Country fact sheet

Land cover 2012





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European Environment Agency

Land cover 2012

Overview of land cover & change 2006-2012

With a mean annual land cover change rate of 0.5%, the overall dynamics of the land cover development in Hungary is very high, compared to other European countries. The situation was similar in the past - in both periods 1990-2000 and 2000-2006, a comparable level of change dynamics had been observed.

Not only the intensity, but also the structure of changes is similar with the previous periods. The landscape development in the country is driven by internal conversions of forested and agricultural land and also by the withdrawal of farming, with mostly arable land consumption. This situation is mirrored in the net change rates for particular land cover types, with prevailing consumption of arable land and formation of forested areas.

Compared to these conversions of natural and agricultural land, the intensity of artificial sprawl is significantly lower. The annual artificial land take rate of 0.29% of initial artificial area, which is slightly below the European average, is comparable with the period 1990-2000, however, almost twice as low as in the period 2000-2006. Slowdown of construction, mineral extraction sites extension and also of residential sprawl has been observed in Hungary, which leads to this overall decrease of the artificial development intensity.

Note: The results presented here are based on a change analysis of 44 land cover types mapped consistently on a 1:100.000 scale across Europe over more than decade between 2000-2006-2012 - see Corine land cover (CLC) programme for details

Number of years between CLC2006-CLC2012 data for Hungary: 6



CORINE Land Cover types - 2012











Artificial areas

Semi-natural vegetation

Arable land & permanent crops Pastures & mosaics □ Open spaces/ bare soils Wetlands



Water bodies

	Artificial areas	Arable land & permanent crops	Pastures & mosaics	Forested land	Semi-natural vegetation	Open spaces/ bare soils	Wetlands	Water bodies	TOTAL [hundreds ha]
Land cover 2006	5683	50354	11270	20655	2274	27	850	1711	92823
Consumption of initial LC	88.5	1072.6	258.2	1281.9	6.7	0.0	3.1	7.5	2718
Formation of new LC	162.5	421.9	337.5	1776.4	0.5	0.0	0.7	19.0	2718
Net Formation of LC	74.0	-650.7	79.3	494.5	-6.1	0.0	-2.4	11.5	0
Net formation as % of initial year	1.3	-1.3	0.7	2.4	-0.3	0.0	-0.3	0.7	
Total turnover of LC	251.0	1494.5	595.7	3058.3	7.2	0.0	3.8	26.6	5437
Total turnover as % of initial year	4.4	3.0	5.3	14.8	0.3	0.0	0.4	1.6	5.9
Land cover 2012	5757	49704	11349	21150	2267	27	847	1722	92823

Summary balance table 2006-2012



Land cover trends comparison 2000-2006 vs. 2006-2012

Annual land cover change as % of initial year

Land uptake by artificial development as mean annual change [ha/year]

Forest & other woodland net formation as mean annual change [ha/year]

Dry semi-natural land cover net formation as mean annual change [ha/year]

Agricultural land uptake by urban and infrastructures development as mean annual change [ha/year]

Net conversion from pasture to arable land and permanent crops as mean annual change [ha/year]

Net uptake of forests and semi-natural land by agriculture as mean annual change [ha/year]



0.49%

1627

1706

-8154

-2116

8241

-102

0.46%

2650

2824

-7278

1119

7305

-251



Artificial surfaces sprawl (2006-2012)

Sprawl slows down after culmination in 2000-2006

In comparison with other European countries, the pace of Hungarian sprawl is slightly below average. The rate of artificial land take in Hungary gets significantly lower, comparing with the previous period. On the other hand, its intensity is comparable with the period 1990-2000, which shows that the sprawl culminated in previous period and is getting slower again. Concerning its structure, land take is still driven by highway network construction, extension of mines, quarries and dumpsites and also by formation of commercial/industrial areas. Residential sprawl is not very significant and it occurs mainly around the capital city. Also in general, most of the sprawl is concentrated in the surroundings of the capital city of Budapest. The construction of the highway, which connects Budapest with the southern part of the country, continues. There can be also observed construction of new highway segments in the north-eastern region and south-western from Balaton lake. The overall slowdown of sprawl is accompanied by increased recycling of urban land, in particular conversion of former construction sites into residential, commercial/industrial land and transportation units. This is a typical situation which indicates that there was rapid artificial development in the past, which does not continue with the same intensity presently.







Agriculture (2006-2012)



Shift from arable to pasture and natural land

Covering more than half of the total area of the country, agricultural land in particular arable land is an important economic source in Hungary. The arable land shows negative net change balance, with prevailing consumption, mostly via withdrawal of farming with woodland creation and also by sprawl of economic sites and infrastructures. In general, there occurs an obvious trend of agricultural land extensification, including conversion from arable to pasture or natural land. A significant decrease of pasture area, which could be observed in the previous period, has been stopped and pastures show positive net change balance in the period 2006-2012. The main reason is the increase of internal pasture extension from arable or cropland. There also occurs extensive withdrawal of farming with woodland creation (represented mostly by abandonment of arable land with transitional woodland or shrub creation), especially in the central, south-western and north-eastern parts of the country. The internal agricultural conversions are the second most powerful driver of land cover development in Hungary. Extension of pasture, set aside and fallow land dominates over opposite conversion from pasture to arable land, which is a different trend compared to previous period, when changes in both directions were of comparable intensity, with slight predominance of the second one.

3000

-3000

-6000

-9000

Non-irrigated arable land

Permanently irrigated land

fields

Rice

Vineyards

0



4.12. Agricultural areas 2012

4.13. Development of agricultural areas 2006-2012 – detailed balance [ha]



4.14. Mean annual agricultural change by class [ha/year]

groves

Olive c

Pastures

Annual/ permanent crops

Complex cult patterns

Fruit trees and berry plantations 2000-2006

2006-2012

Agriculture with nat. veg. Agro-forestry areas



212 Permanently irrigated land

- 213 Rice fields
- 221 Vineyards
- 222 Fruit trees and berry plantations
- 223 Olive groves
- 231 Pastures
- 241 Annual crops associated with permanent crops
- 242 Complex cultivation patterns

243 Agriculture land with

significant areas of natural vegetation

Forest & nature (2006-2012)



Withdrawal of farming with woodland creation continues

Beside the forest internal exchange, which is the most extensive land cover flow in this country, with prevailing recent felling and transition, the afforestation plays an important role in the Hungarian land cover development. A frequent transitional woodland and shrub land creation over former, mostly arable land, is a typical conversion in the last two decades in Hungary. This transition had been visible already in the period 1990-2000 and is steadily getting stronger. The result of this development is the extensive formation of transitional woodland and shrub area, especially in the central, south-western and north-eastern parts of the country. This withdrawal of farming with woodland creation is obviously the main driver of the land cover types exchange in the Hungarian landscape. Concerning the spatial distribution of this phenomenon throughout time, the pattern is similar to the previous period, with significantly higher frequency in the south-western part of the country.



Annex: Land cover flows and trends

Land cover flows 2006-2012



6.20. Drivers of change (LC FLOWS) 2006-2012 [% of total change area]



- Icf1 Urban land management
- Icf2 Urban residential sprawl
- Icf3 Sprawl of economic sites and infrastructures
- Icf4 Agriculture internal conversions
- Icf5 Conversion from forested & natural land to agriculture
- □ lcf6 Withdrawal of farming
- Icf7 Forests creation and management
- Icf8 Water bodies creation and management
- Icf9 Changes due to natural and multiple causes

Artificial areas



7.23. Net formation of artificial area [ha/year, % of initial year]



7.22. Formation by artificial land take





7.24. Artificial development by change drivers (LC FLOWS) [ha/year]



Agriculture

8.25. LC consumed by agriculture 2006-2012 [% of total]



8.27. Consumption of agricultural land by non-agriculture 2006-2012 [% of total]



8.29. Main annual conversions between agriculture and forests & semi-natural land



8.26. Formation of agricultural land from non-agriculture 2006-2012 [% of total]



8.28. Formation of non-agricultural land from agriculture 2006-2012 [% of total]







9.31. Mean annual agriculture internal

conversions [ha/year]

0

2000

4000

-8500

-5500

-2500



9.32. Mean annual conversions between agriculture and other LC types [ha/year]













10.36. Formation of non-forest/nature land from forest & nature 2006-2012 [% of total]









11.43. Mean annual conversions of forest & other woodland [ha/year]



Icf3 Sprawl of economic sites and infrastructures Icf511 Intensive conversion from forest to agriculture Icf512 Diffuse conversion from forest to agriculture Icf61 Withdrawal of farming with woodland creation

lcf13 Development of green urban areas

lcf2 Urban residential sprawl

lcf71 Conversion from transitional woodland to forest (cons.)

lcf71 Conversion from transitional woodland to forest (form.)

Icf72 Forest creation, afforestation

lcf73 Forests internal conversions (cons.)

lcf73 Forests internal conversions (form.)

lcf74 Recent felling and transition (cons.)

lcf74 Recent felling and transition (form.)

Icf8 Water bodies creation and management

lcf9 Changes of land cover due to natural and multiple causes (cons.)

Icf9 Changes of land cover due to natural and multiple causes (form.)



12.44. Mean annual conversions of dry semi-natural LC [ha/year]













