

# AMSDE

seminar 5 February 2010

## Short survey of relevant indexes and sets of indicators concerning development towards sustainability

### Annex – Lists of indicators

1.	HDI – Human Development Index	2
2.	CDI – Commitment to Development Index	3
3.	MDI – Millennium Development Indicators	4
4.	WoN – Wellbeing of Nations	8
5.	SSI – Sustainable Society Index	10
6.	FSP – Framework of Societal Progress	11
7.	CHQ – Calvert-Henderson Quality of Life Indicators	12
8.	CIW – Canadian Index of Wellbeing	13
9.	AUW – Australian Unity Wellbeing Index	14
10.	HPI – Happy Planet Index	15
11.	LPI – Living Planet Index	16
12.	ESI – Environmental Sustainability Index	17
13.	EPI – Environmental Performance Index	18
14.	EF – Ecological Footprint	19
15.	ISEW – Index for Sustainable Economic Welfare	20
16.	GPI – Genuine Progress Indicator	21
17.	IEWB – Index of Economic Well-Being	22
18.	GS – Genuine Savings	23
19.	OECD set of indicators	24
20.	EU set of indicators	26
21.	CSD set of indicators	29
22.	Finland	32
23.	Germany	33
24.	The Netherlands	35
25.	Switzerland	36
26.	United Kingdom	37

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Full text of main report is available on [www.anped.org](http://www.anped.org)

## 1. HDI – Human Development Index

HDI is built up by 3 indicators

- Life expectancy at birth
- GDP per capita
- Knowledge
  - Gross enrolment rate
  - Adult literacy rate

Data available from 1975 onwards.

Website: [www.hdr.undp.org](http://www.hdr.undp.org).

## 2. CDI – Commitment to Development Index

CDI is built up by 7 indicators.

Each indicator is built up by a number of underlying sub-indicators.

Data available from 2003 onwards.

Website: [http://www.cgdev.org/section/initiatives/\\_active/cdi/](http://www.cgdev.org/section/initiatives/_active/cdi/).

- Aid
- Trade
- Investment
- Migration
- Environment
- Security
- Technology

### 3. Millennium Development Goals

MDGs comprise 8 goals with 21 quantified targets, measured by 60 indicators.

Data are available in the online database MDG Monitor for 1990 – 2009.

Website: <http://www.undp.org/mdg/>

<http://mdgs.un.org/unsd/mdg/Default.aspx>

#### Goal 1: Eradicate extreme poverty and hunger

<b>Target 1a: Reduce by half the proportion of people living on less than a dollar a day</b>
<ul style="list-style-type: none"> <li>1.1 Proportion of population below \$1 (PPP) per day</li> <li>1.2 Poverty gap ratio</li> <li>1.3 Share of poorest quintile in national consumption</li> </ul>
<b>Target 1b: Achieve full and productive employment and decent work for all, including women and young people</b>
<ul style="list-style-type: none"> <li>1.4 Growth rate of GDP per person employed</li> <li>1.5 Employment-to-population ratio</li> <li>1.6 Proportion of employed people living below \$1 (PPP) per day</li> <li>1.7 Proportion of own-account and contributing family workers in total employment</li> </ul>
<b>Target 1c: Reduce by half the proportion of people who suffer from hunger</b>
<ul style="list-style-type: none"> <li>1.8 Prevalence of underweight children under-five years of age</li> <li>1.9 Proportion of population below minimum level of dietary energy consumption</li> </ul>

#### Goal 2: Achieve universal primary education

<b>Target 2a: Ensure that all boys and girls complete a full course of primary schooling</b>
<ul style="list-style-type: none"> <li>2.1 Net enrolment ratio in primary education</li> <li>2.2 Proportion of pupils starting grade 1 who reach last grade of primary</li> <li>2.3 Literacy rate of 15-24 year-olds, women and men</li> </ul>

#### Goal 3: Promote gender equality and empower women

<b>Target 3a: Eliminate gender disparity in primary and secondary education preferably by 2005, and at all levels by 2015</b>
<ul style="list-style-type: none"> <li>3.1 Ratios of girls to boys in primary, secondary and tertiary education</li> <li>3.2 Share of women in wage employment in the non-agricultural sector</li> <li>3.3 Proportion of seats held by women in national parliament</li> </ul>

## Goal 4: Reduce child mortality

<b>Target 4a: Reduce by two thirds the mortality rate among children under five</b>
<ul style="list-style-type: none"> <li>4.1 Under-five mortality rate</li> <li>4.2 Infant mortality rate</li> <li>4.3 Proportion of 1 year-old children immunised against measles</li> </ul>

## Goal 5: Improve maternal health

<b>Target 5a: Reduce by three quarters the maternal mortality ratio</b>
<ul style="list-style-type: none"> <li>5.1 Maternal mortality ratio</li> <li>5.2 Proportion of births attended by skilled health personnel</li> </ul>
<b>Target 5b: Achieve, by 2015, universal access to reproductive health</b>
<ul style="list-style-type: none"> <li>5.3 Contraceptive prevalence rate</li> <li>5.4 Adolescent birth rate</li> <li>5.5 Antenatal care coverage (at least one visit and at least four visits)</li> <li>5.6 Unmet need for family planning</li> </ul>

## Goal 6: Combat HIV/AIDS, malaria and other diseases

<b>Target 6a: Halt and begin to reverse the spread of HIV/AIDS</b>
<ul style="list-style-type: none"> <li>6.1 HIV prevalence among population aged 15-24 years</li> <li>6.2 Condom use at last high-risk sex</li> <li>6.3 Proportion of population aged 15-24 years with comprehensive correct knowledge of HIV/AIDS</li> <li>6.4 Ratio of school attendance of orphans to school attendance of non-orphans aged 10-14 years</li> </ul>
<b>Target 6b: Achieve, by 2010, universal access to treatment for HIV/AIDS for all those who need it</b>
<ul style="list-style-type: none"> <li>6.5 Proportion of population with advanced HIV infection with access to antiretroviral drugs</li> </ul>
<b>Target 6c: Halt and begin to reverse the incidence of malaria and other major diseases</b>
<ul style="list-style-type: none"> <li>6.6 Incidence and death rates associated with malaria</li> <li>6.7 Proportion of children under 5 sleeping under insecticide-treated bednets</li> <li>6.8 Proportion of children under 5 with fever who are treated with appropriate anti-malarial drugs</li> <li>6.9 Incidence, prevalence and death rates associated with tuberculosis</li> <li>6.10 Proportion of tuberculosis cases detected and cured under directly observed treatment short course</li> </ul>

## Goal 7: Ensure environmental sustainability

<p><b>Target 7a: Integrate the principles of sustainable development into country policies and programmes; reverse loss of environmental resources</b></p>
<p><b>Target 7b: Reduce biodiversity loss, achieving, by 2010, a significant reduction in the rate of loss</b></p>
<ul style="list-style-type: none"> <li>7.1 Proportion of land area covered by forest</li> <li>7.2 CO2 emissions, total, per capita and per \$1 GDP (PPP)</li> <li>7.3 Consumption of ozone-depleting substances</li> <li>7.4 Proportion of fish stocks within safe biological limits</li> <li>7.5 Proportion of total water resources used</li> <li>7.6 Proportion of terrestrial and marine areas protected</li> <li>7.7 Proportion of species threatened with extinction</li> </ul>
<p><b>Target 7c: Reduce by half the proportion of people without sustainable access to safe drinking water and basic sanitation</b></p>
<ul style="list-style-type: none"> <li>7.8 Proportion of population using an improved drinking water source</li> <li>7.9 Proportion of population using an improved sanitation facility</li> </ul>
<p><b>Target 7d: Achieve significant improvement in lives of at least 100 million slum dwellers, by 2020</b></p>
<ul style="list-style-type: none"> <li>7.10 Proportion of urban population living in slums</li> </ul>

## Goal 8: Develop a global partnership for development

<p><b>Target 8a: Develop further an open, rule-based, predictable, non-discriminatory trading and financial system</b></p> <p>Includes a commitment to good governance, development and poverty reduction – both nationally and internationally</p>
<p><b>Target 8b: Address the special needs of the least developed countries</b></p> <p>Includes: tariff and quota free access for the least developed countries' exports; enhanced programme of debt relief for heavily indebted poor countries (HIPC) and cancellation of official bilateral debt; and more generous ODA for countries committed to poverty reduction</p>
<p><b>Target 8c: Address the special needs of landlocked developing countries and small island developing States (through the Programme of Action for the Sustainable Development of Small Island Developing States and the outcome of the twenty-second special session of the General Assembly)</b></p>

**Target 8d: Deal comprehensively with the debt problems of developing countries through national and international measures in order to make debt sustainable in the long term**

*Some of the indicators listed below are monitored separately for the least developed countries (LDCs), Africa, landlocked developing countries and small island developing States.*

**Official development assistance (ODA)**

- 8.1 Net ODA, total and to the least developed countries, as percentage of OECD/DAC donors' gross national income
- 8.2 Proportion of total bilateral, sector-allocable ODA of OECD/DAC donors to basic social services (basic education, primary health care, nutrition, safe water and sanitation)
- 8.3 Proportion of bilateral official development assistance of OECD/DAC donors that is untied
- 8.4 ODA received in landlocked developing countries as a proportion of their gross national incomes
- 8.5 ODA received in small island developing States as a proportion of their gross national incomes

**Market access**

- 8.6 Proportion of total developed country imports (by value and excluding arms) from developing countries and least developed countries, admitted free of duty
- 8.7 Average tariffs imposed by developed countries on agricultural products and textiles and clothing from developing countries
- 8.8 Agricultural support estimate for OECD countries as a percentage of their gross domestic product
- 8.9 Proportion of ODA provided to help build trade capacity

**Debt sustainability**

- 8.10 Total number of countries that have reached their HIPC decision points and number that have reached their HIPC completion points (cumulative)
- 8.11 Debt relief committed under HIPC and MDRI Initiatives
- 8.12 Debt service as a percentage of exports of goods and services

**Target 8e: In cooperation with pharmaceutical companies, provide access to affordable essential drugs in developing countries**

- 8.13 Proportion of population with access to affordable essential drugs on a sustainable basis

**Target 8f: In cooperation with the private sector, make available the benefits of new technologies, especially information and communications**

- I. 8.14 Telephone lines per 100 population
- II. 8.15 Cellular subscribers per 100 population
- III. 8.16 Internet users per 100 population

## 4. WoN – Wellbeing of Nations

WoN comprises 10 themes, 17 categories and 54 indicators.

Published only once, in 2001.

Website: <http://www.iucn.org>

### I. Human Wellbeing

- **Health and Population**

*Health Index*

Healthy Life Expectancy at birth

*Population Index*

Total fertility rate

- **Wealth**

*Household Wealth Index*

Food sufficiency

Prevalence of stunted children or Prevalence of underweight children

Population with access to safe water & basic sanitation

GDP per capita

*National Wealth Index*

GDP per capita

Inflation rate or Unemployment rate

External Debt

Public Debt & deficit

- **Knowledge and Culture**

*Knowledge*

Net primary & secondary school enrolment

Tertiary school enrolment per 10,000 people

Telephones

Internet users per 10,000 persons

- **Community**

*Freedom and Governance Index*

Political Rights rating

Civil liberties rating

Press Freedom rating

Corruption Perceptions Index

*Peace and Order Index*

Deaths from armed conflicts per year

Military expenditure as % of GDP

Homicide rate

Rape, robbery and assault rates

- **Equity**

*Household Equity Index*

Ratio of richest 20%'s income to poorest 20%'s

*Gender Equity Index*

Ratio of male income to female income

Difference between male and female school enrolment rates

% of women in parliament

## II. Ecosystem Wellbeing

- **Land**

- Land Diversity Index*

- Converted land as % of total land

- Natural land as % of total land

- % change in native forest area

- Protected area as % of total land, weighted for size

- Protected area as % of total land, weighted for diversity

- Land Quality Index*

- Degraded land as % of cultivated + modified land

- **Water**

- Inland Water Quality*

- Oxygen balance

- Nutrients

- Acidification

- Suspended solids

- Microbial pollution

- Arsenic & heavy metals

- Inland Water Diversity*

- River conversion

- Water Withdrawal*

- Water withdrawal

- **Air**

- Global Atmosphere Index*

- Greenhouse gases

- Ozone depleting substances

- Local Air Quality Index*

- Concentrations of SO<sub>2</sub>, NO<sub>2</sub>, Ozone, CO, Particulates, Pb

- **Species and Genes**

- Wild Diversity Index*

- Threatened plant species

- Threatened animal species

- Domesticated Diversity Index*

- Number of not-at-risk breeds per million head of a domesticated animal species

- Ratio of threatened breeds to not-at-risk breeds of a domesticated animal species

- **Resource Use**

- Energy Index*

- Energy consumption per hectare of total land area

- Energy consumption per person

- Resource Sectors Index*

- Food produced per harvested hectare

- Fertilizer used per 1000 harvested hectares

- Food production as % of supply

- Depleted fish species + overexploited species as % of assessed species

- Fishing fleet capacity per km<sup>2</sup> of shelf and/or inland waters

- Catch per ton of fleet capacity

- Fish & seafood production as % of supply

- Timber fellings + imports as % of net annual increment

- Timber production + imports as % of volume

## 5. SSI – Sustainable Society Index (redesigned)

The SSI consists of 3 clusters, 8 categories and 24 indicators.

Data available in SSI-2006 and SSI-2008.

Website: [www.sustainsocietindex.com](http://www.sustainsocietindex.com)

### Human Wellbeing

#### *Basic Needs*

- Sufficient Food
- Sufficient to Drink
- Safe Sanitation

#### *Personal Development*

- Healthy Life
- Education Opportunities
- Gender Equality

#### *Well-balanced Society*

- Good Governance
- Income Distribution
- Population Growth

### Environmental Wellbeing

#### *Healthy Environment*

- Air Quality (Humans)
- Air Quality (Nature)
- Surface Water Quality

#### *Climate & Energy*

- Renewable Energy
- Emission of GHGs
- Energy Consumption

#### *Natural Resources*

- Renew. Water Res.
- Forest Area
- Biodiversity

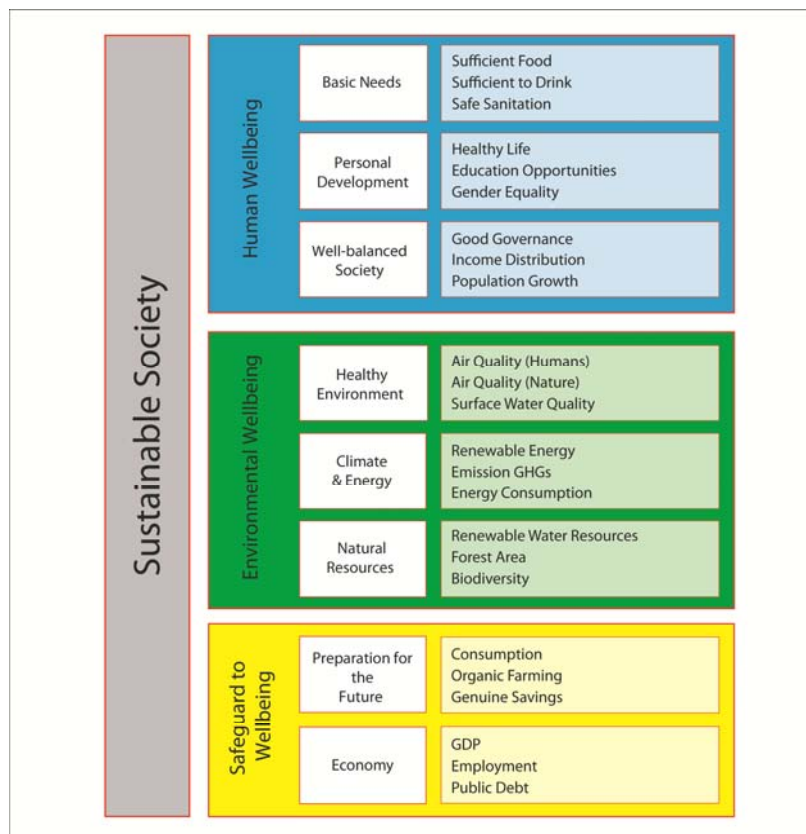
### Safeguard to Wellbeing

#### *Preparation for the Future*

- Consumption
- Organic Farming
- Genuine Savings

#### *Economy*

- GDP
- Employment
- Public Debt



## 6. FSP – The Framework of Societal Progress - OECD

The FSP consists of 6 themes and 21 separate dimensions of progress.

Website: <http://www.oecd.org/dataoecd/40/46/43631612.pdf>

### **I. Ecosystems Condition**

- Land
- Freshwater
- Oceans and Seas
- Biodiversity
- Atmosphere

### **II. Human Well-Being**

- Physical and mental health
- Knowledge and understanding
- Work and Leisure
- Material Well-Being
- Freedom and Self-Determination
- Interpersonal relationships

### **III. Economy**

- National Income
- National Wealth

### **IV. Governance**

- Human Rights
- Civic Engagement
- Security and Crime
- Access to Services

### **V. Culture**

- Cultural heritage
- Arts and Leisure

### **VI. Resource use**

- Resource extraction and consumption
- Pollution

## 7. CHQ – Calvert-Henderson Quality of Life Indicators

CHQ comprises twelve categories, each with underlying indicators and sub-indicators.

Website: <http://www.calvert-henderson.com/>

### Education

Educational Attainment  
 Educational Expenditures  
 Literacy Rates  
 Access  
 Distribution  
 Segregation  
 Discrimination  
 Lifelong Learning  
 Alternative education

### Employment

Employed, full time / part time  
 Unemployed  
 Volunteers and Unpaid Workers  
 Discouraged Workers

### Energy

Energy Consumption per capita  
 Energy Consumption per GDP  
 Carbon Intensity  
 Total Carbon Emissions

### Environment

Resources  
 Industry/Infrastructure  
 Consumer Products / Services  
 Wastes

### Health

Infant Mortality  
 Life Expectancy at Birth  
 People reporting Fair or Poor Health

### Human Rights

**Private** sphere (e.g., freedom from domestic violence, access to food, nutrition, medical care, and clothing).  
**Public** sphere (e.g., freedom of expression, religious freedom, rights of assembly, voting rights).  
 Incarceration data, the death penalty, prison labor, racial/gender discrimination, rights of American Indians and other indigenous people, mistreatment of prisoners and aliens.  
 Voting rights, participation in politics.  
 The growing influence of money and special interests.

### Income

Measures trends in Standard of Living and Economic Wellbeing through a number of underlying indicators

### Infrastructure

Economic Infrastructure  
*Transportation*  
*Communications*  
*Utilities*  
 Social Infrastructure  
*Health*  
*Safety*  
*Education*

Human Capital Infrastructure  
 Environmental Infrastructure

### National Security

Diplomatic Strategy and Activities  
 Military Strategy and Programs

### Public Safety

Safety Determinants in  
*Private Sphere*  
*Public Sphere*  
 Outcomes (deaths, injury, morbidity)  
*Externally caused*  
*Diseases*

### Re-Creation

Institutional Investment  
 Individual Characteristics  
 Types of recreation

### Shelter

Quality  
 (Over)crowding  
 Affordability  
 Location  
 Homeownership rate

## 8. CIW – Canadian Index of Wellbeing

The CIW consists of 8 categories, of which 3 have been elaborated until now.

Website: [www.cic.ca](http://www.cic.ca)

### I. Arts, Culture & Recreation

### II. Community Vitality

- Volunteering
- Number of Close Relatives
- Providing Assistance to Others
- Poverty Crime
- Violent Crime
- Walking Alone After Dark
- Trust
- Experience of Discrimination
- Caring for Others
- Belonging to Community
- Participation in Group Activities

### III. Democratic Engagement

### IV. Education

### V. Environment

### VI. Healthy Populations

- Health-adjusted Life Expectancy
- Diabetes
- Depression
- Life Expectancy at Birth
- Infant Mortality
- Smoking
- Patient Satisfaction with Health Services
- Population with a Regular Family Doctor
- Influenza Immunization Among Age 65+
- Self-rated Health

### VII. Living Standards

- Income Distribution
- Incidence of Low Income
- Wealth Distribution
- CSLS Economic Security Index
- Long-term Unemployment
- Employment Rate
- CIBC Employment Quality Index
- Housing Suitability and Affordability
- After-tax Median Income

### VIII. Time Use

## 9. AUW – Australian Unity Wellbeing Index

The AUW consists of two elements and 14 indicators.

Website: <http://www.australianunity.com.au/wellbeingindex/#glance>

### I. Personal Wellbeing

- Standard of living
- Health
- Achievements in life
- Personal relationships
- How safe you feel
- Community connectedness
- Future security
- Spirituality / religion

### II. National Wellbeing

- Economic situation
- State of the environment
- Social conditions
- How Australia is governed
- Business
- National security

## 10.HPI - Happy Planet Index

Data are available from 1961 to 2005.

Website: <http://www.happyplanetindex.org>

HPI comprises three themes:

- Life Satisfaction
- Life Expectancy
- Footprint.

HPI is calculated by the formula:

$$\text{Living better, using less} = \frac{\text{Long, healthy lives} \times \text{Satisfied lives}}{\text{Resources consumed}}$$

## 11.LPI – Living Planet Index

Data are available from 1970 onwards.

Website:

[http://www.panda.org/about\\_our\\_earth/all\\_publications/living\\_planet\\_report/living\\_planet\\_index/](http://www.panda.org/about_our_earth/all_publications/living_planet_report/living_planet_index/)

LPI comprises three elements:

- Terrestrial
- Marine
- Freshwater.

Each element shows the status of populations of species in comparison to what it was in 1970.

## 12. ESI – Environmental Sustainability Index

ESI comprises 5 components, 21 indicators and 76 variables.

Website: <http://sedac.ciesin.columbia.edu/es/esi/index.html>

### I. System

- Air Quality (4)
- Biodiversity (5)
- Land (2)
- Water Quality (4)
- Water Quantity (2)

### II. Stress

- Reducing Air Pollution (5)
- Reducing Ecosystem Stress (2)
- Reducing Population Pressure (2)
- Reducing Waste & Consumption Pressures (3)
- Reducing Water Stress (4)
- Natural Resource Management (5)

### III. Vulnerability

- Environmental Health (3)
- Basic Human Sustenance (2)
- Exposure to Natural Disasters (2)

### IV. Capability

- Environmental Governance (12)
- Eco-efficiency (2)
- Private Sector Responsiveness (5)
- Science & Technology (5)

### V. Global

- Participation in International Collaborative Efforts (3)
- Greenhouse Gas Emissions (2)
- Reducing Transboundary Environmental Pressures (2)

Note: between brackets the number of variables.

### 13.EPI – Environmental Performance Index

EPI consists of 6 Policy Categories and 10 Subcategories and 25 indicators, as shown in the Framework below.

Website: <http://epi.yale.edu/Home>

ENVIRONMENTAL HEALTH	Environmental Health	Environmental burden of disease	Environmental burden of disease (DALYs)
		Water (effects on humans)	Adequate sanitation
			Drinking water
		Air Pollution (effects on humans)	Urban particulates
			Indoor air pollution
			Local ozone
ECOSYSTEM VITALITY	Air Pollution (effects on nature)	Air Pollution (effects on nature)	Regional ozone
			Sulfur dioxide emissions
	Water (effects on nature)	Water (effects on nature)	Water quality
			Water stress
	Biodiversity & Habitat	Biodiversity & Habitat	Conservation risk index
			Effective conservation
			Critical habitat protection*
			Marine Protected Areas*
	Productive Natural Resources	Forestry*	Growing stock change
		Fisheries*	Marine Trophic Index
			Trawling intensity
		Agriculture*	Irrigation Stress*
			Agricultural Subsidies
			Intensive cropland
	Burnt Land Area		
	Climate Change	Climate Change	Emissions per capita
			Emissions per electricity generation
			Industrial carbon intensity

## 14.EF –Ecological Footprint

The Ecological Footprint is built up from 6 underlying footprints, all expressed in global hectares:

- Cropland
- Grazing land
- Forest
- Fishing ground
- Built-up land
- Carbon (the area required to sequester carbon dioxide emissions).

The required area in global hectares, calculated by the six footprints, is the Ecological Footprint.

The EF can be compared with the biocapacity of a country. A country's biocapacity is a function of the number and type of biologically productive hectares within its borders. Deducting a country's footprint by its biocapacity results in a reserve or overshoot for each country.

Website: [http://www.footprintnetwork.org/en/index.php/GFN/page/footprint\\_for\\_nations](http://www.footprintnetwork.org/en/index.php/GFN/page/footprint_for_nations)

## 15. ISEW – Index for Sustainable Economic Welfare

The format of the ISEW of Belgium, USA and UK comprises 21 items:

1. Private Consumption Expenditures
2. Welfare Losses from Income Inequality
3. Value of Household Labour
4. Adjustment for Consumer Durables
5. Services from Streets and Highways
6. Public Expenditures on Health and Education
7. Defensive Private Expenditures on Health and Education
8. Costs of Commuting
9. Costs of Personal Pollution Control
10. Costs of Car Accidents
11. Costs of Water Pollution
12. Costs of Air Pollution
13. Costs of Noise Pollution
14. Costs of Loss of Habitat
15. Costs of Loss of Wetlands
16. Costs of Loss of Farmlands
17. Natural Capital Depletion
18. Costs of Climate Change
19. Costs of Ozone Layer Depletion
20. Net Capital Growth
21. Change in Net International Investment Position

The simplified formula for calculating the ISEW is:

*ISEW = personal consumption*  
*+ public non-defensive expenditures*  
*- private defensive expenditures*  
*+ capital formation*  
*+ services from domestic labour*  
*- costs of environmental degradation*  
*- depreciation of natural capital.*

Website:

<http://www.foe.co.uk/tools/index.html>

<http://www.neweconomics.org/>

<http://www.ces-surrey.org.uk>

## 16. GPI – Genuine Progress Indicator

The format of the GPI of Australia comprises 18 items:

1. Private Consumer Expenditures
2. Welfare Losses from Income Inequality
3. Value of Household Labour
4. Adjustment for Consumer Goods
5. Costs of Air Pollution
6. Costs of Loss of Farmlands
7. Depletion of Non-Renewable Resources
8. Long-Term Environmental Damage
9. Change in Net International Investment Position
10. Publicly Provided Service Capital
11. Value of Volunteer Work
12. Costs of Underemployment
13. Costs of Crime
14. Costs of Family Breakdown
15. Costs of Irrigation Water Use
16. Costs of Timber Depletion
17. Costs of Urban Waste Water
18. Environmental Health Index

Website: [www.rprogress.org/sustainability\\_indicators/genuine\\_progress\\_indicator.htm](http://www.rprogress.org/sustainability_indicators/genuine_progress_indicator.htm)

## 17. IEWB – Index of Economic Well-Being

The IEWB comprises 4 categories and 18 indicators.

Data are available from 1989 to 2007.

Website: <http://www.csls.ca/>

### **I. Consumption Flows**

1. Market consumption
2. Life Expectancy
3. Unpaid Work
4. Leisure
5. Government Spending
6. Regrettable Expenditure

### **II. Wealth Stocks**

7. Capital Stock
8. R&D
9. Natural Resources
10. Human Capital
11. Net International Investment Position
12. Social Cost of Environmental Degradation

### **III. Equality**

13. Income Inequality
14. Poverty rate and Gap (Poverty Intensity)

### **IV. Economic Security**

15. Risk from Unemployment
16. Financial Risk from Illness
17. Risk from Single Parent Poverty
18. Risk from Poverty in Old Age

## 18.GS – Genuine Savings

Genuine Savings – or Adjusted net savings – are derived from standard national accounting measures of gross national savings by making four types of adjustments. First, estimates of capital consumption of produced assets are deducted to obtain net national savings. Then current expenditures on education are added to net domestic savings as an appropriate value of investments in human capital (in standard national accounting these expenditures are treated as consumption). Next, estimates of the depletion of a variety of natural resources are deducted to reflect the decline in asset values associated with their extraction and harvest. Finally, pollution damages are deducted.

This is reflected in the next formula:

$$\begin{aligned} \text{GS} &= \text{GDP} \\ &- \text{public and private consumption} \\ &- \text{net foreign borrowing} \\ &- \text{depreciation of produced assets} \\ &+ \text{current spending on education} \\ &- \text{resource depletion} \\ &- \text{pollution damage.} \end{aligned}$$

Website: <http://go.worldbank.org/3AWKN2ZOY0>

## 19.OECD set of indicators

The current OECD set consists of 12 themes, 37 subthemes and 111 indicators.

### I. Population and Migration

- Total Population
  - Evolution of the population
  - Regional Population
- Elderly Population
  - Ageing societies
  - Elderly Population by region
- International migration
  - Trends in migration
  - Immigrant population
  - Migration and unemployment
  - Educational attainment of recent immigrants

### II. Macroeconomic Trends

- Gross Domestic Product
  - Size of GDP
  - National income per capita
  - Regional GDP
- Economic Growth
  - Evolution of GDP
  - Household saving
  - Investment rates
  - Inflation
  - Steel production
- Economic Structure
  - Value added by activity
  - Evolution of value added by activity
  - Small and medium-sized enterprises

### III. Economic globalisation

- Trade
  - Share of trade in GDP
  - Trade in goods
  - Trade in services
  - Trading partners
  - Balance of payments
- Foreign Direct Investment
  - FDI flows and stocks
  - Activities of multinationals

### IV. Prices

- Prices and Interest Rates
  - Consumer Price Indices (CPI)
  - Producer Price Indices
  - Long-term interest rates
- Purchasing Power and Exchange Rates
  - Rates of conversion
  - Effective exchange rates

### V. Energy

- Energy Supply
  - Energy Supply
- Energy Production and Prices

**VI. Labour**

- Employment
- Unemployment
- Labour Compensation and Hours Worked

**VII. Science & Technology**

- Research & Development
- ICT
- Communications

**VIII. Environment**

- Water and Natural resources
- Air and Land

**IX. Education**

- Outcomes
- Expenditure on Education

**X. Public Finance**

- Government Deficits and Debt
- Public Expenditure
- Support and Aid

**XI. Quality of Life**

- Health
- Leisure
- Society
- Transport

**XII. Productivity**

- Economy-wide Indicators of Productivity Growth
- Productivity Levels
- Productivity Growth by Industry
- Impact of Labour Productivity on Unit Labour Costs

Website: <http://puck.sourceoecd.org/vl=980255/cl=33/nw=1/rpsv/factbook2009/index.htm>

## 20. EU set of indicators

The EU set of indicators consists of 10 themes, 32 subthemes and 123 indicators.

- **Socioeconomic development**
  - Growth of GDP per capita
    - Investment*
      - Regional disparities in GDP
      - Household saving
    - Labour productivity growth*
      - Research and development expenditure
      - Energy intensity
    - Employment*
      - Female employment
      - Regional disparities in employment
      - Unemployment
- **Climate change and energy**
  - Greenhouse gas emissions
    - Greenhouse gas emissions by sector*
      - Greenhouse gas intensity of energy consumption
      - Global surface average temperature
  - Consumption of renewables
    - Energy dependency*
      - Gross inland energy consumption
      - Electricity generation from renewables
      - Consumption of biofuels in transport
      - Combined heat and power
      - Implicit tax rate on energy
- **Sustainable transport**
  - Energy consumption of transport relative to GDP
    - Modal split of freight transport*
      - Volume of freight transport relative to GDP
      - Volume of passenger transport relative to GDP
    - Modal split of passenger transport*
      - Investment in transport infrastructure
      - Passenger transport prices
    - Greenhouse gas emissions from transport*
      - Average CO<sub>2</sub> emissions per km from new passenger cars
      - Emissions of ozone precursors from transport
    - People killed in road accidents*
      - Emissions of particulate matter from transport
- **Sustainable consumption and production**
  - Resource productivity
    - Municipal waste*
      - Domestic material consumption
      - Recycled and composted municipal waste
      - Atmospheric emissions
    - Electricity consumption of households*
      - Number of households
      - Household expenditures
      - Final energy consumption
      - Car ownership
    - Environmental management systems*
      - Eco-labels
      - Organic farming
      - Livestock density index

- **Natural Resources**
  - Abundance of common birds
    - Protected areas*
      - Deadwood on forest land
    - Water abstraction*
      - Water quality in rivers
  - Conservation of fish stocks
    - Fishing capacity
  - Change in land cover*
    - Forest trees damaged by defoliation
- **Public health**
  - Healthy life years
    - Deaths due to chronic diseases*
      - Suicides
      - Unmet needs for health care
    - Production of toxic chemicals*
      - Exposure to air pollution by particulate matter
      - Exposure to air pollution by ozone
      - Annoyance by noise
      - Serious accidents at work
- **Social inclusion**
  - Risk of poverty
    - Intensity of poverty
    - Income inequalities
  - Jobless households*
    - Working poor
    - Long-term unemployment
    - Gender pay gap
  - Early school leavers*
    - Public expenditure on education
    - Adults with low educational attainment
    - Lifelong learning
- **Demographic changes**
  - Employment rate of older workers
    - Life expectancy at age 65 (men's)*
    - Life expectancy at age 65 (women's)*
      - Fertility rate
      - Migration
      - Elderly population compared to working-age population
  - Income level of over-65s compared to before*
    - Risk of poverty for over-65s
  - Public Debt*
    - Retirement age
    - Expenditure on care for the elderly
    - The impact of ageing on public expenditure

- **Global partnership**

- Official development assistance

- Imports from developing countries*

- Share of imports from least-developed countries

- Subsidies for EU agriculture

- Financing for developing countries*

- Share of foreign direct investment in low-income countries

- Share of official development assistance for low-income countries

- Share of untied assistance

- Assistance for social infrastructure and services

- Assistance for debt relief

- CO<sub>2</sub> emissions per inhabitant*

- Assistance for water supply and sanitation

- **Good governance**

- Infringement cases*

- Citizens' confidence in EU institutions

- Transposition of Community law

- Voter turnout*

- E-government availability

- E-government usage

- Environmental taxes compared to labour taxes.*

Website: <http://epp.eurostat.ec.europa.eu/portal/page/portal/sdi/introduction>

## 21.CSD – Commission on Sustainable Development Indicators

The most recent CSD set of indicators (2009) comprises 14 themes, 50 core indicators and a further 46 indicators.

Website: [http://www.un.org/esa/dsd/dsd\\_aofw\\_ind/ind\\_index.shtml](http://www.un.org/esa/dsd/dsd_aofw_ind/ind_index.shtml)

Theme	Sub-theme	Core indicator	Other indicator
<b>Poverty</b>	Income poverty	Proportion of population living below national poverty line	Proportion of population below \$1 a day
	Income inequality	Ratio of share in national income of highest to lowest quintile	
	Sanitation	Proportion of population using an improved sanitation facility	
	Drinking water	Proportion of population using an improved water source	
	Access to energy	Share of households without electricity or other modern energy services	Percentage of population using solid fuels for cooking
	Living conditions	Proportion of urban population living in slums	
<b>Governance</b>	Corruption	Percentage of population having paid bribes	
	Crime	Number of intentional homicides per 100,000 population	
<b>Health</b>	Mortality	Under-five mortality rate	
		Life expectancy at birth	Healthy life expectancy at birth
	Health care delivery	Percent of population with access to primary health care facilities	Contraceptive prevalence rate
		Immunization against infectious childhood diseases	
	Nutritional status	Nutritional status of children	
	Health status and risks	Morbidity of major diseases such as HIV/AIDS, malaria, tuberculosis	Prevalence of tobacco use
Suicide rate			
<b>Education</b>	Education level	Gross intake ratio to last grade of primary education	Life long learning
		Net enrolment rate in primary education	
		Adult secondary (tertiary) schooling attainment level	
	Literacy	Adult literacy rate	
<b>Demographics</b>	Population	Population growth rate	Total fertility rate
		Dependency ratio	
	Tourism		Ratio of local residents to tourists in major tourist regions and destinations
<b>Natural hazards</b>	Vulnerability to natural hazards	Percentage of population living in hazard prone areas	
	Disaster preparedness and response		Human and economic loss due to natural disasters

<b>Atmosphere</b>	Climate change	Carbon dioxide emissions	Emissions of greenhouse gases	
	Ozone layer depletion	Consumption of ozone depleting substances		
	Air quality	Ambient concentration of air pollutants in urban areas		
<b>Land</b>	Land use and status		Land use change	
			Land degradation	
	Desertification		Land affected by desertification	
	Agriculture	Arable and permanent cropland area		Fertilizer use efficiency
				Use of agricultural pesticides
				Area under organic farming
Forests	Proportion of land area covered by forests		Percent of forest trees damaged by defoliation	
			Area of forest under sustainable forest management	
<b>Oceans, seas and coasts</b>	Coastal zone	Percentage of total population living in coastal areas	Bathing water quality	
	Fisheries	Proportion of fish stocks within safe biological limits		
	Marine environment	Proportion of marine area protected		Marine trophic index
				Area of coral reef ecosystems and percentage live cover
<b>Freshwater</b>	Water quantity	Proportion of total water resources used		
		Water use intensity by economic activity		
	Water quality	Presence of faecal coliforms in freshwater		Biochemical oxygen demand in water bodies
				Wastewater treatment
<b>Biodiversity</b>	Ecosystem	Proportion of terrestrial area protected, total and by ecological region	Management effectiveness of protected areas	
				Area of selected key ecosystems
				Fragmentation of habitats
	Species	Change in threat status of species		Abundance of selected key species
				Abundance of invasive alien species
<b>Economic development</b>	Macroeconomic performance	Gross domestic product (GDP) per capita	Gross saving	
		Investment share in GDP	Adjusted net savings as percentage of gross national income (GNI)	
			Inflation rate	
	Sustainable public finance	Debt to GNI ratio		
	Employment	Employment-population ratio	Vulnerable employment	
			Labor productivity and unit labor costs	
		Share of women in wage employment in the non-agricultural sector		
	Information and communication technologies	Internet users per 100 population		Fixed telephone lines per 100 population
				Mobile cellular telephone subscribers per 100 population

	Research and development		Gross domestic expenditure on R&D as a percent of GDP
	Tourism	Tourism contribution to GDP	
<b>Global economic partnership</b>	Trade	Current account deficit as percentage of GDP	Share of imports from developing countries and from LDCs
			Average tariff barriers imposed on exports from developing countries and LDCs
	External financing	Net Official Development Assistance (ODA) given or received as a percentage of GNI	Foreign direct investment (FDI) net inflows and net outflows as percentage of GDP
			Remittances as percentage of GNI
<b>Consumption and production patterns</b>	Material consumption	Material intensity of the economy	Domestic material consumption
	Energy use	Annual energy consumption, total and by main user category	Share of renewable energy sources in total energy use
		Intensity of energy use, total and by economic activity	
	Waste generation and management	Generation of hazardous waste	Generation of waste
		Waste treatment and disposal	Management of radioactive waste
	Transportation	Modal split of passenger transportation	Modal split of freight transport
			Energy intensity of transport

## 22. Finland

The indicator set of Finland comprises 7 strategy headlines and 34 indicators.

Website: [www.environment.fi/sustainabledevelopment](http://www.environment.fi/sustainabledevelopment)

Strategy headline	Indicator
The strengths and challenges of sustainable development in Finland	<ul style="list-style-type: none"> <li>- Environmental Performance Index</li> <li>- Human Development Index</li> </ul>
Balance between use and protection of natural resources	<ul style="list-style-type: none"> <li>- Greenhouse gas emissions</li> <li>- Total energy consumption</li> <li>- Use of renewable energy sources</li> <li>- Endangered species</li> <li>- Energy and natural resource consumption in relation to economic growth</li> <li>- Environmental loading in relation to economic growth</li> <li>- Development of total material requirement</li> <li>- Proportion of household expenditures on services</li> <li>- Eutrophication discharges into Baltic Sea</li> </ul>
Sustainable communities in a sustainable regional structure	<ul style="list-style-type: none"> <li>- Relative change in population in different regions</li> <li>- Distance of certain services from homes</li> <li>- Economic dependency ratio by province</li> <li>- Service satisfaction of citizens</li> <li>- Development of public and passenger car transport</li> </ul>
Citizens – well-being throughout the entire life cycle	<ul style="list-style-type: none"> <li>- Life expectancy at birth</li> <li>- Expected retirement age</li> <li>- Occupational diseases and accidents</li> <li>- Population development by age group</li> <li>- People with low employment potential</li> <li>- Immediate placement of 9th grade students in further studies</li> <li>- Per capita alcohol consumption and deaths attributable to alcohol</li> <li>- Employment rate for immigrants and number of non-Finnish speaking schoolchildren</li> <li>- Participation of 14-year olds in social organisational work</li> <li>- Voting activity</li> </ul>
The economy as a safeguard for sustainable development	<ul style="list-style-type: none"> <li>- GDP per inhabitant</li> <li>- Economic dependency ratio</li> <li>- Public debt in relation to GDP divided into state and municipal shares of debt</li> <li>- Number of employed and unemployment rate</li> <li>- Finland's competitiveness in relation to other OECD countries assessed in terms of relative cost of work unit</li> </ul>
Finland as a global actor	<ul style="list-style-type: none"> <li>- Official Development Aid</li> <li>- Direct investments from Finland in other countries</li> </ul>
Supporting sustainable choices	<ul style="list-style-type: none"> <li>- Research and development expenditure and patenting</li> </ul>

## 23. Germany

The set consists of 4 themes and 21 indicator areas.

Website:

<http://www.destatis.de/jetspeed/portal/cms/Sites/destatis/Internet/EN/Content/Statistics/Environment/EnvironmentalEconomicAccounting/EnvironmentalIndicators/Tables/Content75/IndicatorsInfo,templateId=renderPrint.psm!>

### **I. Intergeneration equity**

#### *Resource Protection*

- 1a Energy productivity
- 1b Raw material productivity

#### *Climate protection*

- 2 Greenhouse gas emissions

#### *Renewable energies*

- 3a, b Share of renewable energy sources in total energy consumption

#### *Land use*

- 4 Increase in land use for housing and transport

#### *Species diversity*

- 5 Species diversity and landscape quality

#### *National debt*

- 6 National deficit

#### *Provision for future economic stability*

- 7 Gross fixed capital formation in relation to GDP

#### *Innovation*

- 8 Private and public spending on research and development

#### *Education and training*

- 9a 18- to 24-year-olds without a school leaving certificate
- 9b 25-year old university graduates
- 9c Share of students starting a degree course

### **II. Quality of life**

#### *Economic prosperity*

- 10 Gross domestic product per capita

#### *Mobility*

- 11a Intensity of goods transport
- 11b Intensity of passenger transport
- 11c, d Share of rail transport and inland water transport

#### *Farming*

- 12a Nitrogen surplus
- 12b Organic farming

#### *Air Quality*

- 13 Air pollution

#### *Health and nutrition*

- 14a, b Premature mortality
- 14c, d Proportion of adolescents and adults who smoke
- 14 e Proportion of obese people

#### *Crime*

- 15 Burglaries in homes

### **III. Social cohesion**

#### *Employment*

16a, b Employment rate

#### *Perspectives for families*

17a, b All-day care provision for children

#### *Equal opportunities*

18 Wage difference between women and men

#### *Integration*

19 Foreign school leavers with a school leaving certificate

### **IV. International responsibility**

#### *Development cooperation*

20 Share of expenditures for official development assistance in gross national income

#### *Opening markets*

21 German imports from developing countries.

## 24. The Netherlands

The set comprises 10 themes, 12 headline indicators and 40 sub-indicators.

Website: <http://www.cbs.nl/en-GB/menu/themas/macro-economie/publicaties/publicaties/archief/2009/2009-sustainability-monitor-2009.htm>

### I. Natural capital

#### *Climate and energy*

- A1 Greenhouse gas emissions
- A2 Energy reserves
- A3 Energy intensity
- A4 Renewable energy

#### *Biodiversity*

- B1 Mean species abundance
- B2 Red list (number of species)
- B3 Preservation of species (%)
- B4 Area of nature and forest (%)

#### *Soil, water and air*

- D1 Urban exposure to particulate matter
- D2 Acidifying emissions
- D3 Nitrogen deposits
- D4 Phosphorus in soil
- D5 Phosphorus in water

### II. Social capital

#### *Social participation*

- E1 Social participation
- E2 Voluntary work (%)
- E3 Contacts with family and friends

#### *Trust*

- F1 Generalised trust
- F2 Feelings of discrimination
- F3 Trust in institutions

### III. Human capital

#### *Labour utilisation*

- G1 Hours worked
- G2 Labour participation
- G3 Hours worked by workers
- G4 Retirement age (age)
- G5 Over-65s

#### *Education*

- H1 Education level
- H2 Education level of young people
- H3 School leavers
- H4 Maths skills
- H5 Education expenditure
- H6 Lifelong learning

#### *Health*

- J1 Female life expectancy
- J2 Healthy female life expectancy
- J3 Health expenditure

### IV. Economic capital

#### *Physical capital*

- K1 Capital stock
- K2 Capital stock per unit of GDP
- K3 Investment (% GDP)

#### *Knowledge*

- L1 Knowledge capital (R&D)
- L2 Private sector expenditure on R&D
- L3 Public sector expenditure on R&D
- L4 Patents

## 25. Switzerland

The set comprises 12 themes and 75 indicators.

Website:

<http://www.bfs.admin.ch:80/bfs/portal/en/index/themen/21/22/publ.html?publicationID=3749>.

### I. Living conditions

- Household income
- Population living below poverty line
- Life satisfaction
- Violent crime
- Remittances by migrants
- Housing costs
- Suicide rate

### II. Health

- Life expectancy in good health
- Health-relevant behaviour: physical exercise
- Overweight
- Mental wellbeing
- Health expenditure

### III. Social cohesion

- Inequality of income distribution
- Voluntary work
- Women in the National Council
- Reading skills of 15-year-olds by socio-economic background
- Early school leavers by citizenship

### IV. International cooperation

- Official development assistance
- Official development assistance to poor countries
- Multilateral treaties
- Duty-free imports from developing countries
- Attitude towards development assistance
- Direct investments in developing countries

### V. Education and culture

- Reading skills of 15-year-olds
- Early school leavers
- Participation in further education
- Internet use by income group
- Regular use of a second national language
- Participation in cultural activities
- Own cultural activities

### VI. Research and technology

- Patent applications
- Human resources in science and technology
- Expenditure on research and development

### VII. Work

- Unemployment rate
- Youth unemployment
- Working Poor
- Wage gap between men and women
- Professional position by gender

### VIII. Economic system

- Investment to GDP ratio
- Labour productivity
- Level of public debt
- Fiscal revenue rate
- Environment-related taxes

### IX. Production and consumption

- Material intensity
- Material requirement abroad for imports
- Fair trade
- Municipal waste
- Total material requirement
- Consumption of organic products
- Waste recycling

### X. Mobility and transport

- Final energy consumption of transport
- Modal split in passenger transport
- Intensity of freight transport
- Take-offs and landings
- CO<sub>2</sub> intensity of individual motorised transport
- Modal split in freight transport
- Persons affected by noise

### XI. Energy and climate

- Final energy consumption
- Renewable energies
- Greenhouse gas emissions
- CO<sub>2</sub> intensity
- Energy intensity
- Energy dependency
- CO<sub>2</sub> emissions

### XII. Natural resources

- Per-capita settlement area
- Landscape fragmentation
- Particulate matter concentration
- Phosphorus content in lakes
- Breeding bird populations
- Ecological quality of forests
- Ecological footprint
- Settlement area
- Arable land
- Nitrate content in groundwater
- Ozone concentration

## 26. United Kingdom

The set comprises 15 themes and 68 indicators.

Website: <http://www.defra.gov.uk/sustainable/government/progress/data-resources/national.htm>

- **Greenhouse gas emissions**
  - Greenhouse gas emissions
  - Carbon dioxide emissions by end user
  - Aviation and shipping emissions
- **Electricity generation**
  - Renewable electricity
  - Electricity generation
- **Carbon dioxide and other emissions**
  - Household energy use
  - Road transport
  - Private vehicles
  - Road freight
  - Manufacturing sector
  - Service sector
  - Public sector
- **Resource use**
  - Resource use
  - Energy supply
  - Water resource use
  - Domestic water consumption
  - Water stress
- **Waste**
  - Waste
  - Household waste per person
- **Natural resources**
  - Bird populations
  - Biodiversity conservation
  - Agriculture sector
  - Farming & environmental stewardship
  - Land use
  - Land recycling
  - Dwelling density
  - Fish stocks
  - Ecological impacts of air pollution
  - Emissions of air pollutants
  - River Quality
  - Flooding
- **Contextual indicators**
  - Economic Growth
  - Productivity
  - Investment
  - Demography
  - Households and dwellings
- **Society**
  - Active community participation
  - Crime
  - Fear of crime
- **Employment and poverty**
  - Employment
  - Workless households
  - Economically inactive
  - Childhood poverty
  - Young adults
  - Pensioner poverty
  - Pension provision
- **Education**
  - Education
  - Sustainable development education
- **Health**
  - Health inequality
  - Healthy life expectancy
  - Mortality rates
  - Smoking
  - Childhood obesity
  - Diet
- **Mobility and access**
  - Mobility
  - Getting to school
  - Accessibility
  - Road accidents
- **Social and environmental justice**
  - Social justice
  - Environmental equality
  - Air quality and health
  - Housing conditions
  - Households living in fuel poverty
  - Homelessness
  - Local environment quality
  - Satisfaction in local area
- **International**
  - UK international assistance
- **Wellbeing**
  - Wellbeing