

SUSTAINABILITY

**It s Many Uses, Abuses and Confusions
in Today's World**



Harold J. McArthur
University of Hawai'i at Mānoa

SEARCA
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A Confusing Concept

“Sustainable develop is a complex idea that can neither be unequivocally described nor simply applied.”

(Martens, 2006)

An Evolving Process

- Thirty years ago there were two often opposing groups – the developers and extractors and the conservationists and protectionists (tree huggers.)
- Things began to change with the Bruntland Report in 1987

Today Sustainability is Many Things to Many People

- Sustainability as a property
- Sustainability as a process
- Sustainability as a goal
- Sustainability as a value
- Sustainability as an action
- Sustainability as a science

Multiple Applications

- Sustainable Development
- Sustainable Agriculture
- Sustainable Forest Management
- Sustainable Livelihood
- Sustainable Planning
- Sustainable Growth
- Sustainable Cities

Multiple Underlying Principles

- Sustainable Economic Development
 - *Efficiency*
- Sustainable Social Development
 - *Justice*
- Sustainable Ecological Development
 - *Resilience*

Multiple Perceptions

There are literally hundreds of definitions of sustainability in the literature.

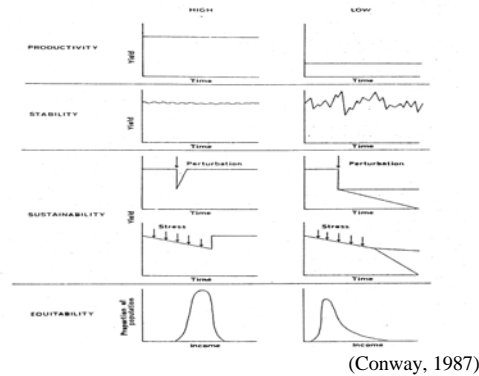
Most can be clustered in terms of a key characteristic

Sustainability as a Property

Sustainability is the ability of an agroecosystem to maintain productivity when subjected to a major disturbing force.

Gordon Conway, 1987

Agroecosystem Properties



Sustainability as a Process

“Sustainable development is development that meets the needs of the present without compromising the ability of future generations to meet their own needs.”

Sustainability as a Goal

Sustainability has become the goal of policy development at the global, national and local levels.

No environmental issues have provoked more political and scientific debate than those of global warming and greenhouse gases.

Sustainability as a Value

Living in harmony with one's environment.

Do no harm.

Protect the Environment

Save the World

Sustainability as an Action

Recycling
Composting
Reduced energy use
Developing biofuels
Producing organic foods
Minimizing one's environmental footprint

Sustainability as a Science

As a science, sustainability provides a framework for systematic understanding of the interactions between human and environmental systems.

Key questions:

- How can such interactions be better incorporated into models that integrate natural and social systems?
- What factors determine limits of resilience and sources of vulnerability in such interactive systems?

(Clark, 2007)

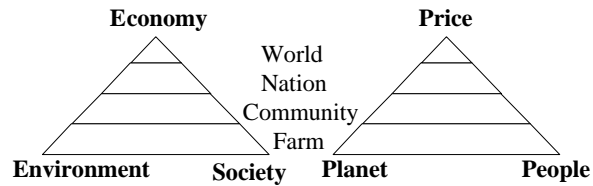
Operationalizing Sustainability

Simple to the Very Complex

Multiple Pillars Concept

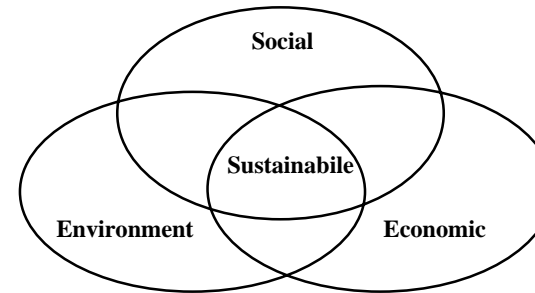
Economy Jobs and wealth	Environment Biodiversity and nature	Society Health & Social Cohesion
Profits	Planet	People

Triangle Concept



Seeking to understand linkages between Economic Develop, the Environment and Quality of Life

The Venn Concept



Sustainable development works at the intersection of the constituent sectors

Sustainable Development Many Sectors / Disciplines

- Agriculture
- Atmosphere
- Biodiversity
- Biotechnology
- Capacity-building
- Climate Change
- Consumption/Production
- Demographics
- Desertification
- Disaster Management
- Education
- Energy
- Finance
- Forests
- Fresh Water
- Hazardous Waste
- Health
- Human Settlements
- Information for Decision making
- Land Management
- Mountains
- Oceans and Seas
- Poverty
- Radioactive Waste
- Sanitation

UN Division for Sustainable Development

Sustainable Development Many Sectors / Disciplines

- Solid Waste
- Tourism
- Technology
- Toxic Chemicals
- Trade and Transport
- Water

UN Division for Sustainable Development

Sustainable Agriculture

- More than 50 definitions
- Often connotes organic farming and bio-control practices
- More complex most people perceive
- Requires one to consider multiple factors
- Flows of energy, material and information
- Multiple levels

Field Level

Cropping Systems

Focus was on interactions between the crop and the environment (soil, water, temperature, pests).

Farm Level

Farming Systems

Focus was on strategies for managing all the resources under the control of the farm family (land, crops, livestock, water, labor, etc.)

Agroecosystem Level

Agroecosystem Analysis

Focus in on the interaction between social systems (farmer, family, village) and the ecosystem (climate, water, soil, flora and fauna).

Hydrologic Systems



Land Management



Agricultural Systems



Livestock Management



Settlement Patterns / Housing



Transportation Systems



Markets and Trade Systems



Social Institutions



Cultural Practices



Daily Living



Traditional Law and Governance

Tarabundo (kapu warning)



Who Implements Sustainable Actions?

- Individuals
- Non-governmental groups (NGOs)
- University Departments / Institutes
- Villages, Towns and Cities
- Corporations
- National Governments
- World Leaders

The Key Actors

- NGO's are heavily involved in local-level implementation of sustainability projects.
- Academic institutions are involved in multidisciplinary training and research on sustainable development.
- Corporations are now finding that environmentally-sounds practices make good business sense.

Challenges and Obstacles

- Sustainability is a long-term process with 20-25 year horizon.
- Planning horizon of politicians and senior government planners is often less than 10 years.
- Most sustainable development work is done in projects with a 3-5 year life.

Challenges and Obstacles

- Most sustainability occur at either the local grass roots level led by NGOs or CBOs (community-based organizations) or at the global level involving international treaties and protocols.
- Scaling up and scaling down are difficult

Issues of Scale

- Grassroots efforts vs. global initiatives
- What works at one level is not easily transferred to another level.
- NGO-led sustainability efforts are difficult to scale up.
- Centralized government-sponsored efforts often lack local ownership and group coherence.

Issues of Time

“Temporal and spatial concepts are crucial to sustainability and the concept of “the future” may depend upon ethnicity, linguistic background and life expectancy...

One person’s future may be another person’s present.”

(Crabbe, 2006)

Multiple Agendas

- True believers feel they are being sustainable one recycled can at a time.
- Corporations adopt sustainable agendas so they can green tax benefits and make customers believe their products are environmentally friendly.
- Governments and planners need to be perceived as Pro-Environment

Abuses

- Sustainability has become a business. There is money to be made and government grants to be had by offering “sustainable” products and services.
- Donors often insert “sustainable” and “participatory” in project requirements to be politically correct and to appear that they are protecting the environment and human populations.

Abuses

- “Some elites use the term to generate an ideological smoke screen to conceal their self-serving actions.” (Rambo, 1997)

Doubters and Detractors

“Sustainable development has become the dominant myth of our time.” (Rambo, 1987)

The efficacy of sustainability “ as a motivational tool is unrelated to any probability of achieving it” (Rambo, 1987)

Sustainable development is all about managing something that is subjective and can never be achieved. (Kemp & Pim, 2007)

Doubters and Detractors

“Any attempt of define the concept [of sustainability] precisely, even if it were possible, will have the effect of excluding those whose views were not expressed in that definition.” (Robinson, 2004)

“Development is the strategy of evasion. When you can’t give people land reform, give them hybrid cows.”

(Sainath, 1996)

Doubters and Detractors

Sustainability has come to mean too much and nothing at the same time.

(Temple, 1992)

Discussions of sustainable development are more rhetoric than honest facts and numbers.

(Dovers and Handmer, 1993)

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