

Urban Agriculture in Ruhr Metropolitan Area, Germany

Sarajevo University

November 12th, 2020, Online - Dr. Bernd Pölling



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Erasmus+ Programme
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Overview: UA in Ruhr

Urban agriculture (UA)

- Urban farming
- Urban gardening
- Technological innovations

Urban farming in Ruhr Metropolitan Area

- Ruhr
- Success of business strategies
- Alternative Food Networks



Overview: UA in Ruhr

Urban agriculture (UA)

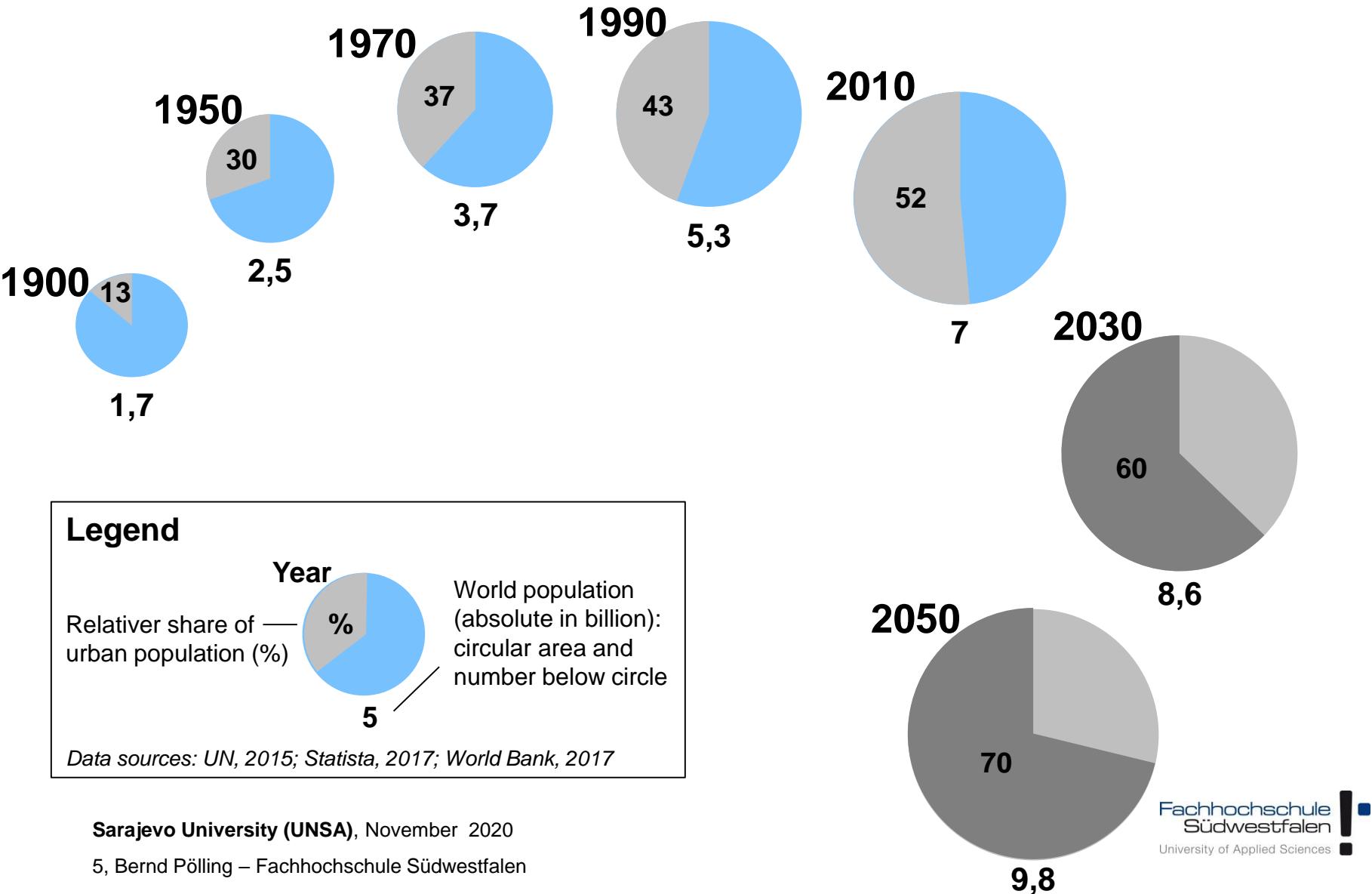
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Urban farming in Ruhr Metropolitan Area

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„Urbanising world“



„Urbanising world“

- Alienation of urban population with agriculture
- Urban food systems had not been an issue for a long time (*Wiskerke, 2015*)
- Agriculture & rural development
 - EU and national policies
 - Urban Agriculture partly excluded from support measures
- Increasing critique of:
 - „Industrialised“ production systems
 - Globalised food systems (*Steel, 2008; Wiskerke, 2009*)
- Growing interest in „food“ (*Blay-Palmer, 2009; Lohrberg, 2011; Wiskerke, 2015*)

Urban agriculture – terms and definitions

Urban agriculture

“UA is an industry located within (intra-urban) or on the fringe (peri-urban) of a town, a city or a metropolis, which grows, raises, processes and distributes a diversity of food and non-food products [...]”

(Mougeot, 2000: 11)



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Urban farming

- economic focus (professional business)
- agricultural / horticultural farms
- mainly at the outskirts / urban-rural links

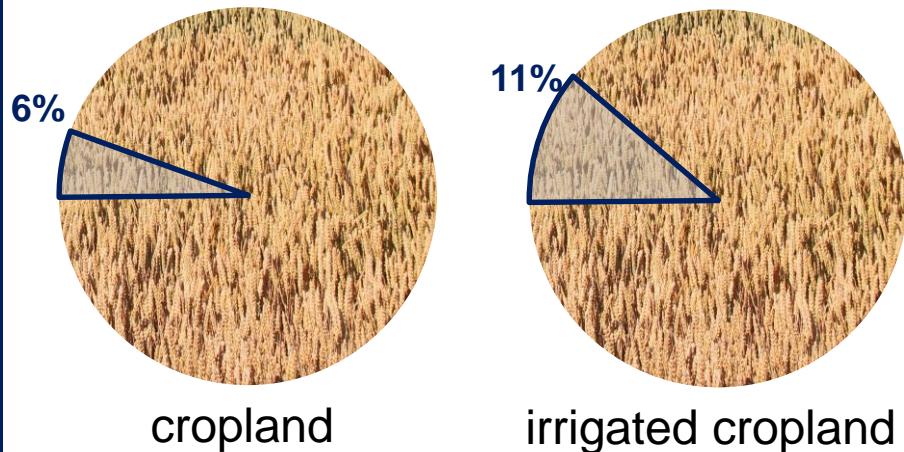
Urban gardening

Technological innovations of UA

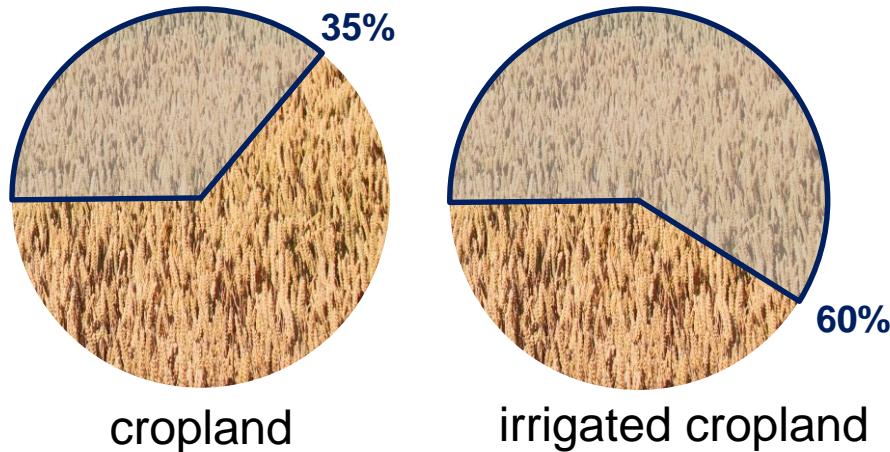
Urban farming – global relevance

- 800 million people active in UA (*FAO, 2007*)
- 200 million with primarily economic focus

Cropland in cities



Cropland in cities + 20km



Data source: *Thebo et al., 2014*

Technological innovations of UA

- Walls
- rooftops
- Indoor (plant factories, etc.)
- Aquaponics
- ...



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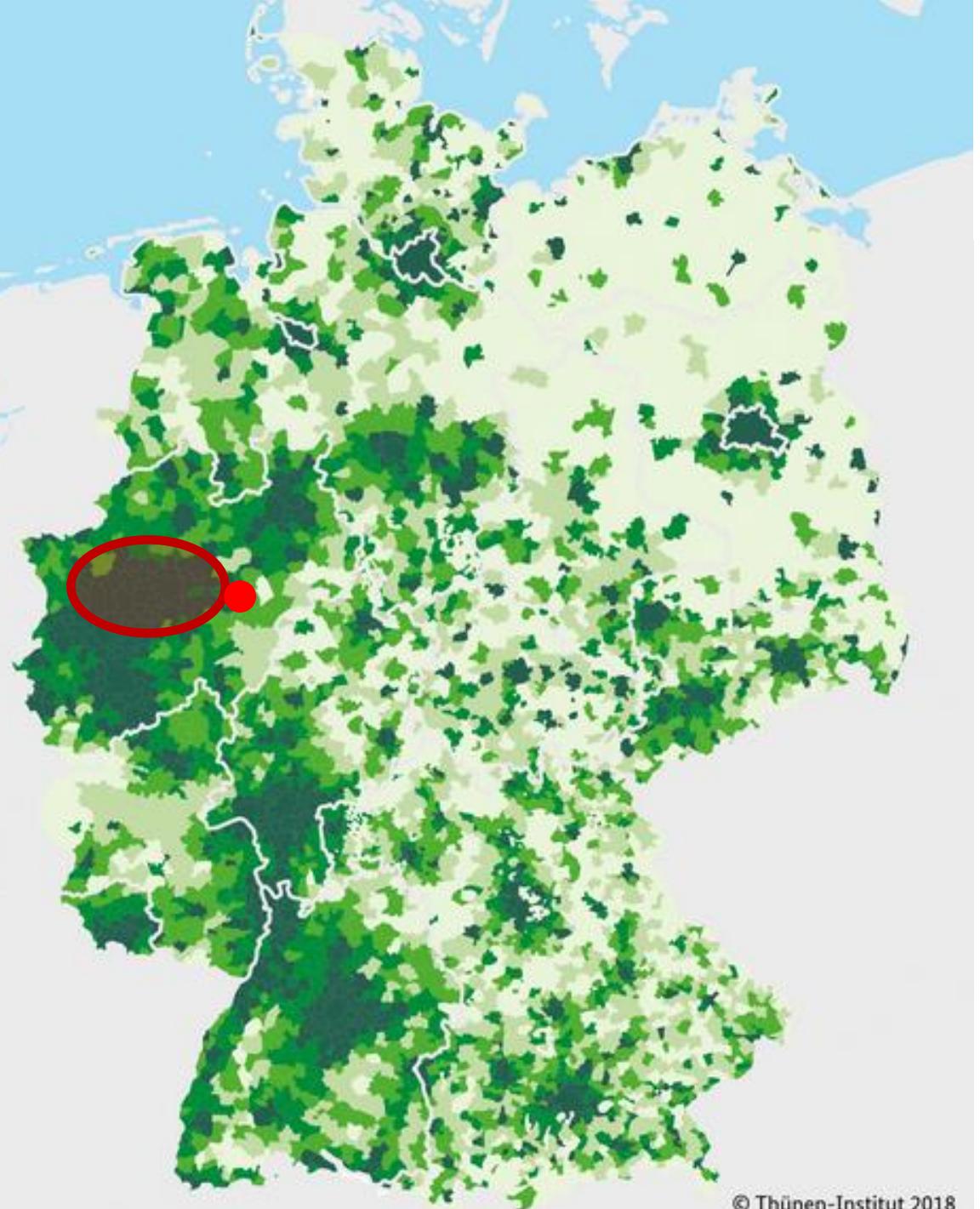
(Mougeot, 2000: 11)

Urban farming

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Urban gardening

Technological innovations of UA



„Urbanised Germany“

Bevölkerungsdichte

- weniger als 70 Einwohner je km²
- 70 bis unter 109 Einwohner je km²
- 109 bis unter 182 Einwohner je km²
- 182 bis unter 371 Einwohner je km²
- 371 Einwohner je km² und mehr



Bundesministerium
für Ernährung
und Landwirtschaft



Quellen

Einheit: Einwohner je km²

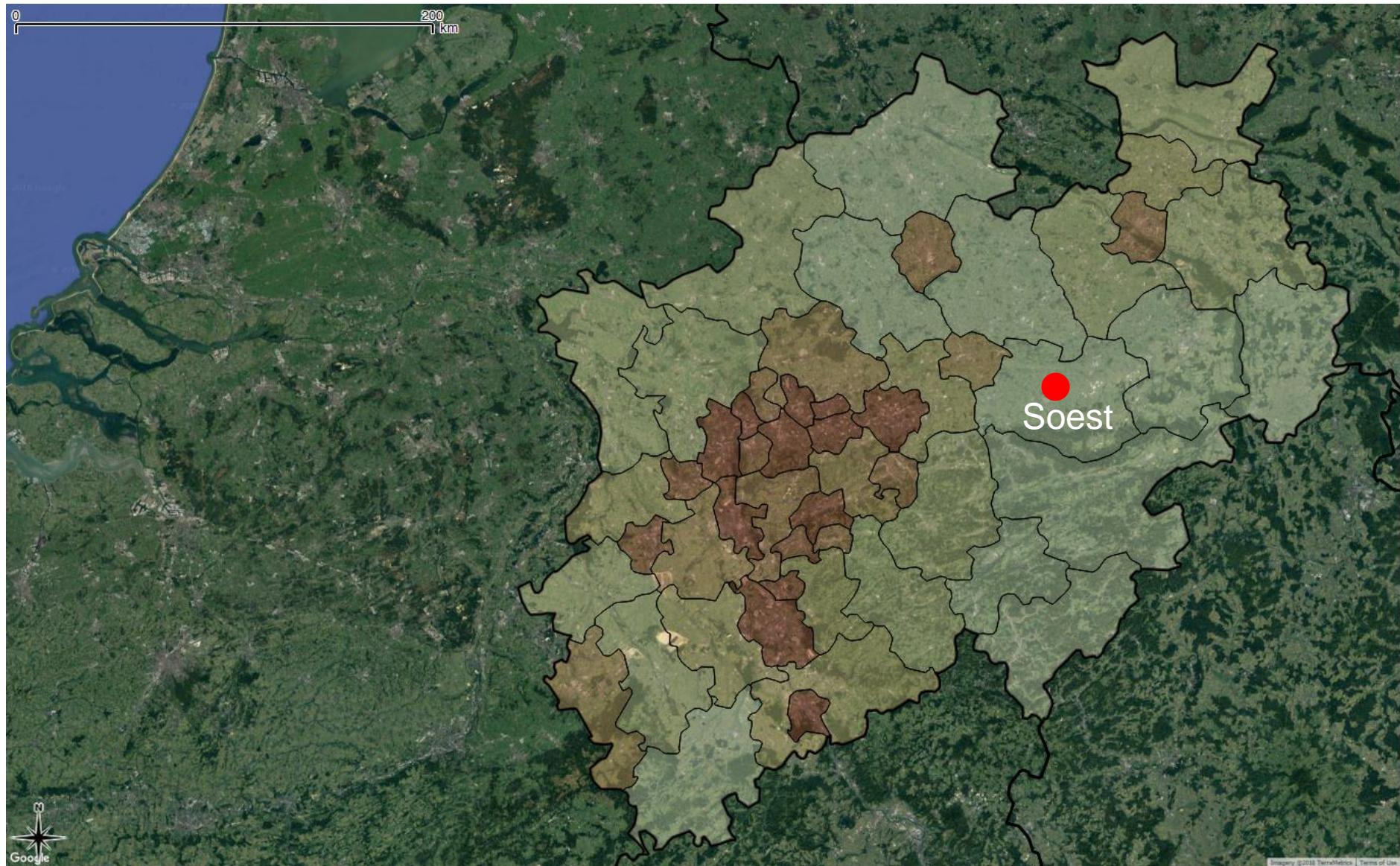
Daten: Statistische Ämter des Bundes und der Länder.
Regionalatlas Deutschland, Indikatoren des
Themenbereichs „Bevölkerung“ – Code AI002-1

Aufbereitung: INKAR

Räumliche Auflösung: Gemeinden und Gemeindeverbände

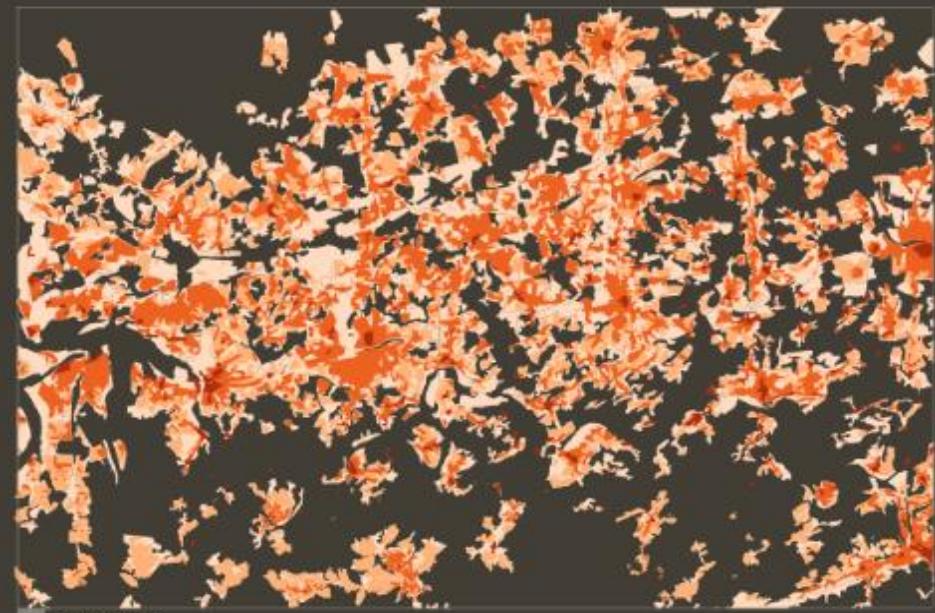
Zeitpunkt: 2014

Rhine-Ruhr Metropolitan Area

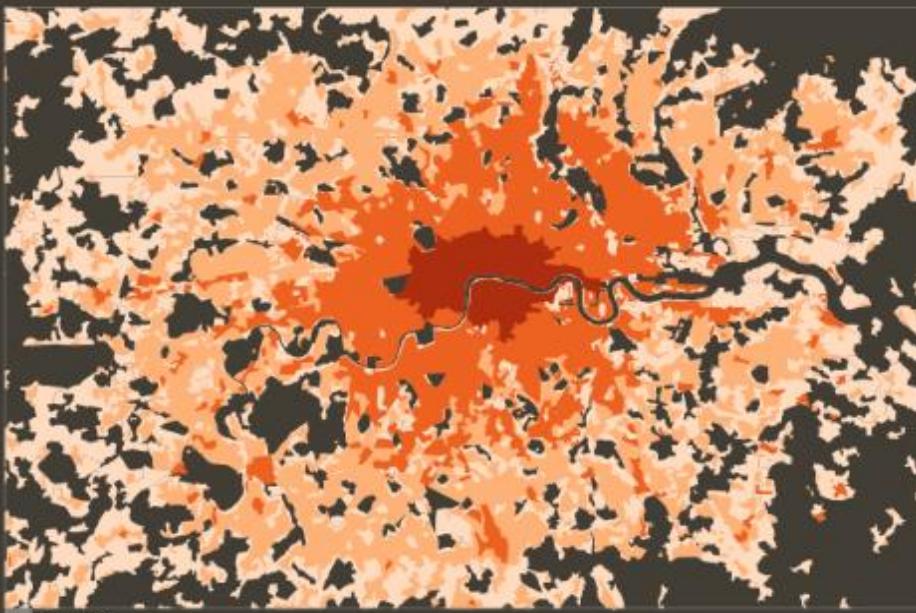


Ruhr Metropolitan Area (*Ruhrgebiet*)

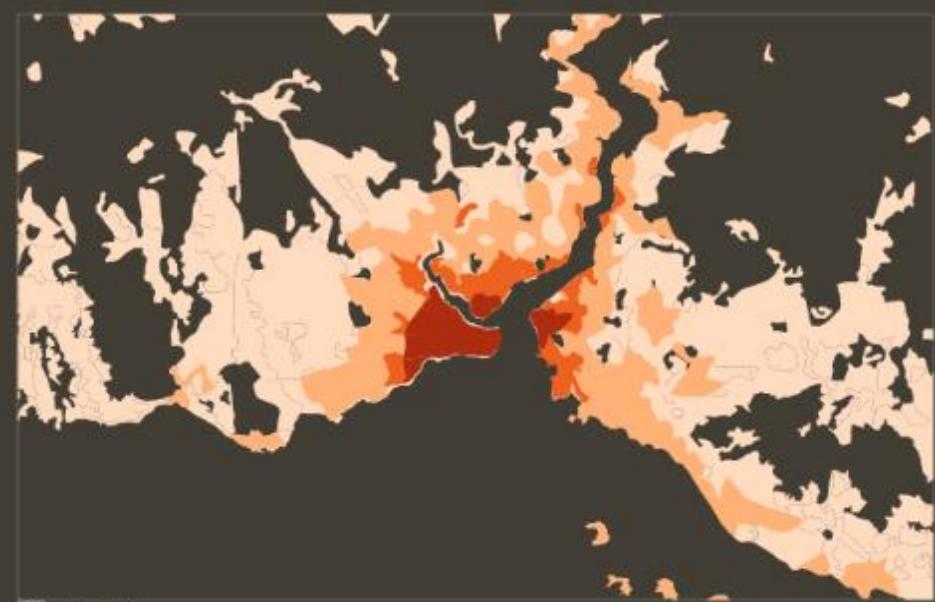




1 Ruhrgebiet

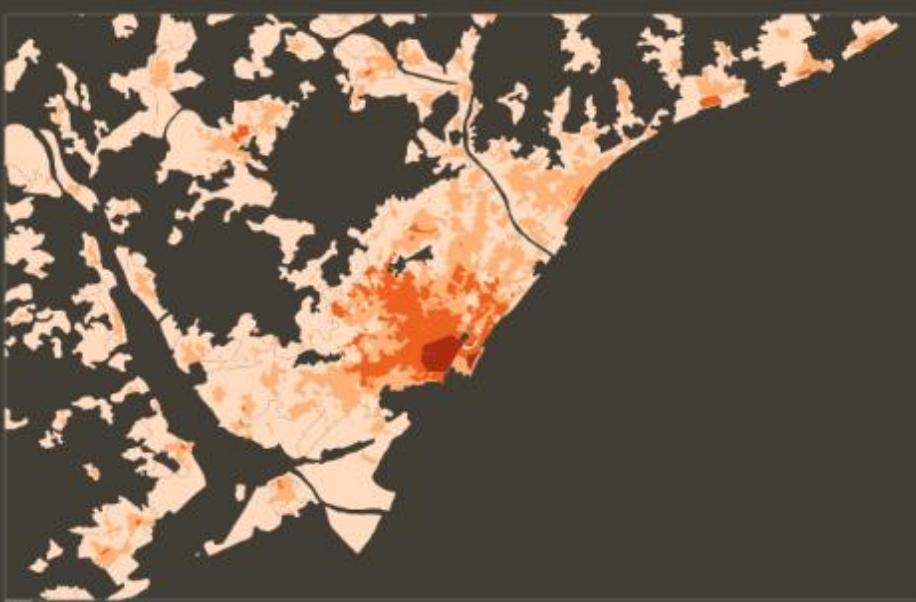


2 London



3 Istanbul

- ca. 1820
- zu Beginn des 20.Jahrhunderts
- Mitte des 20.Jahrhunderts
- ca. 2010

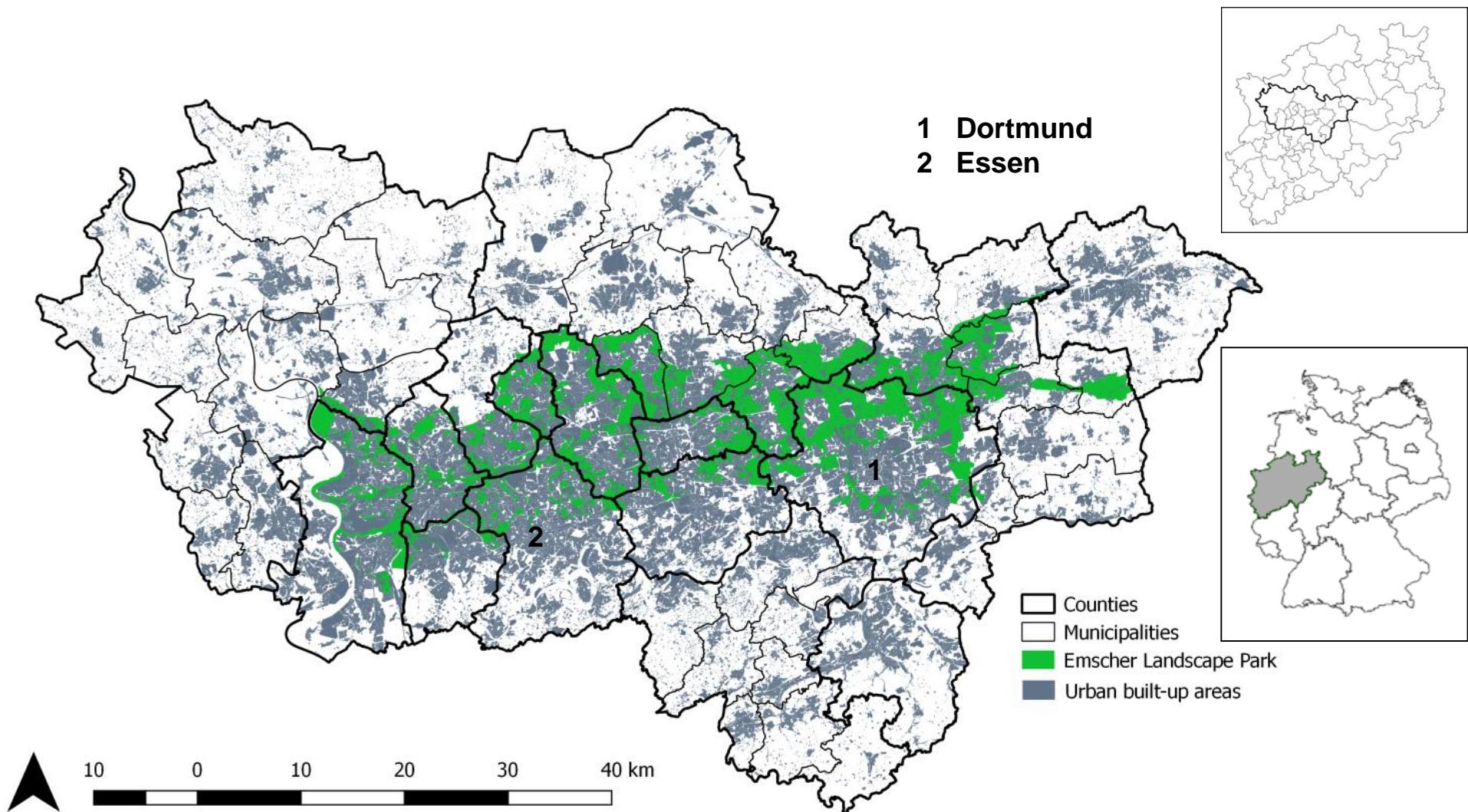


4 Barcelona

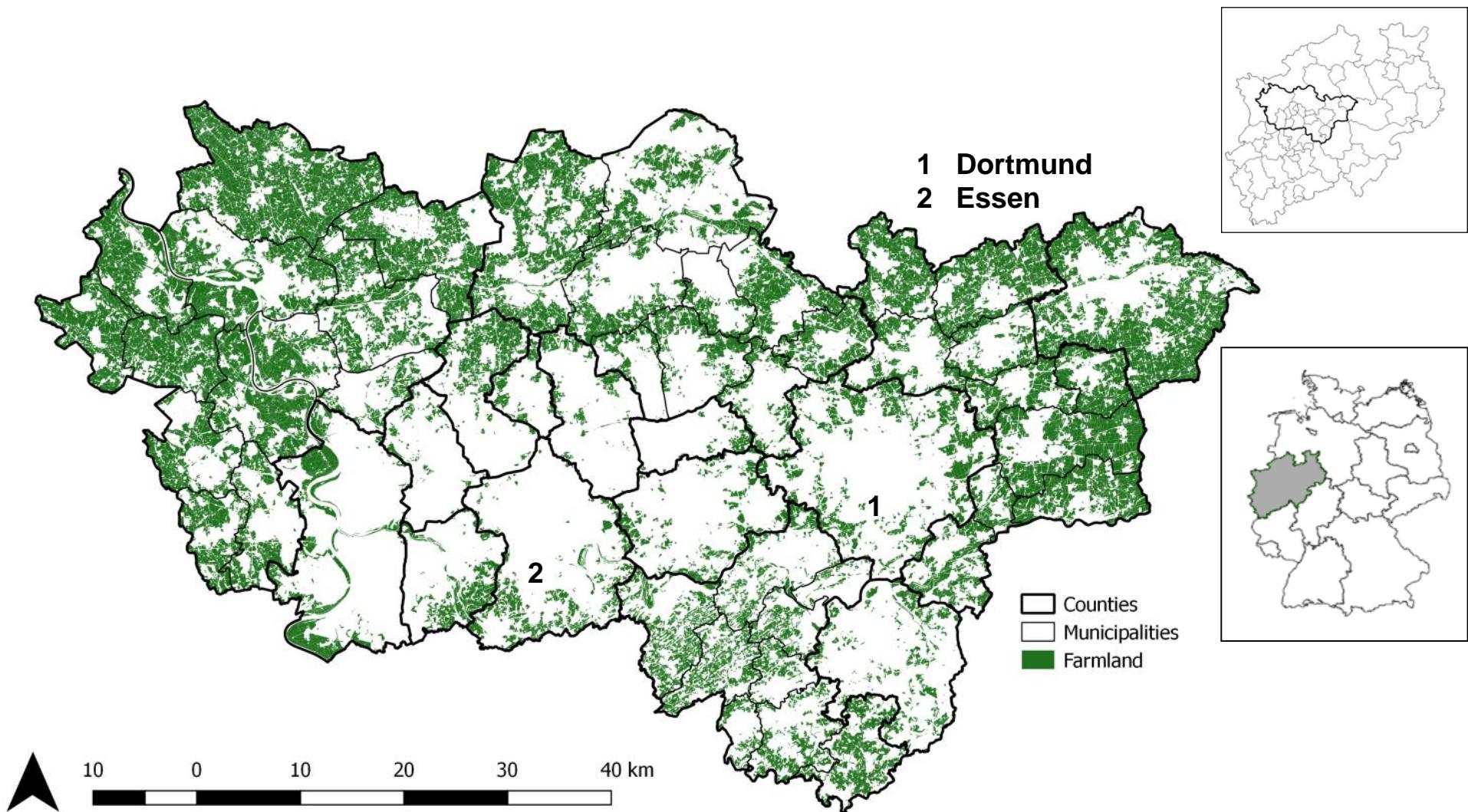
ca. 50 km

Abb. Schichten einer Region, 2011

Urban farming in Ruhr Metropolitan Area



Urban farming in Ruhr Metropolitan Area



Urban farming in Ruhr Metropolitan Area

- 140,000 ha farmland
- 33 % (built-up areas: 34 %)
- mainly NW and E
- 20 % in urban municipalities
- central parts: stripes/islands
- farmland loss: Ø 500 ha/a
- > 3,000 farms
- 37% farmland in regional park
“Emscher Landscape Park”



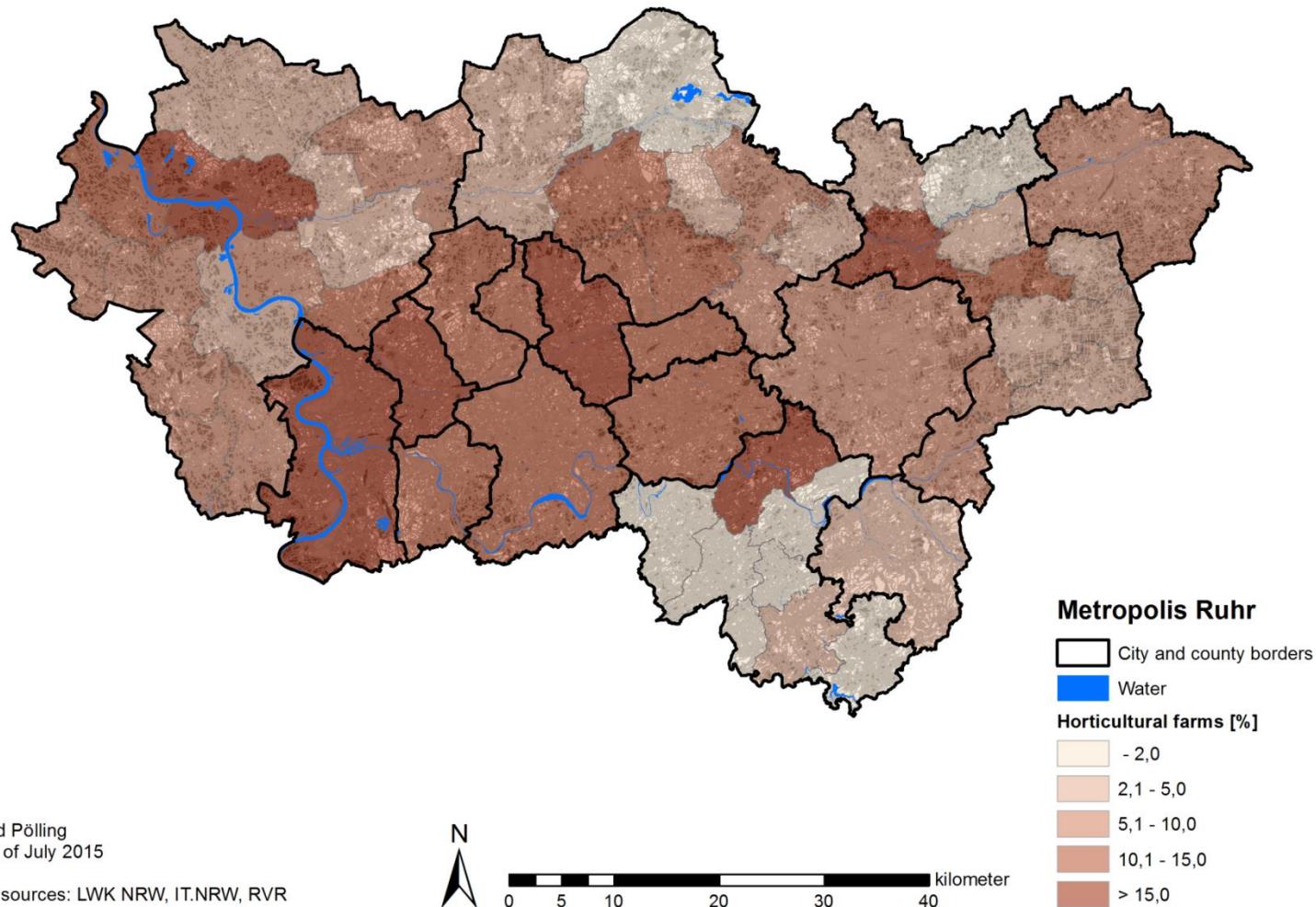
Common city-adjustments

- High value crops (vegetables, fruits, ...)
- Short value chains
- Processing
- On-farm non-agricultural diversification
 - Horse-keeping ("*horsification*")
 - Tourism services
 - Educational and social services

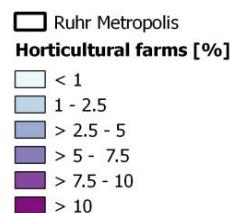
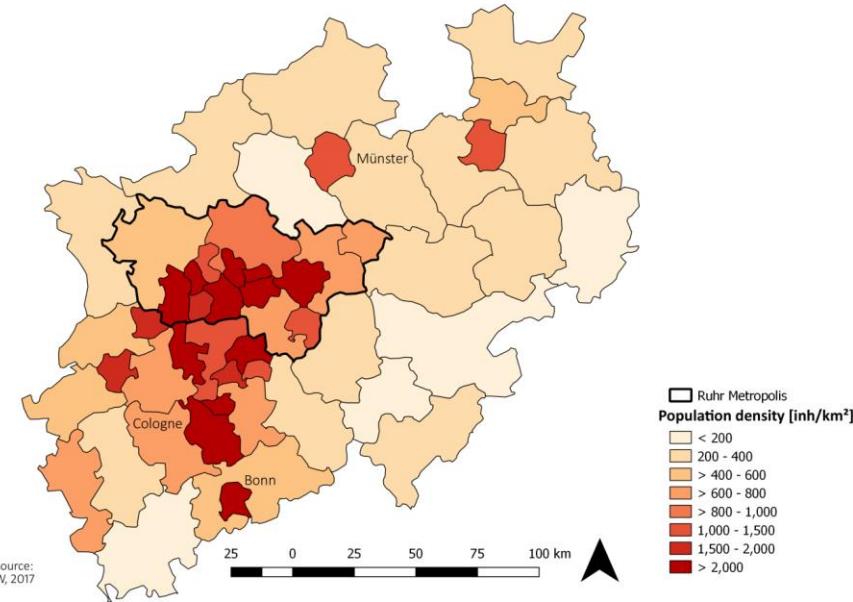
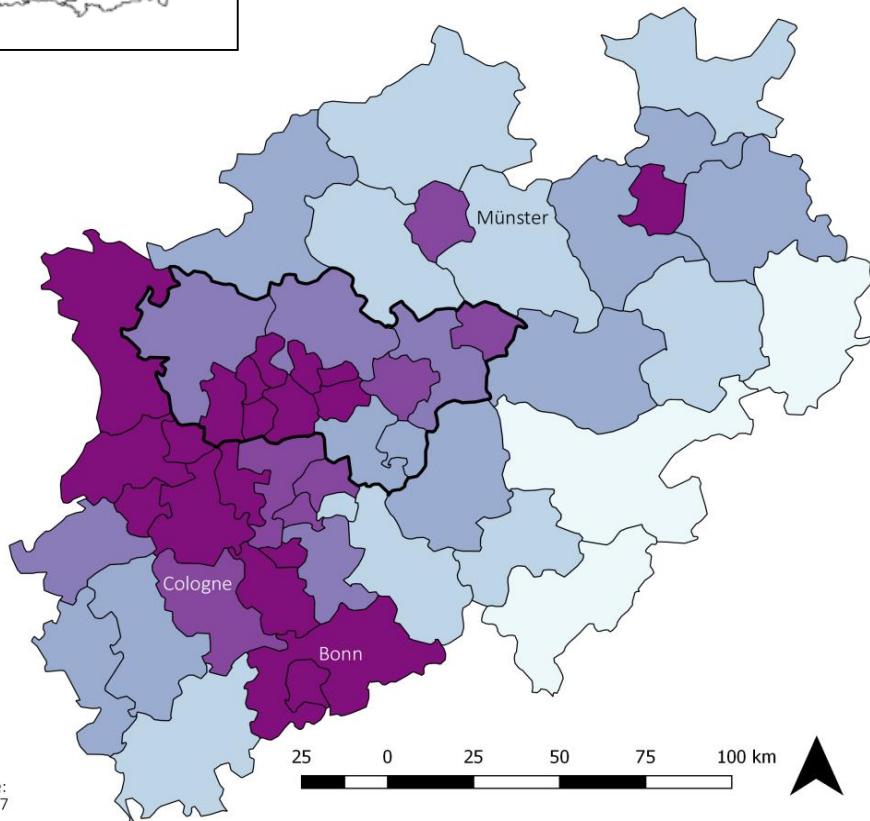


Urban farming in Ruhr Metropolitan Area

Share of horticultural farms in Metropolis Ruhr (2010)

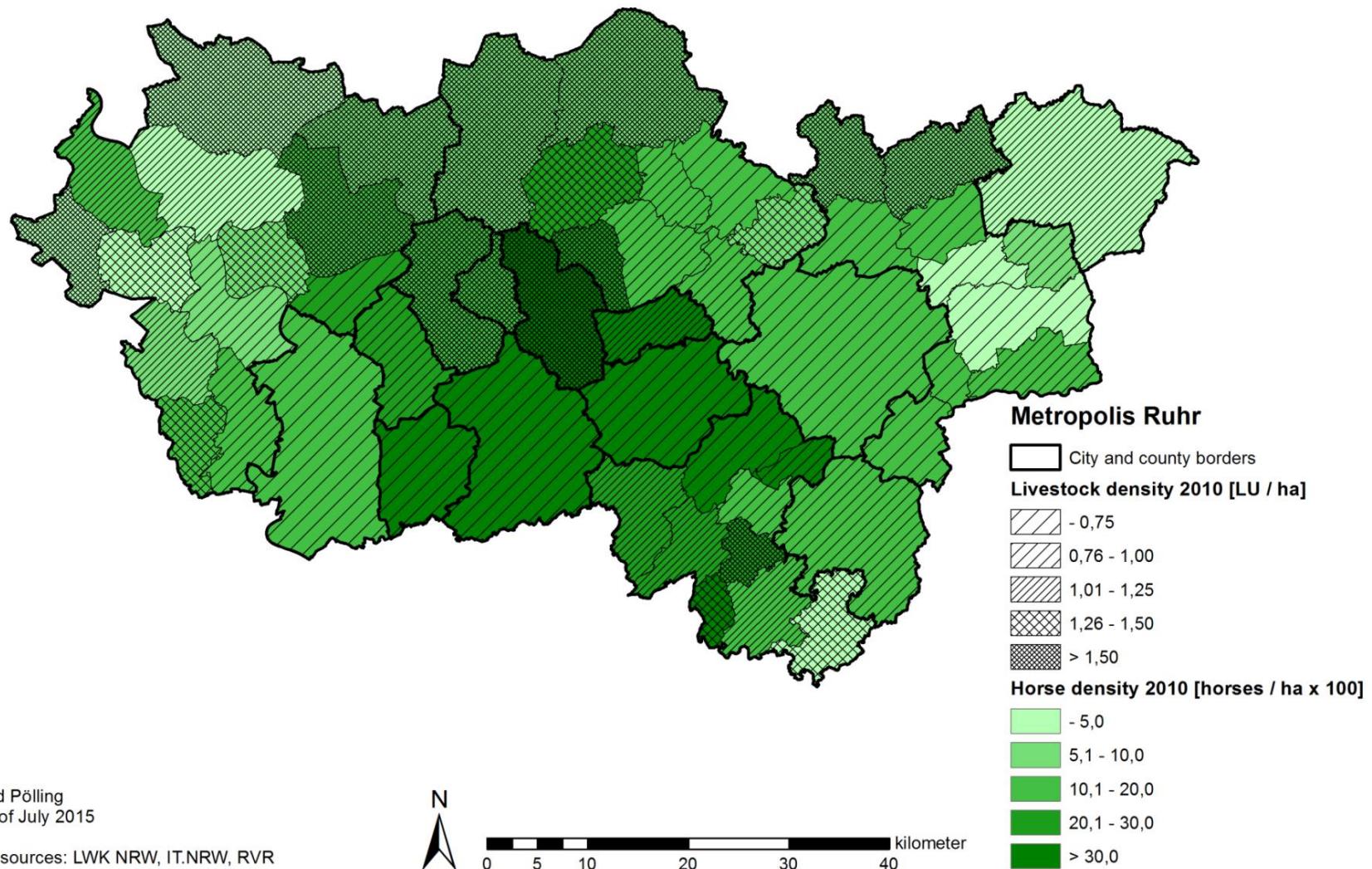


Urban farming in Ruhr Metropolitan Area



Urban farming in Ruhr Metropolitan Area

Horse and livestock density in Metropolis Ruhr (2010)



Urban farming in Ruhr Metropolitan Area

	Metropolis Ruhr	Urban municipalities Metropolis Ruhr	North Rhine- Westphalia
Farms offering horse services	542	172	2.399
Horse service farms / all farms (%)	14.94	21.13	6.71
Horse density (horses/farmland x 100)	11.28	16.38	5.37



Business models of urban agriculture

- Specialization
- Differentiation
- Diversification

(van der Schans, 2010)

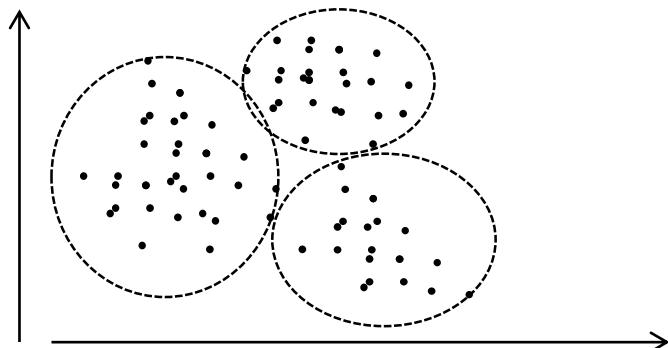
- Cost reduction
- Differentiation
- Diversification
- Shared Economy
- Experience
- Experimental

(Pölling et al., 2015)

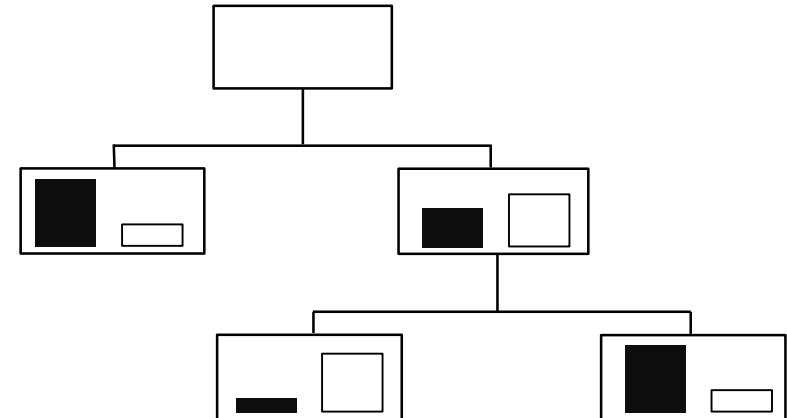
When adjusting adequately to the cities, “commercial farming in urban areas is surviving and even prospering.”
(Gardner, 1994: 100)

Economic performance and business success of Ruhr farms

- Survey: self-administered online questionnaire
- E-mail announcement via Chamber of Agriculture NRW
- 199 usable replies



Business model:
Cluster analysis



Farm success:
Classification trees

Clusteranalysis

Cluster number	1	2	3	4	5	Sum
Cluster name	Urban tourism	Very urban business models-merged	Urban vertical integration	Non-city-oriented	Fringe high-value production	
Cluster abbreviation	UT	VUM	UVI	NO	FHV	
n [number]	36	24	33	79	8	180
n [%]	20.0	13.3	18.3	43.9	4.4	100.0
High-value crops*	.00	1.00	.00	.00	1.00	.18
Tourism services*	1.00	.17	.27	.00	.00	.27
Direct marketing / AFNs*	.00	1.00	1.00	.00	.00	.32
Spatial self-assessment**	65	78	61	51	38	59

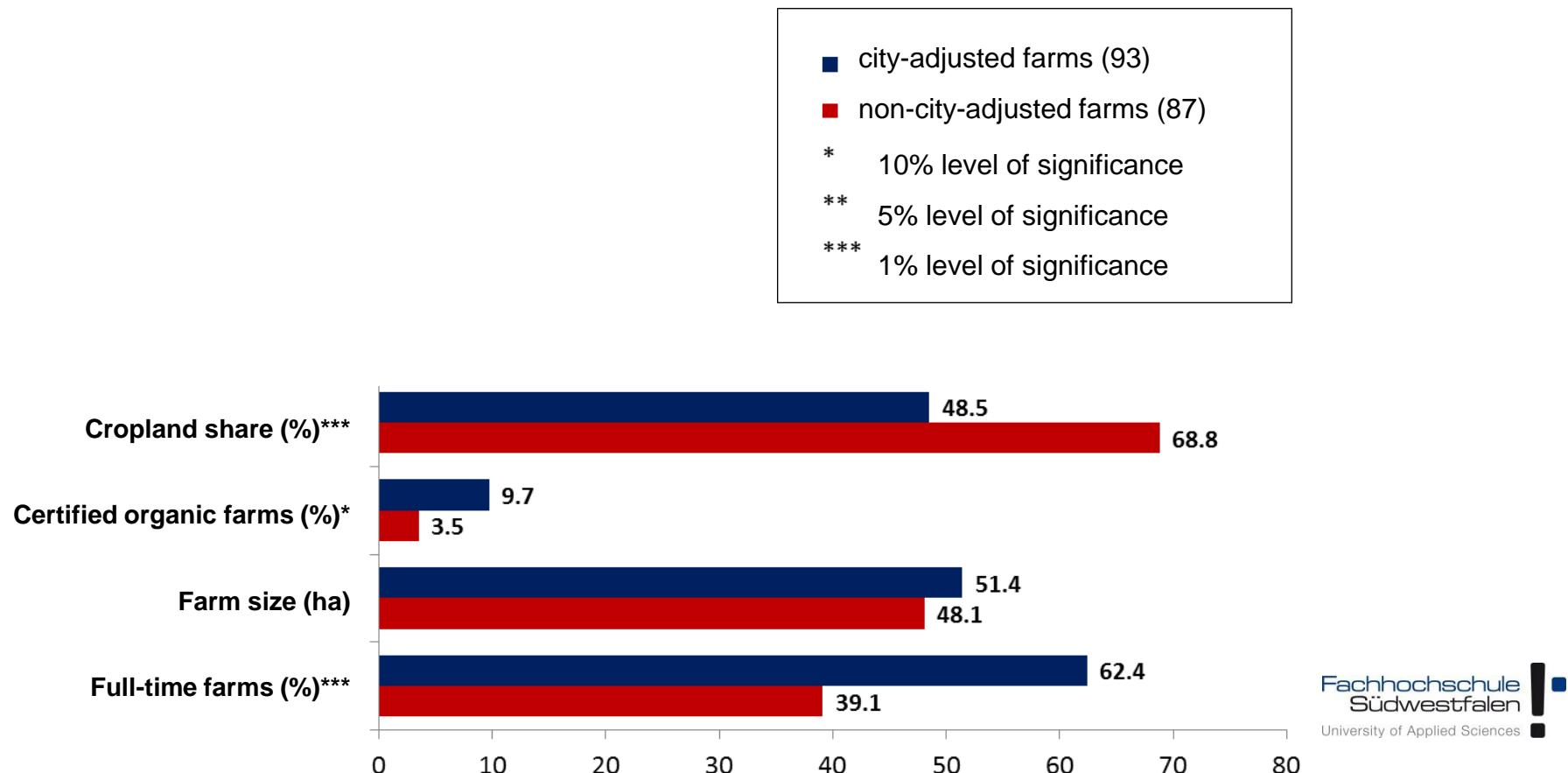
*: dummy variable (1: yes; 0: no)

**: 0: very rural; 100: very urban

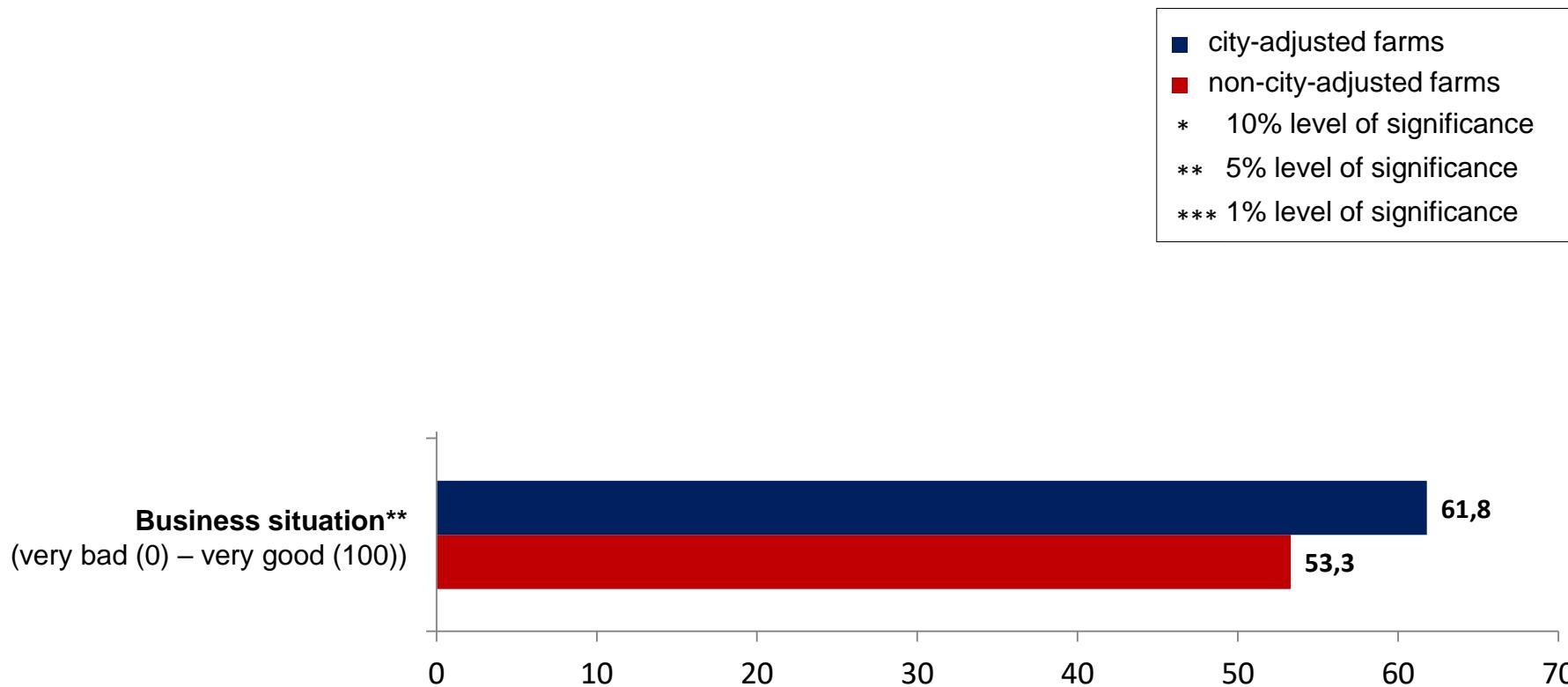
„city-adjusted farms“

„non
city-adjusted farms“

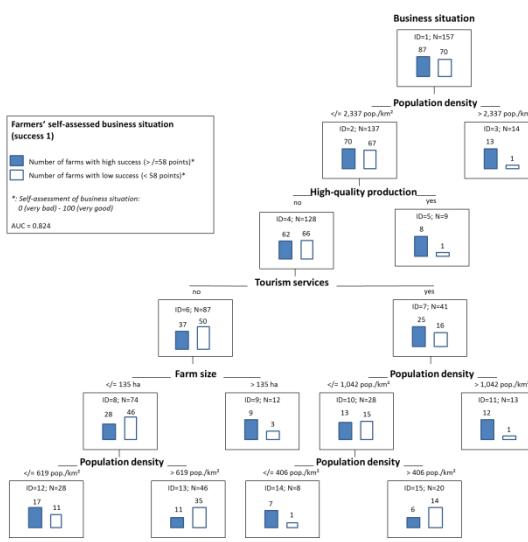
Clusteranalysis



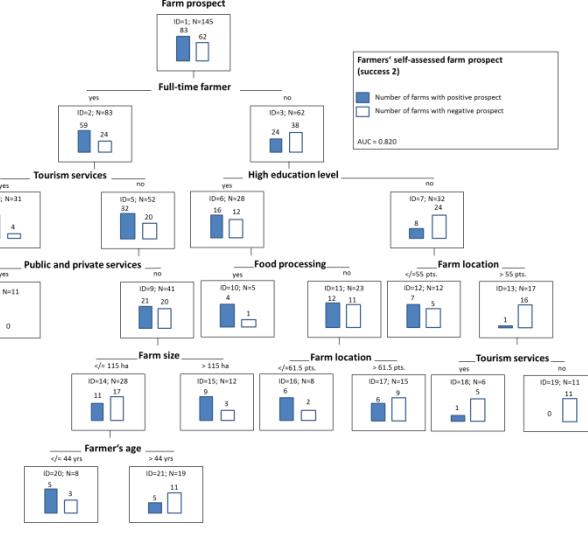
Clusteranalysis



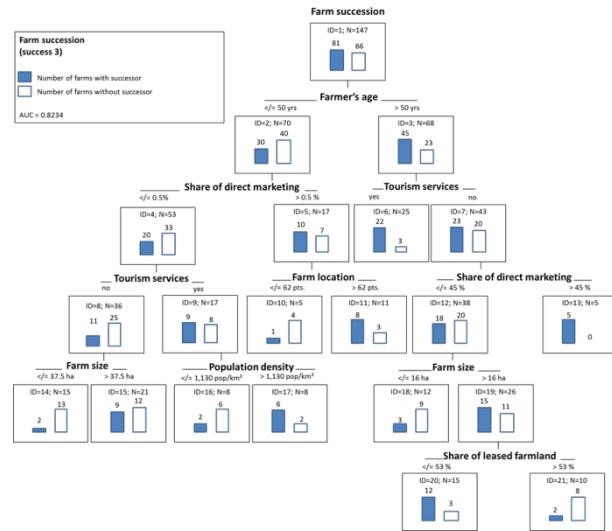
Economic performance and business success of Ruhr farms



Business situation



Business prospect

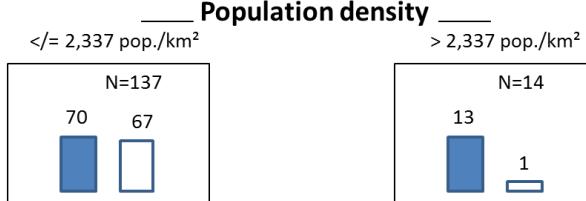
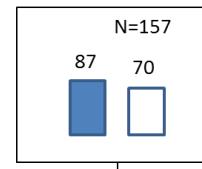


Farm succession

Farmers' self-assessment of business situation

- █ Number of farms with positive business situation (≥ 58)
- Number of farms with negative business situation(< 58)

AUC: 0.824



High-quality production



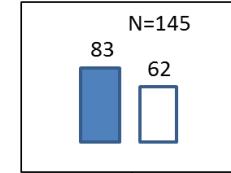
Tourism services



Farmers' self-assessment of business prospects

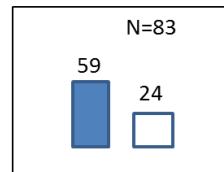
 Positive prospects
 Negative prospects

AUC: 0.820

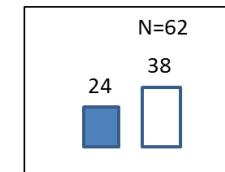


Full-time farmer

yes

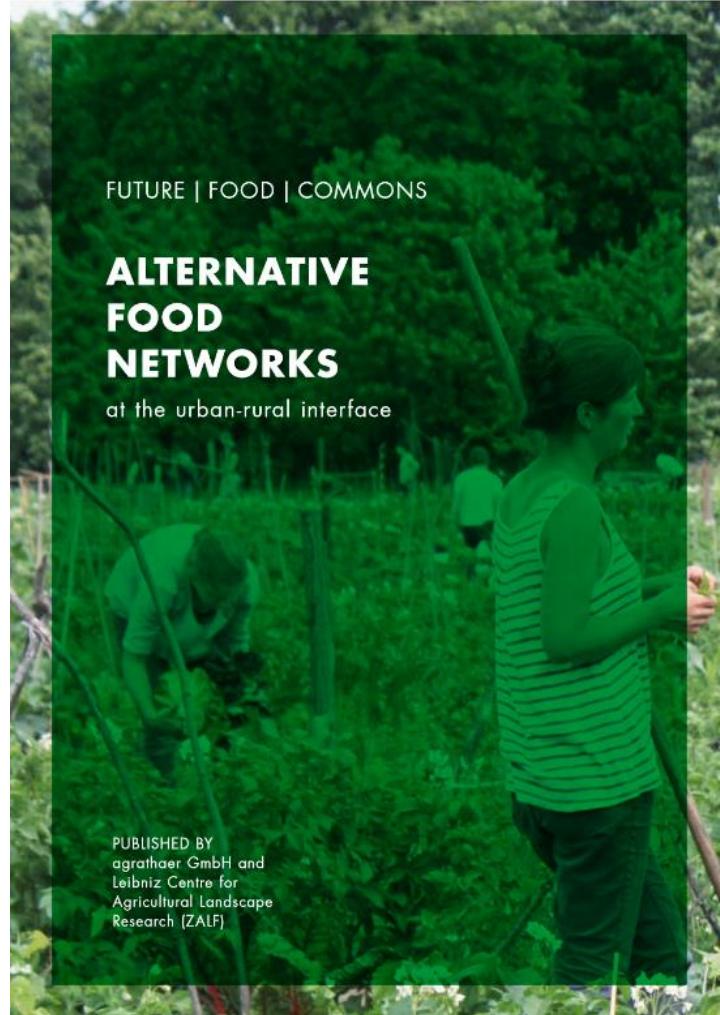


no



Alternative Food Networks

- Social innovation
- ‘Co-Production’ / ,Co-Creation’
- ‘Prosumer’
- Participation of *consumers*
 - Production and harvesting
 - Processing and marketing
 - Waste management
 - Business management / decision-making
 - Financing
 - PR / Advertisement / ...



Alternative Food Networks

Alternative Food Networks

- Community Supported Agriculture
- Rent-a-field / Rent-a-garden
- Food Coops / (Solidary) Purchasing Groups



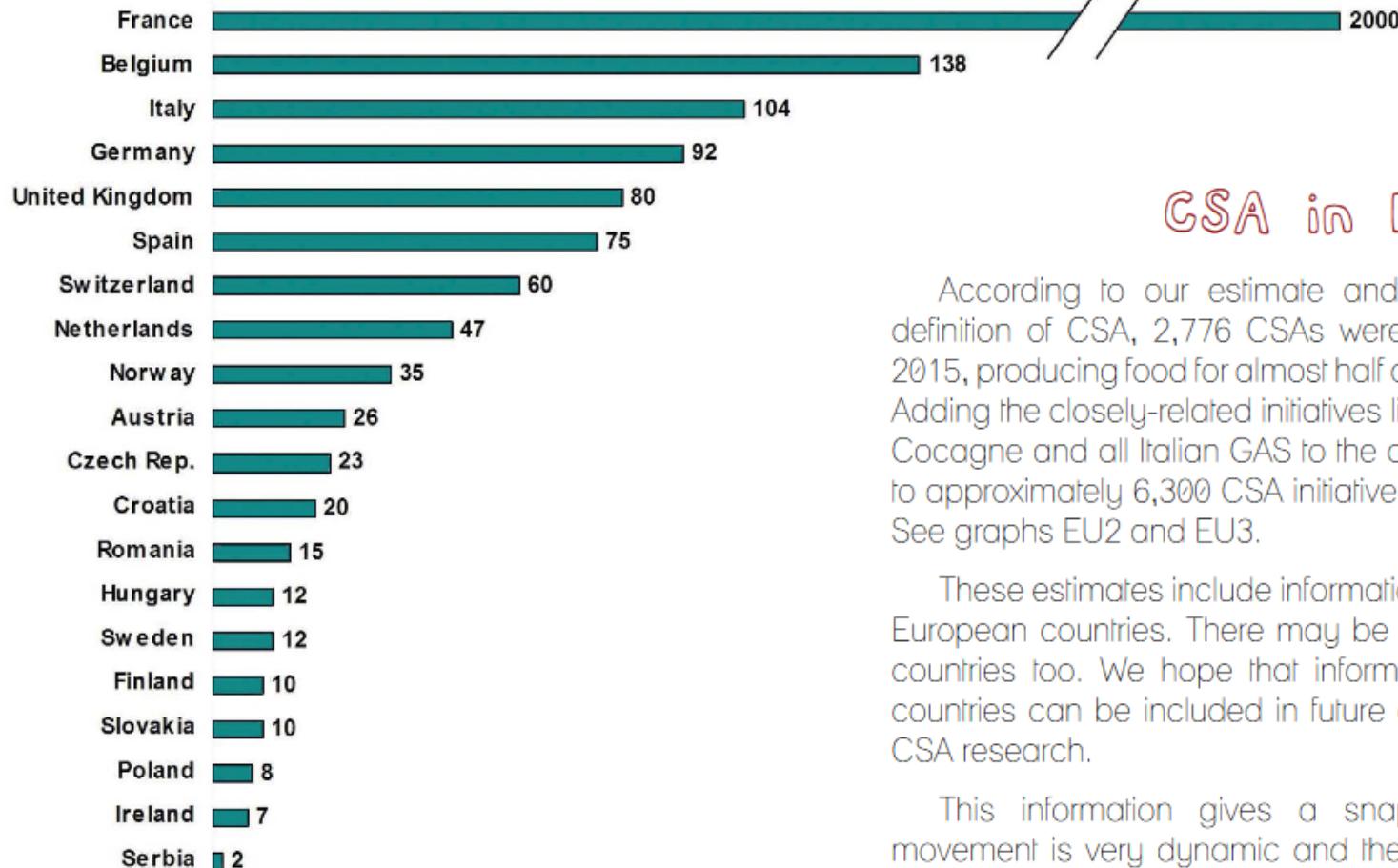
Photos: Elmar Schulte-Tigges / Julia Welkoborsky

Community Supported Agriculture (CSA)

“Solidarische Landwirtschaft”

- Year of CSA foundation (*van Elsen and Kraiß, 2011*):
 - 1988: 1 (Buschberghof near Hamburg)
 - 1998/1999: 2 (Hamburg & Münster)
 - 2000er Jahre: +9 (4 in 2009)
 - 2010/2011: +7 in 2 years
 - **19 SoLaWis** (1x in NRW; Münster)

Community Supported Agriculture (CSA)



Scope of CSA in Europe

According to our estimate and using a rather narrow definition of CSA, 2,776 CSAs were operating in Europe in 2015, producing food for almost half a million (472,055) eaters! Adding the closely-related initiatives like the French Jardins de Cocagne and all Italian GAS to the count raises these figures to approximately 6,300 CSA initiatives and one million eaters! See graphs EU2 and EU3.

These estimates include information on CSAs in twenty-two European countries. There may be CSAs in other European countries too. We hope that information from all European countries can be included in future editions of the European CSA research.

This information gives a snapshot from 2015. The movement is very dynamic and the numbers are changing fast as many more CSAs are in the planning phase and will be up and running soon.

EU2. Estimated number of CSAs.

Volz et al., 2016

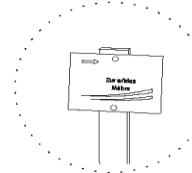
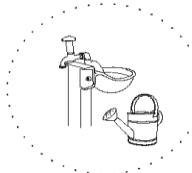
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 - **19 SoLaWis** (1x in NRW; Münster)
- At moment (Oct 2020):
 - **> 300** existing CSAs in Germany
 - Ca. 70 initiatives about to start soon

AFN: „Rent-a-field“

meine ernte
‘my harvest’



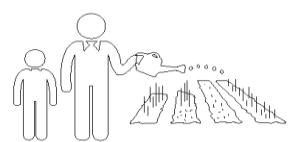
plowing the field



seeding



watering the plants



weeding and cultivating



harvesting the crops



LOCAL FARMERS

HOBBY GARDENERS

carrots
herbs
beans
pumpkin
lettuce
flowers
cucumber
zucchini
tomatoes



small vegetable garden
'singles and couples'
2 metres wide
(1-2 people) ca. 45 m²

big vegetable garden
'family and friends'
4 metres wide
(3-4 people) ca. 85 m²



AFN: „Rent-a-field“



Ackerhelden

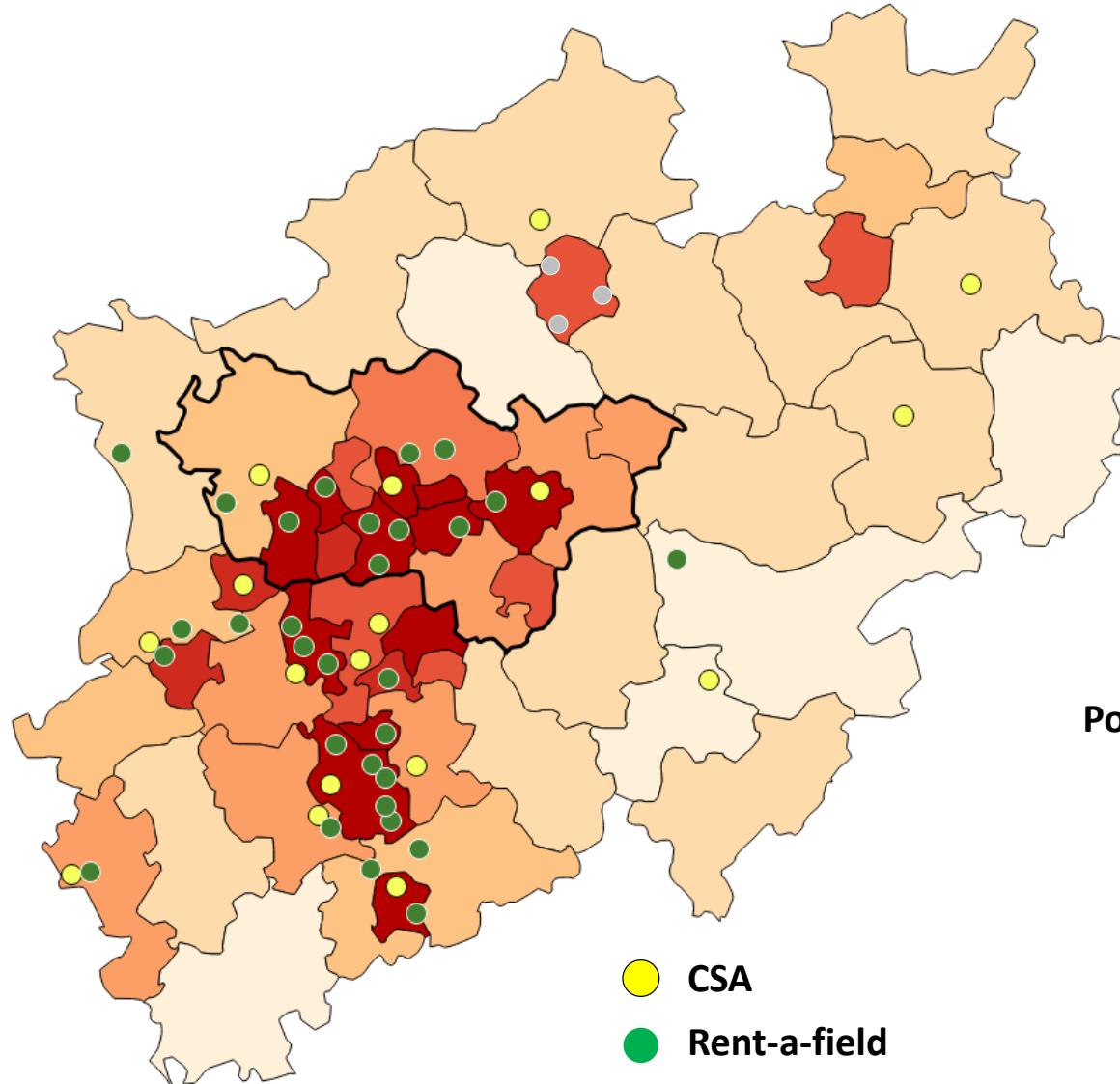
BIO. REGIONAL. SAISONAL.



>> hier gehts zum Klefhof



0
100 km



Pop. Density (inh/km²)

- < 200
- 200 - 400
- > 400 - 600
- > 600 - 800
- > 800 - 1,000
- 1,000 - 1,500
- 1,500 - 2,000
- > 2,000

● **CSA**

● **Rent-a-field**

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November 12th, 2020, Online

Dr. Bernd Pölling

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