



Wittgenstein Centre

FOR DEMOGRAPHY AND  
GLOBAL HUMAN CAPITAL

A COLLABORATION OF IIASA, VID/ÖAW, WU

# The Global Sustainable Development Goals and what they mean for the Global North

*Wolfgang Lutz, ÖAW, 4 April 2019*



International Institute for  
Applied Systems Analysis  
[www.iiasa.ac.at](http://www.iiasa.ac.at)



ÖAW

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UNIVERSITY OF  
ECONOMICS  
AND BUSINESS

# From the “End of History” to global concerns about sustainable human wellbeing on planet earth



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(Picture of planet Earth as seen from the moon)



# Outline

- From the MDGs to the SDGs – the global process
- People, Planet, Prosperity, Peace and Partnership (5 Ps)
- Synergies and Contradictions among the Goals
- Studying Adaptive Capacity and Sustainable Human Wellbeing
- The role of science: Brainpower for Sustainable Development
- The Global Sustainable Development Report 2019

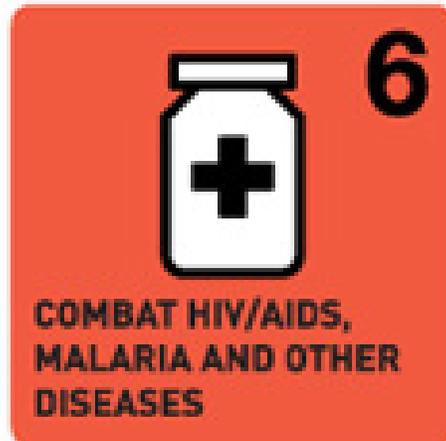
# World Conferences in the 1990s

- 1990 Education for All (Jomtien)
- 1992 Environment and Development, "Earth Summit" (Rio)
- 1993 World Conference on Human Rights (Vienna)
- 1994 Population and Development (Cairo)
- 1995 World Conference on Women (Beijing)
- 1996 World Food Summit (Rome)



Way to the Millennium Development Goals

MDGs 2000 – 2015 showed mixed success.  
China did very well in 1-6, Africa poorly



# The largest global consultation process in human history

- Driven by international organisations, governments, NGOs, local stakeholder groups etc.
- Thousands of preparatory meetings around the world ...
- 17 Goals, 169 Targets and 230 Indicators.
- Independent Group of Scientists producing quadrennial Global Sustainable Development Reports.



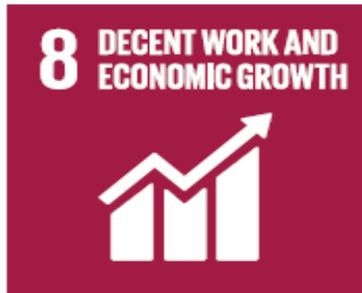
UNITED NATIONS

TRANSFORMING OUR WORLD:



THE 2030 AGENDA FOR  
SUSTAINABLE DEVELOPMENT

# Agenda 2030: 17 Goals, 169 Targets, 230 Indicators



# The five Ps

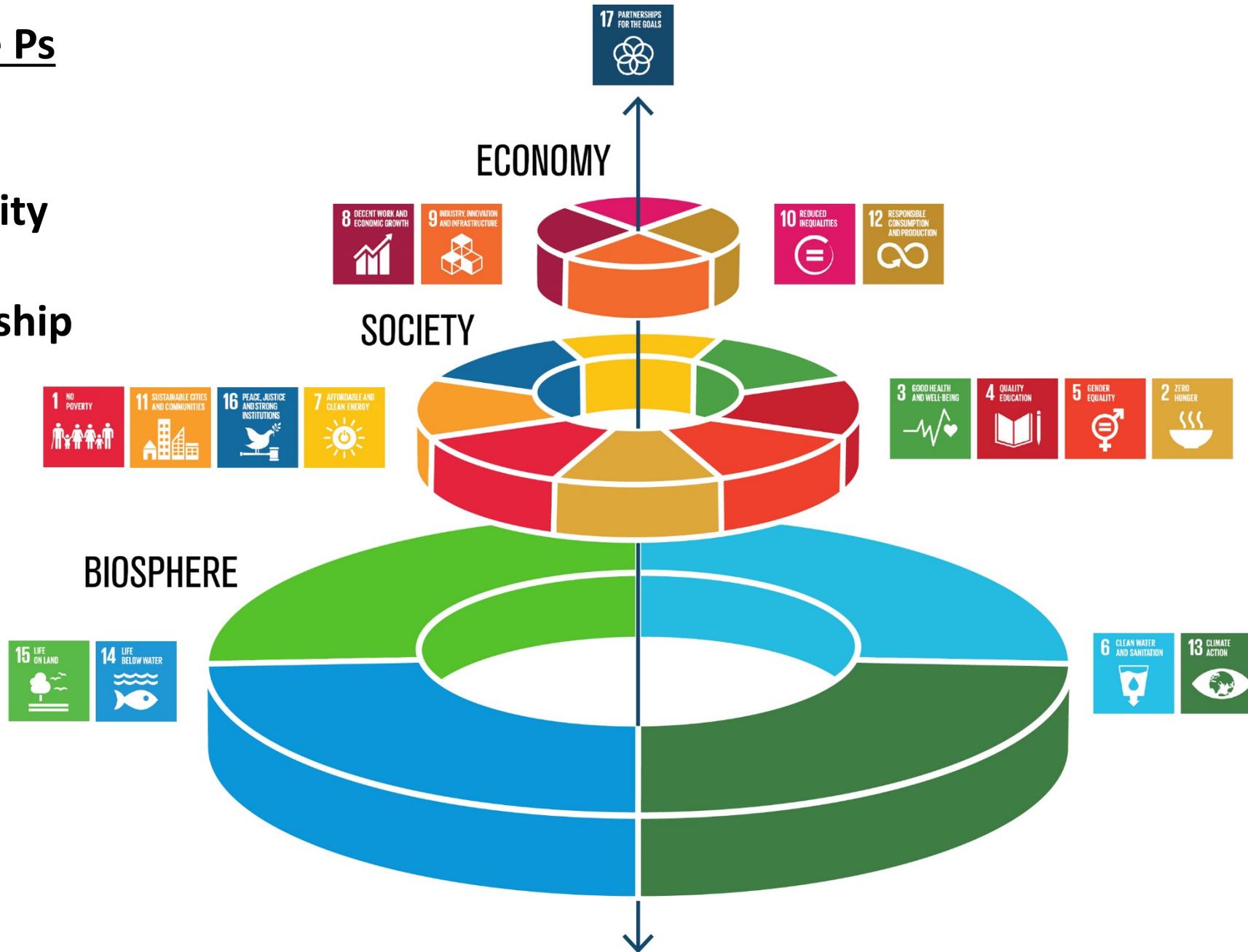
People

Planet

Prosperity

Peace

Partnership





# Synergies and Contradictions among the SDGs

- There are some **difficult trade-offs**, e.g. with current technologies SDG 1 (no poverty) and SDG 8 (economic growth) cannot be met when at the same time trying to meet SDG 13 (climate action).
- There are some **redundancies**, e.g. Gender Equality (SDG 5) is a separate goal and is also reflected in specific targets on Health (SDG3), Education (SDG4) and several others...
- Some aspects are so **closely interwoven** that they can hardly be separated, such as human capital formation having health (SDG3) and education (SDG4) aspects. But they are conventionally covered by different institutions.

ECONOMICS

# The Demography of Educational Attainment and Economic Growth

Complementing primary education with secondary education in broad segments of the population is likely to give a strong boost to economic growth.

Wolfgang Lutz,<sup>1\*</sup> Jesus Crespo Cuaresma,<sup>2</sup> Warren Sanderson<sup>3</sup>

2015: Sustainable Development Goal 4:

.... *quality **primary and secondary** education  
for **all girls and boys** ....*

## ENVIRONMENT AND DEVELOPMENT

# *Universal education is key to enhanced climate adaptation*

Fund more educators rather than just engineers

By Wolfgang Lutz, Raya Muttarak,  
Erich Striessnig\*

**O**ver the coming years, enormous amounts of money will likely be spent on adaptation to climate change. The international community recently made pledges of up to \$100 billion per year by 2020 for the Green Climate Fund. Judging from such climate finance to date, funding for large proj-

the best available information on the number of disasters and reported fatalities from around the world (5).

**EDUCATE FEMALES, REDUCE FATALITIES.** Because the literature on disaster vulnerability has conventionally emphasized economic growth while disregarding education, our statistical analysis focuses on the relative assessment of these two factors as measured by Gross Domestic Product (GDP)

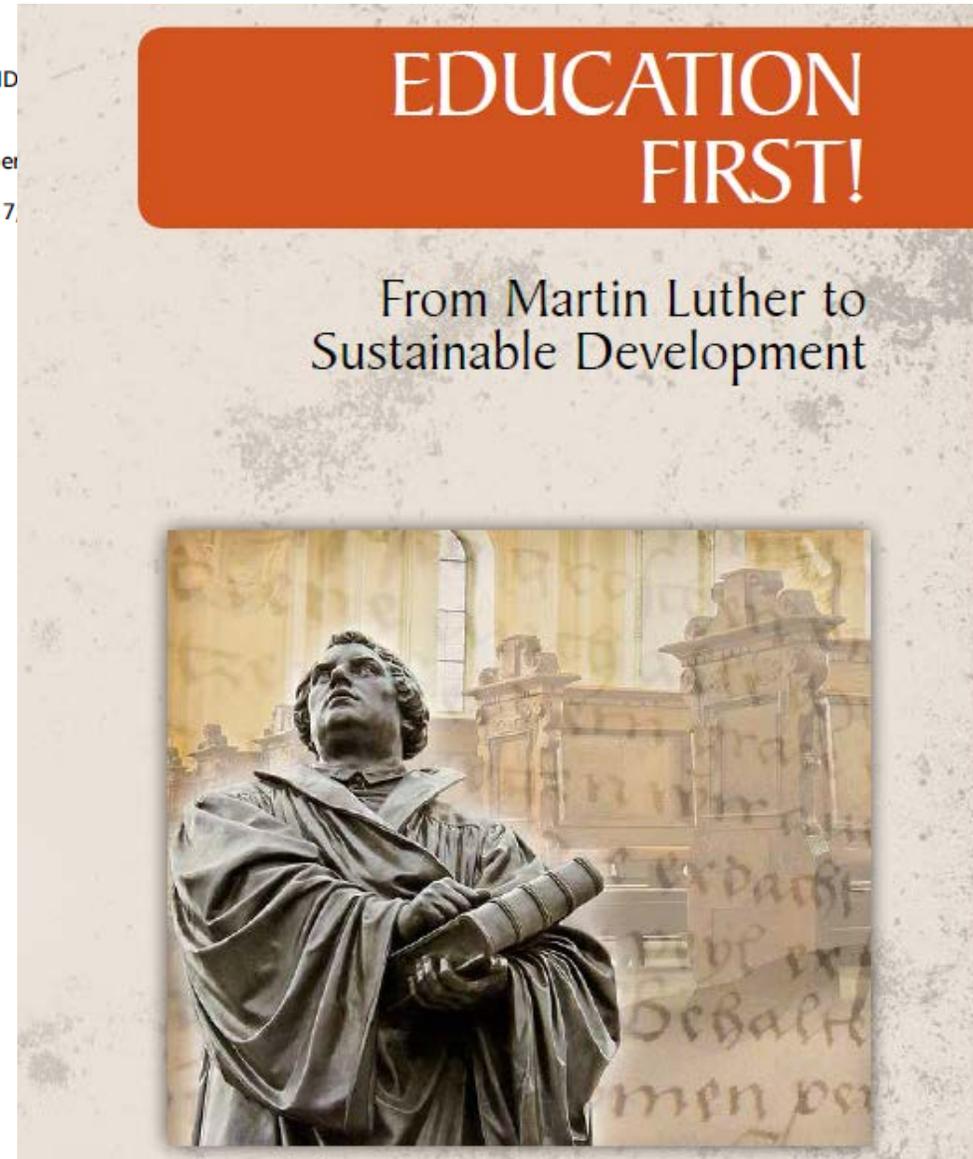
# Global Sustainable Development priorities 500 y after Luther: *Sola schola et sanitate*

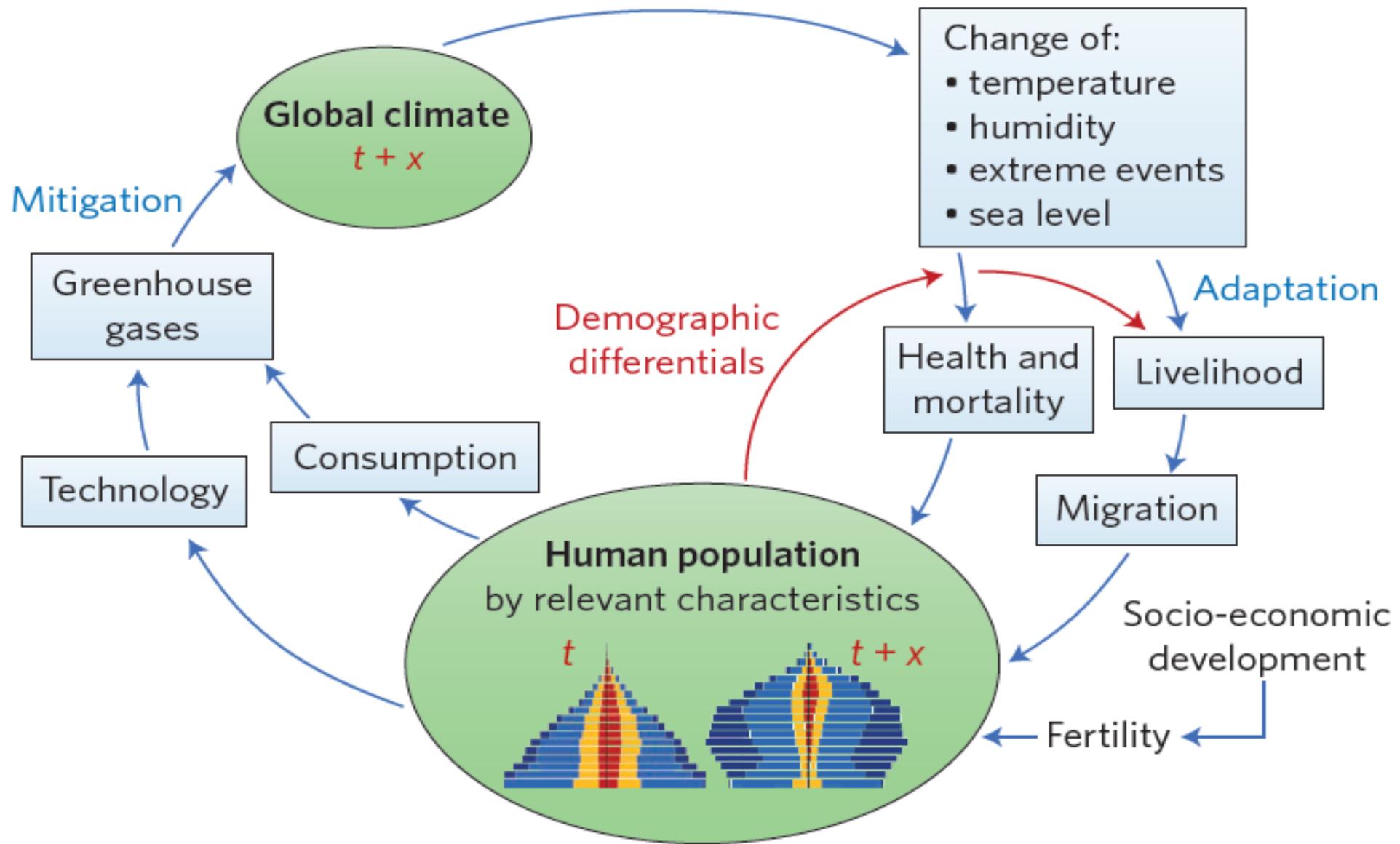
Wolfgang Lutz<sup>a,1</sup>

<sup>a</sup>Wittgenstein Centre for Demography and Global Human Capital (IIASA, VID Laxenburg, Austria)

This contribution is part of the special series of Inaugural Articles by members

Contributed by Wolfgang Lutz, May 23, 2017 (sent for review March 6, 2017)





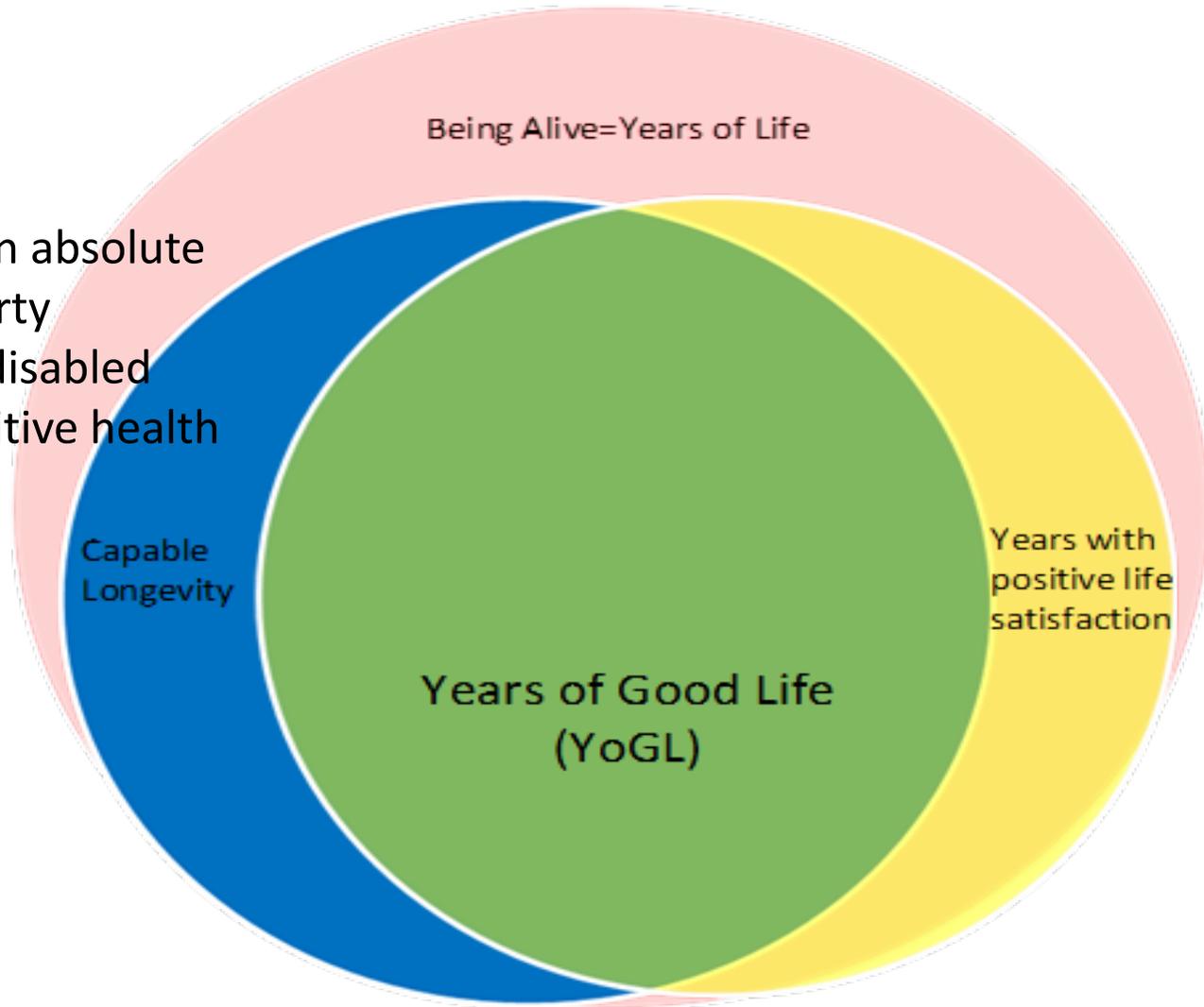
**Figure 1 | Circular link between human population and global climate systems.**

# YoGL: One Indicator for assessing Sustainable Human Wellbeing



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- Not in absolute poverty
- Not disabled
- cognitive health



Wellbeing Function in Sustainability Science

$$W = f(C_i, I, K)$$

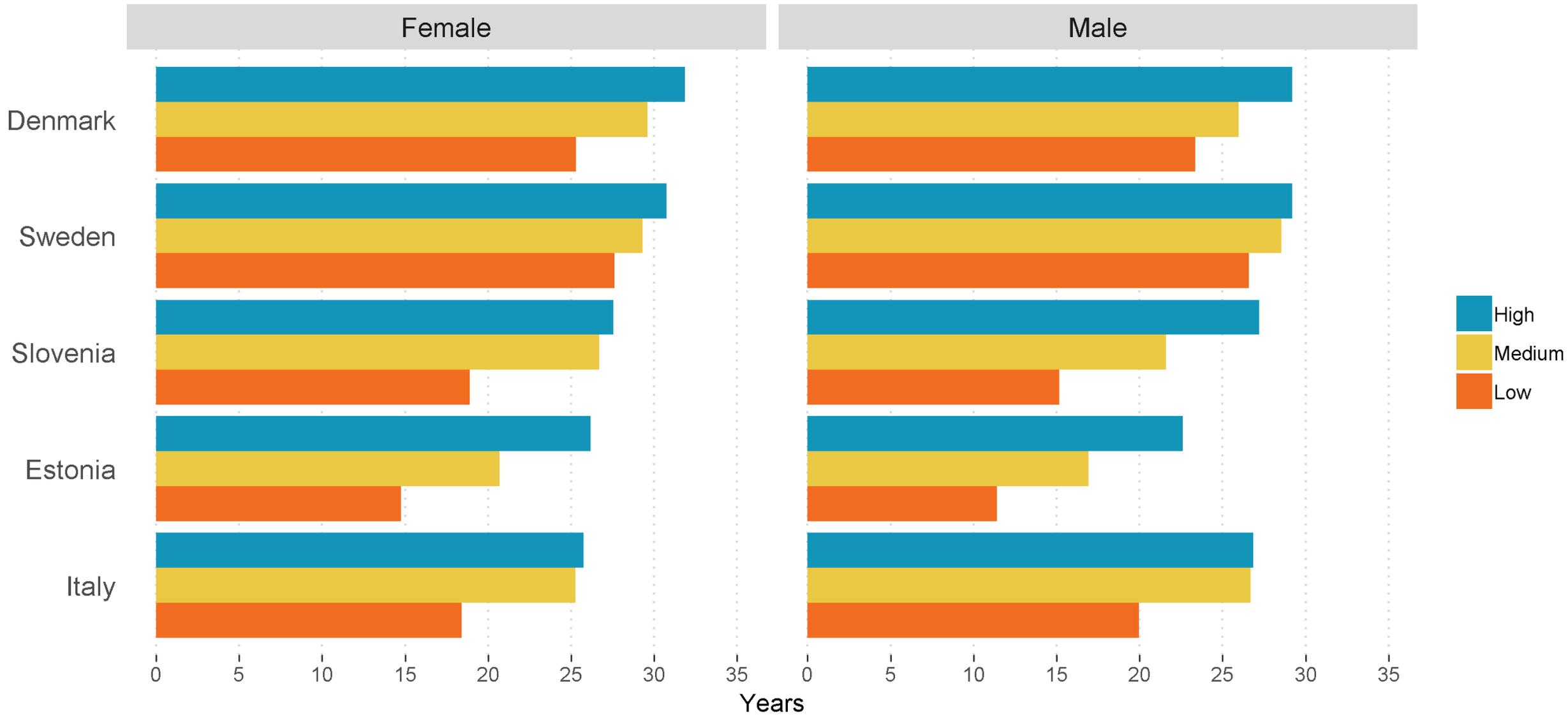
W is 'human well-being'

$C_i$  are capitals (manufactured, human and natural)

I is 'Institutions'

K is 'knowledge'

# YoGL at age 50 by level of education, 2013

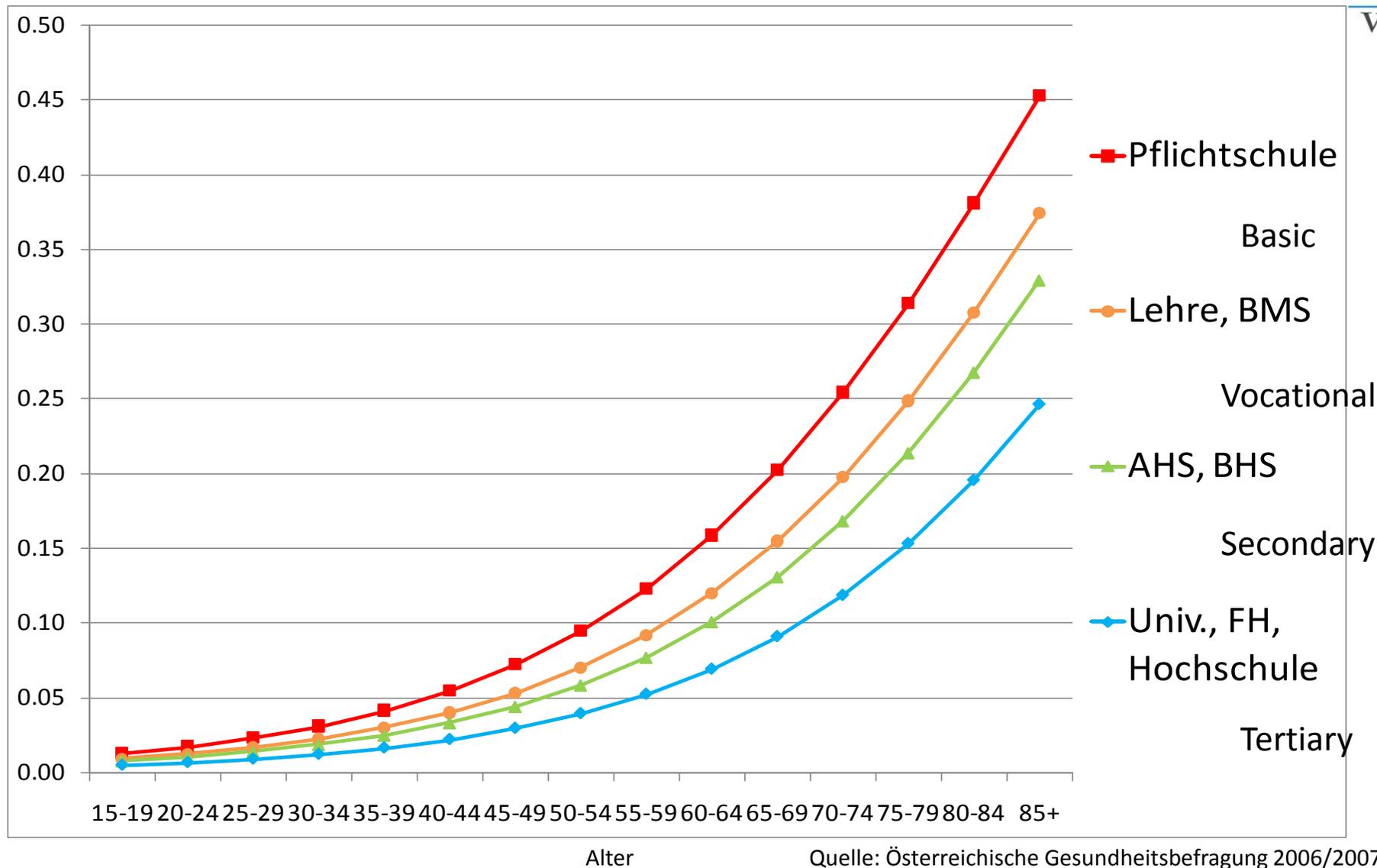


Data from SHARE and Eurostat.

# Education and Health: Austria 2007: Proportion of women with strong disability for activities of daily life (Daly)



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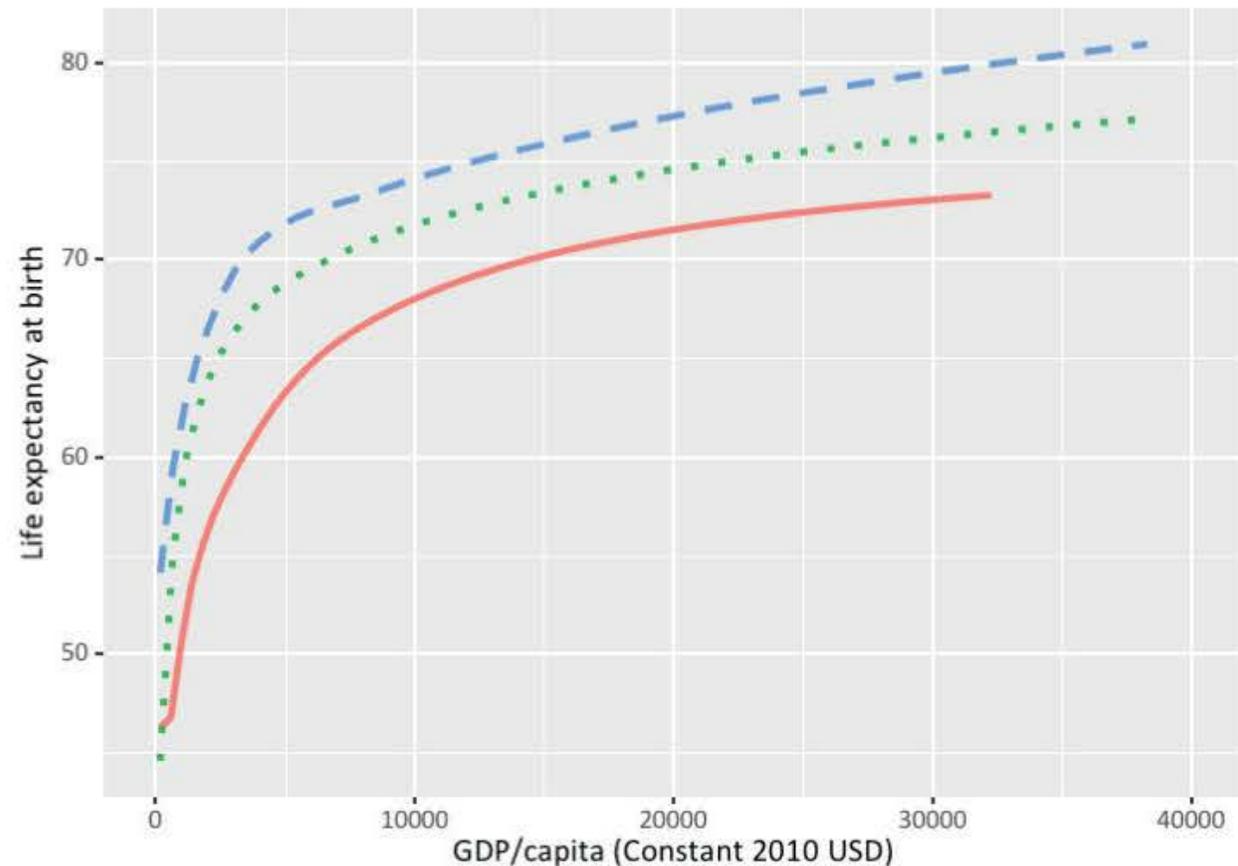


# Education matters more than income when it comes to survival and life expectancy

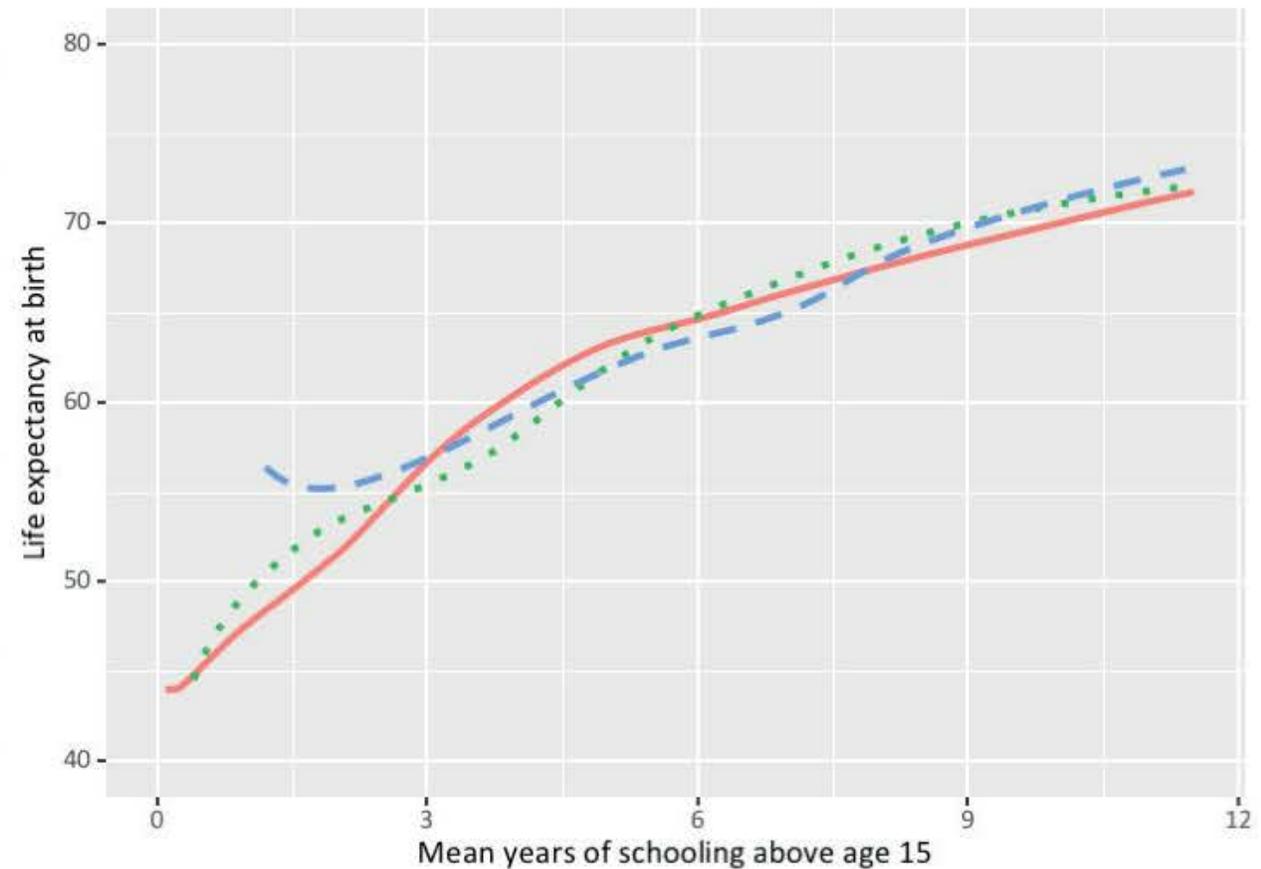


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(A). Income vs life expectancy at birth



(B). Education vs life expectancy at birth



year — 1970 — 1990 — 2010



**Life expectancy at birth has increased dramatically across**

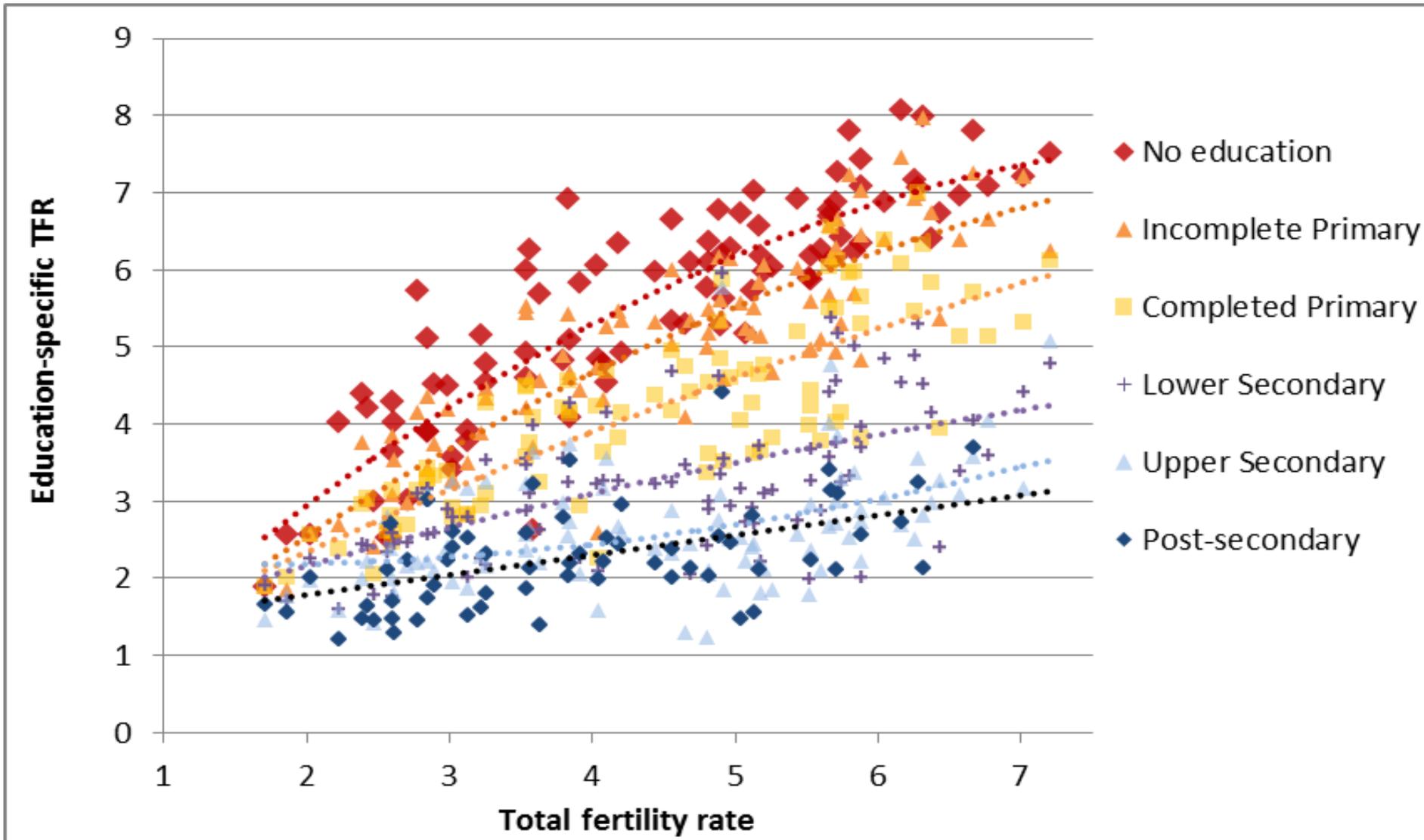
## When it comes to survival, mind matters more than money

- Setting policy priorities in both developing and industrialized countries is influenced by whether income or education is the most important underlying determinant of mortality decline. The answer matters for choosing between programs that directly promote income growth and



# Fertility by Level of Female Education

## 58 DHS countries (multiple time points)





REVIEW

# Global Human Capital: Integrating Education and Population

Wolfgang Lutz<sup>1,2,3,4\*</sup> and Samir KC<sup>1,2</sup>

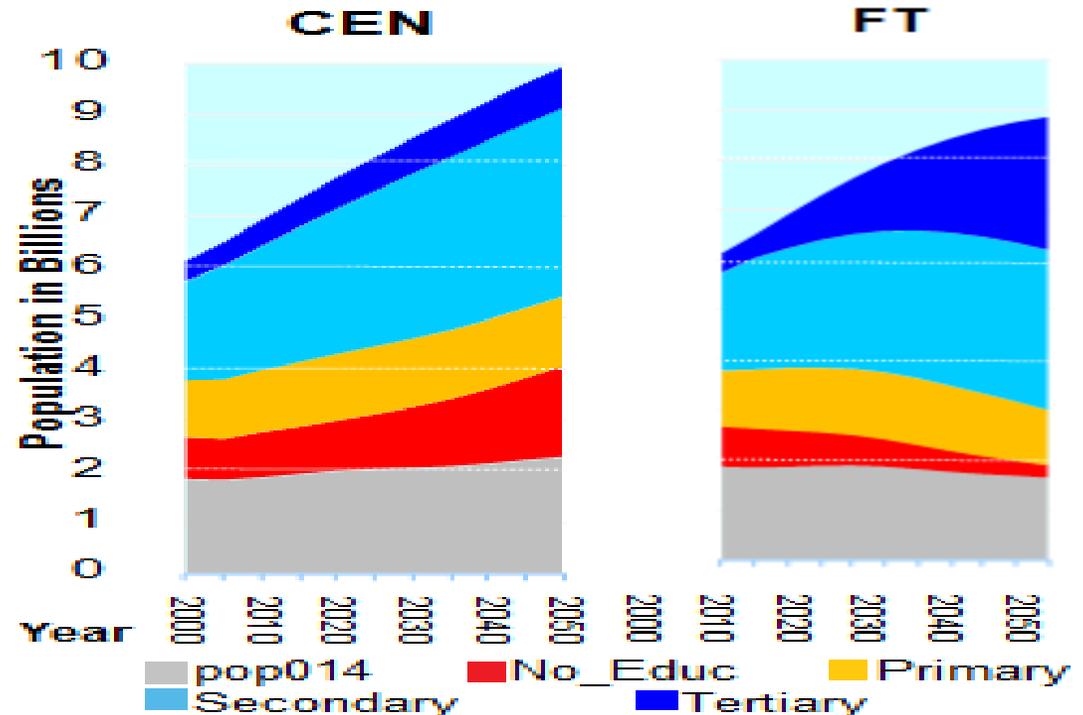
Almost universally, women with higher levels of education have fewer children. Better education is associated with lower mortality, better health, and different migration patterns. Hence, the global population outlook depends greatly on further progress in education, particularly of young women.



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Assuming identical education-specific fertility trends, different education scenarios make a difference of more than 1 billion people by 2050.

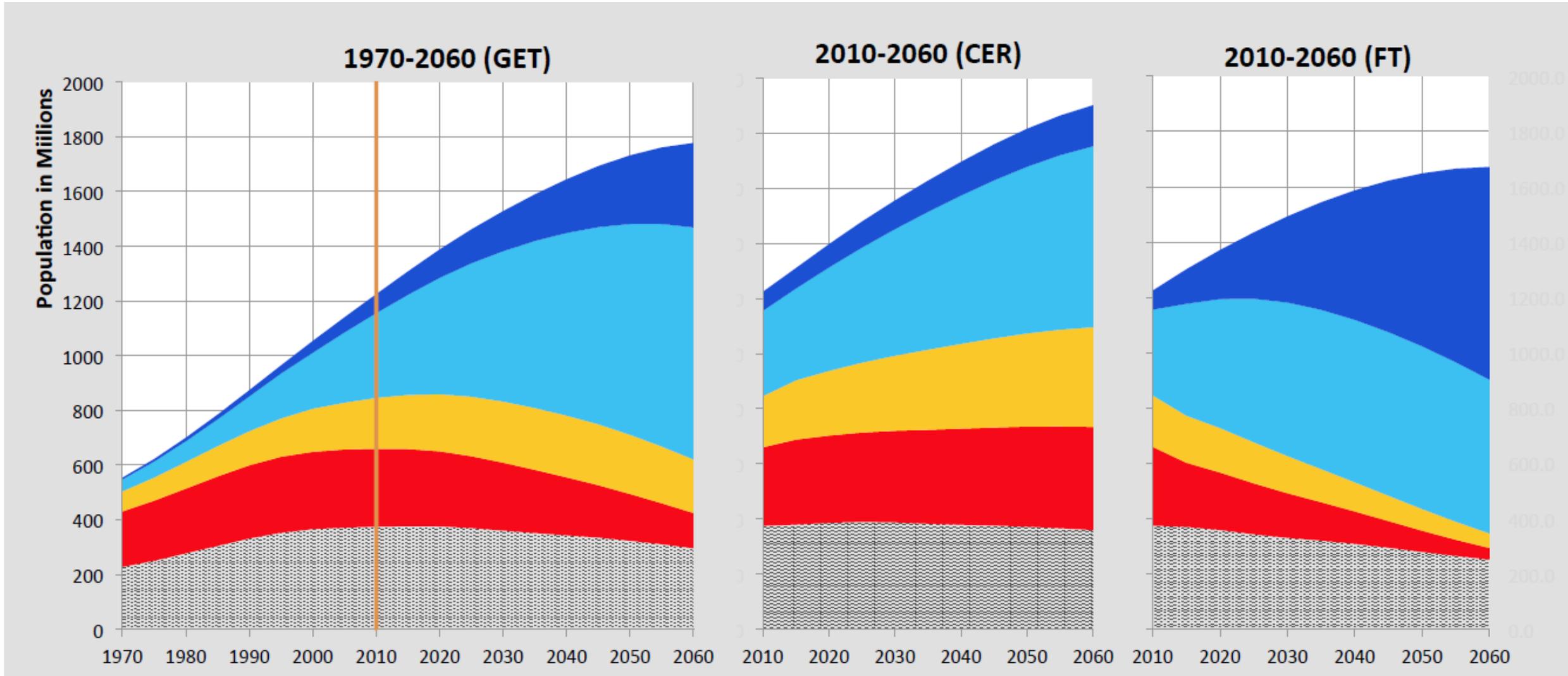
- CEN Constant Enrollment Numbers
- FT Fast Track Education Expansion



# India: Alternative Population and Human Capital Scenarios



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# Possible Role of Science Academies:

## Help in assessment of synergies/contradictions

## Focus on Brain Power for Sustainable Development



**Leopoldina**  
Nationale Akademie  
der Wissenschaften

Leopoldina Symposium

## Brain Power for Sustainable Development

The Cognitive Preconditions for a Successful Sustainability Transition

13 June 2018 | 9:30 am – 6:00 pm

Conference Center at the Federal Press Conference

Schiffbauerdamm 40, 10117 Berlin

[www.leopoldina.org](http://www.leopoldina.org)





Brainpower is needed for cutting-edge research and innovation to foster sustainable development

But brainpower of the total population also matters for appreciation of science and behavioral change

- Many solutions are on the table for low to no cost changes in behavior at level of individuals and societies
- But it does not happen (actually in some Western countries we are moving backwards)
- Something seems to be in our minds (brains) that keeps us from changing our behavior individually and collectively.



# Addressing the cognitive preconditions for behavioral transformations in society at large

- The Sustainability Transformation is compared to earlier transformations such as the Industrial Revolution.
- But: In the past we reacted to changing conditions/stimuli, now we have to act based on scientific models and conditions not yet fully experienced (climate change).
- This requires (following WBGU)
  - *Einsicht* (Insight)
  - *Voraussicht* (Foresight) and
  - *Umsicht* (Prudence)

All these are based on cognition which brings us back to the brain

# Global Sustainable Development Report 2019



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- Produced by a Group of 15 Independent Scientists appointed by the UN SG to present to HLPF in July and UN GA in September.
- Independent Scientific Report every four years, not negotiated with governments. **Science has more than just advisory function.**
- Highest expectations, very diverse group, no funding.
- Only rather general progress report (little new data for after 2015)



# In conclusion: What is new?

- Special section on the “Role of Science” and “**Sustainability Science**” (inter- and trans-disciplinary with a long-term systemic view and a strong policy orientation).
- Sustainability Science poses challenges for established Academia in the Global North and South.
- Reception of the report and the other SDG messages will crucially depend on communication **in a mediatized world.**