



Food and Agriculture Organization
of the United Nations

Systemic risks and challenges for food and agriculture

**FAO Global
Perspectives Studies**

**Foresight4Food Workshop
22-24 May 2018**





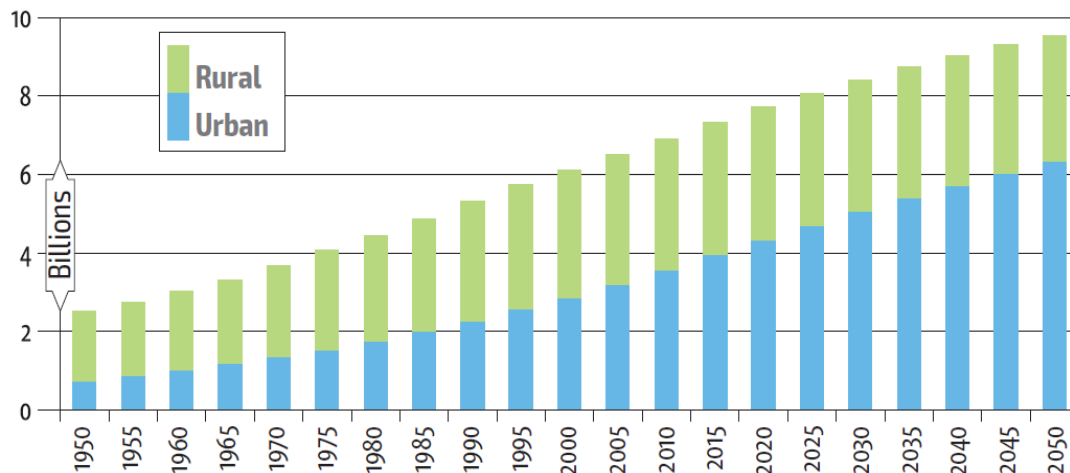
Systemic risks in food and agriculture

1. Goods and services provided by food systems are
 - Income and employment opportunities for economic agents providing services to the systems
 - Availability of food and agricultural goods
 - Provision of environmental services, including GHG sequestration, territorial control, social cohesion, etc...
2. In general terms, the risk of failure (or serious disruption) of an entire system, which jeopardizes its capacity to deliver expected outputs;
3. In food and agriculture, systemic risks jeopardize the sustainable delivery of goods and services.



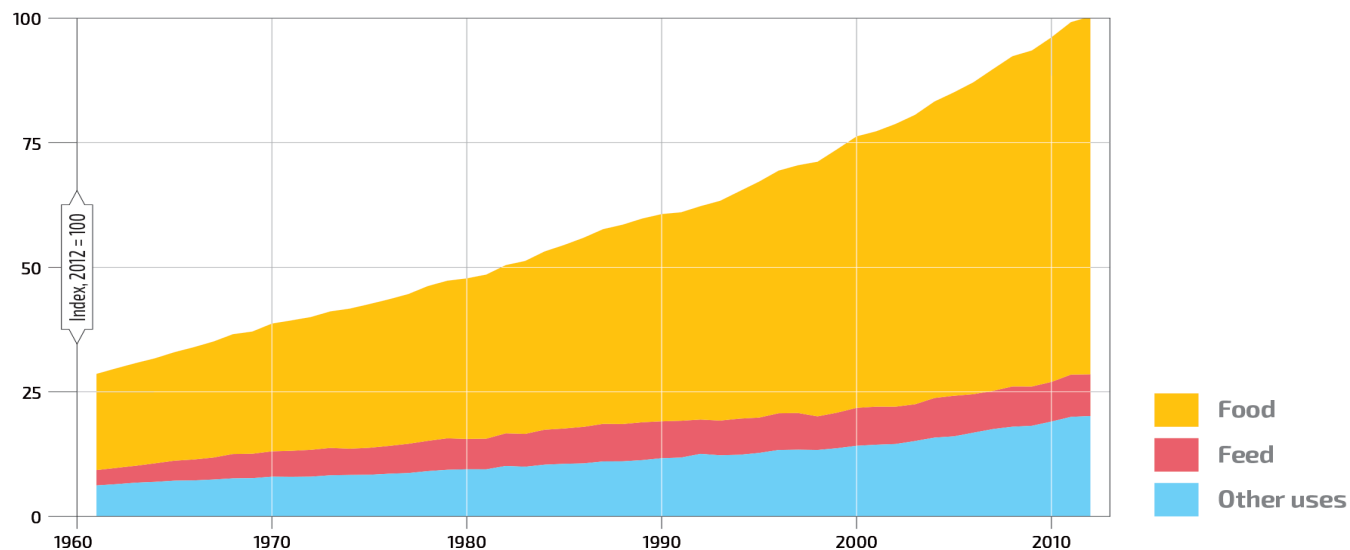
Trends impose risks for food and agriculture

- Global population and income growth fuel agricultural demand
- GHG emissions exacerbate climate change and natural resource stress
- Employment prospects look challenging
- Poverty, hunger and malnutrition persist
- Between-country inequality has increased ... and LMIC are not “catching-up” with HIC
- Food systems are becoming more concentrated
- Investment in agriculture is skewed towards HIC



**Population and
income growth
fuel agricultural
demand**

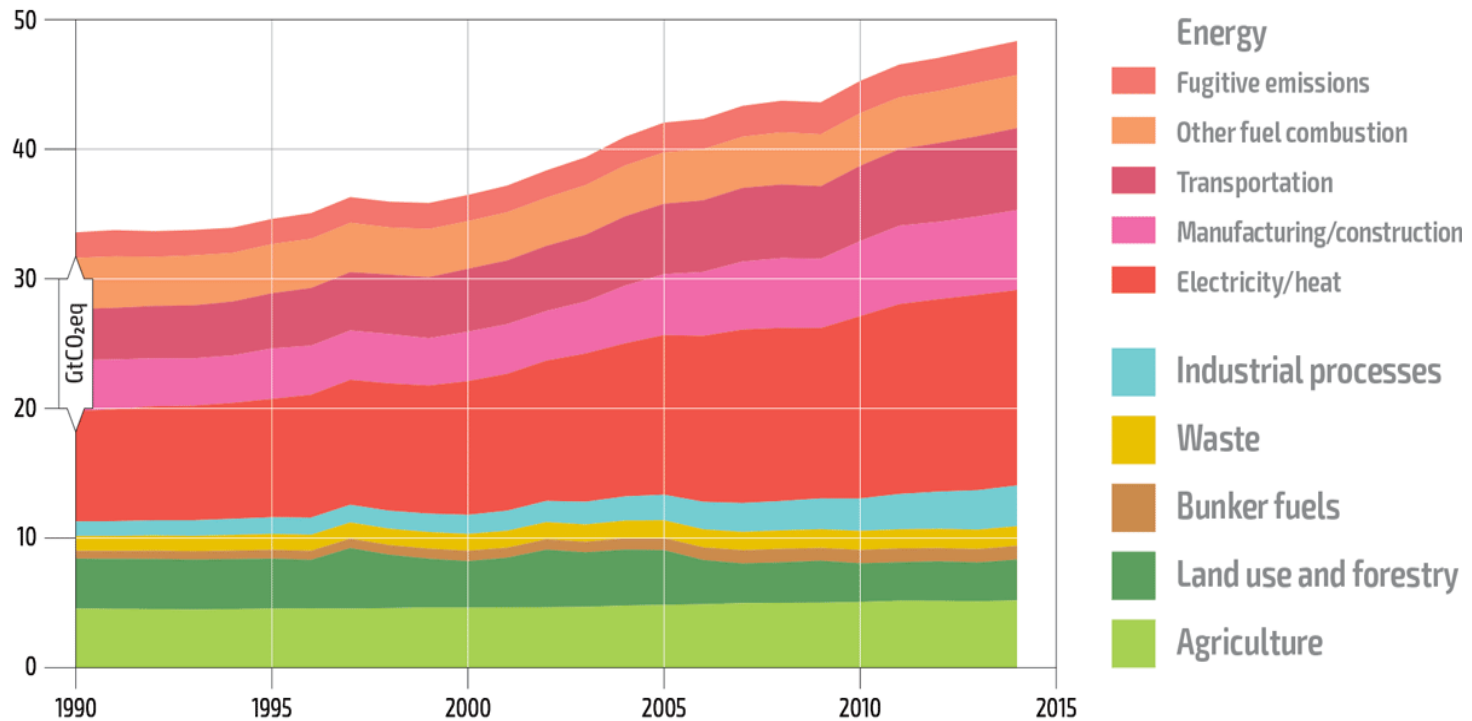
Source: UN, 2015.



Source: FAO GPS unpublished, based on UN Population division projections and FAOSTAT.



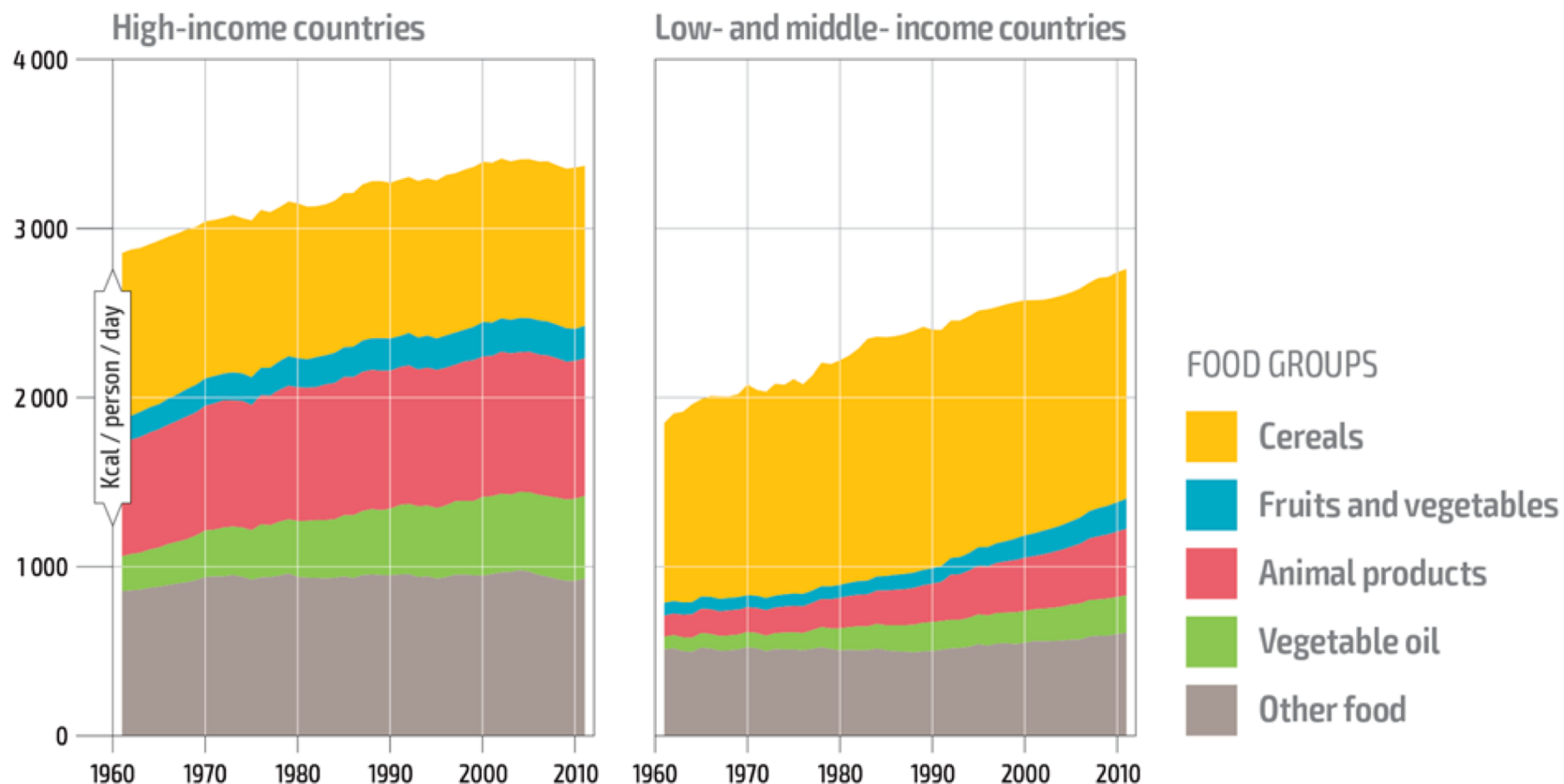
GHG emissions exacerbate climate change and natural resource stress



Source: FAO Global Perspectives Studies, unpublished



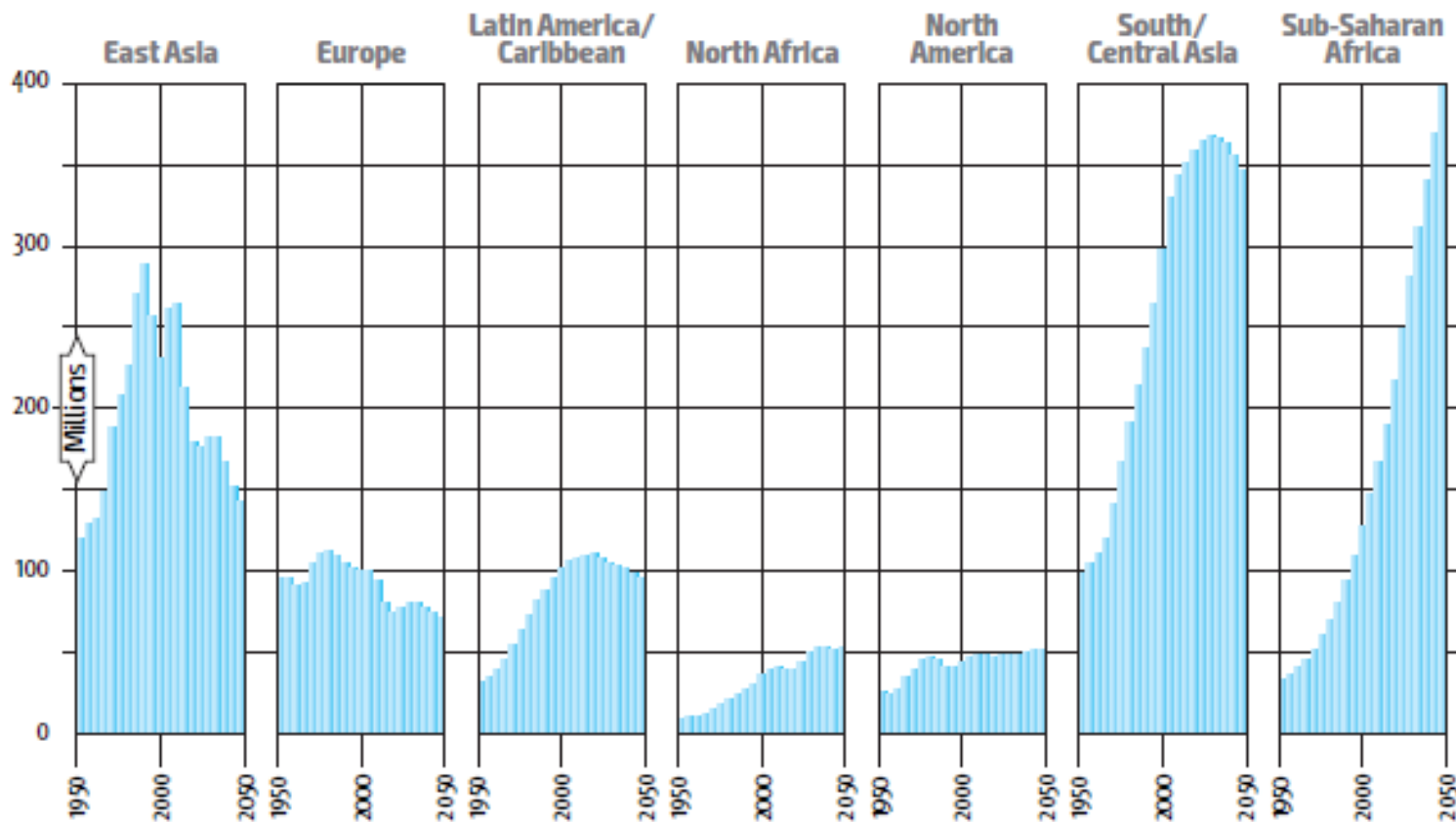
Dietary transition exacerbates pressure on already limited natural resources



Source: FAO Global Perspectives Studies, unpublished

Employment prospects look challenging

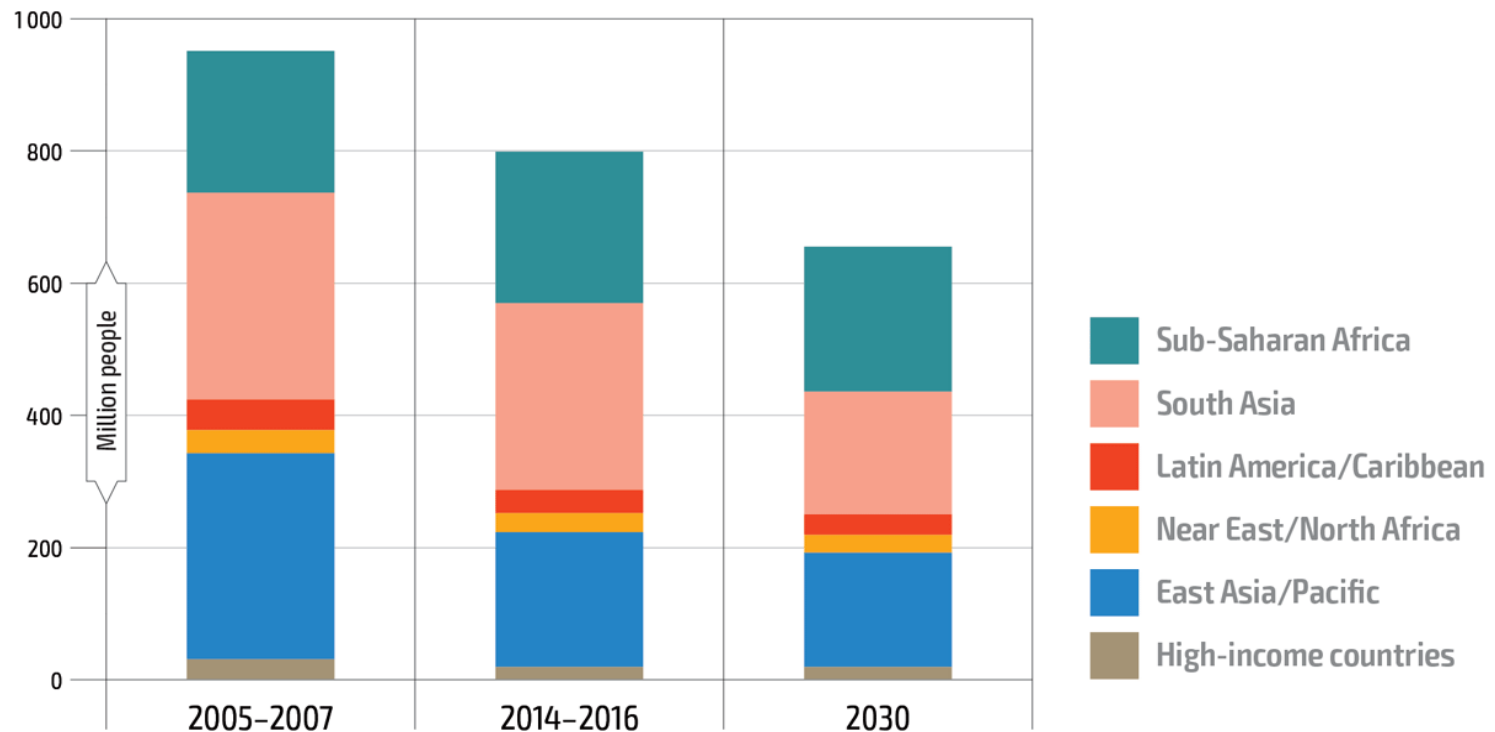
Figure 10.4 Estimates of the population aged 15-24 years, 1950-2050



Source: FAO Global Perspectives Studies, unpublished.



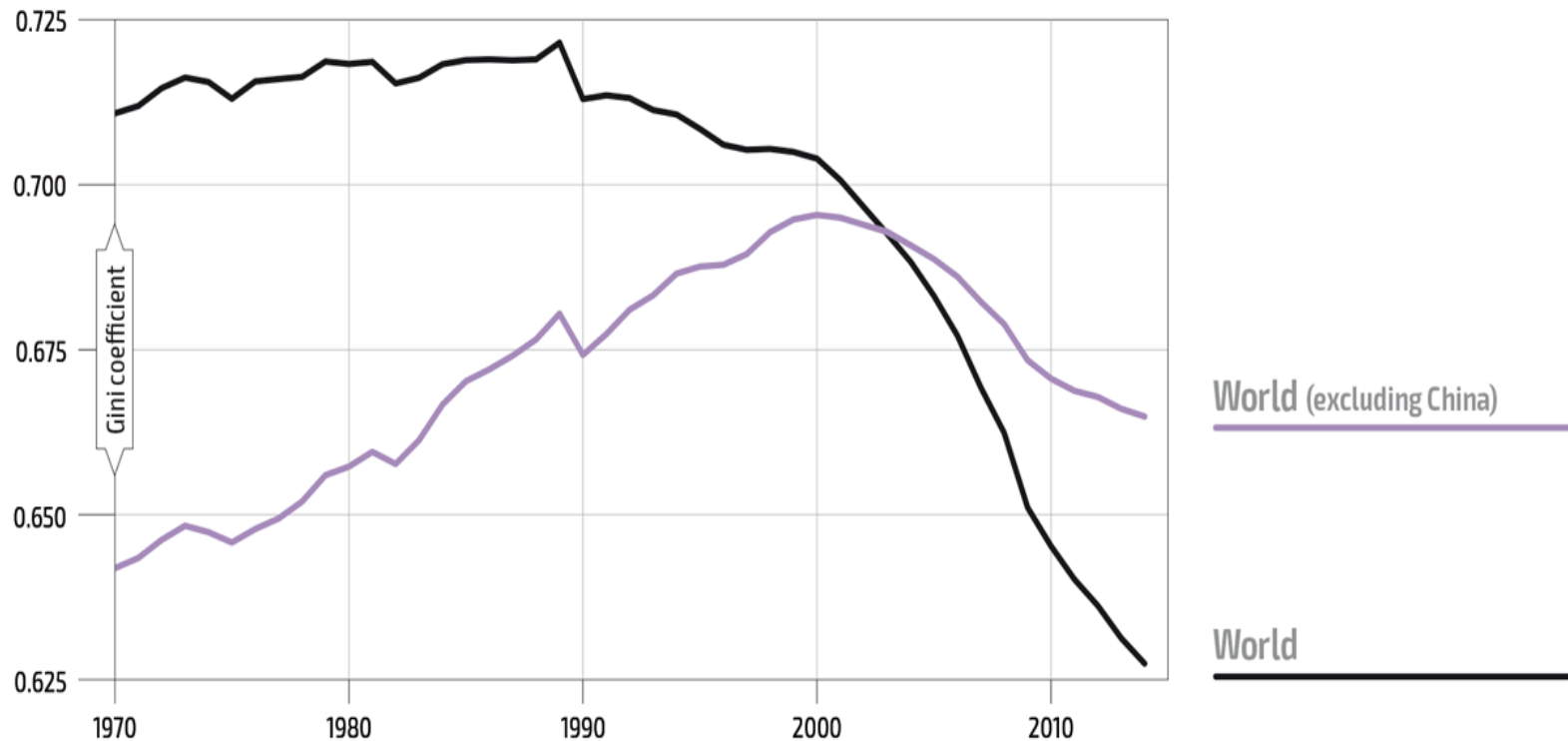
Poverty, hunger and malnutrition persist



Source: FAO Global Perspectives Studies, unpublished.



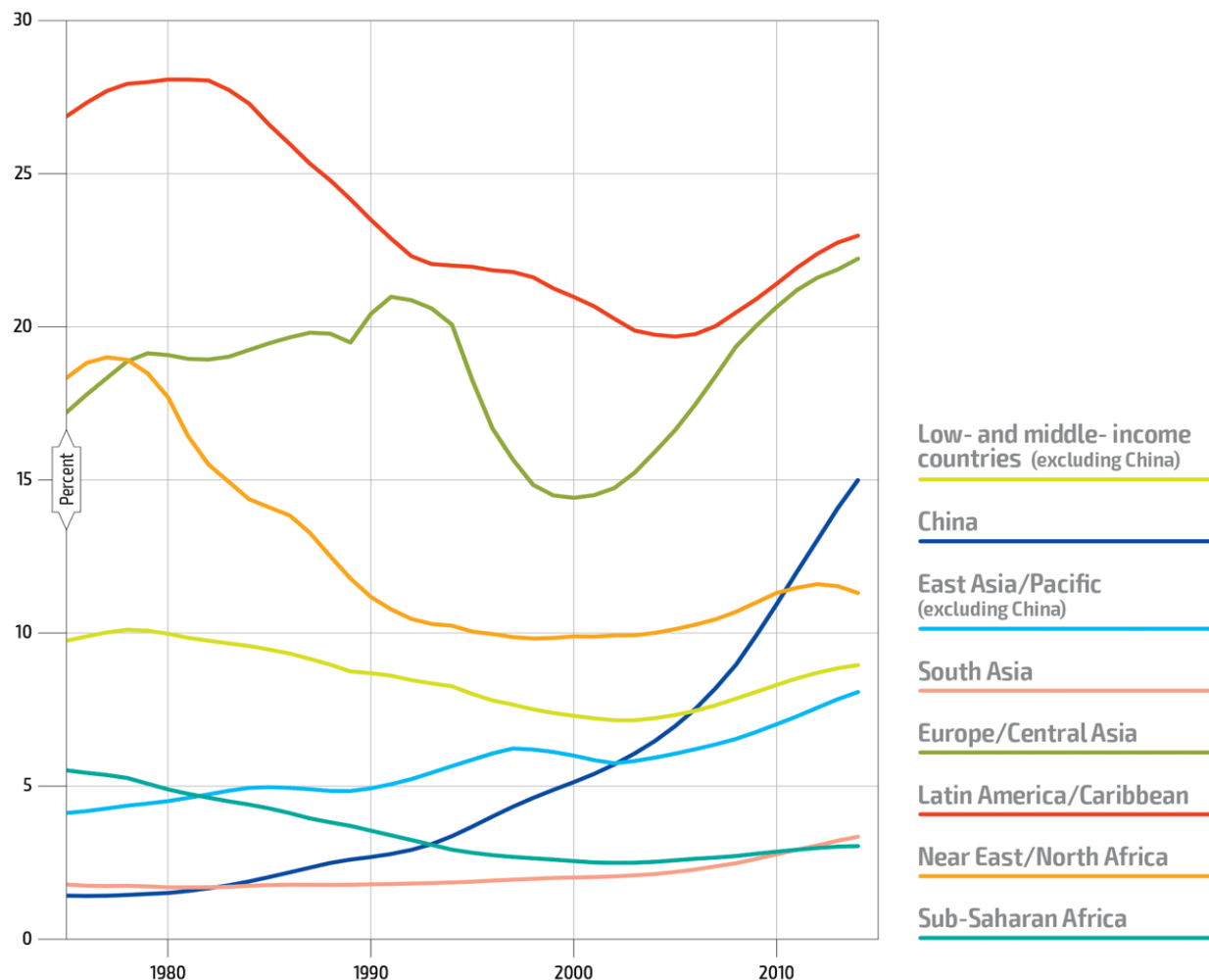
Between-country inequality has increased...



Source: FAO Global Perspectives Studies, unpublished.



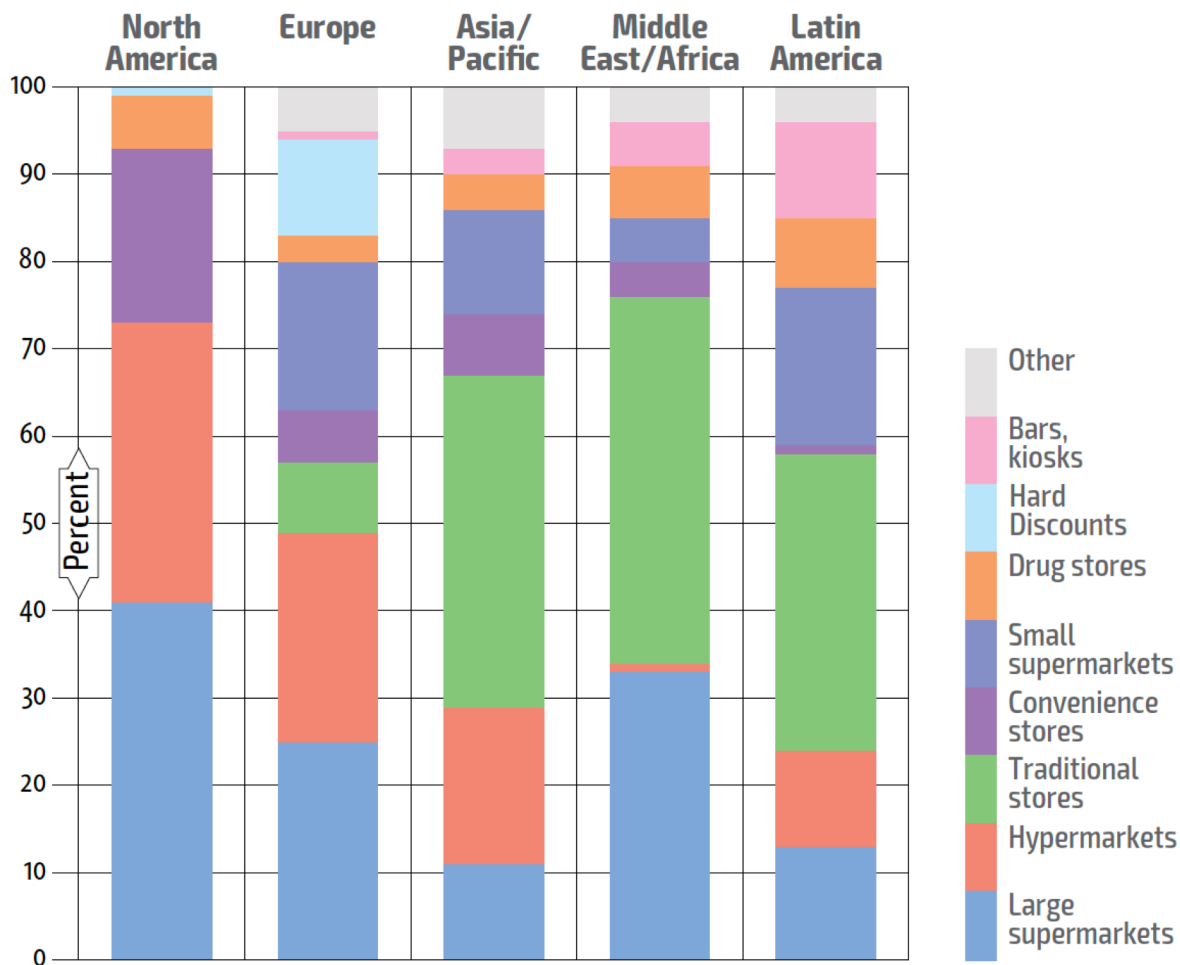
... and LMIC are not “catching-up” with HIC



Source: FAO Global Perspectives Studies, unpublished.



Food systems are becoming more concentrated



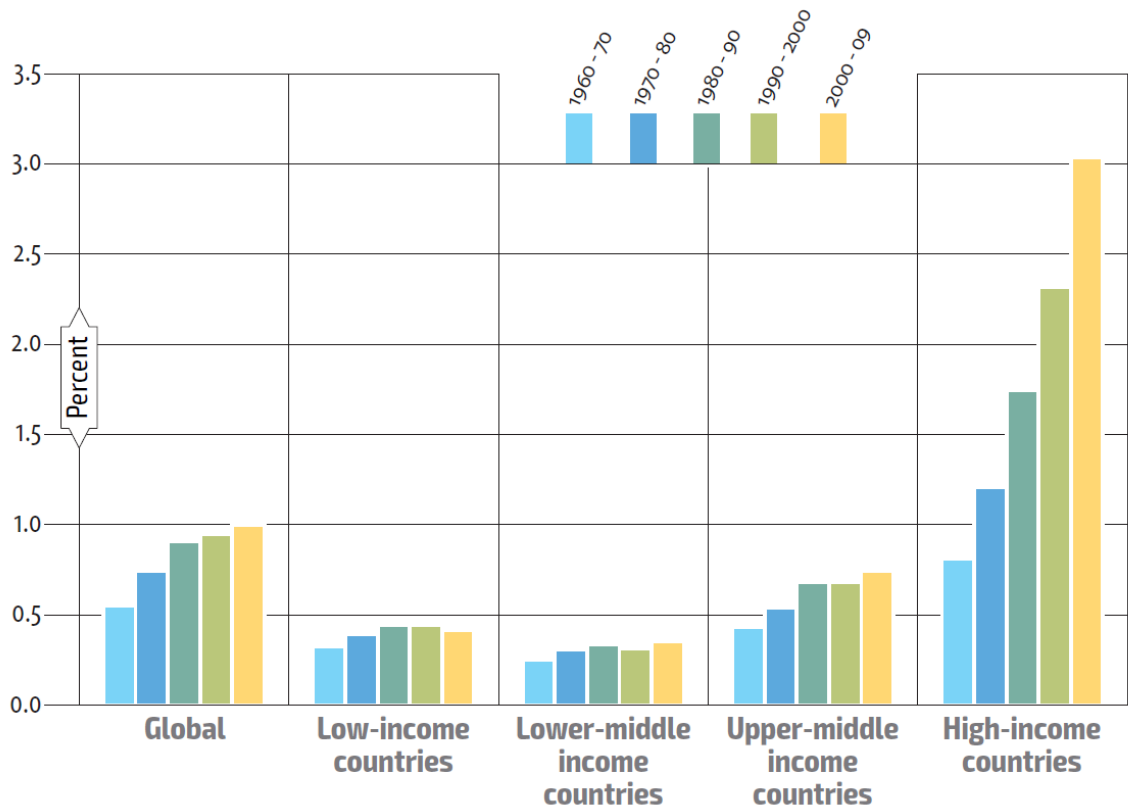
Source: FAO Global Perspectives Studies based on Nielsen, 2015.



Investment in agriculture is skewed towards HIC

- Low- and middle income countries invest almost as much as HIC in agriculture, in absolute terms, but much less relative to size of agricultural sector
- Also, lob-sided investment in R&D for agriculture

Figure 5.3 Averages of agricultural research intensity, by country income group





What challenge do these trend bring about?

Challenges for food stability and availability

1. Sustainably improving agricultural productivity to meet increasing demand
2. Ensuring a sustainable natural resource base
3. Addressing climate change and intensification of natural hazards
4. Preventing transboundary and emerging agriculture and food system threats



Challenges for access and utilization

5. Eradicating extreme poverty and reducing inequality
6. Ending hunger and all forms of malnutrition
7. Improving income earning opportunities in rural areas and addressing the root causes of migration
8. Building resilience to protracted crises, disasters and conflicts

Overall challenges

9. Making food systems more efficient, inclusive and resilient
10. Addressing the need for coherent and effective national and international governance



From all the above emerges that “business as usual” cannot be an option but transformative changes require “intelligence”

FAO's foresight analyses

- Explore possible pathways for future developments
- Based on past and current trends
- Can help identify critical and emerging issues
- Provide insight into the feasibility of alternative pathways
 - What if there is a break in ongoing trends
 - What if there are breakthroughs in policy or technology



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More on

The future of food and agriculture

Trends and challenges

<http://www.fao.org/3/a-i6583e.pdf>

Alternative pathways to 2050

(forthcoming)

FAO Global Perspectives Studies

www.fao.org/global-perspectives-studies



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The future
of food and
agriculture

Trends
and challenges



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Alternative
pathways to 2050