



The Centre for
Agroecology and Food Security



Creating resilient food systems worldwide

Shortening food supply chains in metropolitan areas - practical examples from London, Berlin, Rotterdam, Milan, Ljubljana and Nairobi

8th Organic Producers' Conference, 22-23 Jan 2014, Aston University Birmingham

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Mainstreaming Agroecology: Implications for Global Food and Farming Systems

Discussion Paper

Foreword by
HRH the Prince of Wales



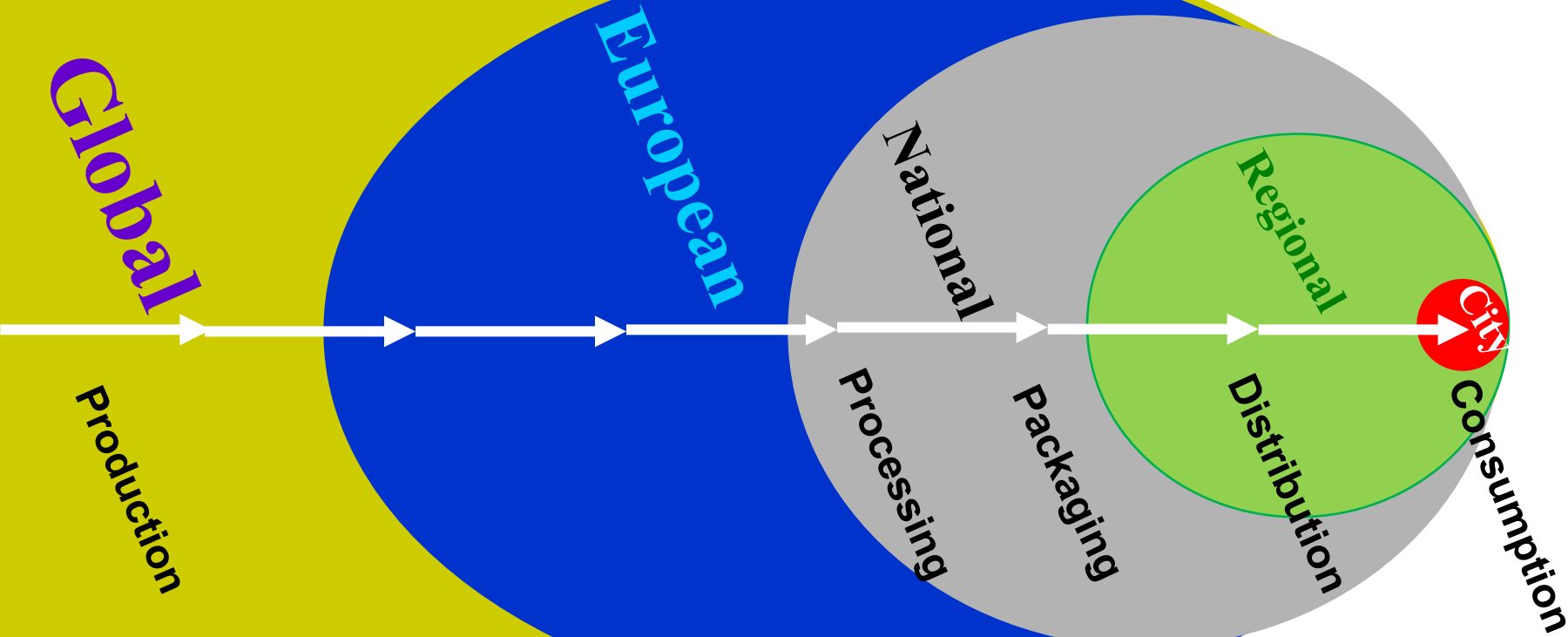
The Centre for
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Creating resilient food systems worldwide

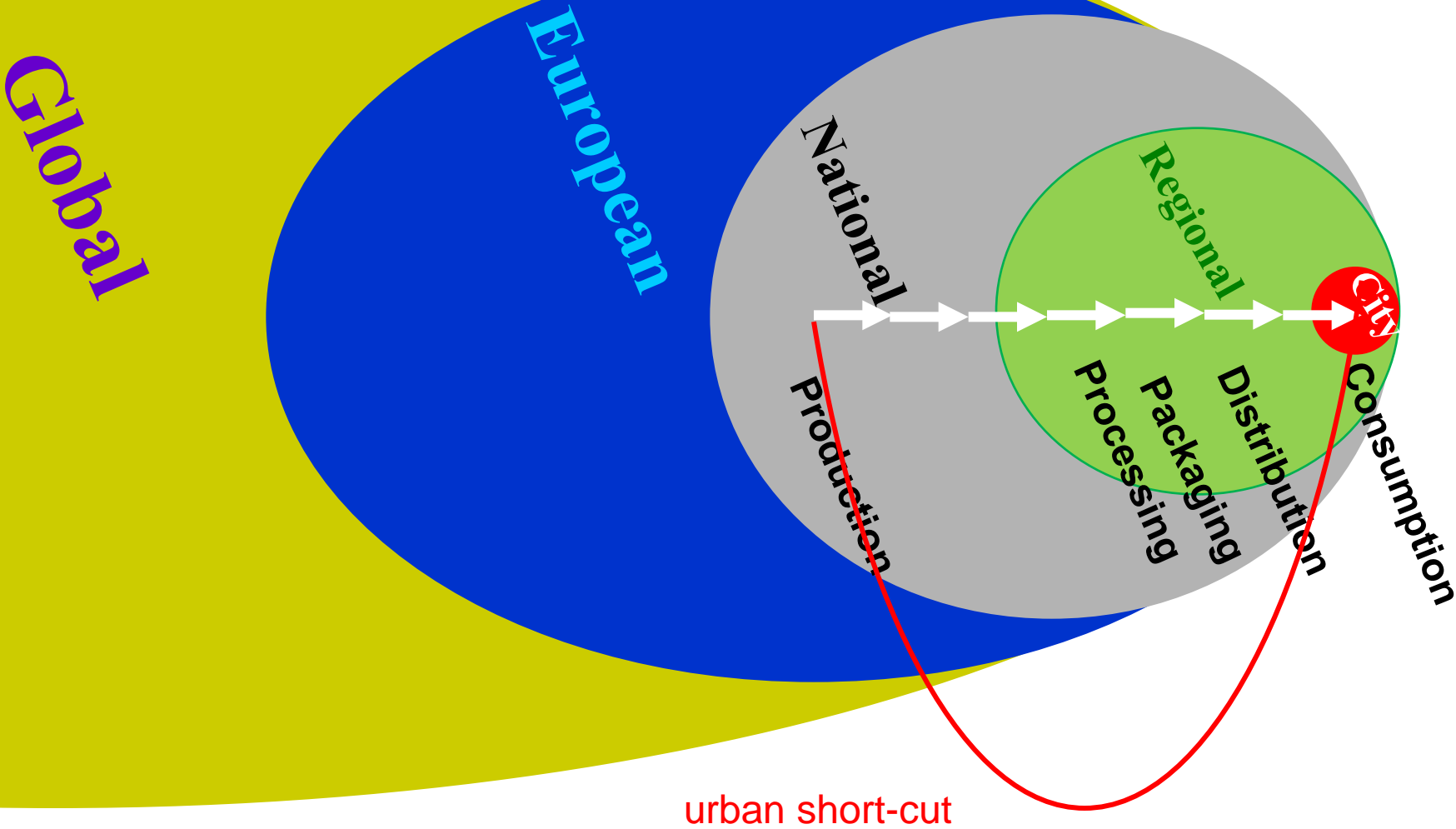


Rotterdam:	Dairy, potatoes, vegetables
Berlin:	Dairy, vegetables, fruits
Ljubljana:	Dairy, vegetables, fruits
London:	Dairy, vegetables, fruits
Milano:	Dairy, rice, vegetables, fruits
Nairobi:	Dairy, vegetables, fruits

Food Chain Analysis



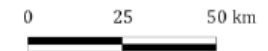
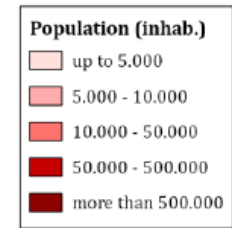
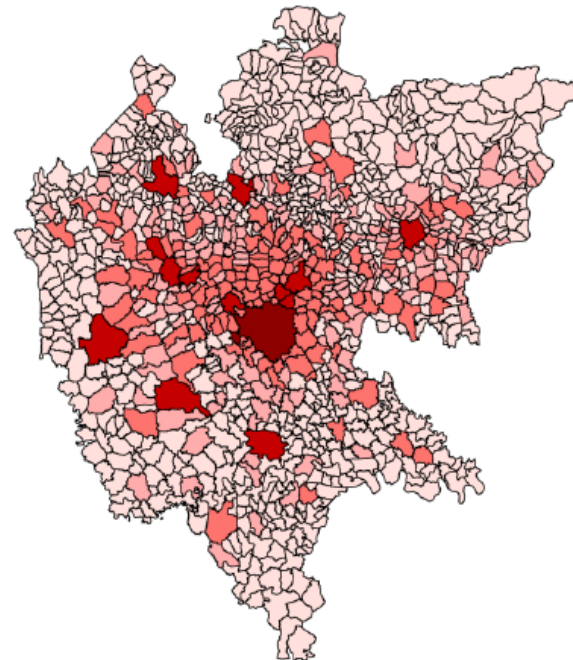
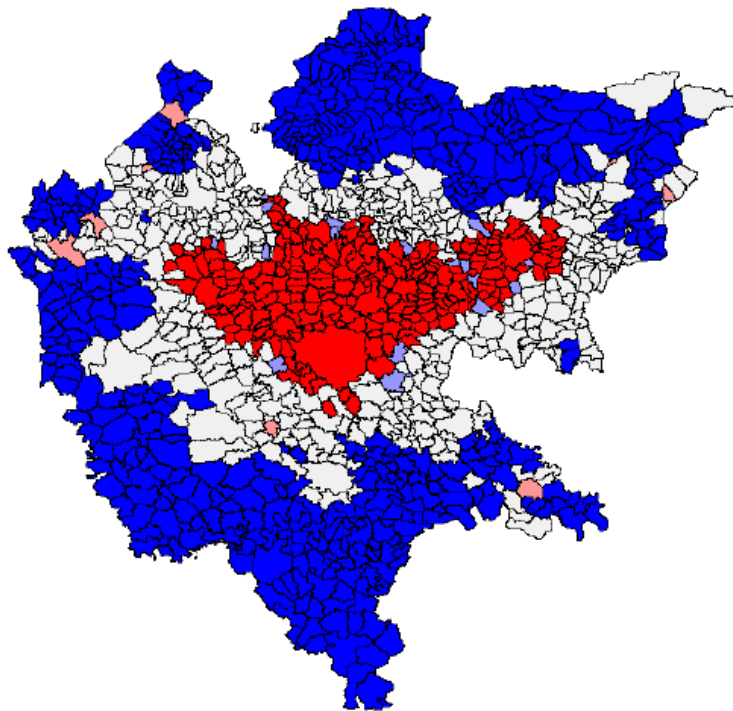
Food Chain Analysis



LISA approach – The maps

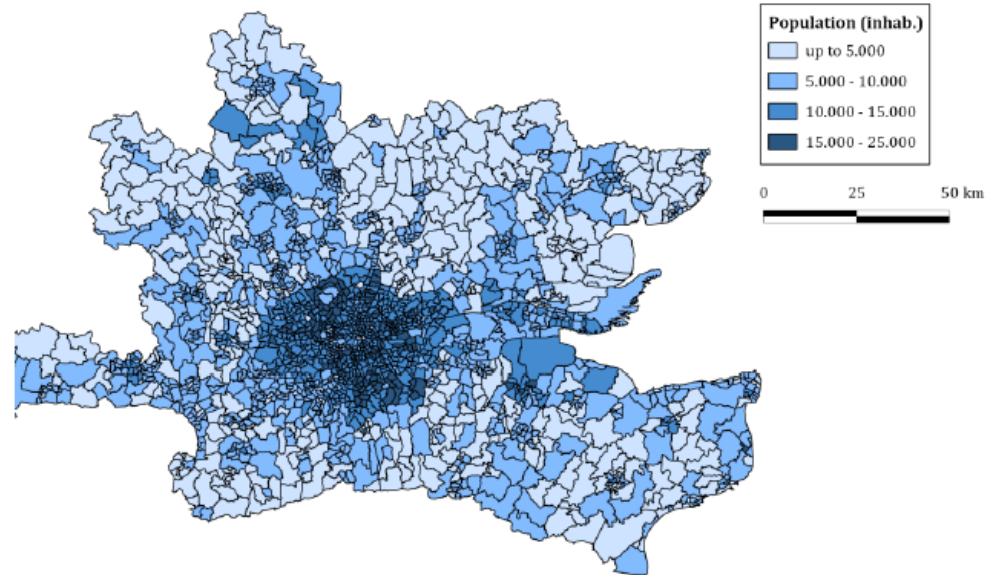
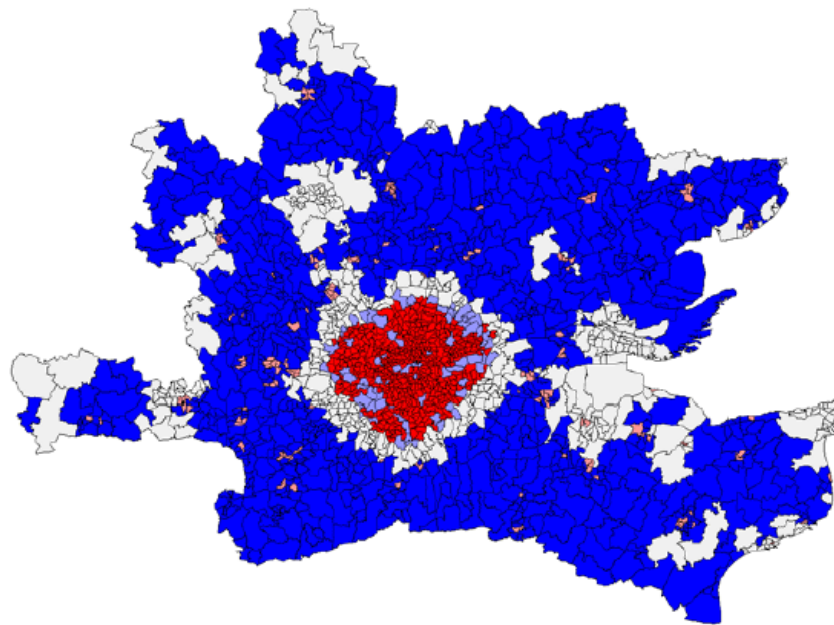
Milan

	OECD region	LISA	LISA/OECD (%)
Municipalities (n.)	1,163	260	22
Population	7,891,991	4,535,493	57
Area (km ²)	13,111	2,095	16



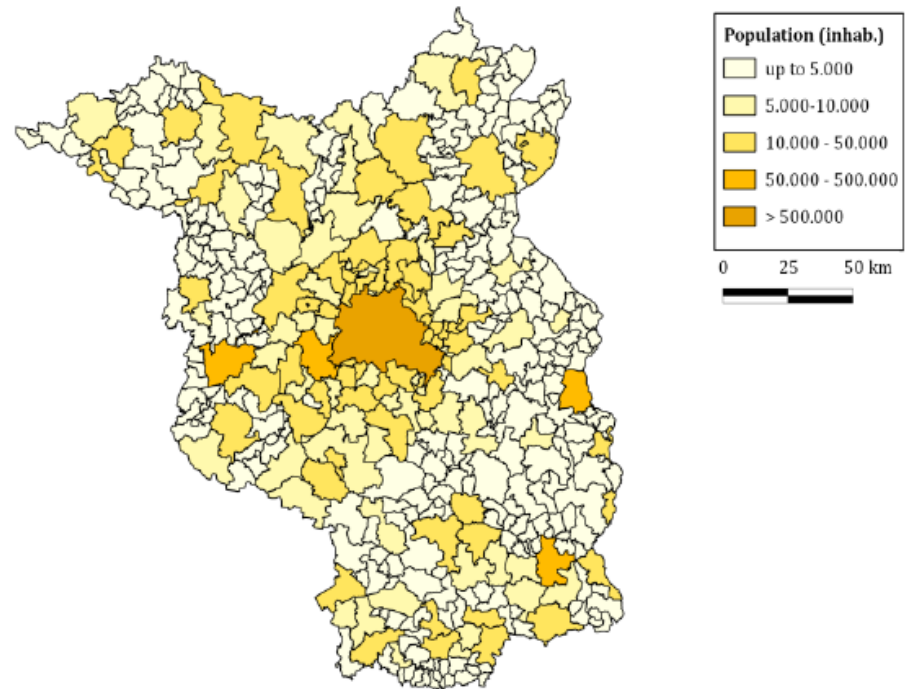
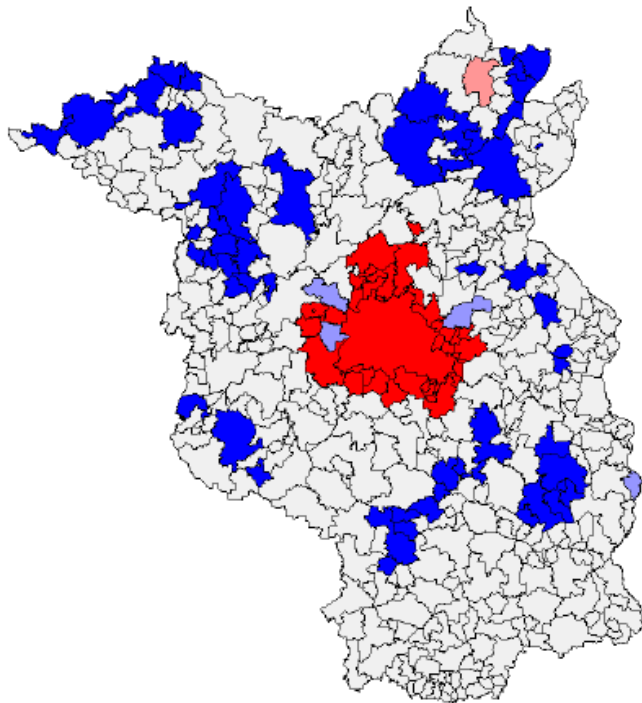
London

	OECD region	LISA	LISA/OECD (%)
Municipalities (n.)	1,943	540	28
Population	15,854,592	6,932,812	44
Area (km ²)	16,344	1,141	7



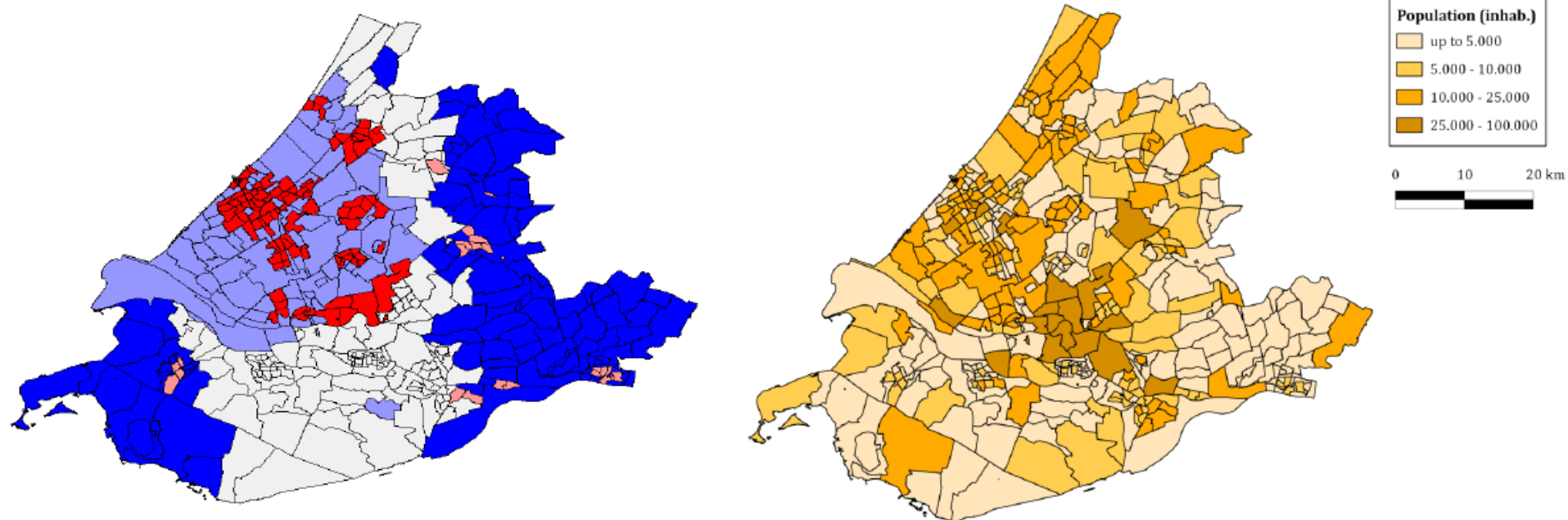
Berlin

	OECD region	LISA	LISA/OECD (%)
Municipalities	420	39	9
Population	6,036,890	4,187,692	69
Area (km ²)	30,534	2,854	9



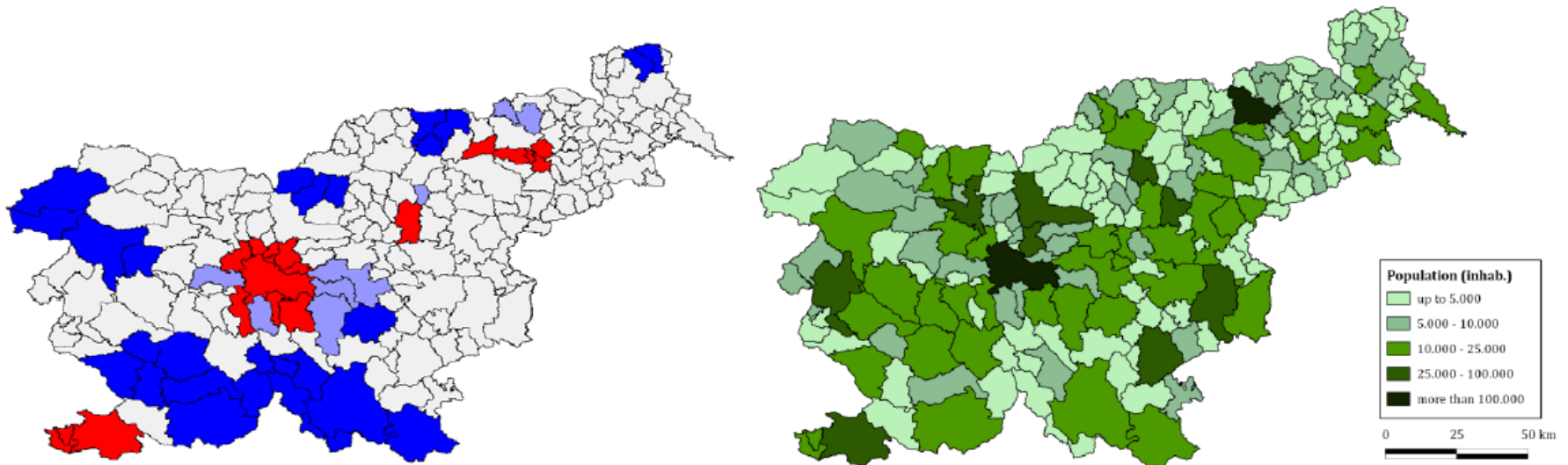
Rotterdam

	OECD region	LISA	LISA/OECD (%)
Municipalities (n.)	442	184	42
Population	3,552,380	1,948,960	55
Area (km ²)	3,041	892	29

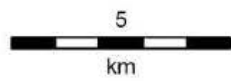
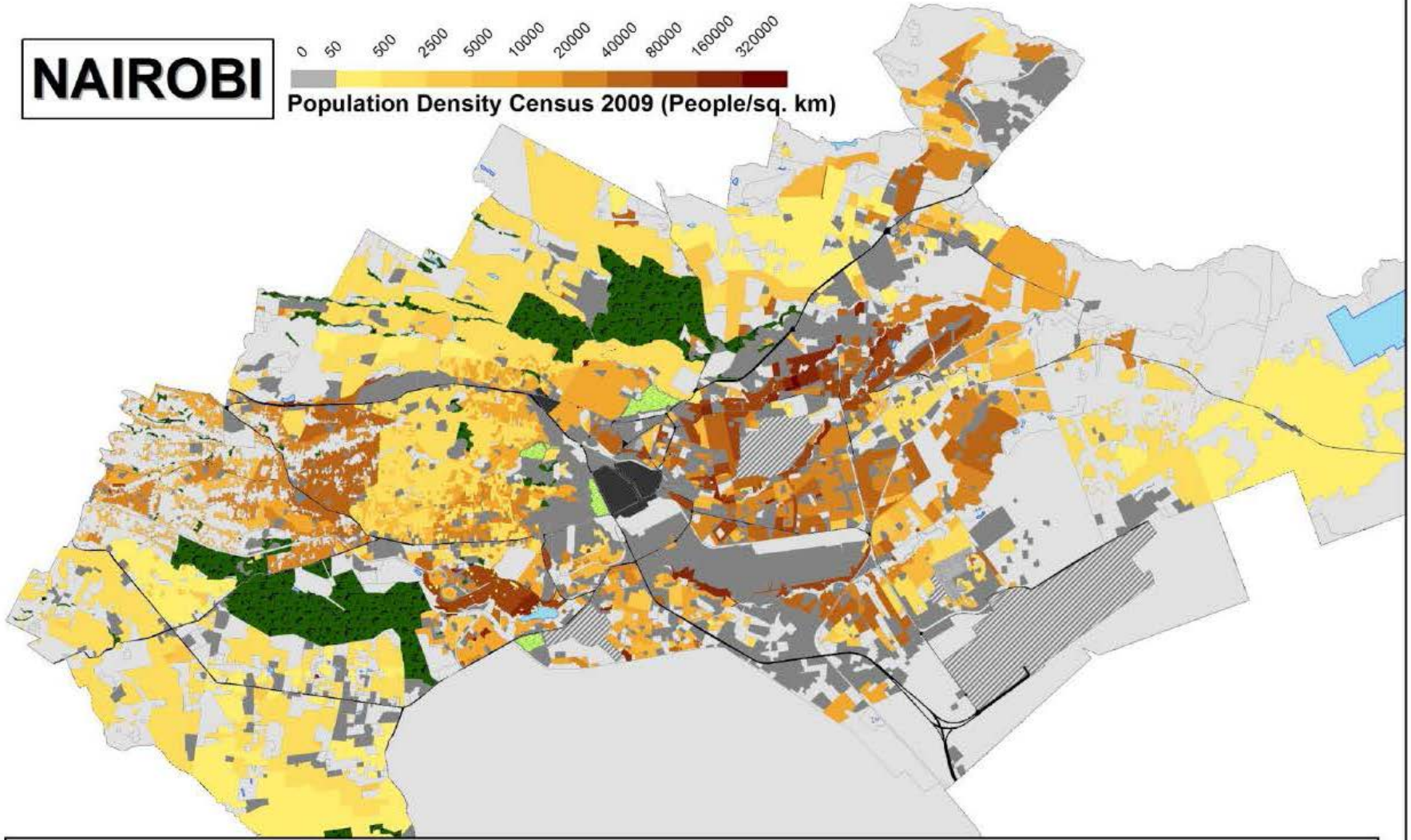


Ljubliana

	OECD region	LISA	LISA/OECD (%)
Municipalities (n.)	210	15	7
Population	2,050,189	440,227	21
Area (km ²)			



NAIROBI



- | | | | |
|--------------|----------------------------|------------|------------|
| Unbuilt Land | CBD | Park | Water Body |
| Airport | Non Residential Built Land | Major Road | Woodland |

Source: Quickbird 2009
Datum: WGS84
Projection: UTM Zone 37S
Author: Martin Ledant 2011







Historical gardening allotment area
In the Ljubljana city centre





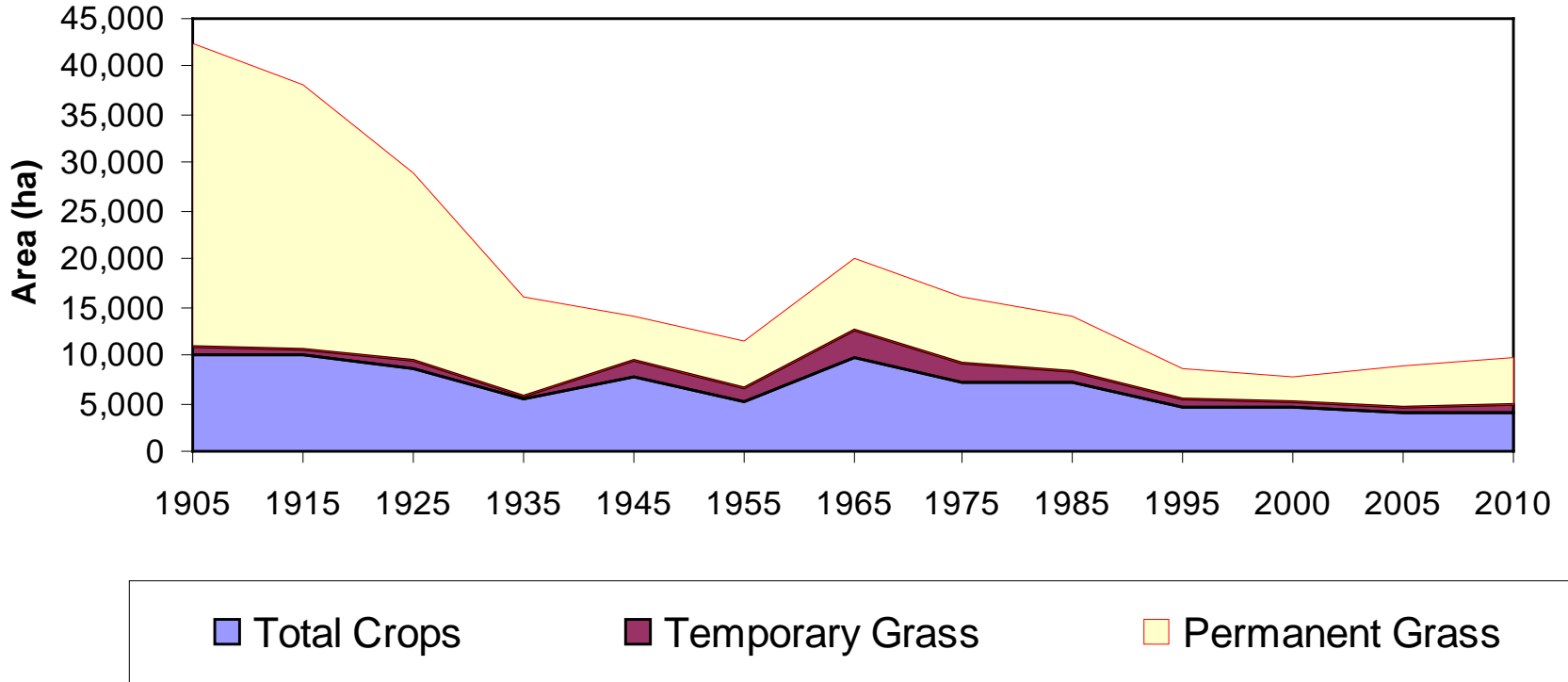
London Land Use History & Future



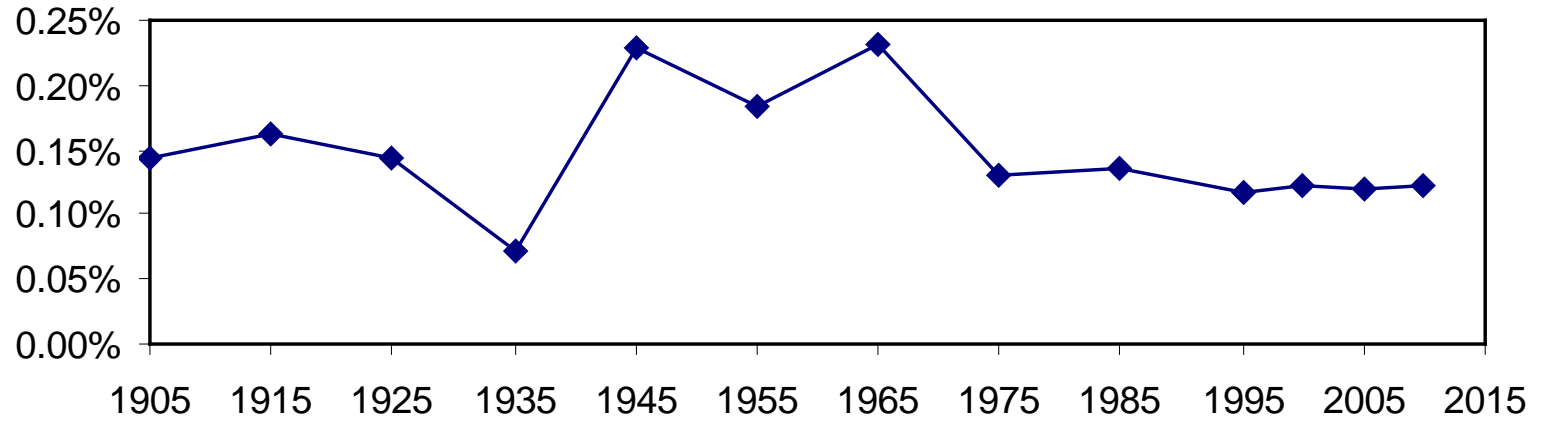
Three Zones

1. Greater London (urban and per-urban)
2. Home counties (all counties bordering London)
3. South East and Eastern Region of England

Agricultural land use Urban London (1905-2010)

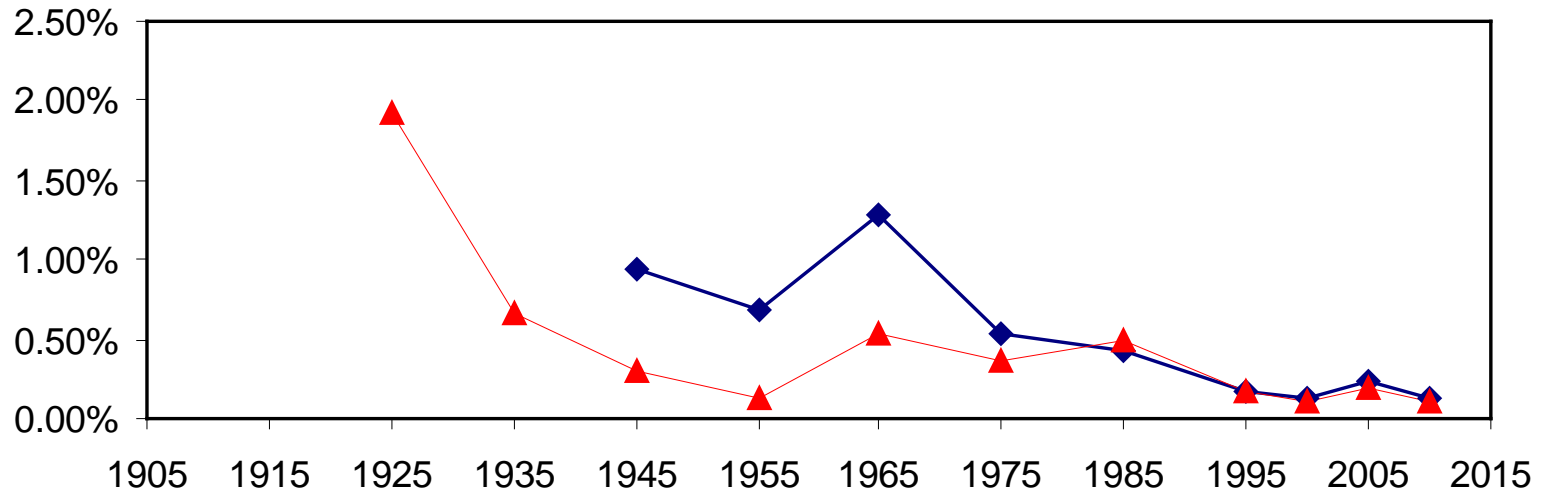


Agricultural land use London % of England



—◆— Wheat

Agricultural land use London % of England



—◆— Vegetables (excluding potatoes) grown in the open

—▲— Total fruit

Product innovations
New spaces

The Urban Gardener's
favourite tool



Product innovations

New spaces



Product innovations New spaces Patchwork Farm





volunteer production

Product innovations

New crops



Mwanaka Fresh Farm Foods

Mwanaka Fresh Farm Foods

The Tropical Farm



It's real, it's here and it's straight from the field.



Product innovations New crops

Home

Get involved

Sowing New Seeds



What is Sowing New Seeds?

Our aim is to enable allotment holders, schools and community groups in the Midlands to grow exotic crops not traditionally grown in the UK.

[Click here to see our video!](#)

Why do we need this project?

- Over the last 40 years, the variety of food consumed in the UK has broadened. It now includes foods from a whole range of cultures.
- There is already a wealth of non-traditional crops grown on allotments in the UK. These crops and the skills to grow them are in danger of disappearing as they are not being passed onto younger generations.

This project aims to capture and preserve both the crops and the knowledge. It will make seeds and skills available to those who want to grow these crops.

What the project is doing?

Over the course of the project, we are:

- Collecting seeds and knowledge and safeguarding them for future generations
- Making seeds, skills and knowledge available to everybody
- Supporting groups within the Midlands to grow exotic crops
- Setting up a demonstration garden at Ryton Gardens.



[Lots of exciting events coming up soon!](#)

[Exotic crop fair a great hit!](#)

[Download the latest newsletter here!](#)





The Centre for
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Creating resilient food systems worldwide

Urban horticulture and organic greenhouse standards?

*2nd International Symposium on Organic Greenhouse Horticulture
ISHS working group "Organic Greenhouse Horticulture"
Avignon, France, 28-31 Oct, 2013*

*Dr Ulrich Schmutz, Dr Julia Wright and Dr Margi Lennartsson
CAFS, Coventry University and Garden Organic, UK
(Declaration: UK/EU accredited farm inspector for organic producers)
uschmutz@gardenorganic.org.uk*

Urban horticulture - Cuba

- 1) Patios (home gardens)
- 2) Parcels (un-used urban land)
- 3) Intensive gardens
- 4) Organoponicos – raised beds, 75% organic matter + 25% soil (includes protected)



Urban horticulture - Asia/S-Korea



Urban horticulture - Europe/UK

EU-Framework 7 project (2012-2015) with 7 universities and 11 SMEs in London, Berlin, Milan, Rotterdam, Ljubljana and Nairobi



social care

Growing in soil – ‘not an option’ (e.g. London)



Growing in soil – ‘not an option’ (e.g. Rotterdam)



Why urban horticulture needs to be organic

Globally urban horticulture (and protected horticulture) play a key role within urban/peri-urban agriculture. Globally the population with vegetarian/vegan and meat exclusive (pig, beef) diets is growing faster.

=> Large demand for certification from growers, consumers, restaurants.
To achieve **clear differentiation** to non-organic systems e.g. hydroponics or using synthetic fertilisers and pesticides within cities

Delivers fully to organic objectives and principles of **Health** (soil, plant, people), **Ecology** (ecosystems and recycling), **Fairness** (sharing and efficient use of resources, consumer interaction) and **Care** (social health and wellbeing outputs)

Organic standards for urban horticulture EU & SA

Clear and detailed standards for substrate based on EU Reg. EC- 889/2008, Article 6, 'Specific rules on mushroom production' and **Soil Association** (UK) on organic mushrooms:

7.1.4

Your mushroom substrate may only consist of the following materials:

- products from **organic** farming, for example straw (including in-conversion organic)*
- manure from **organic** farming*
- mineral products (those we allow in standard 4.8.8)*
- peat (not chemically treated)*
- wood (not chemically treated after felling, from organic or sustainable sources if possible)*
- water*
- soil from organic farming (provided you return the spent compost to the same farm)*

Organic standards for urban horticulture - EU

Growing in soil is default (= has to be done wherever possible).

If **'soil is not an option'** this is verified at first inspection. Full details are documented (e.g. soil contamination), justification for out of soil growing is given, and limits of the alternative fixed (demarcated beds, top soil fill-in).

This is then inspected annually as currently standard in organic farming certification. Urban horticulture is for local consumption (no exports).

Clear and robust rules for substrate (as for organic mushrooms)

- biological active ecosystem, nutrient delivered through microbial activity
- conventional inputs currently allowed in organic are excluded:
 - No conventional straw (pesticides, GM-feed)
 - No conventional manure from any system (veterinary residues, herbicides)
 - No peat (industrially mined fossil fuel, damage to natural environment)
- green waste, food waste, home compost & digestate from biogas allowed
- within research trials - human compost

The way forward - Conclusions

Urban agriculture is not a niche (rather the opposite) and it's important to **include it into certified organic standards for EU greenhouse production**

Land, across the world, where 'growing in soil is not an option' should not be lost to organic production: Certified organic farming would fail it's **contribution to food security**, consumer demand and global sustainability.

In cases where growing in substrate is necessary, it can be **inspected and certified as strictly as any other production system** (as already done for mushrooms, which normally grow in soil)

Continue work on EU standards to include **novel organic certification systems** already successfully used outside Europe (group certification, participatory guarantee schemes, self-declaration and consumer interaction in certification)

Support slides

Master Gardener

Local advice and support growing food



Welcome fionalaw. [Control panel & forums](#) | [Logout](#)




Featured Stories


Bringing in the Harvest


MG Joan looks after the Brown household of four, but her sessions regularly attract five or six extended family and friends! She writes: In their small back garden my household has gone from no growth, to an endless supply of cut and come again lettuce grown in discarded greengrocer plastic trays, black tuscan kales and [...]


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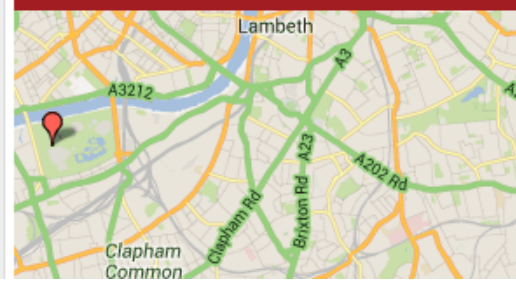
 Tweet 6

 +1 0

 Like 18

Events Master Gardeners

Current events [Show all»](#)



Master Gardeners' blog posts

It's a wormery clear out

There was more activity in and behind the bike sheds at Blue Star House in Brixton at lunchtime today. The 1960s block nurtures a healthy ecology of compost worms in several bike shed wormery stacks. Officers from the Sustainability and Transport teams at London Borough of Lambeth, joined by me, turned out the wormery



Events

Nov 14th: Master Gardener Social – all welcome!

MG Hilda is co-ordinating a fun evening full of veg chat (or just possibly a range of non-food topics!) and jollity at a certain jazz bar in Herne Hill where she lives... Watch this space for more info coming very soon...



Newsflash

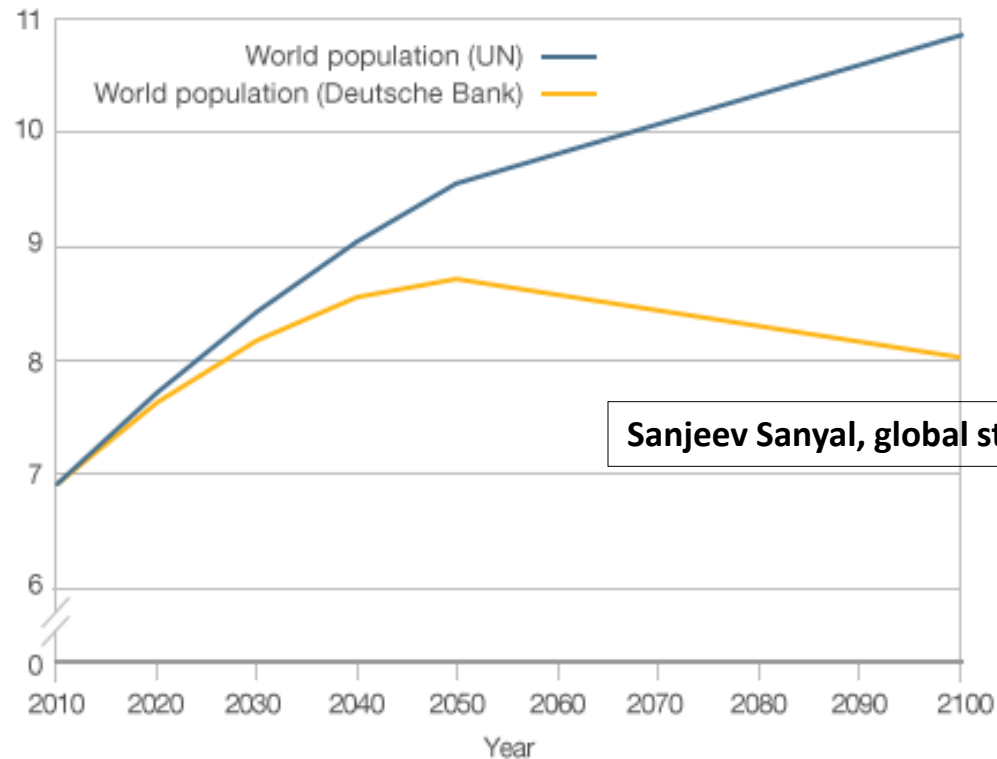
<http://www.bbc.co.uk/news/magazine-24303537>

BBC, 29 September 2013, **Is population growth out of control?**

How much will the world's population rise by?

UN and Deutsche Bank's population projections compared

Billions of people

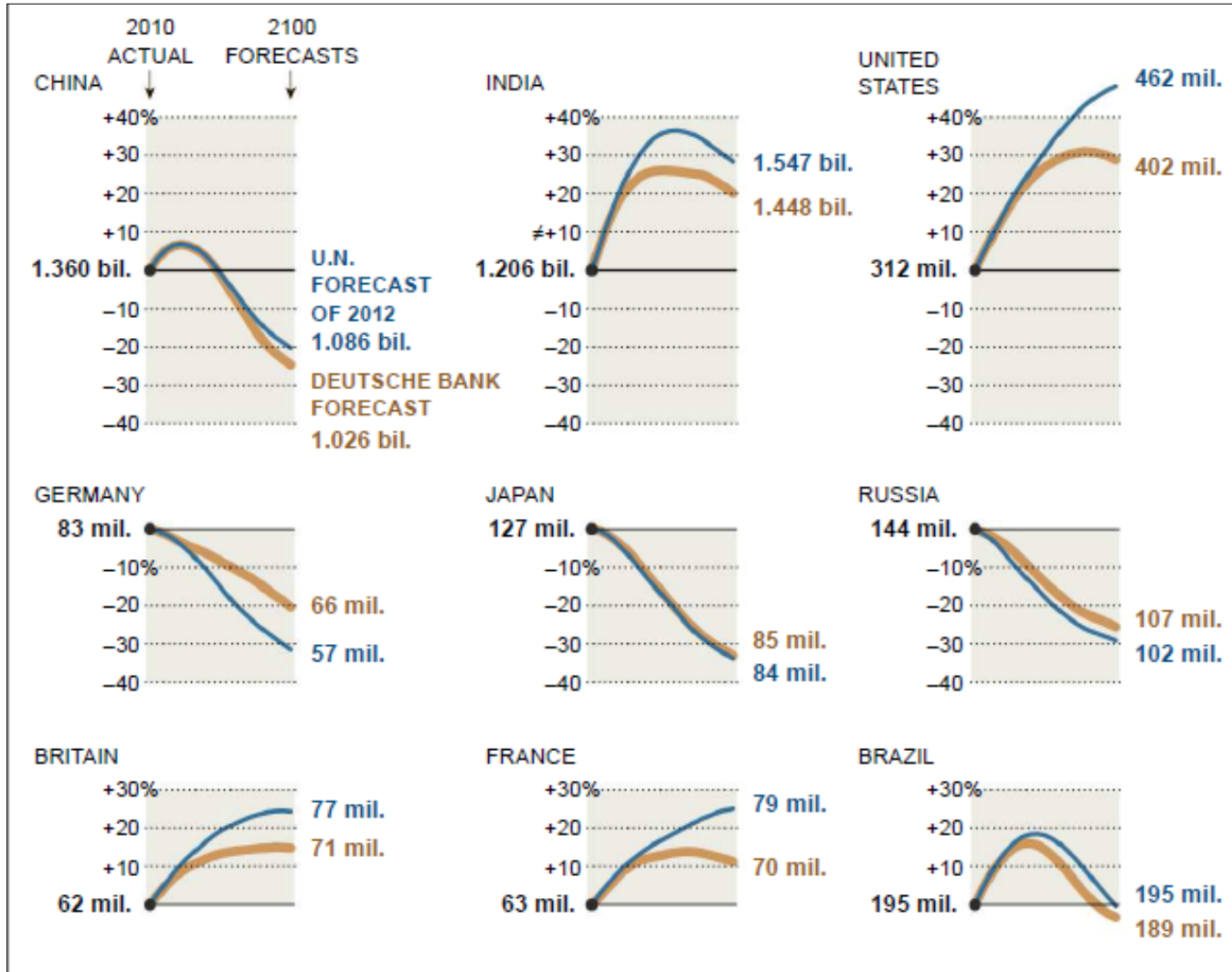


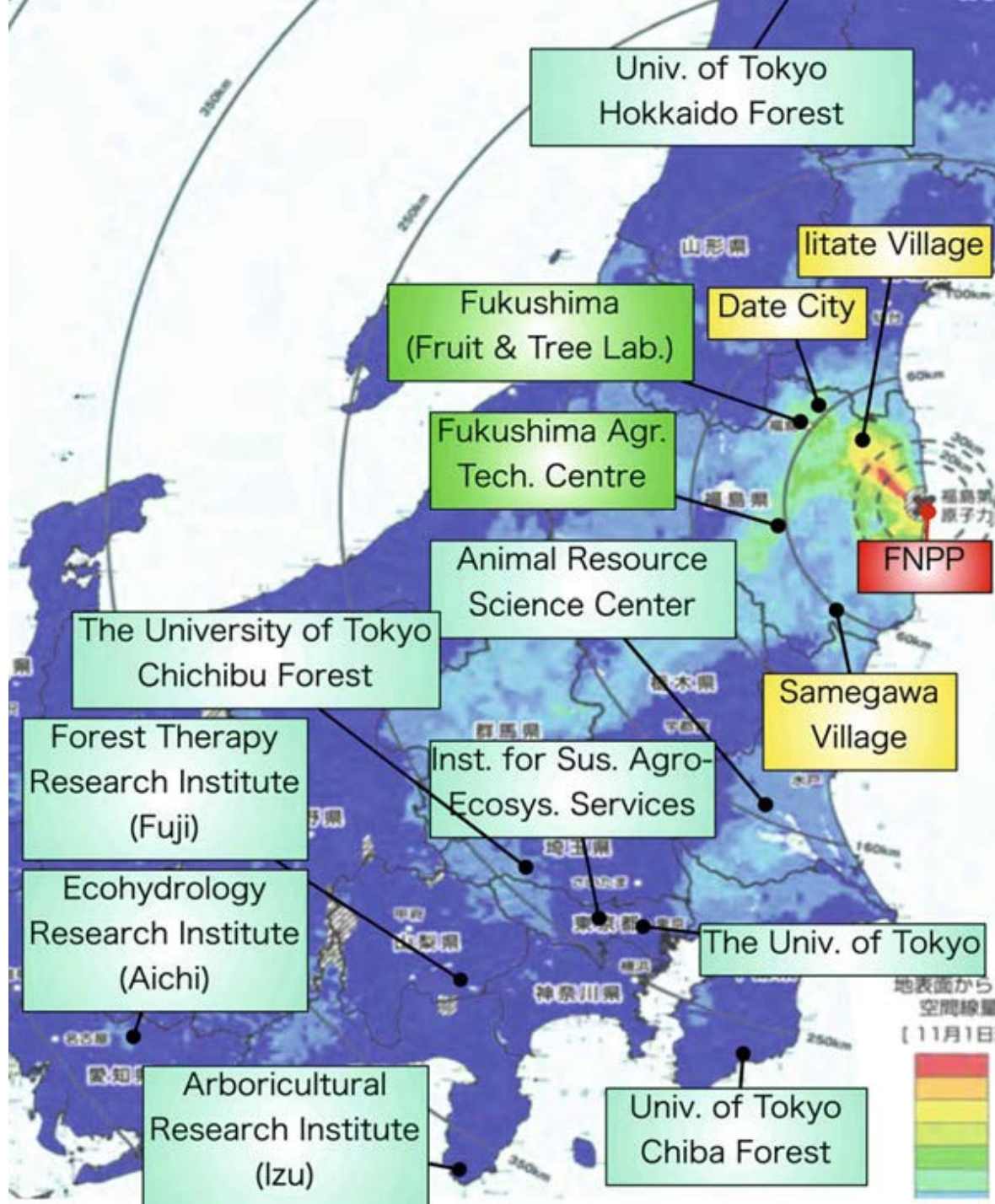
Sanjeev Sanyal, global strategist Deutsche Bank

Source: UN and Deutsche Bank

Newsflash

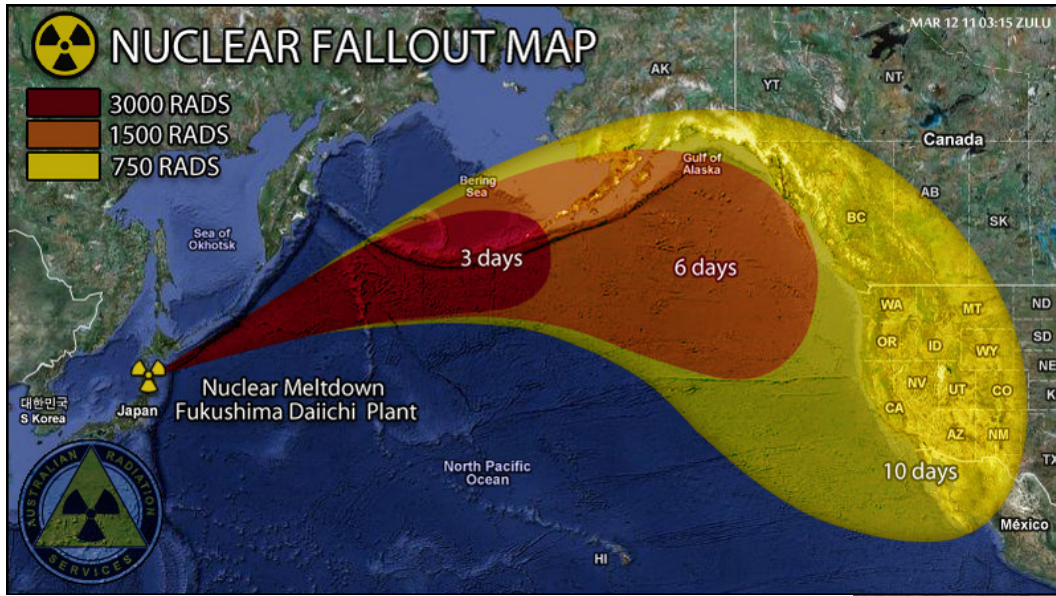
UN versus Sanjeev Sanyal (DB)





Source:
 Nakanishi and Tanoi (2013)
 Agricultural Implications
 of the Fukushima
 Nuclear Accident.

Springer ISBN: 978-4-431-
 54327-5



Fuel and food?



30 km area (half on sea)

ha	ha		
141,300	277,325	Somerset	51%
14,130,000	3,028,702	South England (W+E)	467%

Hinckley Point
Tsunami hotspot!

UK Parliament Agri-technology research spending

(Defra and the Biotechnology and Biological Sciences Research Councils)

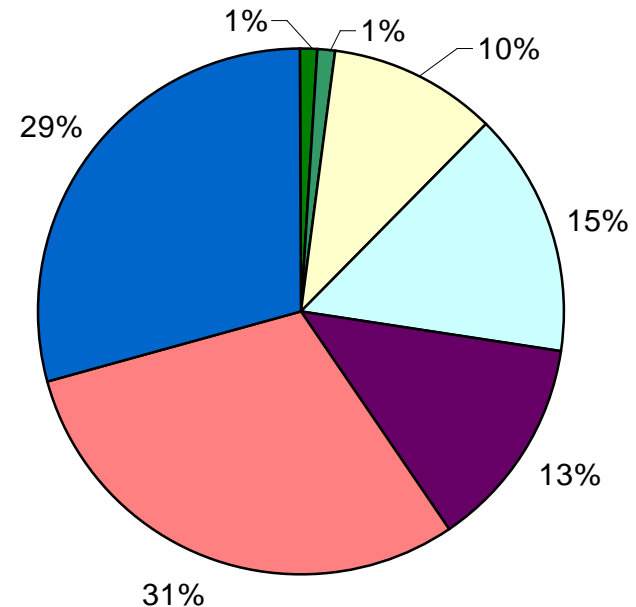
http://www.publications.parliament.uk/pa/ld201314/ldhansrd/text/130710w0001.htm#wast_0

Annual Spend £M	2007/08	2008/09	2009/10	2010/11	2011/12
GM Crops (specific) ¹	5.7	3.8	4.8	4.4	3.3
GM Crops (direct) ²	4.7	8.3	11.1	10.2	9.3
GM Crops (total)	10.4	12.1	15.9	14.6	12.6
Marker assisted breeding, in crops ¹	8.9	10	11.1	11	10.8
Other Crop Science	21.2	23.4	23.5	24.2	25.9
Total Crop Science	40.5	45.5	50.5	49.8	49.3
Farmed animal health and welfare		24.9	23.6	23	24.5
Agricultural Systems¹		9.2	8.0	8.0	9.5
Total for Agri-technology		79.6	82.1	80.8	83.3
Organic (1% of Agri-technology)		0.80	0.82	0.81	0.83

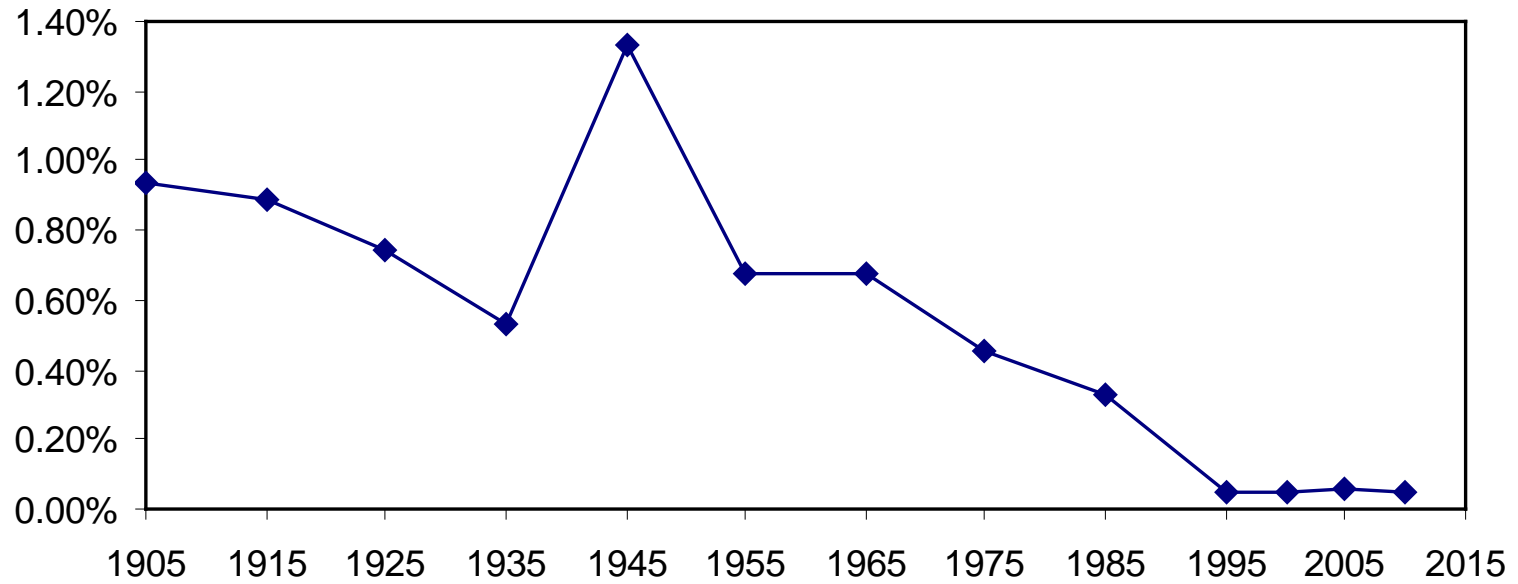
Percentage breakdown

	2008/09	2009/10	2010/11	2011/12
Organic	1%	1%	1%	1%
Agroecology - proportion of agricultural systems assumed: 10%	1%	1%	1%	1%
Other agricultural systems	10%	9%	9%	10%
GM Crops	15%	19%	18%	15%
Marker assisted breeding in crops	13%	14%	14%	13%
Other crop science	28%	28%	29%	30%
Farmed animal health and welfare	31%	29%	28%	29%
Total	100%	100%	100%	100.0%

- Organic
- Agroecology - proportion of agricultural systems assumed:
- Other agricultural systems
- GM Crops
- Marker assisted breeding in crops
- Other crop science
- Farmed animal health and welfare

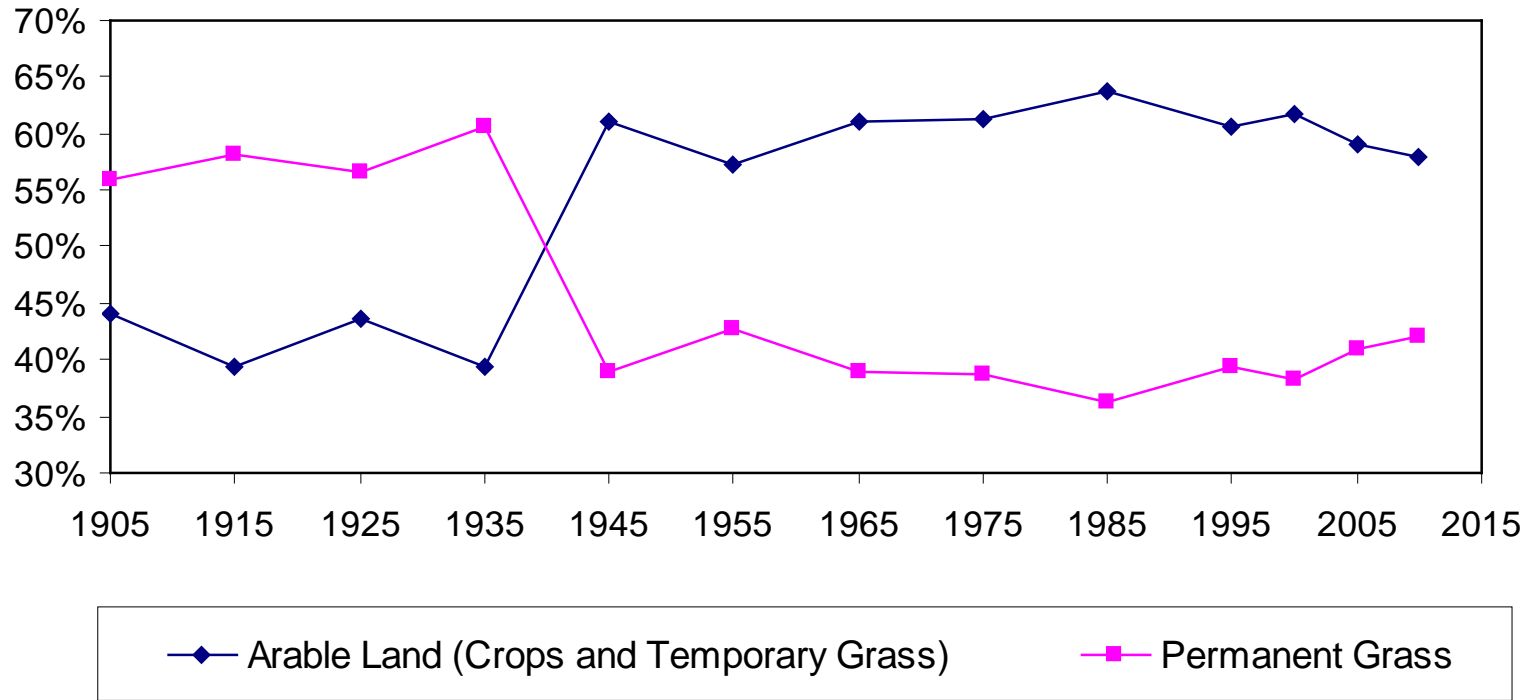


Agricultural land use London % of England

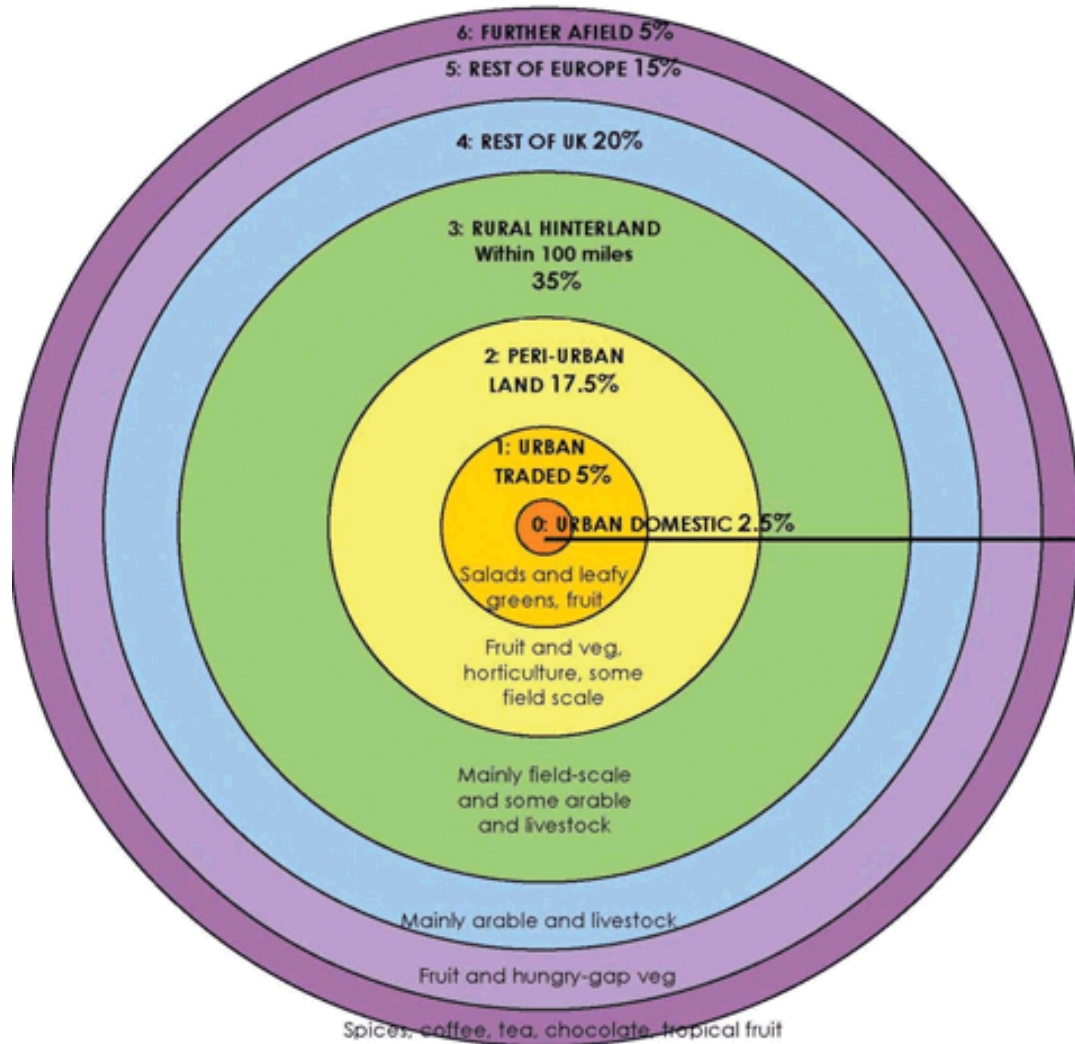


—◆— Total Pigs

Agricultural land use England (1905-2010)



Food planning



- Home growing
- Community gardens
- Patchwork farm
- Starter farm
- Farmers' market
- Box delivery scheme
- urban food chains

www.growingcommunities.org