



Food and Agriculture
Organization of the
United Nations

The role of urban and periurban agriculture in promoting resilient local food systems

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GREEN CITIES

to build back better for SDGs
– A new powerful venture

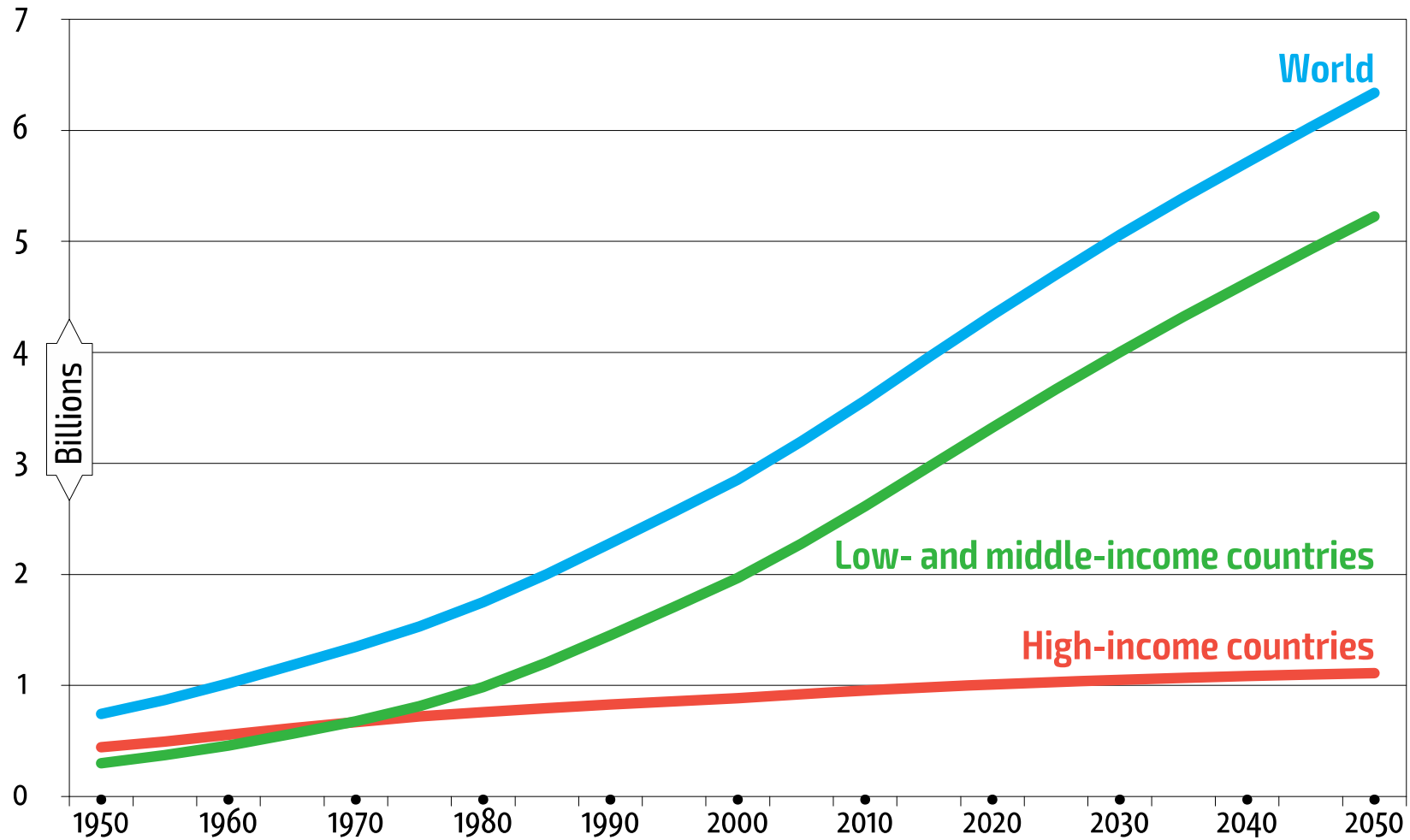
Friday, 18 September 2020
12:00–14:00 (GMT-4) / 18:00–20:00 (GMT+2)



1. Why cities and towns?

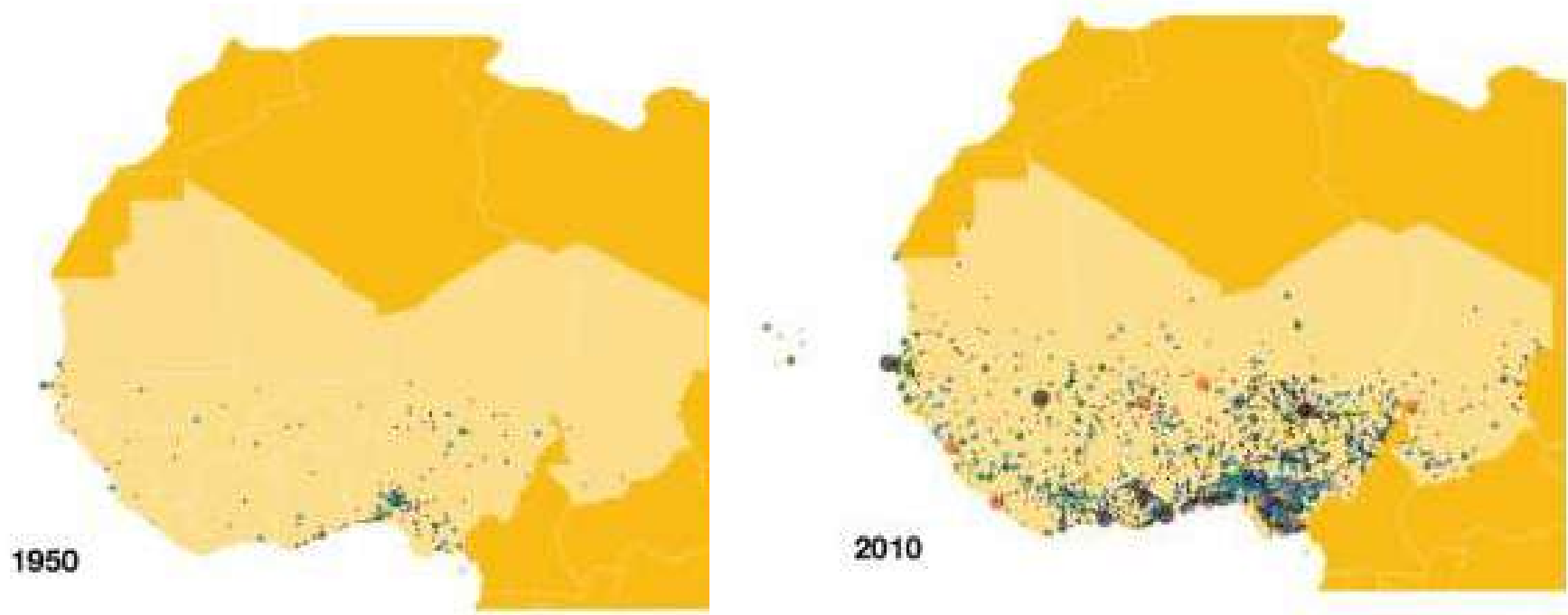


the world is urbanizing...



Source: FAO (2017) Future of food and agriculture

... with more and bigger cities and towns...



Source: OECD dataset



URBANIZATION AND THE FOOD SYSTEMS



55%
OF THE WORLD'S
POPULATION RESIDES
IN URBAN AREAS



70%
OF ALL FOOD
PRODUCED IS
DESTINED FOR
CONSUMPTION
IN CITIES



60%+
OF PRIMARY ENERGY
DEMAND AND
70 PERCENT OF CO₂
EMISSIONS STEM
FROM CITIES



34%
OF THE GLOBAL
POPULATION LIVES
IN SMALL CITIES OR
TOWNS

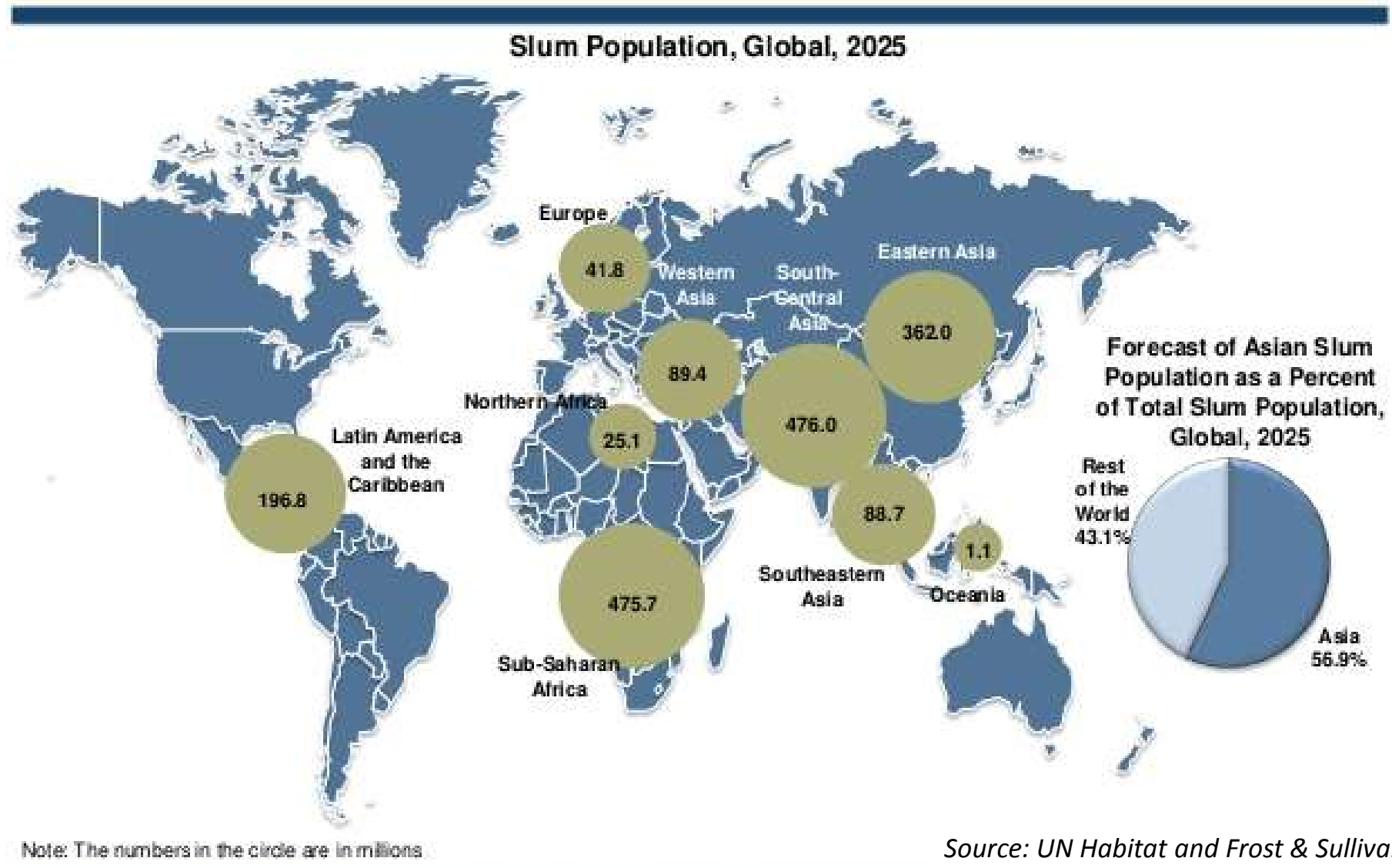


30%
OF ALL GREENHOUSE
GAS EMISSIONS STEM
FROM FOOD
PRODUCTION AND
DISTRIBUTION

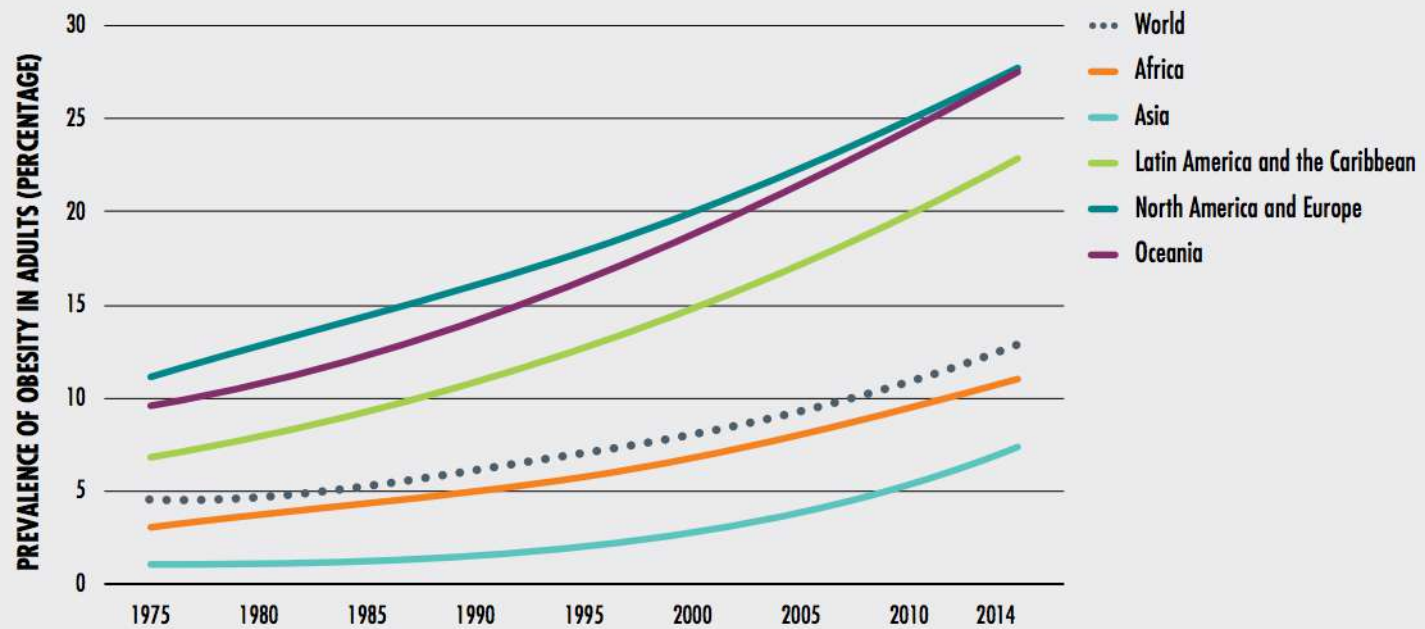


80%+
OF URBAN DWELLERS
ARE EXPOSED TO
AIRQUALITY
LEVELS THAT EXCEED
WHO LIMITS

... where slums concentrate poverty



...adult obesity is increasing



NOTES: Prevalence of obesity in adults 18 years and over, 1975–2014.

SOURCE: WHO/NCD-RisC and WHO Global Health Observatory Data Repository, 2017.

Risk and vulnerability to multiple shocks

- Entro il **2050**, **2,5 miliardi** persone in oltre **70 % of cities** globally face increasing climate shocks and stresses
- **Floodings** will affect **275 million people** worldwide should temperatures increase by 2030
- The **agriculture** and **food** sectors are expected to be most affected by climate change
 - By 2050, **2.5 billion people** in over 1,600 cities will experience a decline in agricultural production.
- **COVID-19** pandemic is further threatening the functionality of food systems



Problemi o sfide?

Limitati mezzi delle città per orientare i sistemi alimentari...

- **Disconnessione** tra settori tecnici
 - Mancanza di **integrazione verticale** e **orizzontale** e di **governance**
- **Tensioni** città/area metropolitana e governi centrali
 - **Le città** non dispongono di sufficienti **strumenti giuridici** e **normativi**
- Tanti attori nei sistemi alimentari (**partenariato, dialoghi multi-stakeholder, governance**)
- Serve riorientare le **pratiche alimentare**
 - Le **politiche** e gli **investimenti** a livello **locale** modellano il **sistema alimentare**
- Legami città-campagne: **il territorio**
 - Le azioni delle città **oltre i confini** della città e sono modellate dall'esterno.
- **Scambi e cooperazione insufficienti** tra città

Political momentum

Resilience building and the SDGs

THE GLOBAL GOALS For Sustainable Development



**Sendai Framework for
Disaster Risk Reduction**

World Humanitarian Summit

Paris Agreement

**One Health/Global
Health**

**Framework for Action for Food
Security and Nutrition in
Protracted Crises**



Political momentum

- The **New Urban Agenda** (2016) emphasises the need for cities to “Support urban agriculture and local farming” and lessen the dependence on distant food sources
- The **Intergovernmental Panel on Climate Change Fifth Assessment Report** (2014) asks for attention for urban food security and mentions Urban and Periurban Agriculture as an adaptation option.
- **COP21** agreement recognizes:
 - the priority of **safeguarding food security** to the impacts of climate change
 - The need to **increase adaptation to climate change** and foster climate resilience in a manner that does **not threaten food production**;
- **Milan Urban Food Policy Pact**: real demand for assistance to design urban food policies that include resilience to climate shocks and disaster risk reduction strategies

Food is already in teh urban agenda

- **UPA** is practised by more than 800 million people globally.
- More than **70%** of all agricultural products are traded in markets integrated **within a territory**.
- About **15-20%** of the world's food is produced in urban areas; ;
- High relevance of UPA to the poor (up to **60%** of their food).
- Global area of irrigated UPA estimated at 24 million ha (**11% of all irrigated crops**)
- **60%** of irrigated crops within a **20km radius** from cities

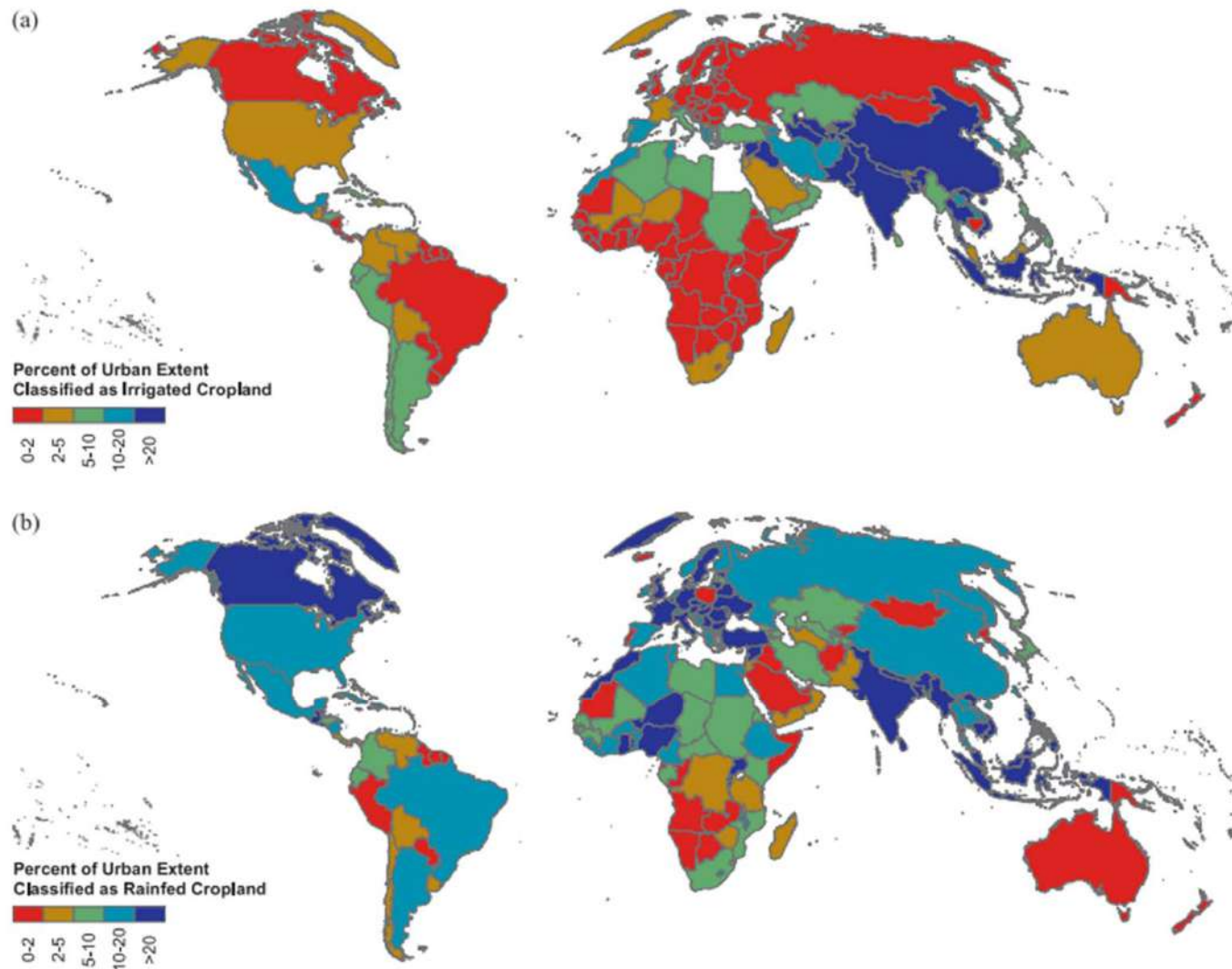
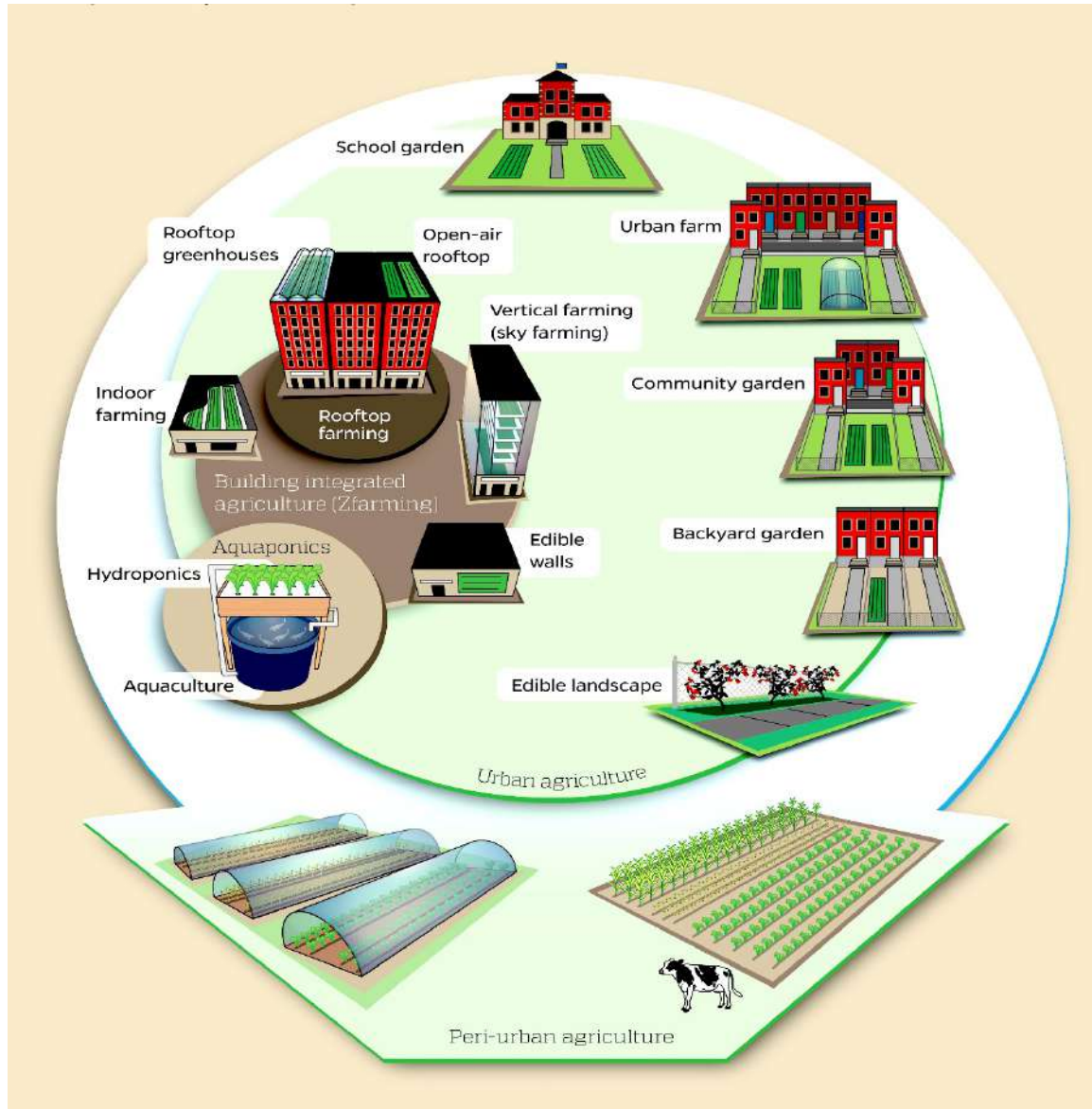


Figure 2. Percent of urban land area classified as irrigated (a) or rainfed (b) croplands by country.

Global assessment of urban and peri-urban agriculture: irrigated and rainfed croplands (: A L Thebo et al 2014 Environ. Res. Lett. 9 114002)

What is UPA?



- Location
- Type of production
- Scale level
- Individual vs. collective
- Degree of market orientation
- Professional vs. subsistence or hobby activity
- Integration with other production activities or services

Typologies of UPA

- Home-based gardening
- Community-based and other shared gardening
- Commercial farming (crop production, livestock and fisheries)
- Institutional food growing (schools, etc.)



Why UPA?

Scopes and benefits



Food security and nutrition

- **Boosts supply of fresh produce:** Consumers - especially low-income residents - enjoy easier access to fresh produce, greater choice and better prices.
- **Improves economic access to food:** contribution to household food security, especially in times of crisis or food shortages.
 - **Beijing:** 50% of fruits and vegetables from UPA
 - **Hanoi:** 150 000 ton yearly (2012)
 - **Kinshasa:** >75 000 ton yearly (2012)



Nutrition education

School gardens

- Promotes production of fruits and vegetables
- Improves the quality of meals
- Practical nutrition education
- Increasing household consumption



Livelihoods and employment

- **Low start-up costs and Short production cycles:** less transportation, packaging and refrigeration, close to markets. Less middlemen.
- **High yields** (within 60 days). 15 times more productive than rural holdings
 - An area of just 1 m² can provide **20 kg/year of food**
- **High market value**
- **Creates employment:** horticulture can generate **one job per 100m²** of garden in production, input supply, marketing and processing from producer to consumer.



Social inclusion

- **Redevelop** degraded or abandoned areas
- Creating **territorial cohesion**
- Sense of **community**
- Integrating **vulnerable** and **marginalised** groups



Urban metabolism

- **Fuel savings, less pollution**
- Lower **heat island** effect
- Improved **landscapes**
- Stabilisation of **slopes** and river banks
- **Resource reuse and circular economy**
 - Grey and **wastewater**
 - **Composting**



Implications of Urban and Periurban Agriculture

- UPA goes **unrecognized** in agricultural policies and **urban planning**.
- Growers often operate **without permits**. Since it is officially "invisible", the sector receives **no public assistance** or oversight in many cities.
- Urban agriculture, if uncontrolled, carries health and **environmental risks**: overuse and misuse of pesticides, and careless use of treated and non-treated wastewater for irrigation
- **Water and land tenure** issues, competition with other uses

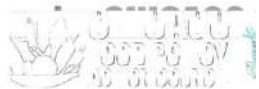


Need to move towards a food system approach

- **UPA** should be embedded to urban and territorial planning and link to other food systems dimensions : **secure land tenure for UPA**
- Policy or investment decisions at local level shape the food system in the metropolitan area/region, and food could be **mainstreamed into policy and planning?**
- **Cities have a key instrument at their disposal** (procurement policies, waste management, zoning and planning, logistic and transportation systems etc.)
- Governance
 - Cities are but **one of the many actors** of their food systems (partnership, multi-stakeholder dialogues, governance)
 - Cities' actions go beyond the **city boundaries** and are shape by their external environment.

UPA as part of a food system

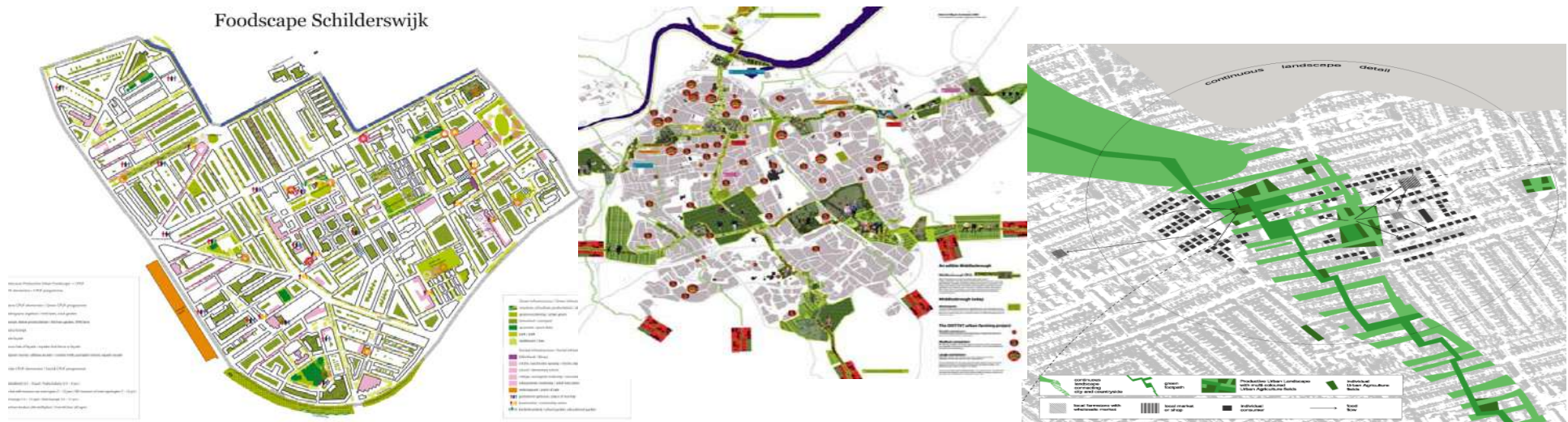
- Gestione del territorio, agricoltura urbana e periurbana
- Pianificazione urbana e territoriale
- Ristorazione di massa
- Collegamenti urbani rurali
- Gestione dei rifiuti
- Alimentazione scolastica
- Governance



New emerging models of urban planning

- Public **administrations** assume an active **facilitating role** in strengthening the regional food system
- **Two-track planning**: design of physical and green infrastructure in parallel; agriculture an integral part of urban planning
- **Urban mosaics**: compact, high-density built areas intertwined with multifunctional productive landscapes (wedges, corridors, green belts etc.)

Continuous Productive Urban Landscapes



UPA as part of a food system

Examples of UPA successful policies and programmes

- **Quito (Ecuador):** AGRUPAR comprehensive programme supports urban agriculture:
 - about 4,000 gardeners, 36 hectares, 50% for home consumption / 50% for sale, income of US \$ 175 / month

Nairobi (Kenya): Urban Agriculture Promotion and Regulation Act.

- 100,000 beneficiaries est.
- **Dakar (Senegal):** urban micro-gardens, cooperation between Dakar-Praia-Duala
- **Toronto (Canada):** *Toronto Urban Growers organization* for exchange and learning between urban producers
- **Belo Horizonte (Brasile):** ince 1993, creation of the municipal undersecretariat for food and nutrition security (**SMASAN**)
- **Rosario (Argentina):** urban agroecology.
 - Since Argentina's economic crisis of 2001-2002, Rosario's urban agriculture programme has developed into a solid public policy.



UPA as part of a food system

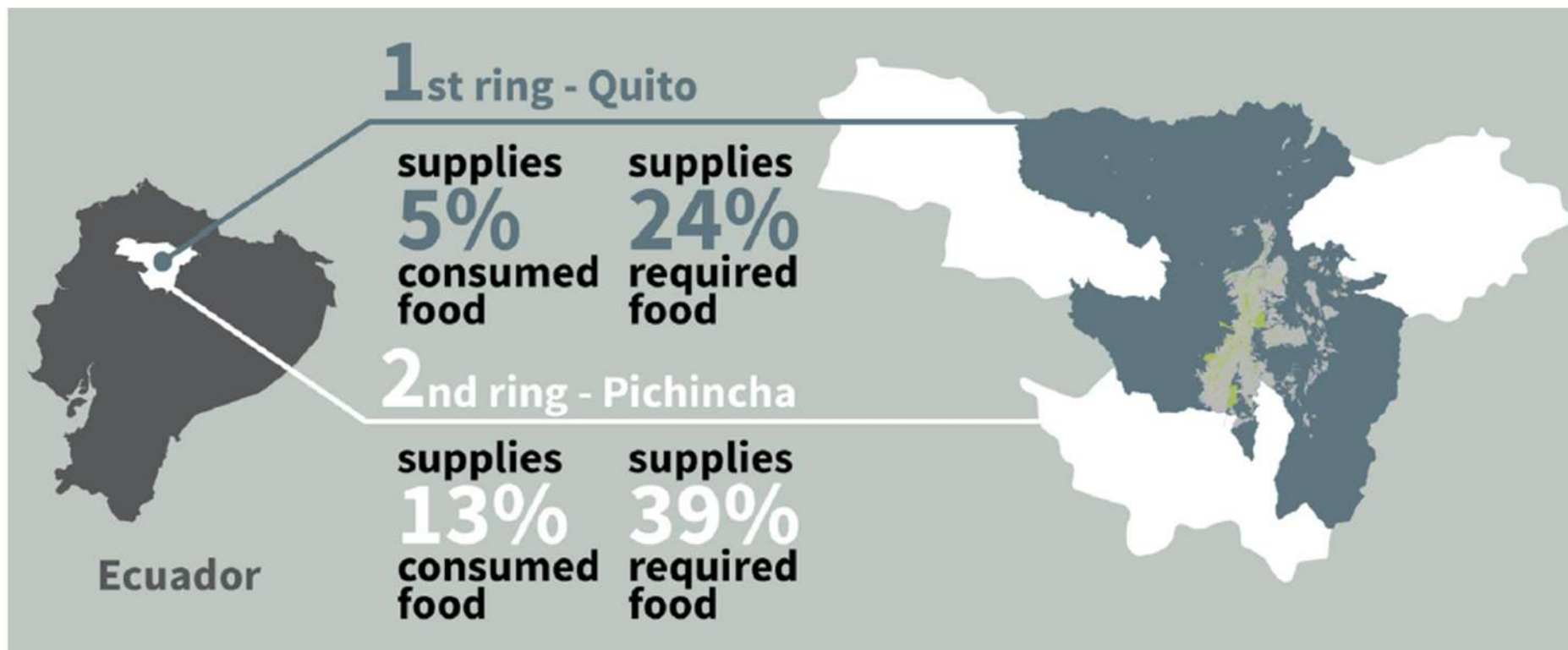
Secure land for UPA:

- Protecting peri-urban land in agricultural parks: **Valencia, Fuenlabrada, Barcellona, Milano**
- Land banks providing access to land and training for young urban farmers, e.g. **Vitoria-Gasteiz e Saragozza e Rosario** (Argentina):
- **Paris (Parisculteurs)**: 100 ha of urban agriculture for "greening" in 2020, including roofs and green roofs
- **Almere** (Paesi Bassi): urban planning from below, 4,300 ha of urbanisation, 50% of which is urban agriculture
- **Torino**: territorial strategic plan, "Torino Metropoli 2025".
- **Baltimore (USA) e Dar es Salaam (Tanzania)**: UPA in strategic urban development plan and land use zoning
- **Seattle (USA) and Hamburg (Germany)** included urban agriculture in their strategic urban development plan and land use zoning



City Region Food System of Quito

The food region of Quito is defined through 3 rings that surround the axis of the city, connecting the flows and interactions of the actors of the food system:



Food and Agriculture Organization
of the United Nations



Food Strategy Quito



Resilience Strategy

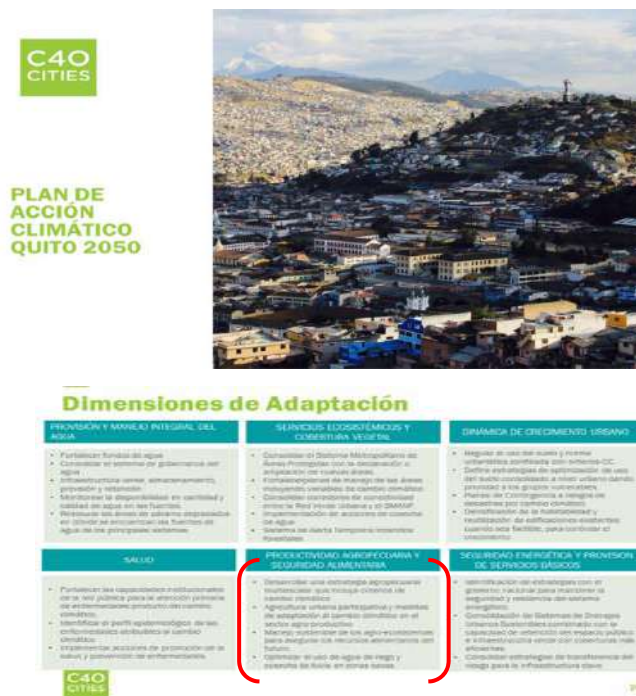


It includes actions of : urban agriculture, sustainable rural production and a plan for sustainability of the food system

Sustainable food in the Citizen Vision



Quito Climate Action Plan Update



The Plan integrates for the first time in the city and the country, food security within the dimensions of adaptation.

UPA as part of a food system

Participatory governance and planning

- ✓ Encouraging **collaboration** between municipal agencies and departments
- ✓ Promote participation of **social actors** and stakeholders at the municipal level through policy dialogue, e.g. the **Food Policy Council** in Toronto, Ghent and more than 250 cities in North America
- ✓ **Analyse the food system**, map food flows, identify and assess vulnerabilities, transform good practices into policies
- ✓ Develop and improve information and **monitoring systems**



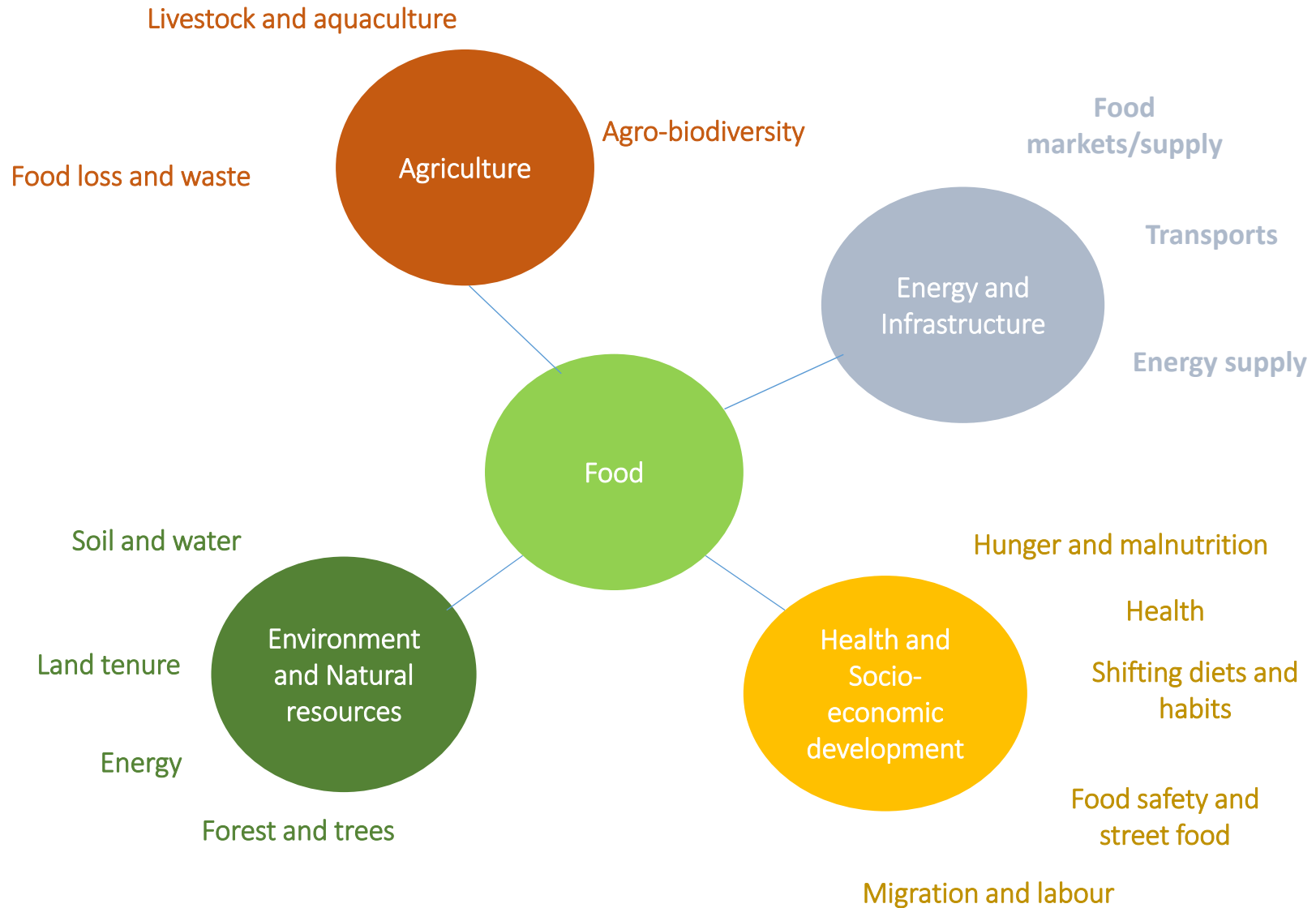
How does FAO support local governments in the urban food agenda?

Promoting food systems transformation



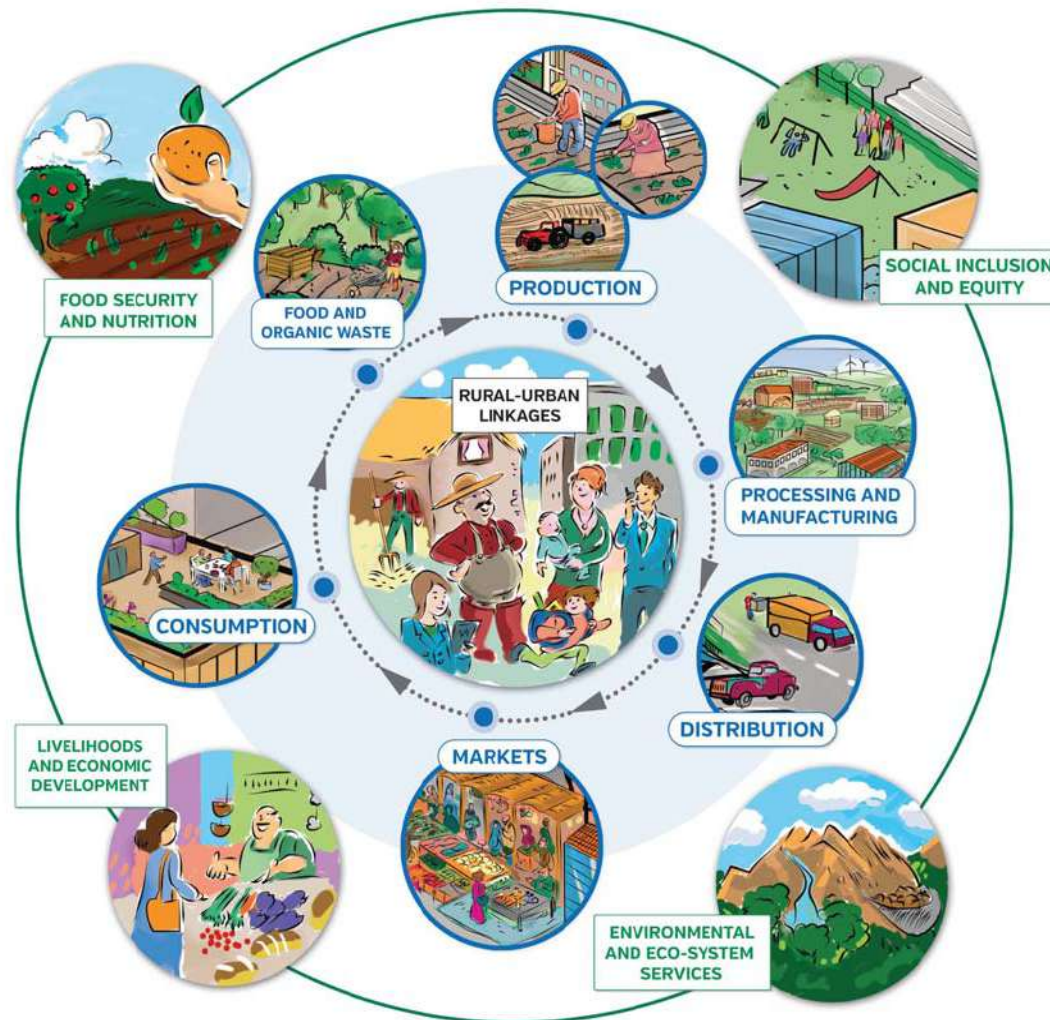
From sectoral to systemic approach...

Food links sectors and development objectives



From sectoral to systemic approach...

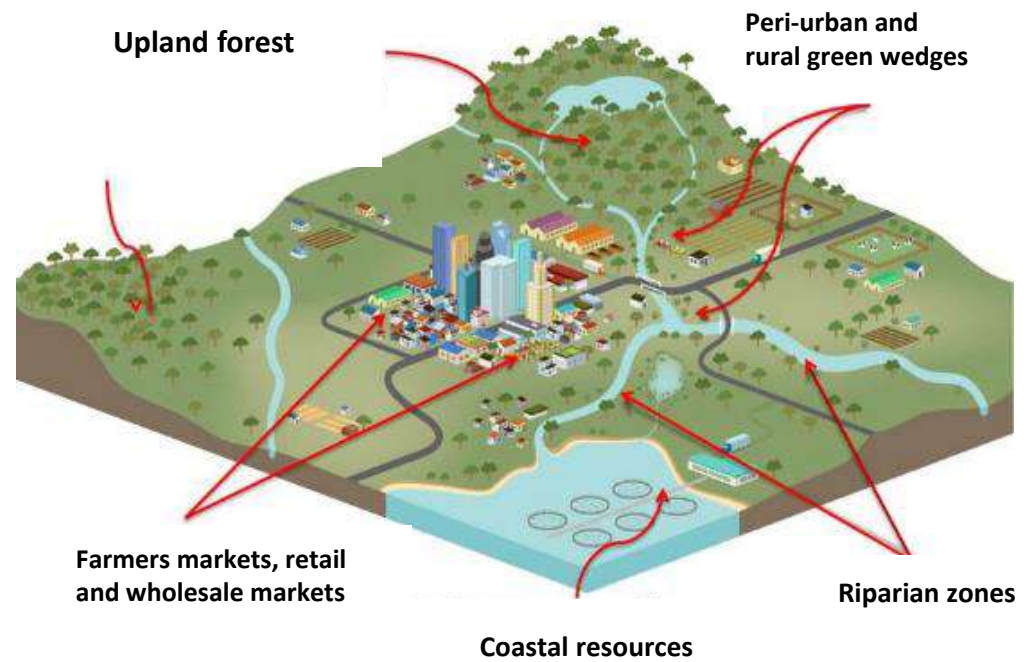
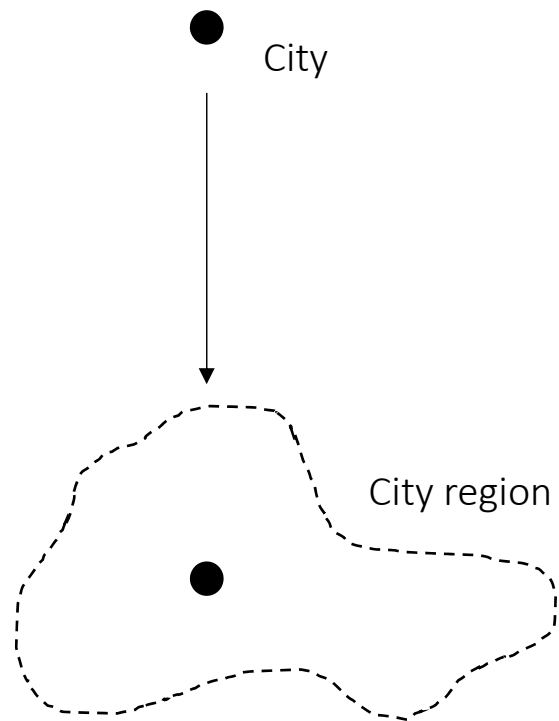
Food links sectors and development objectives



- **People:** producers, agroporcessors, traders vendors, input suppliers, consumers, etc.
- **Sectors:** agriculture, trasports, health, ecc.
- **Scales:** urban, regional, national.

From urban to territorial vision

City region food systems



fostering rural urban connections through food

Alignment with national and global policies



How FAO assists local governments

Food system planning, policy support and governance

- Food systems assessment
- Multi-stakeholder food platforms
- Strategy design
- Urban monitoring framework (MUFPP)

Specific actions

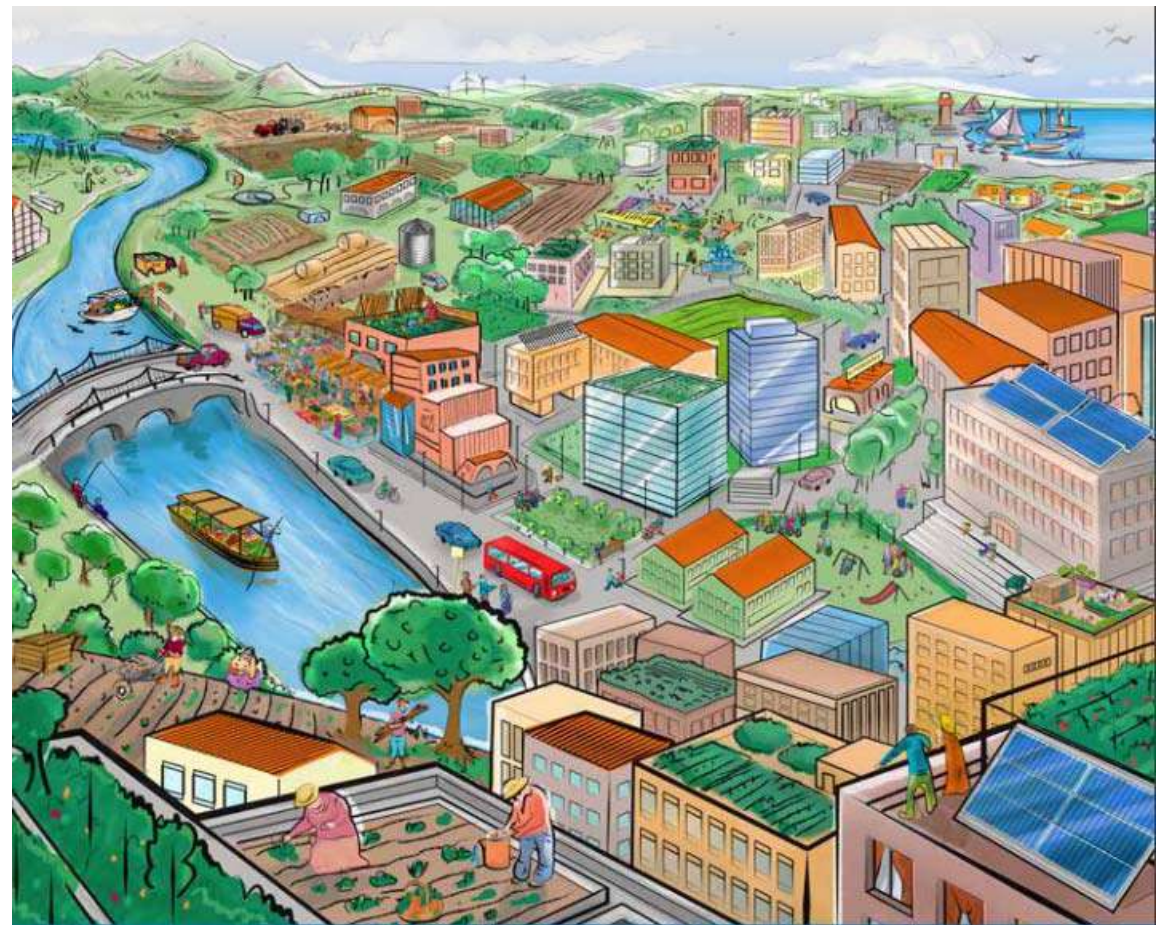
- Institutional procurement
- Shortened supply chain
- Circular (formal/informal economies)
- Urban and periurban agriculture

Knowledge sharing, partnerships and cooperation

- Systematization of knowledge
- Capacity building for SSTR city to city exchanges
- Partnerships with global, regional and national networks of local governments



FAO Green Cities Initiative



Green Cities Action Programme



Promoting innovative and sustainable policies, planning and actions of integrated green cities:

- UPA
- Urban forestry
- Urban food systems





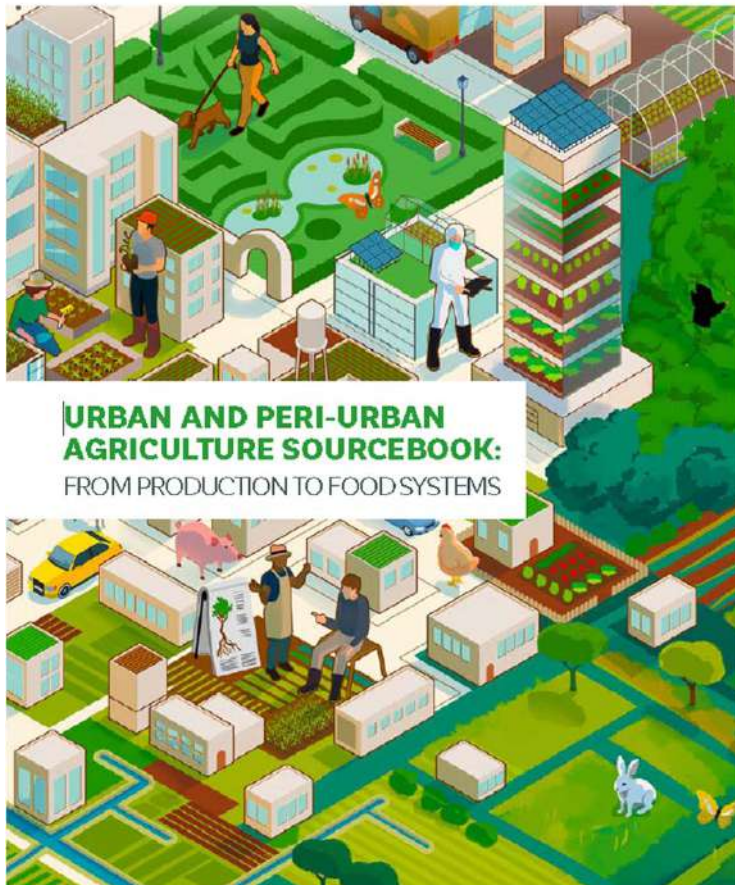
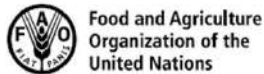
City Region Food Systems Programme



<http://www.fao.org/in-action/food-for-cities-programme/toolkit/introduction/en/>

- Integrating **resilience** into **food system planning**
- Food system **risk** and **vulnerability analysis**
- **Strategies** and **actions** to improve food system **resilience** (climate shocks and Covid-19)

UPA sourcebook



- **200** global **examples**, 6 in-depth case studies
- **Practices** (agricultural production/farming and fishing/urban forestry)Types of UPA (commercial, community gardens, etc.)
- **Challenges** (land, water, tenure, etc.)
- **Actions to support** urban agriculture (training/zone planning/reduction of contamination/credit and public insurance/farm development)
- **Cross-cutting issues** (food system governance/multi-stakeholder engagement)

In press (april 2022)

Conclusions

- Strong demand for urban and **territorial food policies** with strong rural-urban linkages => need for innovative planning tools
- Cities have important innovations to address **hunger, malnutrition, food waste** and **climate change**, but limited regulatory, financial and planning instruments
- Need of a paradigm shift:
 - Beyond **sectoral approaches** (silo-thinking)
 - Beyond **institutions**: innovations from the private sector, producers, consumers, NGOs, universities, technical and financial partners, etc. => Multi-stakeholder
 - Beyond **urban boundaries**: Inclusive and territorial governance: multi-actor dialogue (public administration, civil society, private sector): Sustainable cities require to be connected to rural and sustainable areas
 - Political will and appropriate institutional and policy frameworks: collaboration at different levels (urban, regional, national)



Grazie

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