



Terms of reference and land typologies for Circular Flow Land Use Management

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Table of contents

1.	Circular Flow Land Use Management	3
1.1.	Terms: Phases and status	3
2.	Land categories for Circular Land Management	4
	Greenfield.....	5
	Gaps in build up areas	5
	Vacant or underused land	5
2.1.	Brownfield sites.....	6
	Industrial Brownfield	6
	Military Brownfield	6
	Commercial (real estate) Brownfield/ "Greyfield"	6
	Brownfield from infrastructure and traffic	7
	Residential Brownfield	7
	Cultural and social Brownfield.....	7
	Agricultural Brownfield	7
2.2.	Brownfield development types.....	8
3.	Land register/terminology of the common record sheet	10
4.	Literature.....	11



1. Circular Flow Land Use Management

In the concept of Circular Flow Land Use Management represents an integrative policy and governance approach which presupposes a changed land use philosophy with regard to land utilization. This modified land use philosophy can be expressed with the slogan “avoid – recycle – compensate”. Similarly to the recycling-based principles which have become common place in recent years in area such as waste and water management, “circular land use management” should become an established policy in sustainable land utilization. Materials cycles serve as a model for circular land use management:

- ▶ The constructed city is understood as a system with a structural makeup which is subject to various usage phases and where, in certain instances, entire districts and industrial areas are dismantled and made suitable for subsequent use, whereby the total area of land used should remain unchanged.
- ▶ Structures no longer fit for reuse are demolished or renaturalised.
- ▶ The idea of a “circular” use thus seizes upon the notion of a use cycle of the allocation of building land, development, use, abandonment and reuse [Federal Office for Building and Regional Planning (BBR) 2006]]

1.1. Terms: Phases and status

Planning	Including all formal and informal activities on planning decisions for future land use.
Use	Phase of stable use and maintenance of land and buildings
Cessation of Use	Phase of underuse, neglected maintenance and closure of activities
Abandonement	Phase of dereliction without use
Interim Use	Non permanent use based on a step-by-step approach for the revitalization of land. Interim uses can provide a smooth continuation from the traditional use into the future use of the area. (Green uses, culture..)
Reintroduction	Transition phase of land before being available for new uses and planning



Source: 2008, German Institute of Urban Affairs (difu)

- a. Zoning new "greenfields"
- b. Rejection of land not suitable for subsequent use
- c. Activating land potentials
 - ▶ brownfields (settlement, industrial, commercial, military)
 - ▶ gaps between buildings in internal areas
 - ▶ urban renewal sites
 - ▶ sites under going planning

Figure 1: Strategic approach: Circular Flow Land Use Management

2. Land categories for Circular Land Management

Principal categories and types to include into a Circular Land Management are

- ▶ green fields with development perspectives,
- ▶ vacant and underused land,
- ▶ gaps in build up areas and
- ▶ brownfields.

Greenfield

Land without former development and natural soils
 e.g. areas with perspectives for development on greenfields

Def: Greenfield is a “green” site in a planned spatial area. In future perspective this site (or mostly sites, more than one) are new building zones for settlement, industrial or commercial development. The speciality is, that they are not previously developed that means actually not connected to infrastructure and have natural soils.



Gaps in build up areas

e.g. gaps in housing areas

Def: Gaps are mostly smaller sites, under or unused sites, with building rights in an existing urban structure (location in an inner zone or applicability of a development plan). Often they exist in residential areas or small areas directly in the city centre. The difference to Greenfield is that this site is mostly fully developed and it's only one site and not more connected sites. Other gaps are often found in industrial parks with infrastructure.



Vacant or underused land

e.g. from not commercialised development
 e.g. from declining former uses, stocking areas

Def: Vacant or underused lands are sites which were commercially used before and after usage demolished. But these are also sites which have been developed and after that they are underused up to now. The differences to Greenfields are that they are fully developed and they may also be used before as commercial or industrial sites. But also fully developed and not or underused commercial sites at the city periphery have to be mentioned in this category.



2.1. Brownfield sites

- ▶ have been affected by the former uses and surrounding of the site,
- ▶ are derelict or underused, but not mentioned as a gap,
- ▶ have real or perceived contamination problems,
- ▶ are mainly in developed urban areas and
- ▶ require intervention to bring them back to beneficial use. [CABERNET¹, 2005]

Industrial Brownfield

e.g. mining, textile or steel industries

Def: Because of development of industrial processes during the last centuries the demand on area of industrial used sites are decreasing. Mostly relocation of the production to other countries led to a breakdown and so to an abandoned site. The site is fully developed, often not up to date, and most buildings of the former usage still exists.



Military Brownfield

Brownfield from military conversion including housing maintenance areas and training camps

Def: The political situation in Europe changed in the last decades a lot. So former military sites were not needed any more, and had been left, mostly without any demolition. This category includes all kinds of military usage like housing, training camps and also technical equipment.



Commercial (real estate) Brownfield/ "Greyfield"

Def: For most investors it seems to be easier to develop shopping or other commercial malls on green fields. But for example of financial aspects some of these sites are not in use anymore. Greyfield in general describe an economically obsolescent or underused real estate or site mostly also with parking spaces. Also an investment ruin (Brownfields) can be called as greyfield. The positive aspect of this site is that in comparison to an old industrial Brownfield sites here the infrastructure in mostly new and usable.



¹ Concerted Action on Brownfield and Economic Regeneration Network, www.cabernet.org

Brownfield from infrastructure and traffic

Def: Reorganisation and outsourcing, financial decisions of mostly public owned bodies led to infrastructure and traffic Brownfields. This kind of Brownfield means closed down railway tracks or station and yards which have been before infrastructural used.



Residential Brownfield

e.g. historic housing, prefabricated housing areas

Def: Partly demolished or still standing not remediated unused houses with historic or wilhelminian architecture. But also prefabricated housing areas which are not in use anymore.



Cultural and social Brownfield

e.g. schools, leisure areas

Def: Because of demography and migration movement's cultural and social institutions, were not used anymore and decline. In addition to the named institutions also unused schools, churches and leisure areas have to be mentioned.



Agricultural Brownfield

e.g., abandoned farms

Def: In similarity to industrial Brownfields also a change in agricultural conditions and farming methods took place in the last decades. This type means not agricultural Brownfields in terms of unused acres or fields. Here unused agricultural buildings have to be mentioned.



2.2. Brownfield development types

Using a conceptual model to characterise different types of sites in terms of their economic viability and highlighting how status can change based on variation in location standing, site treatment costs and other economic conditions, can help policy makers identify strategies that can improve the economic viability and status of sites. One of the major drivers of brownfield regeneration is the economic viability of individual sites. This can be affected by many different factors which can alter quite considerably over time. The economic status of a site can be affected by indirect as well as direct costs of the regeneration and by predicted revenues / return from the site.

The A/B/C model on strategic brownfield policies refers to the costs and predicted revenues. This model identifies three types of sites according to their economic status (due to the cost of regeneration, the value of the land, etc). Sites are classified as:

- ▶ **A Sites** are highly economically viable and the development projects are driven by private funding Sites. The redevelopment causes a clear increase in site value. There is no demand for special public interference. The regular planning and administration system could give a general framework to the development.
- ▶ **B Sites** are sites of local and regional importance with development potential but also significant risks due to the final balance of the investment and the need of advice, assistance in planning and funding. These typical brownfield projects are situated in the border zone of profit and loss. In these cases the strategies of public-private-partnership are most effective. Risk-division, coordinated planning and financing of projects by public/private companies are ingenious milestone for public interference.
- ▶ **C Sites** are not in a condition where regeneration can be profitable. Their regeneration relies on mainly public sector or municipality driven projects. Public funding or specific legislative instruments (e.g. tax incentives) are required to stimulate regeneration of these sites



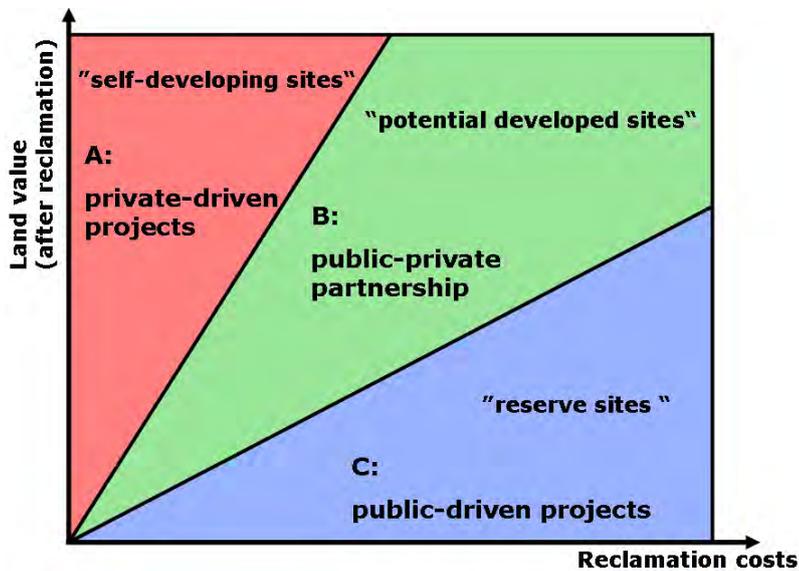


Figure 2: ABC-model [Ferber 1997]

The A-B-C model highlights the funding drivers for brownfield regeneration (so-called CABERNET A-B-C model). The conceptual model can be used to assist institutions that are responsible for regional development and investment by allowing them to characterise strategies for dealing with different types of brownfield land. By identifying the type of site and considering the factors that are affecting a site's category, i.e. if it is an A, B, or C site, both public and private bodies can examine intervention options and regeneration strategies. Using this conceptual approach to examine the factors that affect re-categorisation of a site, for example from a B Site to an A site, can result in the development of sites specific strategies which can also be useful. A number of municipalities are currently using these categories to review their local brownfield strategies and to produce informal inventories of regional brownfield sites.

3. Land register/terminology of the common record sheet

Fieldwork record sheet - Land use management

CHARACTERISTICS		Editor: _____	
Ident Number: _____		Area designation: _____	
Date of registration: _____		Locality: _____	
Numb. of digital photos: _____		Street, Nr.: _____	
Area mapped: <input type="checkbox"/> yes		Type of area:	
<input type="checkbox"/> no		<input type="checkbox"/> Brownfield	<input type="checkbox"/> underused land
		<input type="checkbox"/> Greenfield	<input type="checkbox"/> Gaps (build up area)
<hr/>			
USAGE			
Previous Use	<input type="checkbox"/> Residential	<input type="checkbox"/> Cultural/Social	<input type="checkbox"/> Other
	<input type="checkbox"/> Traffic/Infrastructure	<input type="checkbox"/> Mining	<input type="checkbox"/> Not any
	<input type="checkbox"/> Industrial	<input type="checkbox"/> Military	
	<input type="checkbox"/> Commercial	<input type="checkbox"/> Agricultural	
Comment Previous Use: _____			
Residual / temporary use: <input type="checkbox"/> yes	Description: _____		
<input type="checkbox"/> no	_____		
<hr/>			
BUILDING			
Building stock	<input type="checkbox"/> yes	Description: _____	
	<input type="checkbox"/> no	_____	
Situation Summary	<input type="checkbox"/> good	<input type="checkbox"/> ruinous	
	<input type="checkbox"/> mean	<input type="checkbox"/> unclear	
<hr/>			
INFRASTRUCTURE PROVISION (road, rail, ...)			
Infrastructure provision available	<input type="checkbox"/> yes	Description: _____	
	<input type="checkbox"/> no	_____	
degree of development	<input type="checkbox"/> sufficient		
	<input type="checkbox"/> insufficient		
	<input type="checkbox"/> unclear		
OPTIONAL			
<hr/>			
SEALING			
Degree of sealing of the area	<input type="checkbox"/> high to very high (67 - 100%)		
	<input type="checkbox"/> middle (33 - 66%)		
	<input type="checkbox"/> low (< 33%)		
	<input type="checkbox"/> unsealed (0%)		
Sealing material	<input type="checkbox"/> Asphalt	<input type="checkbox"/> Self-binding Gravel	
	<input type="checkbox"/> Concrete	<input type="checkbox"/> Railway track	
	<input type="checkbox"/> Concrete pavement	<input type="checkbox"/> Other	
	<input type="checkbox"/> Natural stone pavement		
OPTIONAL			
Description: _____			
<hr/>			
NATURAL TERRAIN PROFILE			
Natural terrain profile	<input type="checkbox"/> Plane (< 5% - 5 m per 100 m)	<input type="checkbox"/> Terraced	
	<input type="checkbox"/> Sloping (>= 5%)	<input type="checkbox"/> Uneven	
Artificial terrain profile (land fill, exploitation, etc.)	<input type="checkbox"/> yes		
	<input type="checkbox"/> no		
OPTIONAL			
 			

4. Literature

- ▶ Federal Office for Building and Regional Planning (BBR) (published by), Perspektive Flächenkreislaufwirtschaft special publications series for the ExWoSt research field Fläche im Kreis, Vol. 1. "Theoretische Grundlagen und Planspielkonzeption", revised by Thomas Preuß et al. (German Institute of Urban Affairs et al.) and Fabian Dosch et al. (BBR), Bonn 2006.
- ▶ Ferber, Uwe, Brachflächen-Revitalisierung. Internationale Erfahrungen und mögliche Lösungsoptionen, hrsg. vom Sächsisches Staatsministerium für Umwelt und Landesentwicklung, Dresden 1997.
- ▶ http://www.aboutremediation.com/techdir/tech_definitions_full.asp?technam eid=194
- ▶ <http://www.brownfieldscenter.org/big/glossary.shtml>
- ▶ <http://www.umwelt.sachsen.de/umwelt/boden/12215.htm>