


Institute for Advanced Sustainability Studies
IASS in Potsdam

GLOBALE LANDNUTZUNG

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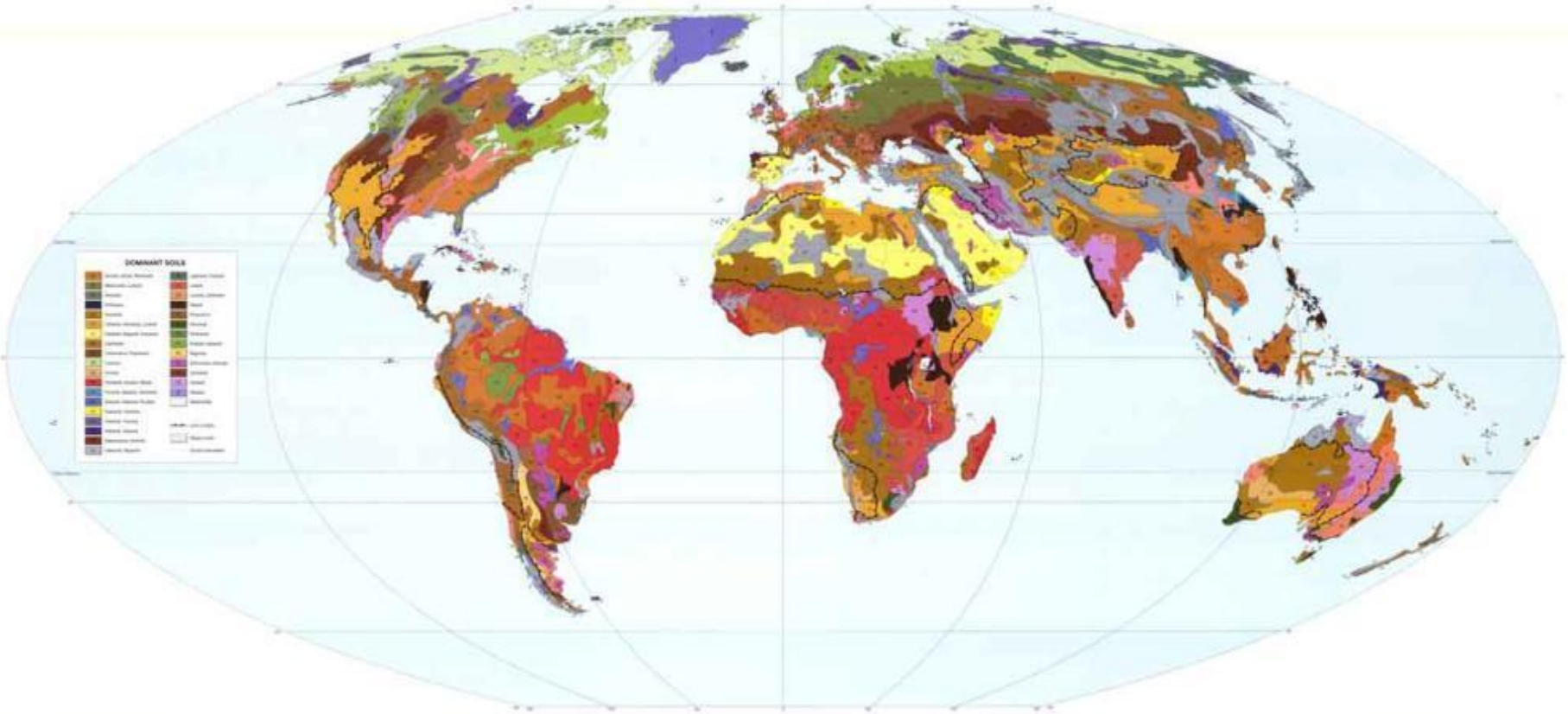
06. Dezember 2013

WORLD SOIL RESOURCES

Food and Agriculture Organization of the United Nations
European Commission - Joint Research Centre
International Soil Reference and Information Centre

EUROPEAN COMMISSION
JOINT RESEARCH CENTRE

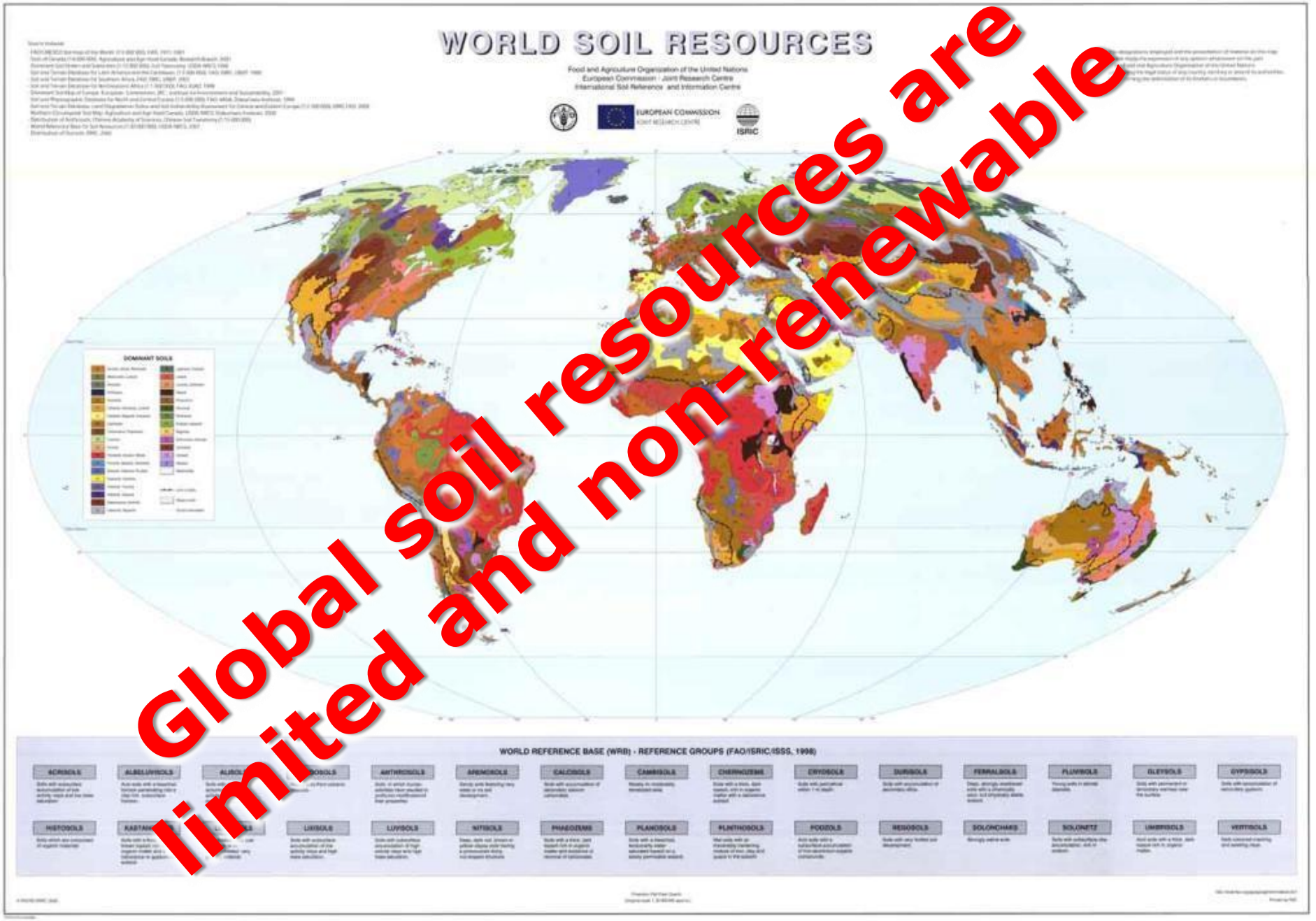
ISRIC



WORLD REFERENCE BASE (WRB) - REFERENCE GROUPS (FAO/ISRIC/ISSS, 1998)

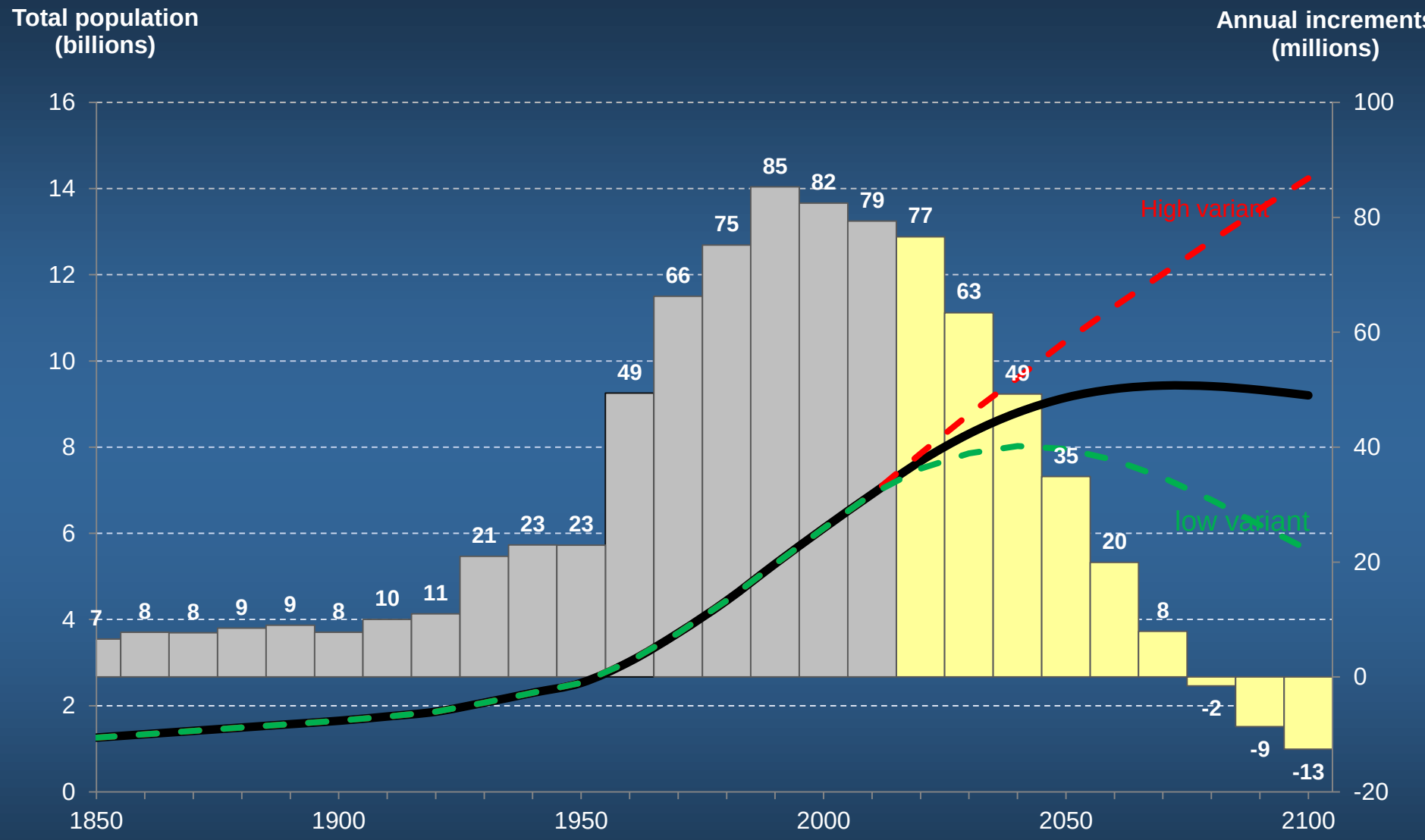
ACRISOLS | ALBELUVISOLS | ALISOLS | ANDOSOLS | ANTHROSOLS | ARENOSOLS | CALCISOLS | CAMBISOLS | CHERNOZEMS | CRYOSOLS | DURISOLS | FERRALSOLS | FLUVISOLS | GLEYSOLS | GYPSISOLS

HISTOSOLS | KASTANOZEMS | LEPTOSOLS | LIXISOLS | LUVISOLS | NITISOLS | PHAEOZEMS | PLANOSOLS | PLINTHOSOLS | PODZOLS | REGOSOLS | SOLONCHAKS | SOLONETZ | UMBRISOLS | VERTISOLS



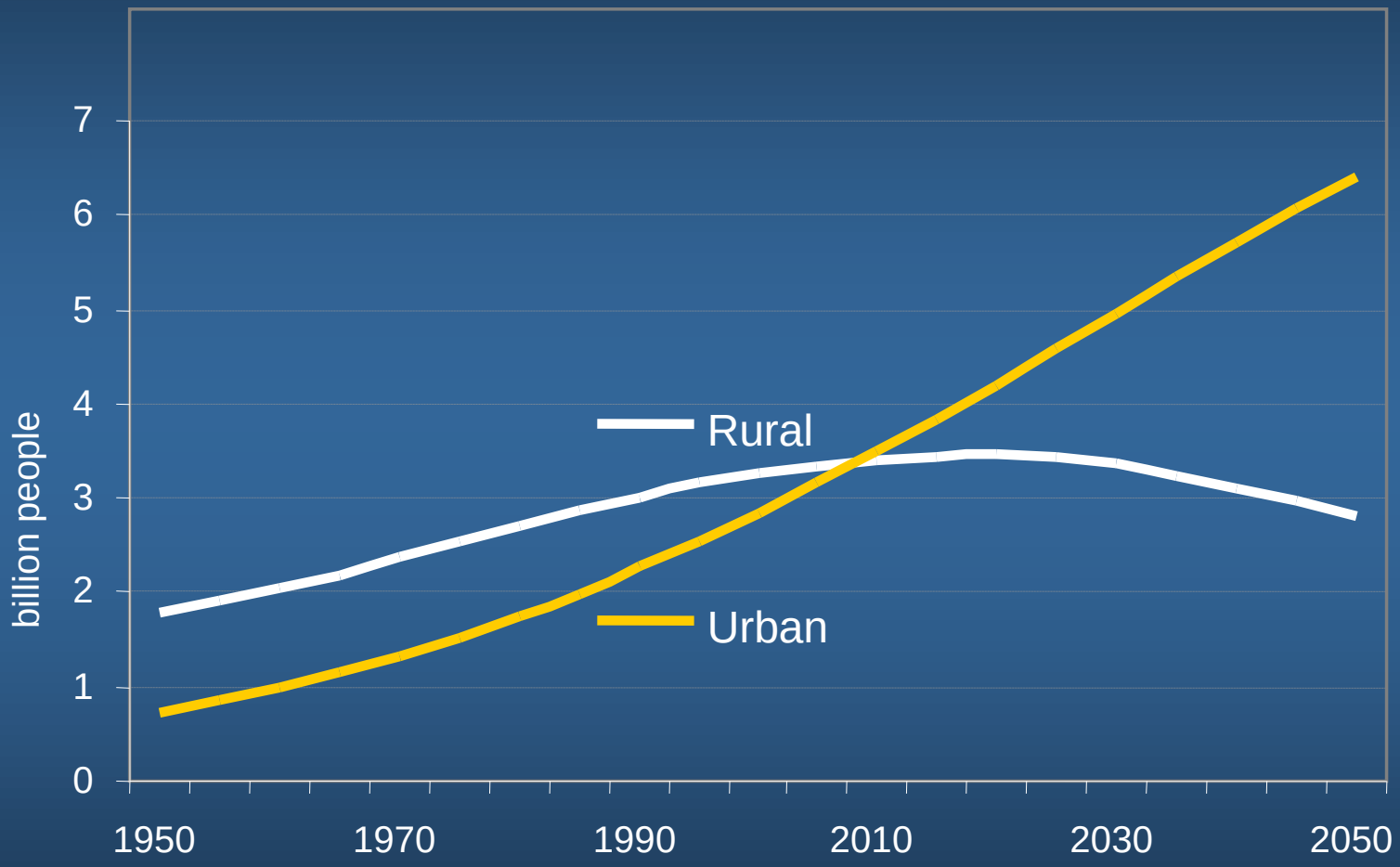
Global soil resources are limited and non-renewable

Population growth to continue, but at a slower pace

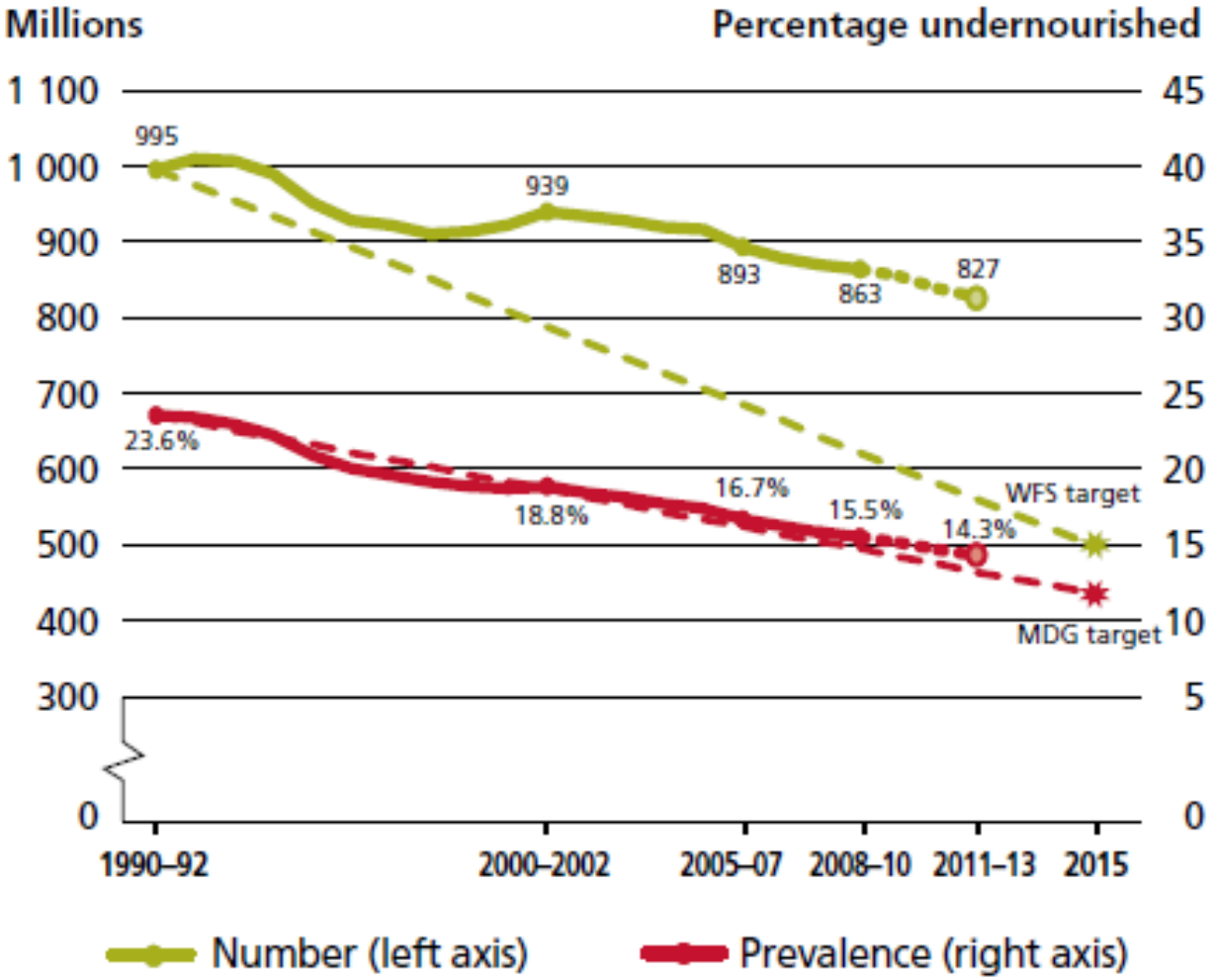


Source: UNPD, 2008

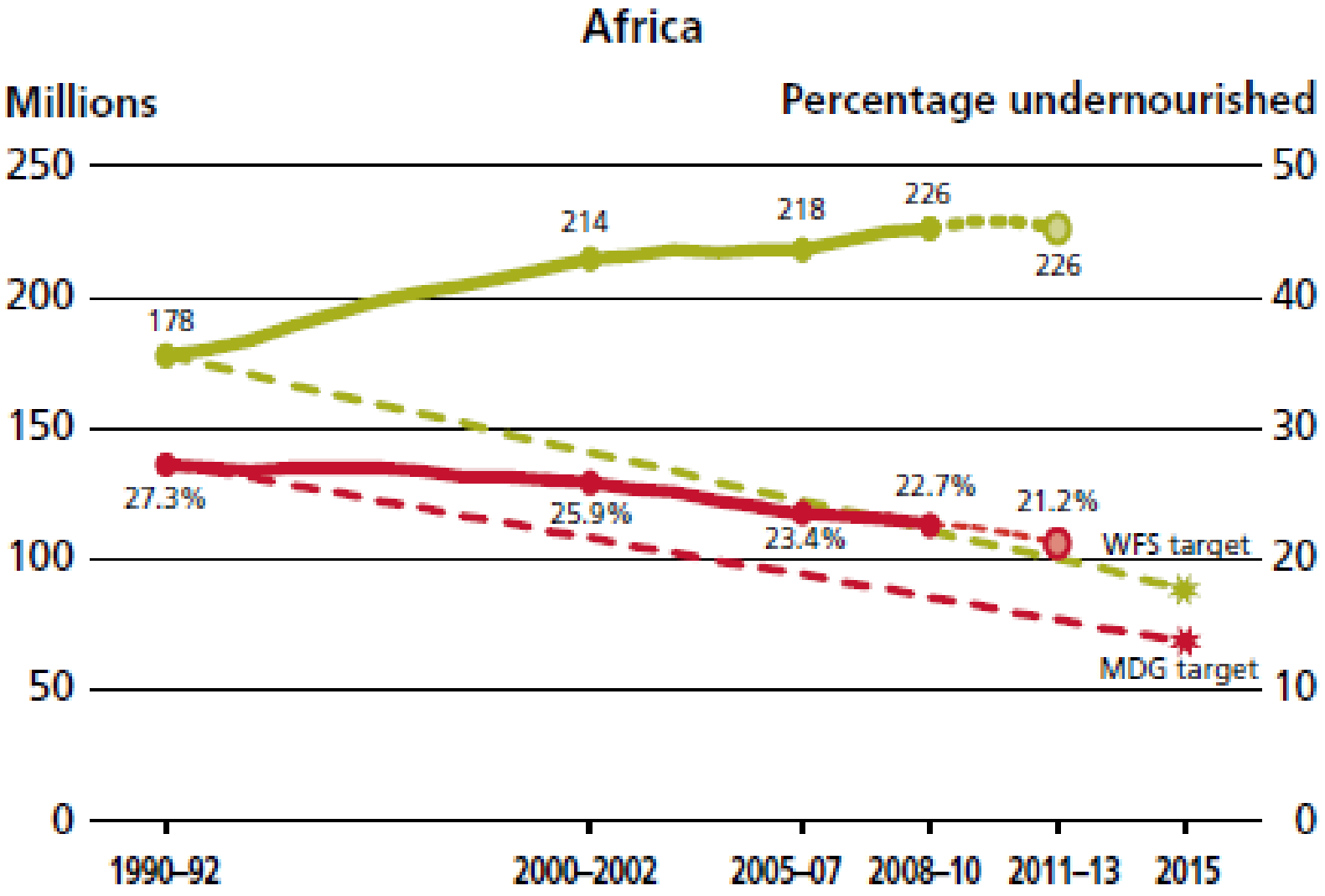
Urbanization to accelerate



Undernourishment in the developing regions: actual progress and target achievement trajectories towards the MDG and WFS targets

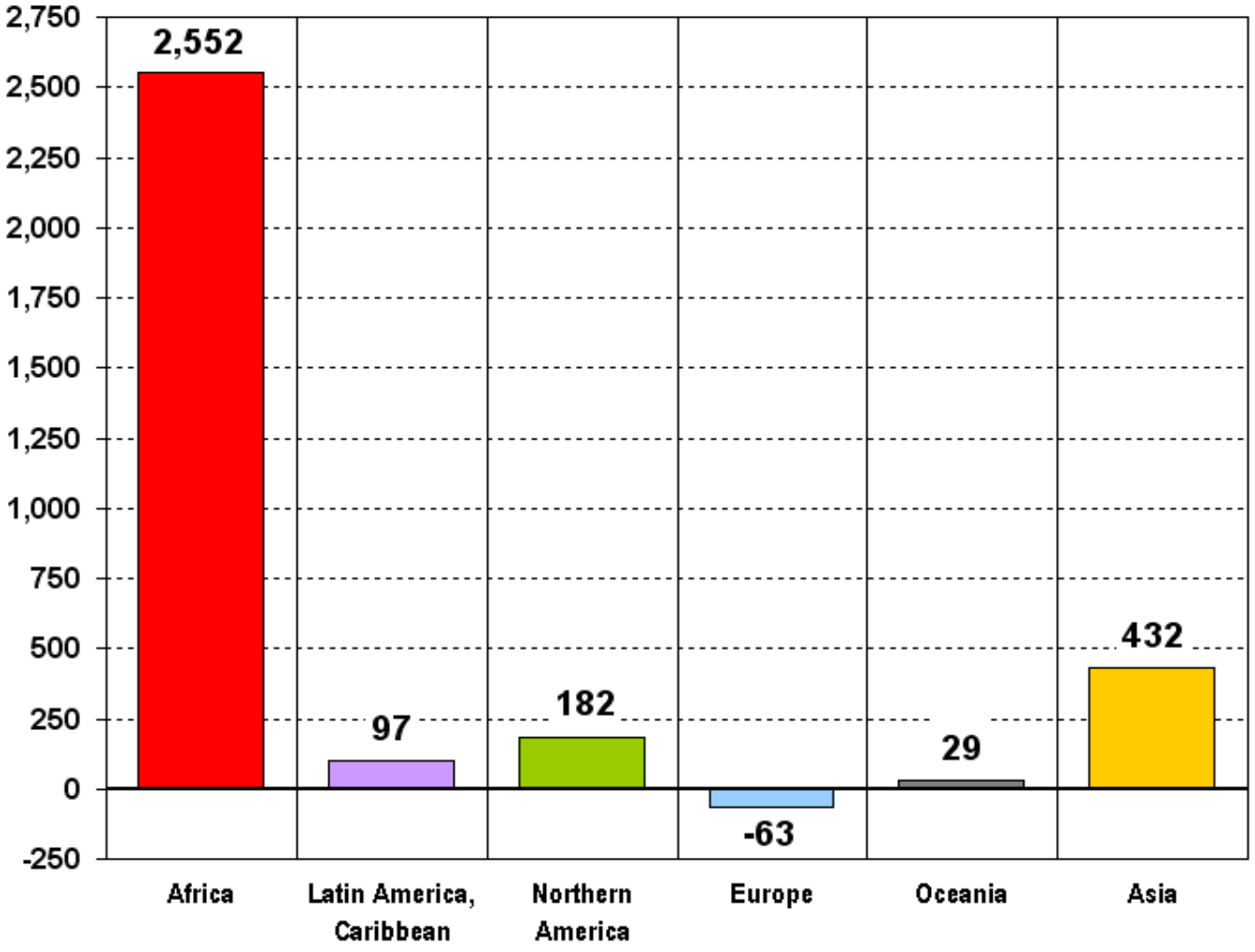


Note: Data for 2011–13 in all graphics refer to provisional estimates.
Source: FAO.



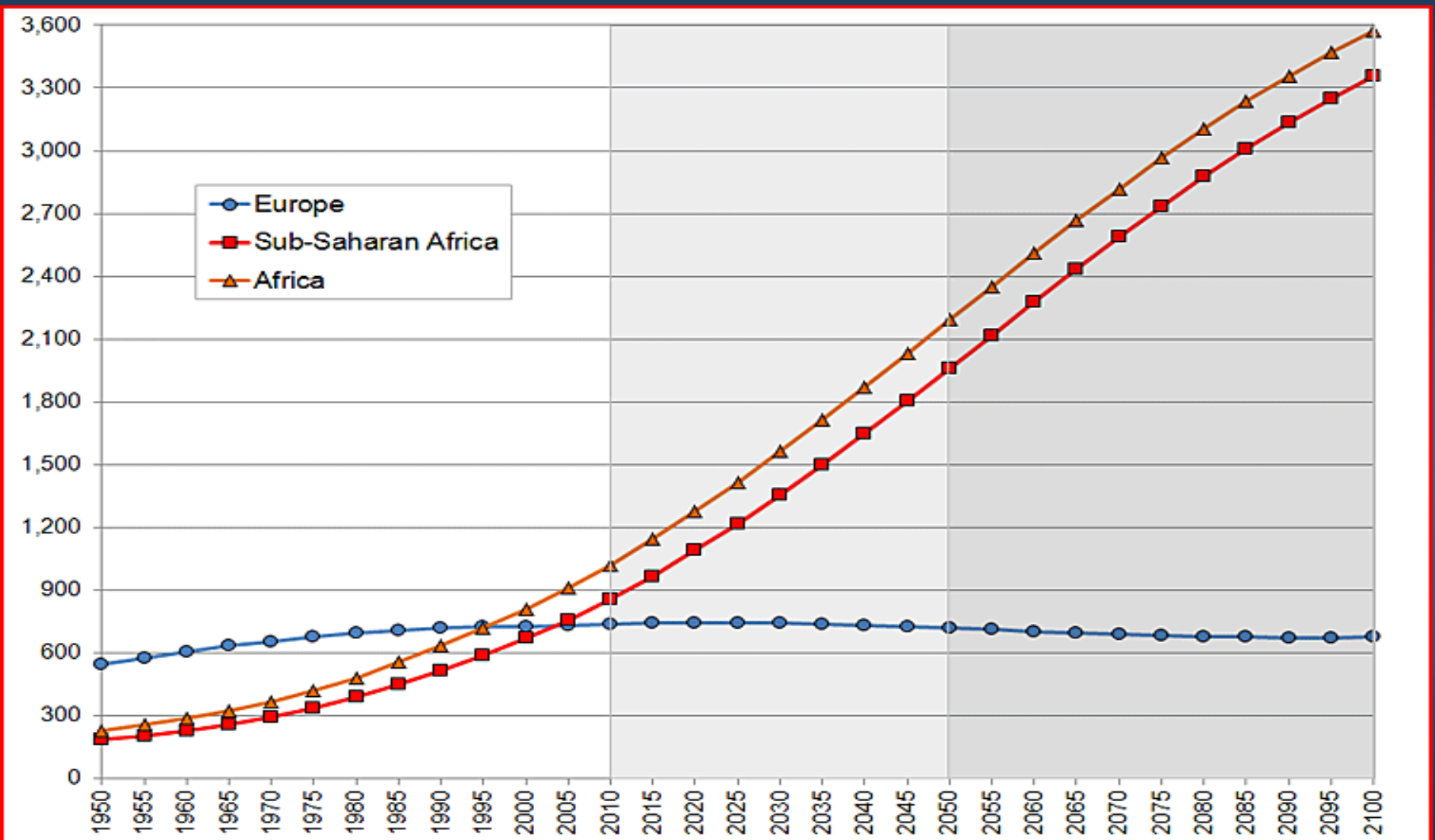
Source FAO, SOFI 2013

World Population Prospects – Change between 2010 and 2100 (millions)



Source: United Nations, Department of Economic and Social Affairs, Population Division (2011): World Population Prospects: The 2010 Revision. New York

Population Prospect for Europe, Africa and SS Africa

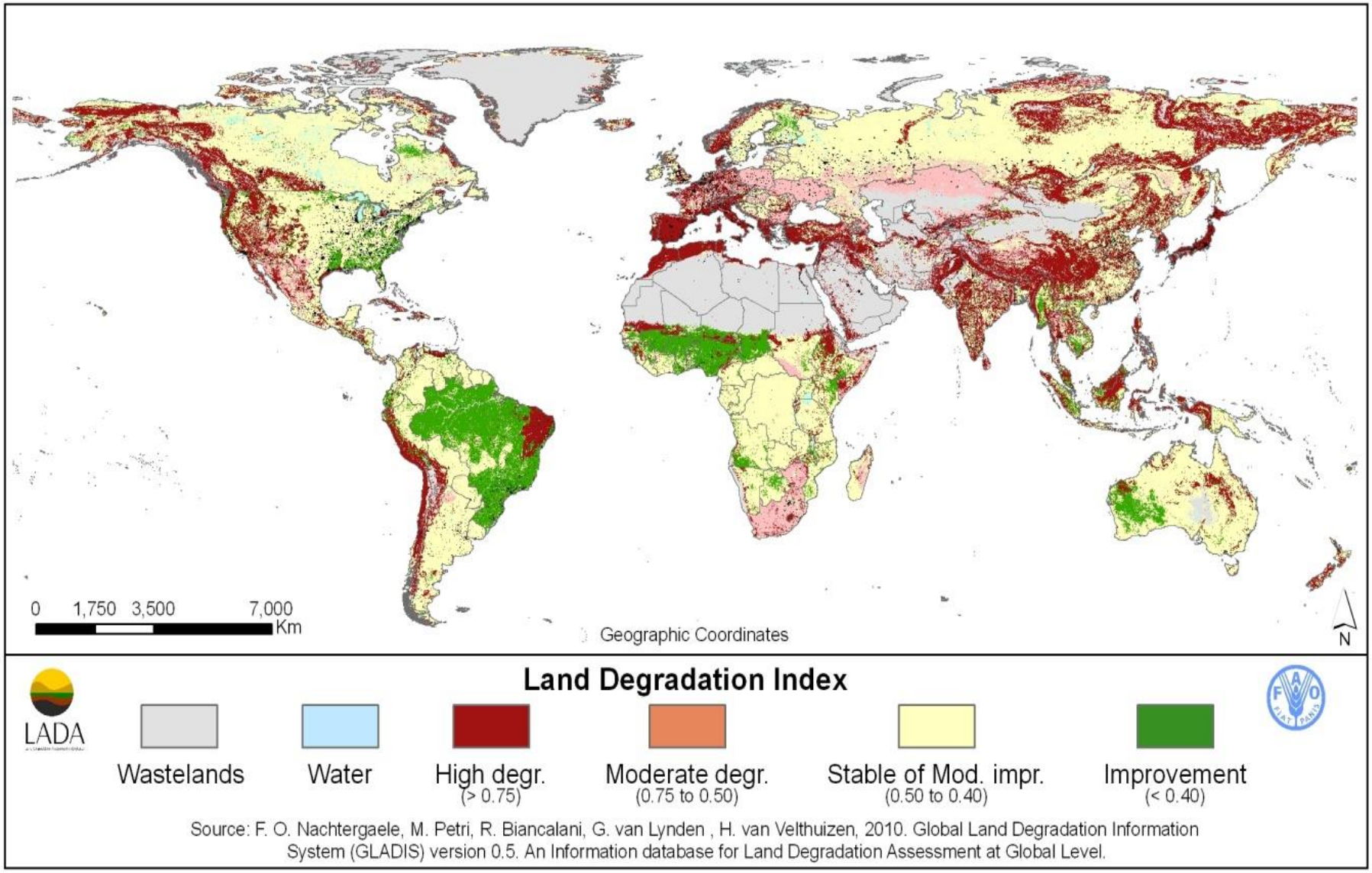


ource: United Nations, Department of Economic and Social Affairs, Population Division (2011): World Population Prospects: The 2010 Revision. New York

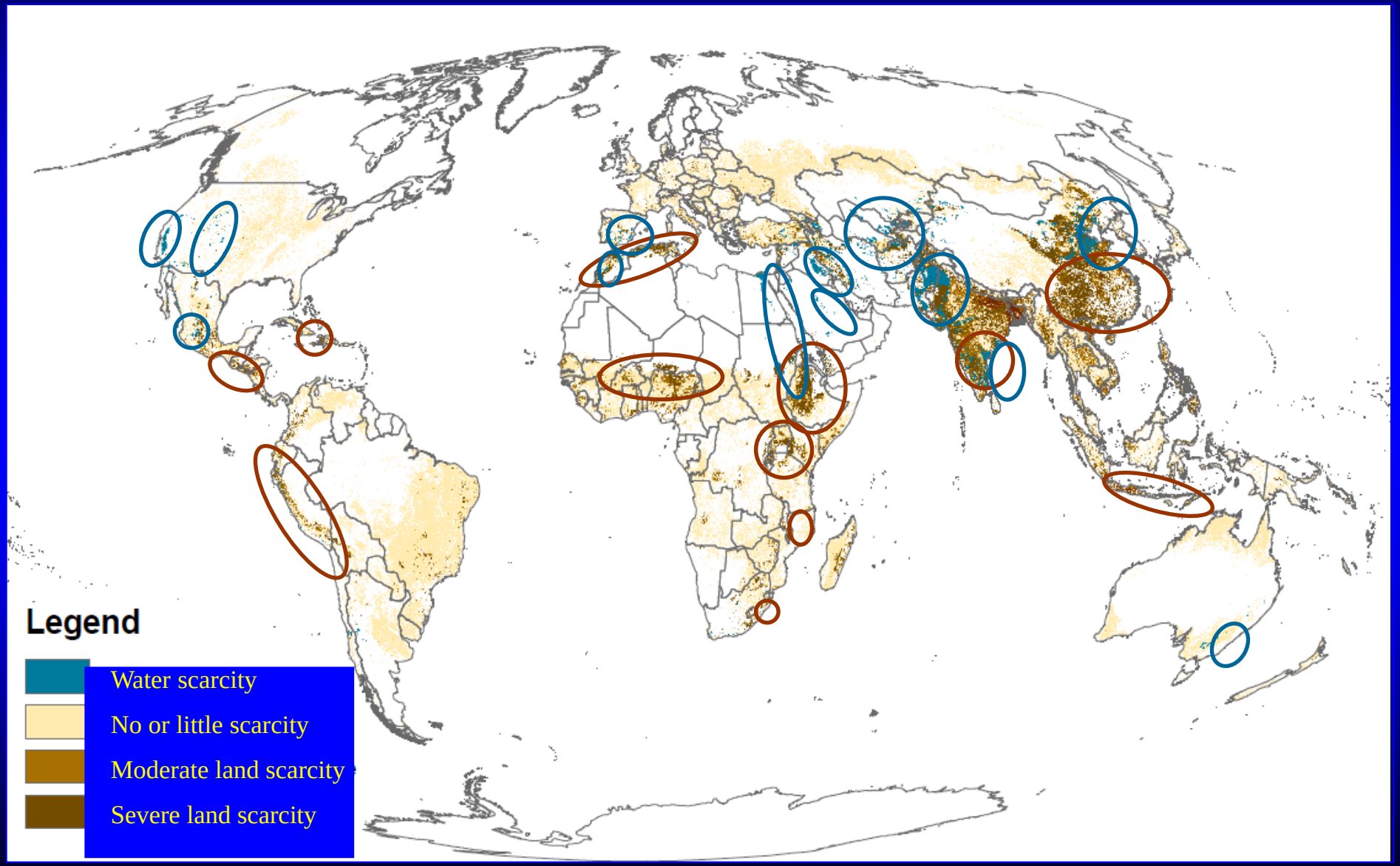
Note: In our definition, Europe has 48 countries, including the Russian Federation.

(Updated: 19 October 2011)

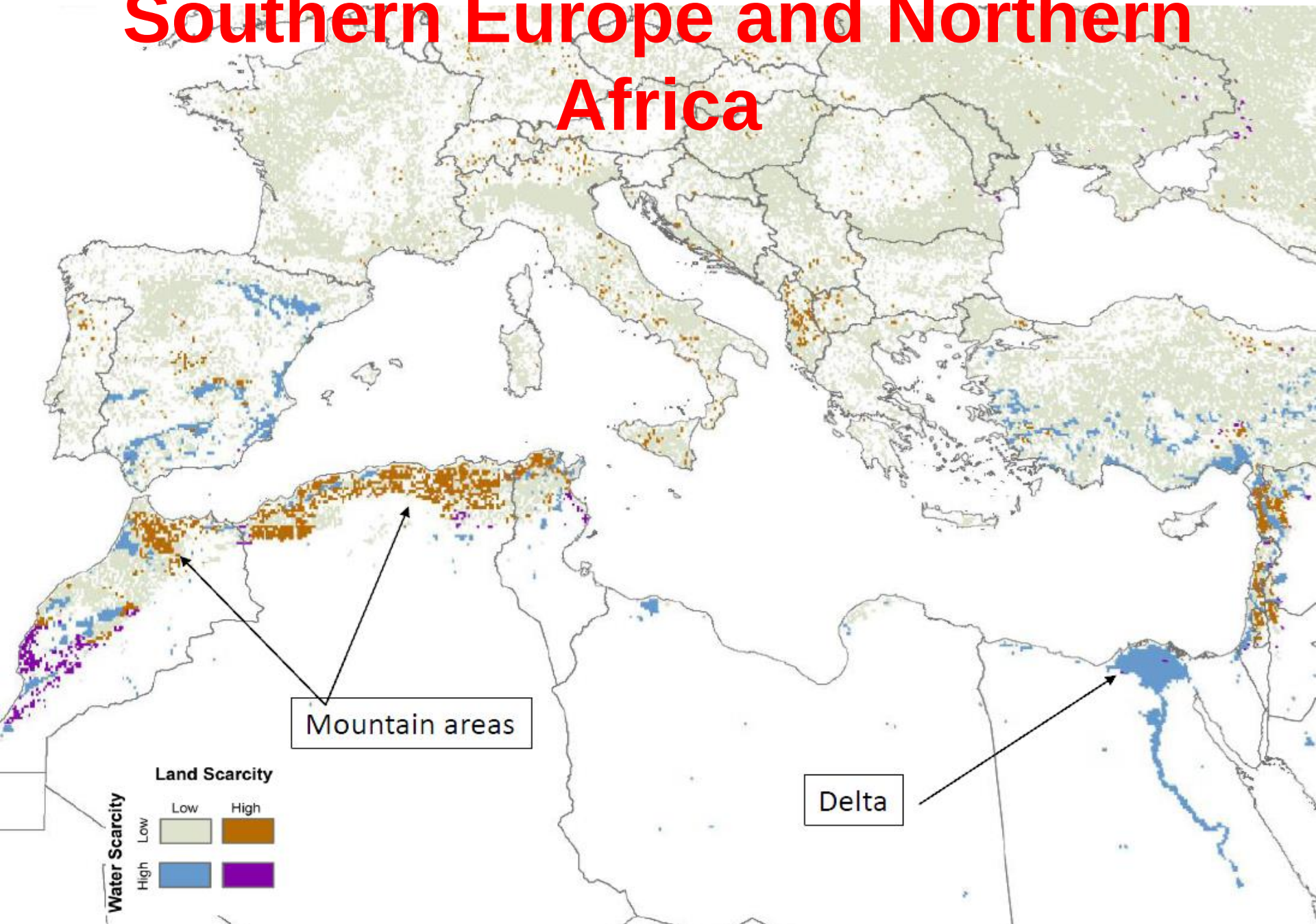
Land Degradation Index (changes in ecosystems services 1990-2005)



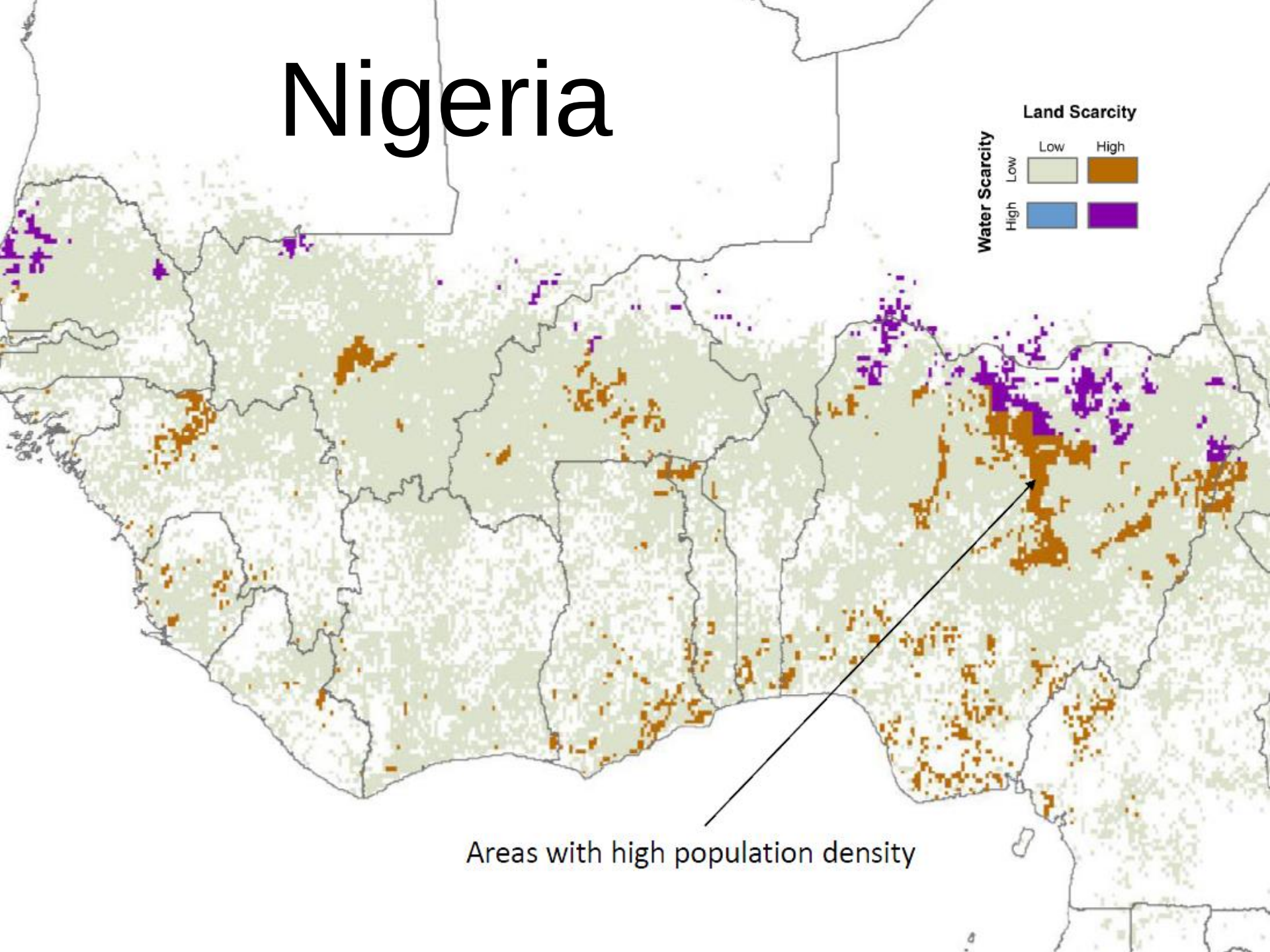
Agricultural systems at risk (Source FAO, SOLAW report)



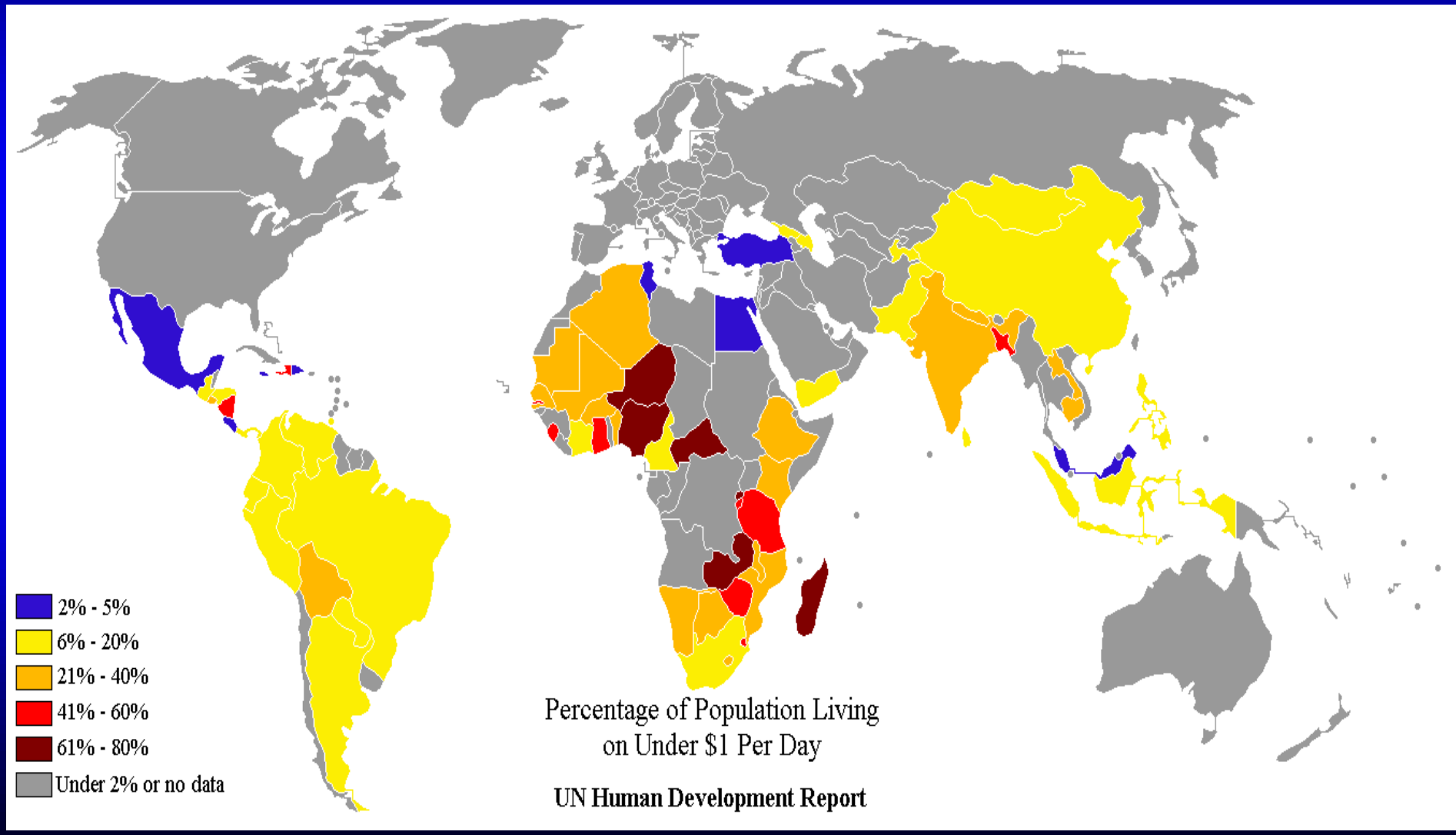
Southern Europe and Northern Africa



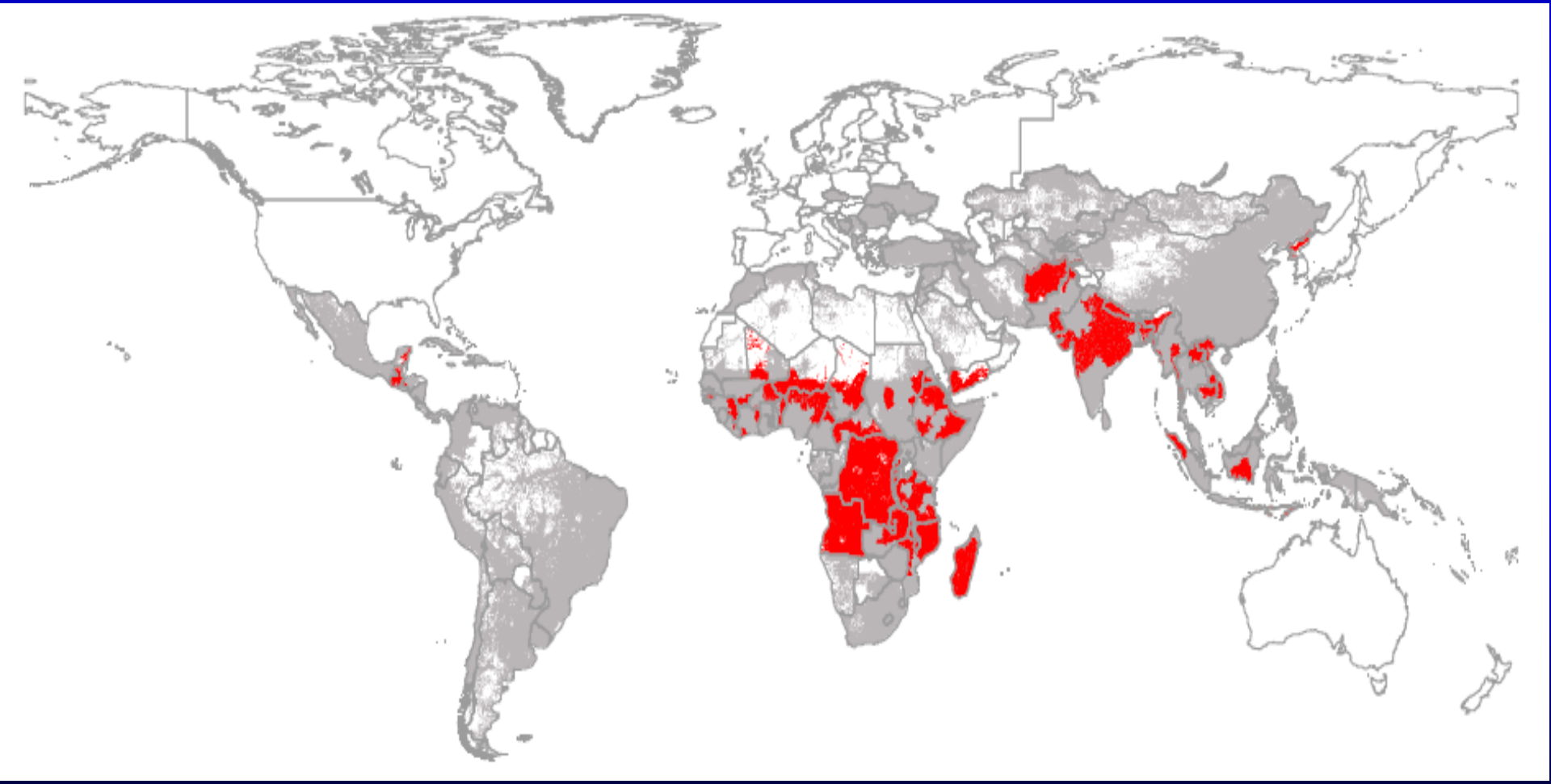
Nigeria


Land Scarcity
Water Scarcity
Low
High
Low
High
Areas with high population density

Percentage of Population living in absolute poverty

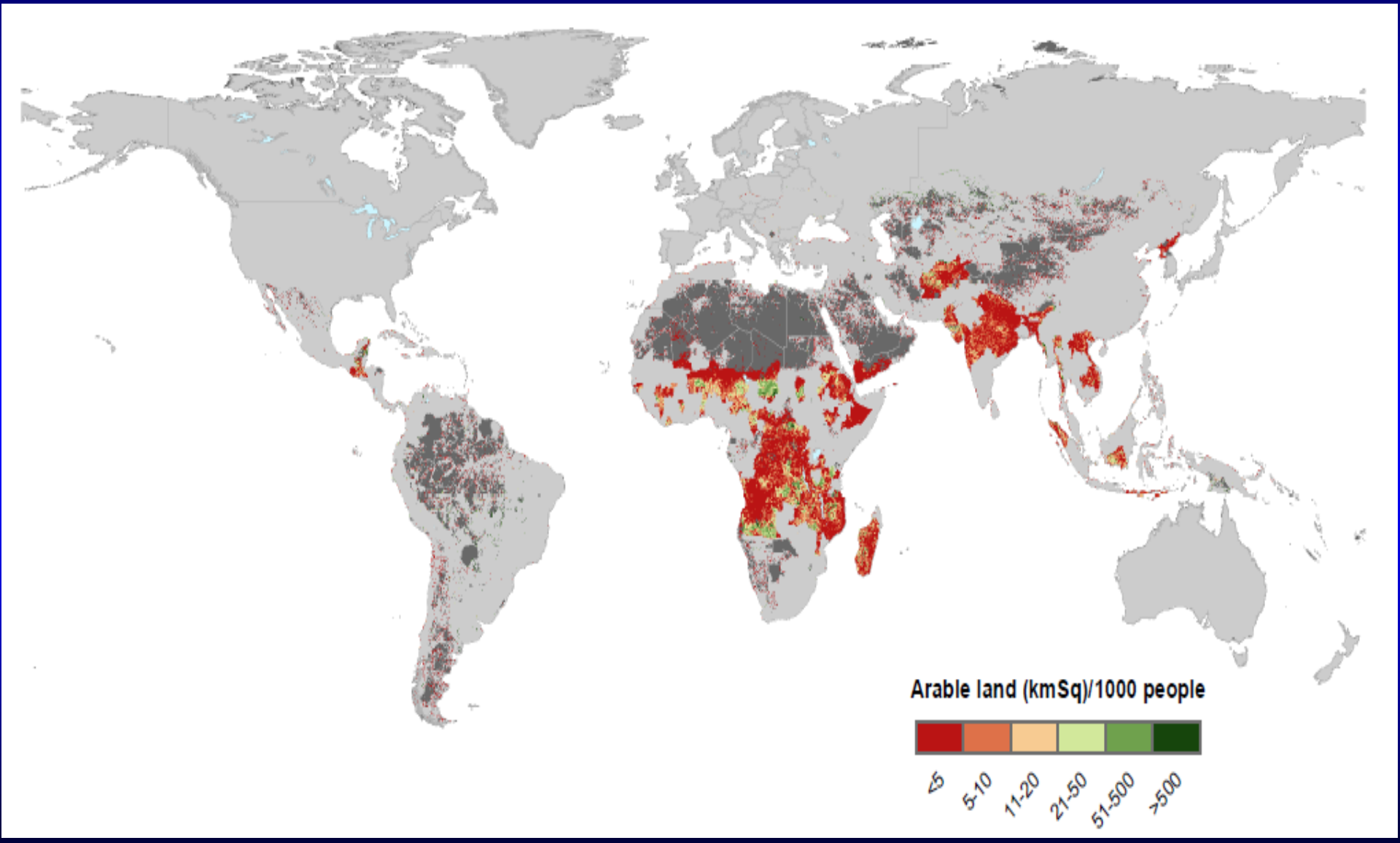


Where the rural poor are concentrated



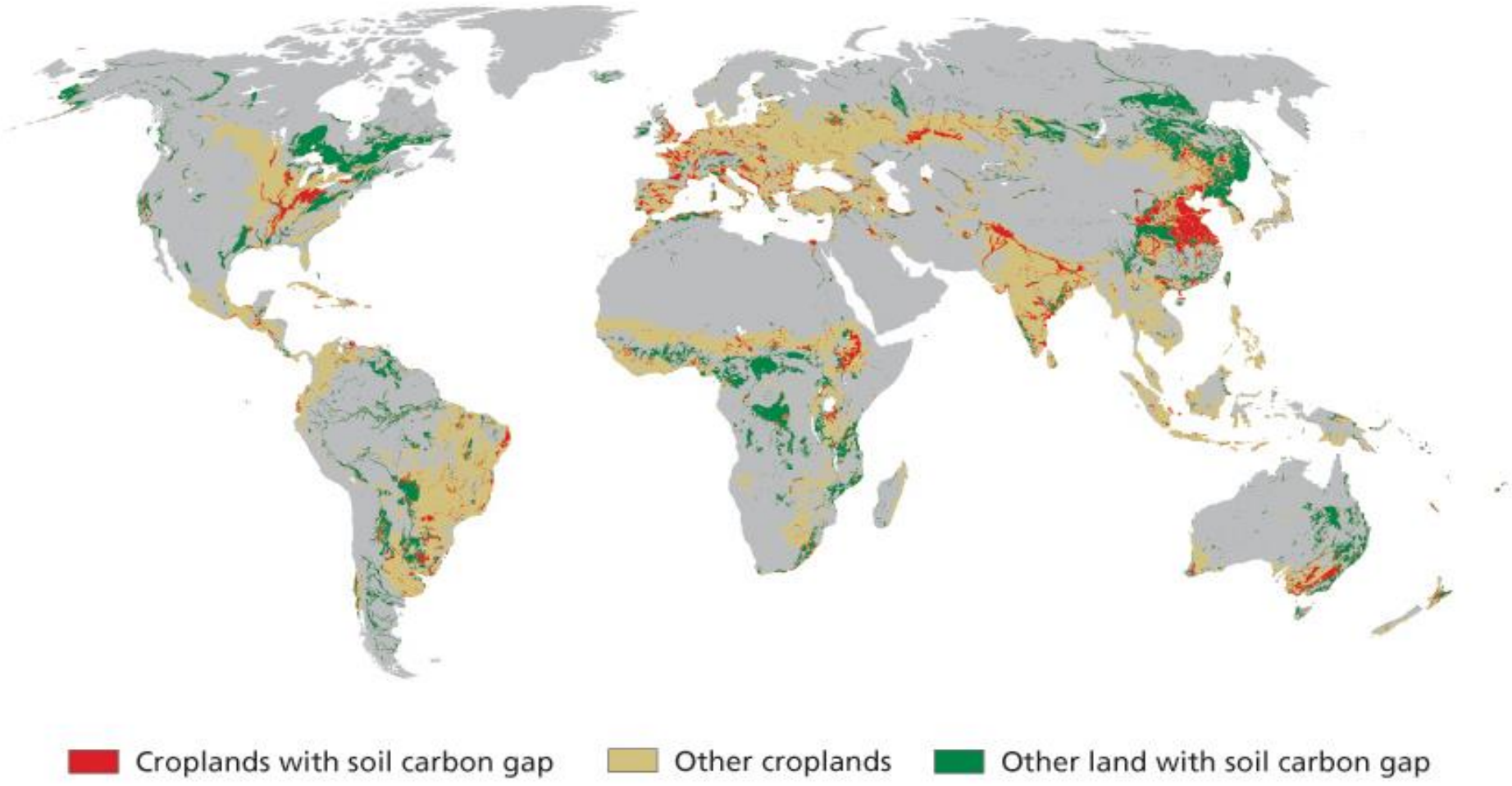
Per capita share of arable land in poor areas

(Source FAO)



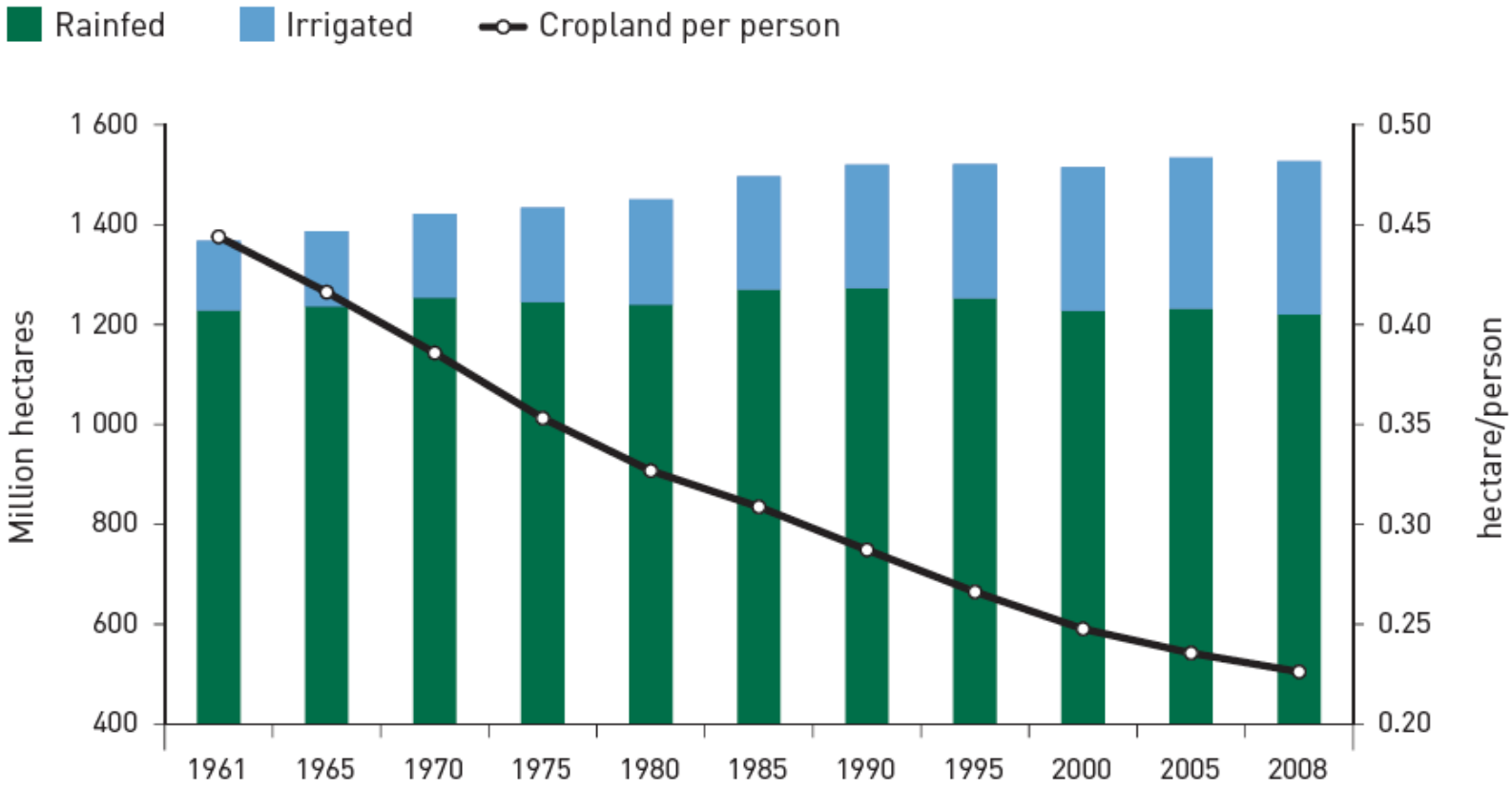
MAP 2

Potential to sequester additional carbon in soils on croplands



Note: available at
http://www.fao.org/geonetwork/srv/en/google.kml?id=31152&layers=potential_sequester_carbon_cropland
Source: FAO.

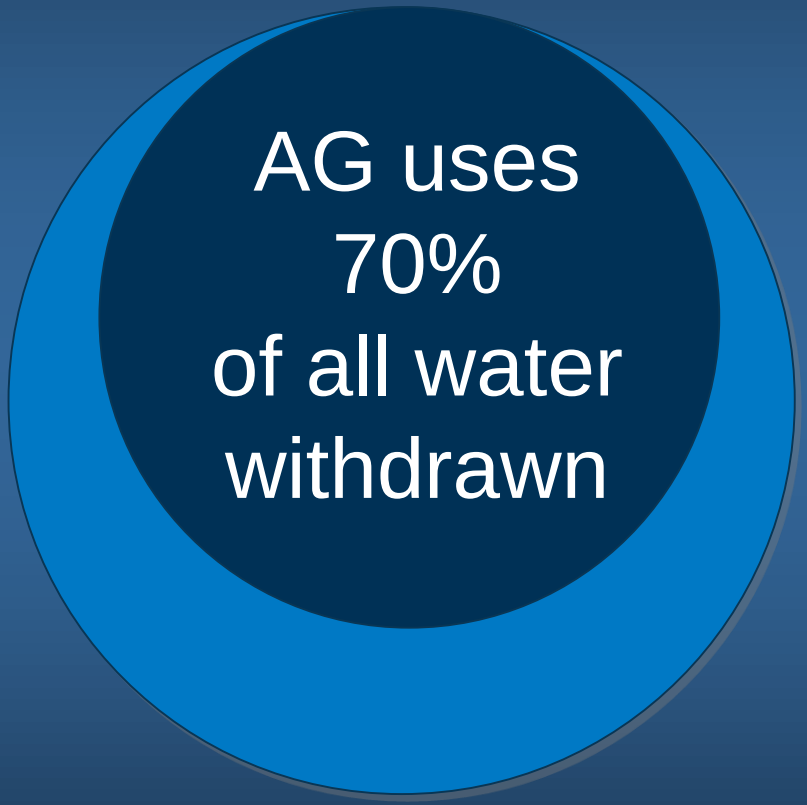
Soils – An Increasingly Scarce Resource



FAO 2012

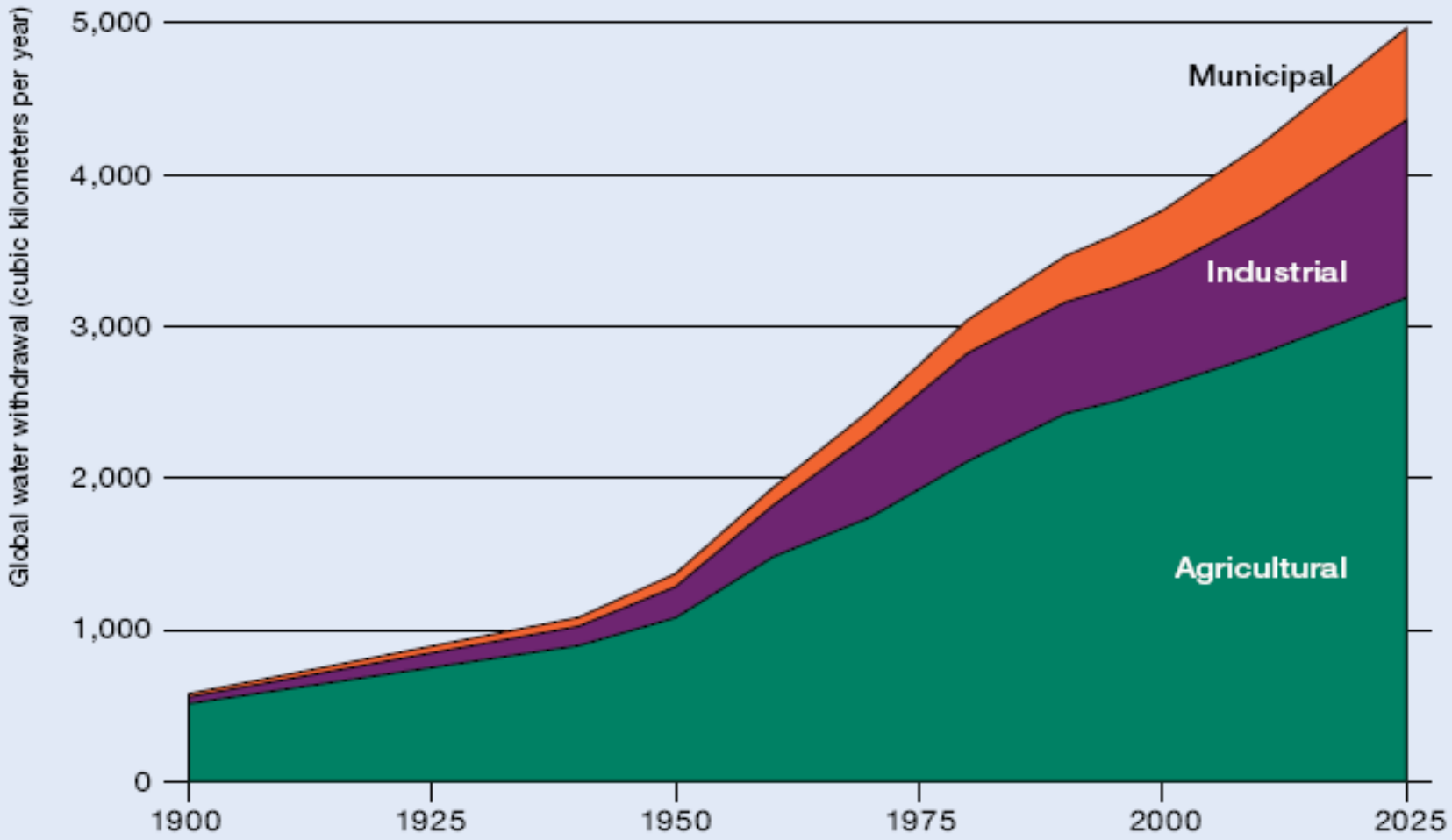
The use of resources by agriculture

world's land surface



total world's water uses

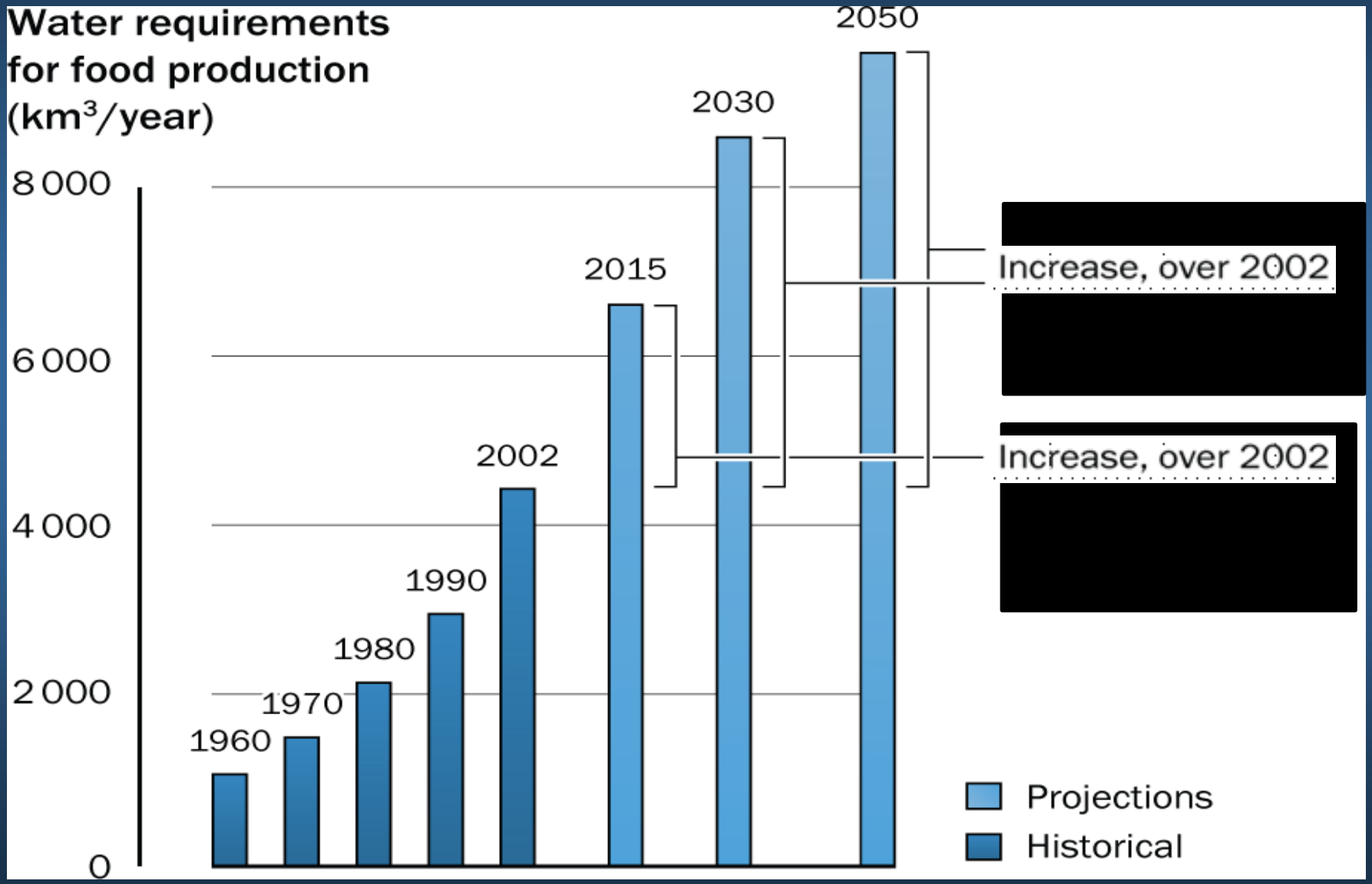
Increased water withdrawal



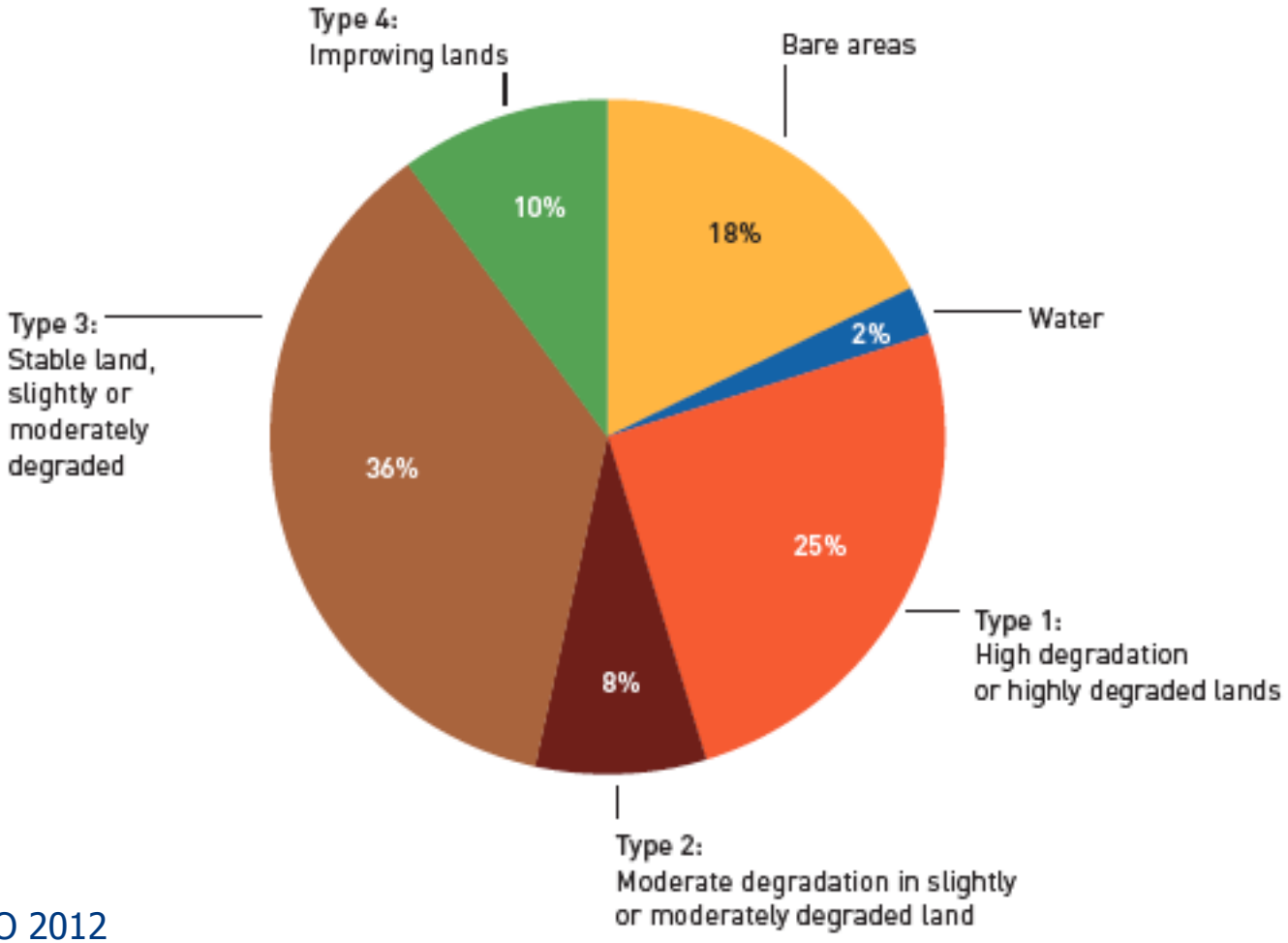
Source: Shiklomanov 2000.

Water Requirements in 2050: +5.500 Km^3 y^{-1}

~ the capacity of 55 Aswan Dams every year (source FAO)

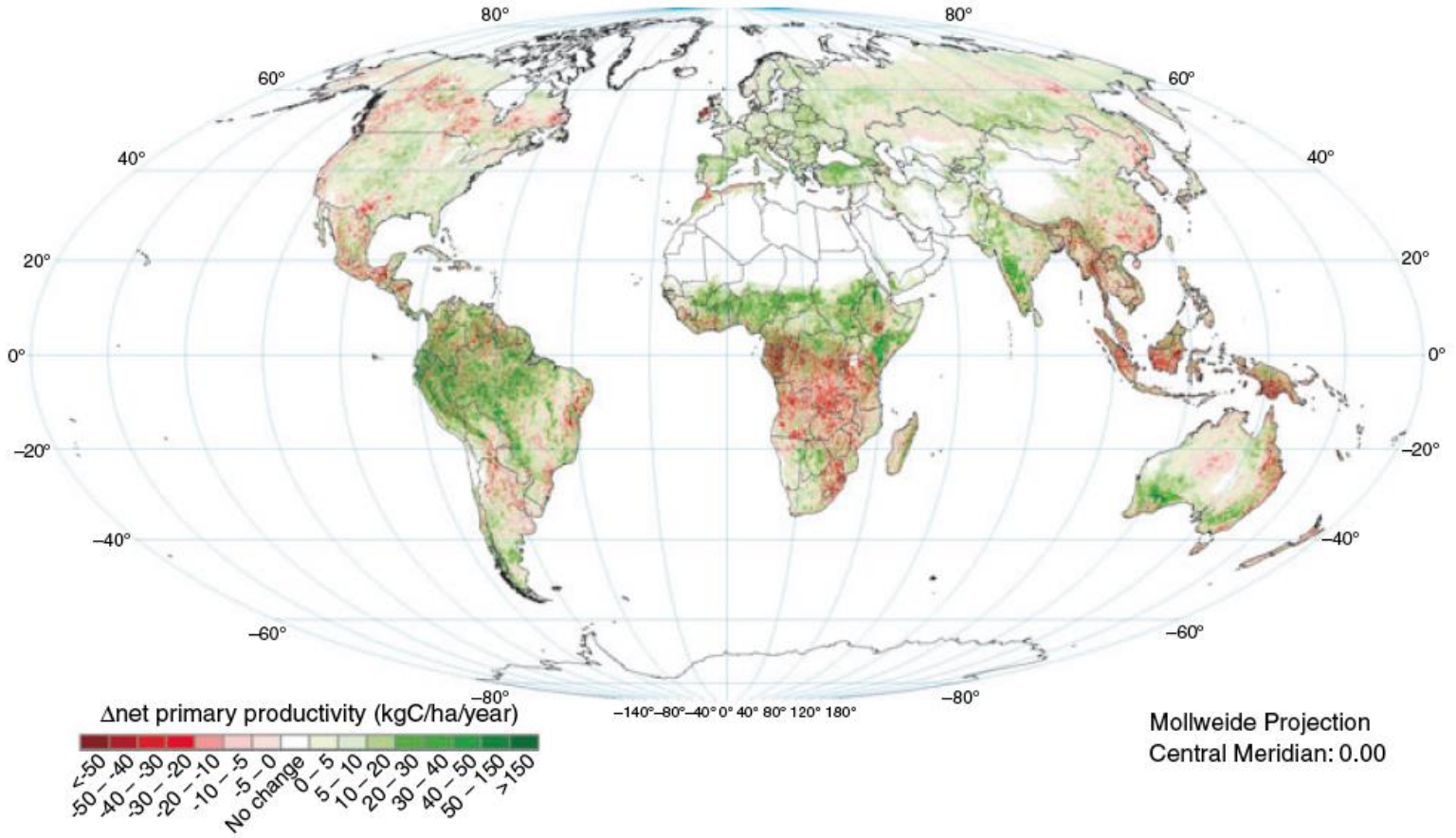


Soils – A Degraded Resource



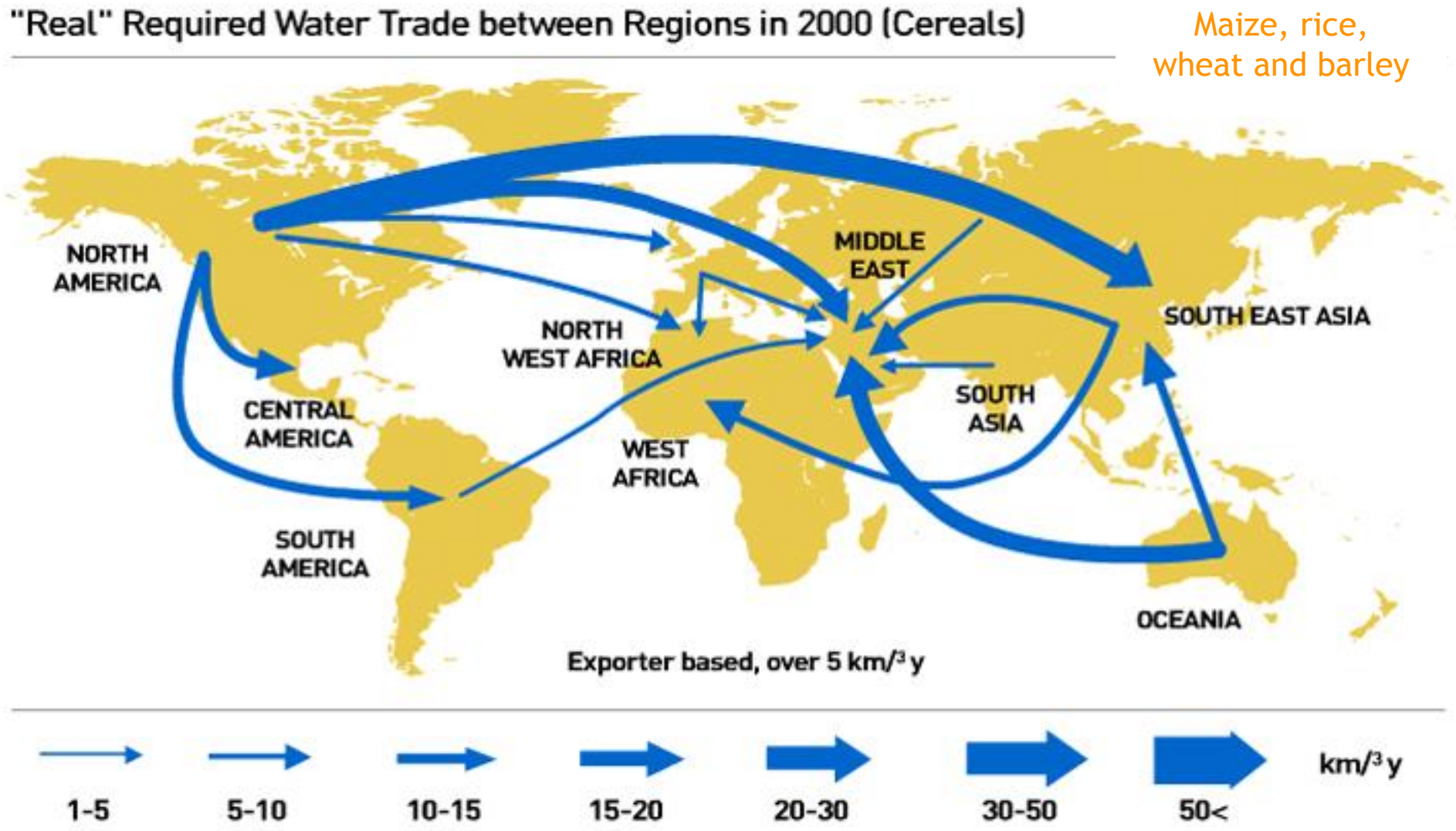
FAO 2012

Global Distribution of Land Degradation (as measured by changes in NPP)



Bai et al 2008: 226

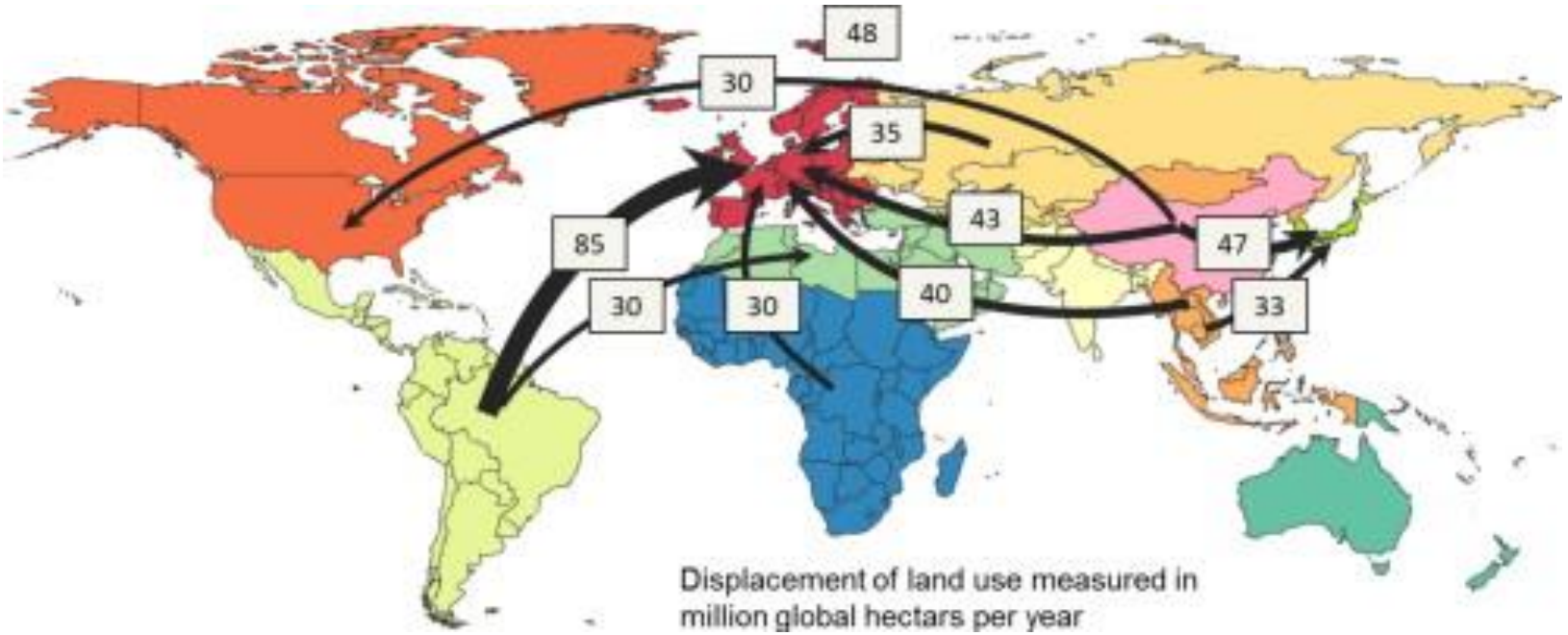
Trade &"*Virtual water*"



Oki et al., 2003

Based on FAO Statistics (2000)

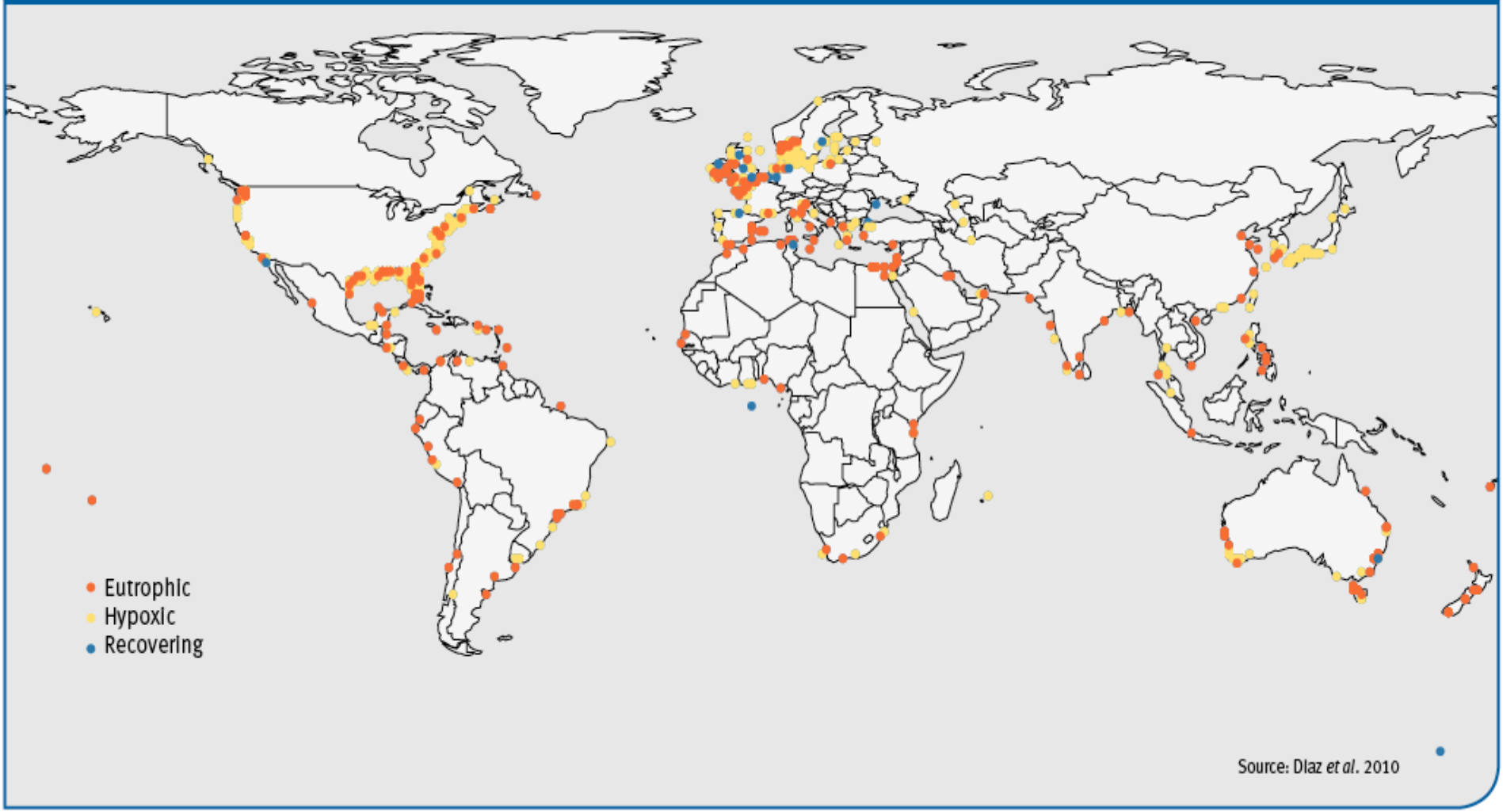
Global Interdependencies land



Weinzettel 2013 (online first)

Nutrient Excess Availability

Figure 4.12 World hypoxic and eutrophic coastal areas, 2010



UNEP 2012: 112