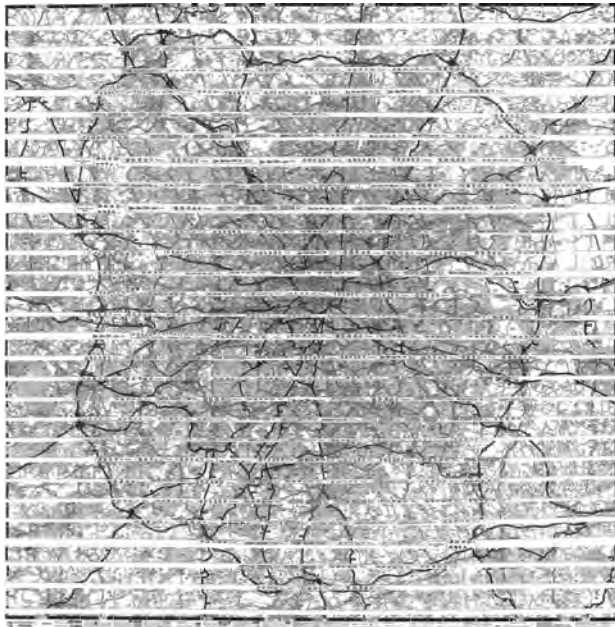


Spatial and participatory urban food mapping



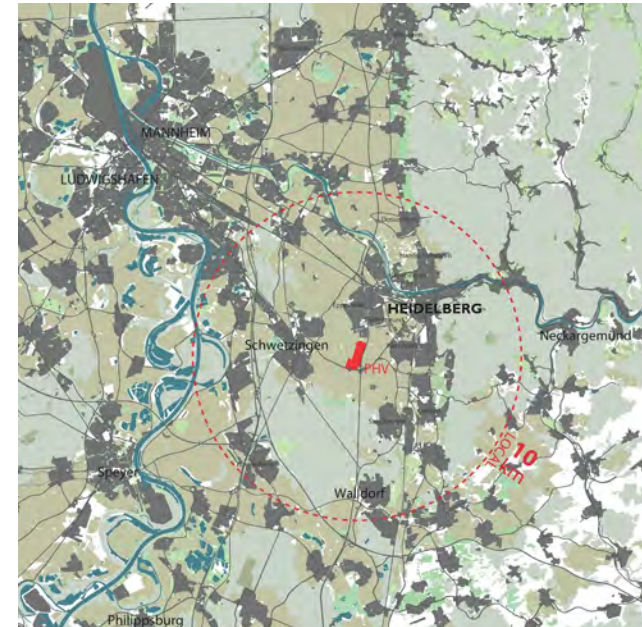
1998

Making the case for urban agriculture, co-creating international discourse



2007

Triggering urban agriculture projects for and with community groups



2016

Responding to municipal demands for urban agriculture / food systems projects

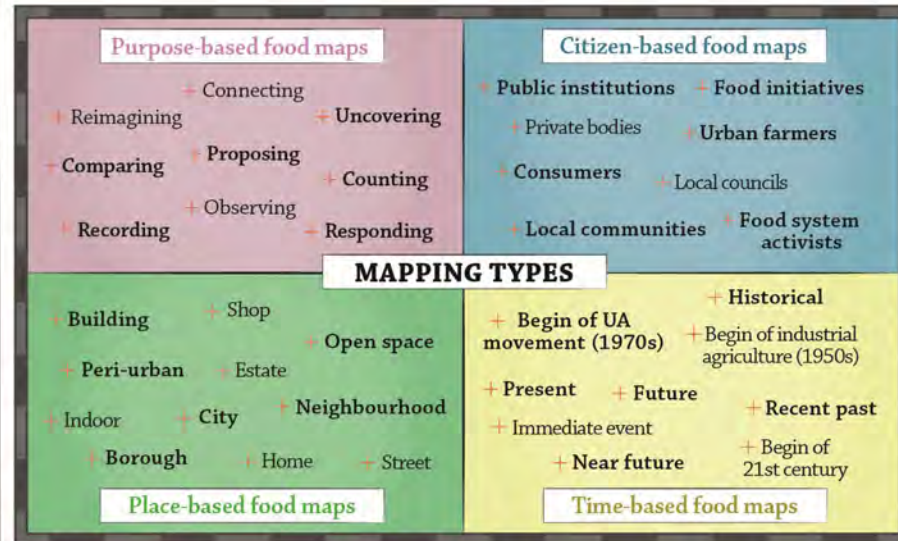
Spatial and participatory urban food mapping

THEORY

Urban food mapping tackles a diverse range of food-focused data related to specific urban situations that *makes visible* issues about the feeding of cities or proposes solutions for their inclusive and sustainable development.



WHAT

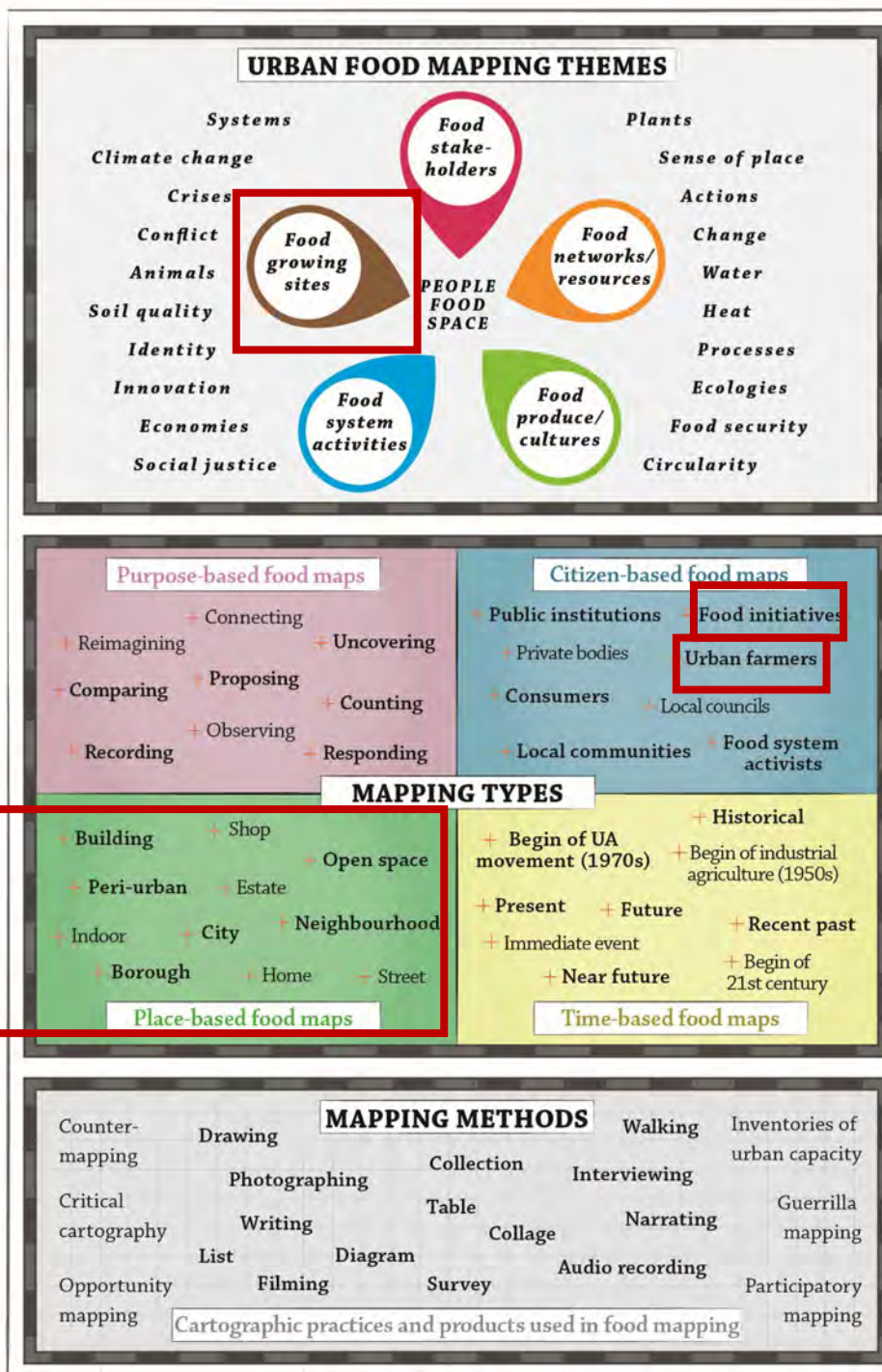


WHY
WHERE
WHO
WHEN

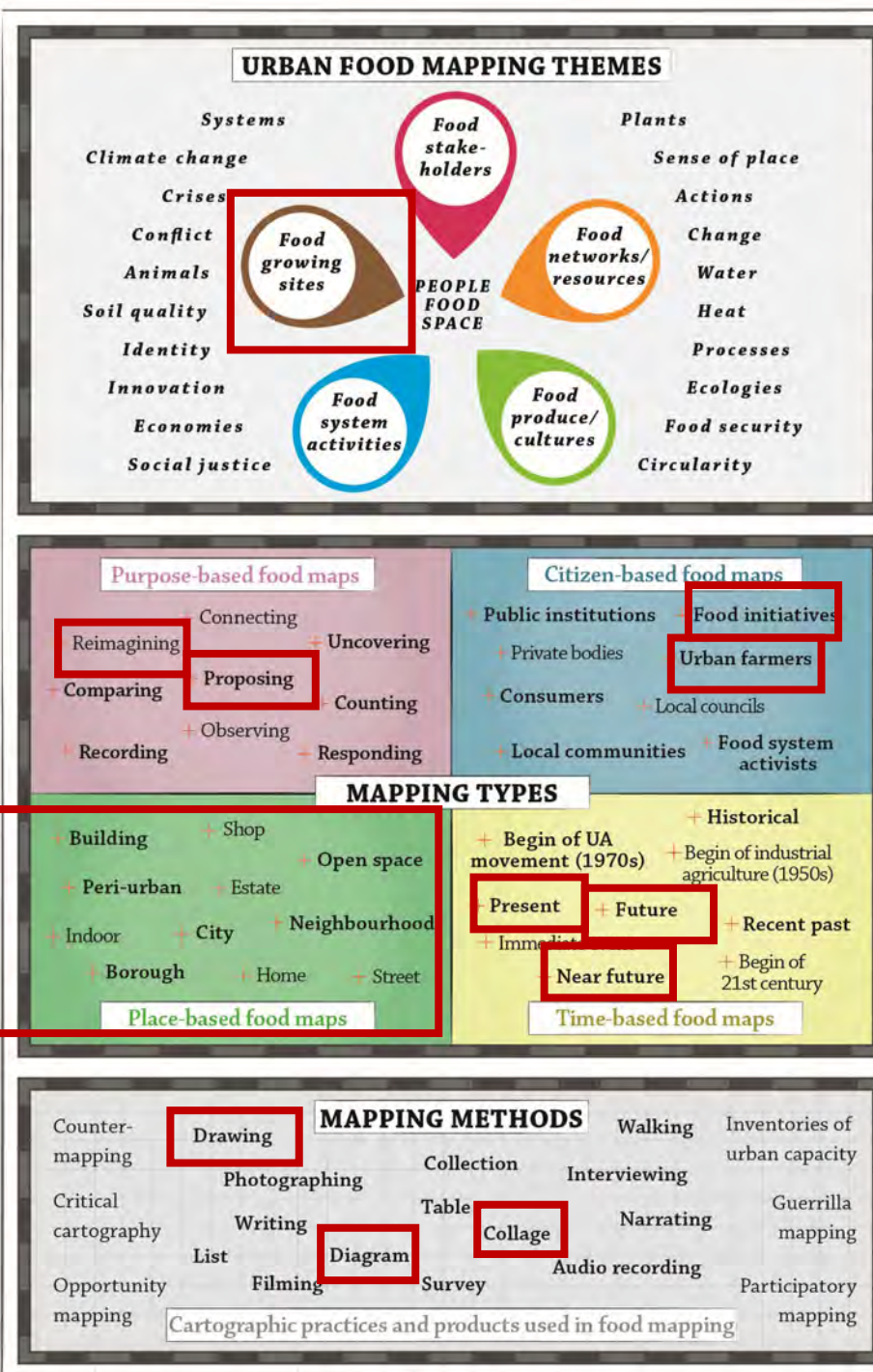


HOW

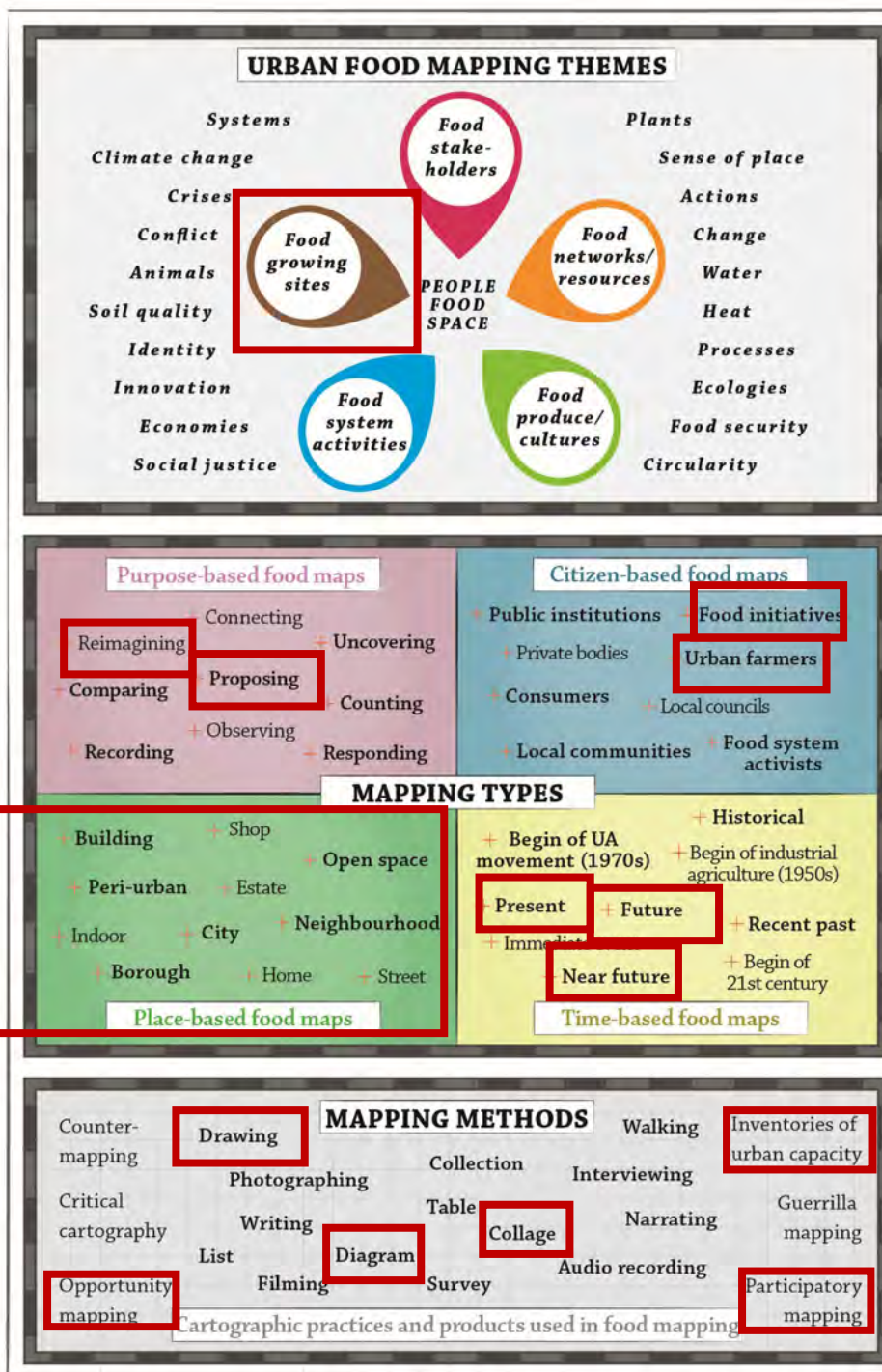
PRACTICE



PRACTICE



PRACTICE



Spatial and participatory urban food mapping

Continuous Productive Urban Landscape [CPUL]

[C] connects open space :
parcels of inner-urban open land,
inner-urban land to a new
infrastructure,
inner-urban land to the rural land

[P] uses open space :
through placing Urban Agriculture
environmentally,
economically and
socially productive

[U] happens 'inside' :
the greenbelt stays green,
greenfield sites stay green,
brownfield sites become green

[L] is landscape :
with spatial and visual qualities
of the rural and the urban



Action **VIS**
Visualising Consequences

*The **qualities and aims** of urban agriculture and productive urban landscapes, such as CPULs, **need visualising** to convince decision makers and raise public awareness.*

***An inventory** is necessary **for each location**, especially of spatial, resource, stakeholder and managerial capacities in order to best respond to local opportunities.*

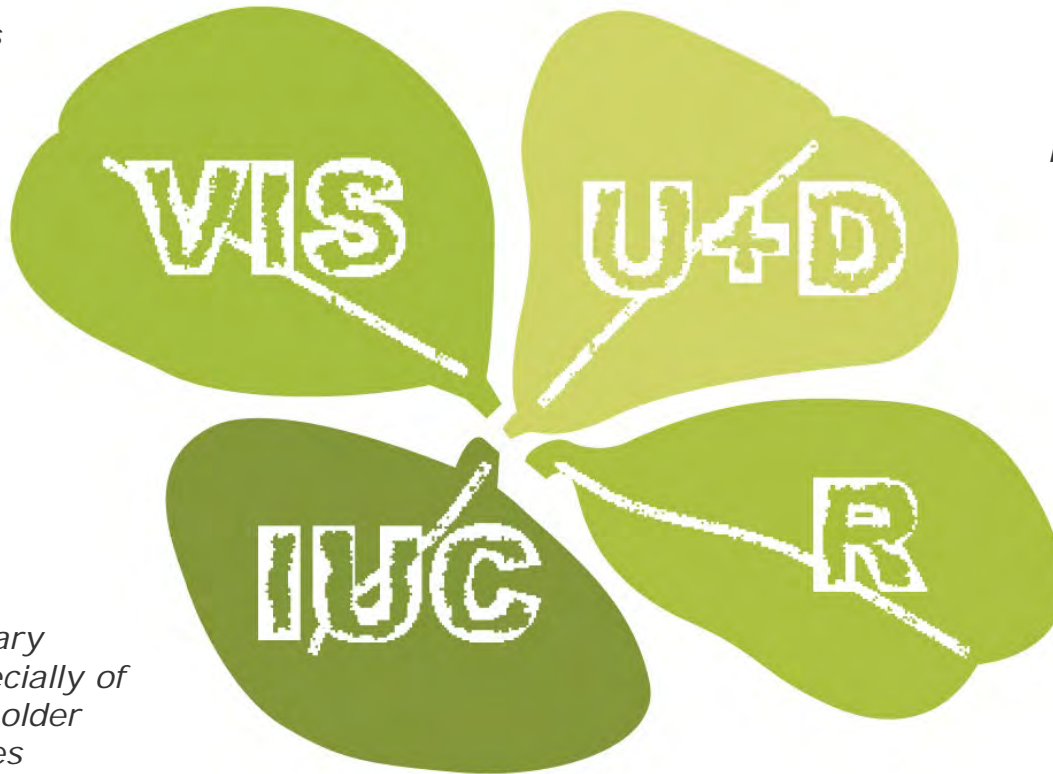
Action **IUC**
Inventory of Urban Capacity

Action **U+D**
Bottom-Up + Top-Down

*Infrastructural, as well as individual food-productive projects need **parallel top-down and bottom-up** initiatives and integrative design and planning.*

***Constant research**, development and consolidation of productive urban landscape projects and concepts is needed **to respond to changing circumstances**.*

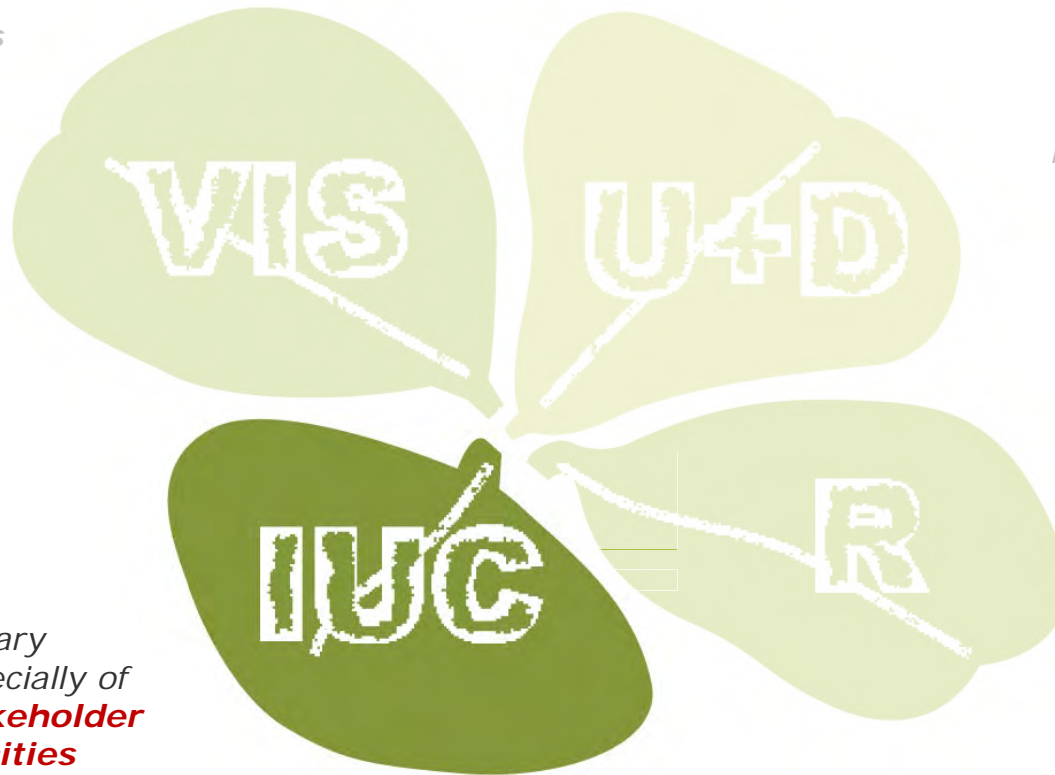
Action **R**
Researching for Change



MAPPING OPPORTUNITIES AS PART OF THE *INVENTORY OF URBAN CAPACITY*

The **qualities and aims** of urban agriculture and productive urban landscapes, such as CPULs, **need visualising** to convince decision makers and raise public awareness.

An **inventory** is necessary for each location, especially of **spatial, resource, stakeholder and managerial capacities** in order to best respond to local opportunities.



Infrastructural, as well as individual food-productive projects need **parallel top-down and bottom-up** initiatives and integrative design and planning.

Constant research, development and consolidation of productive urban landscape projects and concepts is needed **to respond to changing circumstances.**

Action **IUC**
Inventory of Urban Capacity

Action **R**
Researching for Change

MAPPING OPPORTUNITIES AS PART OF THE *INVENTORY OF URBAN CAPACITY*



Action IUC = Inventory of Urban Capacity

An inventory is necessary for each location, especially of spatial, resource, stakeholder and managerial capacities in order to best respond to local opportunities.

At the beginning of the relatively short history of the urban agriculture movement in the Global North, (planning) emphasis was given to identifying (i.e. location, state of use, availability/ownership) and mapping (i.e. area, sun direction, soil quality, pollution, water, exposure to wind, adjacency to markets and compost) open urban space. In recent years, it has become clear that stakeholder and managerial/maintenance capacity around a site and in a food growing project are as important. Moreover, available resources need to be recorded and systematically integrated into the planning and execution of productive urban landscape projects.

Within this action, it is important to address the following strategies, steps or tools necessary for a successful implementation of any urban agriculture project:

1. Map **physical sites**

taking into account that suitability for urban agriculture includes issues such as land, orientation (sun), soil, air, boundaries, access, supply (water) and ownership in order to build a catalogue of spatial opportunities.

2. Identify potential goals and **stakeholders**

for the project's different development stages from start-up to establishment to longer-term prominence, in order to ascertain and/or grow sufficient local capacity to maintain the project.

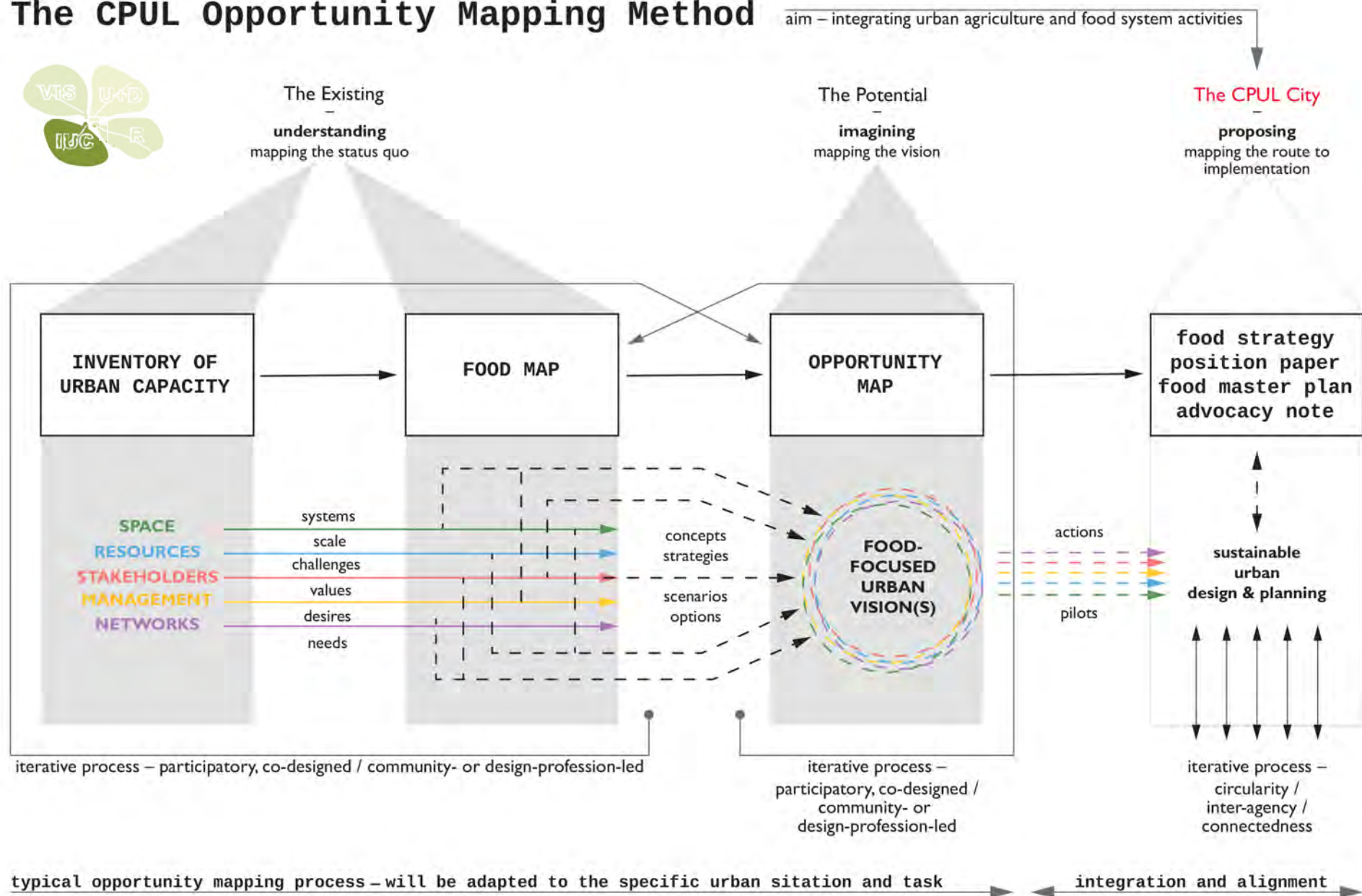
3. Aim for **no-waste systems** –

grow, eat, compost, grow... – as one aspect of maximising the *Ecological Intensification* on open urban space.

4. Identify local **resources** and **managerial**

capacities as a basis for new economic models, environmentally friendly production and fair trade for urban farmers.

The CPUL Opportunity Mapping Method



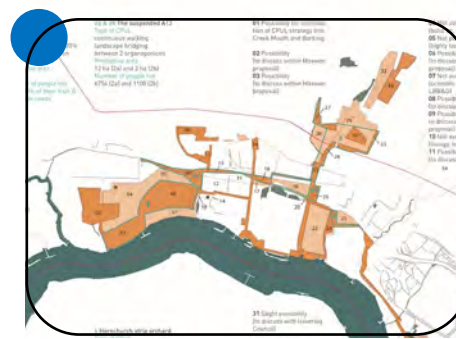
EXAMPLES OF FOOD & OPPORTUNITY MAPPING FOR URBAN DESIGN PROJECTS



**Urbane Agrikultur
in Köln-Ehrenfeld,
Germany**

scale: neighbourhood

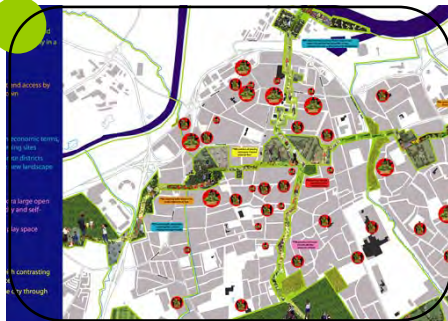
mapping method: participatory



**London
Thames Gateway,
Great Britain**

scale: large-size city

mapping method: design-professional-led

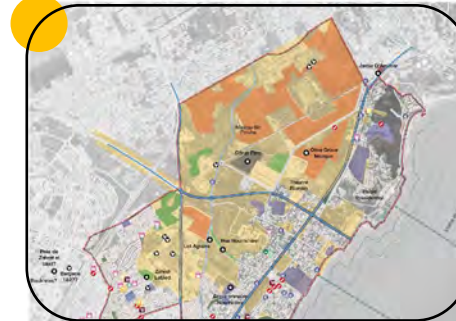


**The Urban Farming
Project
Middlesbrough,
Great Britain**

scale: medium-size city

mapping method: participatory

+ design-professional-led



**Carthage –
Ville Comestible,
Tunisia**

scale: small city

mapping method: participatory

+ design-professional-led

Urban Agriculture in the Ehrenfeld neighbourhood of Cologne, Germany

scale:
neighbourhood

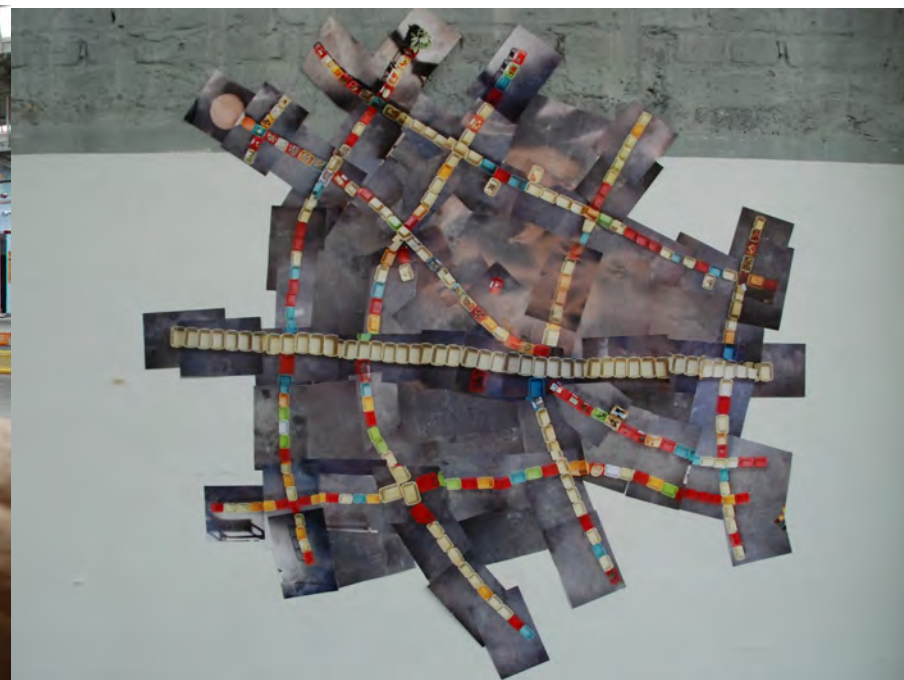
stakeholders:

arts-based project initiators,
local residents, food producers/
processors/ distributors,
urban agriculture /CPUL experts

aim:

to work with residents on the
participatory regeneration of
an urban neighbourhood

mapping method:
participatory design
process in four stages



Urban Agriculture in the Ehrenfeld neighbourhood of Cologne, Germany

scale:
neighbourhood

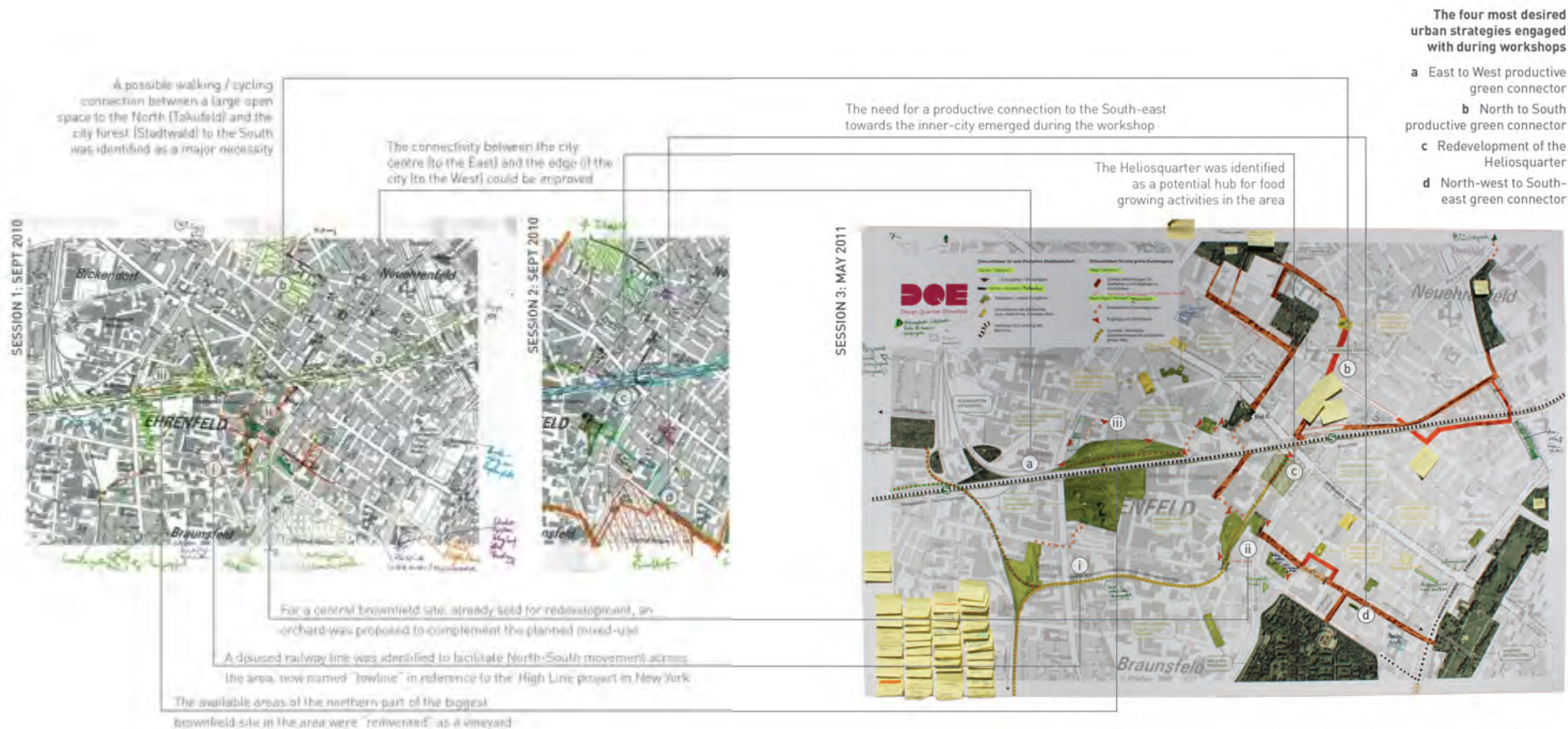
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The Urban Farming Project Middlesbrough, Great Britain

scale:
medium-size city

stakeholders:

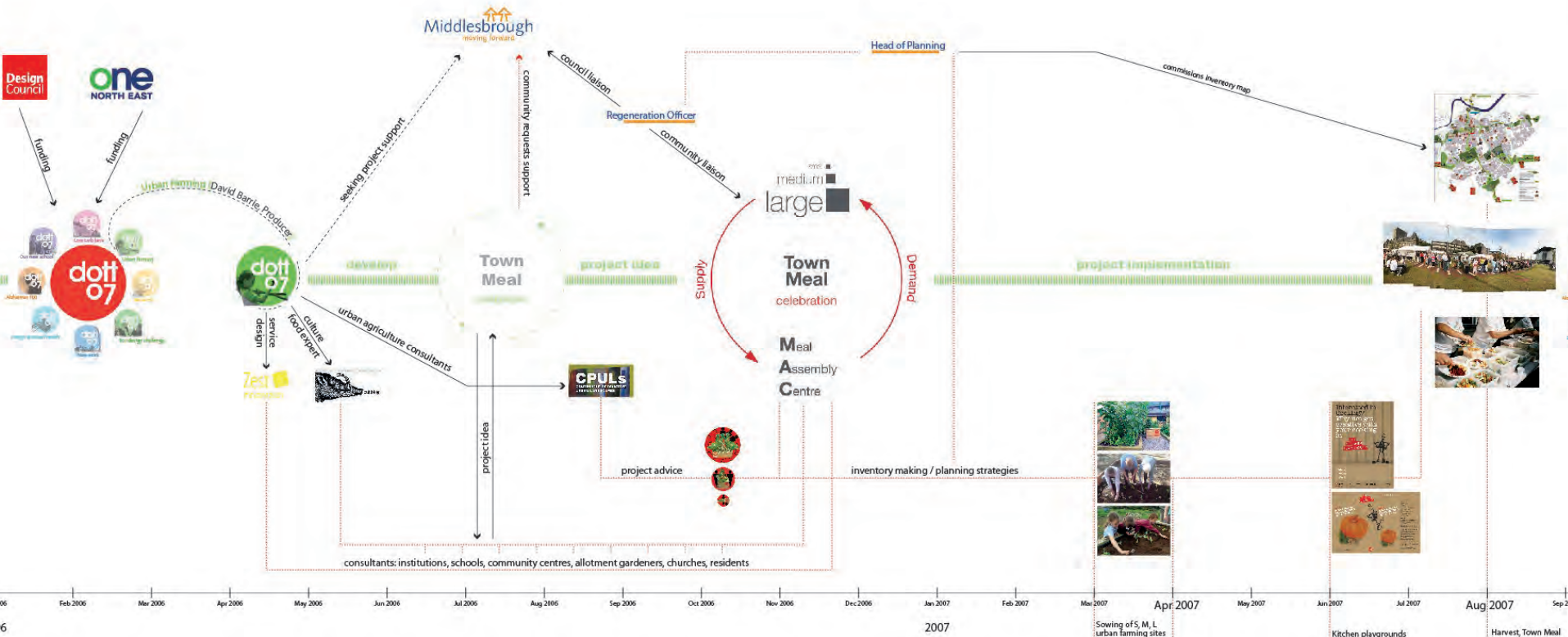
arts-based project initiators,
local residents and institutions,
local council,
urban agriculture / CPUL experts

aim:

to engage the public in improving
qualities of the city's urban
spaces and its urban life

mapping method:

**participatory +
design-professional-led**



The Urban Farming Project Middlesbrough, Great Britain

scale:

medium-size city

stakeholders:

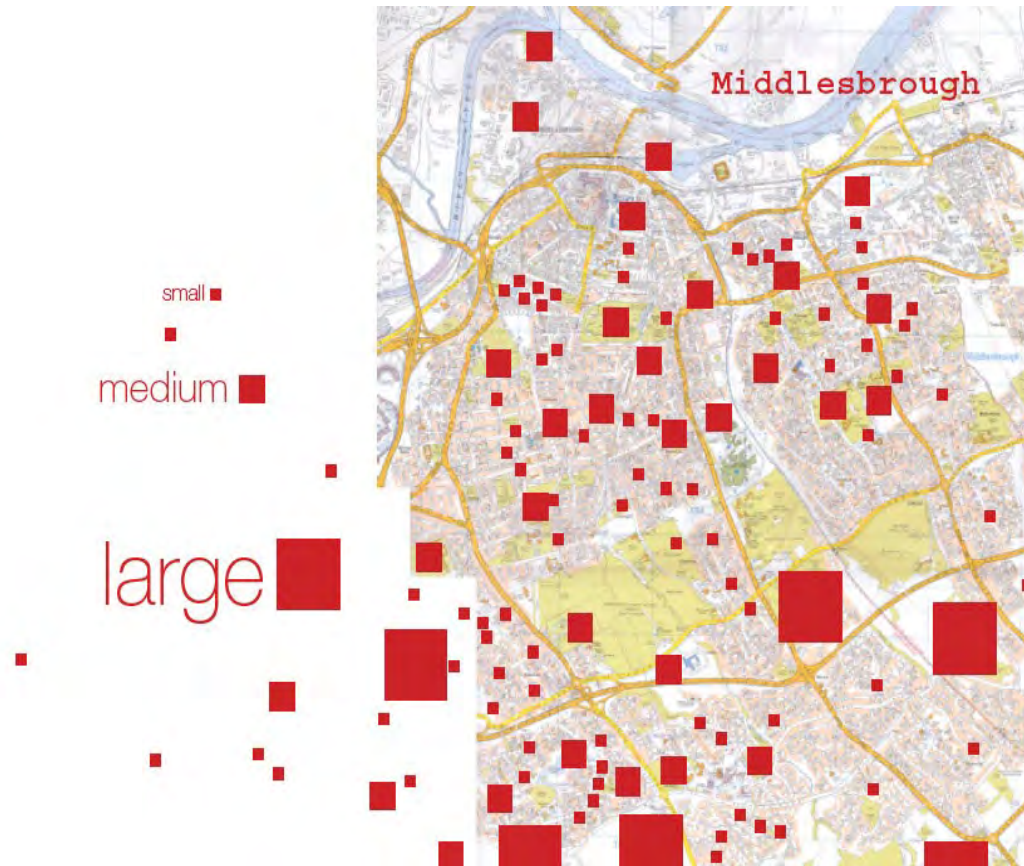
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aim:

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spaces and its urban life

mapping method:

**participatory +
design-professional-led**



Dott 07 Opportunities for a green and edible Middlesbrough

01 An urban design concept

- plant continuous open space corridors (CPUL) through the city, linking the wild and the urban productively in a way that is accessible by all

scale:
medium-size city

03 energy (economics)

- use the ground more effectively in economic terms, e.g. through new types of urban farming sites
- create new employment and regeneration districts
- create a new landscape

stakeholder

arts-based project initiators,
local residents and institutions,
local council,
urban agriculture / CPUL experts

05 health

- offset industrial/noise pollution with contrasting calming and oxygenating open space
- create a new city through the city

aim:

to engage the public in improving
qualities of the city's urban
spaces and its urban life

07 An urban lifestyle

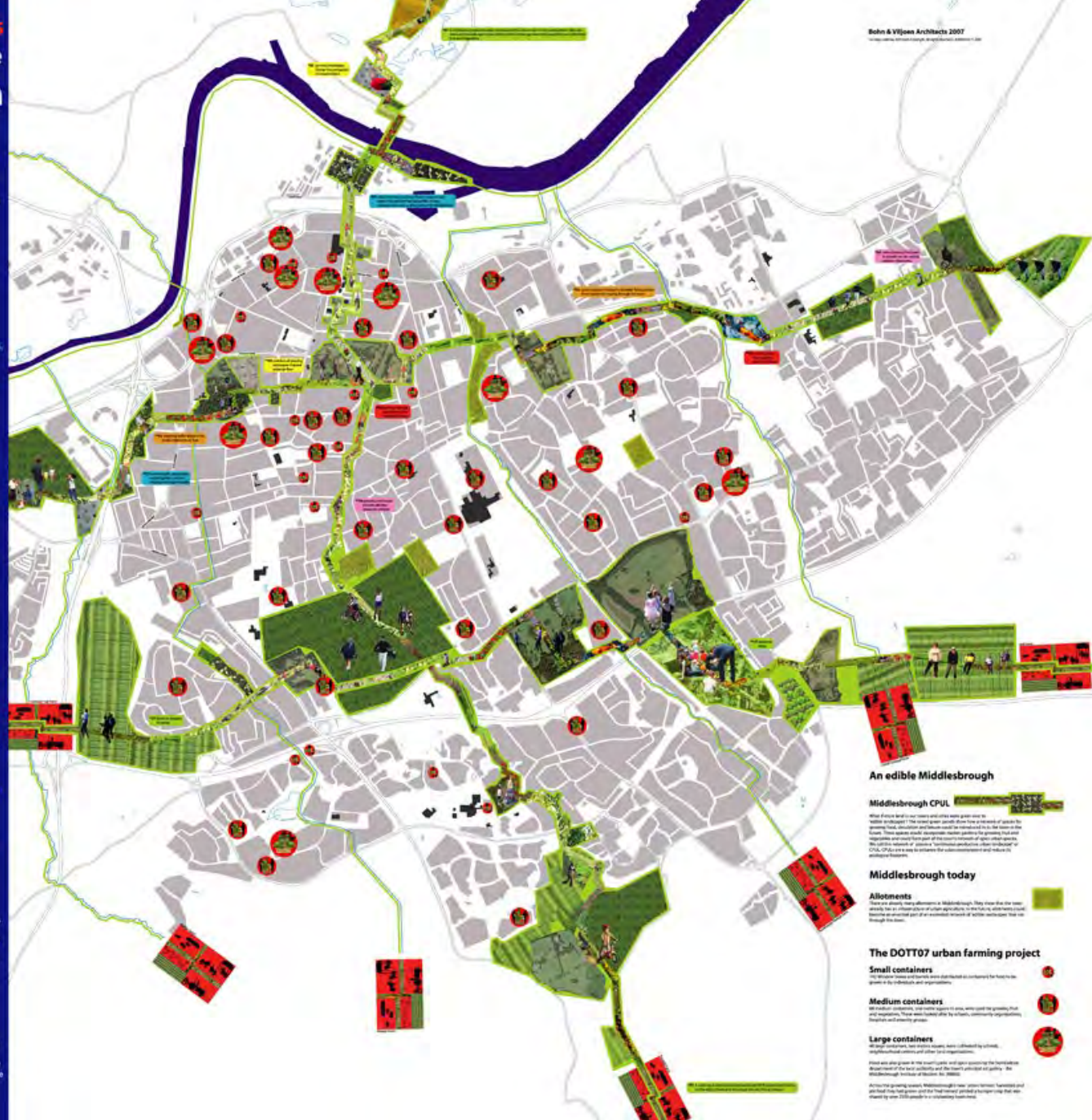
- preserve the greenbelt by offering the rural to the urban (designed within a CPUL)
- create a new city through the city

mapping method:

participatory +
design-professional-led

The concept for continuous productive urban landscape (CPUL) individuals and organisations participated by growing fruit and vegetables in small, medium and large containers. Over 200 containers were distributed across the city. There was and is a positive acceptance and enthusiasm for urban farming, evidenced by the number of participants who wish to continue growing fruit and vegetables next year and several who wish to expand the area under cultivation. People enjoy being close to edible landscapes.

When imagining how Middlesbrough may develop the CPUL concept in the future, it is important to realize that it does not require everyone to grow their own food. It rather proposes that commercially viable market gardens would form part of the city's network of open urban spaces. In this way, the city would significantly reduce its ecological footprint while at the same time enhancing its urban environment. CPUL provides more experience with less consumption.



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local research institute initiator,
local council commitment,
 local residents and institutions,
 urban agriculture / CPUL experts

scale:
small city

to locate and systematise urban food system activities and spaces in the city, existing and potential

mapping method:
**participatory +
design-professional-led**



The challenges listed below have been identified by the city team, a group of local citizens representing the local council, local research organisations, food system initiatives and interested members of the public.

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- 01 Réduire l'inertie des sites archéologiques et leur inhibition des dynamiques de développement [SOG 11]
- 02 Stimuler les économies locales et régionales
- 03 Résorber le chômage des jeunes [SOG 8]
- 04 Stimuler l'éducation, la sensibilisation et le changement de comportement [SOGs 4, 2]
- 05 Assurer la durabilité de la pêche, également en ce qui concerne la pêche dans un site archéologique protégé [SOGs 2, 14]
- 06 Renforcer la cohésion sociale [SOG 16]
- 07 Renforcer la biodiversité [SOG 15]
- 08 Faire en sorte que les institutions publiques soient responsables et acteurs du changement de Carthage vers une ville durable
- 09 Accroître l'autonomie alimentaire dans le Grand Tunis et au-delà
- 10 Lutte contre la dégradation du littoral [SOG 14]

Insufficient food education and awareness
Carthage has an immensely diverse and colorful history with highly developed cultures and technologies inspiring changes over time. Some of the systems, practices from these different time periods have been lost. Some sense of how precarious some of Carthage's resources are has also been lost by some of the current inhabitants.

Restraining how Carthage can change to become more sustainable, greener, more economical with resources and more better use of existing spaces to become self-sufficient will require all citizens to engage in some change processes, both personal and within the limits of their living, working, learning situations in the city.

Lack of spaces to support social cohesion
Eastern Carthage is a more walk-off and less densely populated part of the city than Western Carthage, which is much more densely populated and has higher levels of disadvantaged citizens.

Bringing some parity across the various parts of the city to ensure a better distribution of high-quality public spaces and access to green areas which are good for health and wellbeing. Creating spaces where mixed demographics can participate in shared activities (just as food growing) can aid social cohesion.

There is a very enthusiastic young generation within Carthage, while youth unemployment is evident, and existing systems struggle to incorporate internal migration numbers. The dynamism of the youth could be captured and channelled through sustainable food grown programmes within the city.

With so much history in Carthage tucked just under the ground and with new layers built on top, it is difficult to gain permission for allowing ground for agriculture due to possible archaeological implications. Permissions need to be sought and work carried out in collaboration with the local historical societies.

Unused space around public buildings
Both public institutions and other stakeholders at Carthage need to take more responsibility for creating sustainability within the city. The City Team has

already identified spaces around certain buildings and places which are unused and could be made available for various food system activities.

Local fishing is unsustainable
Rural fishing continues to take place within the Pampas. But now, catching inclusive fishing is declining through IAP conservation is required to provide more sustainable fish supplies only for city.

the same way as the following three. The number of individuals within species often have been identified when enhancing the biodiversity itself is expected. The impact of strengthening the variety of species and triangular species within these projects will likely have a beneficial impact beyond their own site boundaries.

their local fresh water supply and high salinity

Historical evidence suggests that households would

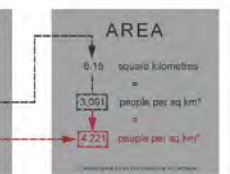
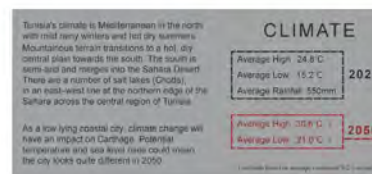
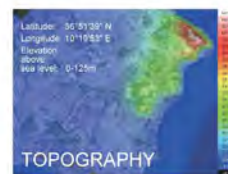
use a water system which held around 5-10 mld (5,000-10,000 litres). While current citizens use less than half the amount of water than former inhabitants did per day (due to the public toilet), there is little intention to reduce individual fresh-water usage as a corrective is 100%. Public swimming pools confirm a lack of awareness of water scarcity.

No waste (grey) water management system
There is little infrastructure for public sewerage or private rainfall collection and storage, and local knowledge about grey water recovery and treatment is low. As waste

No general waste management or recycling
No municipal recycling systems are in place within

Wastage presently, all waste goes to landfill somewhere. Waste streams are not currently being seen as potential material sources. An energy recovering system from waste is being considered, this emissions from which may have an impact on local air quality.

AREA



Carthage – Ville Comestible, Tunisia

scale:
small city

stakeholders:

local research institute initiator,
local council commitment,
local residents and institutions,
urban agriculture / CPUL experts

aim:

to locate and systematise urban
food system activities and spaces
in the city, existing and potential

mapping method:

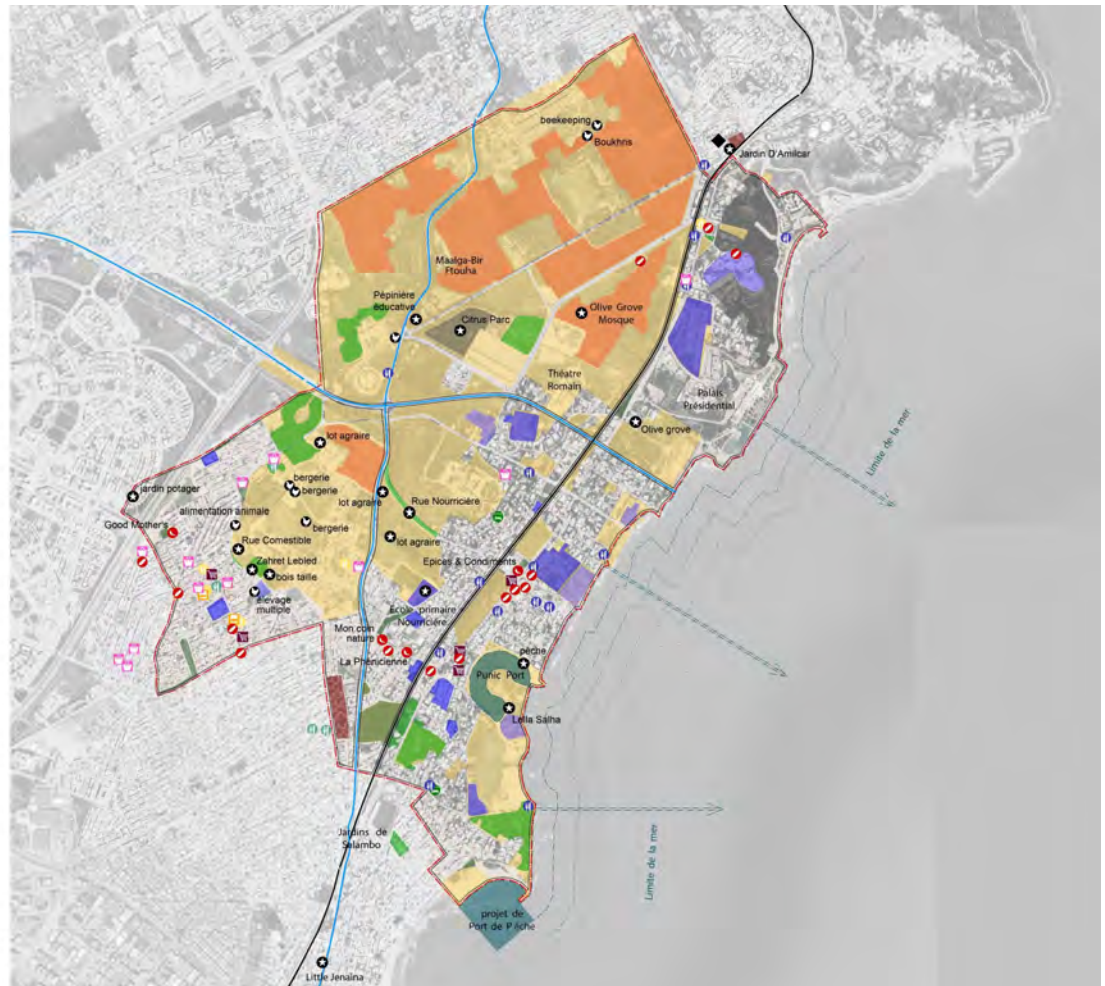
**participatory +
design-professional-led**

CLASSIFICATION DES ESPACES OUVERTS [open space classification]

- Espaces ouverts publics de la qualité paysage
[public open space of landscape quality]
- Espaces ouverts publics éducatifs et institutionnels
[public educational and institutional open spaces]
- Espaces ouverts archéologiques (publics et privés)
[archaeological open spaces (public and private)]
- L'agriculture urbaine dans les zones archéologiques
[urban agriculture in archaeological areas]
- Espaces ouverts privés
[private open spaces]
- Espaces ouverts privés commerciaux
[private commercial open spaces]
- Zones côtières
[coastal areas]
- Routes importantes et ligne ferroviaire (TGM)
[important roads and train line (TGM)]
- Limite de Carthage
[boundary of Carthage]
- Zones socio-géographiques
[socio-geographical zones]
- Projet existant de la production alimentaire
[existing food growing project]
- Projet existant de l'élevage du bétail
[existing livestock breeding project]

CLASSIFICATION DES ACTIVITÉS DE SYSTÈME ALIMENTAIRE [classification of existing food system activities]

- Production alimentaire [food production]
=> voir les espaces de production alimentaire ci-dessus
[see food production spaces above]
- Traitement des aliments [food processing]
Sur le site de production [on the production site]
 - Entreprises de traitement [processing businesses]
 - Boulangerie [bakery]
- Vente au détail de produits alimentaires [food retail]
 - Epicerie [grocery store]
 - Marché local [local market]
 - Supermarché [supermarket]
- Consommation alimentaire [food consumption]
 - Restauration rapide locale [local fast food]
 - Restauration rapide [fast food]
 - Restaurant gastronomique [gastronomic restaurant]
 - Hôtel [hotel]



Carthage – Ville Comestible, Tunisia

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mapping method:

**participatory +
design-professional-led**

#1 // Everything is a resource, especially waste and grey waters

#2 // Local food production is a target to start with

#3 // Food system activities have a financial value

#4 // There is educational value in connecting food literacy to food sites

#5 // Pressure related to Carthage's world heritage status can be a benefit

#6 // Strong linkages between municipality and community are good

#7 // Where map layers overlap, we can best work together

#8 // Unused urban spaces offer employment opportunities that the countryside does not

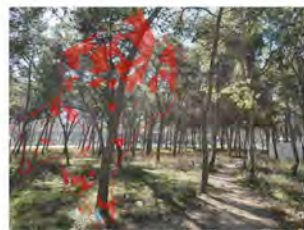
#9 // Carthage's compactness can be a benefit

#10 // Spatial networks can enable social networks

#11 // Whatever is done, there is always a historical framework

#12 // Carthage doesn't lack creativity, the challenge is to push boundaries & regulations

#1 // Les vergers de Carthage



#1 // The orchards of Carthage

#2 // Un réseau de jardins historiques



#2 // A network of historic gardens

#3 // L'agriculture, pilier de l'économie de Carthage



#3 // Agriculture, pillar of Carthage's economy

#4 // La ville auto-suffisante



#4 // The self-sufficient city

#5 // Réseaux d'alphabétisation alimentaire



#5 // Food literacy networks

#6 // Paysages urbains productifs



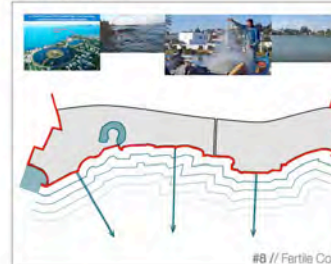
#6 // Productive urban landscapes

#7 // Le monde te soutient



#7 // The world is supporting you

#8 // Côte fertile



#8 // Fertile Coast

#9 // Une nouvelle génération d'agriculteurs



#9 // A new generation of farmers



Bohn&Viljo

scale:
small city

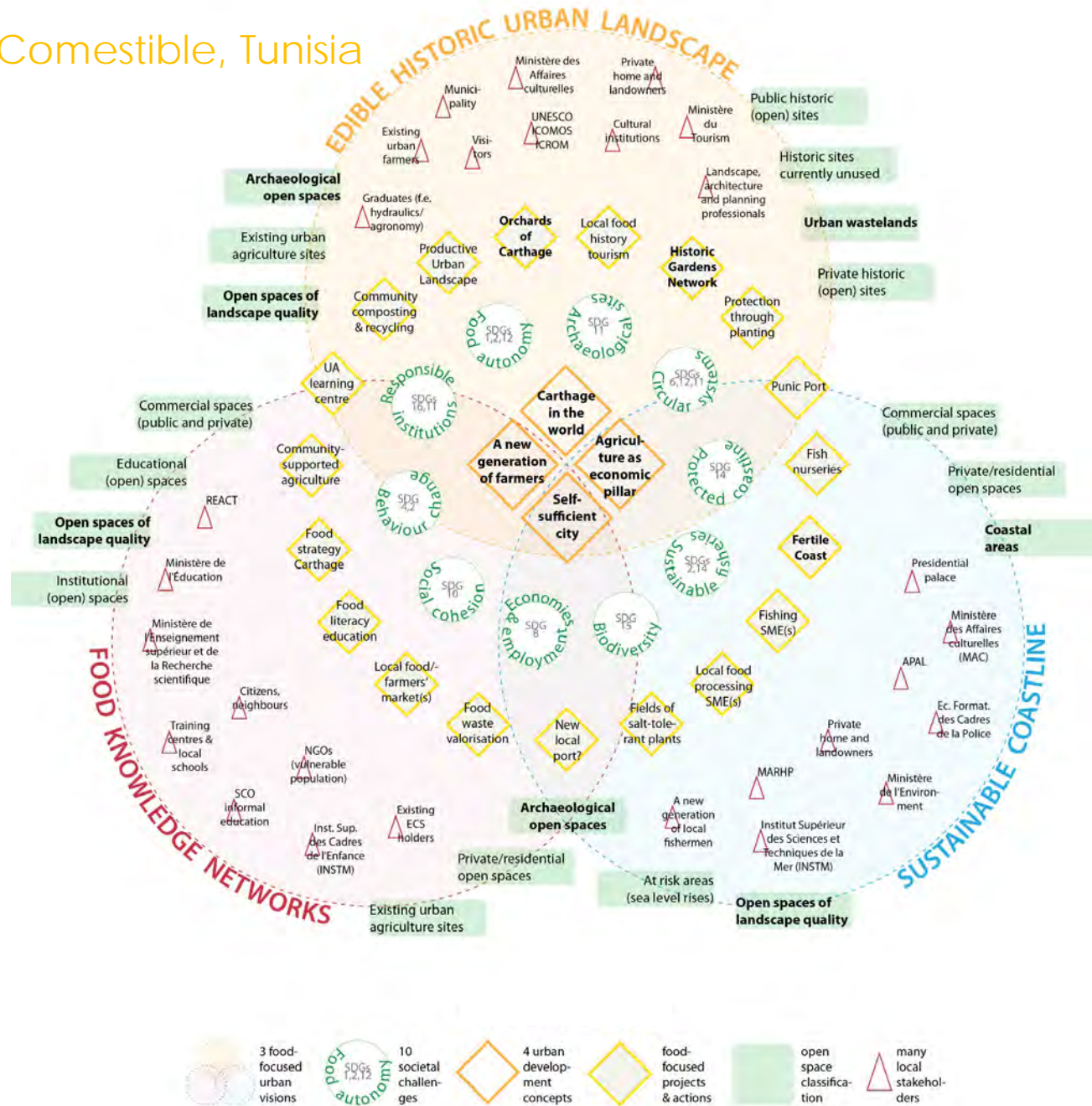
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THANK YOU!

Katrin Bohn
katrin@bohndandviljoen.co.uk

