How to Feed the Cities Land Use Conflicts and Urban Agriculture

André TORRE
Markéta BRAINE-SUPKOVA
INRA - Agroparistech

Introduction

• More than 50% of the world’s population is living in urban areas, and up to 80% is projected for 2050

• Modern cities
  - produce 80% of global GDP
  - occupy 3% of world land surfaces
  - consume 75% of natural resources
  - account for 60-80% of global GHG emissions

• Feeding the cities becomes crucial

• Cities are concentration of populations who do not produce their proper means of subsistence
Urban metabolism and agricultural functions

CITY

Inputs

Food
Energy
Goods

Outputs

recycled
organic waste
Inorganic waste

Industry goods & services

Renewable

recycled
Urban sprawl and land consumption

Castels, 2007
Two main challenges

• Future: possible increase in transport costs (agricultural food miles) and raising concern for environmental divide (ecological print of alimentary goods)

• Question of the sustainability of transporting food infrastructures

• The raise of proximity feeding solutions is directly related to two main contemporary challenges:
  - The development of urban and peri-urban agriculture, within and around the cities
  - The land use pressure on agricultural lands, on the boarders of urban areas, and their transformation into artificialized spaces
Land use conflicts in peri-urban areas
the example of the Greater Paris region
Conflicts in peri-urban areas

• Urban sprawl: mostly at the expenses of agricultural soils
• Competition between various land uses near the cities: Facilities for the city, infrastructures, residential areas, natural areas, agriculture...
• Land degradation, urban expansion and conversion of crops and cropland for non-food production (biofuels...) may reduce the required cropland by 8-20% by 2050, if not compensated
• This competition can lead to tensions... and conflicts
Land-use conflicts and agri-urban system regulation

• In peri-urban areas tensions between city and agriculture were traditionally regulated by the leaving of agriculture (relocation; exit strategy)

• Today, the spatial coexistence between city and agriculture is a long term state for more and more peri-urban areas (ex: urban agriculture).

• This change reveals the emergence of new regulation processes in peri-urban areas

• Land-use conflicts are part of these processes, and they can reveal a large part of these changes
The Greater Paris region

53% of regional area still used for agriculture (90% for cereal cropping systems)

11.5 millions of inhabitants (18% of French population, 2% of national territory)
Land use conflicts: main figures

- Various types of conflicts, on Paris urban fringes
- Mostly related to the consumption of agricultural soils
  - 72% related to urban and industrial pollution or (mostly agricultural) land consumption for urbanization (damage the quality of life and slow down the economic development of farming activities)
  - 27% related to rural landscape degradation caused by new urban buildings in rural areas
  - 16% related to agricultural pollutions and noise
- Superposition of uses, contiguity, nearby externalities (pollution, landscapes)
- Intense institutional activity (zoning, charts, dedicated areas, incentives, agricultural programs...)
Groups of actors in conflict


- State representatives
- Regional representatives
- Local municipality representatives
- Regional and generalist assoc.
- Local environmental assoc.
- Economic actors (farm., ind.)
- Individual, residents

The figures indicate the proportion of each group within the total of the « contested actors » or « disputant actors »
Urban and peri-urban agriculture
The fall and rise of urban agriculture

- Geographical concentration of food demand in urban areas
- Traditional use of peri-urban agriculture
- Persistence of urban agriculture in developing countries: Mexico City: 2 M liters milk everyday
- Renewal of urban agriculture in developed countries: Detroit... Montreal...
- Traditional market forms: wind sitting, farmers markets
- New forms: box schemes, community supported agriculture forms, pick-your-own farms...
Peri-urban agriculture

Near the city: food for the city and short supply food chains

Hanoi

Utrecht

Paris

Antananarivo
Urban agriculture

Inside the city: community gardens, green roofs, vertical farms...

Dakar

Kenya

Seattle

Montreal

Utopia?
South & North: differences

- **South**: lack of territorial planning tools and/or low implication of local authorities on land planning but high priority given to food security
- **North**: abundance of territorial planning tools but low integration of sustainable food issue; food security is not a priority for local and regional authorities

**South**

- Response to local food, insecurity and volatility of food prices
- Jobs and income creation
- Crucial social safety net in periods of food and economic crises

**North**

- Public health approach / nutrition
- Urban sprawl limitation
- Protection of environment / biodiversity
- Climate change mitigation / Adaptation
- Sustainable water management
- Social and quality of life dimensions
Conclusions
Conclusions

• Food **governance** of urban regions & food planning, as an axis of sustainable local development
  – new interaction between city/food/agriculture
  – new ecosystem of cooperation between different stakeholders, at various geographical levels created around the dynamics of food issue
  – long term, global, systemic approach of land planning

• Agriculture and Farming not only linked with feeding dimensions, but also with landscapes dimensions and quality of life (especially in northern countries?)
Thanks for attention!