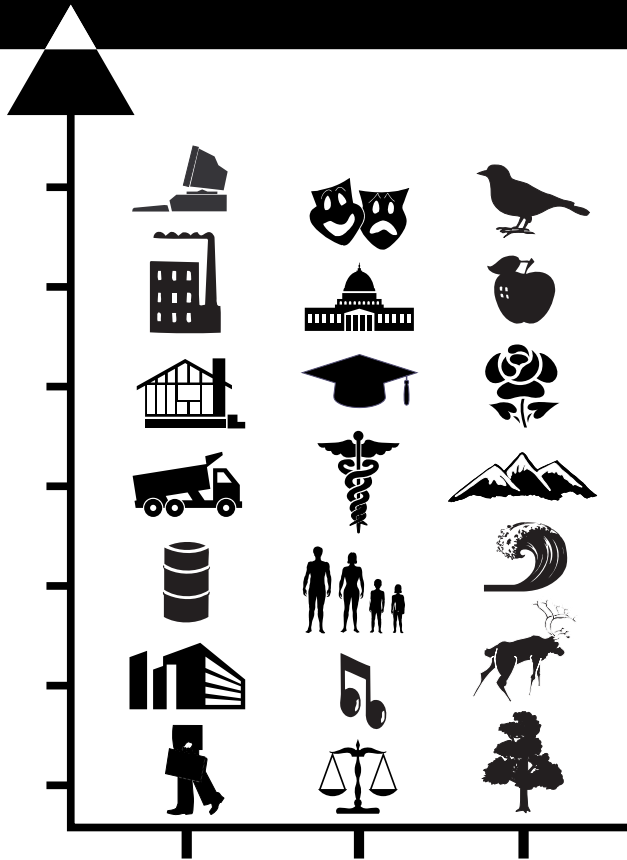


Sustainable Community Indicators



Trainers' Workshop

Hart Environmental
DATA

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Sustainable Community Indicators

A new way to look at the world



Sustainable Community Indicators

Agenda

- ▶ **Introductory exercise**
- ▶ **What is sustainability?**
- ▶ **Common terms for discussing sustainability**
- ▶ **Definitions of sustainability**
- ▶ **Examples of indicators**
- ▶ **What makes a good indicator of sustainability?**
- ▶ **Develop indicators of sustainability**
- ▶ **Others working on sustainable community issues**
- ▶ **Data sources for indicators**
- ▶ **How do we get there?**

Let's define some terms:

- ▶ **Sustain**
- ▶ **Develop**
- ▶ **Carrying Capacity**
- ▶ **Community Capital**
- ▶ **Weak vs. Strong Sustainability**
- ▶ **Community**
- ▶ **Indicator**

What does sustain mean?

Sustain:

To keep in existence without diminishing, to provide sustenance and nourishment

What is development?

Develop:

To bring out the capabilities or possibilities of, to bring to a more advanced or effective state

What is carrying capacity?

Carrying capacity:

The population that can be supported indefinitely by an ecosystem without destroying the ecosystem

What is community capital?

- ▶ **Natural capital**
 - ▶ **Natural resources**
 - ▶ **Services provided for human activity**
 - ▶ **Ability of natural environment to maintain its long-term health**
- ▶ **Human/social capital**
 - ▶ **Connectedness to people and community**
 - ▶ **Education, skills and health of population**
- ▶ **Financial/Built capital**
 - ▶ **Manufactured goods, buildings, infrastructure**
 - ▶ **Information resources**
 - ▶ **Credit and debt**

Weak vs. Strong Sustainability

Weak sustainability:

Manufactured capital of equal value can take the place of natural capital

Strong sustainability:

The existing stock of natural capital must be maintained and enhanced because the functions it performs cannot be duplicated by manufactured capital

How do you define a community?

Community:

A social group of any size whose members reside in a specific locality, share government, and often have a common cultural and historical heritage

What is an indicator?

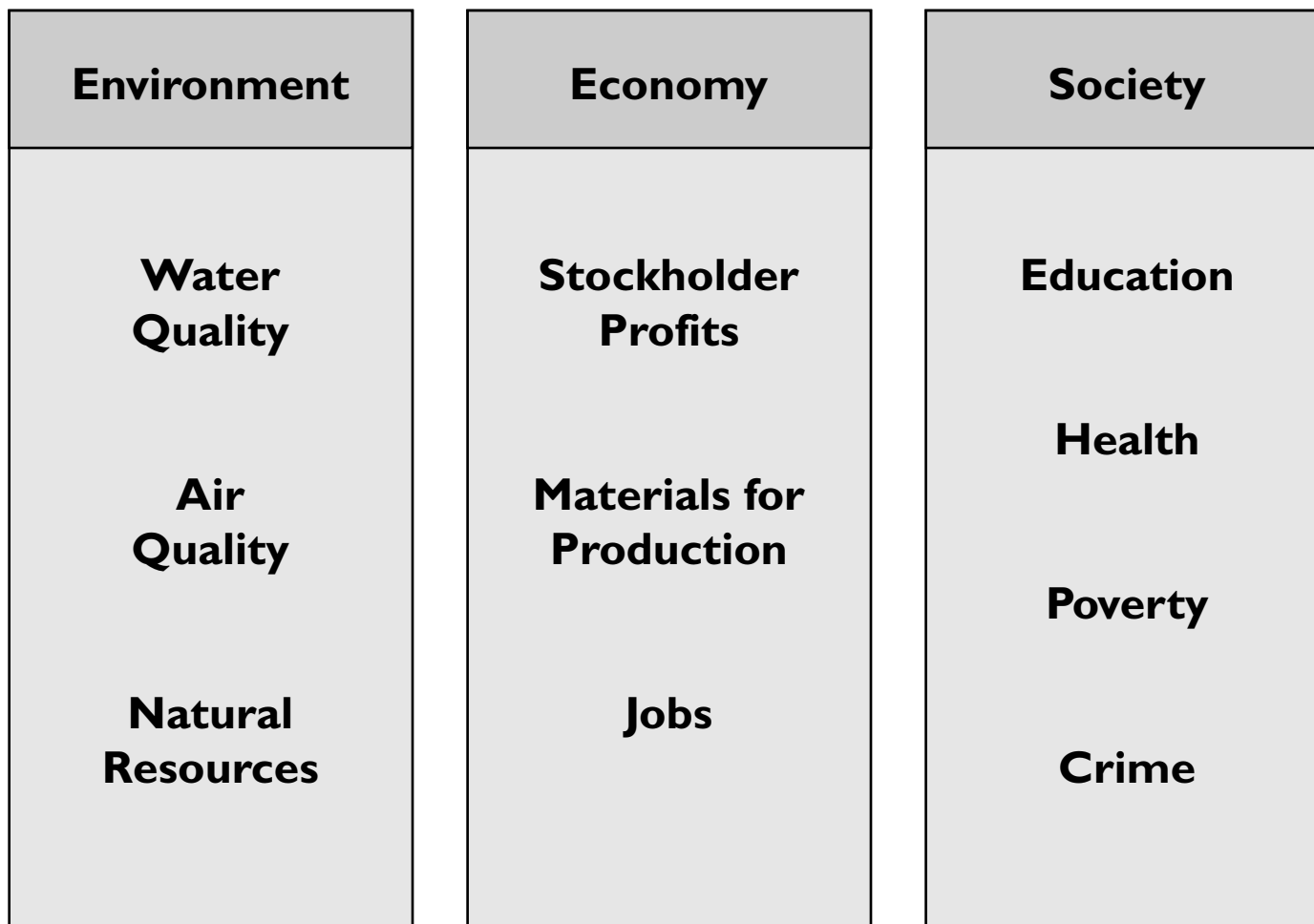
Indicator:

A way to measure, indicate, point out or point to with more or less exactness;

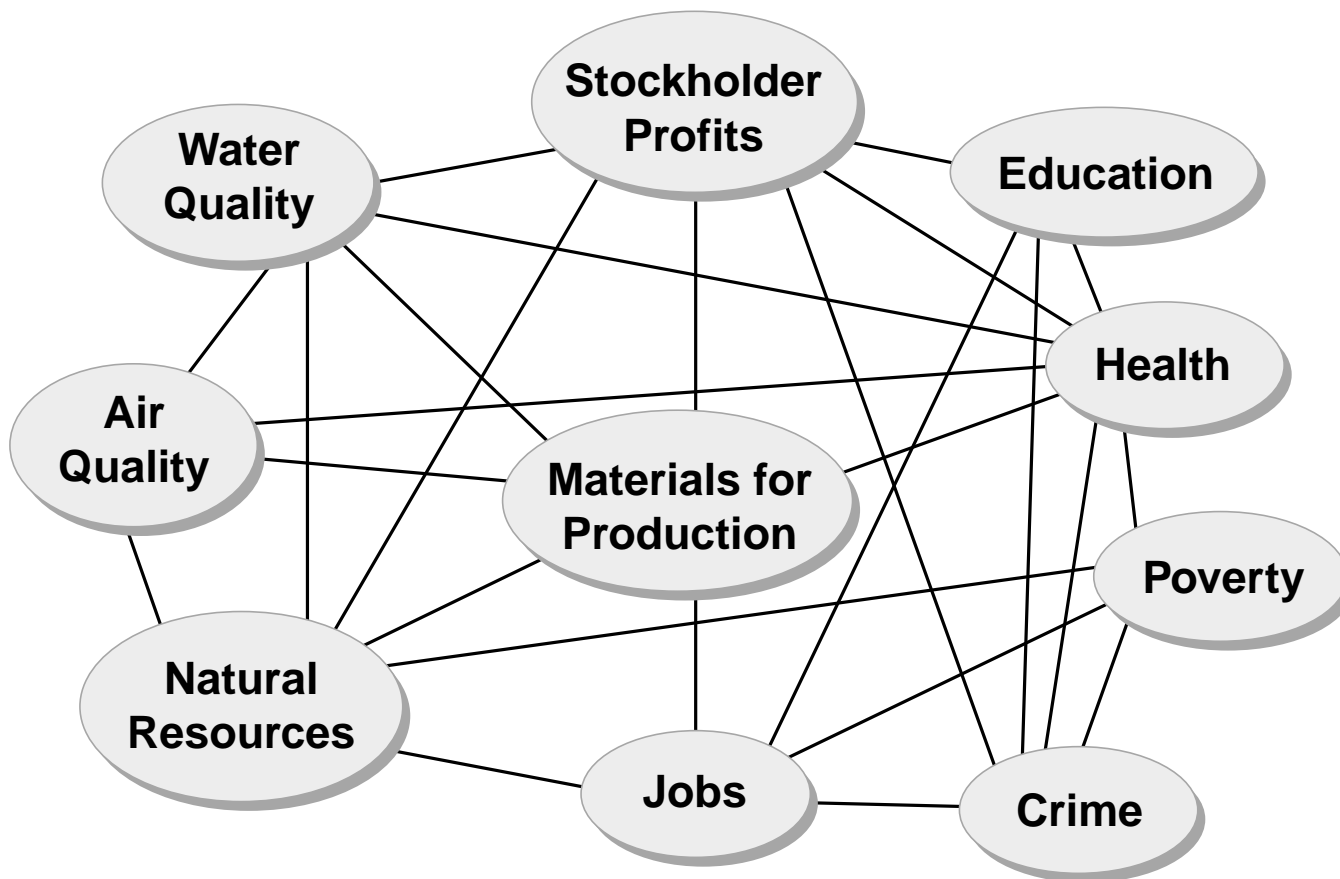
Something that is a sign, symptom or index of;

Something used to show visually the condition of a system.

Traditional Measures



Interconnected Measures



Definitions of Sustainability

- ▶ **Sustainable Development**
- ▶ **Sustainable Community**
- ▶ **Sustainable Production**
- ▶ **Sustainable Agriculture**

Sustainability is:

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

World Commission on the Environment and Development

Sustainability is:

“Sustainable global development requires that those who are more affluent adopt lifestyles within the planet’s ecological means.

Sustainable development can only be pursued if population size and growth are in harmony with the changing productive potential of the ecosystem.”

World Commission on the Environment and Development

Sustainability is:

“...improving the quality of human life while living within the carrying capacity of supporting ecosystems.”

Caring for the Earth

Sustainable Community Indicators

Caring for the Earth

- ▶ **Energy use per person**
- ▶ **Annual emissions of greenhouse gases per person**
- ▶ **Percent of land area that is natural, modified, cultivated, built, and degraded**

Sustainability is:

“Sustainable community development is the ability to make development choices which respect the relationship between the three “E’s” economy, ecology, and equity...”

Mountain Association for Community Economic Development (MACED)

Sustainability is:

“Sustainable development...(is) the process of building equitable, productive and participatory structures to increase the economic empowerment of communities and their surrounding regions.”

Interfaith Center on Corporate Responsibility

Sustainability is:

“...long-term cultural, economic, and environmental health and vitality..”

Sustainable Seattle

Sustainability is:

“...A community is unsustainable if it consumes resources faster than they can be renewed, produces more wastes than natural systems can process or relies upon distant sources for its basic needs.”

Sustainable Community Roundtable

A Sustainable Society is:

“... characterized by an emphasis on preserving the environment, developing strong peaceful relationships between people and nations, and an emphasis on equitable distribution of wealth.”

Co-op America

Sustainable communities

- ▶ **Value and respect all people**
- ▶ **Cultivate trusting relationships among people, organizations and institutions**
- ▶ **Cooperate for the common good**
- ▶ **Provide opportunities for communication and learning**
- ▶ **Seek to develop and not just grow**

MACED Communities by Choice



“Aloha ‘aina, malama’ aina, ahupua’a style living...”

“Aloha ‘aina simply means to love and respect the land, make it yours and claim stewardship for it.

Malama 'aina means to care for and nurture the land so it can give back all we need to sustain life for ourselves and our future generations, and,

An ahupua'a is an ancient concept of resource use and management based on families living in a division of land that connects the mountains to the reefs and the sea.”

Puanani Rogers, Team Leader for the Ho‘okipa Network

Sustainability is:

“Sustainable communities foster commitment to place, promote vitality, build resilience to stress, act as stewards, and forge connections beyond the community”

*Northwest Policy Institute,
University of Washington,
Graduate School of Public Affairs*

Sustainable Community Indicators

- ▶ **Number of hours working at the average wage needed to pay for basic needs**
- ▶ **Acres of land redeveloped**
- ▶ **Number of acres of farmland remaining in the county**
- ▶ **Percent of food produced locally**
- ▶ **Annual fuel consumption and number of vehicle miles traveled**
- ▶ **Dollars spent in local community that stay local**
- ▶ **Percent of goods made from recycled material**
- ▶ **Annual harvest of timber compared to growth rate**

Sustainable businesses:

- ▶ **Replace nationally and internationally produced items with products created locally and regionally.**
- ▶ **Take responsibility for the effects they have on the natural world.**
- ▶ **Do not require exotic sources of capital in order to develop and grow.**
- ▶ **Engage in production processes that are human, worthy, dignified, and intrinsically satisfying.**
- ▶ **Create objects of durability and long-term utility whose ultimate use or disposition will not be harmful to future generations.**
- ▶ **Change consumers to customers through education.**

Paul Hawken, "The Ecology of Commerce"

Sustainable Production

- ▶ **Products and services are ecologically safe through out their life cycle**
- ▶ **Processes and technologies minimize or eliminate hazards and wastes**
- ▶ **Workers are valued and their creativity, skills, and capabilities are continuously developed**
- ▶ **Communities are respected and enhanced economically, socially, culturally, and physically**

Lowell Center for Sustainable Production

The Natural Step principles:

- 1. Substances from the earth's crust can not systematically increase in the biosphere.**
- 2. Substances produced by society can not systematically increase in the biosphere.**
- 3. The physical basis for the productivity and diversity of nature must not be systematically deteriorated.**
- 4. There must be fair and efficient use of resources to meet human needs.**

Robert, Daly, Hawken and Holmberg

Sustainable Production Indicators

- ▶ **Type and rate of material use**
- ▶ **Amount and type of energy consumption**
- ▶ **Amount and toxicity of waste and emissions**
- ▶ **Amount of land used or reused**
- ▶ **Development of workers**

Sustainable Agriculture

“..farmers in sustainable agriculture are concerned about feeding their families and paying their bills, but those are not their only goals in life. They set out to protect the land, improve their quality of life, and enhance the communities in which they live. Their day-to-day decisions are not guided by a single minded search for profit, but by a delicate balancing act among many goals.”

Dick Levins, Land Stewardship Program, Minnesota

Sustainable Agriculture Indicators

- ▶ **Reliance on government programs**
- ▶ **Use of equipment, chemicals and nonrenewable energy**
- ▶ **Creation of jobs**
- ▶ **Balance between feed use and feed production**

Sustainability is a vision of the future:

- ▶ **Community oriented**
- ▶ **Inclusive of all members**
- ▶ **Long-term**
- ▶ **Acknowledges linkages**
- ▶ **Considers carrying capacity**
- ▶ **Measurable**

So far...

- ▶ **Definitions**
- ▶ **Sustainable development**
- ▶ **Carrying capacity**
- ▶ **Community capital**
- ▶ **Weak vs. strong sustainability**
- ▶ **Traditional vs. interconnected view**
- ▶ **Sustainable business, production, agriculture**
- ▶ **Examples of indicators of sustainability**

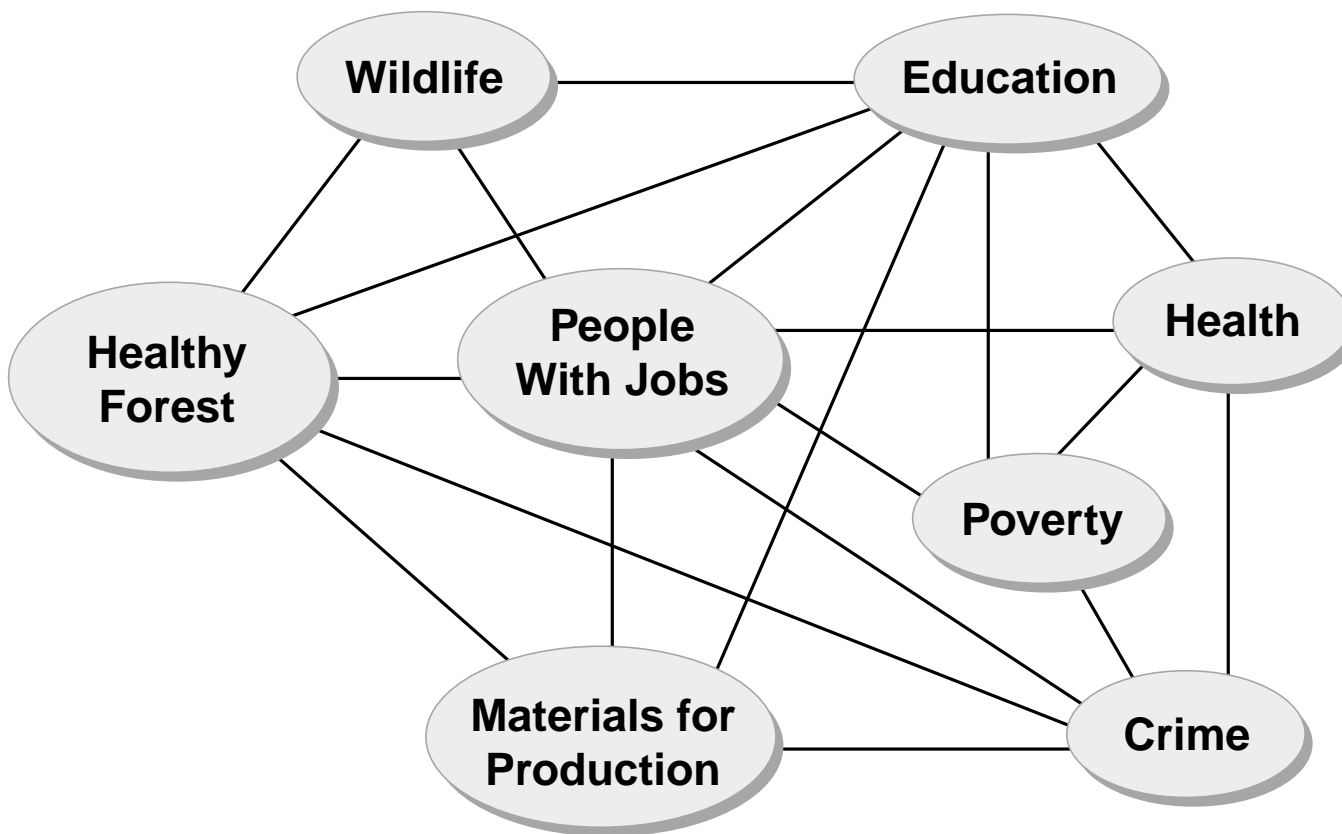
Next ...

- ▶ **Indicators**
- ▶ **What are indicators for?**
- ▶ **What makes a good indicator?**
- ▶ **Traditional vs. sustainability indicators**
- ▶ **How to make a better indicator**
- ▶ **Small group exercise**
- ▶ **Indicator projects**
- ▶ **How do we get there?**

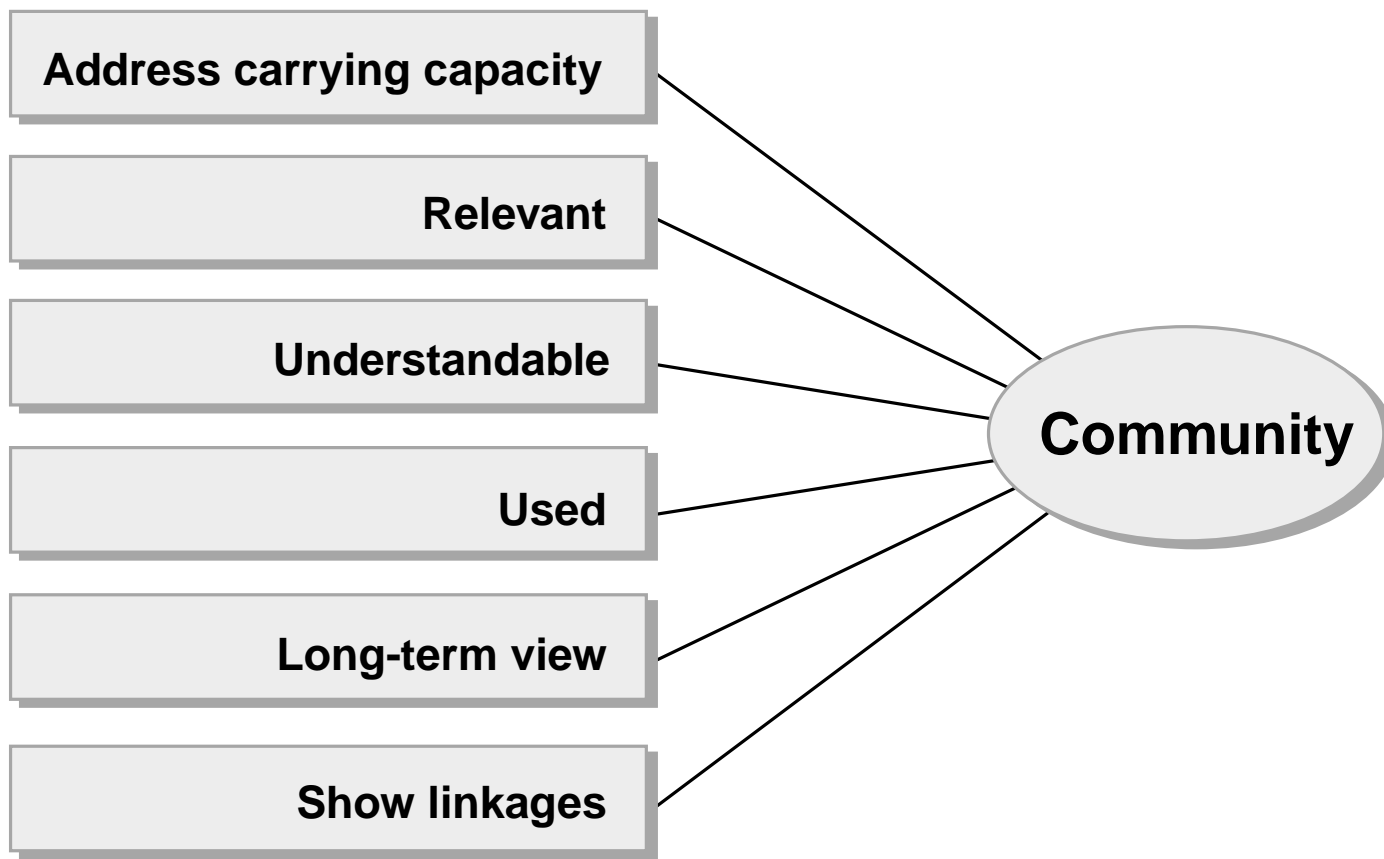
Indicators are for:

- ▶ **Measuring progress**
- ▶ **Explaining sustainability**
- ▶ **Educating community**
- ▶ **Showing linkages**
- ▶ **Motivating**
- ▶ **Focusing action**

Showing Linkages



What makes a good indicator?



***A good indicator is not
at someone else's expense***

Not at the expense of:

- ▶ **Another community's sustainability**
- ▶ **Global sustainability**

Environmental Indicators

- ▶ **Parts per million of particulate matter in the air**
- ▶ **Number of good air quality days**
- ▶ **Increase in asthma-related hospital admissions**
- ▶ **Number of vehicle miles traveled**

Cultural/Social Indicators

- ▶ **Number of runaway children**
- ▶ **Number of reported abuse cases**
- ▶ **Families with satisfactory child care arrangements**
- ▶ **Families with adequate income**

Economic Indicators

- ▶ **Net job growth**
- ▶ **Employment diversity**
- ▶ **Number of jobs with benefits**
- ▶ **Work required to support basic needs**

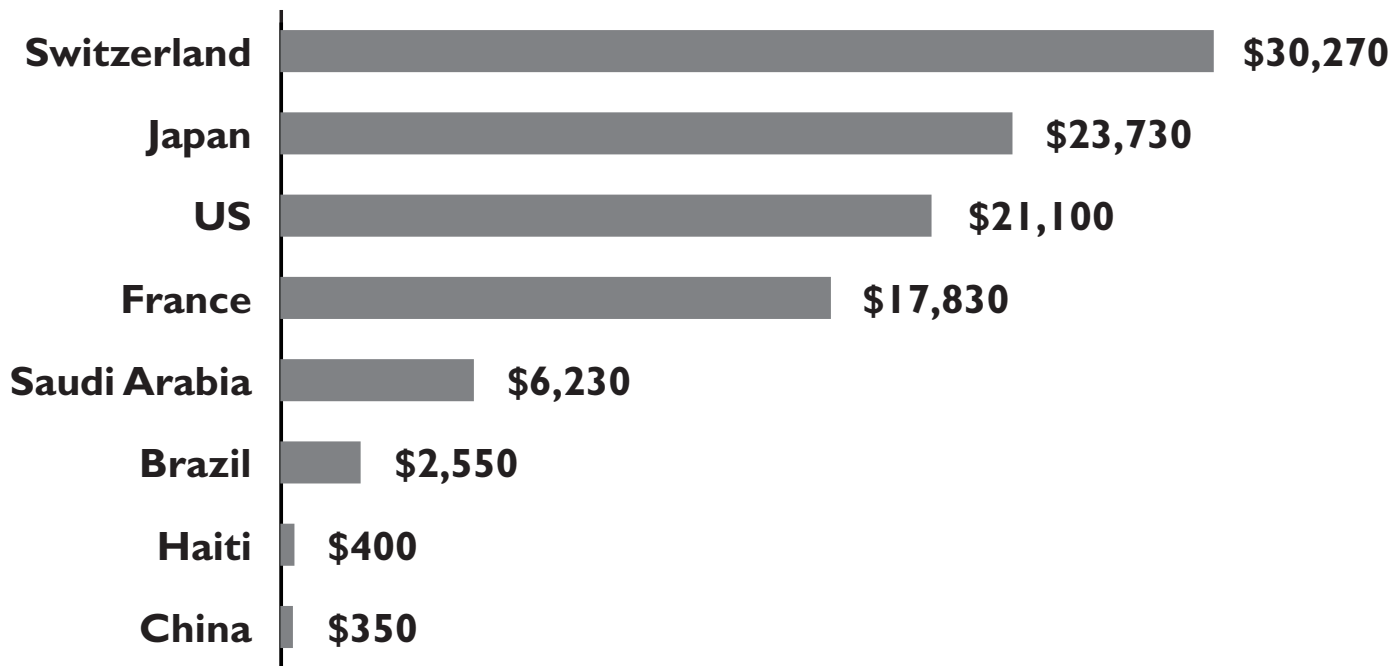
Making a better indicator

- ▶ **Measure what you want to be**
- ▶ **Make a measure that speaks to people**
- ▶ **Measure the cause not just the effect**

Measure what you want to be

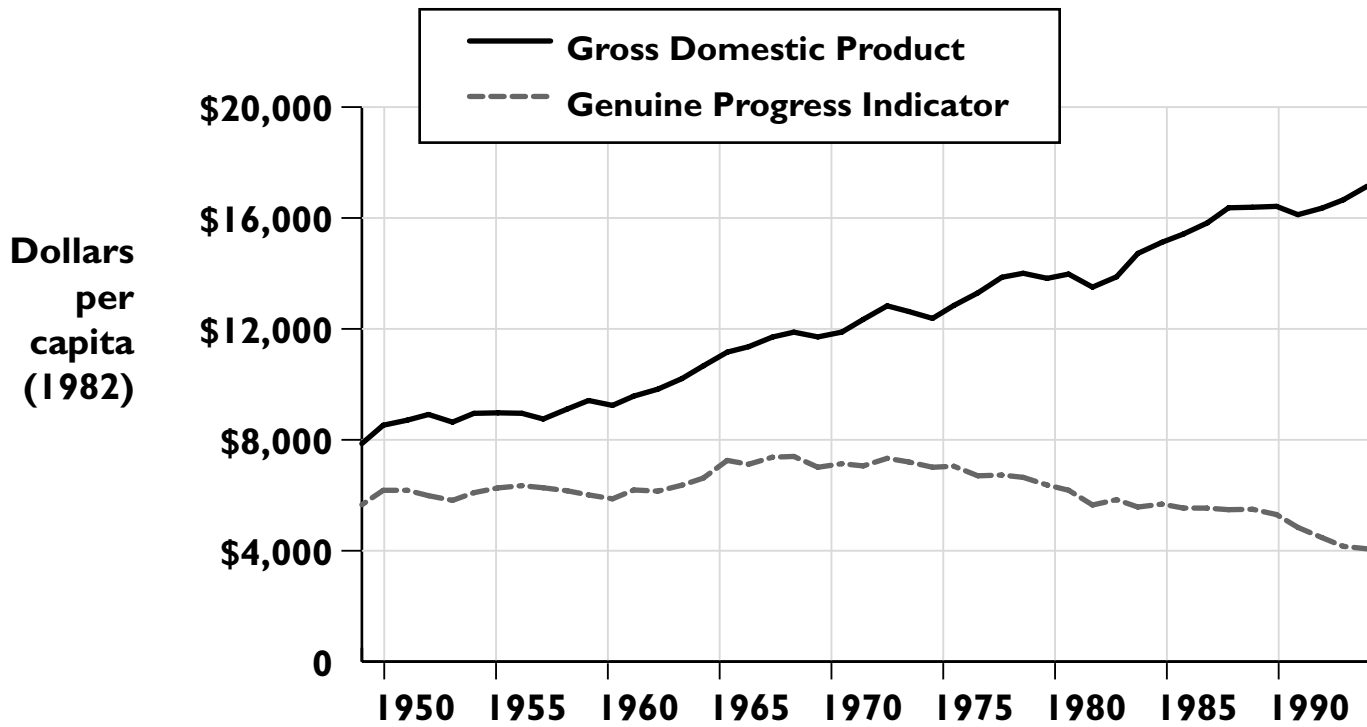
- ▶ **Gross National/Domestic Product**
- ▶ **Genuine Progress Indicator**
- ▶ **Ecological Footprint**

1993 Per Capita GNP



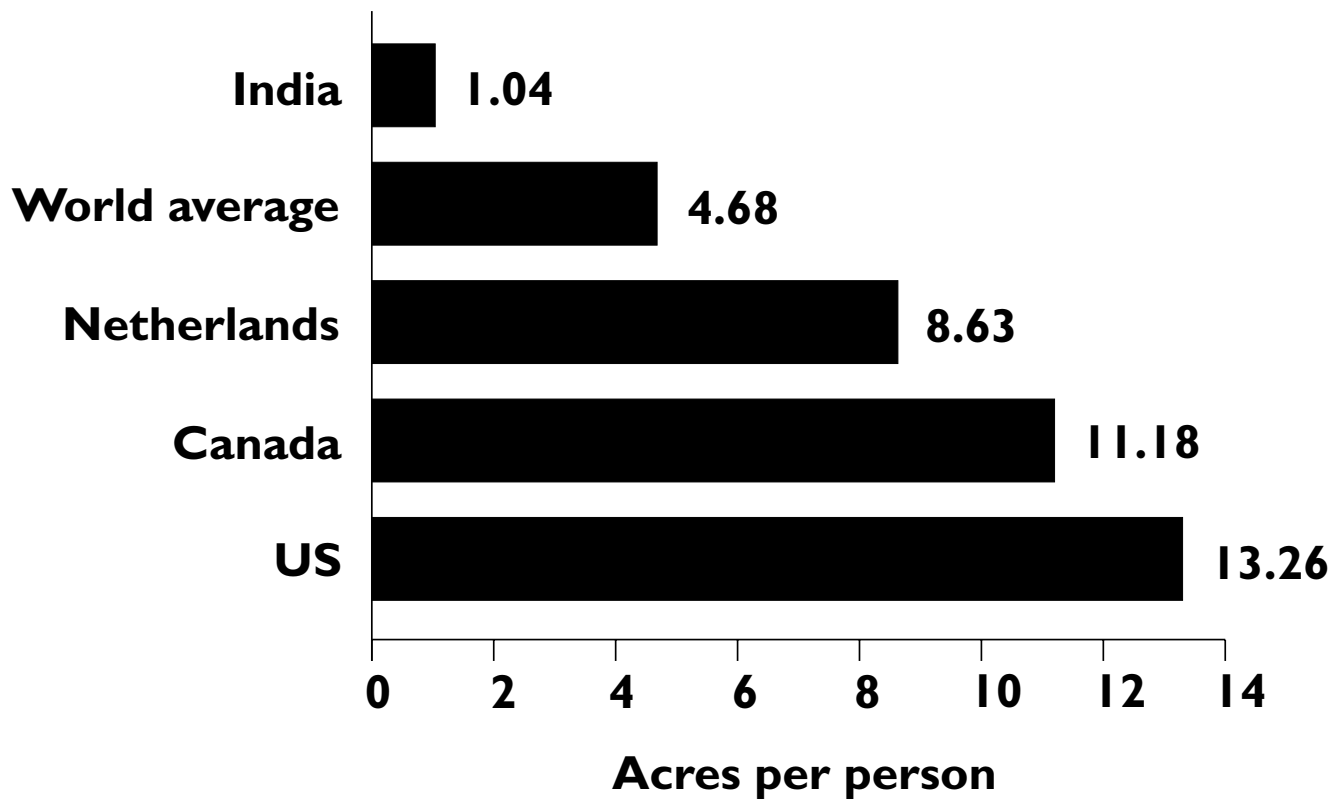
Source: World Resources 1992-1993

GDP vs GPI



Source: Cobb, Halsted, Rowe; Genuine Progress Indicator

Ecological Footprint

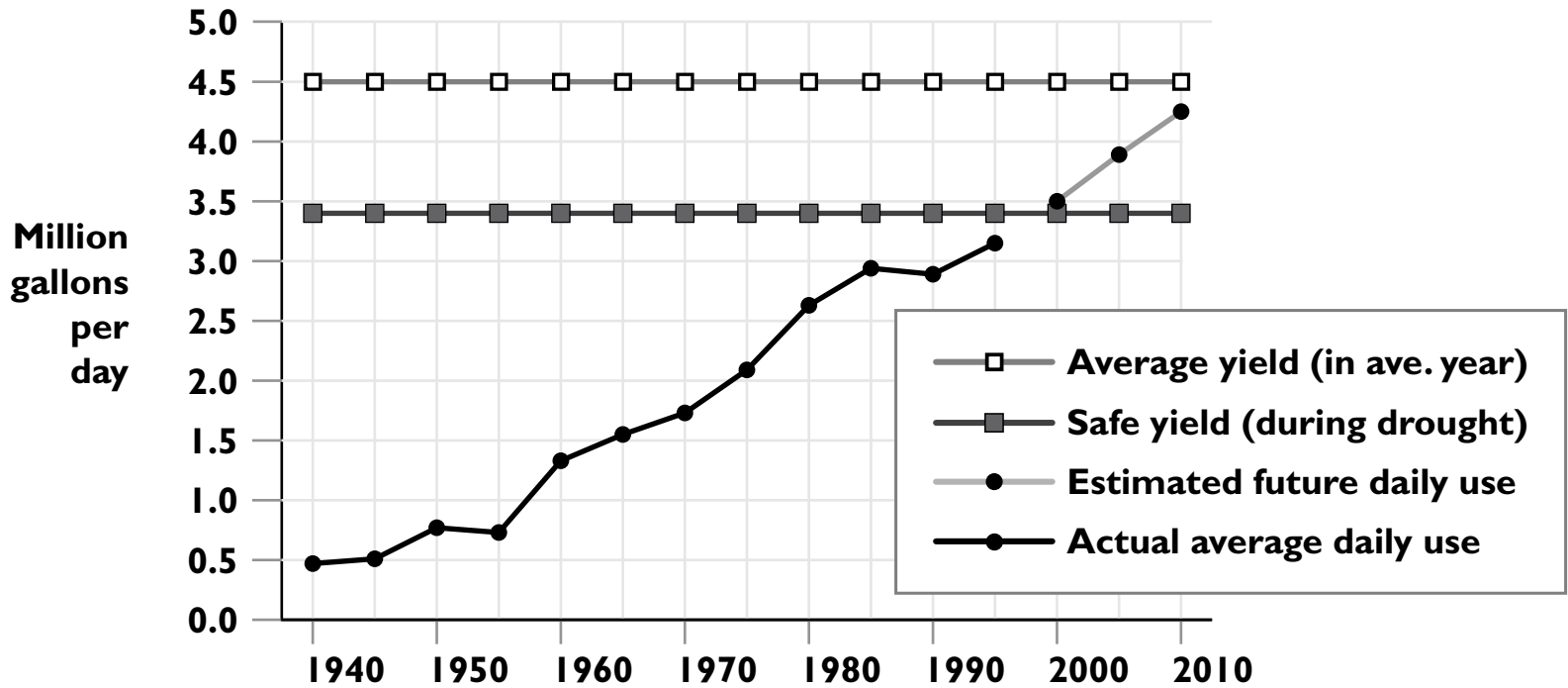


Source: Wackernagal & Rees, *Our Ecological Footprint*

Making measures that speak to people

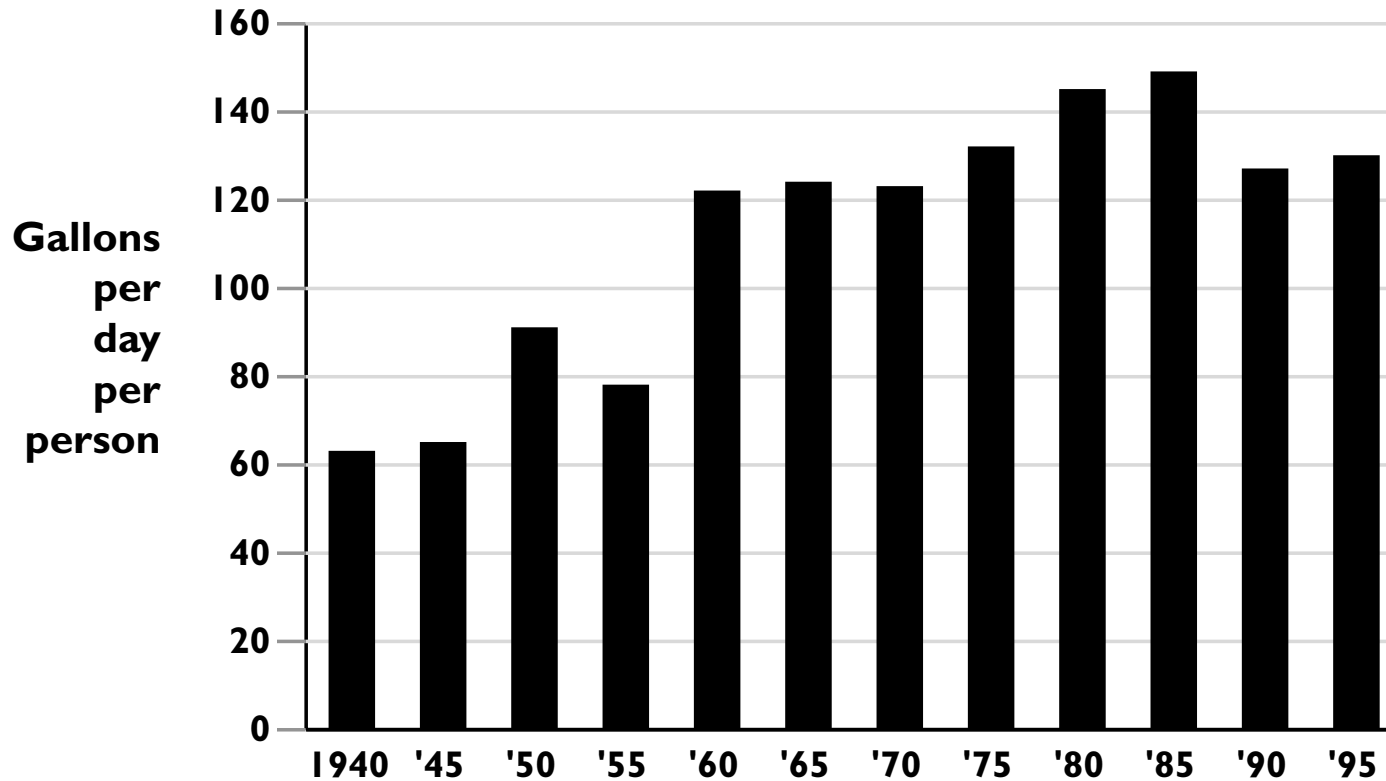
- ▶ **Relate to sustainability**
- ▶ **Make it personal**
- ▶ **Focus on the goal**

A traditional indicator - Total Water Use



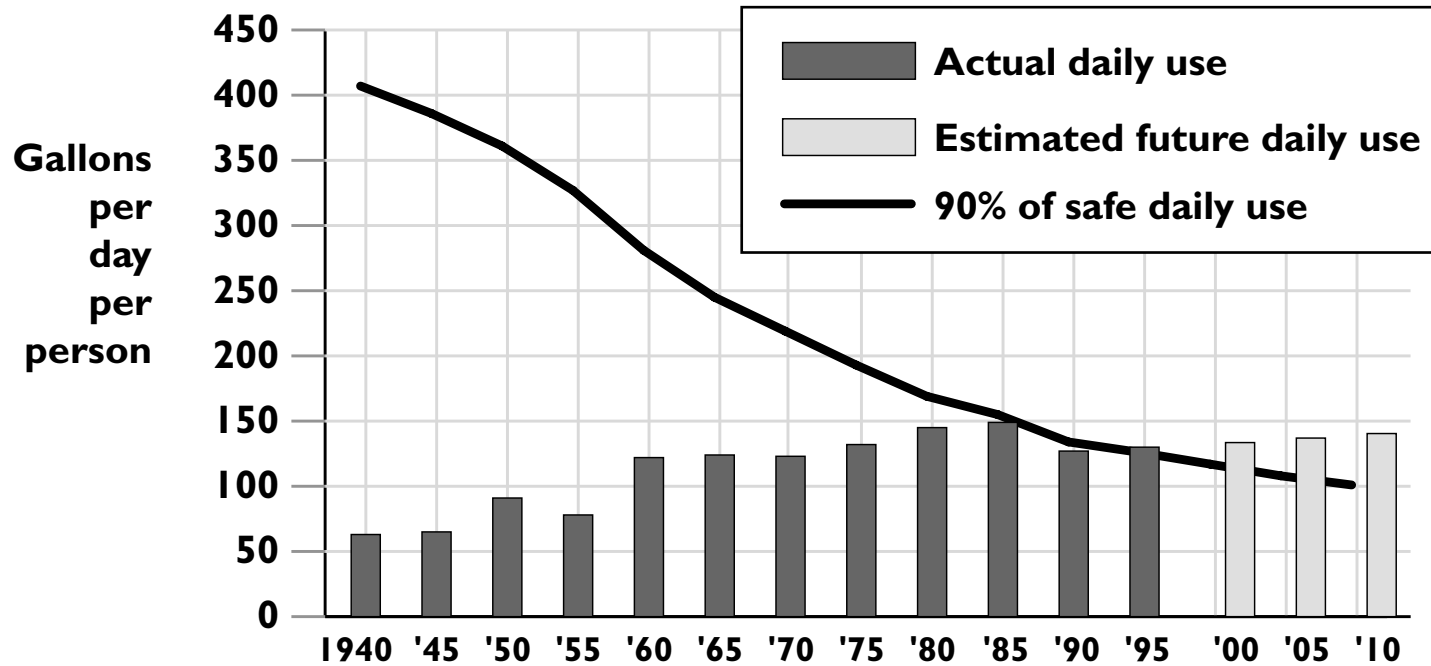
Source: Hart Environmental Data

A more personal indicator - Water Use per Person



Source: Hart Environmental Data

Putting it all together - Water Use vs. Water Available

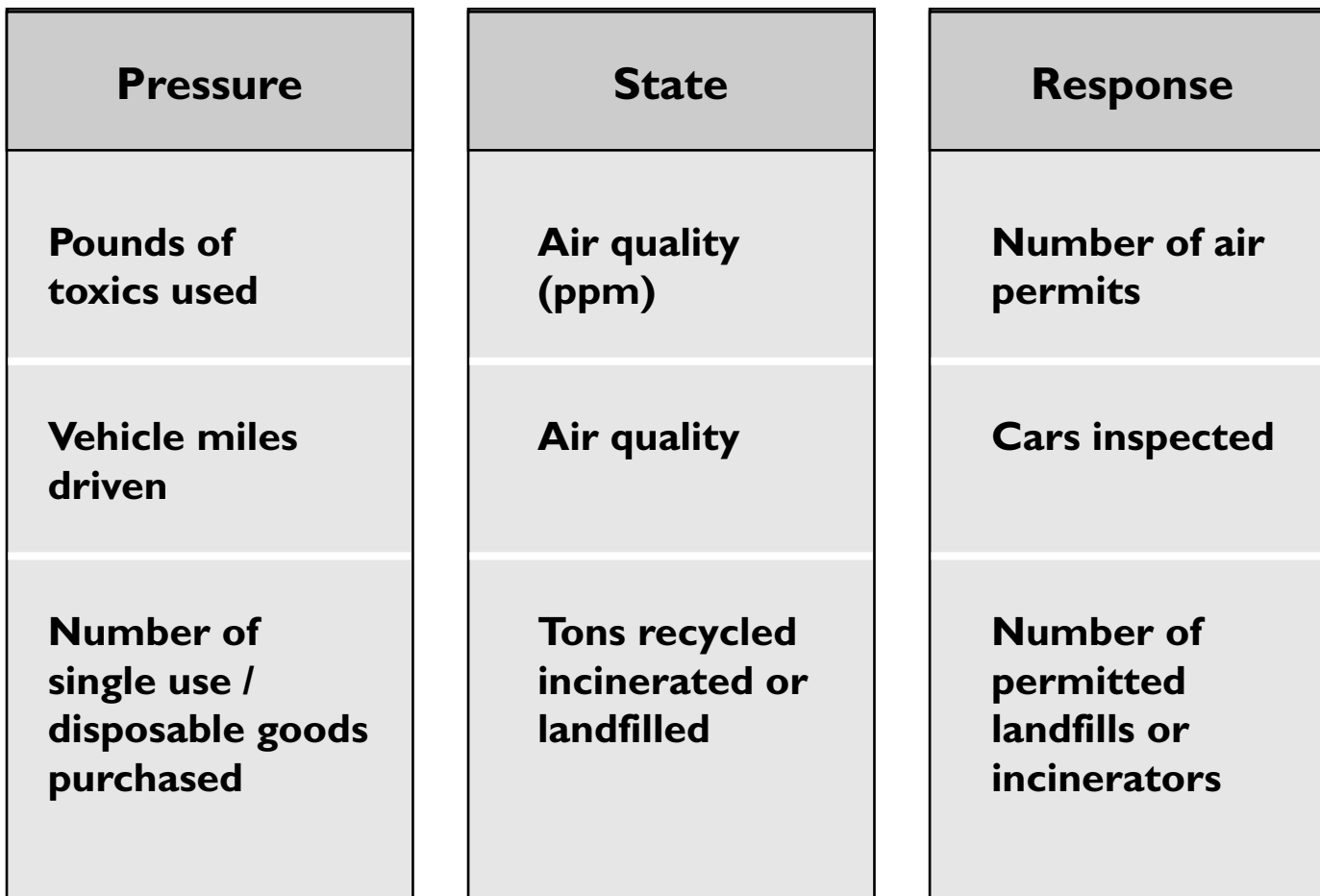


Source: Hart Environmental Data

Measure cause and effect

- ▶ *Pressure: activity causing state*
- ▶ *State: condition that exists*
- ▶ *Response: actions to change state*

Pressure - State - Response



Evaluating Indicators

- ▶ **Relevant**
- ▶ **Understandable**
- ▶ **Useable**
- ▶ **Long-term view**
- ▶ **Linkages**
- ▶ **Addresses carrying capacity**
- ▶ **Pressure state or response**
- ▶ **Type of capital**

Environmental Indicators

- ▶ **Resource Use**
- ▶ **Cost of solid waste disposal**
- ▶ **Number of people recycling**
- ▶ **Pounds of material recycled**
- ▶ **Number of products made from recycled material**
- ▶ **Number of products made to be recycled, repairable, compostable**

Economic Indicators

- ▶ **Income**
- ▶ **Median income**
- ▶ **Distribution of personal income**
- ▶ **Hours of work needed to support basic needs**

Transportation Indicators

- ▶ **Waiting time at intersection**
- ▶ **Number of cars at peak period**
- ▶ **Time devoted to non-recreational travel**
- ▶ **Portion of household expenses spent on transportation**
- ▶ **Percent of vehicles powered by renewable energy**
- ▶ **Ability of non-drivers to reach employment centers**

Land Use Indicators

- ▶ **Number of permits issued**
- ▶ **Number of housing starts**
- ▶ **Change in urban area vs. change in population**
- ▶ **Acres of farmland lost to development**
- ▶ **Land per capita used for transportation**
- ▶ **Change in amount of impervious surfaces**

So far...

- ▶ **Introduction and definitions**
- ▶ **Indicators**
- ▶ **What are they for?**
- ▶ **What makes a good indicator?**
- ▶ **Measure what you want to be**
- ▶ **Make measures that speak to people**
- ▶ **Measure cause as well as effect**

Next ...

- ▶ **Small group exercise**
- ▶ **Define goal for issue**
- ▶ **Discuss linkages**
- ▶ **Brainstorm indicators**
- ▶ **Evaluate indicators**
- ▶ **Select best indicators**
- ▶ **Indicator projects**
- ▶ **How do we get there?**

Small Group Exercise

- ▶ **Goal - Develop indicators for an issue**
- ▶ **Steps:**
 - ▶ **Define Goal**
 - ▶ **Determine linkages**
 - ▶ **Brainstorm indicators**
 - ▶ **Rank indicators**
 - ▶ **Make a better indicator**
 - ▶ **Report back**

Linking Issues Worksheet



- ▶ **Issue** _____
 - ▶ **Goal** _____
 - ▶ **Link to:**
 - ▶ **Economy**
 - ▶ **Health**
 - ▶ **Housing**
- etc.**

Indicator Checklist

Address carrying capacity:

Natural3 Points

Social2 Point

Financial1 Point

Understandable1 Points

Long-term view1 Points

Linkages7 Points

Not at expense of global sustainability

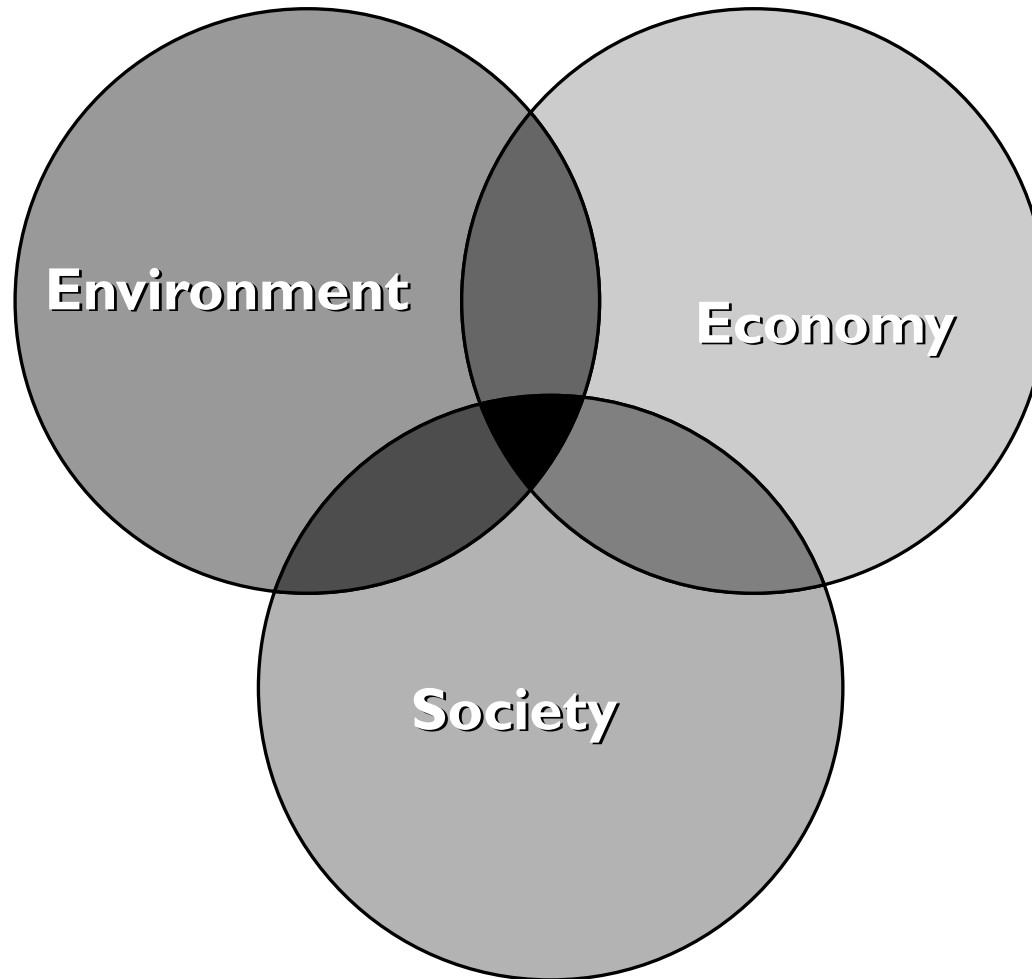
So far...

- ▶ **What is sustainability?**
- ▶ **What makes a good indicator?**
- ▶ **Small group indicator development**
- ▶ **Goals, linkages, brainstorming and evaluating indicators**

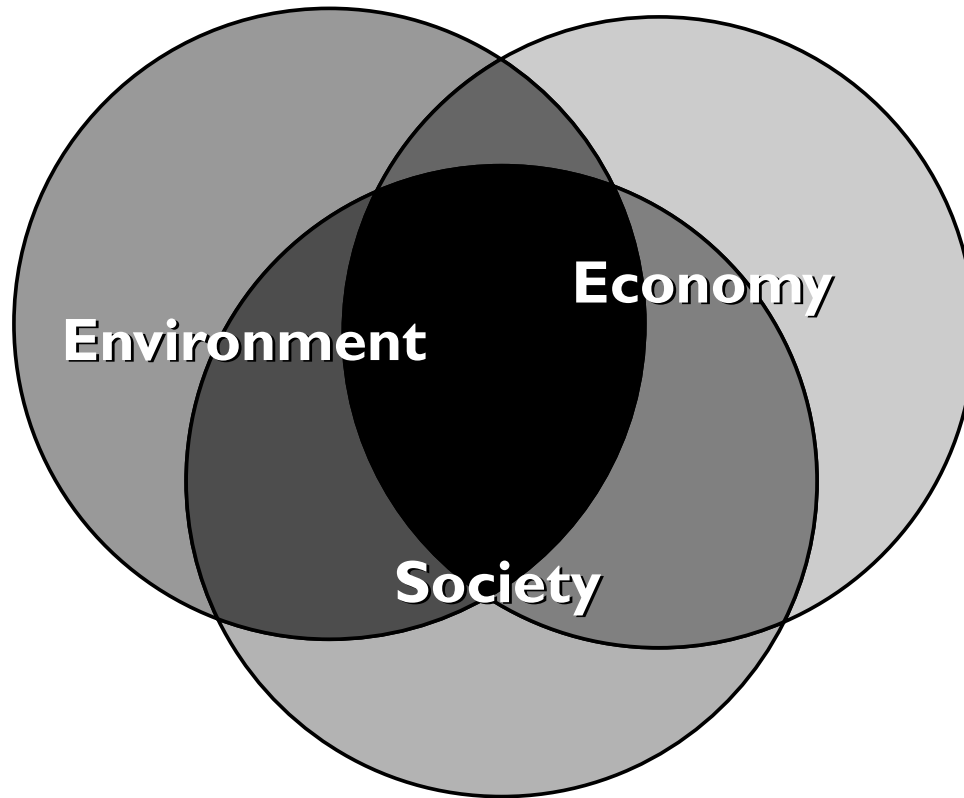
Next ...

- ▶ **Indicator projects**
- ▶ **Indicator frameworks**
- ▶ **Criteria for indicators**
- ▶ **Data sources**
- ▶ **Who else is working on sustainability?**
- ▶ **How do we get there?**

View of Community

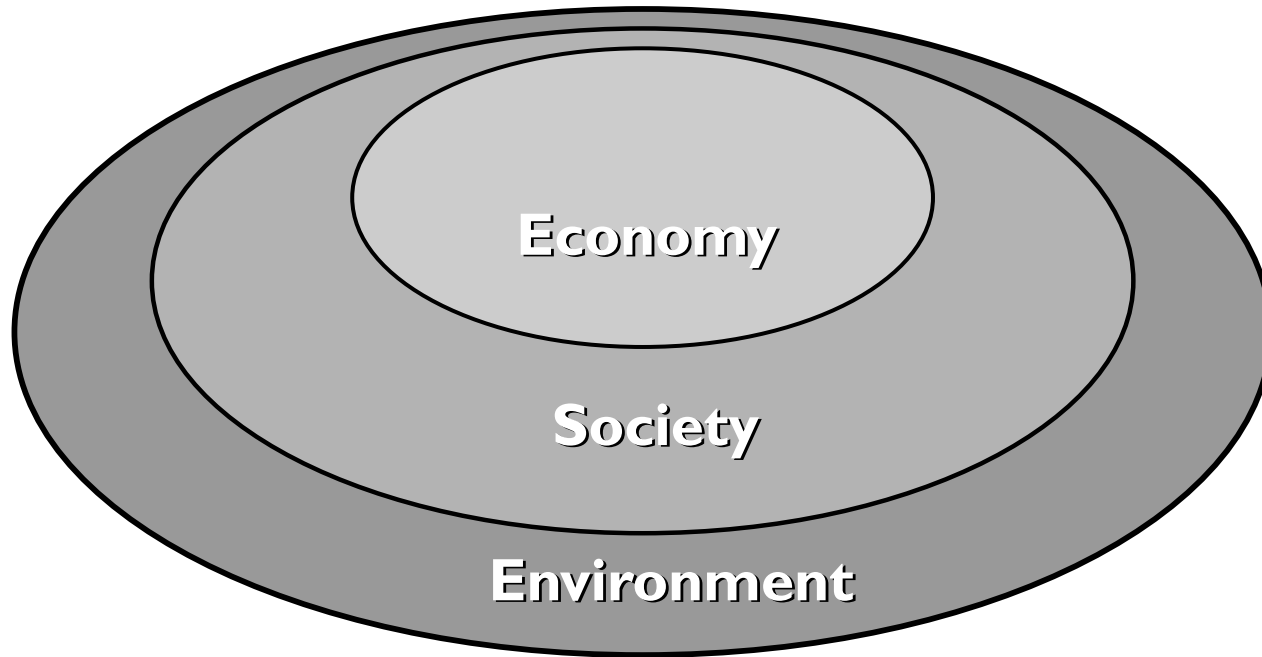


View of Community



Indicators

View of Community



Indicator Frameworks



- ▶ **Themes**
- ▶ **Issues**
- ▶ **Goals**
- ▶ **Pressure-state-response**

Indicator Themes

- ▶ **Economy**
- ▶ **Education**
- ▶ **Environment**
- ▶ **Health**
- ▶ **Housing**
- ▶ **Politics/Government**
- ▶ **Population**
- ▶ **Public Safety**
- ▶ **Social/Cultural**
- ▶ **Resource Use**
- ▶ **Recreation**
- ▶ **Transportation**

Indicators

Issues



- ▶ **Poverty**
- ▶ **Jobs**
- ▶ **Pollution**

Goals

	Live within Alberta's carrying capacity	The economy is healthy	Albertans are educated and informed	Urban and rural communities have a healthy environment
Air Quality Index	●		●	●
Waste per capita going to landfills	●		●	●
Percent of forest successfully restocked	●	●		
Employment Index		●	●	
Per capita debt		●	●	

Indicator Criteria

- ▶ **Relevant to community**
- ▶ **Addresses carrying capacity**
- ▶ **Understandable and useable**
- ▶ **Data accessibility, reliability**
- ▶ **Not at the expense of others**

Evaluating Indicators

- ▶ **Bellagio Principles**
- ▶ **Hart Indicator Checklist**
- ▶ **Waitikere City Smart Indicators**
- ▶ **Hamilton-Wentworth Indicator Grades**

How Many Indicators Do We Need?

“Trying to run a complex society on a single indicator like the **Gross National Product is literally like trying to fly a 747 with only one gauge on the instrument panel...”**

Hazel Henderson, Paradigms of Progress

Data Sources



- ▶ **Local/Regional**
- ▶ **National/International**

Local and Regional Data

- ▶ **School system**
- ▶ **Health officials**
- ▶ **Town clerk**
- ▶ **Department of Public Works**
- ▶ **Environmental Agencies**
- ▶ **Planning Commission**

National/International Data

- ▶ **United States Government**
- ▶ **Environmental Protection Agency**
- ▶ **Census Bureau**
- ▶ **Bureau of Economic Affairs**
- ▶ **Bureau of Labor Statistics**
- ▶ **Housing and Urban Development**
- ▶ **United Nations**
- ▶ **Nongovernmental Organizations**

Who is Working on Sustainability?

- ▶ **Economic Development Corporations**
- ▶ **Civic Organizations**
- ▶ **Environmental Groups**
- ▶ **Business Groups**
- ▶ **Nonprofits**
- ▶ **Foundations**
- ▶ **Religious Organizations**
- ▶ **Government Agencies**
- ▶ **Local, Regional, State, and Federal**

Where are They Working on it?

- ▶ **Seattle, Washington**
 - ▶ **Upper Valley, Vermont/New Hampshire**
 - ▶ **Farmington, Maine**
 - ▶ **Willapa Bay, Washington**
 - ▶ **Greenville, South Carolina**
 - ▶ **Chattanooga, Tennessee**
 - ▶ **Jacksonville, Florida**
 - ▶ **Chattanooga, Tennessee**
 - ▶ **Fife, Scotland**
 - ▶ **Hamilton/Wentworth, Canada**
 - ▶ **Waitakere, New Zealand**
- and many more...**

How are They Working on it?

- ▶ **Visioning**
- ▶ **Community Forums**
- ▶ **Community Profiles**
- ▶ **Master Plans**
- ▶ **Location (Special Place) Mapping**
- ▶ **Resource Mapping**
- ▶ **Community Income Statements**
- ▶ **Neighborhood Eco-Teams**
- ▶ **Local Currency**
- ▶ **Sustainability Evaluation**
- ▶ **Indicators**

Why are People Working on it?

“ ... it has always been my hope that the council would show the vision... and, more than creating a quality lifestyle, create a different lifestyle, a lifestyle more appropriate to a planet of diminishing resources,...to look at new job opportunities, to tune into the changing world and be able to change and adapt to it.”

Mount Washington Valley Economic Council Member

Other Resources

- ▶ **Government agencies**
- ▶ **Nonprofit organizations**
- ▶ **Schools, colleges, universities**

How Do We Get There?

- ▶ **Education and outreach**
- ▶ **MEGO vs. data poetry**
- ▶ **Political will**
- ▶ **Bottom up and top down**

We are what we measure

Let's measure what we want to be

