



HELSINGIN YLIOPISTO
HELSINGFORS UNIVERSITET
UNIVERSITY OF HELSINKI

Science Shaping the Future

ILKKA NIINILUOTO
University of Helsinki
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UNESCO & ICSU (1999)

- DECLARATION ON SCIENCE AND THE USE OF SCIENTIFIC KNOWLEDGE
- "The sciences should be at the service of humanity as a whole, and should contribute to providing everyone with a deeper understanding of nature and society, a better quality of life and sustainable and healthy environment for present and future generations."



PROBLEMS

- What is meant by the quality of life? What is meant by sustainable development?
- In which ways can science influence our lives and shape the future?
- What kind of organization of the research system and the political decision making is most helpful in enhancing a better quality of life?



QUALITY OF LIFE

■ SUBJECTIVE

- preferences, wants, wishes
- pleasure, happiness

■ OBJECTIVE

- wealth, goods, commodities
- needs, health, capabilities
- rights, duties, justice

■ COMBINED

- having, loving, being
- the good on man

Allardt

von Wright



UN DEVELOPMENT PROGRAMME

- HUMAN DEVELOPMENT REPORT 1999

- HUMAN DEVELOPMENT INDEX HDI

- the average of three factors (taking numerical values between 0 and 1)



HDI

- HEALTH (measured by life expectancy at birth)
- EDUCATION (measured by adult literacy rate and the enrolment ratio in first-, second-, and third-level education)
- WEALTH (measured by GNP per capita)



SUSTAINABLE DEVELOPMENT

- BRUNDTLAND's Commission 1987
- satisfaction of present needs without depriving the future generations of their prospects of satisfying their needs
- issues:
 - needs?
 - our values vs. future values
 - anthropocentrism: the human condition
 - the value of nature: instrumental or intrinsic?
 - combination of social and environmental factors



SOFI

- Millennium Project: UN University New York
- SOFI (State of the Future Index)
 - 19 selected variables
 - Delphoi method



SCIENCE SHAPES THE FUTURE

- (1) changes our world view by the production of new knowledge
- (2) teaches us new methods of critical thinking
- (3) allows us to rationally revise our values
- (4) promotes learning strategies and professional skills
- (5) helps to predict future events



SCIENCE SHAPES THE FUTURE

- (6) assists us in the systematic investigation of alternative futures
- (7) justifies conditional recommendations of action
- (8) provides a rational basis for decision-making and social planning
- (9) gives rise to technological innovations
- (10) activates economic competition and increases the wealth of nations



RESEARCH ASSESSMENT

- quality of research
 - truth
 - information
 - methods
- relevance
- ethics
- harms:
 - wrong beliefs
 - wrong behavior



TECHNOLOGY ASSESSMENT

- $TA = 6E + S$
- effective
- economical
- esthetic
- ergonomic
- ecological
- ethical
- social