

The role of science in sustainable development policy

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Classical definition of sustainability

Brundtland (1987):

„To meet the needs of the present without compromising the ability of future generations to meet their own needs”

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Weak vs. strong sustainability

Types of capital:

- man-made,
- human,
- natural

Weak sustainability: all capital types are substitutable

Strong sustainability: all capital types are complementary

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Hartwick rule (1977)

Rents from resource and environment depletion should be reinvested

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What development is sustainable?

Strong sustainability:

no natural capital (especially no exhaustible resources) can be depleted

Weak sustainability:

depletion of exhaustible resources should be offset by investing in renewables

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Issues in weak sustainability

Irreversibility of environmental damages

Societal preferences

Economic valuation of non-market goods

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Scientific challenges

The need for interdisciplinary research

The need for quality control

The uncertainty regarding future preferences

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