

Social impact categories, indicators, characterisation and damage modelling

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Social impact categories

- Starting point: Gross lists from social impact assessment literature, GRI, etc.
- Divide in inventory, midpoint and endpoint categories
- Net list of 30 social inventory categories.
Examples: Missing education, Corruption, Missing property rights, Unequal treatment, Occupational health, Trade barriers, ...

Social impact categories

- Filter out those categories that relate only to activities of government
- Short list of 14 social inventory categories that can be influenced by industrial activities
- Identify quantitative pressure (inventory) indicators for the 14 categories. Criteria:
 - Default data available from statistical sources
 - Credible monitoring possible at factory / company level

Quantitative social pressure indicators (complete list):

Occupational health	Unequal opportunities
Productivity loss from missing education	Inadequate access to health care
Productivity loss from corruption	Unemployment and underemployment
Effect of trade barriers	Inadequate access to pensions or social security
Labour rights violations	Stressful working conditions
Productivity loss from lacking physical infrastructure	Poverty
Excessive work	Appropriation of indigenous resources

Quantitative social pressure (inventory) indicators

Impact category	Suggested inventory indicators	Data source for default inventory data
Occupational health	Lost work-days	USDL, ILO CISDOC, WHO CCOH network
Missing education	No. of school-hours lost (or gained)	UNESCO, Antislavery International
Productivity loss from corruption	Monetary value of additional prod. costs	Transparency International
Effect of trade barriers	Monetary value of subsidies	World Bank
Excessive work	No. of work-hours in excess of 48/person/week	ILO
Labour rights violations	No. of work-hours of unorganised labour + reported violations	ILO

Quantitative social pressure (inventory) indicators

Impact category	Suggested inventory indicator	Data source for default inventory data
Productivity loss from lacking physical infrastructure	Monetary contribution (in PPS) to local infrastructure development	(part of corporate taxes used for this purpose?)
Unequal employment opportunities	Sum of wages in excess of balanced composition relative to recruitment base	ILO
Poverty	Monetary value of specific, more than industry-average, efforts to provide: flexible jobs with low demands on skills, parent-friendly employment opportunities, fair transactions and payment options for the poor, and delivery and personal services for the disabled	
Inadequate access to health care	No. of workers without adequate access to health care (defined as >1000 capita / doctor) for themselves and their family	WHO Global Atlas of the Health Workforce

Quantitative social pressure (inventory) indicators

Impact category	Suggested inventory indicator	Data source for default inventory data
Unemployment and underemployment	Positive: No. of work-hours by workers recruited from long-term unemployment. Support to terminated workers.	(ILO?)
Inadequate access to pensions or social security	No. of workers without adequate pension scheme and/or social security access	US Social Security Administration's assessment "Social Security Programmes Throughout the World"
Stressful working conditions	No. of work-hours * relative stress measure above threshold	UK HSE
Appropriation of indigenous resources	Assessed market value of resources with property rights assigned to indigenous people	?

Default values for social pressure indicators

Impact category	Inventory indicator unit	Global default value
Occupational health	Lost work-days	0.0075 per full-time worker-year
Missing education	School-hours lost	15 per full-time worker-year
Productivity loss from corruption	Monetary value	2.2% of added value
Effect of trade barriers	Monetary value of direct or indirect subsidies	Specific values per product group
Excessive work	No. of work-hours in excess of 48/person/week	38 per full-time worker-year
Labour rights violations	No. of work-hours of unorganised labour	780 per full-time worker-year

Default values for social pressure indicators

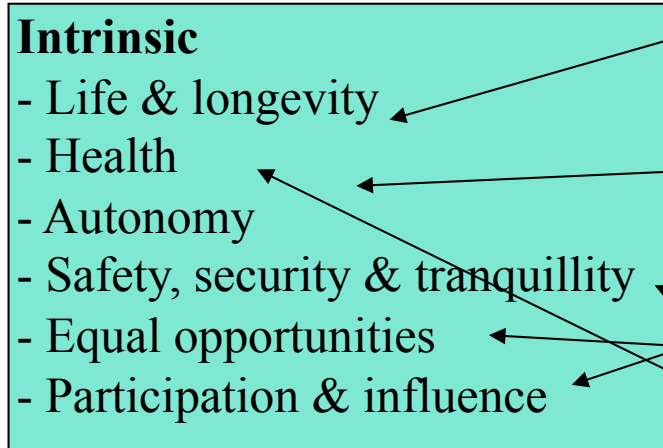
Impact category	Inventory indicator unit	Global default value
Physical infrastructure	Monetary contribution (in PPS) to local infrastructure development	0 per added value
Unequal employment opportunities	Sum of wages in excess of balanced composition relative to recruitment base	1300 USD ₂₀₀₀ PPS per full-time worker-year
Poverty	Monetary value of specific, more than industry-average, efforts	0 per full-time worker-year
Inadequate access to health care	No. of workers without adequate access to health care	0.26 per full-time worker-year
Unemployment and underemployment	No. of work-hours by workers recruited from long-term unemployment. Support to terminated workers.	0 per added value

Default values for social pressure indicators

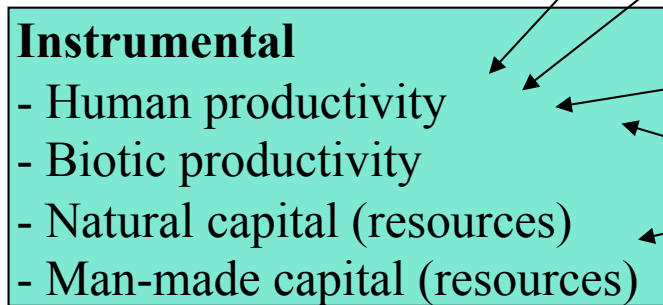
Impact category	Inventory indicator unit	Global default value
Inadequate access to pensions or social security	No. of workers without adequate pension scheme and/or social security access	0.11 per full-time worker-year
Stressful working conditions	No. of work-hours * relative stress measure above threshold	478 Quality-Adjusted workhours per full-time worker-year
Appropriation of indigenous resources	Assessed market value of resources with property rights assigned to indigenous people	?

Modelling social and economic impact pathways

Social



Economical

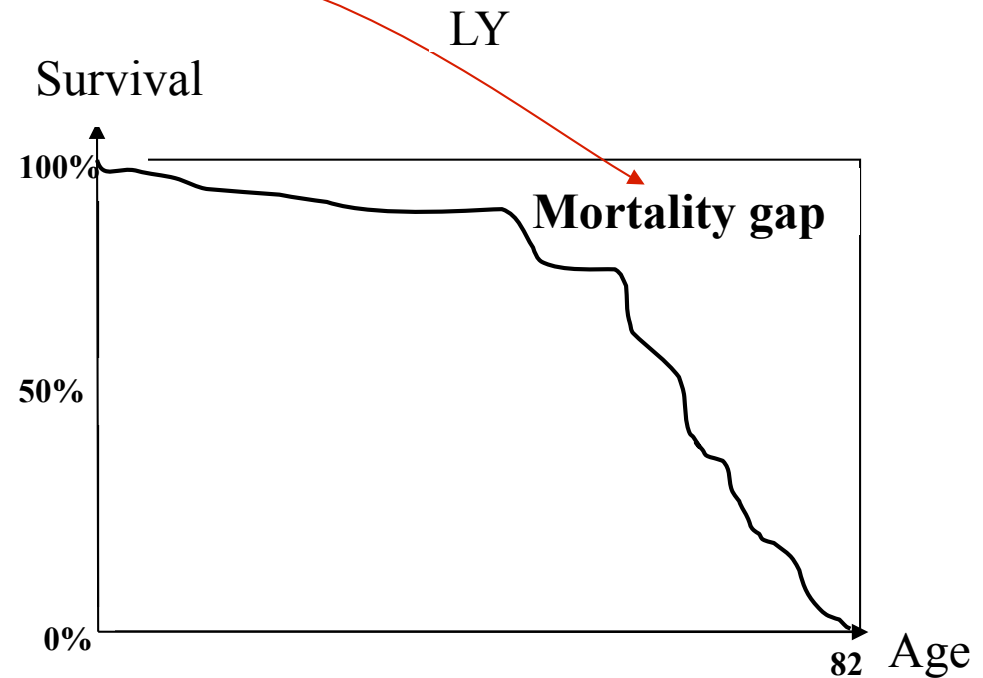


- Activity**
- occupational health
 - missing education
 - corruption
 - perverse subsidies
 - excess work
 - union rights
 - infrastructure
 - unequal opportunities
 - poverty alleviation
 - pensions and social security
 - access to health care
 - workplace stress
 - unemployment
 - indigenous resources
 - distributional issues
 - time usage
-

Quantifying and aggregating impacts on human well-being

Intrinsic

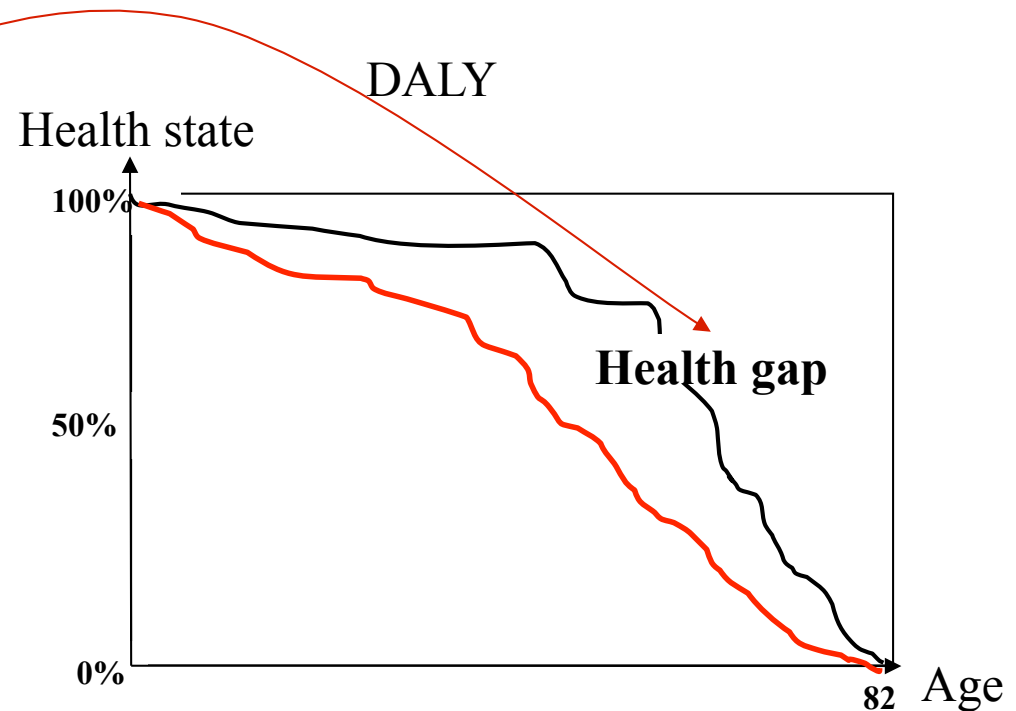
- Life & longevity
- Health
- Autonomy
- Safety, security & tranquillity
- Equal opportunities
- Participation & influence



Quantifying and aggregating impacts on human well-being

Intrinsic

- Life & longevity
- Health
- Autonomy
- Safety, security & tranquillity
- Equal opportunities
- Participation & influence

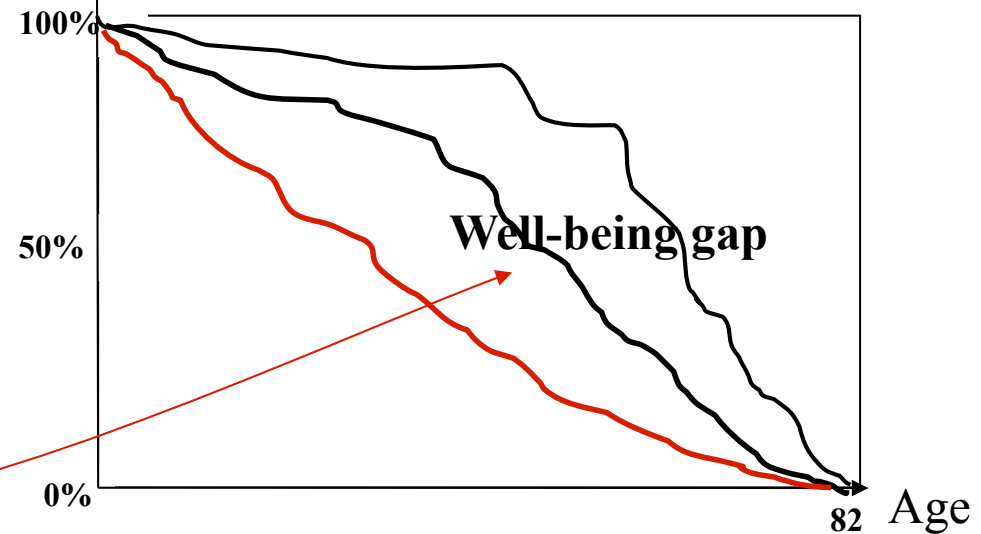


Quantifying and aggregating impacts on human well-being

Intrinsic

- Life & longevity
- Health
- Autonomy
- Safety, security & tranquillity
- Equal opportunities
- Participation & influence

State of well-being



QALY

Incidence*Duration*Severity

Modelling social and economic impact path

0.004 – 0.54
QALYs per
lost work-day

Social

- Intrinsic**
- Life & longevity
 - Health
 - Autonomy
 - Safety, security & tranquillity
 - Equal opportunities
 - Participation & influence

Economical

- Instrumental**
- Human productivity
 - Biotic productivity
 - Natural capital (resources)
 - Man-made capital (resources)

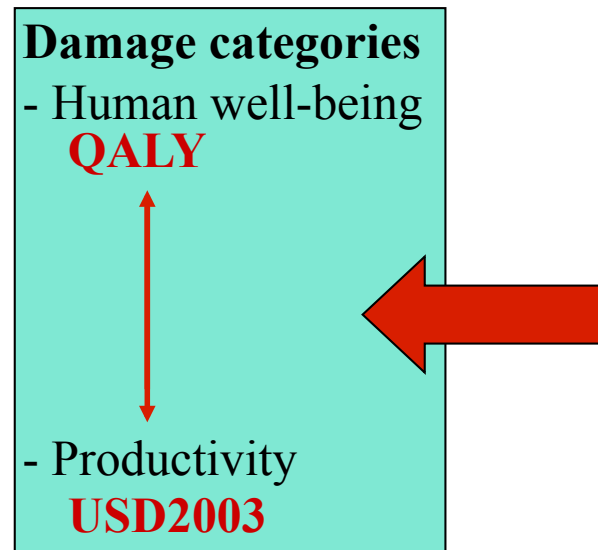
wages lost

- occupational health
- missing education
- corruption
- perverse subsidies
- excess work
- union rights
- infrastructure
- unequal opportunities
- poverty alleviation
- pensions and social security
- access to health care
- workplace stress
- unemployment
- indigenous resources
- distributional issues
- time usage

Activity

Monetarisation via the budget constraint

Budget constraint:
Potential Global GEP
with full human productivity
= 84000 USD₂₀₀₃ / person
i.e. 84000 USD₂₀₀₃ / QALY



Compare: \$25000 (Human capital approach), \$93000 (Revealed preferences), \$160000 (Willingness-to-pay)

First estimate of global normalisation values

	USD/person	Relative
Occupational health	140	2%
Missing education	110	1%
Productivity loss from corruption	160	2%
Effect of trade barriers	1650	23%
Labour rights violations	1820	25%
Excessive work	960	13%
Unequal employment opportunities	520	7%
Inadequate access to health care	780	11%
Inadequate access to pensions or social security	330	5%
Stressful working conditions	730	10%
Total social impacts attributable to industry	7200	100%

For comparison: Norm. ref. for biophysical impacts: 6590 USD/person