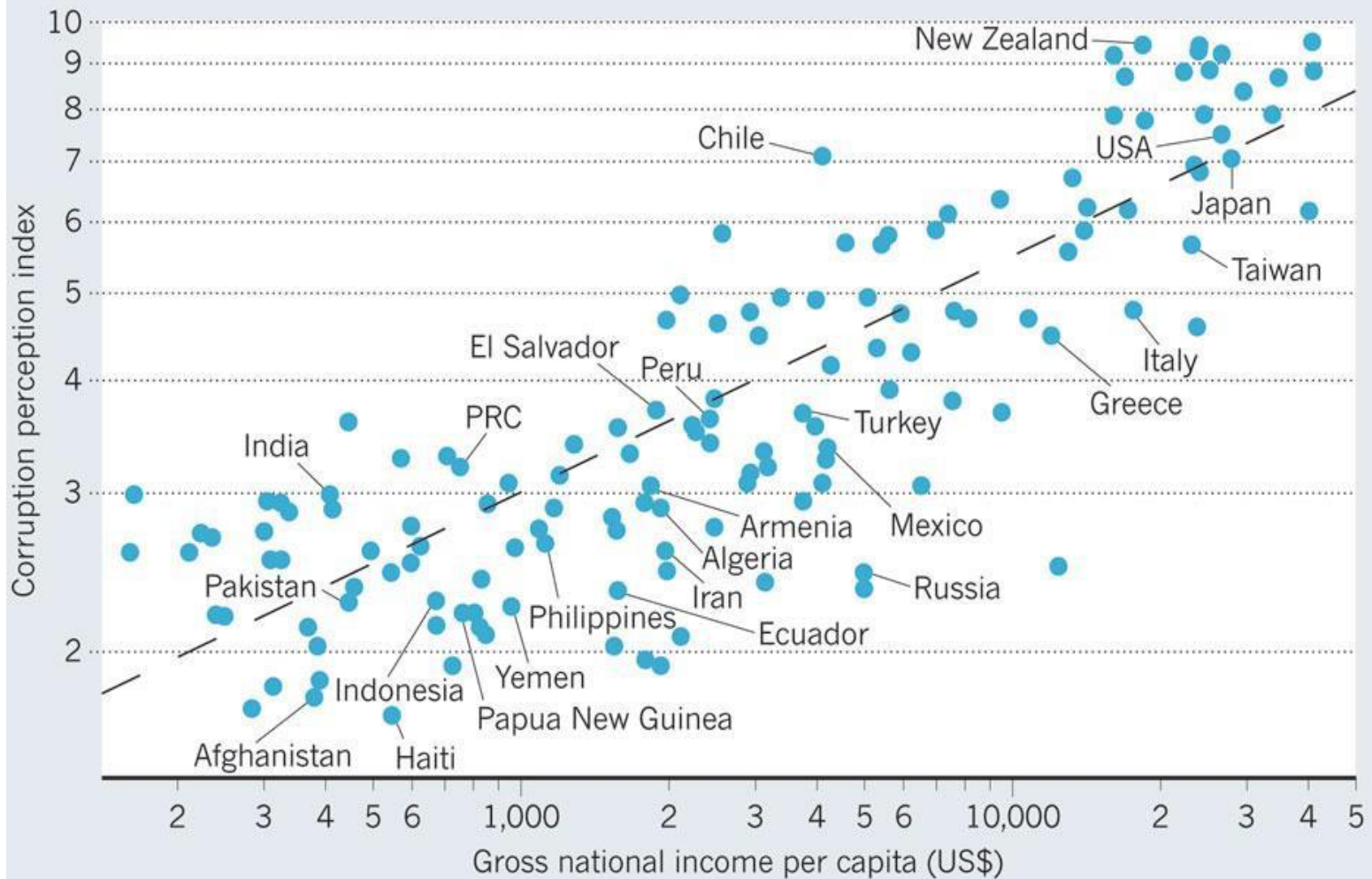
tar/w43863a

Pezzey, John. "Economic Analysis of Sustainable Growth and Sustainable Development." Working Paper No. 15. World Bank Policy Planning and Research Staff, Environment Department, 1989. © World Bank Policy Planning and Research Staff, Environment Department. All rights reserved. This content is excluded from our Creative Commons license. For more information, see <https://ocw.mit.edu/help/faq-fair-use/>.

Ecosystem services include (adapted from Natural Capitalism) :

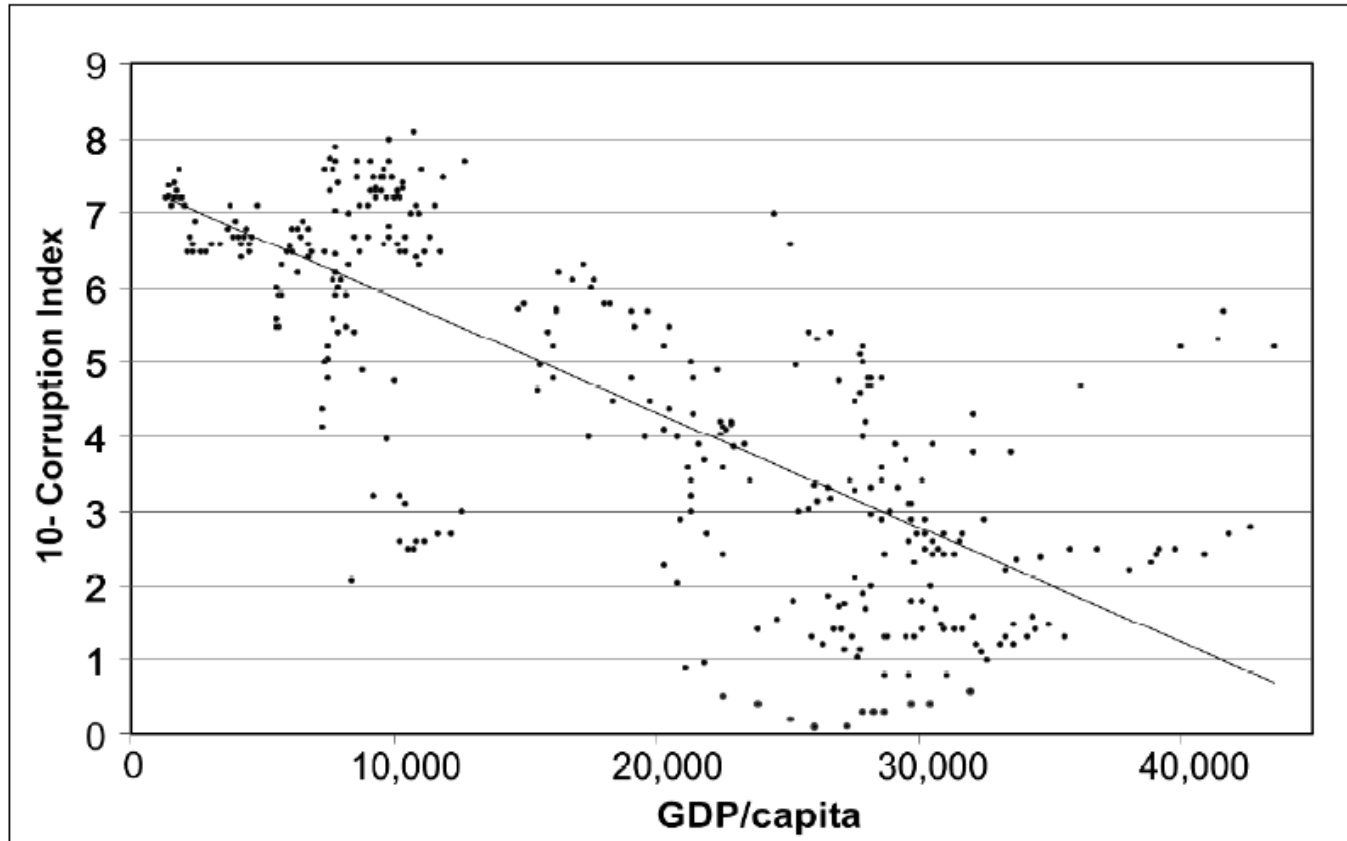
- Production of atmospheric gases;
- Supporting evolutionary processes and biodiversity;
- Purification of soil, water and air;
- Storage and cycling of fresh water and nutrients;
- Regulation of the chemistry of the atmosphere and oceans;
- Maintenance of habitats for wildlife;
- Disposing of organic wastes;
- Pest and disease control by insects, birds and other organisms;
- Production of the variety of species for food, fibres, pharmaceuticals and materials;
- Prevention of soil erosion and sediment loss;
- Alleviating floods and managing runoff;
- Protection against UV radiation;
- Regulation of the local and global climate;
- Development of topsoil and maintenance of soil fertility;
- Production of grasslands, fertilizers and food.

Hargroves, Karlson "Charlie", and Michael H. Smith, eds. *The Natural Advantage of Nations: Business Opportunities, Innovations and Governance in the 21st Century*. Routledge, 2004. © Routledge. All rights reserved. This content is excluded from our Creative Commons license. For more information, see <https://ocw.mit.edu/help/faq-fair-use/>.



Ambraseys, Nicholas, and Roger Bilham. "Corruption Kills." *Nature* 469, no. 7329 (2011): 153-55. © Nature Publishing Group. All rights reserved. This content is excluded from our Creative Commons license. For more information, see <https://ocw.mit.edu/help/faq-fair-use/>.

Corruption Index versus GDP/capita



Source: Transparency International, World Development Indicators, and Millennium Project compilation

Glenn, Jerome C., Theodore J. Gordon, et al. *2009 State of the Future*. The Millennium Project, 2009 © The Millennium Project. All rights reserved. This content is excluded from our Creative Commons license. For more information, see <https://ocw.mit.edu/help/faq-fair-use/>.

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