

Urban Agriculture at Crossroads

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Gør tanke til handling
VIA University College





2 ZERO HUNGER

End hunger, achieve food security and improved nutrition and promote sustainable agriculture



11 SUSTAINABLE CITIES AND COMMUNITIES

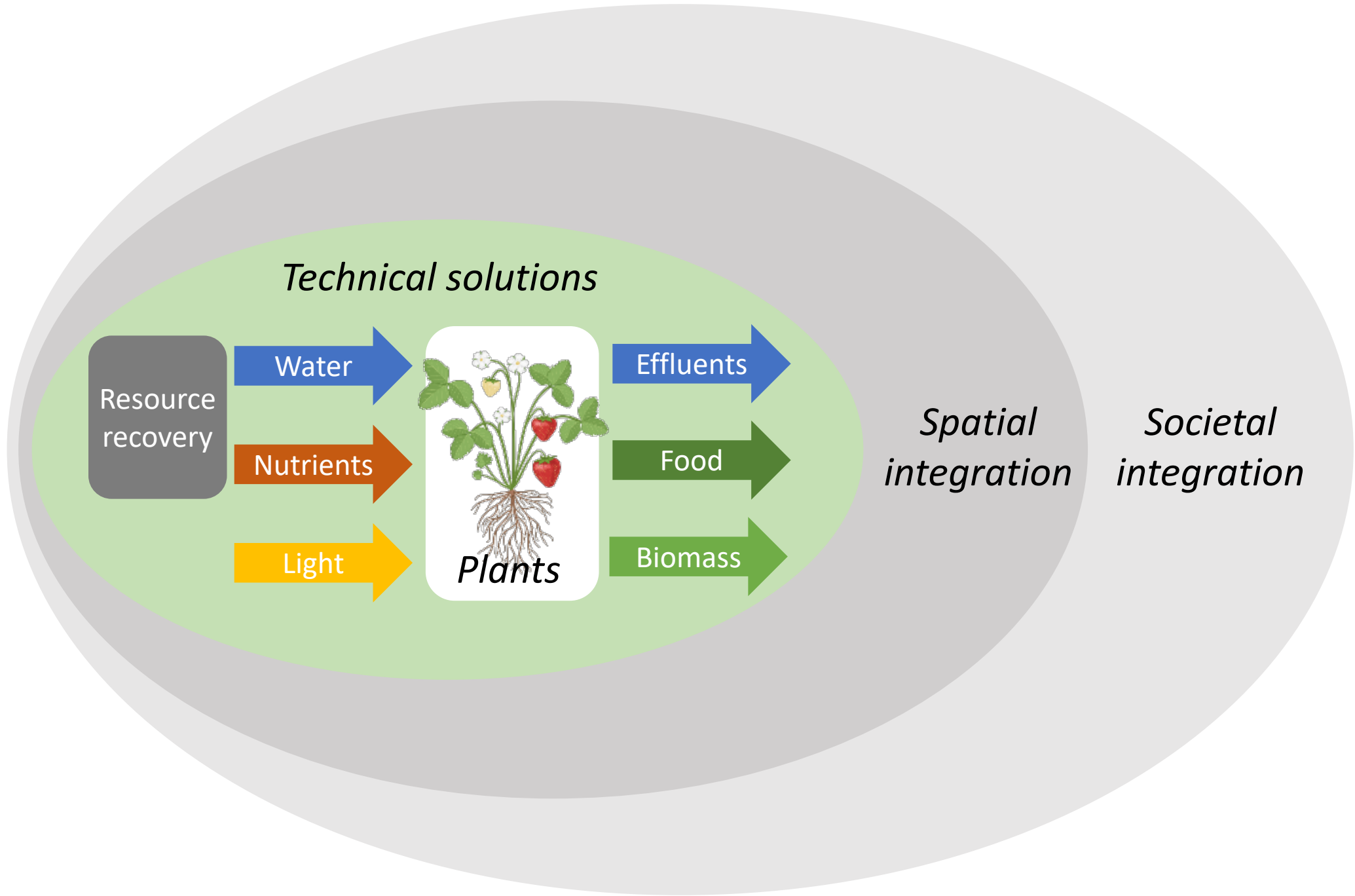
Make cities and human settlements inclusive, safe, resilient and sustainable

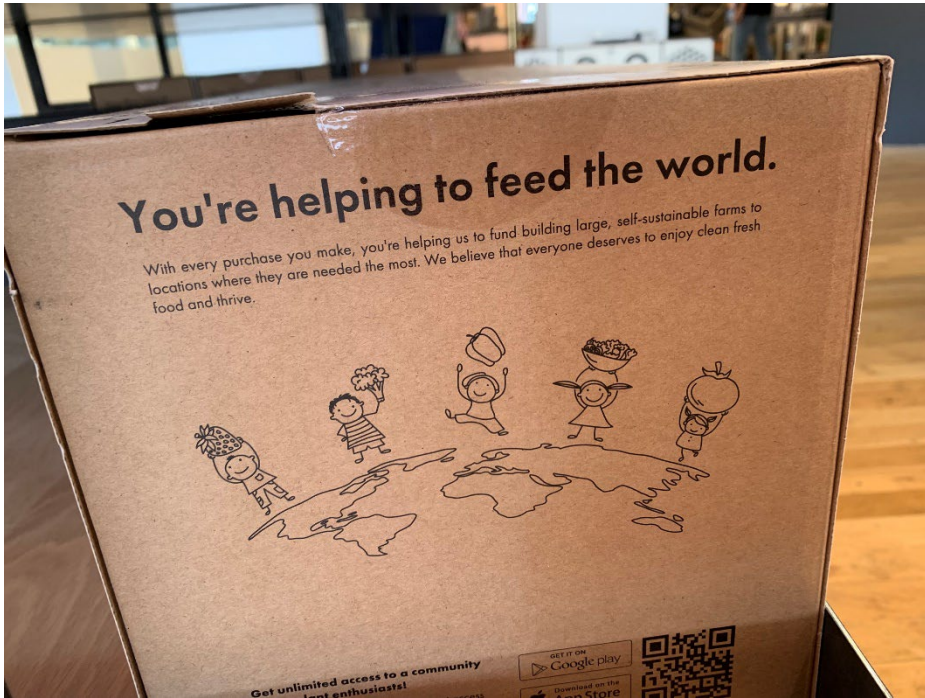
- 1 NO POVERTY**
- 3 GOOD HEALTH AND WELL-BEING**
- 4 QUALITY EDUCATION**
- 5 GENDER EQUALITY**
- 6 CLEAN WATER AND SANITATION**
- 7 AFFORDABLE AND CLEAN ENERGY**
- 8 DECENT WORK AND ECONOMIC GROWTH**
- 9 INDUSTRY, INNOVATION AND INFRASTRUCTURE**
- 10 REDUCED INEQUALITIES**
- 12 RESPONSIBLE CONSUMPTION AND PRODUCTION**
- 13 CLIMATE ACTION**
- 14 LIFE BELOW WATER**
- 15 LIFE ON LAND**
- 16 PEACE, JUSTICE AND STRONG INSTITUTIONS**
- 17 PARTNERSHIPS FOR THE GOALS**

Urban Agriculture



Urban agriculture





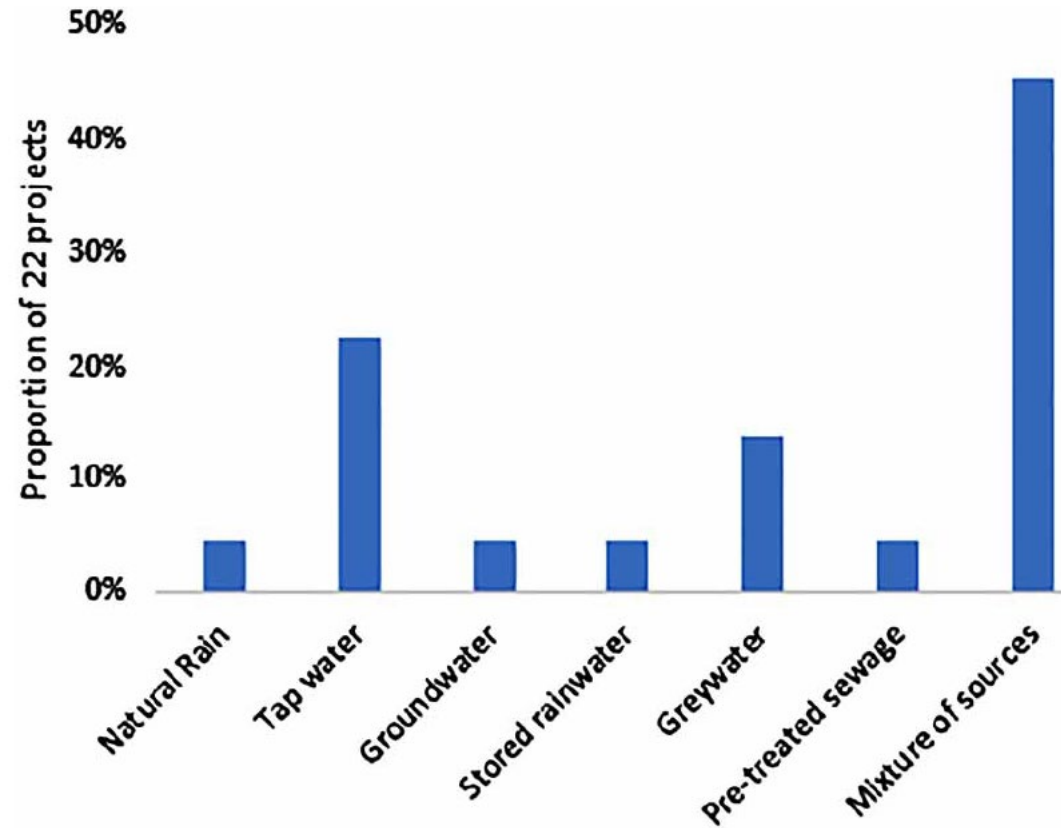


Agriculture vs. Horticulture

Aspect	Agriculture	Horticulture
Provision	Calories/Protein	Vitamins ...
	Macronutrients	Micronutrients
Examples of crops	Grains, potatoes, legumes	Vegetables, Fruits, Mushrooms
Area required (Martelozzo et al 2014)	1029% of urban space	73% of urban space
Daily amount recommended (WHO 2003)	0.5-1.5 kg	0.4 kg
Treatment prior to consumption	Multi-step processing	None or minimal
Longevity	Weeks to years (can be stored)	A few days (must be eaten fresh)
Level of mechanization possible	Very high	Currently limited
Labor intensity (jobs per hectare) (Devlin 2016)	0.02	0.23
Average sale value	Low to medium	Medium to high

Adapted from Weidner et al (2019). Consolidating the current knowledge on urban agriculture in productive urban food systems: Learnings, gaps and outlook. *Journal of Cleaner Production*, 209, 1637-1655.

Sources of water supply for 22 UA research projects participating in the COST Action CA17133



February 2019

Trade-offs concerning UA

Involvement of urbanites

Involvement of professionals

Soil-bound, low tech, open air

CEA (high-tech, soilless)

Social cohesion (education ...)

Productivity, quality and safety

Ecosystem services (biodiversity, climate)

Yield (Monocultures, intercropping)

Fragmented, small plots

Large plots /Vertical systems

Labour.-intense

Capital intense

A quick bibliometric analysis

1. Search in Web of Science (<https://www.webofscience.com>)

(TI=(urban)) AND (TI=(agriculture) OR TI=(horticulture) OR TI=(farming))

Web of Science Core Collection 1,116

Show editions ▼

10:24 AM | Timespan: 2010-01-01 to 2020-12-31 (Publication Date)

2. Analysis with Bibliometrix (<https://www.bibliometrix.org/>)

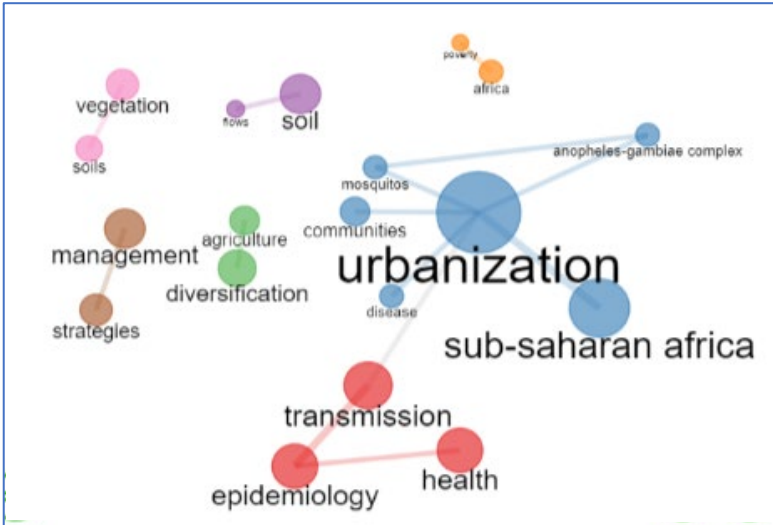
Cited ≥ 1 per year → 613 papers

2000-2010	91
2011-2015	155
2016-2020	367

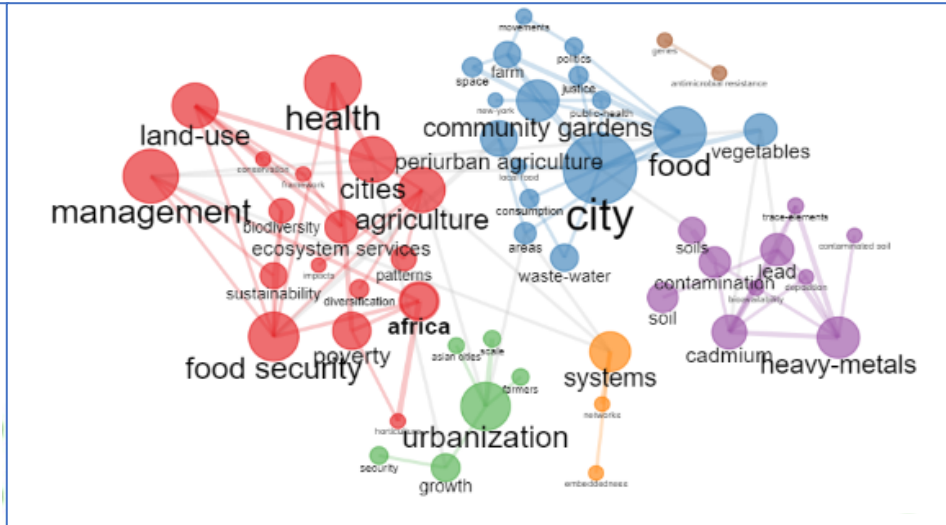


With special thanks to Nikita Krähenbühl.

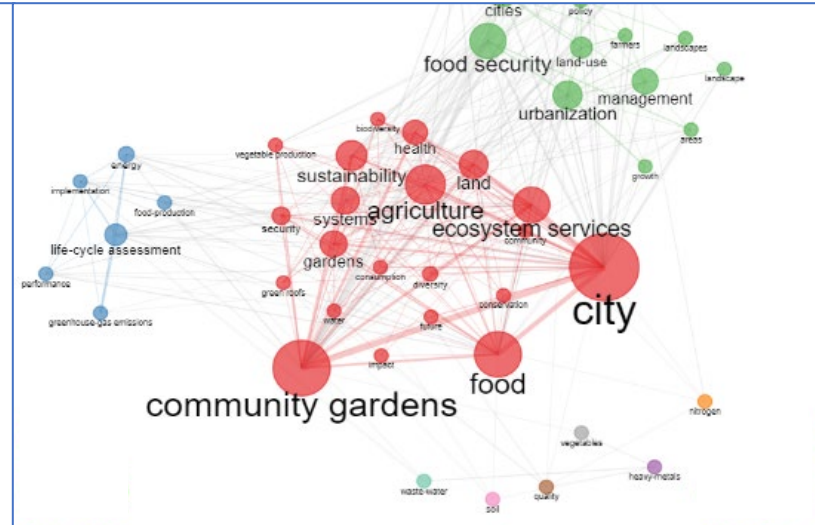
Word co-occurrence graphs for three time periods



2000-2010



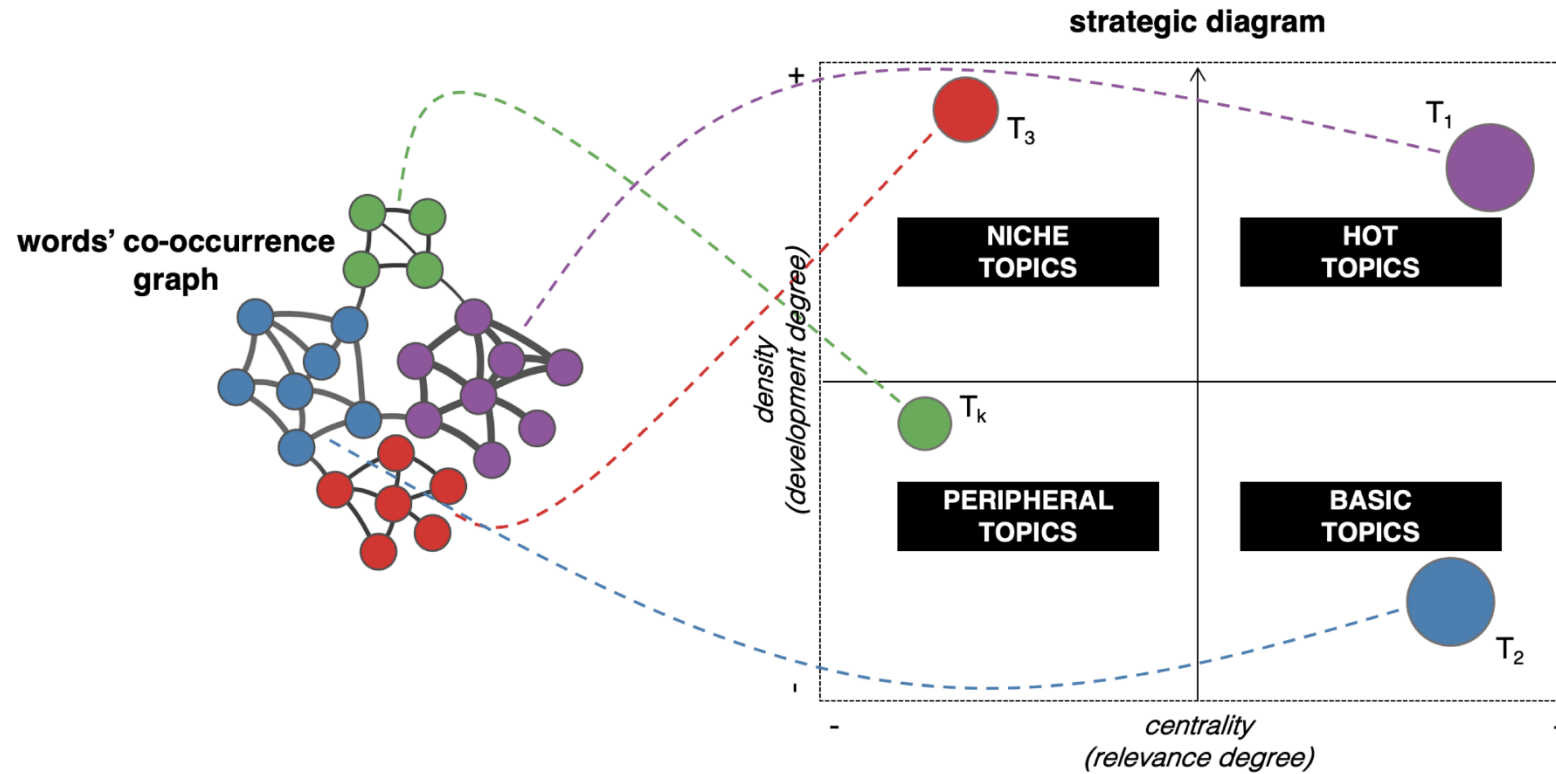
2011-2015



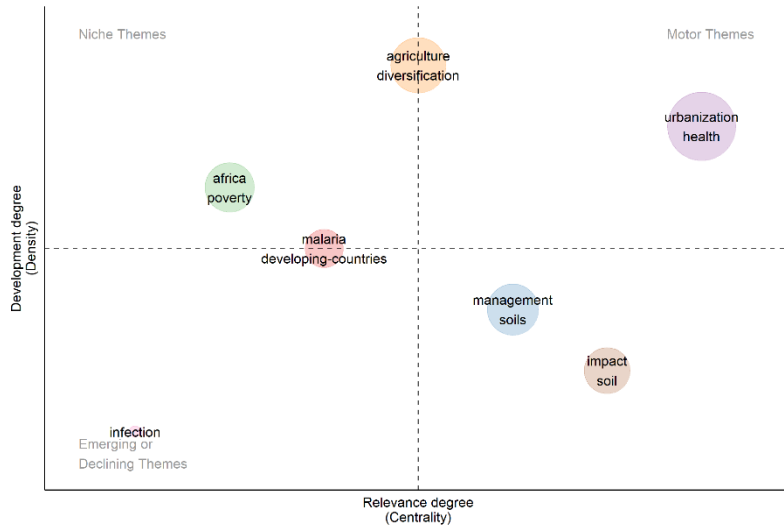
2016-2020

Thematic analysis

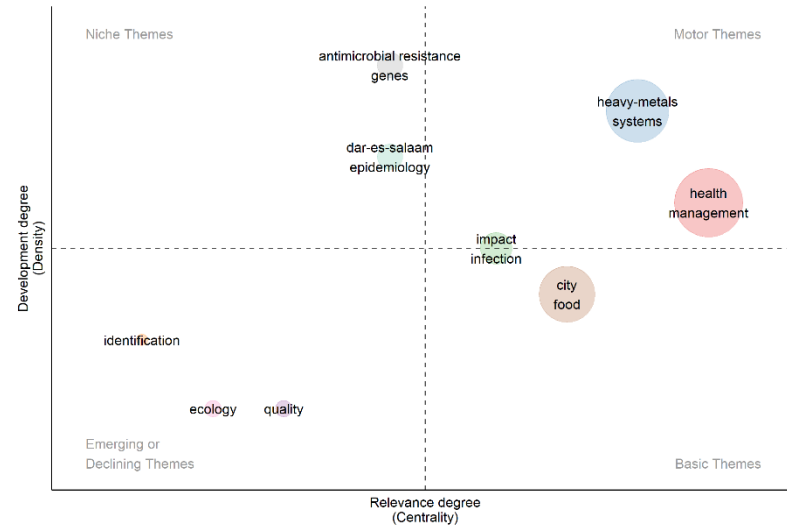
An approach used in bibliometrics to highlight the conceptual structure of a research domain, bringing out the most discussed topics.



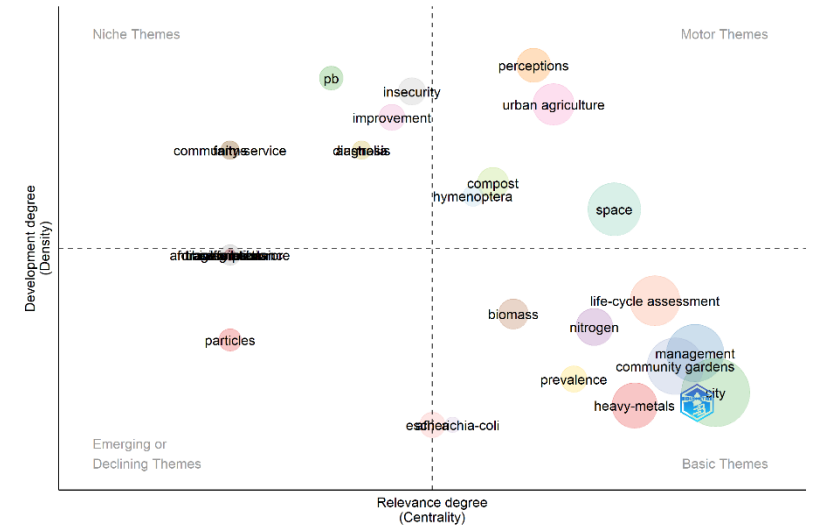
Thematic analysis graphs for three time periods



2000-2010



2011-2015



2011-2015

Main themes per time period

Themes	2000-2010	2011-2015	2016-2020
Basic	Management soils	City food	Community gardens Management
Hot	Urbanization health Agriculture diversification	Health management Heavy metals	Urban agriculture Space
Niche	Africa poverty	Antimicrobial resistance genes	Insecurity
Emerging/ Declining	Infection	Ecology Quality	Particles

Conclusion

