



Food and Agriculture Organization
of the United Nations

Aligning verbal narratives and quantitative information: the special context of Africa

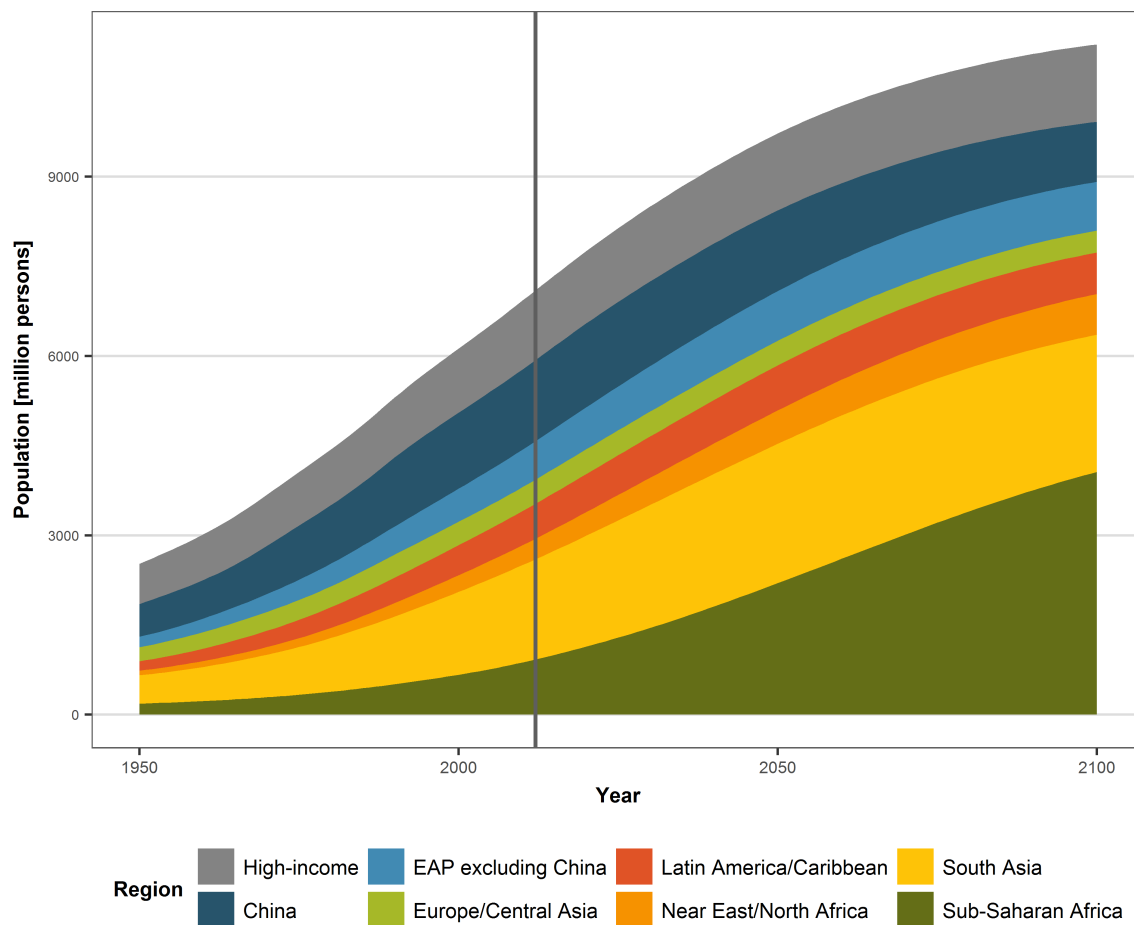
Marc Müller, Aikaterini Kavallari, Lorenzo Bellú, Dominik Wisser
FAO Global Perspectives Studies Team (GPS)

AGMIP GLOBAL & REGIONAL ECONOMICS GROUPS JOINT
WORKSHOP

8 – 9 March 2018 | Sevilla, Spain

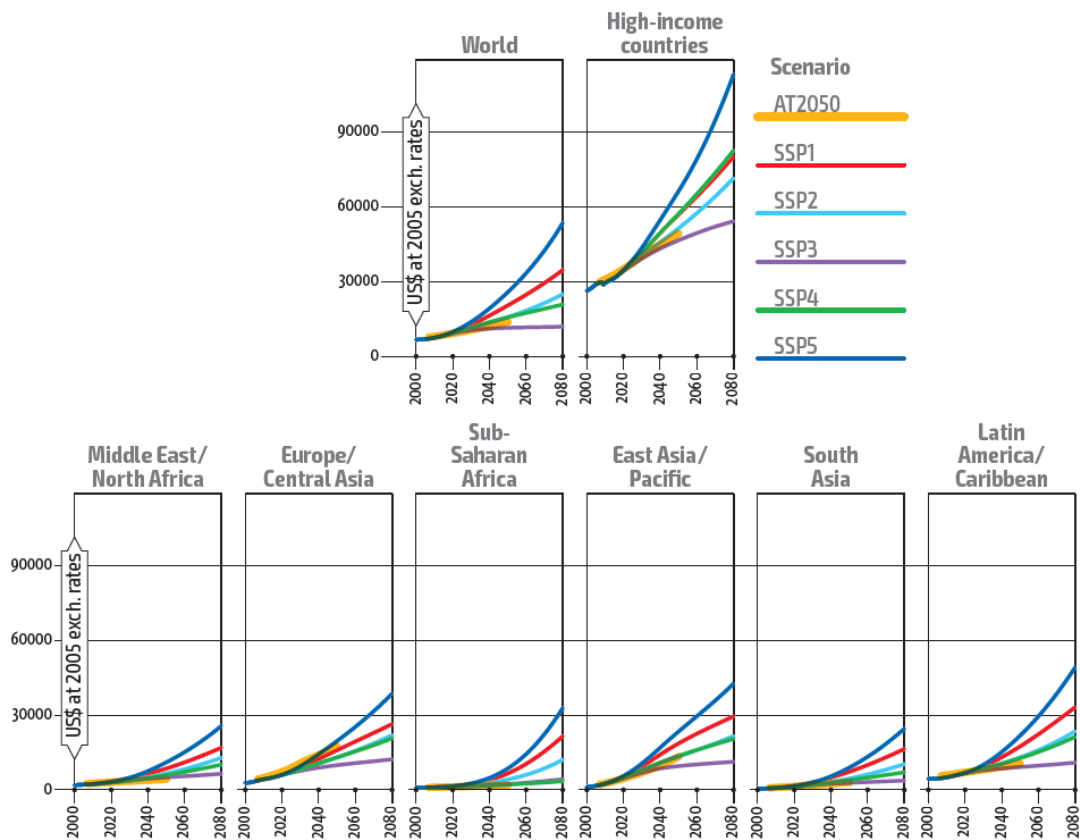


Global population projections



Source: UN World Population Prospects 2015, medium variant

Income per capita projections (Shared Socio-Economic Pathways, SSP)

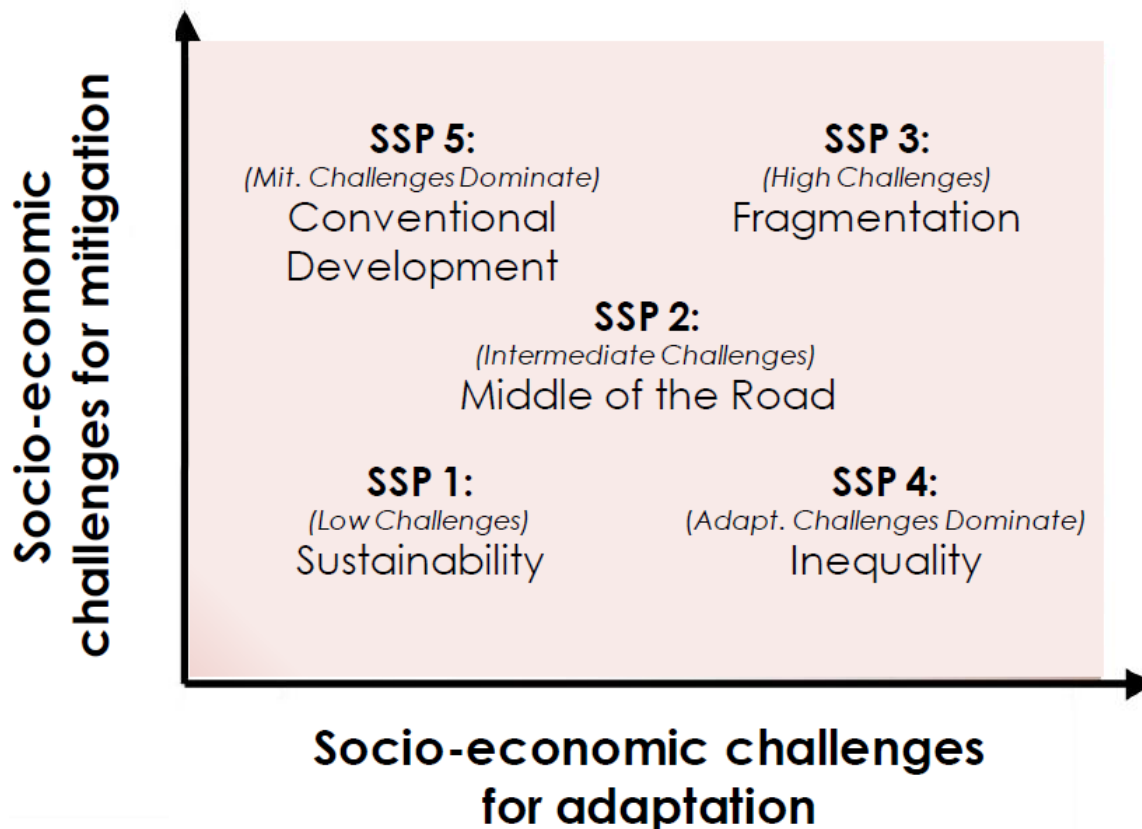


Note: Regional groups do not include high-income countries.

Source: FAO Global Perspectives Studies, based on IIASA, 2016; Alexandratos and Bruinsma, 2012.

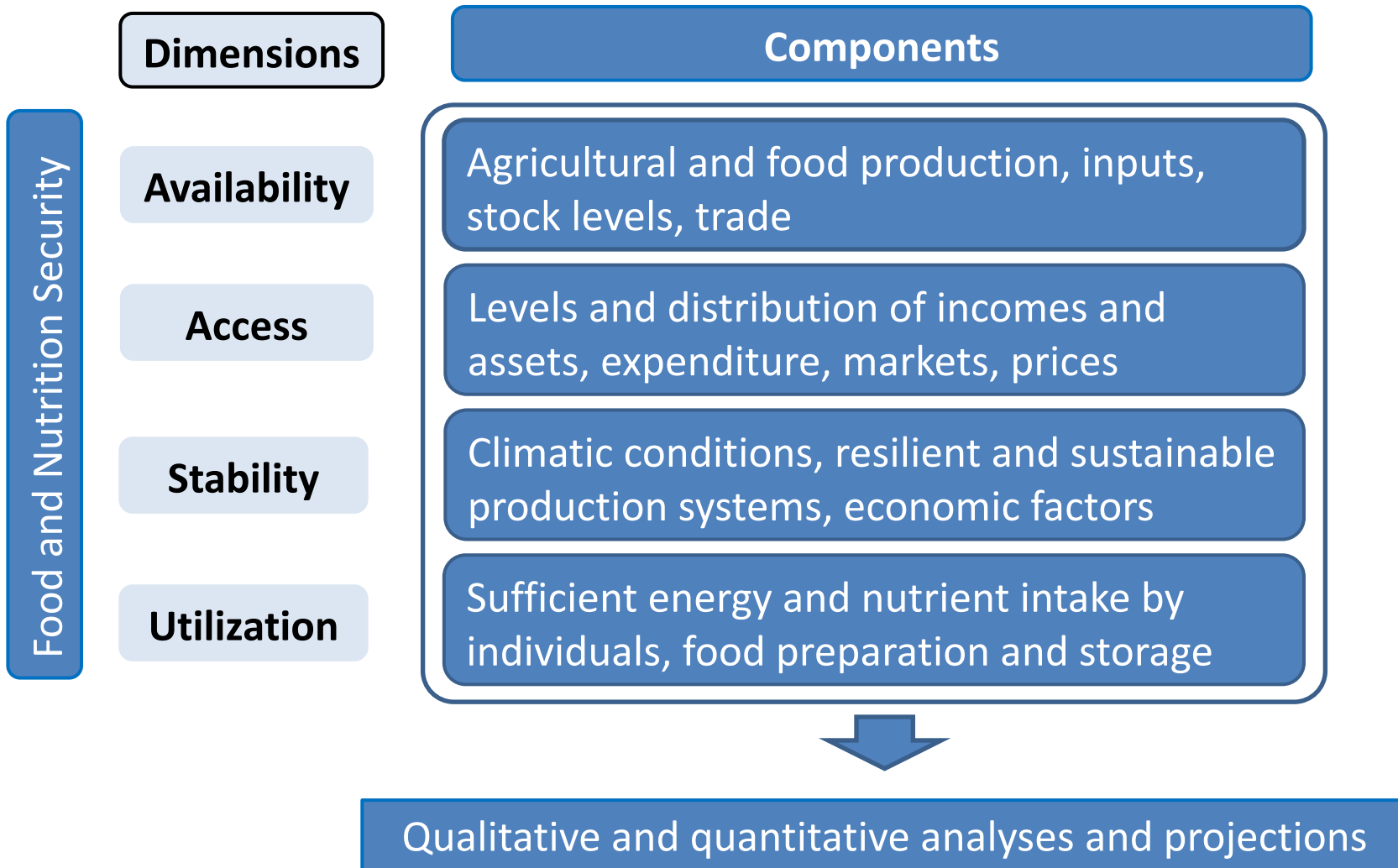


Long-term scenarios: Shared Socio-Economic Pathways (SSP)



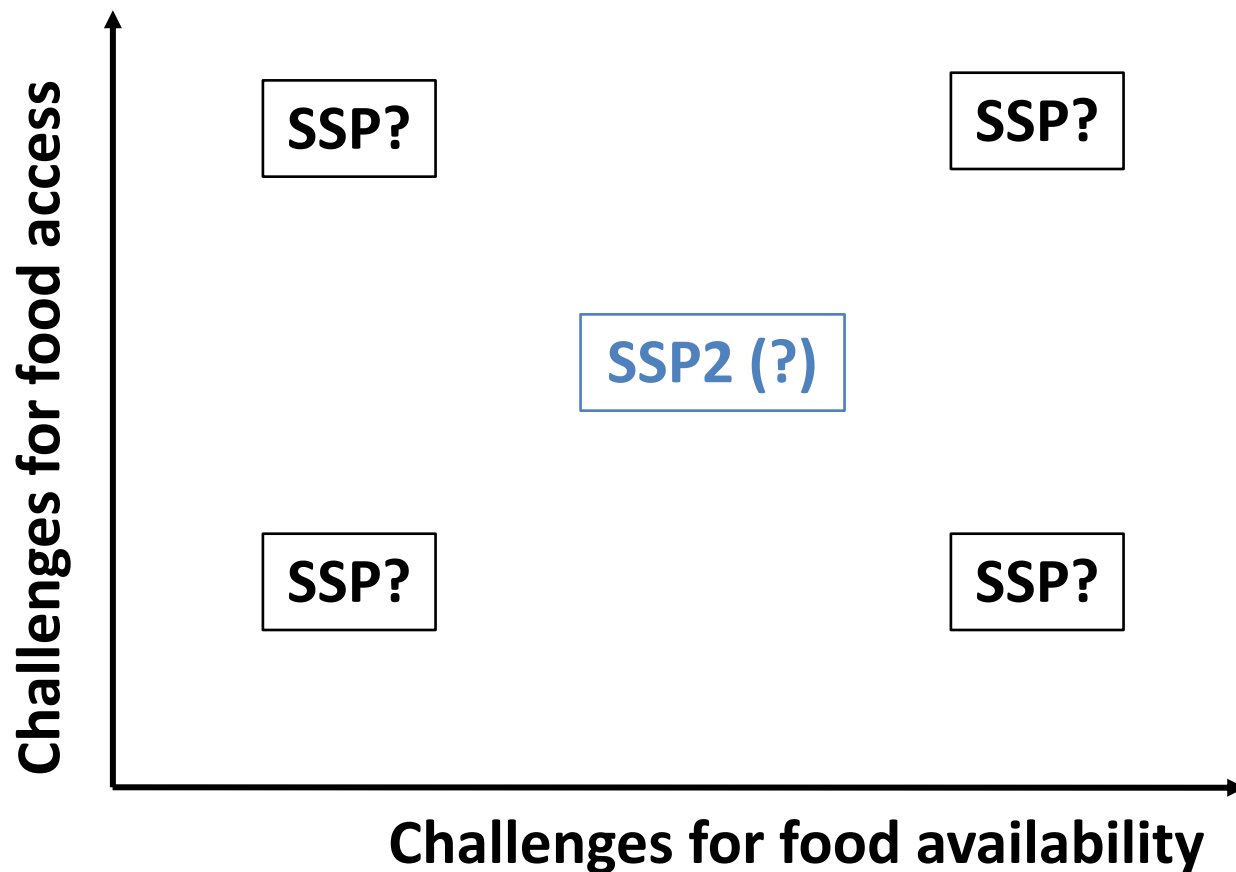


Major topic: FNS in the long term



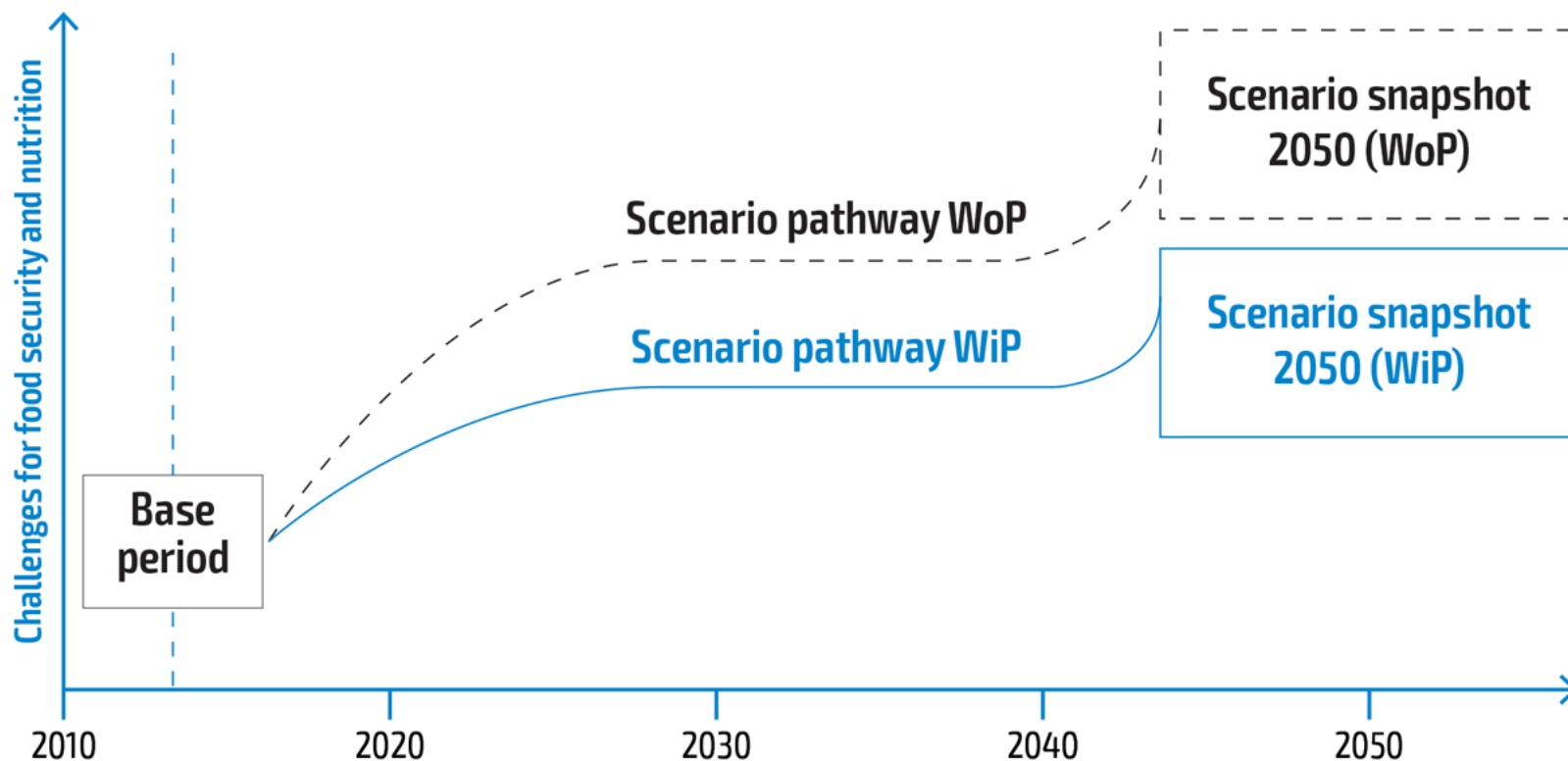


Shared Socio-Economic Pathways and FNS: Comparable challenges space?





FNS: pathways and policies



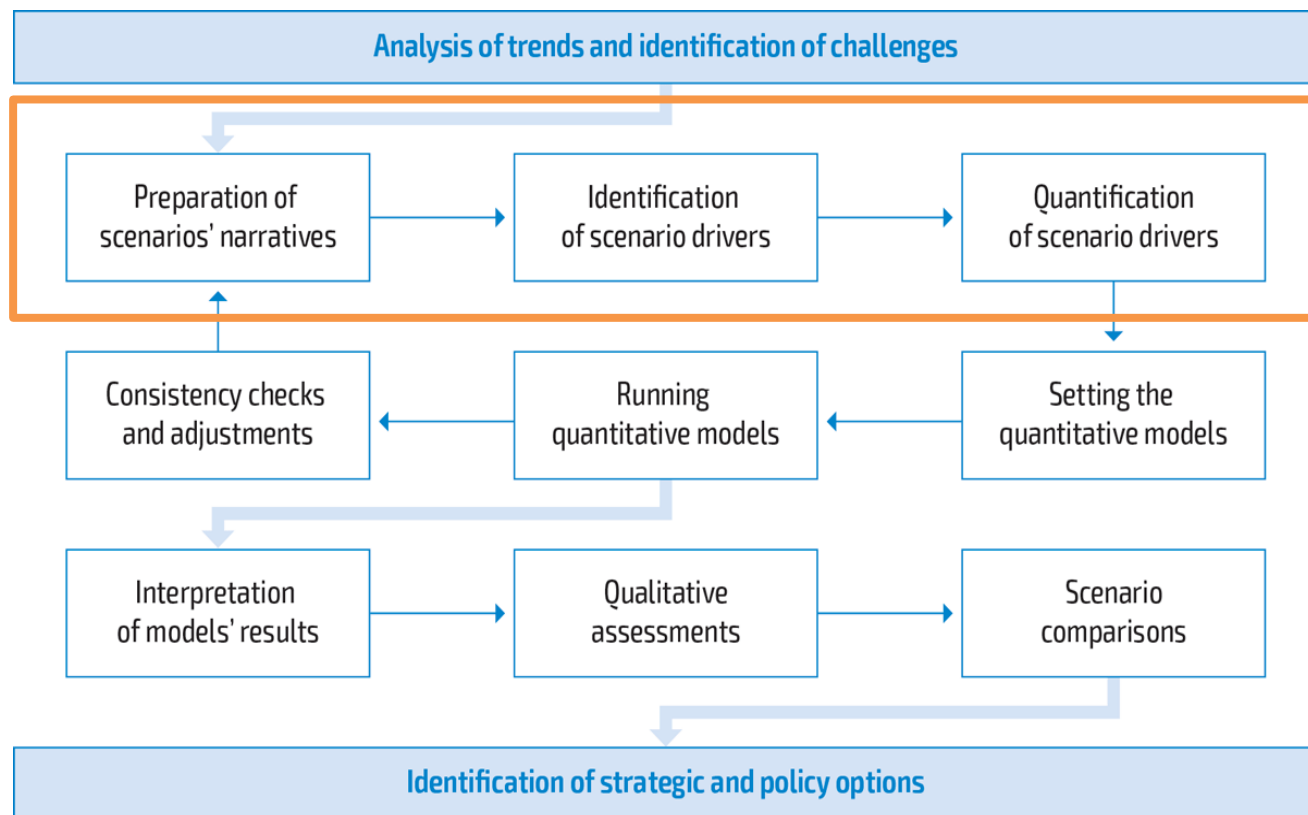
“WiP” means here “with additional policies” specifically aimed to address FSN challenges (e.g. selected SDGs etc.) (additional with respect to a benchmark set to analyze policy impacts through a “counterfactual” approach).



Methodology for FOFA

Framework of the
foresight exercise:

Scenario narratives
qualitative
descriptions of
how the future
may look like
patterns to follow
to get there.





Translating SSP narratives into FNS challenges

Statements from summaries of different SSPs (Raihi *et al.*, 2017):

“The **world** shifts **gradually**, but pervasively, toward a **more sustainable** path, **emphasizing** more **inclusive development** that **respects perceived** environmental **boundaries.**” (SSP1)

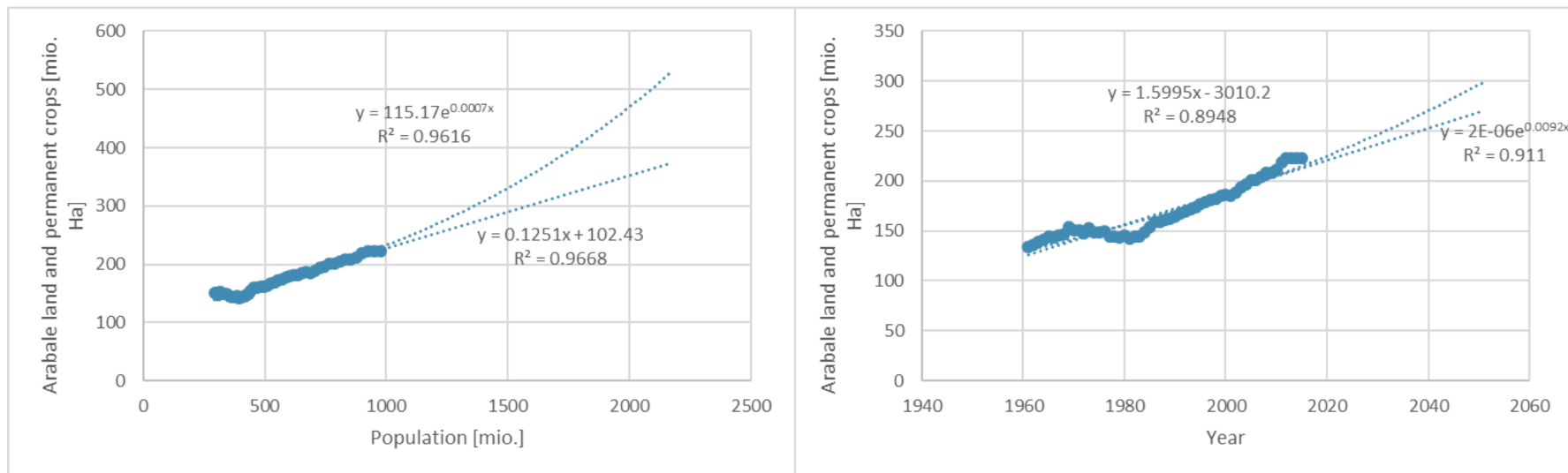
“**social, economic,** and **technological trends** do not shift markedly from **historical patterns.**” (SSP2)

“Countries **focus** on **achieving** energy and **food security** goals within their **own regions** at the expense of broader-based development.” (SSP3)

To construct scenarios for FNS, the highlighted terms need to be interpreted into quantifiable scenario drivers ...



Alternative trends for arable land in SSA



Source: FAOSTAT

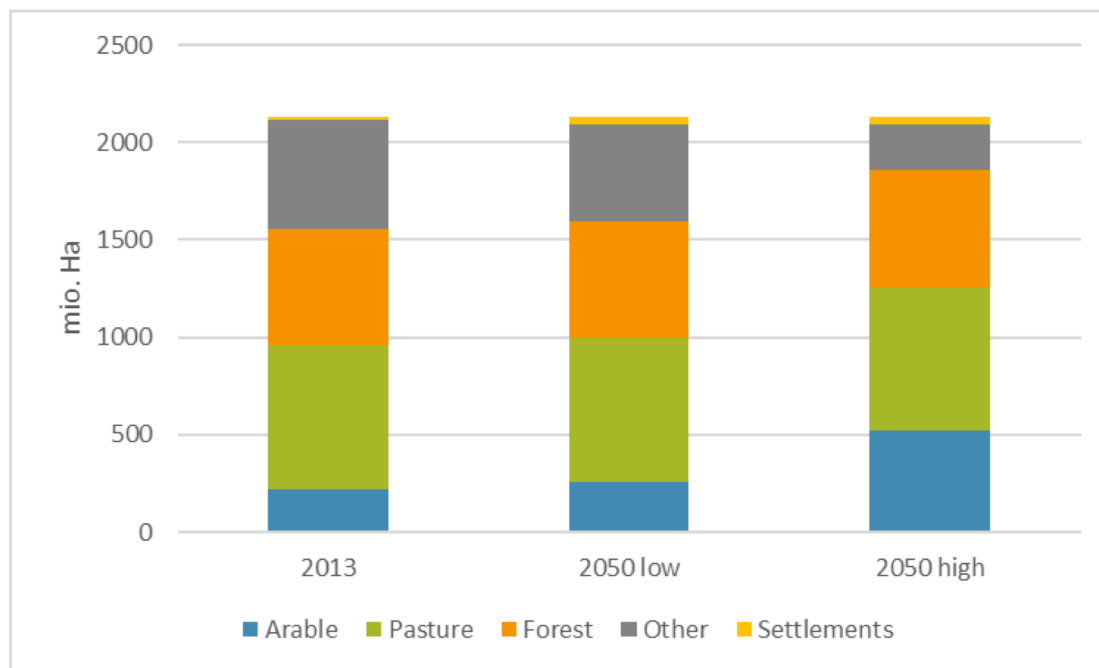
Shown trends do not account for income growth

Range of shown trends until 2050: 260-520 mio. Ha.

What would be feasible?



Feasibility of trend scenarios for arable land in SSA



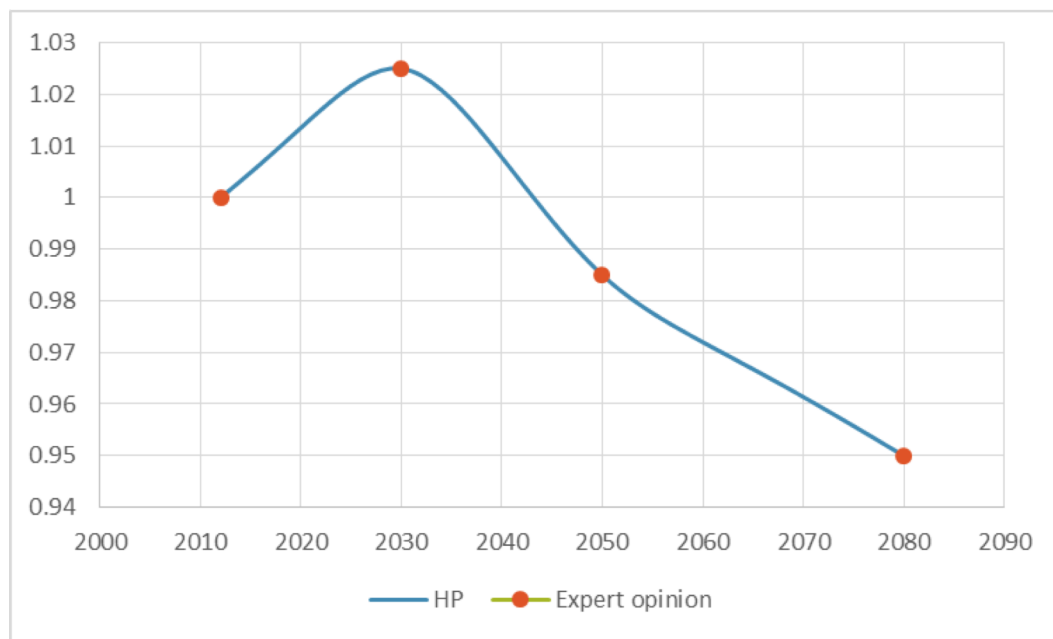
Source: FAOSTAT and GPS

Here: Expansion of arable land only at cost of “Other”

**Is the right panel plausible? “Other” includes deserts and low-suitable areas:
land development possible? Depends on ...**



Including expert opinions: e.g land



Stylized expert statements:

“That’s not possible”, “[...] too high [...]”, [...] too low [...]”

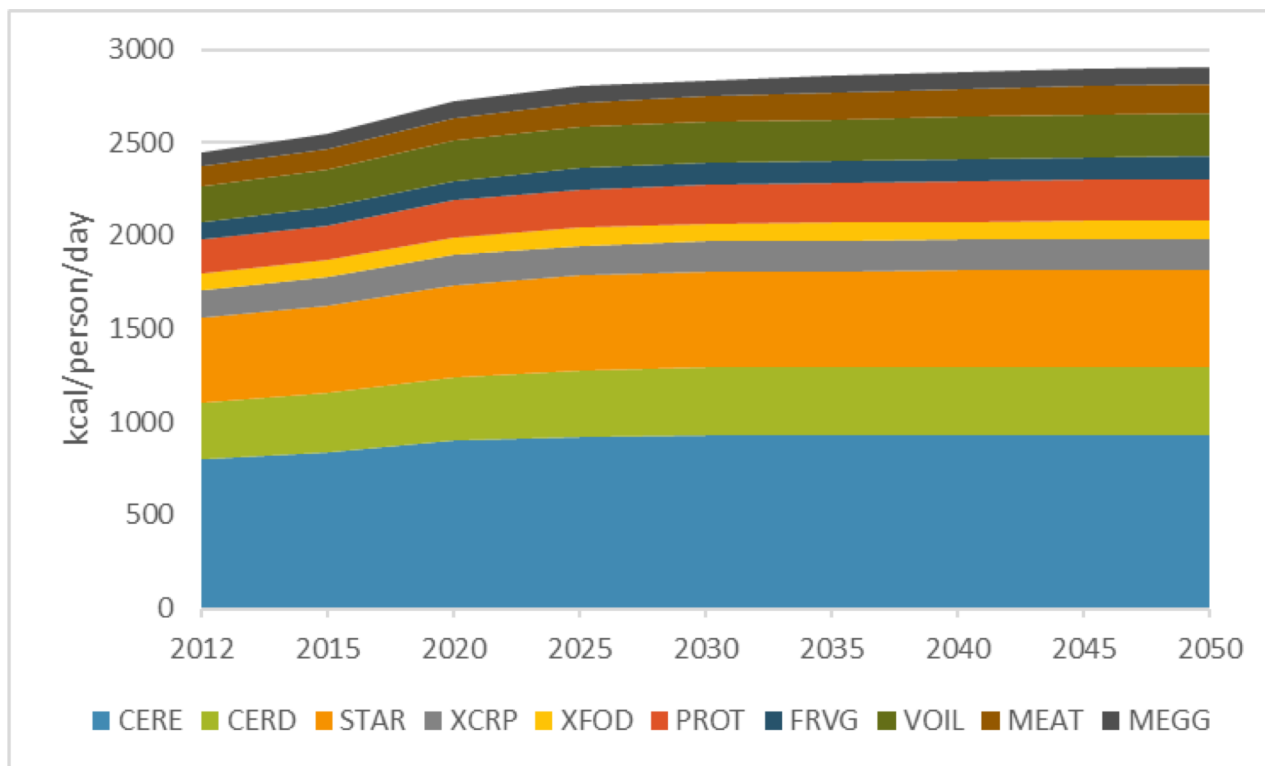
“Until 2030, countries will push towards achieving SDGs, get funding, too,...”

“Climate change will cause losses of fertile land, will become visible after 2030,...”

“Beyond 2050, population growth slows down and pressure on farmland declines a bit”



Food security in SSA under SSP3 per capita income



Source: FAOSTAT and GPS

Here: Expansion of average food demand until 2050, only income effects.



Global Perspectives Studies at FAO: Publications

Corporate reports on key issues

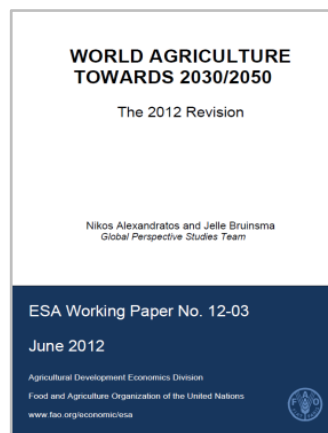
- E.g. report on “*The future of food and agriculture – Trends and challenges*” (2017)

World Agriculture towards 20XX

- long-term projections of agriculture, food security and natural resource use. Last baseline projection until 2050 (**AT2050**, Alexandratos and Bruinsma, 2012)

Upcoming report:

The future of food and agriculture – Alternative pathways to 2050





Food and Agriculture Organization
of the United Nations

Thank you

www.fao.org/global-perspectives-studies
