



Wittgenstein Centre

FOR DEMOGRAPHY AND
GLOBAL HUMAN CAPITAL

Demographic Differential Vulnerability to Natural Disasters in the Context of Climate Change Adaptation

William P. Butz

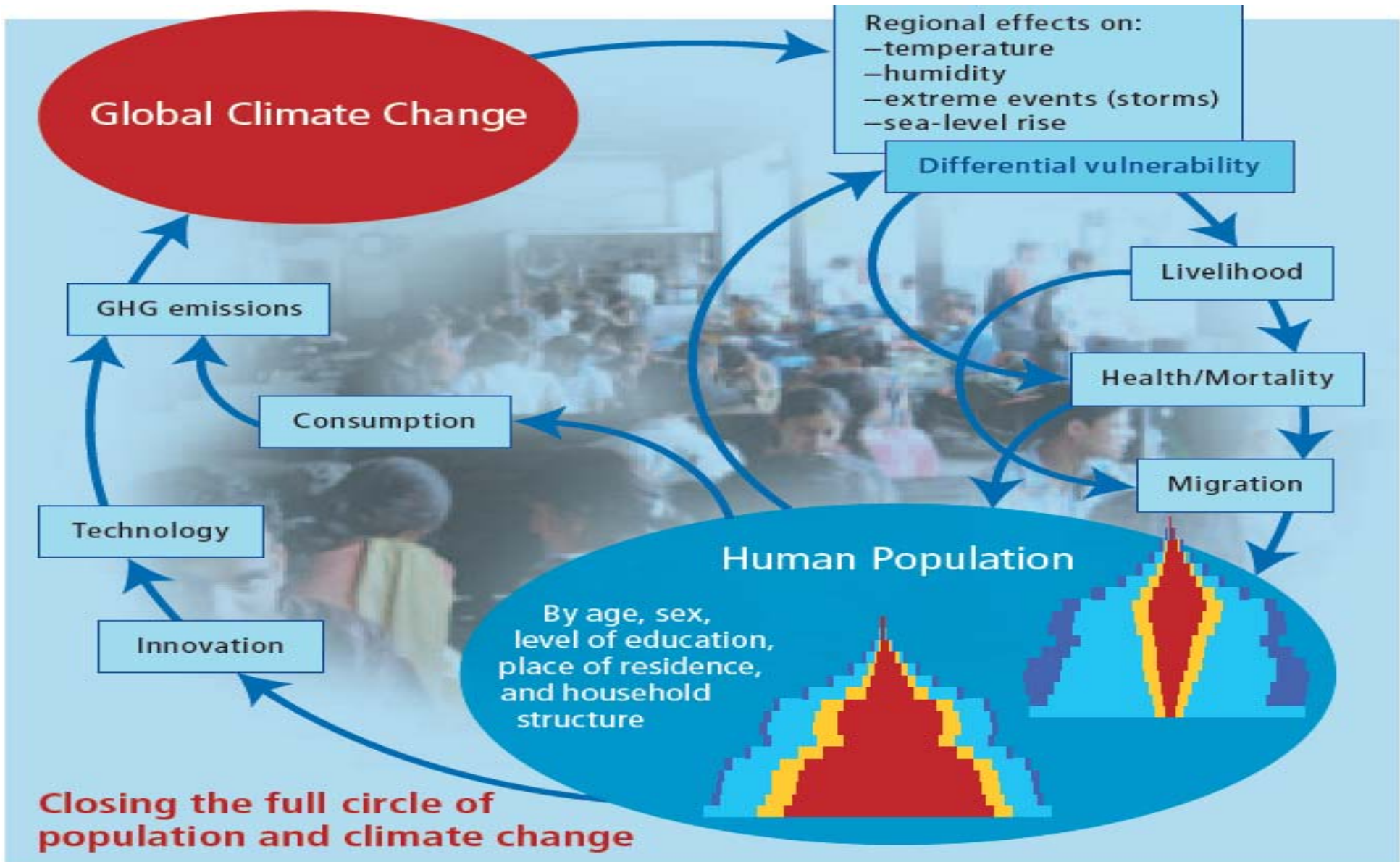
Presentation at Wilson Center

October 23, 2014



Take-Aways

- People with different characteristics, like age and sex, are vulnerable in different ways
- People's levels of education also makes a big difference
- Research knowledge about these “differential vulnerabilities” exists and policy choices should reflect this knowledge
- Many experts and a new data resource are available



Education and Differential Vulnerability to Natural Disasters

Guest Editors: William P. Butz, Wolfgang Lutz, Jan Sendzimir
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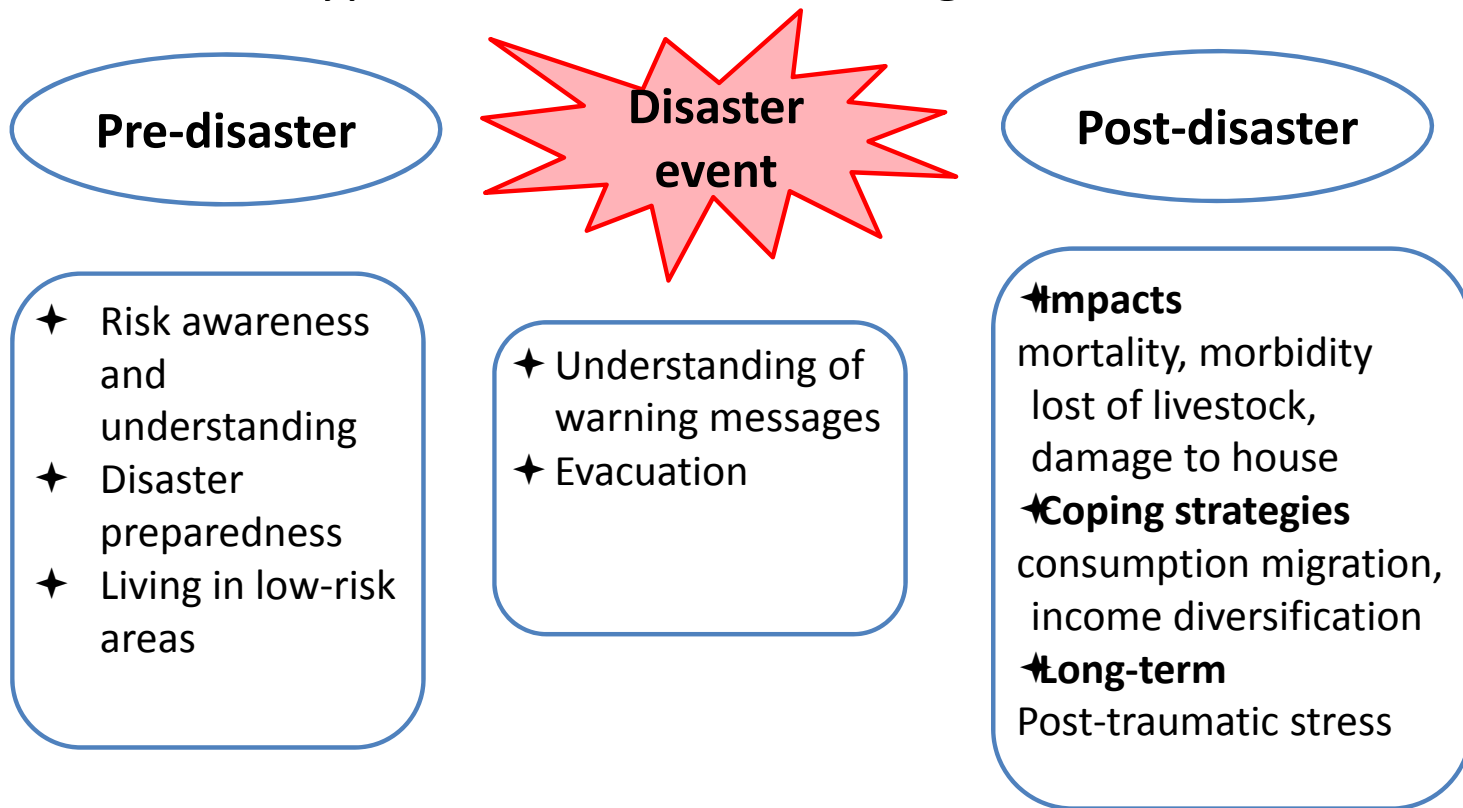
 International Institute for
Applied Systems Analysis
www.iiasa.ac.at

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A PROGRAMME OF ICAI, YU-ICM, ICM

Ecology and Society

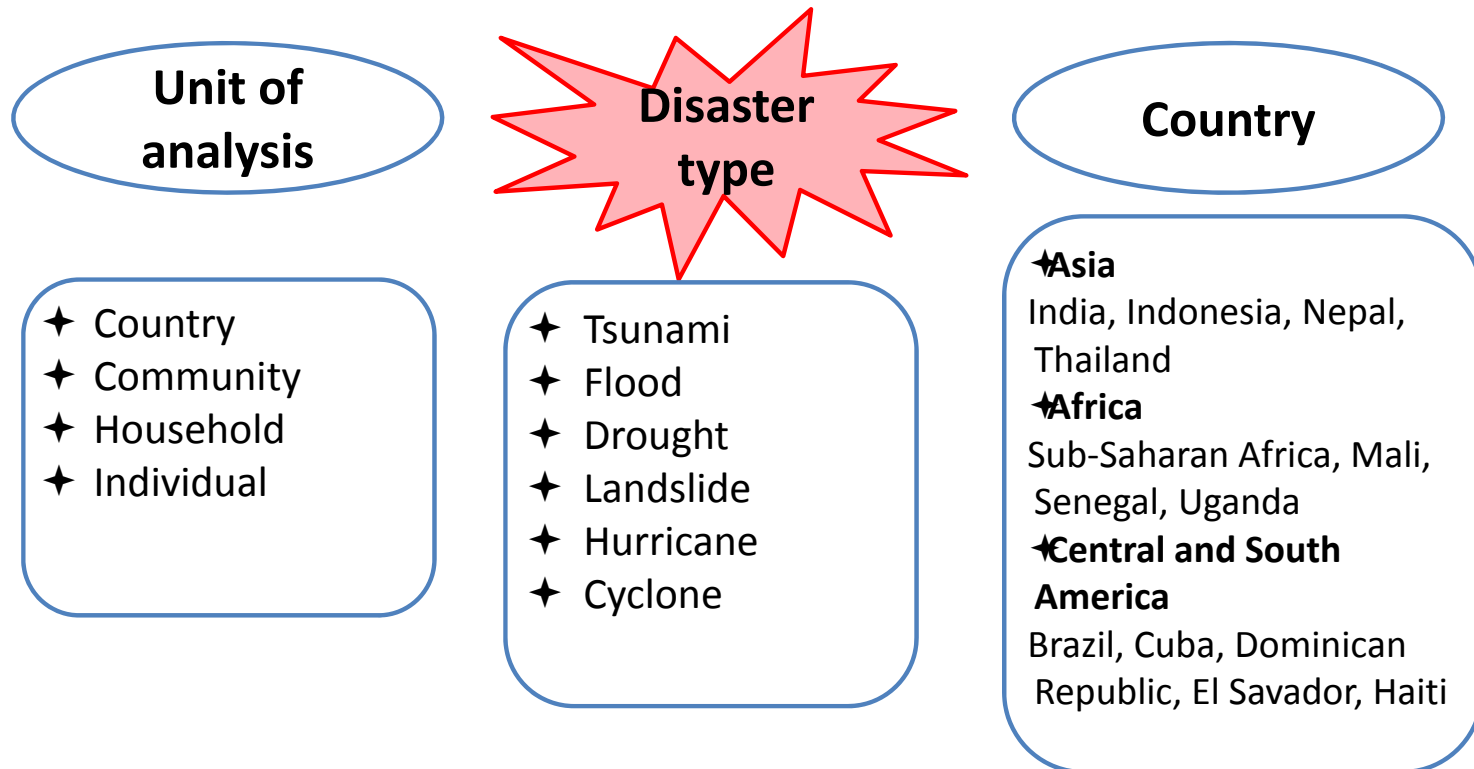
 E&S

1. Various types of outcomes investigated





2. Empirical evidence from different world regions, types of disasters, units of analysis





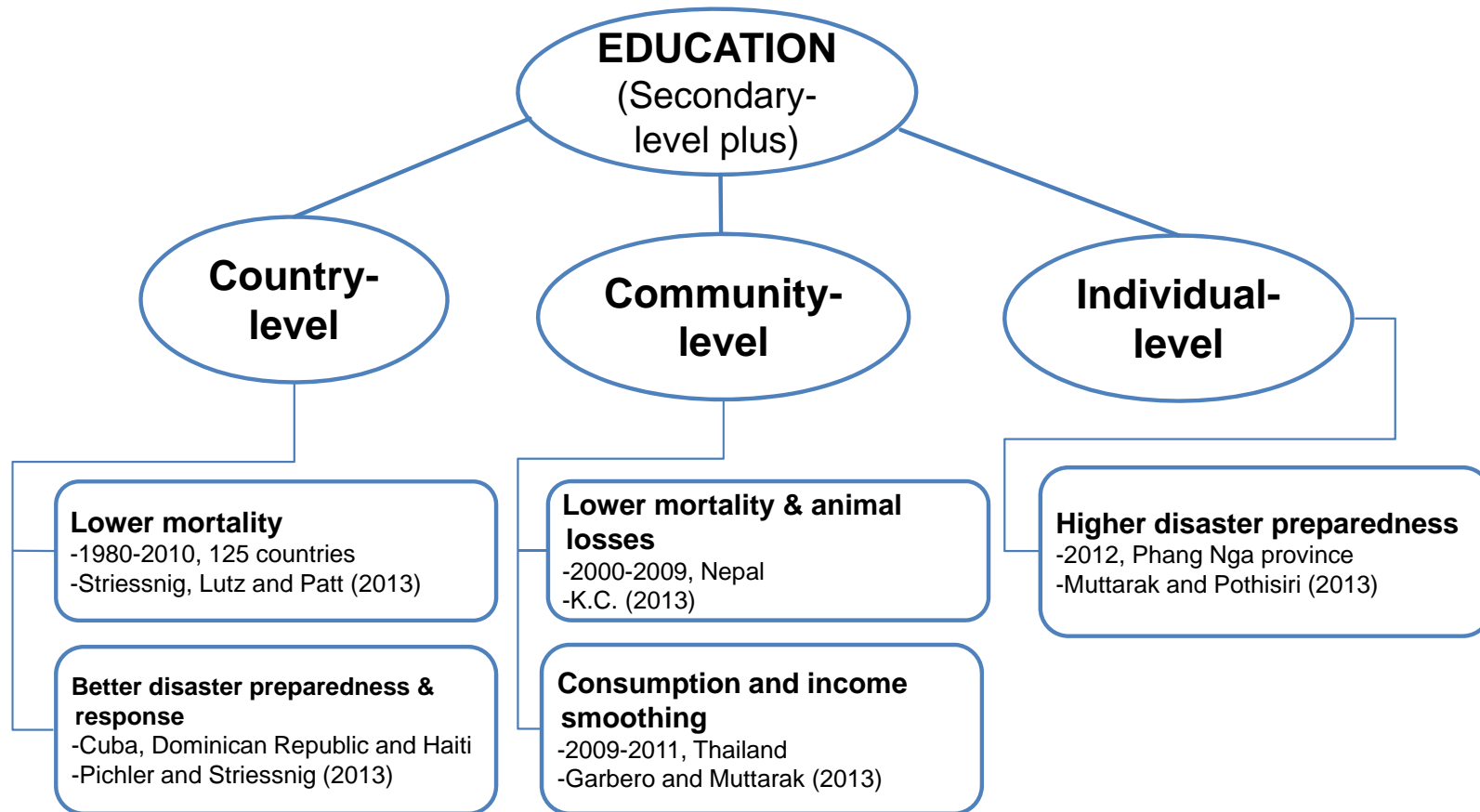
3. Evidence that formal education reduces vulnerability

Disaster mitigation

- ✦ Less likely to live in high risk areas
- ✦ Higher awareness and understanding of risk in community
- ✦ Better access to information
- ✦ Better disaster preparedness

Disaster impacts

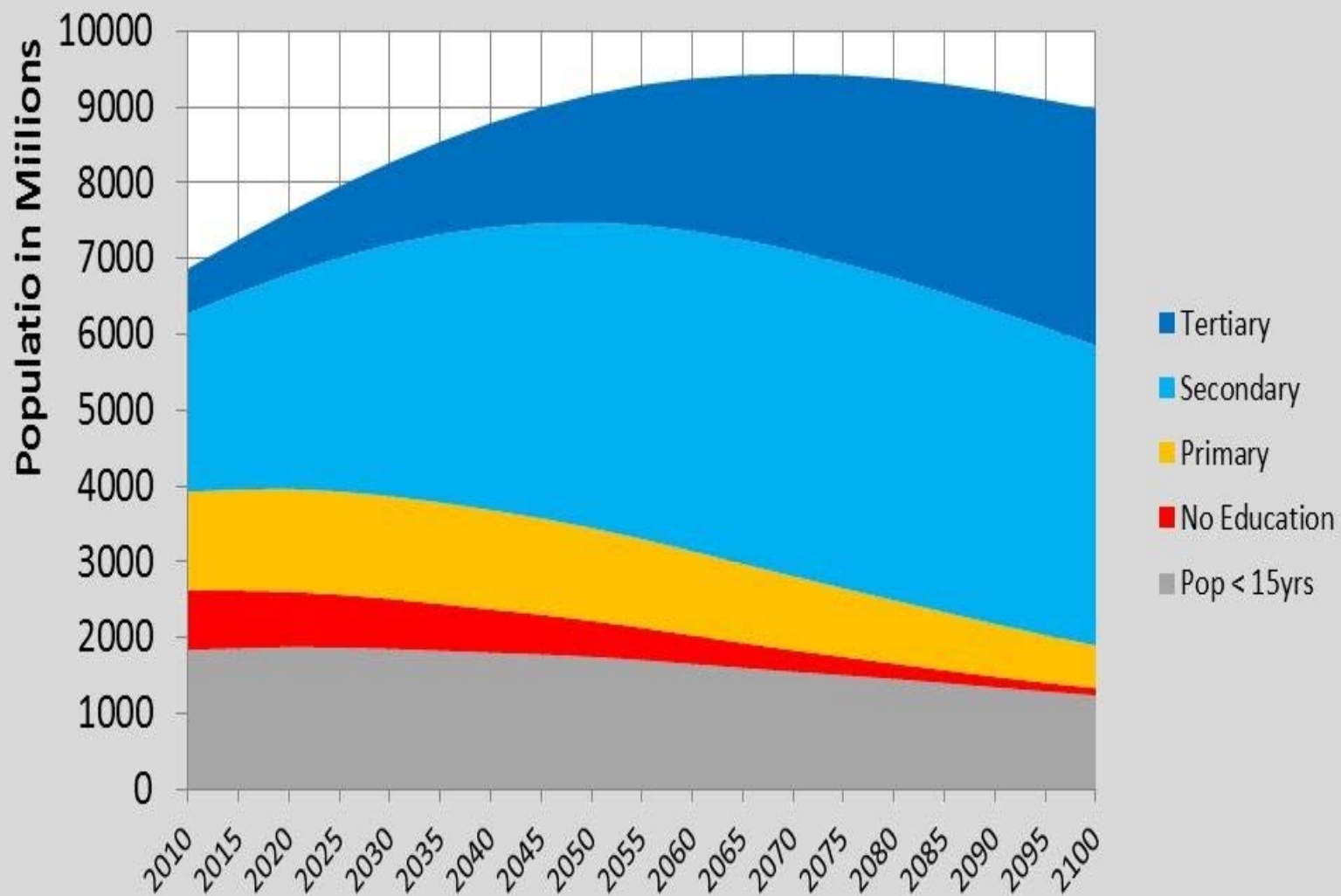
- ✦ Lower risk of mortality
- ✦ Lower incidence of malaria infection
- ✦ Lower loss of livestock
- ✦ Faster recovery from post-traumatic stress
- ✦ Less likely to be in temporary housing
- ✦ Less likely to involve in climatic-dependent economic activities → greater flexibility to diversify income-generating activities after disaster
- ✦ Less likely to adopt coping strategies that reduce human capital investment e.g. take children out of school



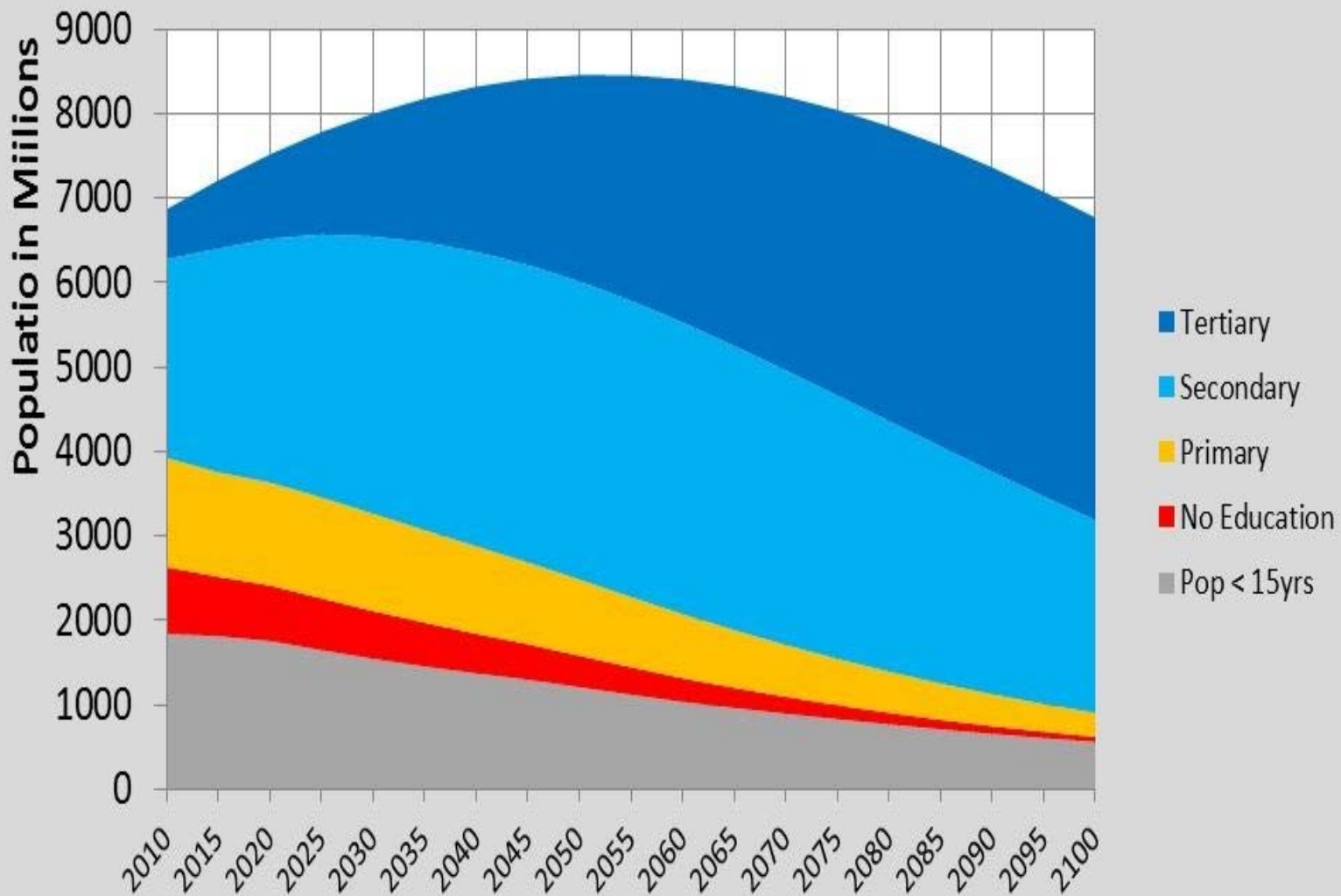
Data Explorer: A new resource

- Based on 500+ population experts' input
- Provides population projections for 195 countries
- Six scenarios of fertility, mortality, migration and education
- Graphical presentation
- Coordinated with IPCC assessments and with forthcoming book, *Population and Human Capital in the 21st Century*, OUP

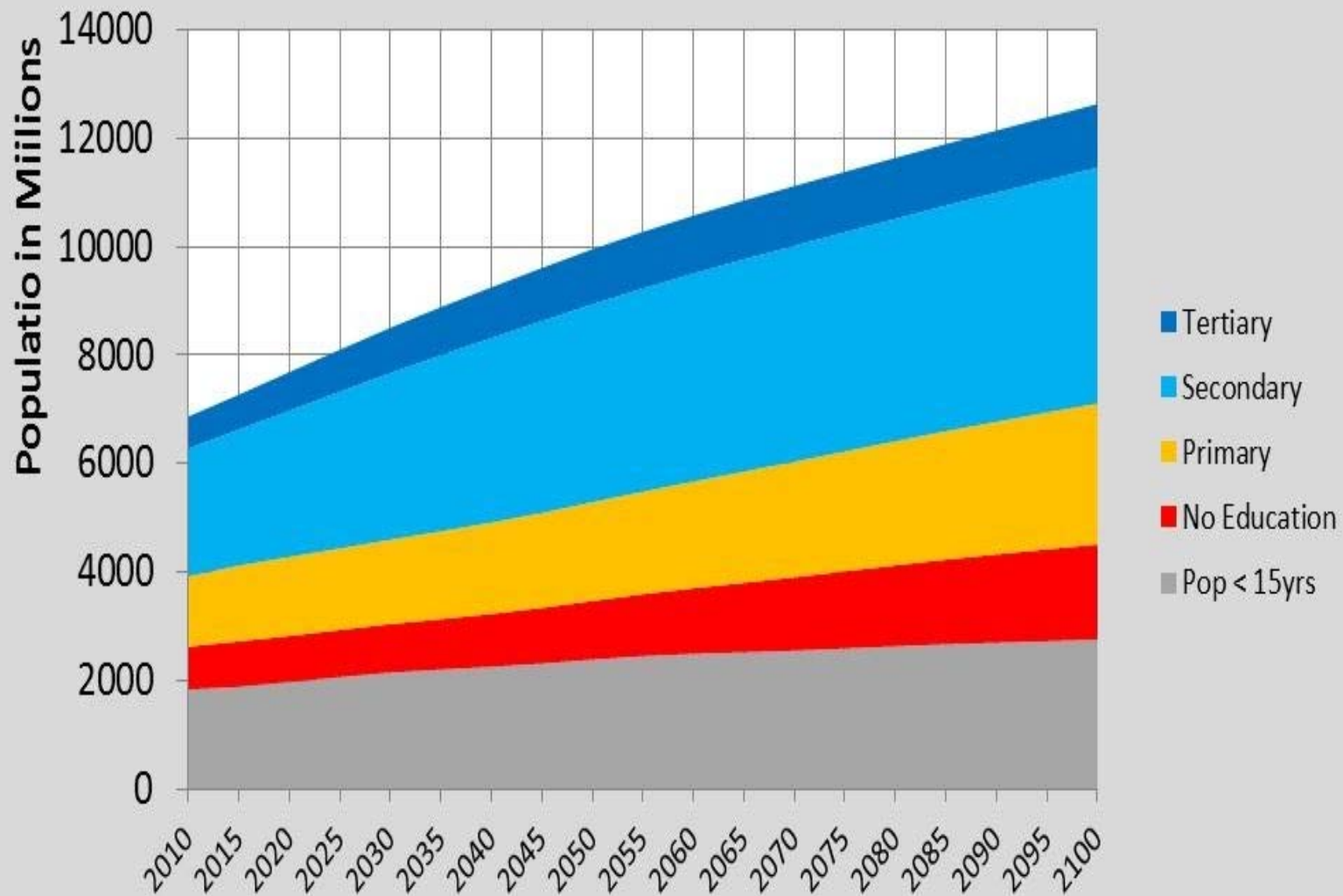
World SSP2



World SSP1



World SSP3



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Go-To's

- Special Issue of *Ecology and Society*, “Education and Differential Vulnerability to Natural Disasters”:

http://www.iiasa.ac.at/publication/more_RP-14-001.php

- IIASA's new Data Explorer resource:

<http://witt.null2.net/shiny/wittgensteincetredataexplorer/>

Population and Human Capital in the 21st Century, (ed. Lutz, Butz, and KC) Oxford University Press, 2014

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