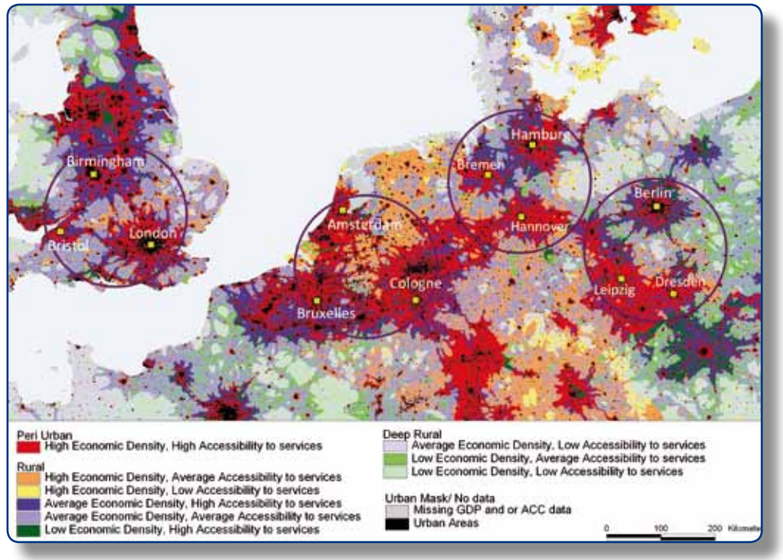

Figure 1. Levels of European urbanity with selected metropolitan regions (van Eupen 2009)

Food and the City

According to the European Environment Agency (2006) approximately 80 % of Europeans will be living in urban areas by the year 2020; in seven countries it will be even more than 90 %. The EEA states: 'As a consequence, urban demands for land in and around cities are becoming increasingly acute'. Other than the traditional countryside, metropolitan landscape are hence:

- are more dynamic in terms of land use change and land price development;
- attract more developers, planners and a larger variety of interest groups;
- combine an increase of agricultural innovation and biological farming techniques, offering a wide range of recreational, educational and therapeutic facilities.

Figure 1 shows regions with high economic density and accessibility to services, hence areas that are likely to increase their metropolitan character. Already now, industrial forms of agriculture are conflicting at large with urban needs for regional food, a healthy environment, easy access to outdoor recreation and an intact nature. In response to this dilemma, cities such as Amsterdam, Seattle and Toronto are developing new policies for integrating food, leisure and nature into their surrounding metropolitan landscapes.

Project tools

The SUSMETRO project is designed to engage regional actors such as policy makers, landowners, planners, farmers and consumer or citizen groups when working towards new spatial concepts and management plans for metropolitan regions focusing on food planning, recreational services and nature conservation strategies. SUSMETRO offers the following tools:

(1) Status quo assessment of metropolitan regions at various levels of scale (region–country–Europe) making use of Geographic Information Systems;
(2) Assessment models for calculating regional demand vs. carrying capacities, including socio-economic trends and environmental impacts;
(3) Ex-ante policy scenarios as input to sustainable design proposals for future land use planning;
(4) visualisation and communication tools to address issues such as regional identity and a sense of place.

Figure 2. SUSMETRO Analytical Tools at the Euroean level: landscapes character types (Mücher et al. 2006), protected areas (various sources), leisure and tourism activities (Wascher et al. 2009)

Due to the supra-regional character of many land use trends, any policy decision and planning scheme needs to be evaluated at different scales. Until now, spatial information is mainly available according to mono-disciplinary approaches and sector divisions. However, SUSMETRO cartographic references such as on landscape character types, nature conservation areas of sites of leisure and tourism (see Figure 2) allow cross-boundary and integrated assessments. The added value of SUSMETRO is that it can assess the spatial-functional implications of urban demand for food, recreation and nature conservation at different levels of scale ranging from the metropolitan region and the European context by making use of state-of-the-art assessment tools, data sets and policy information.

Table 1. Average ecological footprint per person for food in different European cities

	Energy	Crops	Pasture	Total	Inhabitants	Quelle
Berlin	0,12	0,28	0,91	1,31	3,4 mill	Schnauss 2006
Hamburg	0,12	0,72	0,60	1,44	1,8 mill	Jancke, 1999
London				2,80	7,5 mill	Best Foot Forward 2002
Amsterdam				1,66	1,4 mill	De Kleine Aarde 2001

Regional *Food*print

The ecological footprint of one Berlin with regard to terrestrial impacts (crops and pastures only) consumed by each citizen makes with 1.31 ha about one third of the total need. Due to different consumption patterns and higher quality of life standards, Hamburg scores higher. The same is probably true for the City of London, though different calculation methods are likely to contribute to these results (see Table 1). The hypothetically required agricultural land around these cities is displayed in Figure 3. However, it should be noted that it must be considered as unrealistic to satisfy urban food demands entirely on the basis of ground-based agriculture. Instead, innovative production schemes, new marketing strategies as well as an increase of hothouse farming methods are likely to concentrate future efforts is so-called greenport concepts.

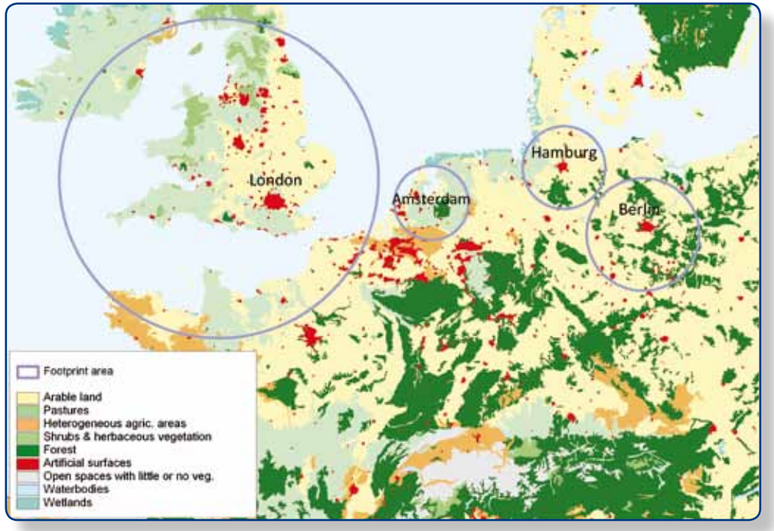

Figure 3. Ecological Foodprint of London, Amsterdam, Hamburg and Berlin (Agricola 2010)

The SUSMETRO-*Game*

SUSMETRO is designed to offer a knowledge-based and participative approach by allowing participants to engage in a 'game' for commonly developing sustainable future perspectives for their metropolitan region. Throughout the iterative processes (see scheme on this page), participants will not only make use of the data and tools that are being offered, they also will establish their on region-specific sustainability criteria and develop own design proposal. In return, SUSMETRO offers visualisation techniques to project the proposed ideas into the real geographic context (see Figure 4).

Preparation

1. Identification social goal/ problem (related to Food planning /Multifunctional region)
2. Identification regional metropolitan boundaries
3. Formation of Group
4. Create a roadmap for the game and prepare SUSMETRO maps.

Implementatioin

Plenary ❶
a. Introducing the game and it's goal Describe the regional area related to the chosen social goal/ problem by SUSMETRO maps.
b. Introducing concept of Landscape Character Assessment

Group ❷ Landscape Character Assessment, Identify and delineate, the most essential metroscape areas within project region, making use of SUSMETRO maps. Taking into account the SUSMETRO criteria and policy case topic. Propose a total of 3 sustainability criteria per area/type, out of 4xPPP=12 sustainabilty criteria. SUSMETRO team starts digitizing metroscape areas.

Plenary ❸ Discuss LCA & sustainabilty criteria, introducing concept of sustainable foodplanning and sustainable regional planning

Group ❹ Sustainability Score per metroscape area/type, based on sustainabilty criteria from 6.

Plenary ❺ Discuss results, comparison op results of stakeholders and SUSMETRO team and review of sustainability criteria & model decision rules. Introducing Regional Design Proposals, assingnments and ambition level (gebiedsopgaven, welke ruimtelijke ingrepen moeten volgens de stakeholders gedaan worden?, wat is het ambitieniveau)

Group ❻
Sustainable Regional Design Proposals
10.1 Green, blue or red corridors for making connections, there by optimizing functions (starting with 'empty map' = map with infrastructure, city ,villages, water and nature areas)
10.2 Sites for land use changes, infrastructure, altering the boundaries and locations of existing metroscape areas, (according to 'gebiedsopgaven' determined by the stakeholders)
10.3 Revised impact assessment scores based on 5.c

Plenary
❼ Impact Assessment Review. The SUSMETRO team to provide new impact score based on results of design results (10.1+10.2). Comparison with 10.3 and discussion.
❽ Optional, Final Design Proposal, can Can consist of alternative options – is based on final common agreement after iterative rounds between 5 – 6.

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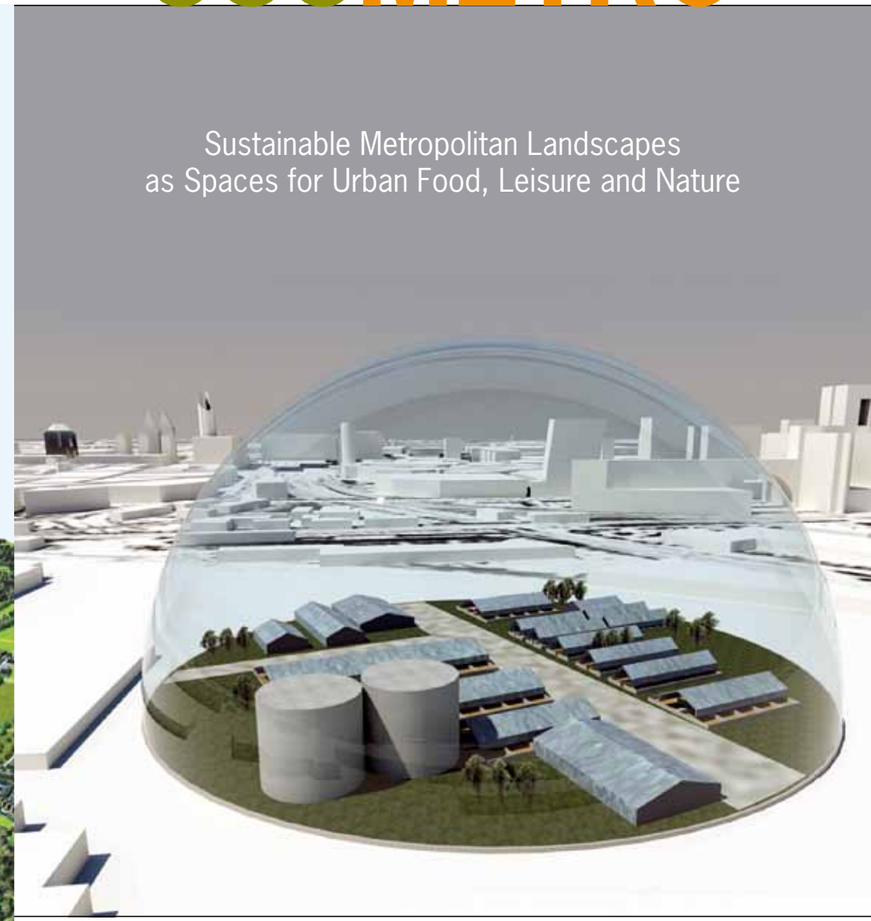
SUSMETRO

Sustainable Metropolitan Landscapes as Spaces for Urban Food, Leisure and Nature



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