



Addressing climate change and environmental challenges from a demographic perspective

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Wittgenstein Centre for Demography and Global Human Capital (Univ. Vienna, IIASA, VID/ÖAW)

Virtual expert group meeting

Population Division of the United Nations Department of Economic and Social Affairs

22 July 2021

Population impact on the climate

Source: vietnamnet.vn

Source: Dreastime.com

I = Human impact on the environment

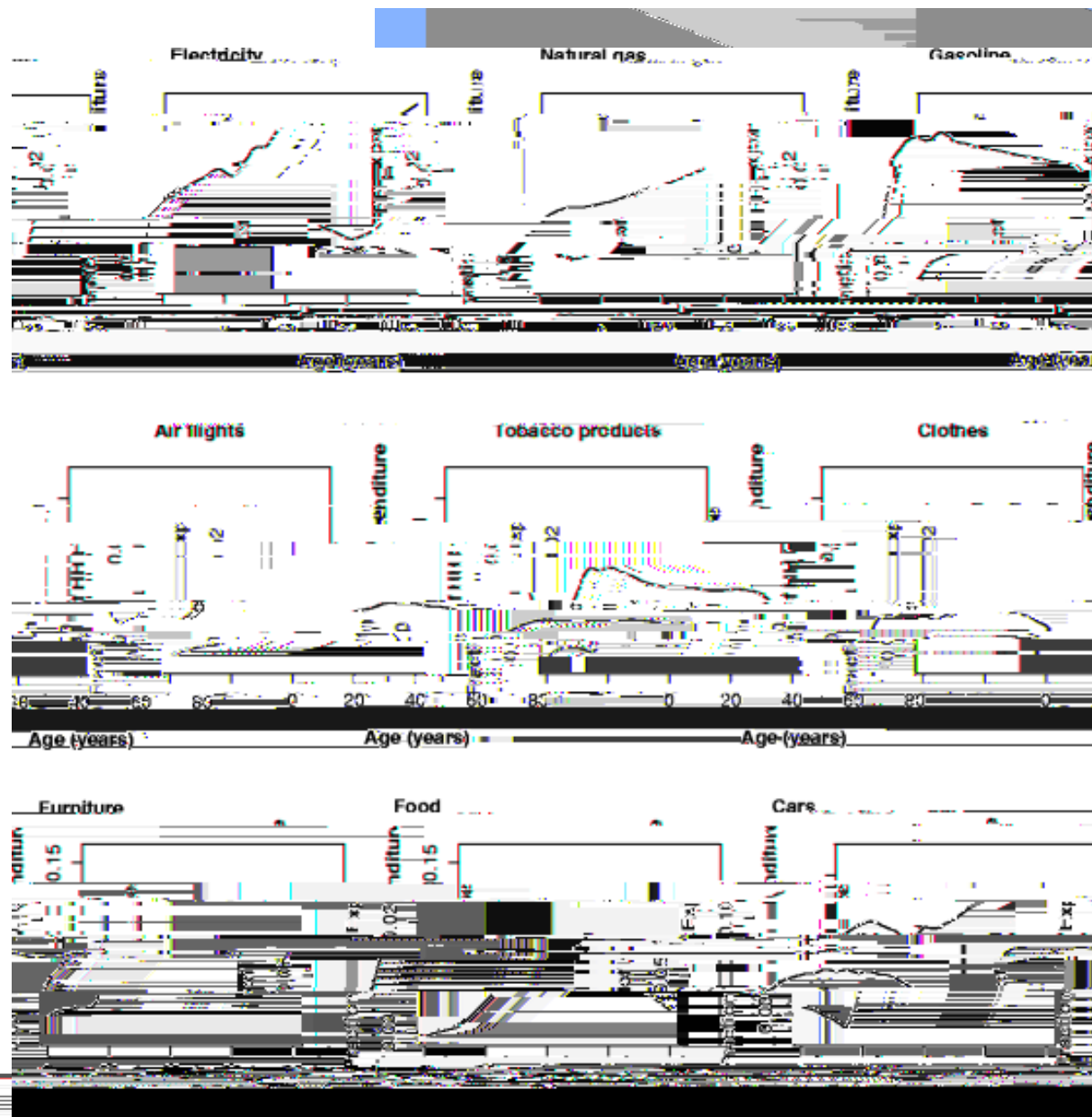
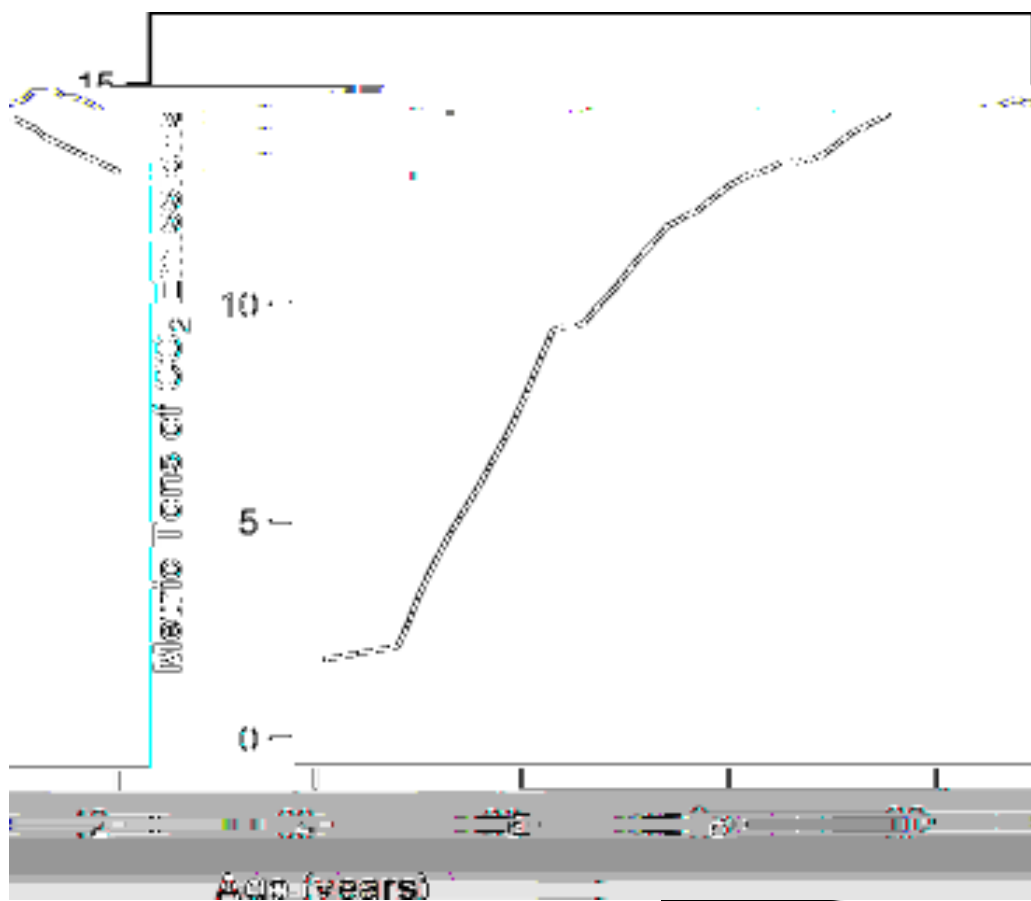
P = Population

A = Affluence (consumption per person)

T = Technology (impact per unit of consumption)

Demographic heterogeneity in consumption patterns

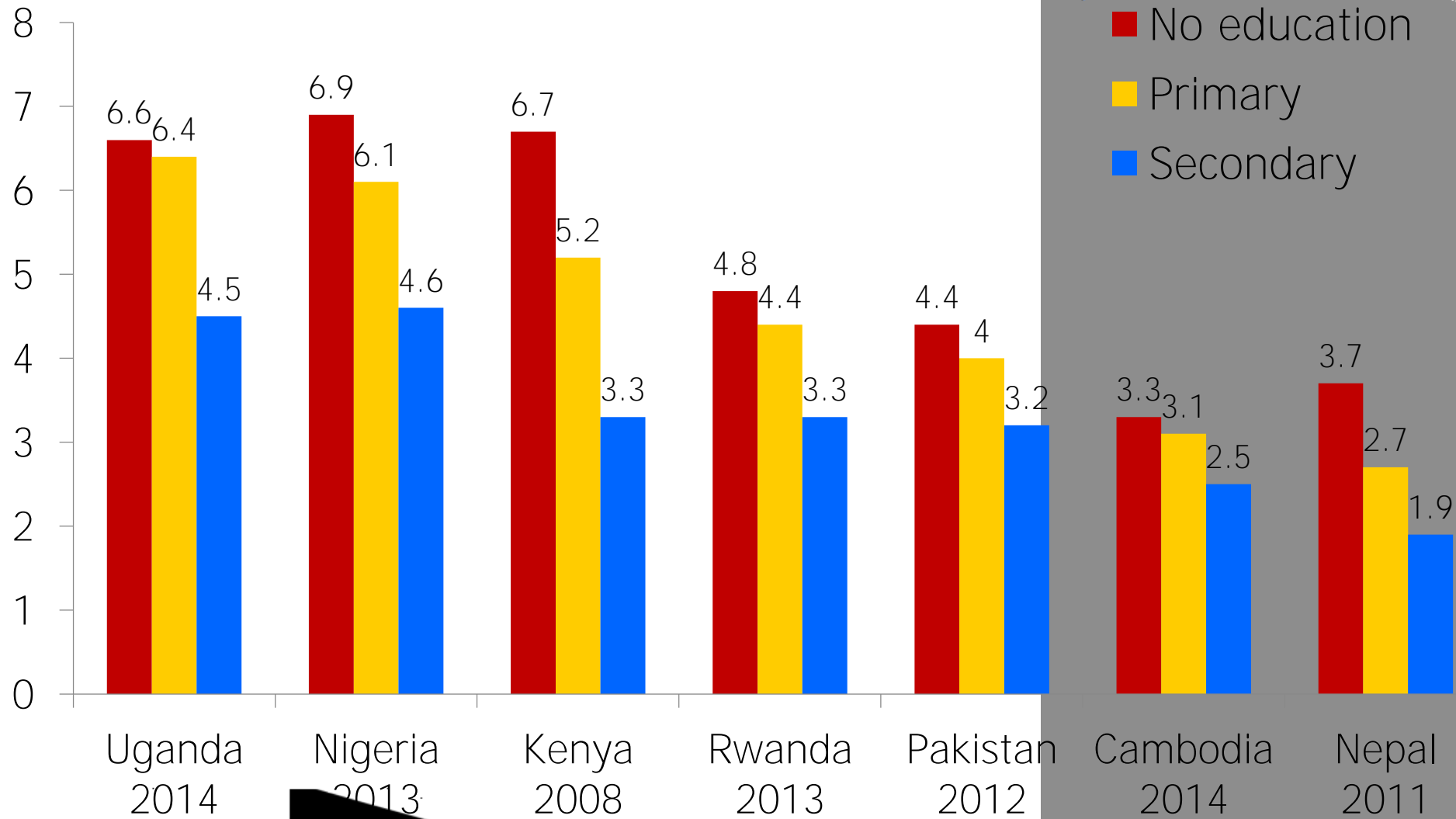
Estimated profile of per-capita CO2 emissions by age



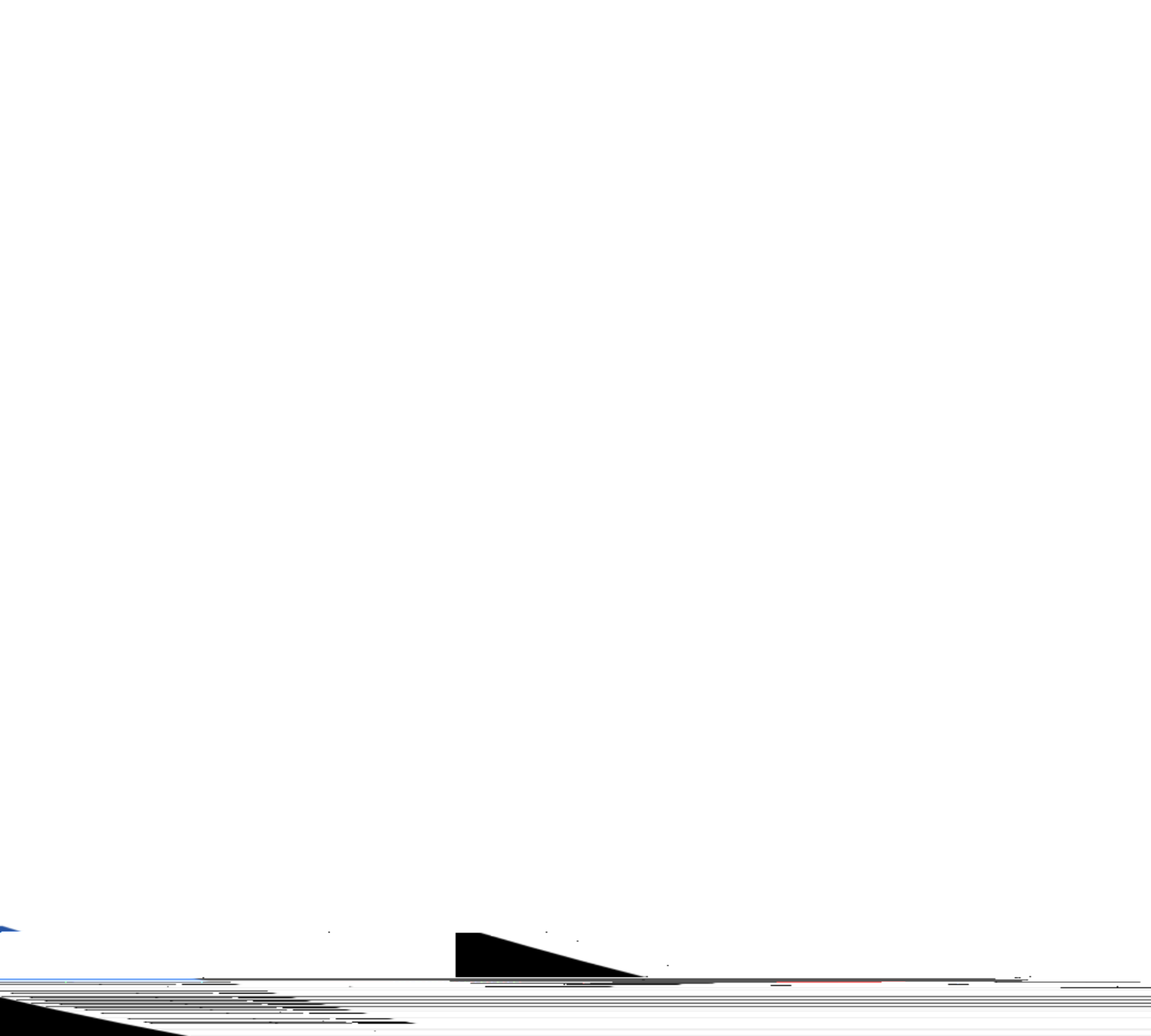
Education as another source of demographic heterogeneity Education as



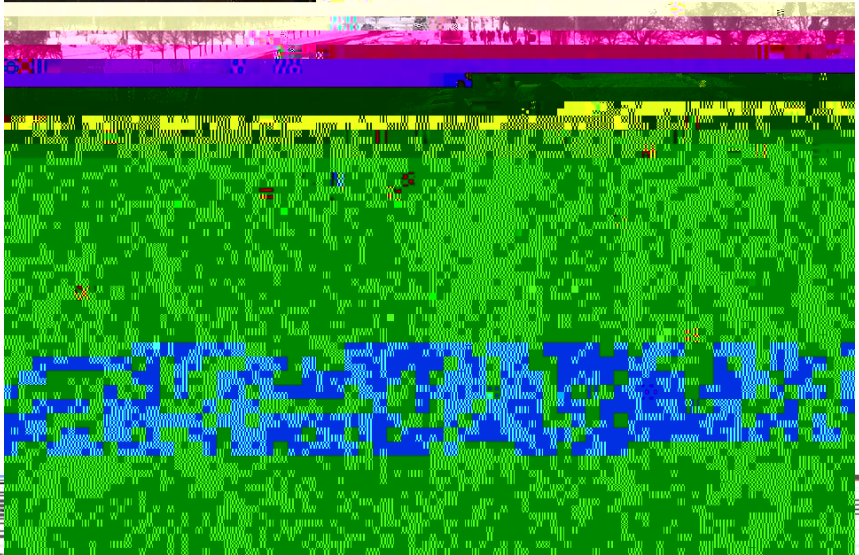
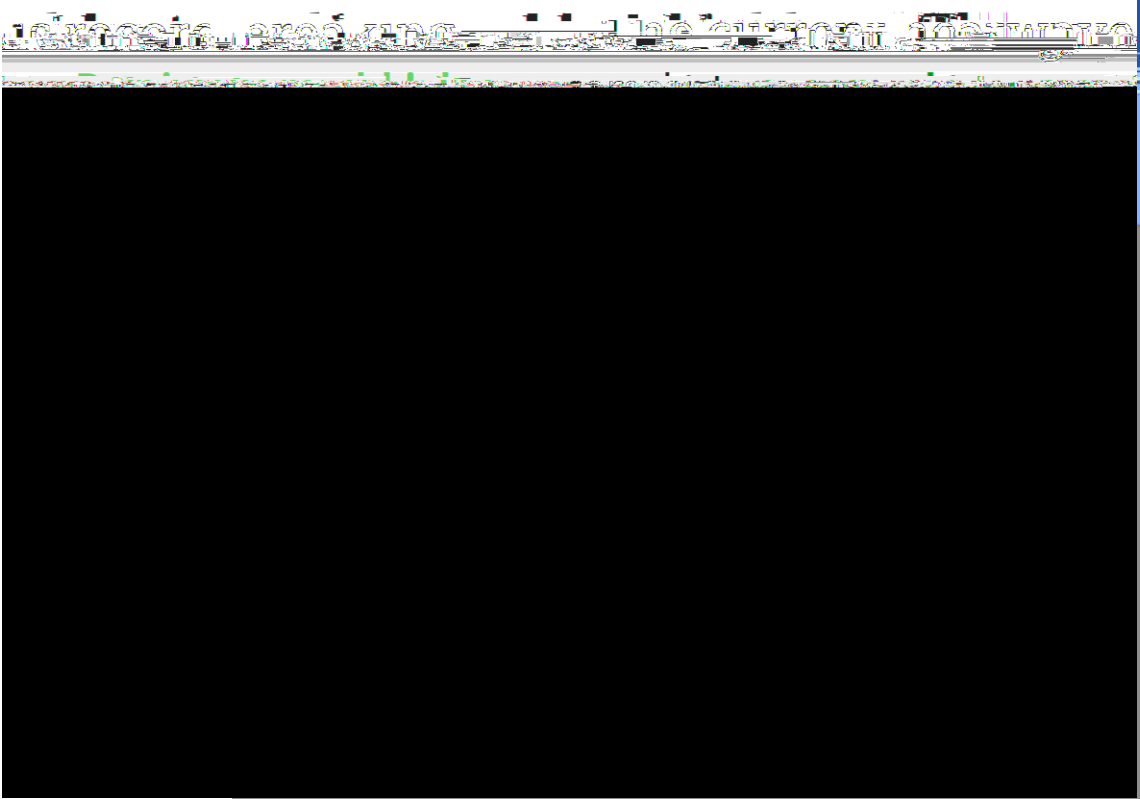
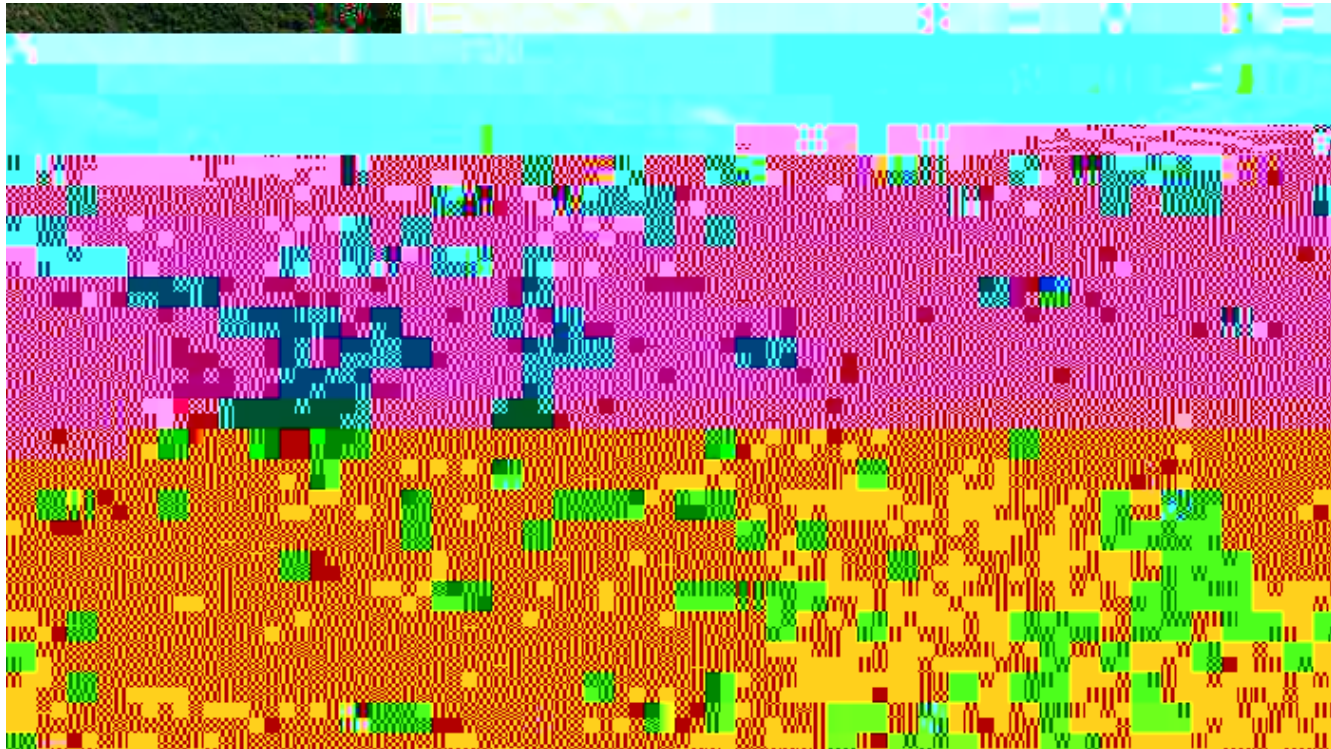
Future population size depends on fertility patterns



Source:
Demographic
and Health
Surveys



Impact of climate change on population

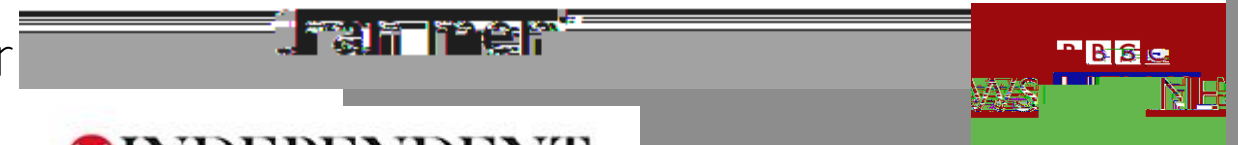


Impact of climate change is not distributed evenly

refers to differential impacts of natural disasters or climate change on different subgroups of population (Muttarak, Lutz and Jiang 2016)



Climate change impacts women more



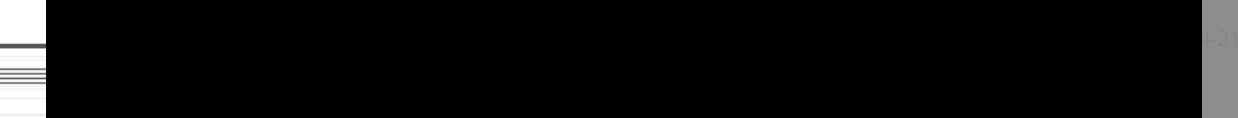
INDEPENDENT

offering from are most at risk of



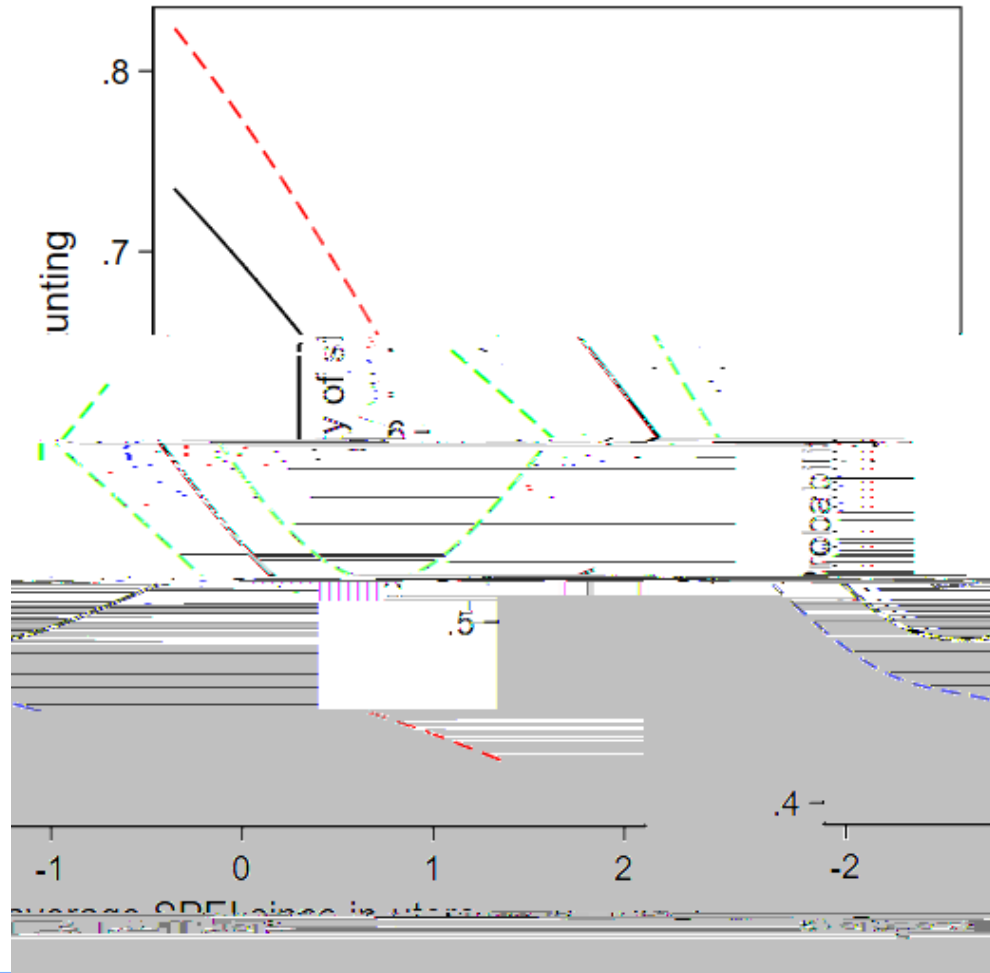
SCIENTIFIC AMERICAN

WORLD AGING

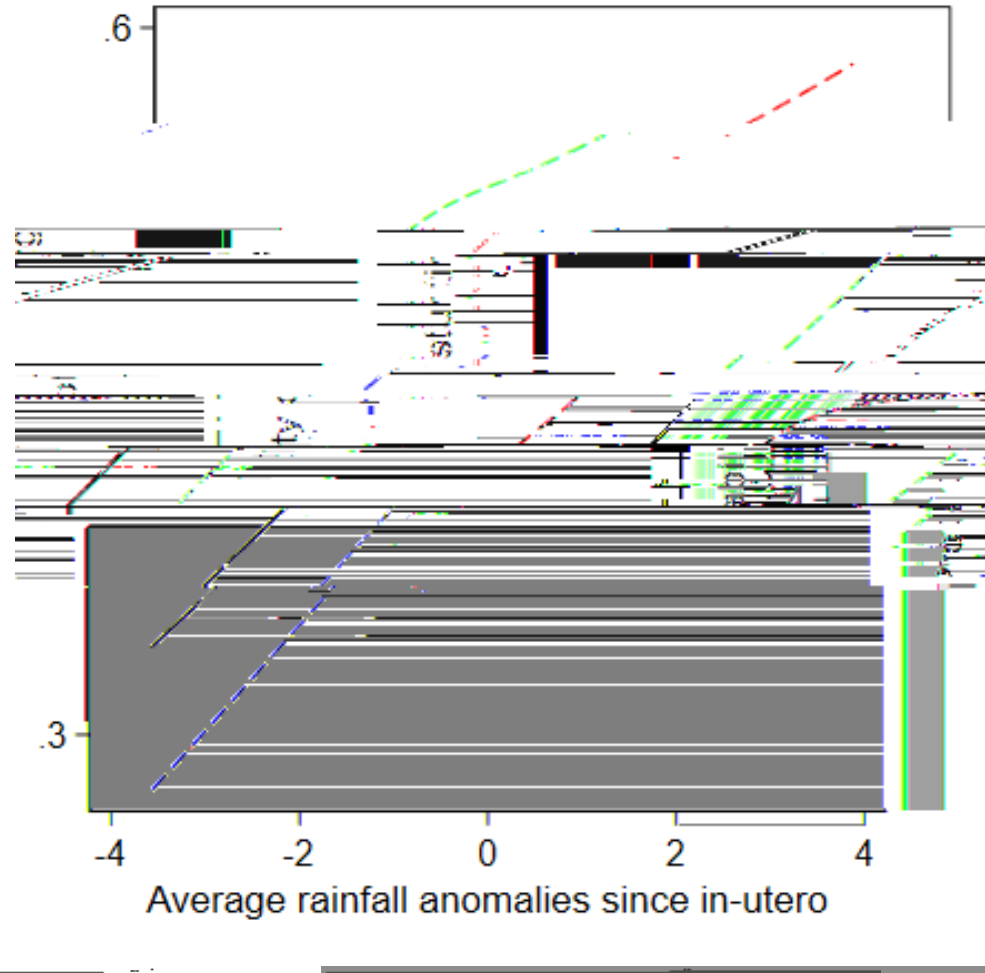


Impacts of climate variability on stunting (children aged <5)

Ethiopia



India



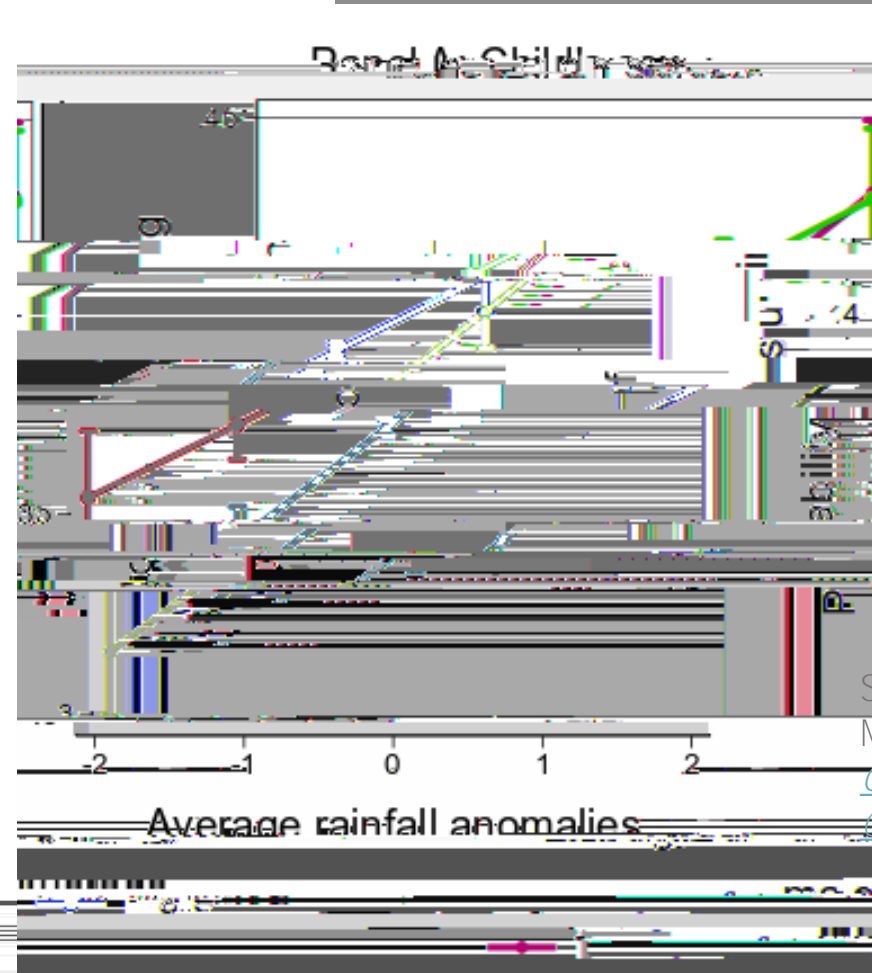
Does the effects of climate anomalies on child undernutrition differ between boys and girls?

Ethiopia

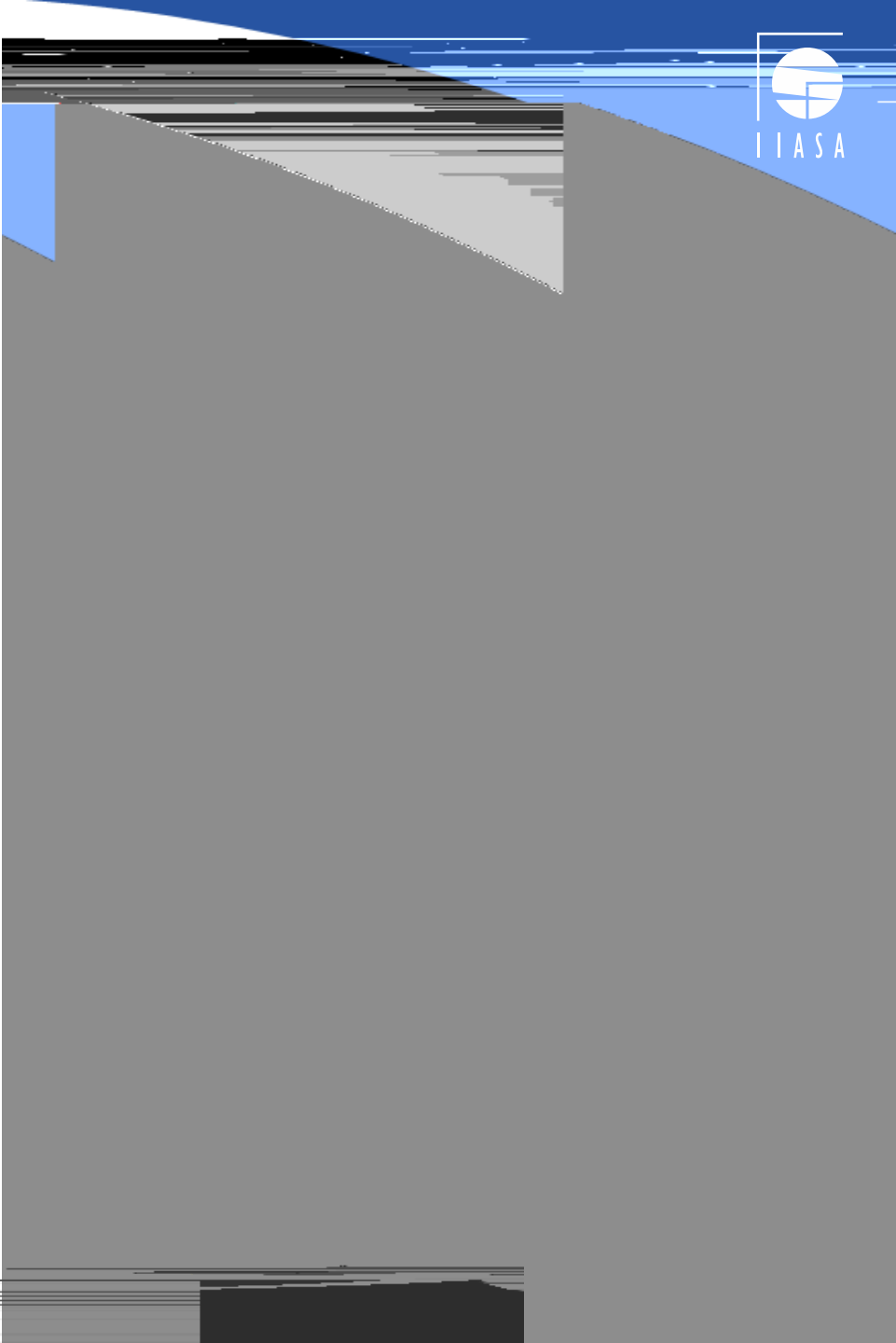
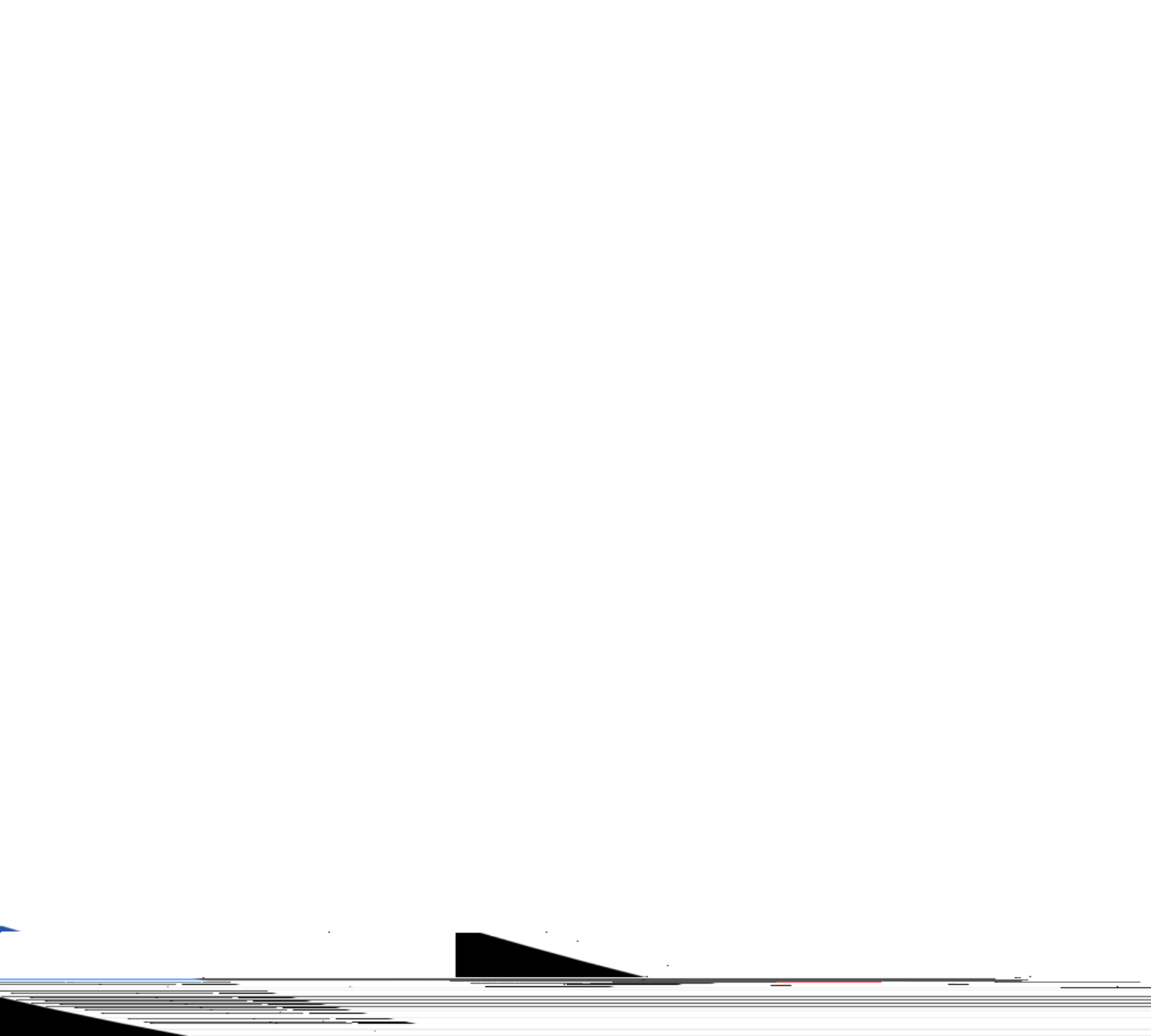


Source: Dimitrova, A. 2021. [World Development](#).

India



Source: Dimitrova, A. & Mutarak, R. 2020. [Global Environmental Change](#).



Effects of rainfall anomalies on childhood stunting in India

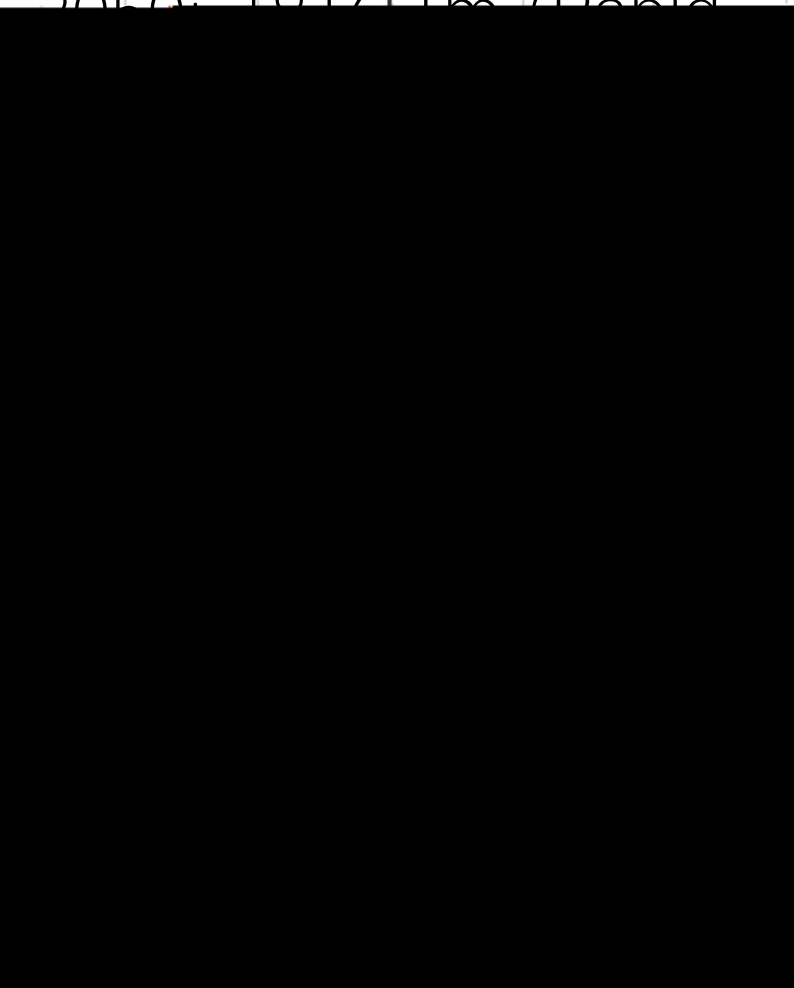
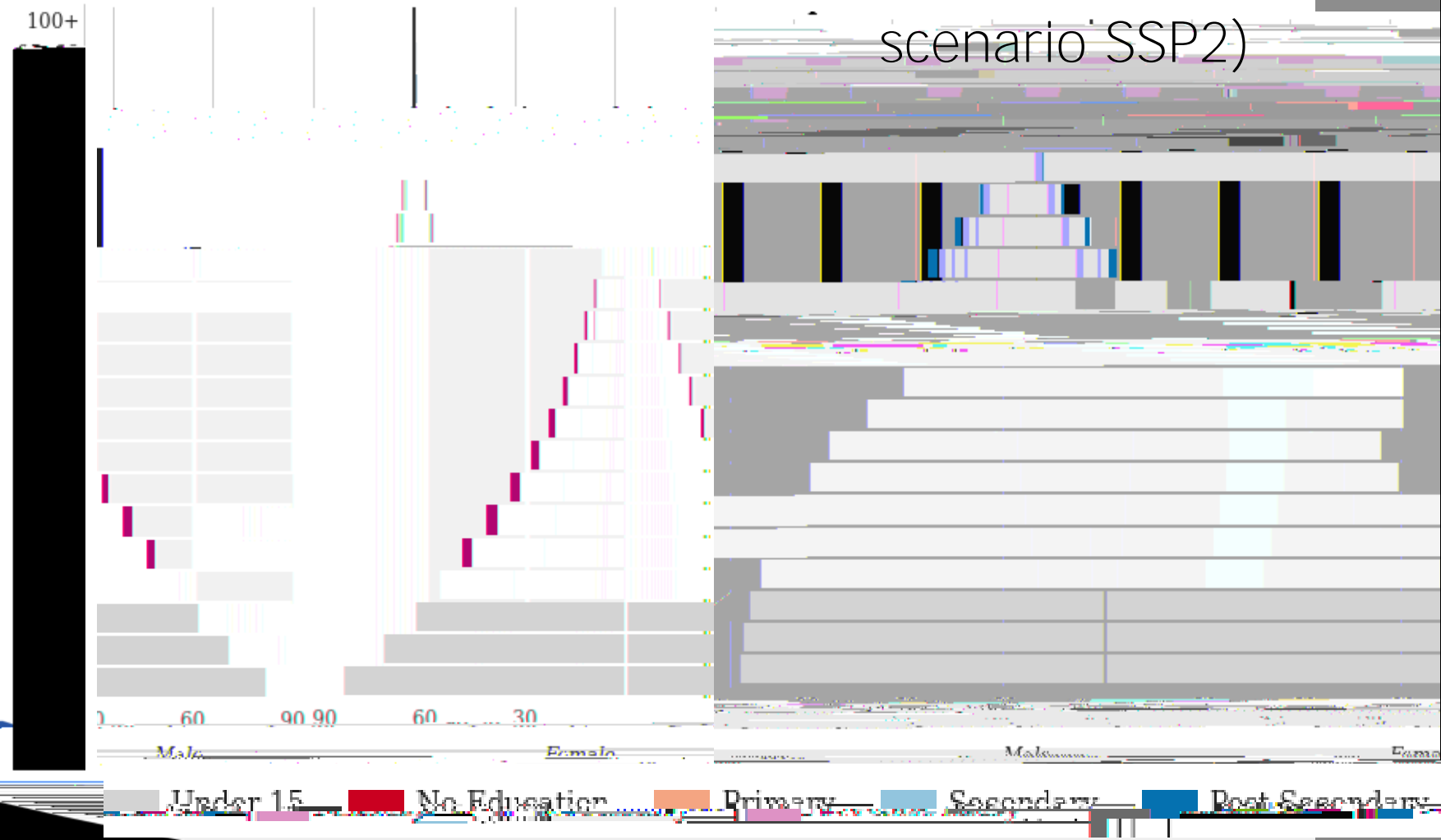
Future population composition matters

Wittgenstein Centre (WIC) population projections: Africa

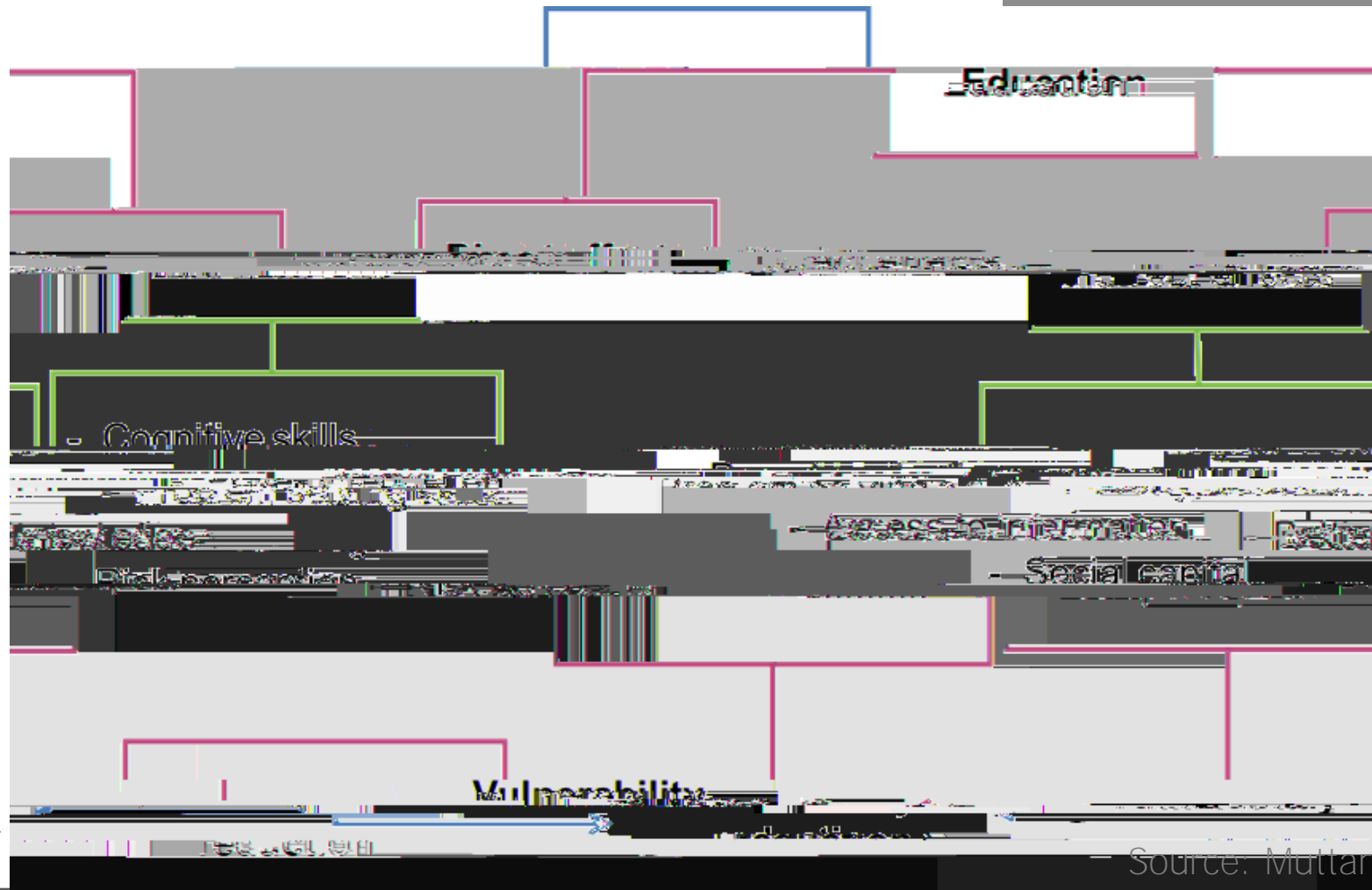
2010: 1050.7m

2050: 2254.2m (Medium scenario SSP2)

2050: 1914.1m (David)



How education contributes to vulnerability reduction



Source: Muttarak, R. & Lutz, W.
2014. *Ecology & Society*.