

Classification of land

3

Introduction

3.1. A coherent and consistent classification that covers all types of land within a country is needed to adequately estimate the total value of land. However, that is not to say that the entire geographic surface area of a country is included within the asset boundary of the SNA 2008 (SNA 2008 paragraph 12.21). Only land that fits the definition of an asset should be included within the asset boundary, that is, all land on which effective ownership rights can be assigned to (an) institutional unit(s) and from which economic benefits are derived by their owner(s) by holding or using them over a period of time (SNA 2008 paragraph 1.46). While it is not explicitly stated in SNA paragraph 1.46 it is important to note that this includes allowing others to use the land.

3.2. A well-defined land classification is needed because the use of a particular tract of land can correspond to major differences in price. For instance, the price (development) of land underlying dwellings may differ substantially from agricultural land. Therefore, it is not only important to know the size of the land area (i.e. number of square metres) and the location, but also the use of the land and price it accordingly. Sub-classifications are further necessary to appropriately capture changes in the value of land due to changes in classification (i.e. changes in use) as volume changes instead of price changes ⁽⁹⁾.

3.3. This chapter starts with discussing the purpose of a new classification of land in compiling land statistics. It further provides a general overview of the already existing classification approaches and discusses several problems in their practical application. Building upon national accounts guidelines, experience of national statistical institutes (NSIs), national central banks and international organisations a new classification of land is introduced. Furthermore, borderline cases concerning the assignment of certain land types to the proposed classification categories are discussed. Finally, case studies for Korea and Germany are presented illustrating the application of the proposed classification.

Why do we need a new classification?

3.4. Although for the ESA 2010 transmission programme reporting requirements, European Union (EU) Member States are only required to report the total value of

land for the combined households and the non-profit institutions serving households sector, a well-defined classification of land is essential.

3.5. Since the estimation of land is relatively new for quite a number of countries, there is a lack of a widely accepted classification ⁽¹⁰⁾. Ideally, a classification of land that is based on broad international consensus will lead to a more widespread use among the NSIs and increase the possibilities for cross-country comparisons. In addition, the importance of a commonly used classification is clearly illustrated by the notion that the choice of a particular classification may substantially affect the estimation of the total value of land. This is due to the fact that classifications may differ significantly in scope (the types of land included), purpose and definitions.

3.6. The various classifications that are currently used by NSIs that estimate land on the balance sheet may be explained by the limited guidance that existing national accounting guidelines provide for classifying land. For instance, the SNA 2008 lacks a disaggregation of land into the various subtypes (such as in SNA 1993 Annex definition of assets). Rather, it recommends the use of the categories provided by the System of Environmental-Economic Accounting (SEEA 2012) as guidance (SNA 2008 paragraphs 10.178, 10.181, 10.183). Also, ESA 2010 provides limited guidance. Although it presents a disaggregated classification of land, it lacks detailed definitions of the particular categories.

3.7. The variety in the applied classifications could potentially reduce international comparability regarding national estimates for the total value of land. From that perspective, the establishment of a broadly supported classification is desirable since it can induce a more widespread implementation, enhancing international comparability.

3.8. Therefore, to increase the usefulness of land estimates, it is important that a classification contains the most important subtypes of land such that price differences are taken into account. However, keeping in mind the already existing classifications as well as the data restrictions that countries face, the proposed classification should not go into extensive detail. As a result, the new classification should be regarded as a minimal common denominator.

3.9. Overall, an internationally accepted classification of land can be regarded as a crucial requirement to compile land estimates that are suitable for cross-country comparisons. A classification that encompasses all relevant land use types is important in order to successfully and accurately

⁽⁹⁾ A basic principle of the SNA 2008 is that different land use values are reflected as differences in quality. Therefore changes in economic use of land that lead to a change in classification should be recorded as a change in volume and any excess in the value due to the change in classification should be recorded as an economic appearance of an asset. See SNA 2008 paragraph 12.23.

⁽¹⁰⁾ Several national classifications — which may differ significantly — were used by the countries. See Advisory Expert Group, 'Issues Note: The recording and measurement of land and natural resources (and dwellings)', paragraph 4. Available at <http://unstats.un.org/unsd/nationalaccount/aeg/2012/M7-261.PDF>

estimate the value, price and volume changes of different types of land and, ultimately, all economically relevant land. In fact, the existence of a wide range of different approaches to this topic shows that a commonly accepted classification is desirable.

Existing approaches for classifying land

3.10. This section provides an overview of some of the existing classifications of land that can be used as a suitable starting point for developing a new classification for use by NSIs for the estimation of land on the balance sheet.

3.11. Existing classifications are often based on land use or land cover statistics and thus tackle quite different issues. Land cover, as defined in SEEA, refers to the observed physical and biological cover of the Earth's surface and includes natural vegetation and abiotic (non-living) surfaces. Land use can be defined as: '[t]erritory characterised according to its current and future planned functional dimension or socio-economic purpose (e.g. residential, industrial, commercial, agricultural, forestry, recreational)' ⁽¹⁾.

3.12. The following examples illustrate the differences:

- broad leaved trees (land cover) — forestry (land use);
- broad leaved trees (land cover) — recreational (urban green) (land use);
- cereal crops (land cover) — agriculture (land use);
- reeds, grasses (land cover) — none / natural protected site (land use);
- hard sealed surface (land cover) — road transport network (highway) (land use);
- hard sealed surface (land cover) — air traffic (airport runway) (land use);
- grassland (land cover) — sport & leisure (golf course) (land use).

3.13. Since the SNA 2008 recommends guidance provided by SEEA to disaggregate land into various types the SEEA classification is first explored. SEEA 2012 provides two approaches for classifying land, land cover or land use. The types of categories included in the SEEA land cover

classification are shrubs, grasslands, mangroves, etc. and do not appear to fit well with what national accountants are trying to measure, i.e. what the land is used for.

3.14. Thus, for national accounting purposes, land use may be a more appropriate classification. In SEEA 2012, land use reflects both (i) activities undertaken and (ii) the institutional arrangements put in place; for a given area for the purpose of economic production, or the maintenance and restoration of environmental functions. In this classification, land is divided into seven sub-classifications and includes, for example, forestry, land used for aquaculture, and land used for maintenance and restoration of environmental functions. Furthermore, inland water is separated from land and divided into four sub-classifications.

Table 3.1: Land use Classification proposed by SEEA

SEEA 2012 ⁽¹⁾
Land
Agriculture
Forestry
Land used for aquaculture
Use of built up and related areas
Land used for maintenance and restoration of environmental functions
Other uses of land n.e.c.
Land not in use
Inland waters
Inland waters used for aquaculture or holding facilities
Inland waters used for maintenance and restoration of environmental functions
Other uses of land waters n.e.c.
Inland waters not in use

Source: SEEA 2012

(1) SEEA 2012 provides two approaches for classifying land, which focus on land use or land cover. The approach introduced here focuses on land use (SEEA 2012 paragraph 5.252). Particular differences between land use and land cover are discussed in paragraph 3.12.

3.15. Even though land use classification is a more appropriate classification from a national accounting perspective, the SEEA 2012 classification of land focuses primarily on environmental aspects. Therefore, it appears that what is also needed, from the perspective of national accounting, is a classification based on land as an economic asset.

3.16. Therefore, besides SEEA 2012, classifications used for other statistics are considered as well. Among them are the directive for establishing an Infrastructure for Spatial Information in Europe (INSPIRE) ⁽²⁾, the Coordination of information on the environment (CORINE) programme and High Resolution Layers (HRL) on specific classes which are both included in the Copernicus programme ⁽³⁾, and

⁽¹⁾ Official Journal of the European Union, 2007.

⁽²⁾ See <http://inspire.ec.europa.eu/>

⁽³⁾ See <http://www.copernicus.eu/>

the Land Use/Cover Area Frame Survey (LUCAS). The latter deals with an area sample for the provision of coherent and harmonised statistics on land use and land cover. The land use classification of LUCAS has a particular focus on agricultural land, but also contains a fair amount of detailed categories such as residential land; industry and manufacturing; commerce, finance and business ⁽¹⁴⁾. At first glance, the land use categories provided by LUCAS appeared a viable option but in the end was rejected because the categories were too detailed since the goal was to develop a minimum classification recommendation.

3.17. Since this guide addresses land as an economic asset, the prior classification of land in the SNA 1993 and ESA 1995 was reviewed as well as the current ESA 2010 classification, presented in Table 3.2. This classification meets the criteria of classifying land by use with a focus of land being an economic asset. Key in this classification is that land underlying buildings and structures (AN.2111) is shown as a separate category of land (SNA 1993 Annex definition of assets, and ESA 1995 Annex 7.1). This reflects the principle that a correct estimation of the value of land requires a separation between the value of buildings and structures and their underlying land (SNA 2008 paragraph 13.44). Another positive aspect of this classification is that it provides information that is requested as an 'encouraged' item in the G-20 Data Gap Initiative template of stocks of non-financial assets by asset type and by sector.

Table 3.2: Categories proposed by SNA/ESA

SNA 1993, ESA 1995/2010
Land (AN.211)
Land underlying buildings and structures (AN.2111)
Land under cultivation (AN.2112)
Recreational land and associated surface water (AN.2113)
Other land and associated surface water (AN.2119)

Source: SNA 1993, ESA 1995, ESA 2010

3.18. All classification approaches discussed above provided useful information during the development process of the new classification. Among these, the SNA 1993/ESA 1995/ESA 2010 were best suited as a general reference to describe land as an economic asset. In addition, SEEA 2012 was used in providing definitions of the types of land included in the categories.

Proposed classification of land

3.19. The main purpose of a new classification is to find the lowest common denominator out of the many already existing classifications, with the intention to increase international comparability as well as to provide guidance to compile land statistics. The proposed classification intends to cover all land of a country that falls within the asset boundary. While there are several ways to classify land (e.g. land cover, ownership), the proposed classification is based on land use statistics ⁽¹⁵⁾.

3.20. Given the definition of an asset (SNA 2008 paragraph 1.46), all land to which economic ownership can be assigned and from which economic benefits can be derived should be included in the balance sheet. The proposed classification, shown in Table 3.3, includes all these relevant land types. To do justice to the diversity of land types across countries as well as the differences in prices, the following classification is proposed as a minimum classification. This leaves flexibility for countries to further disaggregate their data into more detailed categories that include more types of land. However, it is recommended for international comparability purposes that the detailed categories be maintained in such a way that they may simply be aggregated into the proposed minimum classification.

Table 3.3: Proposed classification

Classification of land
1. Land underlying buildings and structures (AN.2111)
1.1 Land underlying dwellings (AN.21111)
1.2 Land underlying other buildings and structures (AN.21112)
2. Land under cultivation (AN.2112)
2.1 Agricultural land (AN.21121)
2.2 Forestry land (AN.21122)
2.3 Surface water used for aquaculture (AN.21123)
3. Recreational land and associated surface water (AN.2113)
4. Other land and associated surface water (AN.2119)

Source: TF on Land and other non-financial assets

3.21. This proposed classification is in accordance with ESA 2010; however, it introduces further sub-classifications for land underlying buildings and structures as well as for land under cultivation. It consists of the following main items:

1. Land underlying buildings and structures is in most countries the most valuable type of land, both in unit price and in total value. Since most national compilers further distinguish between dwellings and other buildings and structures in their capital stocks, the proposed classification also specifies this further sub-classification.

⁽¹⁴⁾ More information is available at: <http://ec.europa.eu/eurostat/web/lucas/overview>

⁽¹⁵⁾ Classification approaches based on institutional sectors are discussed in Chapter 7 of this compilation guide.

In doing so, the importance in terms of economic value of land underlying dwellings and the corresponding residential real estate is highlighted.

2. Land under cultivation is further disaggregated into agricultural land, forestry land and surface water used for aquaculture.

3. Recreational land and associated surface water includes privately as well as publicly owned recreational areas together with associated surface water.

4. Other land and associated surface water contains, for example, exploitation areas and surface waters. In most cases the total value of these areas is relatively low.

3.22. Now that the proposed structure has been discussed the next section provides further definitions for the various land types included in each category. The definitions presented in the next section are based on the definitions provided in SNA 1993/ESA 1995 and SEEA 2012, although in many cases definitions are adapted and further specified in detail in order to capture all important aspects for measuring purposes.

Definitions

3.23. Land and its components are defined as follows.

Land

Land (as an economic asset) consists of the ground, including the soil covering it and any associated surface waters, over which ownership rights are enforced and from which economic benefits can be derived by their owners by holding, using, or allowing others to use them.

The value of land excludes any buildings or other structures situated on it or running through it; cultivated crops, trees and animals; mineral and energy resources; non-cultivated biological resources and water resources below the ground. The associated surface water includes any inland waters (reservoirs, lakes, rivers, etc.) over which ownership rights can be exercised and which can, therefore, be the subject of transactions between institutional units. However, water bodies from which water is regularly extracted against payment, for use in production (including for irrigation) are not included in water associated with land but in water resources (SNA 2008 paragraph 10.175, ESA 2010 Annex 7.1). Water resources are non-produced non-financial assets but are included in another sub-category of natural resources. If it is not possible to separate the value of the water resource from the associated land, the whole should be allocated to the category representing the greater part of the total value (SNA 2008 paragraph 10.184).

1. Land underlying buildings and structures

Land on which dwellings, non-residential buildings and structures are constructed or into which their foundations are dug, including yards and gardens deemed an integral part of farm and non-farm dwellings and their corresponding access roads. Land underlying buildings and structures also includes land underlying public or private transport infrastructure like highways, streets, roads, railways and airfield runways; bridges, elevated highways, tunnels and subways and waterways. Building land on which construction of (farm) dwellings, non-residential buildings or structures takes place or for which such construction activities are planned, are included in this category as well ⁽⁶⁾.

1.1 Land underlying dwellings

Land on which dwellings are constructed or into which their foundations are dug, including yards and gardens deemed an integral part of farm and non-farm dwellings and access roads to farm dwellings. Building land on which construction of dwellings takes place or for which such construction activities are planned, are included in this category as well.

1.2 Land underlying other buildings and structures

Land on which non-residential buildings and structures are constructed or into which their foundations are dug, including land underlying public or private transport infrastructure like highways, streets, roads, railways and airfield runways; bridges, elevated highways, tunnels and subways and water ways. Building land on which construction of non-residential buildings or structures takes place or for which such construction activities are planned, are included in this category as well.

2. Land under cultivation

Land under cultivation encompasses agricultural land, forestry land, and surface water used for aquaculture as defined below. Cultivation is defined as fostering the growth of something (plants, trees, animals) through human intervention. Not included in this category is land underlying farm dwellings, farm buildings or other corresponding structures because, if possible, this should be included in land underlying buildings and structures.

⁽⁶⁾ Construction land according to land registers or zoning plans should be categorised in 'land underlying buildings and structures' regardless of actual planning and/or building activities taking place. If such information is not available, countries may use building permissions as a criterion. However, institutional frameworks as well as data availability may differ significantly between countries; therefore, countries should handle this issue depending on their individual context.

2.1 Agricultural land

The total of land under temporary or permanent crops, meadows and pastures as well as land with temporary fallow; this category includes tilled and fallow land, and naturally grown permanent meadows and pastures used for grazing, animal feeding or agricultural purpose.

2.2 Forestry land

Land used for forestry. It does not include the forest itself, only the underlying land. Land that is predominantly used for agricultural purposes or urban use is also excluded.

2.3 Surface water used for aquaculture

Surface water used for aquaculture facilities and fish farming activities. Aquaculture refers to the farming of aquatic organisms: fish, molluscs, crustaceans, aquatic plants, crocodiles, alligators, turtles, and amphibians. Farming implies some form of intervention in the rearing process to enhance production, such as regular stocking, feeding, protection from predators, etc.

3. Recreational land and associated surface water

Land that is used as privately owned amenity land, parklands and pleasure grounds and publicly owned parks and recreational areas, together with associated surface water (ESA 1995/SNA 1993).

4. Other land and associated surface water

All land within the asset boundary not elsewhere classified. Also included in this category are surface waters not captured by the other categories (e.g. rivers).

Borderline cases

3.24. As source data differ significantly between the countries, borderline cases may arise in which it is unclear how areas should be allocated within the proposed classification of land. Overall it has to be stated, that estimates of land should fit the proposed classification as adequately as possible. However, if this is not possible it is recommended to apply the SNA 2008/ESA 2010 principle to register the combined value under the more valuable asset as was discussed in paragraph 2.14. If an NSI cannot determine which asset is the most valuable then the main land use principle can be used as a proxy.

3.25. The main land use principle refers to the area measures for a specific land use type on a respective plot of land. It implies that plots of land that cannot be accurately measured or distinguished are classified to the type of land

that is regarded as the main use of the area. For instance, land underlying farm dwellings or land underlying farm buildings like barns, stalls, etc. ideally should be separated from the rest of the farm land and assigned to the category land underlying dwellings or land underlying other buildings and structures, respectively, instead of assigning it to agricultural land. However, if this separation is not possible, it should be assigned to the more valuable asset or, lacking that information, the main use of the total area of which the plot is part of, in this case most likely agricultural land.

3.26. Another borderline case arises when a particular building has a mixed-use. For example, there may be stores in the first few levels and flats in the upper levels of a building. According to the proposed definition, part of the building plot should be assigned to land underlying other buildings and structures (commercial use) and the other part to land underlying dwellings (residential use). The value of the part of the building for commercial or residential use may be used to allocate the value of the underlying land to the separate categories. As such detailed data may not be available in most countries, the respective building plot may be categorised according to its main use (i.e. square metres of commercial use relative to residential use).

3.27. Another example is national parks since the value of each part of the combined asset is probably difficult to determine. National parks may be classified as forestry land if there is human intervention in fostering the growth of the trees such as planting and/or deliberate seeding. If the trees are not cultivated or if certain plots in the national park are covered by moor or wetlands then these areas should not be considered as forestry land. Only parts of national parks that consist of forestry can be classified as such, but distinguishing such areas may be very hard in practice. Once again the main land use approach has to be applied: if a separation of the particular areas is not possible, they should be assigned to the main land use of the national park; that is, to other land if it is primarily for environmental conservation or if it is primarily used for recreational purposes to recreational land.

3.28. Finally, the category surface water used for aquaculture should only contain surface water, not buildings and structures that are typically built on land situated next to it. If countries are able to separate the area covered by surface water and the corresponding land area, they should assign these areas to the different categories. However, if a separation cannot be conducted, the whole area should be assigned to the category of its main use. This procedure should be applied to similar issues, but only if a separation poses major difficulties or is even impossible.

3.29. The category other land should only be used if the assignment to another category is not possible to conduct, given the fact that the observed type of land is within the asset boundary.

Case studies

Case study classification: Korea

In Korea, land is currently classified into 28 categories according to the Act on land survey, waterway survey and

cadastral records. For the purposes of international comparison and compiling national balance sheets, the 28 categories are reclassified into the proposed classification of this compilation guide 1) land underlying dwellings, 2) land underlying other buildings and structures, 3) agricultural land, 4) forestry land, 5) surface water used for aquaculture, 6) recreational land, and 7) other land, as shown in column 2 of Table 3.4.

Table 3.4: Korea's land category by use and its reclassification according to the new classification

Proposed classification of this compilation guide	Reclassification of domestic land categories according to this compilation guide
Land underlying buildings	Building site, factory site, school site, parking lot, gas station site, warehouse site (Land underlying dwellings and land underlying other buildings are separately estimated in the later stage based on secondary sources or current state of land use information)
Land underlying other structures	Road, railroad site, bank, ditch, water supply site
Agricultural land	Dry paddy field, paddy field, orchard, pasture, saltern
Forestry land	Forestry
Surface water used for aquaculture	Fish farm
Recreational land	Park, gymnastics site, recreation site, religion site, historic site, mineral spring site
Other land	Rivers, marsh, burial, miscellaneous area

Source: Bank of Korea; TF on Land and other non-financial assets

Table 3.5 shows the result of the reclassification according to the new classification. Land underlying buildings and structures occupies 9.0 % of total land area while land under cultivation, recreational land and other land occupy 85.1 %,

0.5 % and 5.4 %, respectively. Among land under cultivation, agricultural land and forestry land, the two largest land types in terms of area, cover 20.8 % and 64.2 % of total land, respectively.

Table 3.5: Reclassification of land according to the new classification as of 2011 (km²)

Land classification	Total (%)	Ownership				
		Government	Natural person	Judicial person	Clan, religious body, village community	Others
Total land	100 148 [100]	31 980	53 009	6 431	8 313	416
Land underlying buildings and other structures	9 039 [9.0]	5 026	2 638	1 272	88	14
Land underlying buildings	3 978 [4.0]	443	2 433	1 013	78	10
Land underlying dwellings	These two classifications are estimated based on secondary sources or current state of use information					
Land underlying other buildings						
Land underlying other structures	5 061 [5.1]	4 583	205	259	10	4
Land under cultivation	85 203 [85.1]	22 493	49 831	4 330	8 160	388
Agricultural land	20 848 [20.8]	1 419	17 919	879	531	100
Forestry land	64 337 [64.2]	21 073	31 898	3 448	7 629	289
Surface water used for aquaculture	18 [0.0]	1	15	2	0	0
Recreational land	505 [0.5]	198	23	260	23	0
Other land	5 402 [5.4]	4 262	516	569	41	13

(%) Figures in [] indicate a share of each land category in total land area as of 2011.

Source: Bank of Korea; research TF on Land and other non-financial assets

It should be kept in mind that land underlying dwellings and land underlying other buildings are not separated at this stage. Mixed-use areas are a potential source for problems in assigning the land to the corresponding category. It might be very difficult for the countries to separate buildings by type from the underlying land, since information on this might not be available. In order to compile a complete set of land valuation, a distinction between these two

classifications should be implemented to ensure accuracy in the classification process. Therefore, a potential solution is to review the current state of use to try to determine land underlying dwellings and then to calculate land underlying other buildings as a residual. Another issue related to land underlying buildings and structures is that in Korea, sometimes land is classified as a building site but there are no buildings, either dwellings or other buildings, on it. This

land is included in the relevant land underlying buildings or structures, anyway. This is in accordance with the recommended treatment in this compilation guide that includes building land within the land underlying buildings and structures category.

Case study classification: Germany

Statistics on area size are decentralised in Germany. The Statistical Offices of the federal states receive annual data about the area measures of the respective year from the associated land surveying offices. As an outcome annual datasets containing information about area measures are available and transmitted to the Federal Statistical Office. Combining the datasets of all 16 federal states of Germany leads to a comprehensive dataset for the whole territory of Germany on a reference date. The published statistic based on these data is called Statistic of areas of actual type of use (SAAU). This statistic is available for the whole territory of Germany, subdivided by federal states⁽¹⁷⁾ and, if necessary, subdivided by rural districts or communities⁽¹⁸⁾. Since 2009 the SAAU is published annually⁽¹⁹⁾.

In Germany, a directory of land uses exists encompassing 300 different land use types. This high number of land use types is consolidated into 60 categories. Area data for 60 land use categories are not available for the whole territory of Germany, since only a few federal states collect such detailed data. To do justice to this issue it was decided, that all involved offices would have to commit themselves to publish data at least on the level of ten main categories and their corresponding sub-categories⁽²⁰⁾ to provide consistent data for Germany. These ten main categories and their corresponding sub-categories are available for all parts of Germany and represent the database for the country. Table 3.6 provides an overview of the area measures for Germany separated by the available main and sub-categories as provided by the SAAU for 2011 and 2012.

Table 3.6: Area of Germany 2011-2012 (km²)

Land use category	Area of Germany	
	2011	2012
Land underlying (LU) buildings	24 676	24 797
LU dwellings	12 168	12 259
Industrial land	3 296	3 315
Plant area (without exploitation area)	858	883
Recreational land	4 083	4 148
Park	2 751	2 799
Cemetery	361	364
Traffic area	17 993	18 032
Street, way, place	15 743	15 754
Agricultural area	186 771	186 465
Moor	922	915
Heath	653	645
Wooded area	107 814	107 970
Surface water	8 576	8 634
Exploitation area	1 623	1 581
Other land	4 382	4 294
Wasteland	3 234	3 197
Built up and traffic area	47 971	48 225
Germany	357 138	357 169

Source: Statistisches Bundesamt, 2013; TF on Land and other non-financial assets

Nevertheless, for the valuation of land an even higher level of disaggregation is used to ensure that price differences between different land use types are adequately captured. For this purpose, a classification approach is developed for the valuation of land based on the aforementioned 60 categories, which encompasses all main categories that are needed for an adequate estimation. Since comprehensive data are only available for the categories as provided by the SAAU various estimation methods are applied to derive the area measures for each desired sub-category.

For the purposes of international comparison and compiling national balance sheets the categories of the SAAU and their corresponding sub-categories are reclassified into the proposed classification of this guide: 1) land underlying dwellings, 2) land underlying other buildings and structures, 3) agricultural land, 4) forestry land, 5) surface water used for aquaculture, 6) recreational land, and 7) other land. Table 3.7 illustrates how the categories are mapped into the categories used in the proposed classification. Taking into account that only land within the asset boundary should be valued, wasteland should be excluded when valuing the area of Germany.

⁽¹⁷⁾ Statistisches Bundesamt, 'Bodenfläche nach Art der tatsächlichen Nutzung 2012', 2013. Available at https://www.destatis.de/DE/Publikationen/Thematisch/LandForstwirtschaft/Flaechennutzung/BodenflaechennutzungPDF__2030510.pdf?__blob=publicationFile

⁽¹⁸⁾ Statistische Ämter des Bundes und der Länder, 'Flächenerhebung nach Art der tatsächlichen Nutzung', 2014. Available at <https://www.regionalstatistik.de/genesis/online/datajsessionid=7CF340610B535A4419F81F43E1979AB?operation=statistikAbrufTabellen&levelindex=0&levelid=1418309225229&index=2>

⁽¹⁹⁾ Statistisches Bundesamt, 'Flächenerhebung nach Art der tatsächlichen Nutzung', 2013, p.3 Available at https://www.destatis.de/DE/Publikationen/Qualitaetsberichte/LandForstwirtschaft/Flaechenerhebung.pdf?__blob=publicationFile

⁽²⁰⁾ Statistisches Bundesamt, 'Flächenerhebung nach Art der tatsächlichen Nutzung', 2013, p.18. Available at https://www.destatis.de/DE/Publikationen/Qualitaetsberichte/LandForstwirtschaft/Flaechenerhebung.pdf?__blob=publicationFile

Table 3.7: Categories as provided by the Statistic of areas of actual type of use (SAAU) and their assignment to the categories of the minimal classification

Main categories of the minimal classification	Subcategories of the minimal classification	Subcategories	
Land underlying buildings and structures	Land underlying dwellings	Land underlying dwellings	Mixed use with dwellings
	Land underlying other buildings and structures	Industrial area, Land underlying buildings (LuB) for public purposes, LuB for commercial and service purposes, LuB for public supply, LuB for traffic purposes, LuB for recreational purposes, LuB for agricultural and forestry purposes, LuB not elsewhere classified, heap, plant area for public supply, plant area not elsewhere classified, traffic area, cemetery	
Land under cultivation	Agricultural land	Moor, heath, farmland, greenland, agricultural land not elsewhere classified	
	Forestry land	Wooded area	
	Surface water used for aquaculture		
Recreational land		Park, recreational area not elsewhere classified	
Other land		Other land (not captured by wasteland), exploitation area, surface water	

Source: TF on Land and other non-financial assets

Table 3.8 presents area measures for Germany for 2011 and 2012 according to the proposed minimal classification. Because detailed data on the area measure for surface water used for aquaculture are currently not available in Germany, this category is not shown.

Table 3.8: Area of Germany according to the minimal classification, 2011–2012 (km²)

Land use category	Area of Germany	
	2011	2012
1. Land underlying buildings and structures	43 886	44 075
1.1 Land underlying dwellings	12 909	13 002
1.2 Land underlying other buildings and structures	30 977	31 073
2. Land under cultivation	294 514	294 364
2.1 Agricultural land	186 722	186 416
2.2 Forestry land	107 792	107 948
3. Recreational land	4 083	4 149
4. Other land	11 356	11 303
Total	353 840	353 891

Source: Statistisches Bundesamt, 2013a; TF on Land and other non-financial assets



From:
Eurostat-OECD Compilation guide on land estimations

Access the complete publication at:
<https://doi.org/10.1787/9789264235175-en>

Please cite this chapter as:

OECD/Eurostat (2015), “Classification of land”, in *Eurostat-OECD Compilation guide on land estimations*, Eurostat, Luxembourg.

DOI: <https://doi.org/10.1787/9789264235175-4-en>

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