

Rehabilitation as a Strategy for a Sustainable Built Environment

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Overview



- F What is Sustainability?
 - In General
 - With Respect to Built Facilities
- F Issues in Measuring Sustainability
- F Rehabilitation and Sustainability
- F What Can We Do?
- F Resources

What is Sustainability?



F Sustainability Objectives:

- Accommodating Human Needs and Aspirations
- Minimizing Negative Environmental Impacts
- Minimizing Consumption of Matter and Energy

How Can Rehabilitation Contribute to Sustainability?



F Accommodating Human Needs and Aspirations:

- Meeting Performance Requirements
- Preserving Architectural History
- Reviving Urban Areas

How Can Rehabilitation Contribute to Sustainability?

- F Cost, Time, and Quality:
 - Creating Economic Advantage
 - Saving Time Needed for New Construction
 - Maintaining Traditional Quality Standards



Issues in Measuring Sustainability



- F Dynamic State of System
- F Temporal Scale
- F Spatial Scale
- F Context
- F Framework of Issues

Spatial Scale of Sustainability



- F Within Facility:
 - Individual Materials
 - Building Systems
- F Facility as a Whole
- F Beyond Facility:
 - Site
 - Community/Bioregion
 - Global Context

Contextual Considerations



- F Sociocultural Context
- F Environmental Context
- F Economic Context
- F Sustainability of an artifact is meaningful only in terms of its USE...

What Can We Do?



F Consider rehabilitation instead of new construction:

- Tax incentives
- Partnering

F Design for Rehabilitation/Retrofit:

- Durability
- Flexibility/Modularity
- Accessibility of Components

How Many New Facilities are “Rehabilitatable”?

- F Current Paradigm:
 - Economic Optimization
 - Material/Energy Consumption
- F Finding a Balance
- F New Paradigm:
 - Education
 - Industrial Practices

Resources



F Center for Sustainable Technology,
Georgia Tech

– <http://www.ce.gatech.edu>

– <http://130.207.139.49>

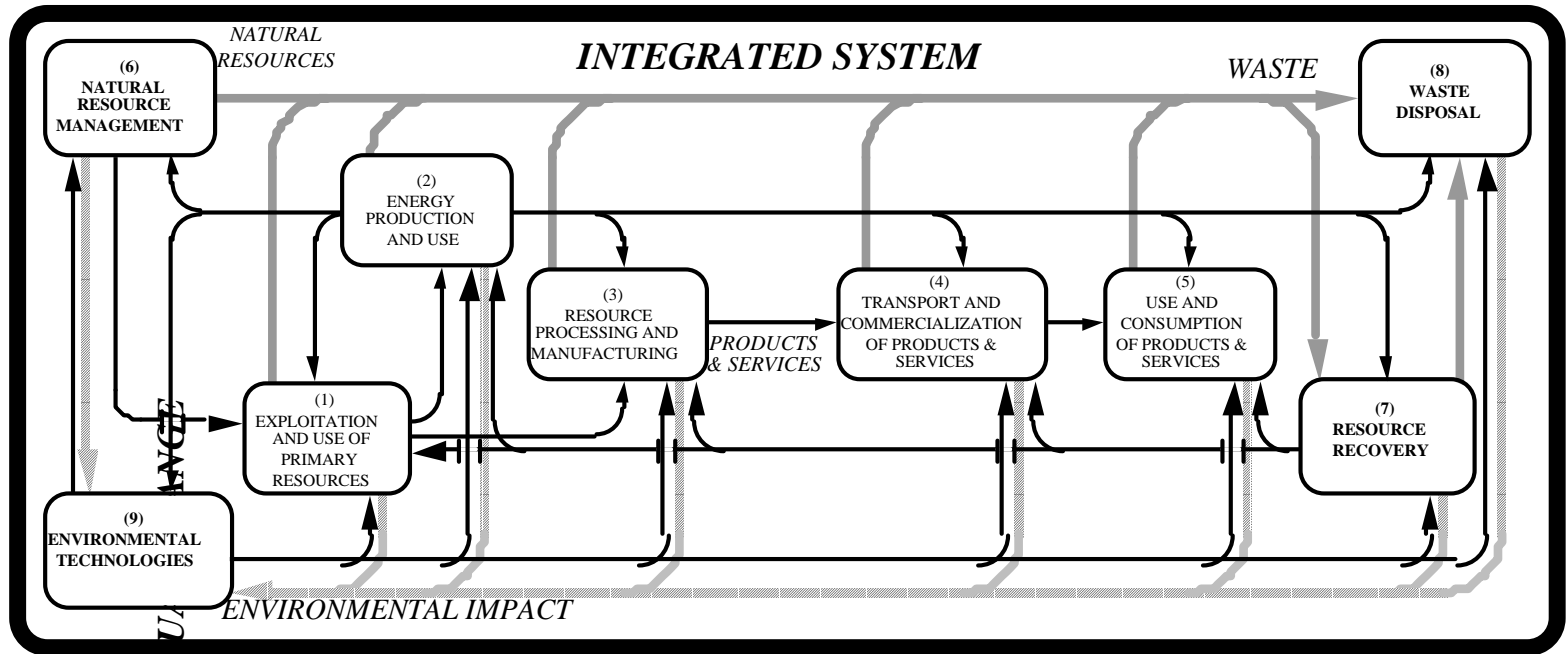
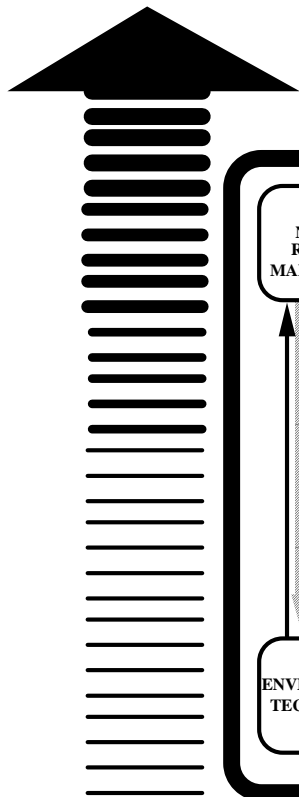
F Involve Universities and other
Educational Organizations!

– Design studios/class projects

– Independent research

Cyclic Sustainable Development Process

SUSTAINABILITY



adapted from D.V. Roberts