



THE ROLE OF COMPARATIVE ADVANTAGE
DISPERSED KNOWLEDGE AND
DISTRIBUTED AGENCY
IN SUSTAINABLE ECONOMIC
DEVELOPMENT

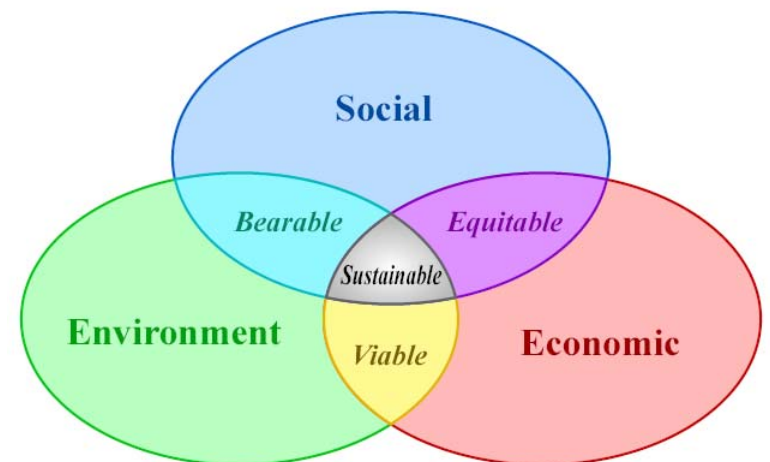
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Sustainable Development

- What is it?
 - *Development that meets the needs of the present without compromising the ability of future generations to meet their own needs (UN, 1987).*

emphasis on equilibrium with basic ecological support systems (Stivers, 1976)





Sustainable Development

- What is it?
 - Sustainability can also be thought of in another sense.....
 - A sustainable competitive advantage is gained by possessing inimitable, rare, and valuable resources that allow individuals or firms the ability to generate above normal profits and economic growth (Barney, 1991)



Development

- The Limits of Historical & Current Approaches
 - Top-Down (e.g. FDI)
 - Resources - historically invested in non-renewable extraction (Diamond, 1997)
 - Low-cost labor – ironically, initial development causes wages to rise limiting further investment
 - Bottom-up
 - Microcredit and base-of-pyramid entrepreneurship may empower but not raise standard of living (Karnani, 2006)



Research questions

- What resources should be a source of sustainable economic development?
- If developing economies contain renewable resources that are unique and valuable, why are their economic benefits often not maximized?
- How can this resource development process be accomplished in a way that alleviates extreme poverty?



Comparative Resource Advantage

- **Comparative advantage** – Ricardo (1821) noted that although one country may have an absolute disadvantage with another, value can be created for both countries by allocating resources to the most competitive area of the disadvantaged country. This is because an *opportunity cost* is created when the advantaged country spreads resources across multiple activities instead of concentrating them in its area of greatest strength.
 - Explains labor outsourcing - e.g. the attorney and secretary
- **Comparative resource advantage** – resources that are unique to a particular country allow opportunity for higher margin activities even if technologies and efficiencies in production do not match more developed countries

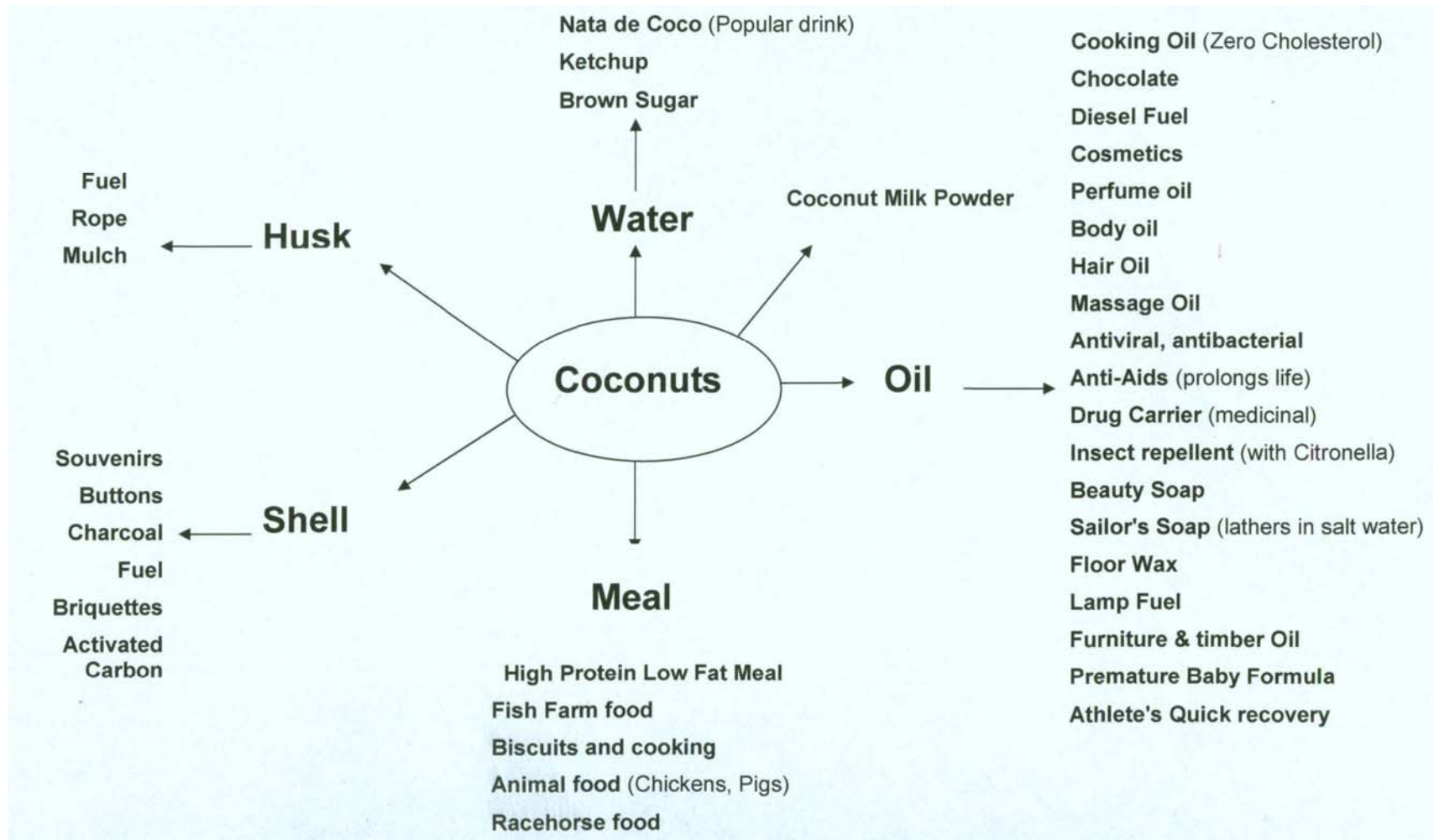


Comparative Resource Examples

- Sugar cane and ethanol production in Brazil
- Pharmaceutical flora in Andes
- Coconuts in the tropics



Coconut Products





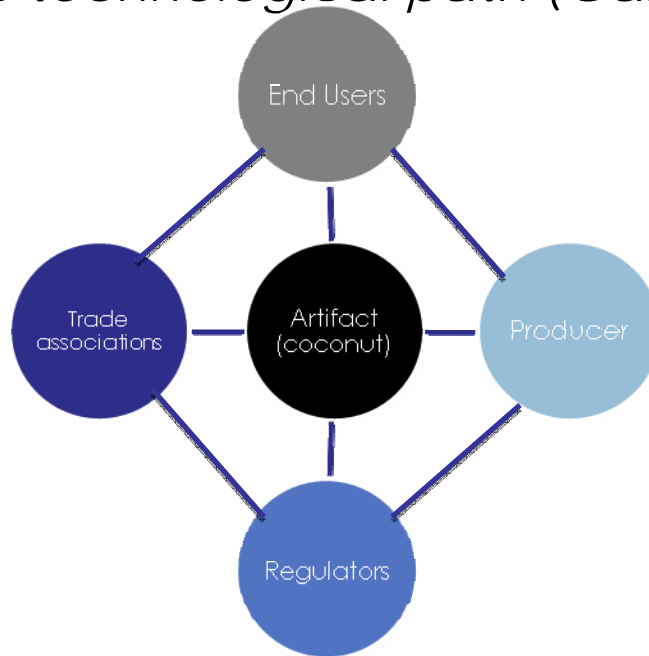
Comparative Resource Examples

Question: if these resources are so valuable, why is their potential utility often not maximized?



Social Construction of Technology

- *Human agency shapes our views of artifacts and their potential uses and the emergence of technology regarding their use is distributed across multiple actors who are embedded in the technological path (Garud & Karnoe, 2003)*





Comparison of Coconut Technology by Country

	Sri Lanka	Liberia	Ghana	Indonesia
Producers	Med. skill	Low skill	Low skill	Med. skill
Trade support	High	Low	Low	High
Regulation	Med/High	?	Med	Med/High
End users	Local/export	Local	Primarily local	Local/Export
End Products	Many	Few	Few	Many



Problem of Dispersed Knowledge

- Dispersed knowledge can never be given to a single mind and thus “never exists in concentrated or integrated form, but solely as the dispersed bits of incomplete and frequently contradictory knowledge which all the separate individuals possess.” (Hayek, 1945)
 - Large numbers require greater resource requirements (attention)
 - Asymmetries – learning is process dependent
 - Uncertainty
- Asymmetries are particularly troublesome for developing countries where important pieces of information are unavailable (e.g. potential markets, technologies, competitors)



Problem of Imperfect Markets

- Incomplete knowledge and limited processing capacity leads to bounded rationality in decision making (Simon, 1986)
- This uncertainty leads to increased transaction costs in exchange (Coase, 1937).
- Wallis & North (1986) determined that 45% of the US national income was devoted to transacting in 1970. This will certainly be much higher in developing countries where the “rules of the game” are uncertain or changing.
- This uncertainty will also lead to less innovation in production and more common use applications that do not require long-term investment.



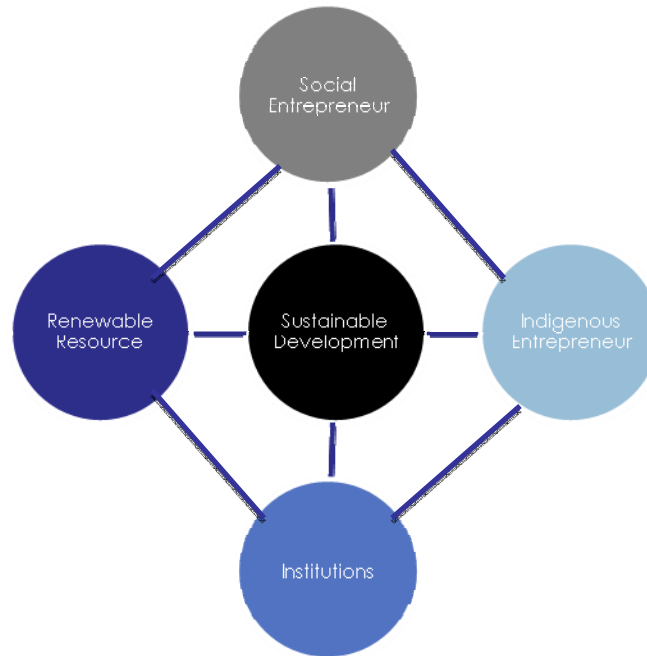
Problem of Institutions

- The Heritage Foundation (2008) and Frazier Institute (2006) list the following rankings of economic freedom
(HF - *Business Freedom, Trade Freedom, Fiscal Freedom, Gov't Size, Monetary Freedom, Investment Freedom, Financial Freedom, Property Rights, Freedom from Corruption, Labor Freedom*)

	Heritage F.	Frazier
Sri Lanka	90 th (58.3)	103rd
Liberia	-	-
Ghana	94 th (56.7)	66th
Indonesia	119 th (53.9)	101st
US	5 th (80.6)	8th



Sustainable development through dispersed knowledge and distributed agency





Potential Solution – Institutions

- Institutions are formed to reduce this uncertainty and define the “rules of the game.” (North, 1991)
- NIE proposes that economic development results from having politico-economic institutions that (1) create and enforce property rights, (2) observe the rule of law, (3) allow for competitive markets, and (4) ensure incentives for innovation and entrepreneurship.
- These institutions reduce transaction costs increasing market efficiency and economic growth.



Potential Solution - Benefits of dispersed knowledge and agency

- **Social entrepreneurs** bring (1) new technologies, (2) sources of capital, (3) potential export markets that might have been unavailable to the local producer, (4) potentially greater gains to workers due to social intent.
- The **indigenous entrepreneur** brings an understanding of current resource availability, local markets, institutional hurdles, contacts, etc.
- **Institutional actors** potentially play a role in helping both the local and dispersed agents fulfill their roles.



In progress and future directions

- Helping to establish business plans for projects in Brazil, Indonesia, Liberia, Ghana, Sri Lanka, Mexico, and Honduras.
- Can and how do agents help shape the institutions that would further sustainable development? (e.g. the beaver and dam)
- What alternative informal institutions can be useful in facilitating development of unique resources if formal institutions are lacking?
- What arrangements can indigenous and social entrepreneurs make that will minimize moral hazard and maximize the economic and social goals of each party?
- What are the qualitative and quantitative descriptors for each of these that can predict success/failure or performance?