

Who Will Feed the World's Cities? The Rural-Urban Convergence



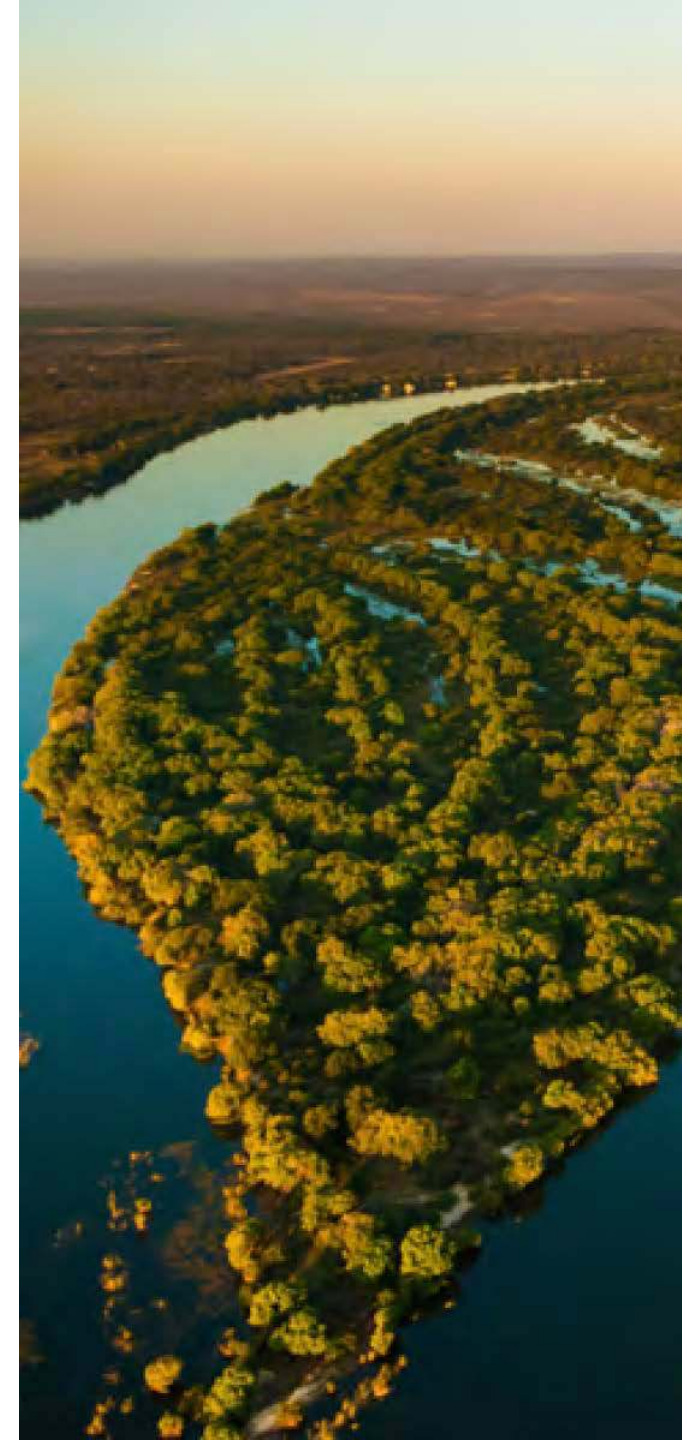
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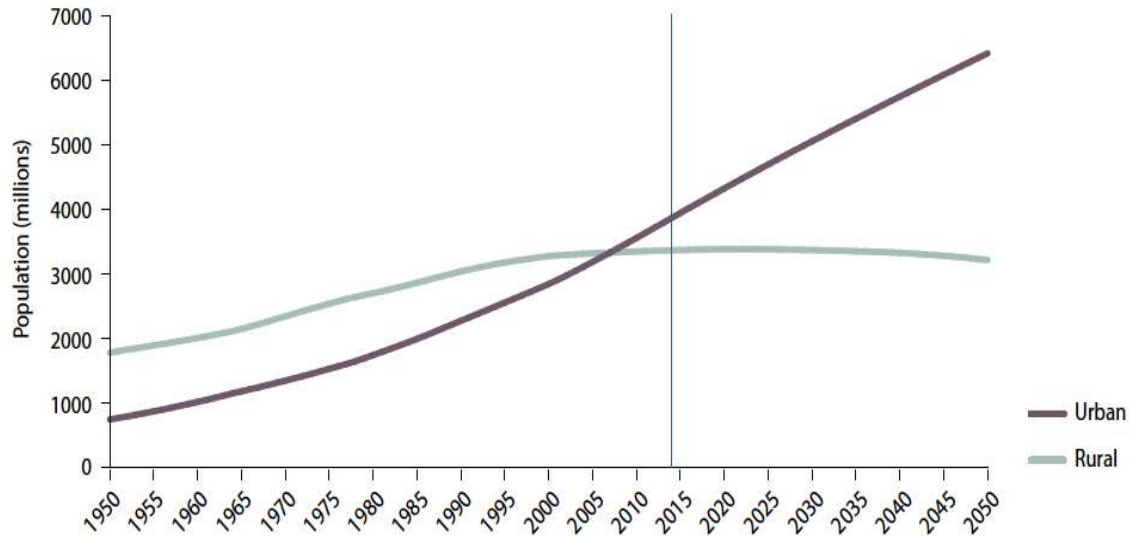
“...Move the food security debate out of the silos- rural development and food security, food supply chains/agribusiness and food security, urbanization and rural development. In the modern world, these are bundled and interconnected. The food security debate should be too.”

--Tom Reardon and Peter Timmer 2014 (GFS J)



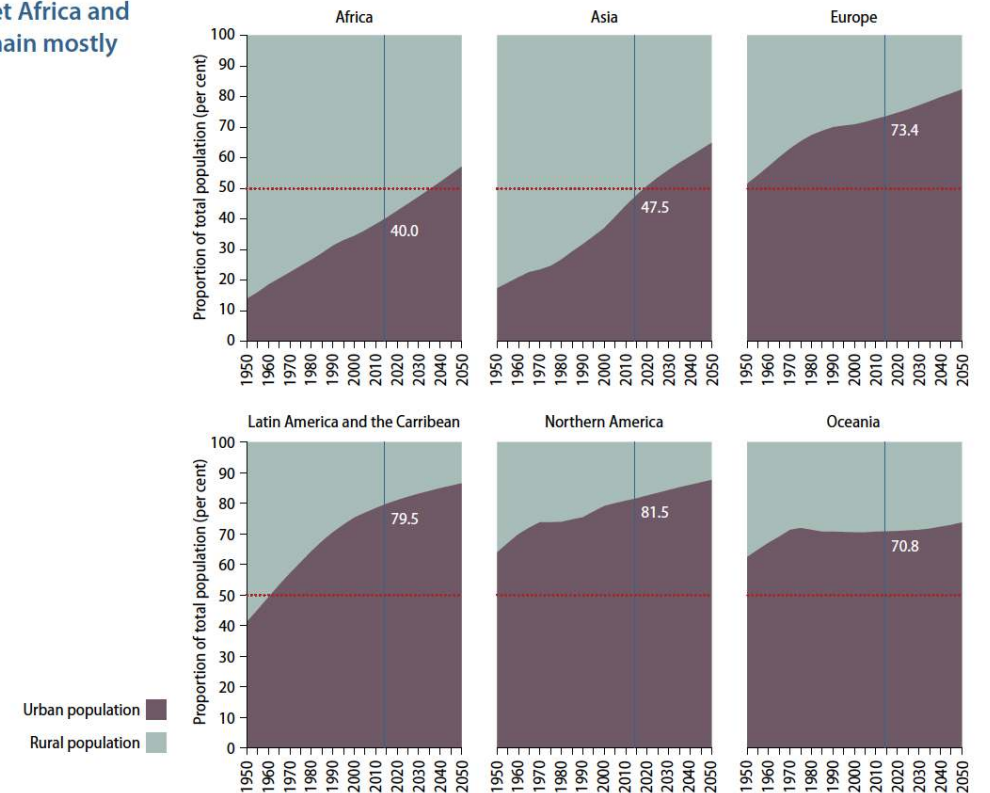
By 2050, 70% of the world's population will be living in urban areas in search of employment and economic opportunities.

Who will feed these growing populations?



Urbanization has occurred in all major areas, yet Africa and Asia remain mostly rural

Figure 3. Urban and rural population as proportion of total population, by major areas, 1950–2050



Pace and Type of Urbanization

Figure 4.
Average annual rate of change of the percentage urban by major areas, 1950–2050

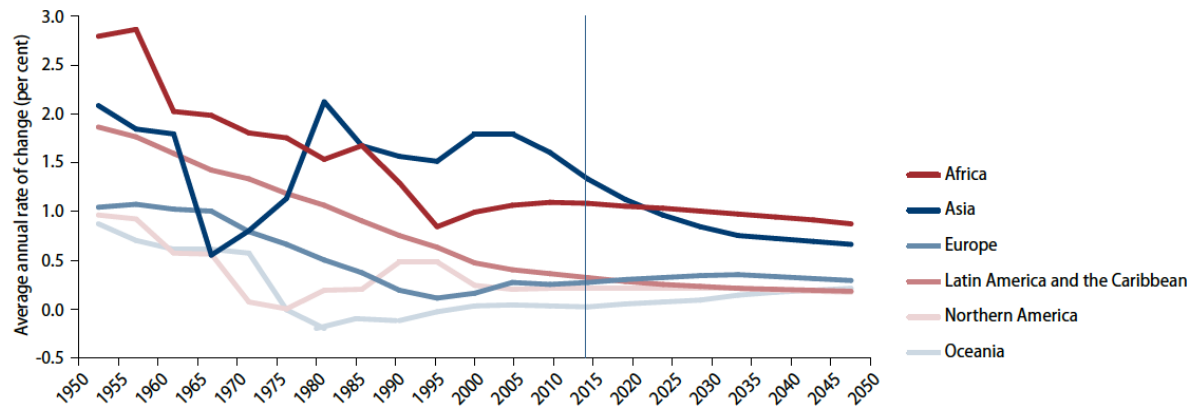
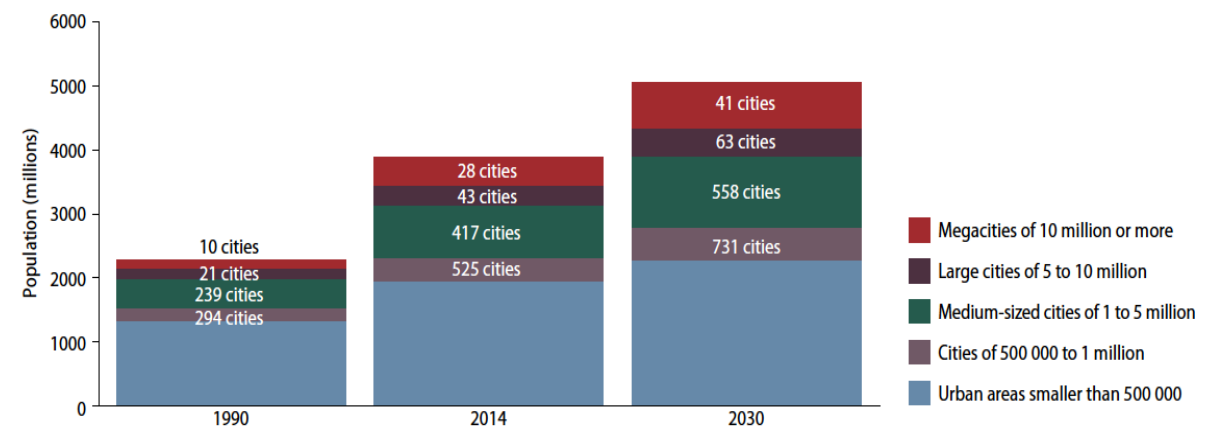
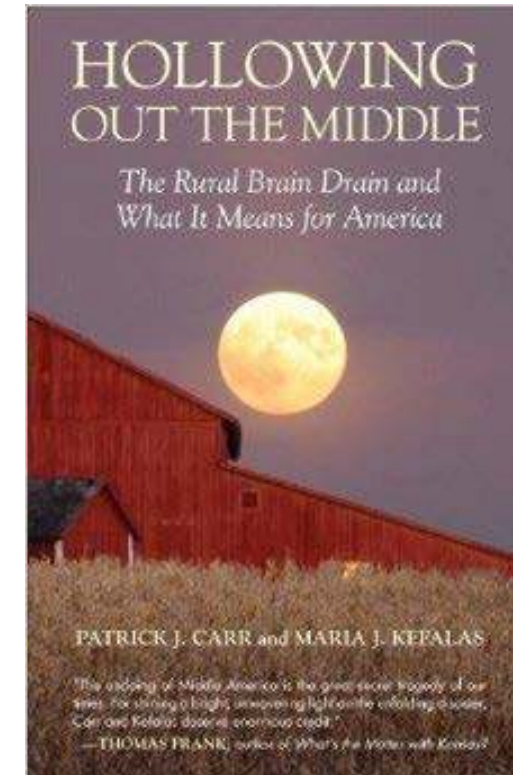
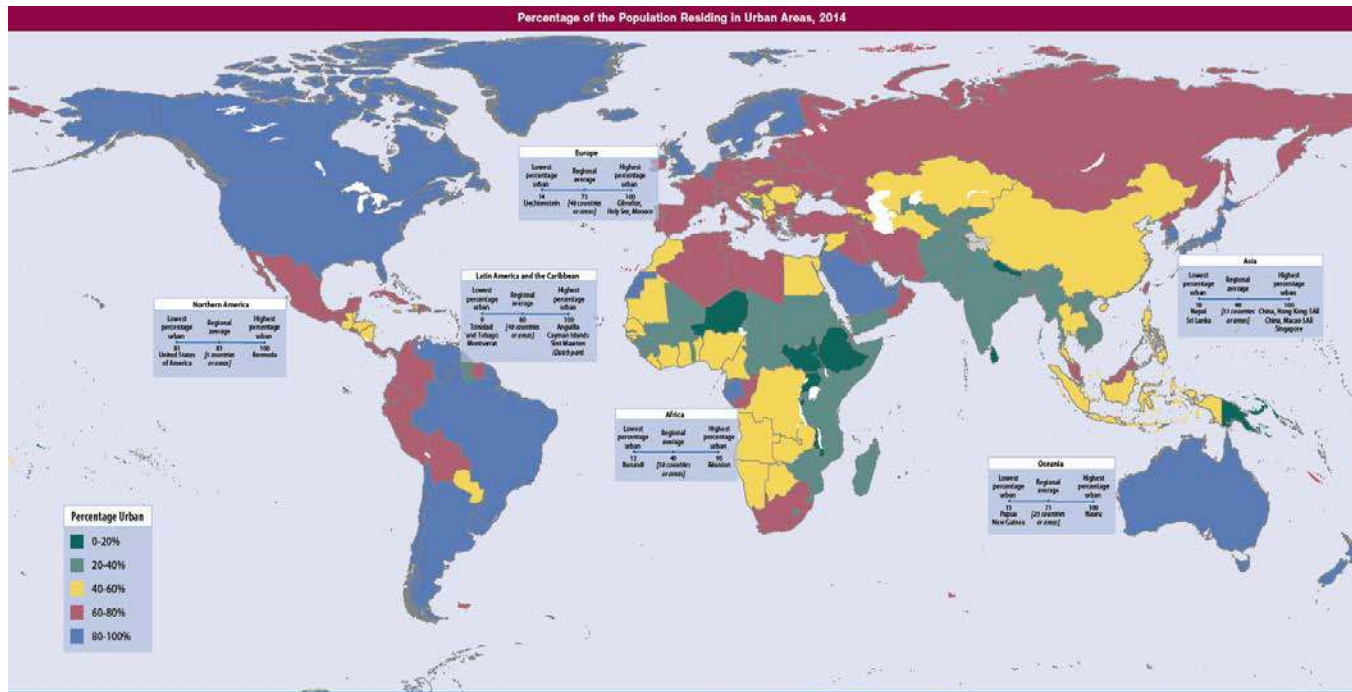


Figure 8.
Global urban population growth is propelled by the growth of cities of all sizes



What is happening in rural areas?

Approximately ~3.4 billion people currently live and work on about 500 million small-scale farms across the developing world.

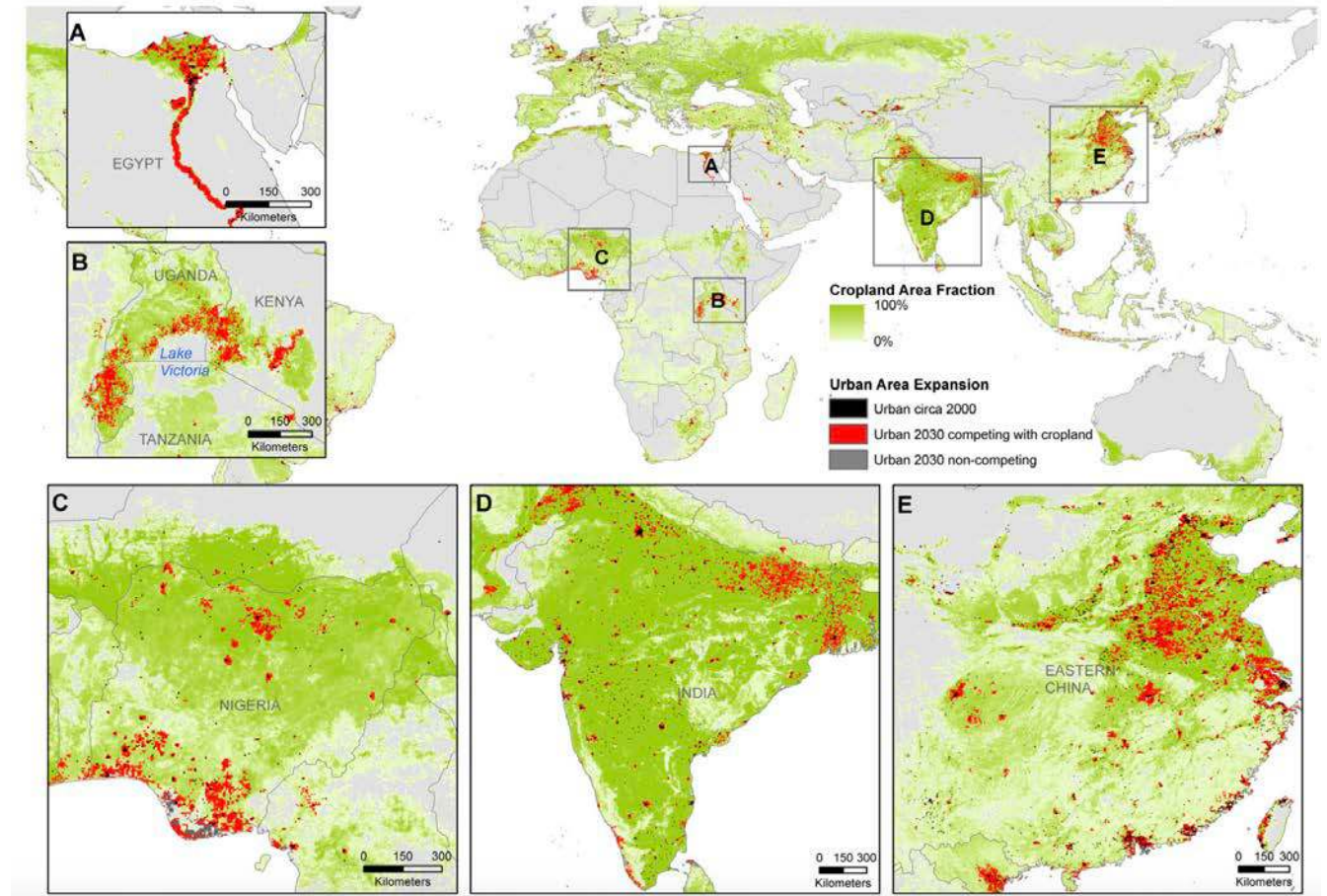


Impacts of Rural Livelihoods with Increased Urbanization

- In many parts of the world, we are seeing encroachment of cities into peri-urban and rural communities as well as “ruralized” urban areas and “urbanized” rural landscapes
- Loss of agricultural land due to urban expansion
- Declines in rural social services
- Push factors – climate change, natural capital declines
- Pull factors – Diversification of earnings and remittances; off-farm agribusiness/value chain expansion

Urban expansion will impact cropland

- Urban expansion will result in a 1.8–2.4% loss of global croplands by 2030, with substantial regional disparities.
- About 80% of global cropland loss from urban expansion will take place in Asia and Africa.



Urban Bias Remains an Obstacle

Causes include:

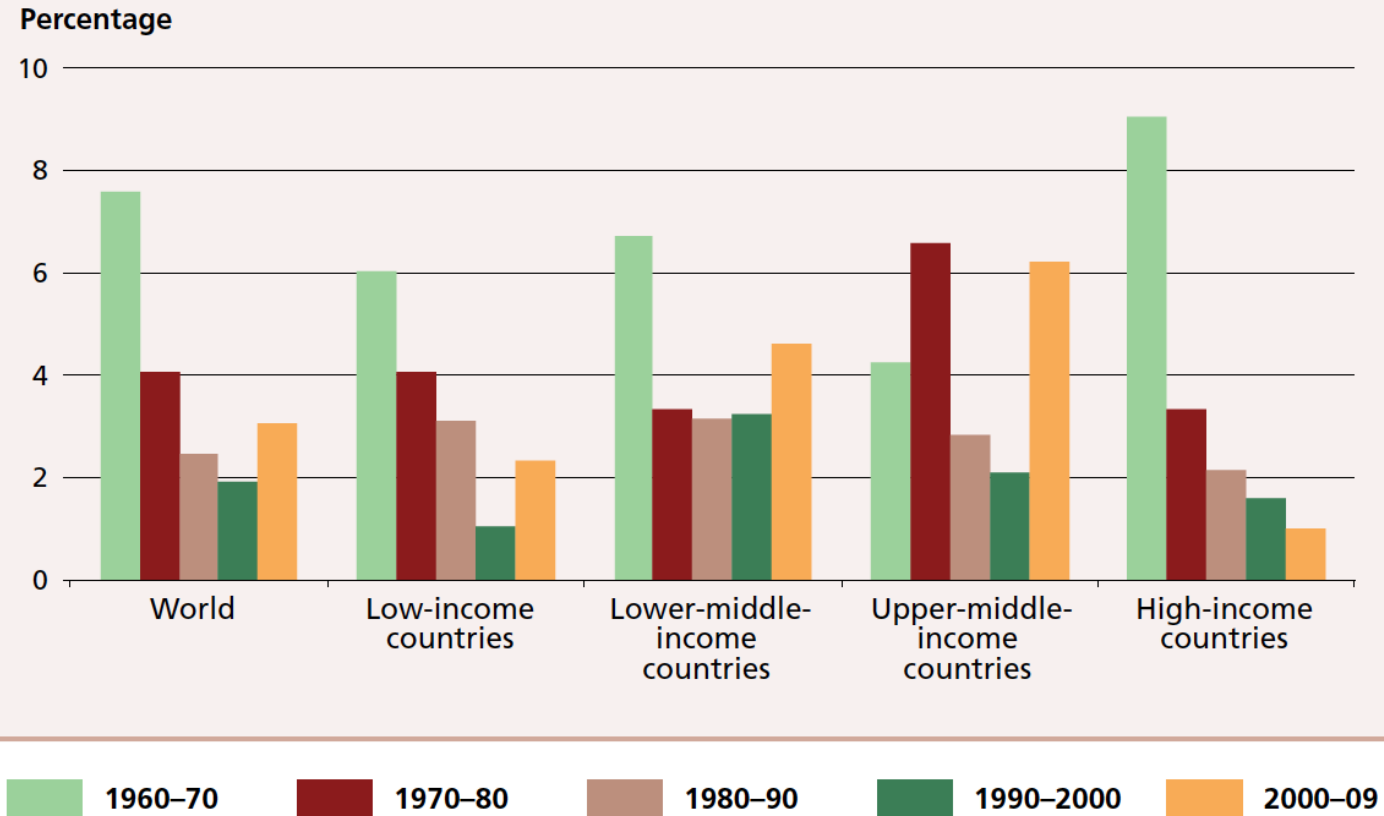
- increased discrimination in domestic pricing policies and in the international trade regime,
- decreased financial support from LDC governments and aid donors, and
- increased neglect of agriculture in development theory and economic research.

Table 1. *The persistence of domestic and international urban biases: causes and manifestations*

	Domestic urban biases (Section III)		International urban biases (Section IV)	
	Private Sector	Public Sector	Trade	Aid
Causes	<ul style="list-style-type: none"> • Colonial inheritance of dualistic economy • Externalities to agriculture not internalized • Severe market failures in agriculture 	<ul style="list-style-type: none"> • Relatively weak political voice of rural poor relative to rural rich, urban rich, and even urban poor 	<ul style="list-style-type: none"> • Relatively strong political voice of rural OECD constituencies (OECD's rural bias) 	<ul style="list-style-type: none"> • Washington-Consensus scepticism of government intervention in general, and sectoral intervention in particular • Perception that rural projects and Green Revolution have largely failed
Manifestations and costs	<ul style="list-style-type: none"> • Persistent rural poverty, urbanization of rural poverty, premature and thwarted attempts at industrialization • High land inequality in Latin America; high rural-urban inequality in Africa and other LDCs 	<ul style="list-style-type: none"> • High direct and indirect taxation of agriculture • African economies typically spend less than US \$10 per rural inhabitant on agriculture 	<ul style="list-style-type: none"> • Large levels of trade protection against LDC agricultural exports • High and rapidly increasing levels of subsidization of OECD agriculture 	<ul style="list-style-type: none"> • Sharply declining aid flows to agriculture sector • Declining World Bank research on agriculture relative to other fields

Investment in Agriculture

Average annual rates of growth in public expenditure on agricultural R&D, by decade and income group



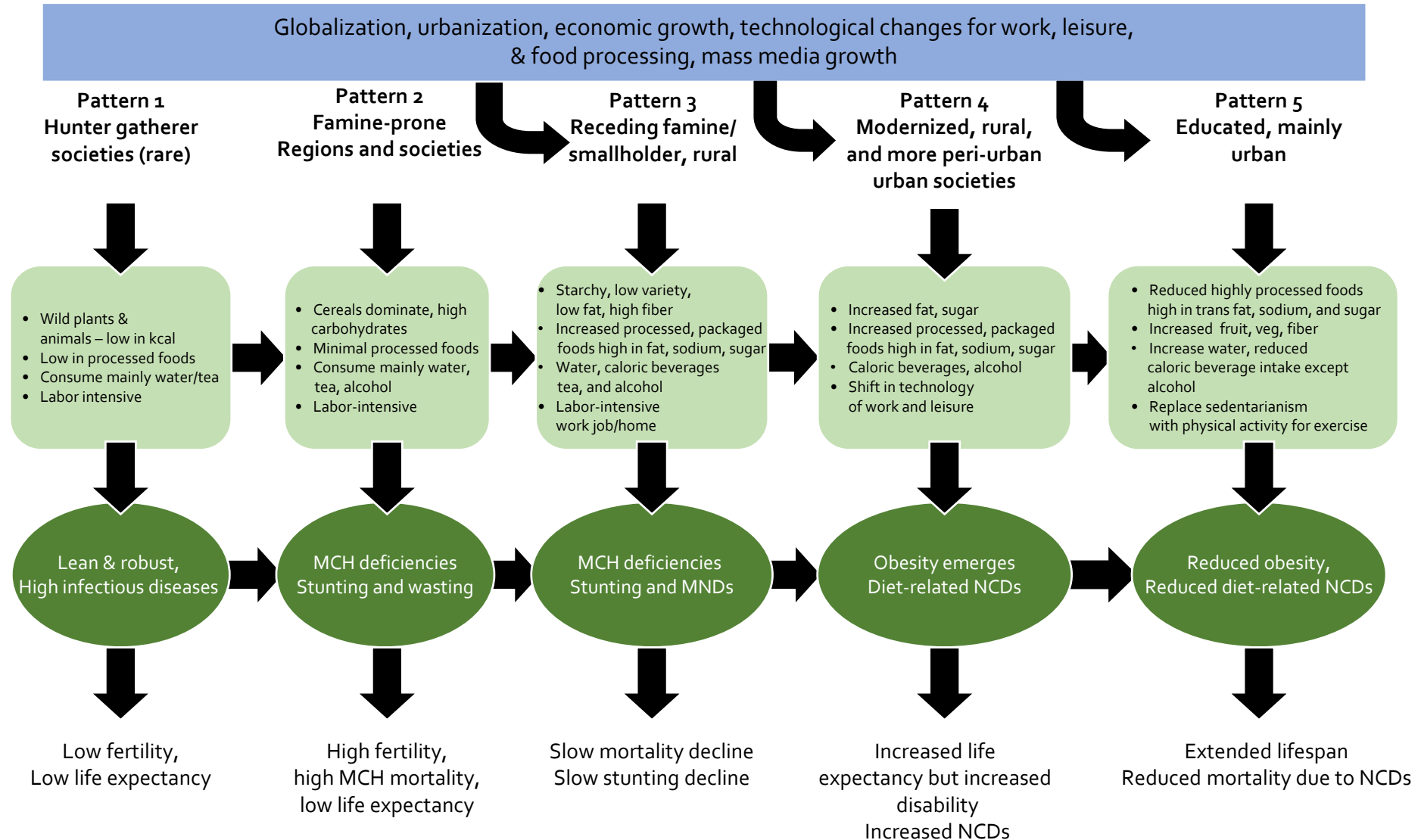
Notes: Simple average of annual rates of change in spending on agricultural research in each group for each decade. Data exclude countries in Eastern Europe and the former Soviet Union.
Source: Pardey, Chan-Kang and Dehmer, 2014.

We are an urban species fed from a manipulated-nature

“Twelve thousand years have passed since we began to transform from forager: to settled farmer. It took several thousand years of learning and culture before the transition was nearly complete. The twists of nature that human ingenuity devised have ratcheted up, step by step, our dominance as farmers on the planet. **Now we are transforming from farmers to urbanites. Our newest experiment-to feed massive numbers of people from the work of a few-is just beginning. The outcome is yet to be seen.** There will surely be more hatchets and pivots in the never-ending cycle of our species' manipulations of the planet's endowments. Humanity is still, and will always be, learning to live with the massive transformations our ingenuity has wrought.”

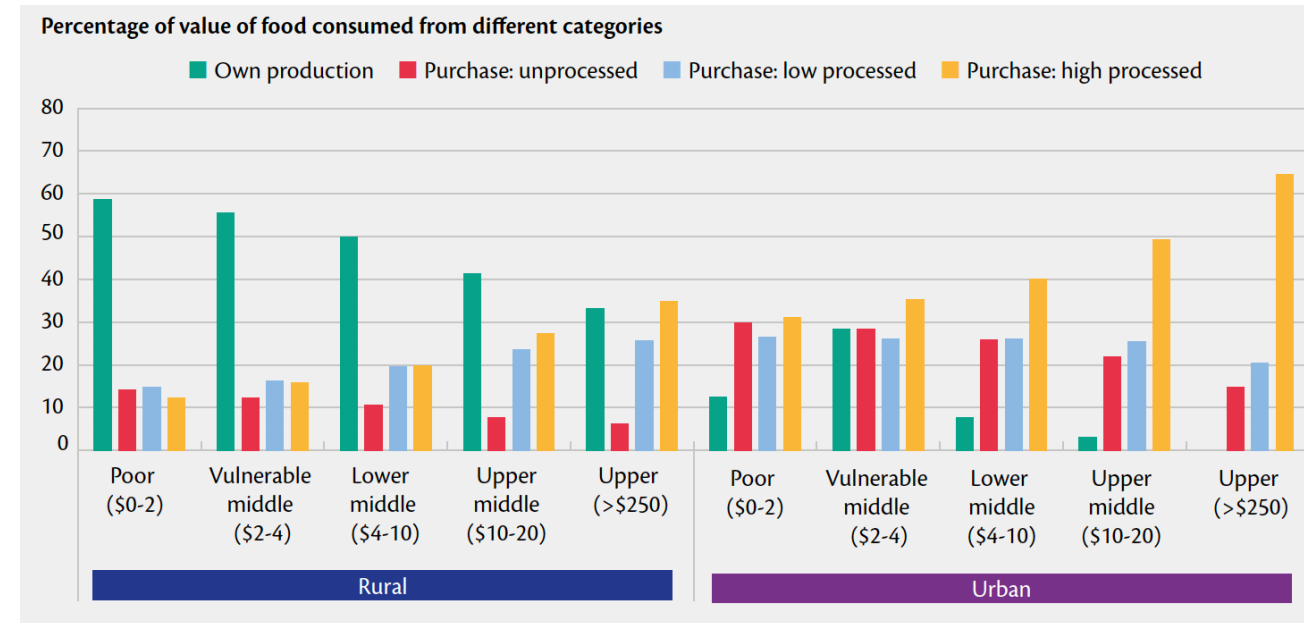
– *Ruth DeFries, The Big Ratchet*

Stages of the Nutrition Transition



How are diets changing?

- Rising incomes, urbanization, greater female participation in the workforce, wider media penetration—all are driving the demand for **higher-value products**, semi-processed and processed products, and convenience foods.
- Diets are globalizing too, with local consumer preferences influenced by international tastes.
- These trends open new markets for a wide range of higher-value agricultural products and propel the evolution of the marketing system in many developing countries, with the entry and rapid growth of supermarket chains and the food processing and food service industries.





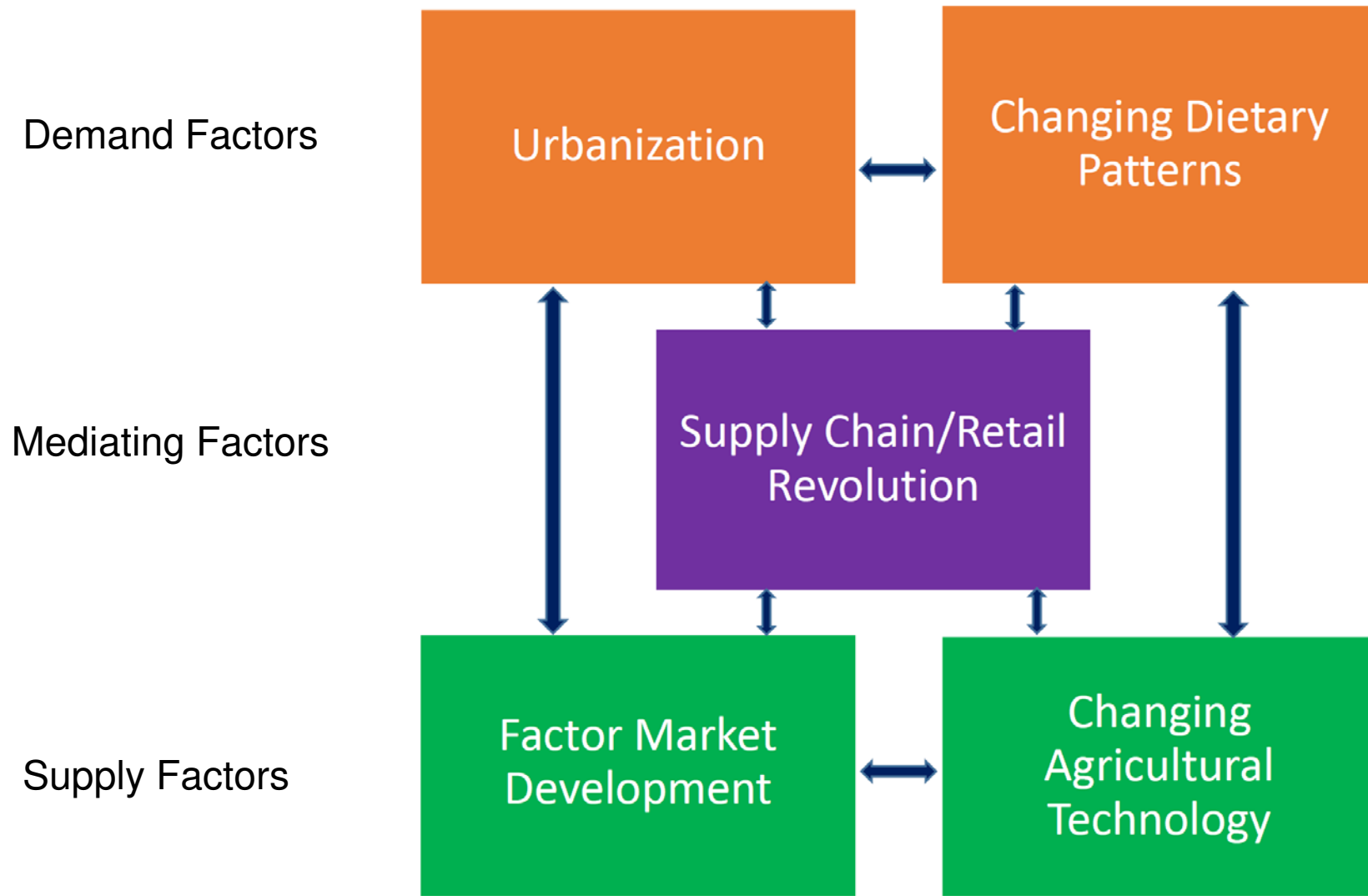
Ecuador: The Ayme family of Tingo

Food expenditure for one week: \$31.55

Family recipe: Potato soup with cabbage



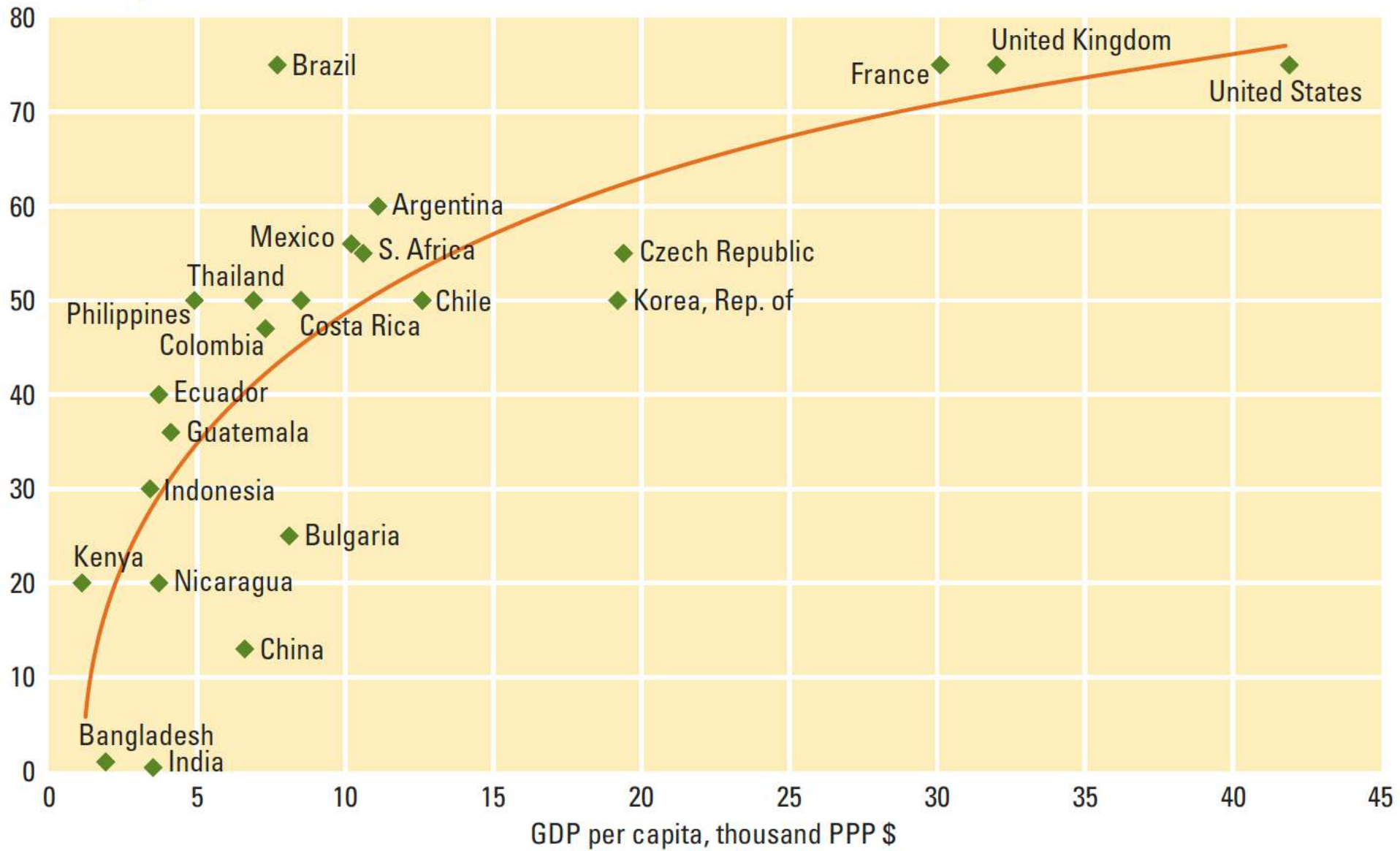
United States: The Revis family of North Carolina
Food expenditure for one week: \$341.98
Favorite foods: spaghetti, potatoes, sesame chicken



Five Interlinked Transformations of the Food System

Adapted from Reardon, T., Timmer, C.P., Five inter-linked transformations in the Asian agri-food economy: Food security implications. *Global Food Security* (2014), <http://dx.doi.org/10.1016/j.gfs.2014.02.001>

Share of supermarkets in retail food



Sources: Reardon and Berdegúe 2006; World Bank 2006y.

High Value Products

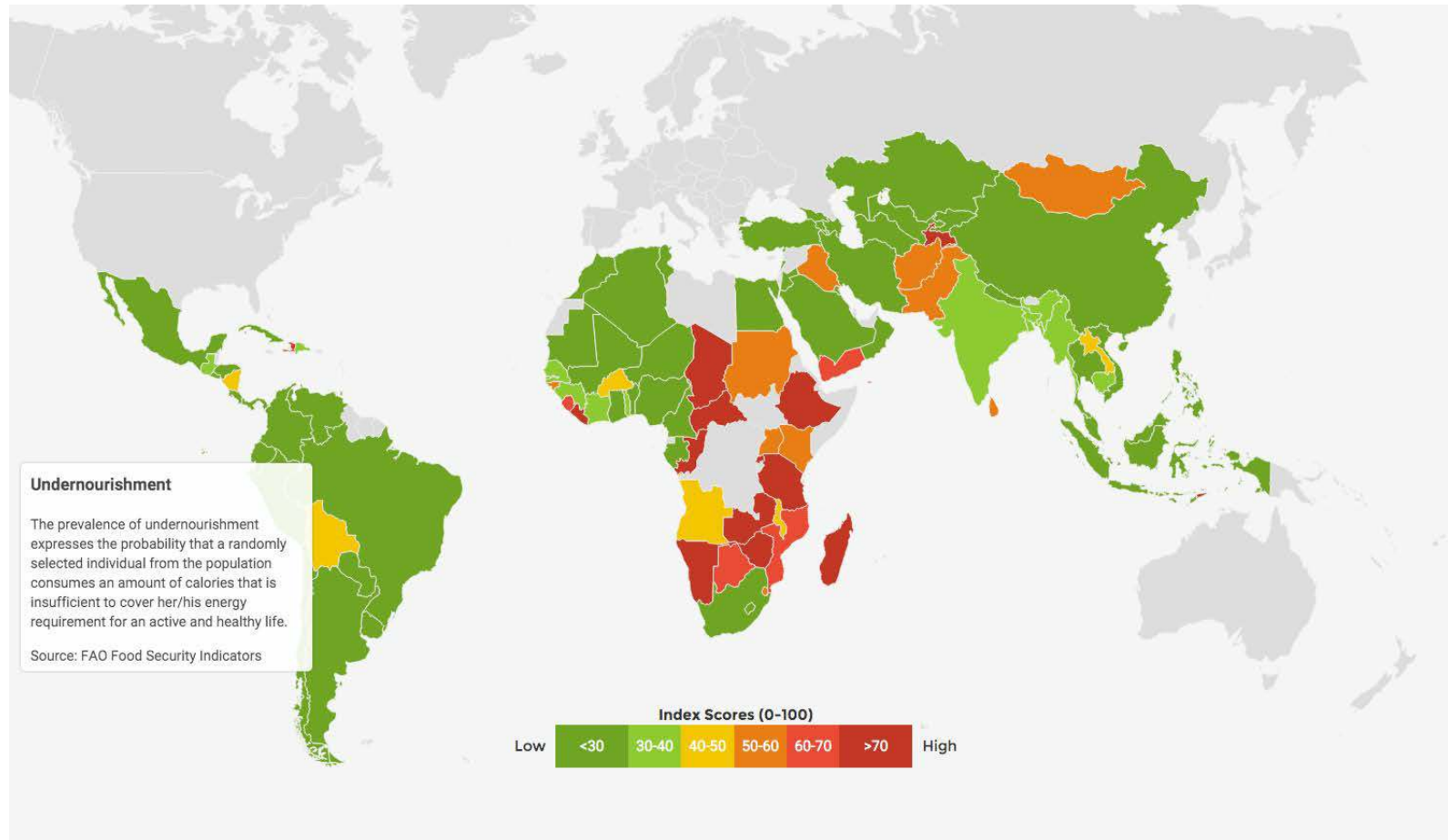
- The perishability of most high-value agricultural products requires careful handling, special facilities (packhouses, cold storage, and refrigerated transport), and rapid delivery to consumers to maintain quality and reduce physical and nutritional losses.
- In many developing countries and rural areas, the long supply chain, poor access to roads and electricity, and inadequate infrastructure and services in physical markets add to the transaction costs and cause quality deterioration and high spoilage losses.

**Why should we invest
in rural development?**

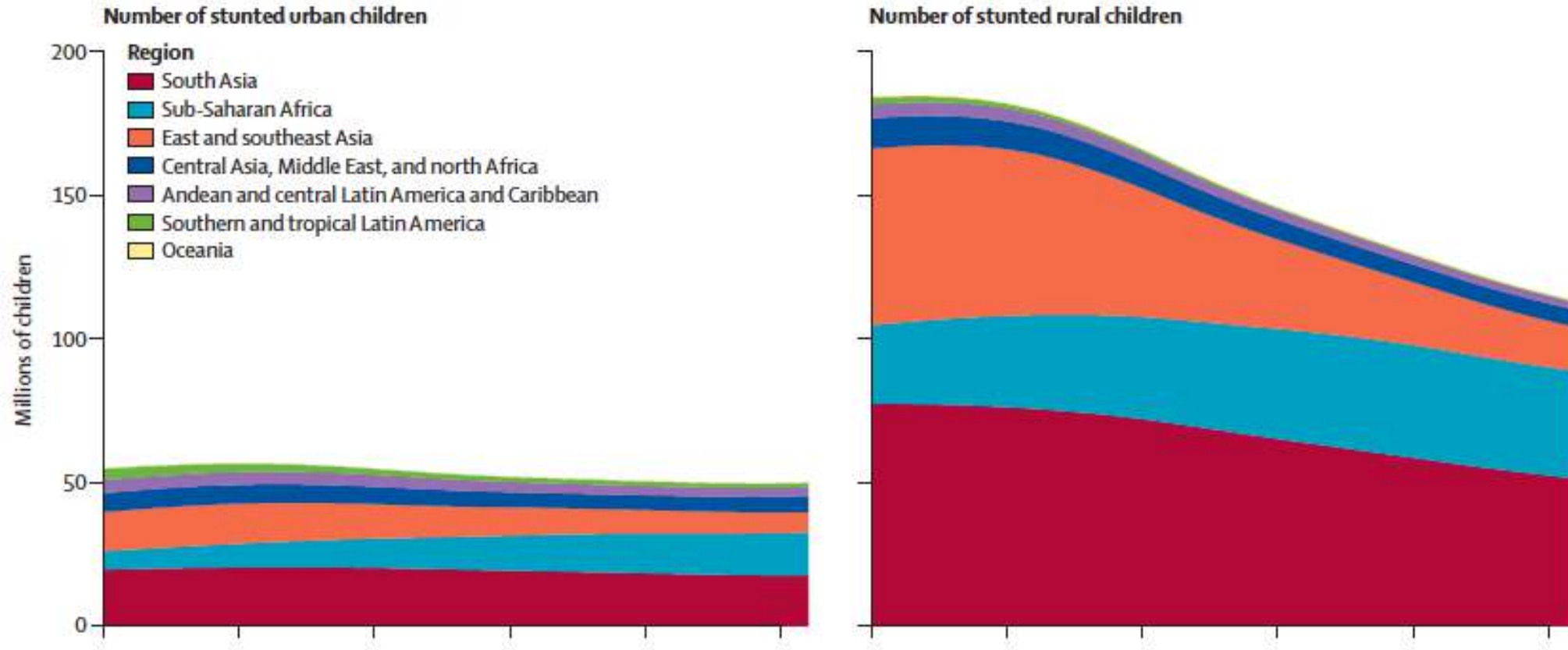


1. Hunger and undernutrition dominate rural populations (although also high in many urban slums), thus there is a need to invest in sound food security and nutrition strategies to tackle the burden to ensure that farmer families are healthy.

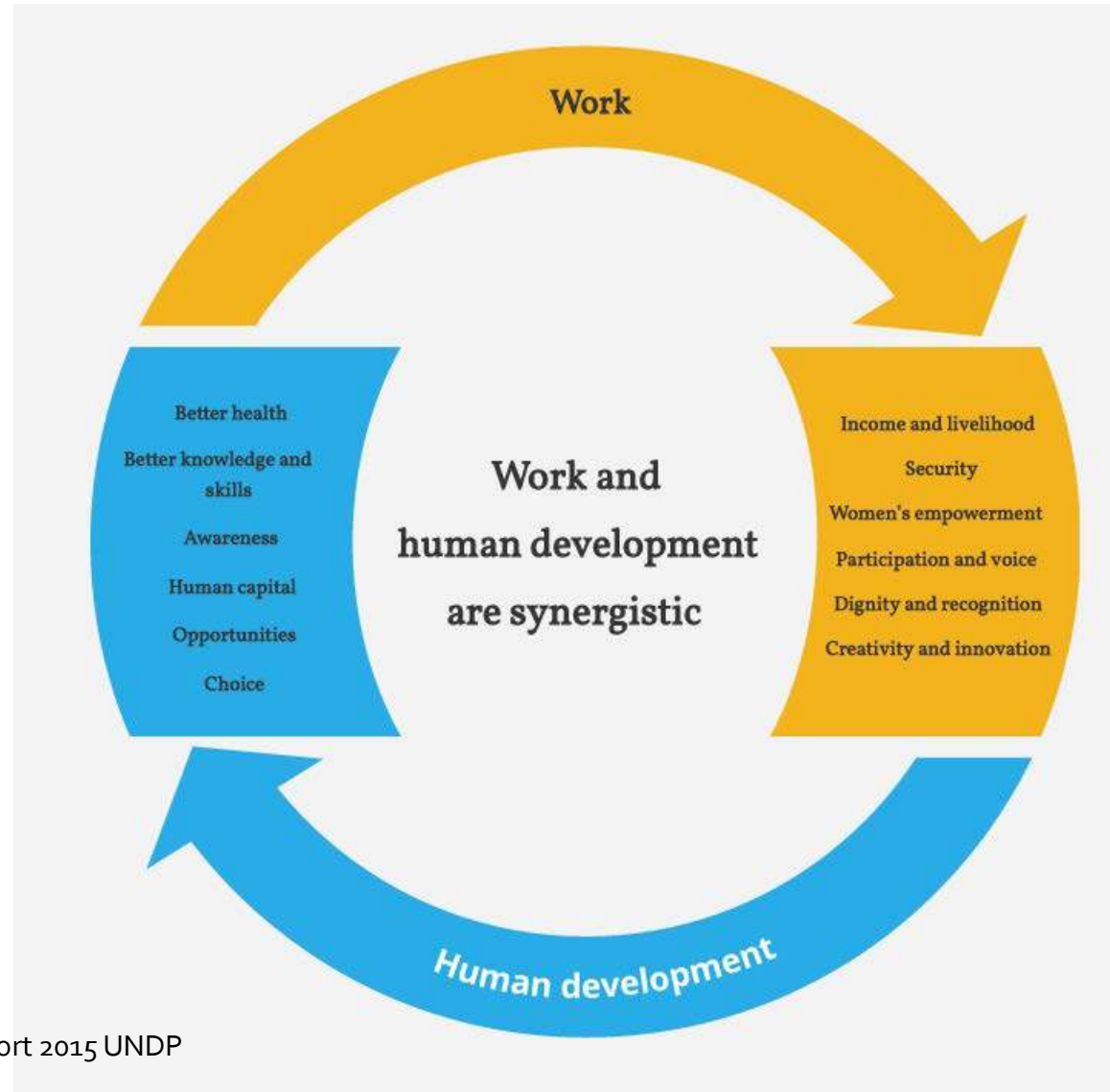
Rural Populations Remain Food Insecure



Rural Populations Have Higher Burdens of Undernutrition



Work and Human Development are Synergistic



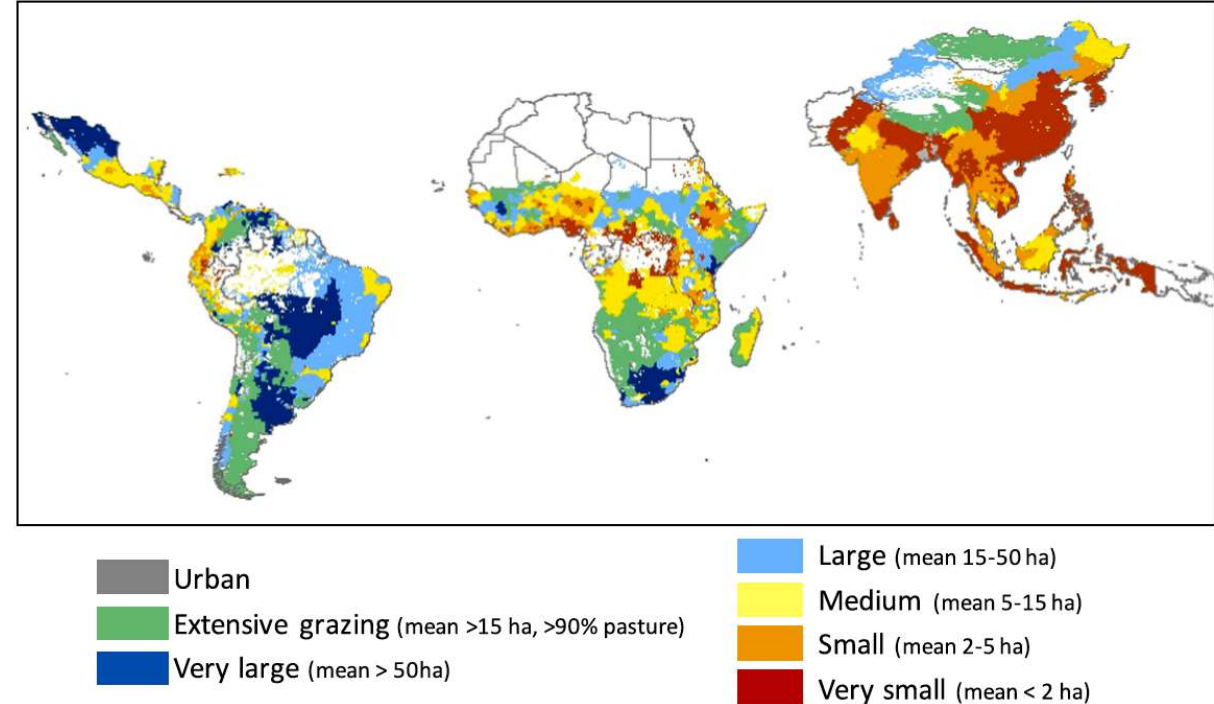
2. While urban agriculture holds some promise depending on the context, rural landscapes still produce the majority of food around the world, and should continue to do so.

Urban agriculture

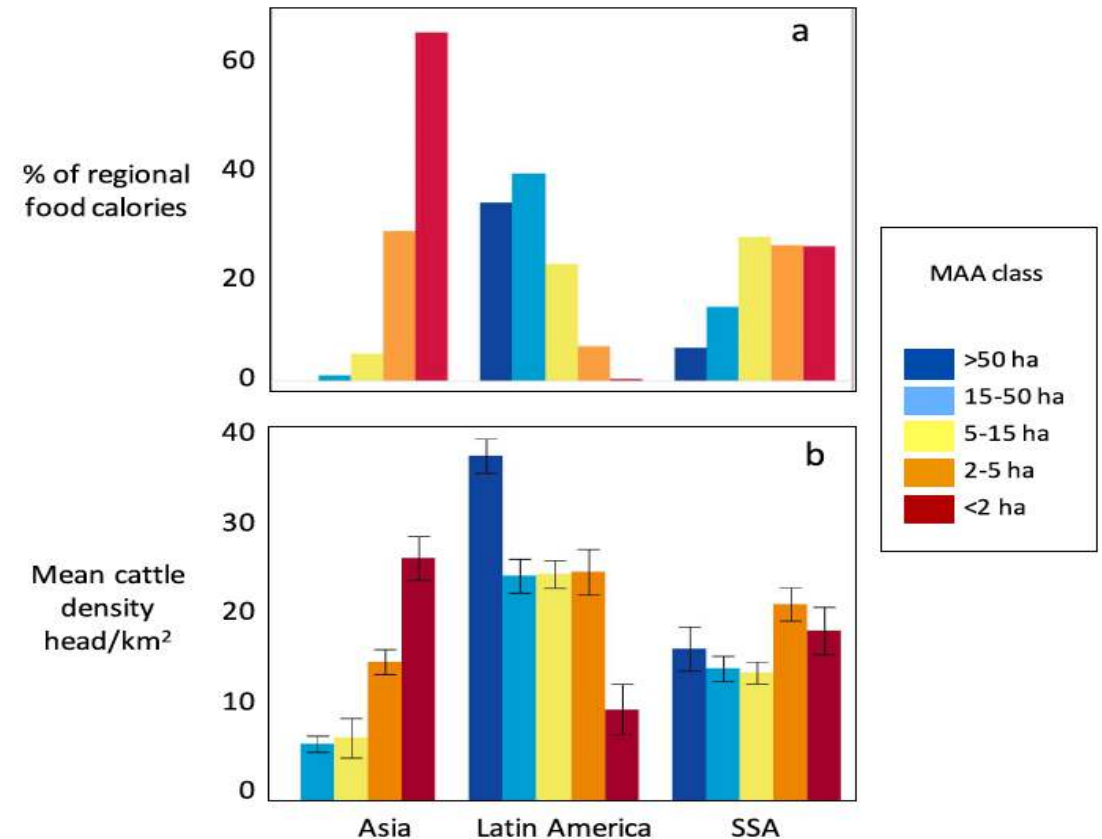
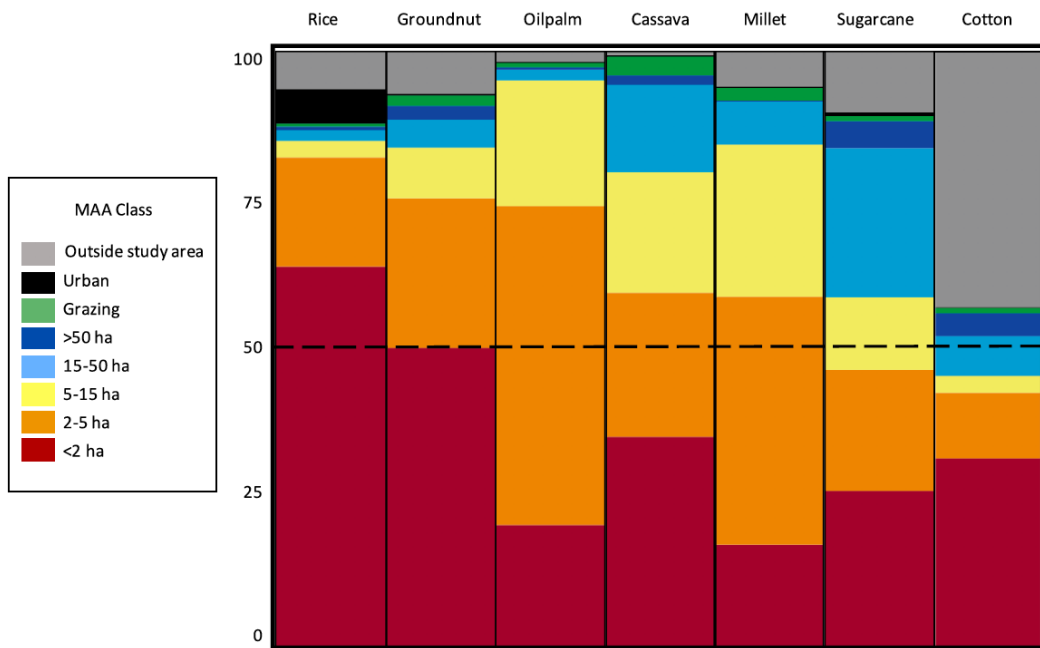
- “Small areas within cities, such as vacant lots, gardens, verges, balconies and containers, that are used for growing crops and raising small livestock or milk cows for own-consumption or sale in neighborhood markets” (FAO, 1999).
- Systematic estimates of UA’s prevalence are notably lacking, though a recent analysis of data from 15 developing or transition countries found country-level participation rates ranged from 11% to 69% (Zezza and Tasciotti, 2010).
- Constraints: insecure land tenure, polluted land and water, limited access to resources and support services, lack of recognition by city authorities.

Are rural farmers feeding the world?

- 80% of the farmland in sub-Saharan Africa and Asia is managed by smallholders (working on up to 10 hectares).
- Smallholders provide up to 80% of the food supply in Asian and sub-Saharan Africa.
- In Australia, Latin America and North America, food coming from rural places are from medium to large holdings.
- Women comprise 45% of the agricultural labour force of developing countries up to almost 50% in Eastern and Southeastern Asia and sub-Saharan Africa.



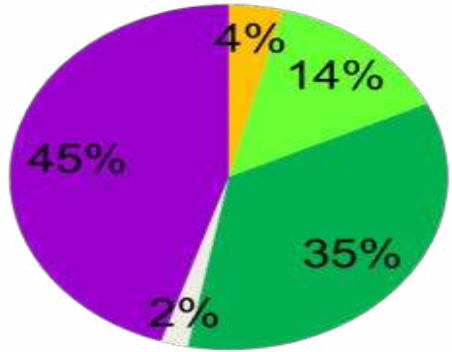
Smallholders Are Producing A lot of Our Food



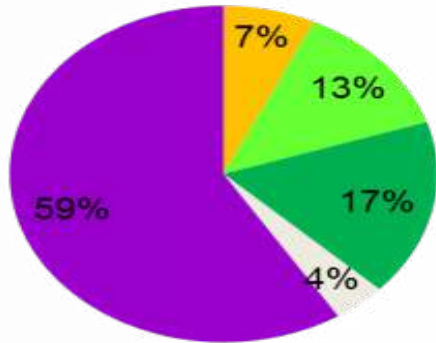
3. Smallholder farmers have more diversified landscapes and produce approximately more than 50% of the world's nutrients, making important contributions to the overall dietary diversity for the world's population.

Much of the world's livestock food comes from small mixed farms in developing countries

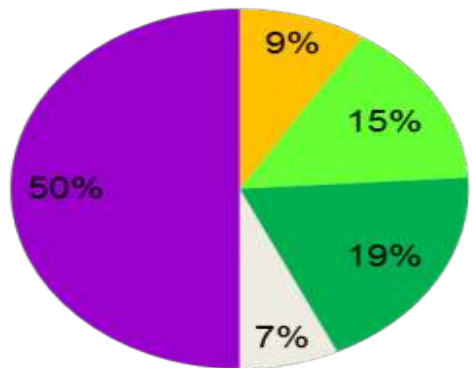
Cereals



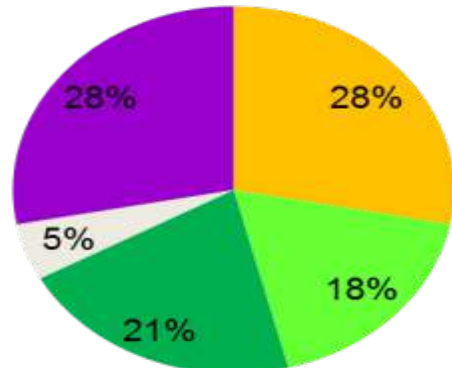
Milk



Beef



Lamb



Developing-country mixed crop-livestock systems, most of them smallholders, make a contribution to the world's livestock products

4. There are many successful examples of how, through better linkages with urban centers, rural development can feed populated centers while jumpstarting entrepreneurship, empowering women, and sustaining rural livelihoods.

The overall goal in using agriculture for development is to promote the inclusion of smallholders in the new food markets and to provide good jobs in agriculture and the rural nonfarm economy.

Issue	Public sector		
	Public investments	Policy environment	Private sector
Lack of access to markets	Invest in education, rural infrastructure (roads, markets, electricity, irrigation); support formation of producer organizations	Liberalize domestic trade; foster development of input and credit markets	Assist farmers in forming producer organizations
Weak technical capacity	Support market-oriented extension	Foster environment for private extension to emerge	Provide extension and key inputs to farmers
Meeting quality standards	Support farmer training on good agricultural practices for quality enhancement and food safety	Establish grades and standards	Supply inputs and train farmers on quality management and food safety
Meeting contract conditions	Train firms in contract design and management; train farmers on their rights and obligations	Foster institutions for dispute resolution; strengthen producer organizations	Foster trust; develop contracts that are self-enforcing
Farmer exposure to risk	Foster development of commodity and futures exchanges; train firms on use of market instruments to hedge risk	Create enabling environment for insurance market	Use contracts that share risk equally among parties; assist farmers to access insurance

Source: Adapted from World Bank 2007e.

Enhancing Opportunities

- Organize small producers and SMEs for marketing by providing agricultural credit and micro-finance
- Invest in Ag R&D → client oriented, problem solving, partnership focused, market responsive
- Provide opportunities for farmers to diversify into higher value products
- Promote activities that add value (processing, branding, marketing) and retain surplus in rural areas → thinking 'beyond the farm gate'
- Promote entrepreneurship opportunities for women
- Address healthy and social issues of rural places: gender, youth, social exclusion...

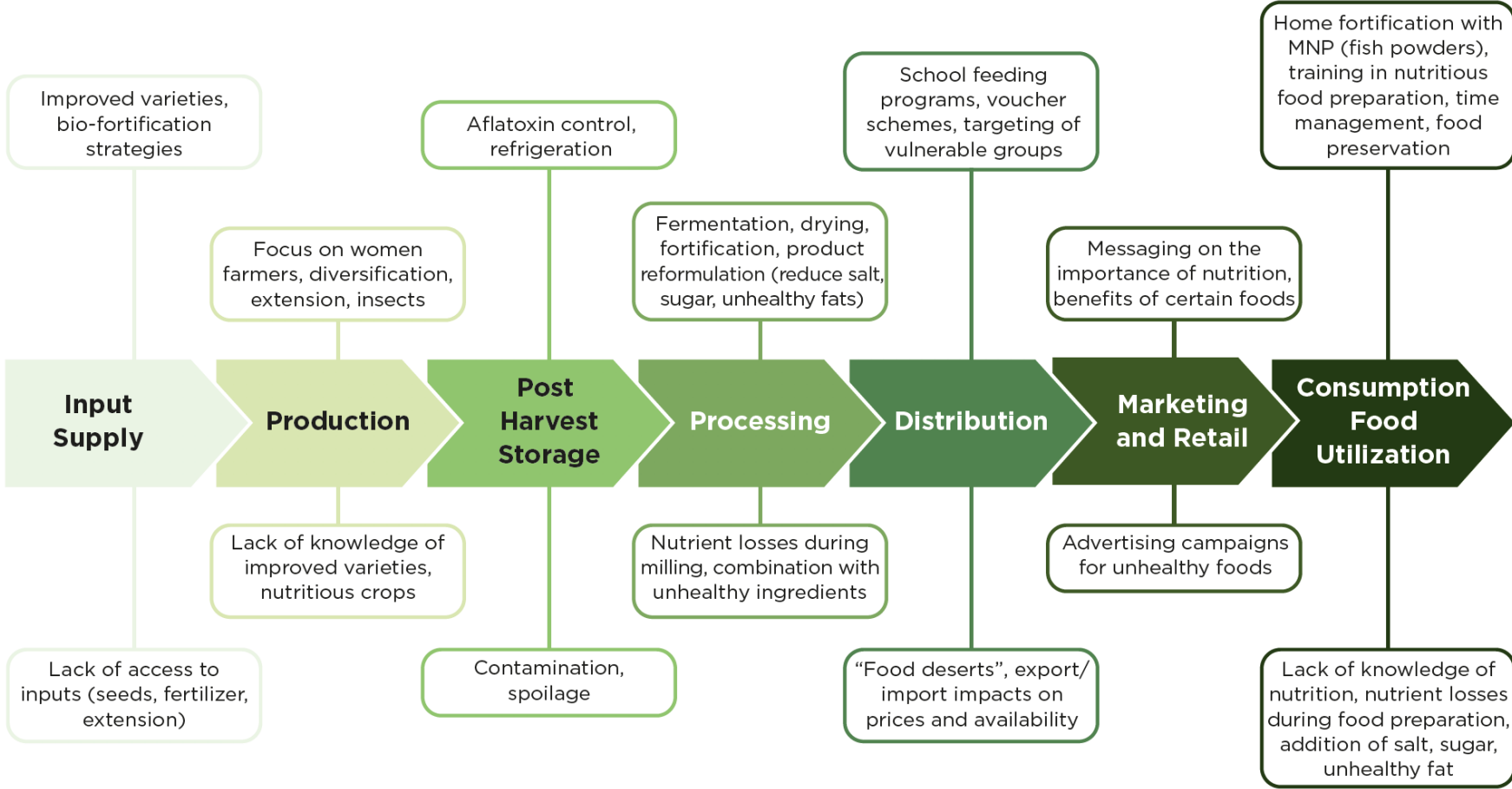
Reducing Risk and Vulnerability

- **Investing in integrated management practices to reduce risk**, esp. in complex, diverse, less-favoured regions
- **Strengthening tenure security and access to land** → recognise local land rights + improve land markets
- **Non-farm opportunities and migration** → to escape 'dynamic poverty traps' ('hanging in')
- **Targeting the vulnerable** → social protection – insurance, resilience-building investments

Areas of employment along the value chain

Net increase of nutrition along the value chain

Maximize nutrition **“entering”** the food value chain




Maximize nutrition **“exiting”** the value chain



Engaging Women in Agriculture

An increase to a **woman's income** of

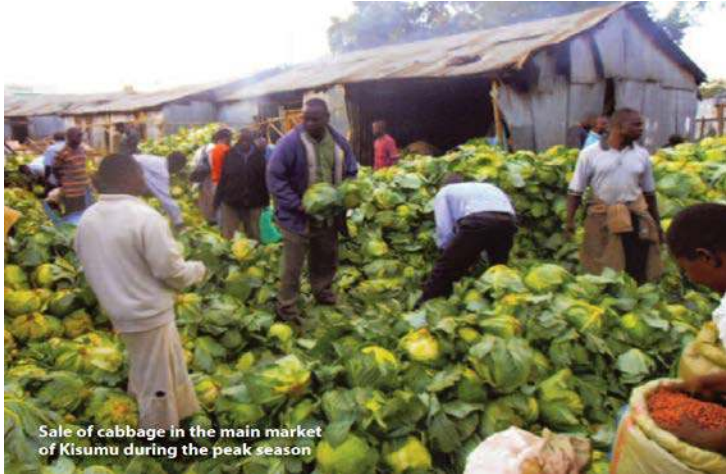


achieves the same improvements in children's nutrition and health as an increase to a **man's income** of



- **Increases in social capital**
 - Means of gaining information about new technologies and farming practices
 - Social networks that may be accessed to smooth consumption in times of hardship or acquire agricultural inputs
- **Increases in access to credit**
 - Greater ability to invest in infrastructure and to smooth consumption or production shocks
- **Increases in human capital and access to productive resources**

The Power of Peri-Urban Farmers



Super vegetables

Long overlooked in parts of Africa, indigenous greens are now capturing attention for their nutritional and environmental benefits.

- Started off with 300 resource-poor vegetable woman farmers on the outskirts of Nairobi in peri-urban areas.
- With support and training, farmers began growing leafy vegetables.
- The largest supermarket chain in Kenya, agreed to sell the vegetables. The vegetables quickly became fashionable and shed their lower-class status; they are now the most consumed vegetables in the country.
- Produce delivery to market outlets increased from 31 tons to 400 tons/month.
- There was a two to 20-fold increase in incomes of the farmers.

Summary

- Invest in ending hunger and undernutrition in rural areas – pathway of human development and dignity
- Realize that rural farmers are significant contributors to feeding the world
- Rural producers contribute a vast majority of the nutrient diversity in our global food basket
- Invest in smallholders: markets, roads, value chains, high value product development, women
- Diversify into high-value food crops that provide more scope for many local farms (and smaller farmers) and may have valuable multiplier links within the local economy