

# Luxembourg

## Land cover 2006

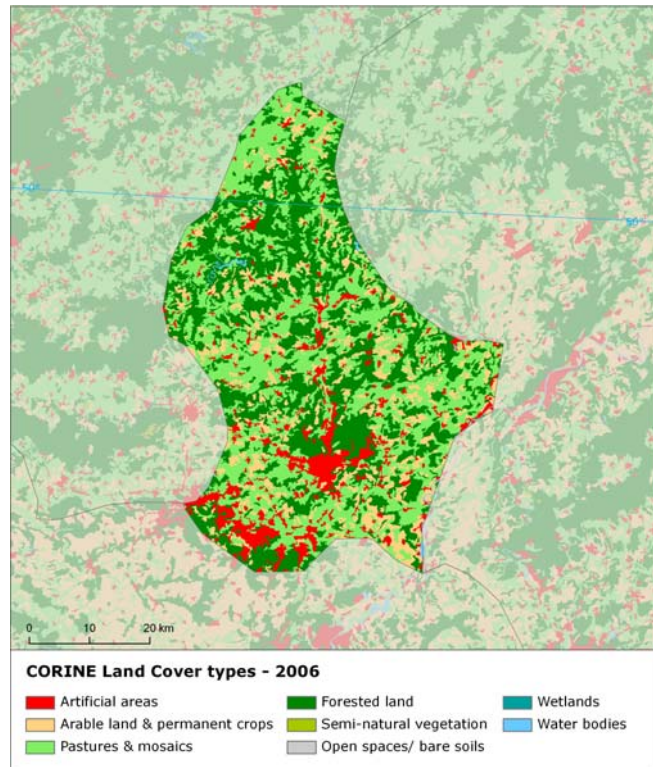
### Overview of land cover & change 2000-2006

The situation in Luxembourg during this period is characterized by overall increase of landscape dynamic. It is caused mainly by rapid acceleration of forest development, compared to the previous period 1990-2000. However, this acceleration is caused by increase of intensity of forest internal conversion from transitional woodland to forest, which almost did not occur in the previous period.

Artificial surfaces still have positive net change balance, however, the intensity of artificial land take rapidly decreased from 0,74% to 0,28% per year. Overall turnover of artificial areas is driven also by recycling of developed areas and by consumption of land through afforestation on former dump sites.

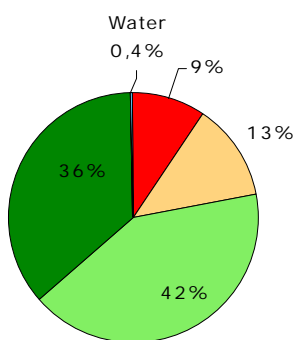
Development of agricultural surfaces is characterized by prevailing consumption of pastures and mosaics in favour of arable land, which is a completely opposite trend compared to the previous period, when net change balance of arable land was negative.

Change areas are scattered over whole Luxembourg, however, their density is significantly higher in the southern (more populated) part of the country.

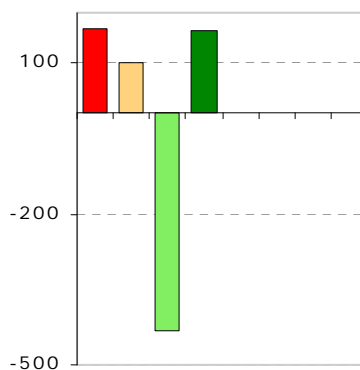


Note: The results presented here are based on a change analysis of 44 land cover types mapped consistently on a 1:100.000 scale across Europe over almost two decades 1990-2006 - see Corine land cover (CLC) programme for details. Number of years between CLC2000-CLC2006 data for Luxembourg: 6

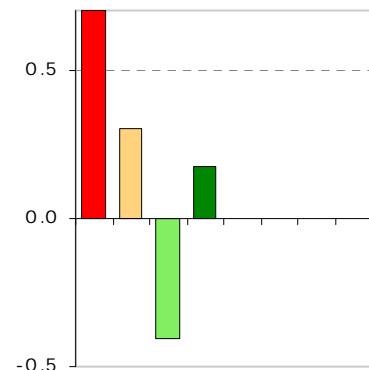
1.1. Land cover 2006 [% of total]



1.2. Net change in land cover 2000-2006 [ha]



1.3. Net change in land cover [% of initial year 2000]



- Artificial areas
- Arable land & permanent crops
- Pastures & mosaics
- Forested land
- Semi-natural vegetation
- Open spaces/ bare soils
- Wetlands
- Water bodies

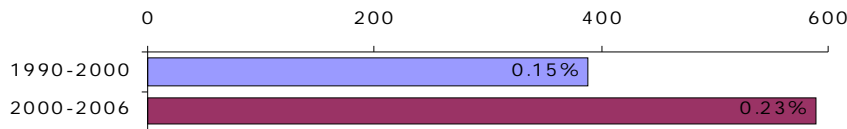
### Summary balance table 2000-2006

	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 2000	240	332	1073	939	0	0	0	10	2594
Consumption of initial LC	5	2	6	23	0	0	0	0	35
Formation of new LC	7	3	1	25	0	0	0	0	35
<b>Net Formation of LC</b>	<b>2</b>	<b>1</b>	<b>-4</b>	<b>2</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
Net formation as % of initial year	0.7	0.3	-0.4	0.2	#DIV/0!	#DIV/0!	#DIV/0!	0.0	
<b>Total turnover of LC</b>	<b>11</b>	<b>5</b>	<b>7</b>	<b>47</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>71</b>
Total turnover as % of initial year	4.7	1.4	0.7	5.1	#DIV/0!	#DIV/0!	#DIV/0!	0.0	2.7
Land cover 2006	242	333	1069	941	0	0	0	10	2594

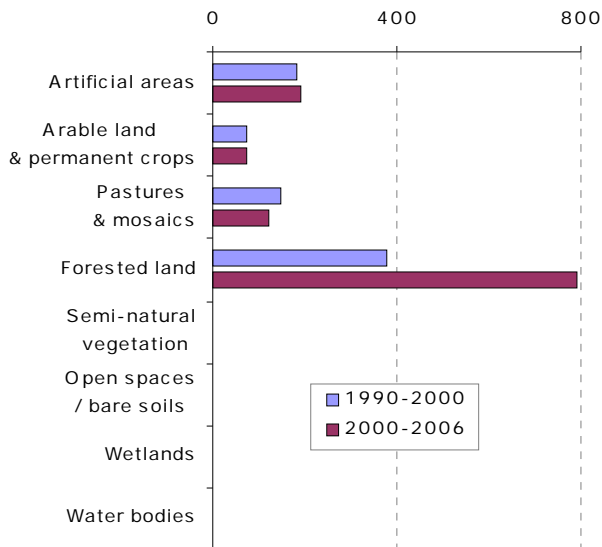
# Luxembourg

## Land cover trends comparison 1990-2000 vs. 2000-2006

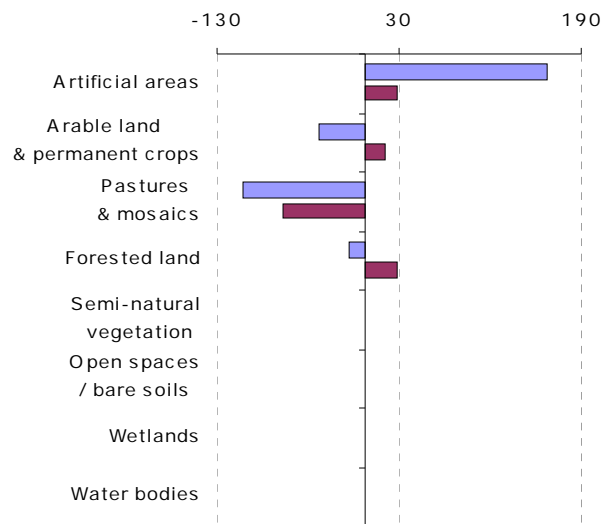
2.4. Annual land cover change  
[ha/year, % of total area]



2.5. Annual turnover of LC types  
[ha/year]

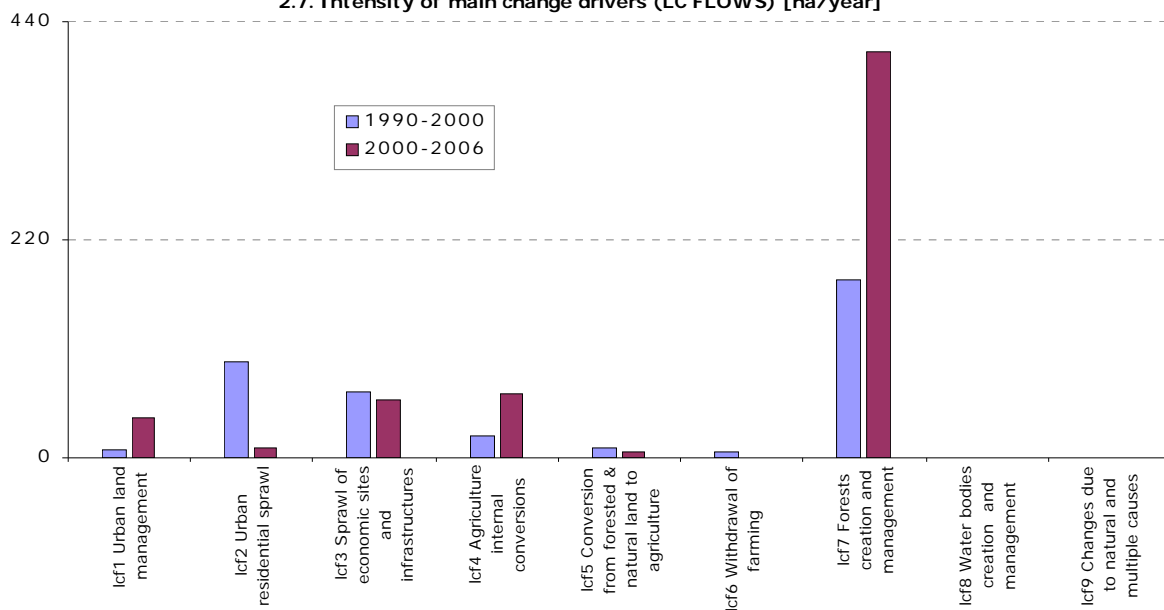


2.6. Net annual change of LC types [ha/year]



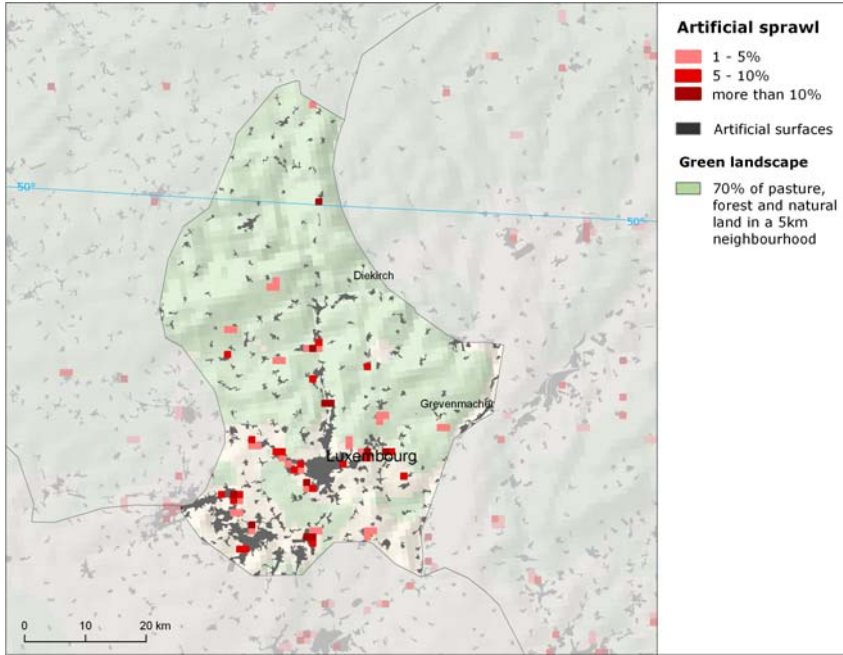
Summary trend figures		1990-2000	2000-2006
Annual land cover change [ha/year]		388	589
Annual land cover change as % of initial year		0.15%	0.23%
Land uptake by artificial development as mean annual change [ha/year]		165	68
Agricultural land uptake by urban and infrastructures development as mean annual change [ha/year]		154	61
Net uptake of forests and semi-natural land by agriculture as mean annual change [ha/year]		4	0
Net conversion from pasture to arable land and permanent crops as mean annual change [ha/year]		8	23
Forest & other woodland net formation as mean annual change [ha/year]		-13	28
Dry semi-natural land cover net formation as mean annual change [ha/year]		0	0
Wetlands & water bodies net formation as mean annual change [ha/year]		0	0

2.7. Intensity of main change drivers (LC FLOWS) [ha/year]

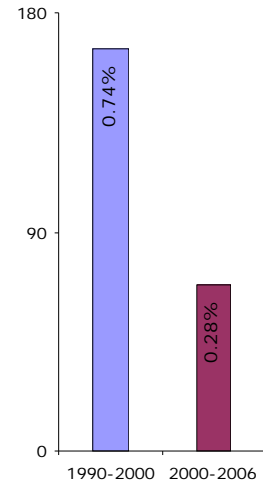


# Luxembourg

## Artificial areas



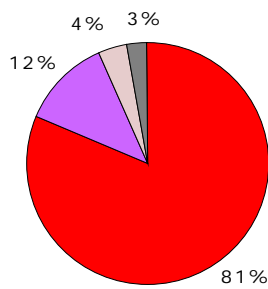
3.8. Artificial land take [ha/year, % of initial year]



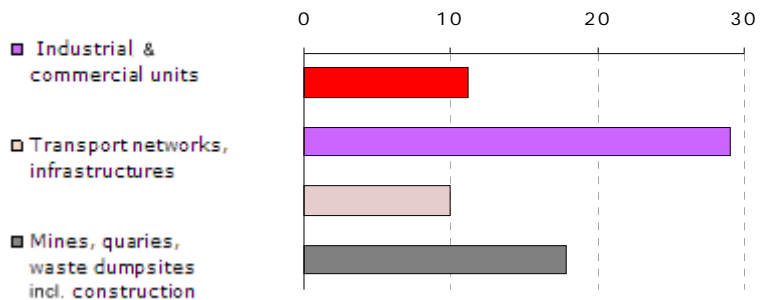
## Slow down of sprawl of housing and recreation facilities

During 2000-2006, the intensity of artificial land take decreased more than twice, compared to previous period. The main reason is significant slow down of residential sprawl and of sport and leisure facilities development. In contrast, industrial/commercial sprawl accelerated compared to the previous period and became the main driver of artificial land take, followed by construction. Artificial land take in Luxembourg occurs mostly at the expense of agricultural land with prevailing share of pastures. Besides the land take, recycling of developed urban land (represented by transformation of former construction sites mainly into residential areas), rapidly accelerated, and has significant share of the total artificial development. Decrease of net formation rate of artificial areas in the period 2000-2006 is caused also by increased restoration dumps, mines and construction sites by forest and agricultural land.

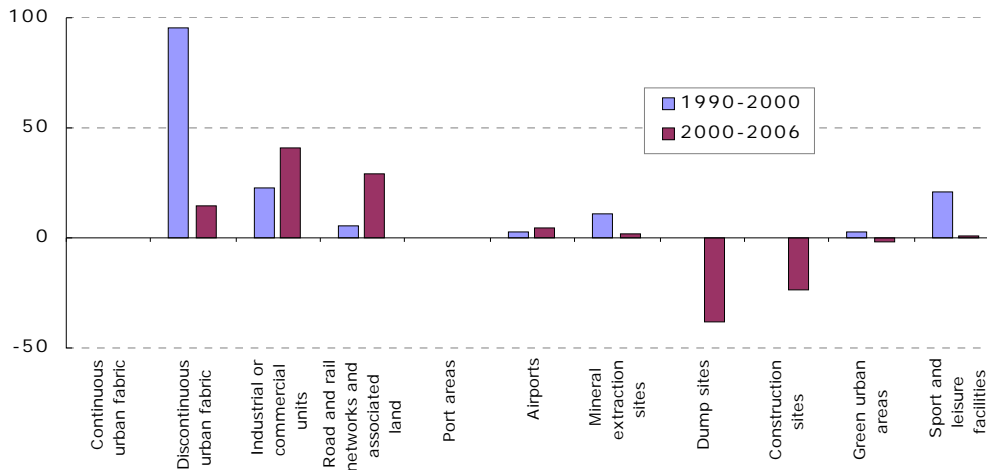
3.9. Artificial surfaces 2006 [% of total area]



3.10. Artificial land take 2000-2006 [ha/year]

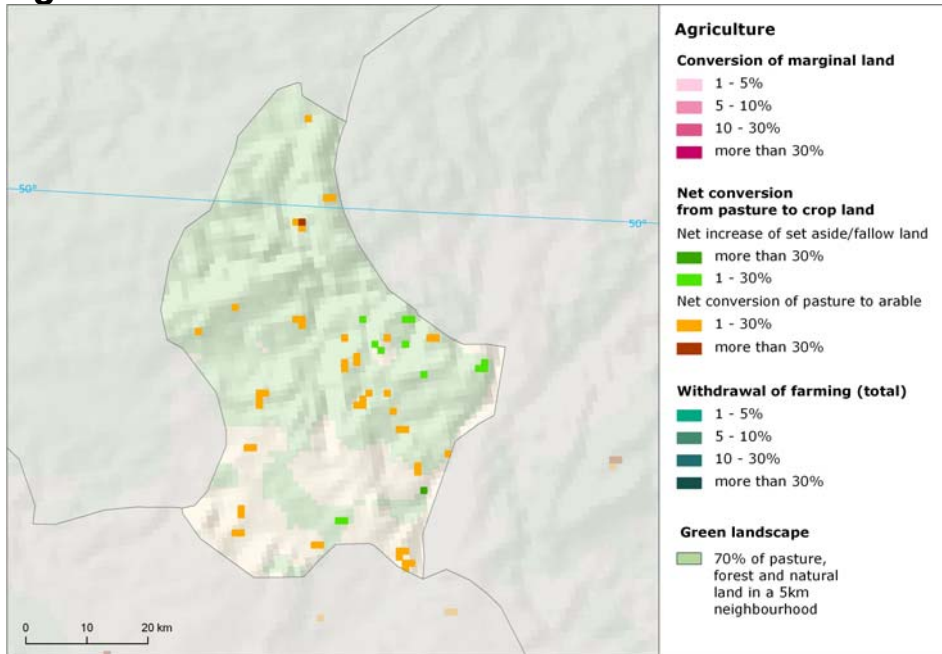


3.11. Mean annual artificial change by class [ha/year]



# Luxembourg

## Agriculture

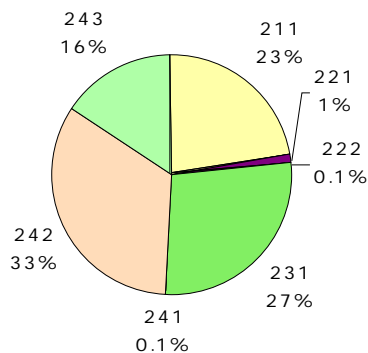


### Consumption of pasture, formation of arable land

Agricultural land in Luxembourg is composed of complex cultivation patterns, pastures, arable land and agricultural areas with significant amount of natural vegetation. The development of particular agricultural land cover classes has been characterized by prevailing consumption of pastures (which has been observed already during previous period and proceeds with increased intensity in the period 2000-2006) and formation of arable land (which is the opposite trend to the previous period).

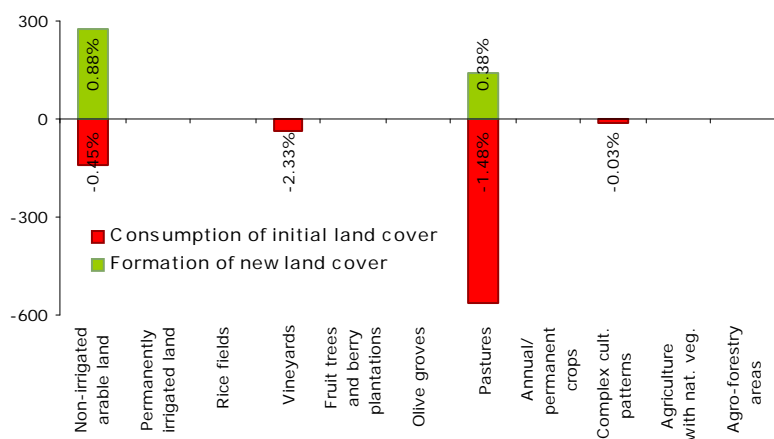
Intensity of internal agriculture conversions, with prevailing share of conversion from pasture to arable land, have been accelerated. In contrast, consumption of agricultural areas by artificial land take has been slowed down, reflecting decreased intensity of urban residential sprawl.

4.12. Agricultural areas 2006 [% of total area]

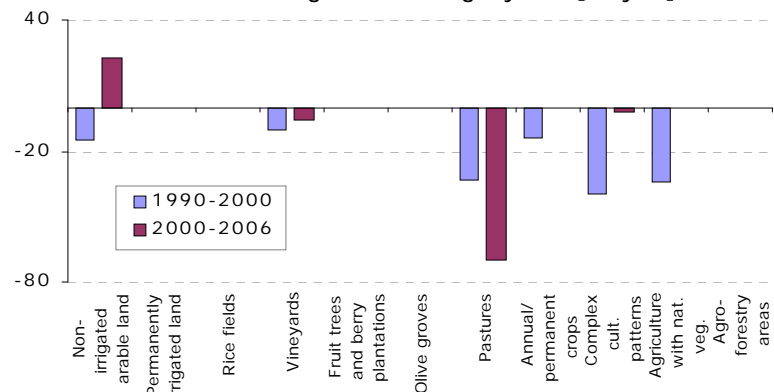


- 211 Non-irrigated arable land
- 212 Permanently irrigated land
- 213 Rice fields
- 221 Vineyards
- 222 Fruit trees and berry plantations
- 223 Olive groves
- 231 Pastures
- 241 Annual crops associated with permanent crops
- 242 Complex cultivation patterns
- 243 Agriculture land with significant areas of natural vegetation
- 244 Agro-forestry areas

4.13. Development of agricultural areas 2000-2006 – detailed balance [ha]

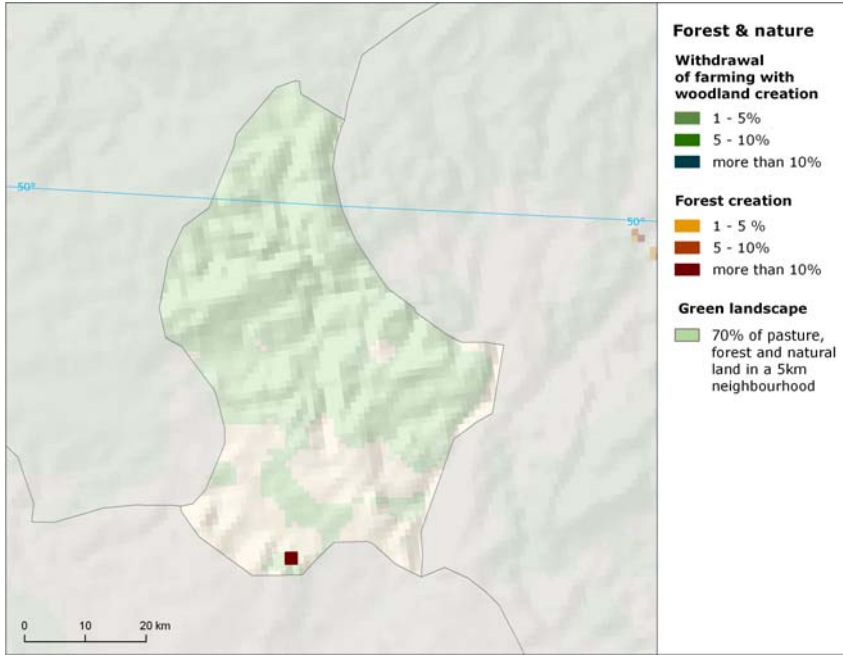


4.14. Mean annual agricultural change by class [ha/year]

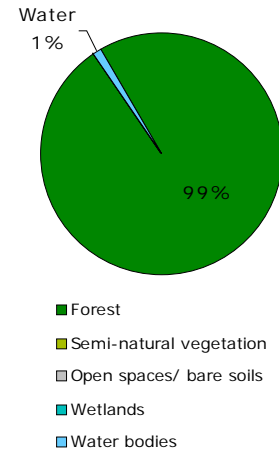


# Luxembourg

## Forest & nature



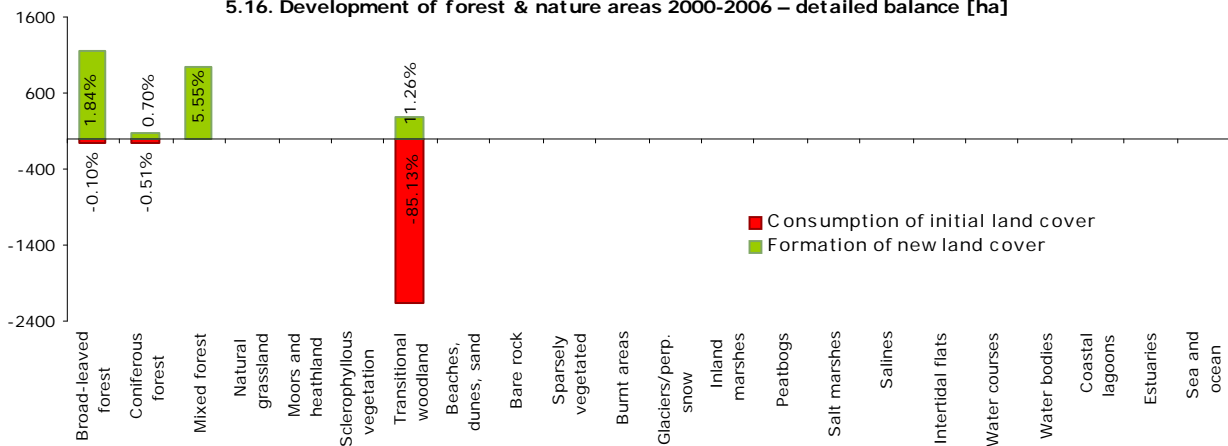
5.15. Forest & nature areas 2006 [% of total area]



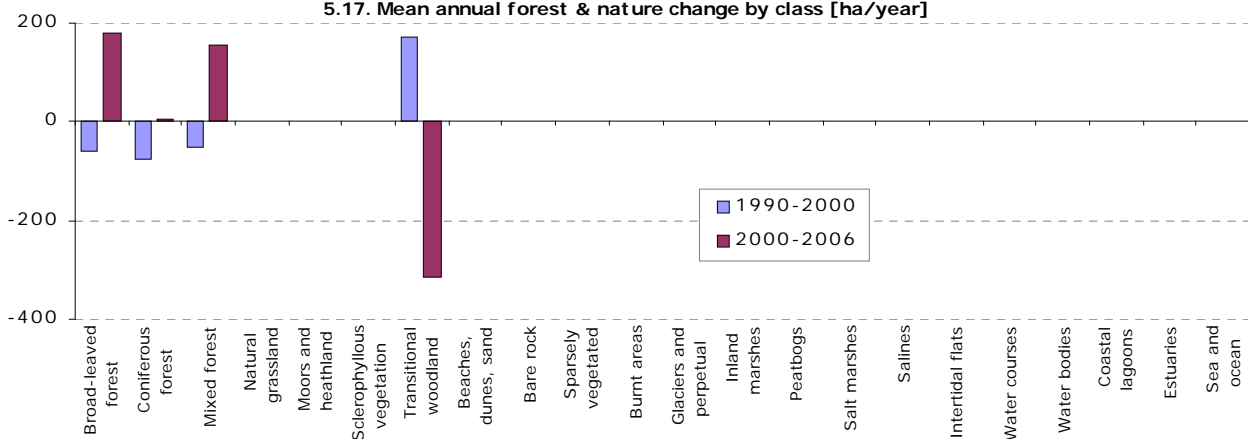
### Forest internal changes, airport creation in forested area

Natural landscape in Luxembourg is composed almost entirely of forested land, with prevailing share of broad-leaved forest. Most of the forest exchange has been caused by conversion from transitional woodland to forest. The only interaction of natural surfaces with other land cover types is consumption of forested land by economic/industrial sprawl (airport creation) and transitional woodland creation over dump site.

5.16. Development of forest & nature areas 2000-2006 – detailed balance [ha]



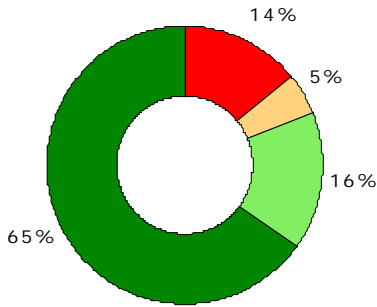
5.17. Mean annual forest & nature change by class [ha/year]



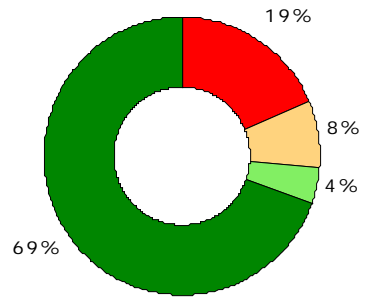
Annex: Land cover flows and trends

Land cover flows 2000-2006

6.18. Consumption of land cover 2000-2006 [% of total change area]

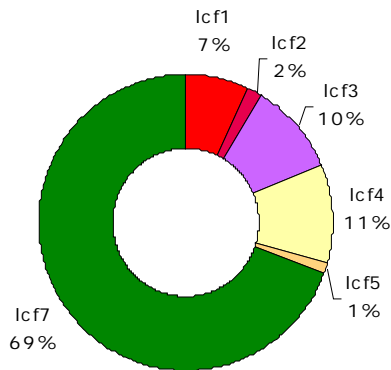


6.19. Formation of land cover 2000-2006 [% of total change area]



- Artificial areas
- Arable land & permanent crops
- Pastures & mosaics
- Forested land
- Semi-natural vegetation
- Open spaces / bare soils
- Wetlands
- Water bodies

6.20. Drivers of change (LC FLOWS) 2000-2006 [% of total change area]

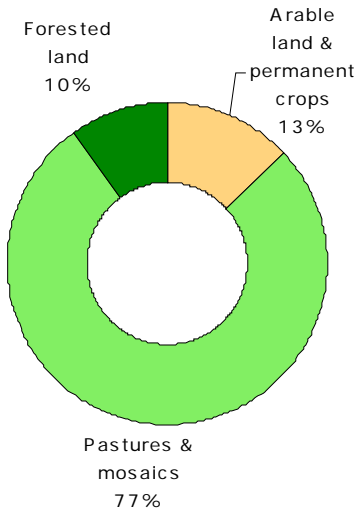


- Icf1 Urban land management
- Icf2 Urban residential sprawl
- Icf3 Sprawl of economic sites and infrastructures
- Icf4 Agriculture internal conversions
- Icf5 Conversion from forested & natural land to agriculture
- Icf6 Withdrawal of farming
- Icf7 Forests creation and management
- Icf8 Water bodies creation and management
- Icf9 Changes due to natural and multiple causes

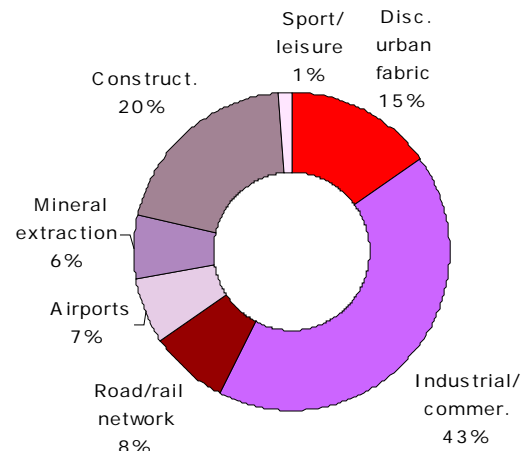
# Luxembourg

## Artificial areas

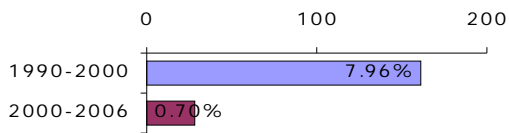
7.21. Consumption by artificial land take 2000-2006 [% of total]



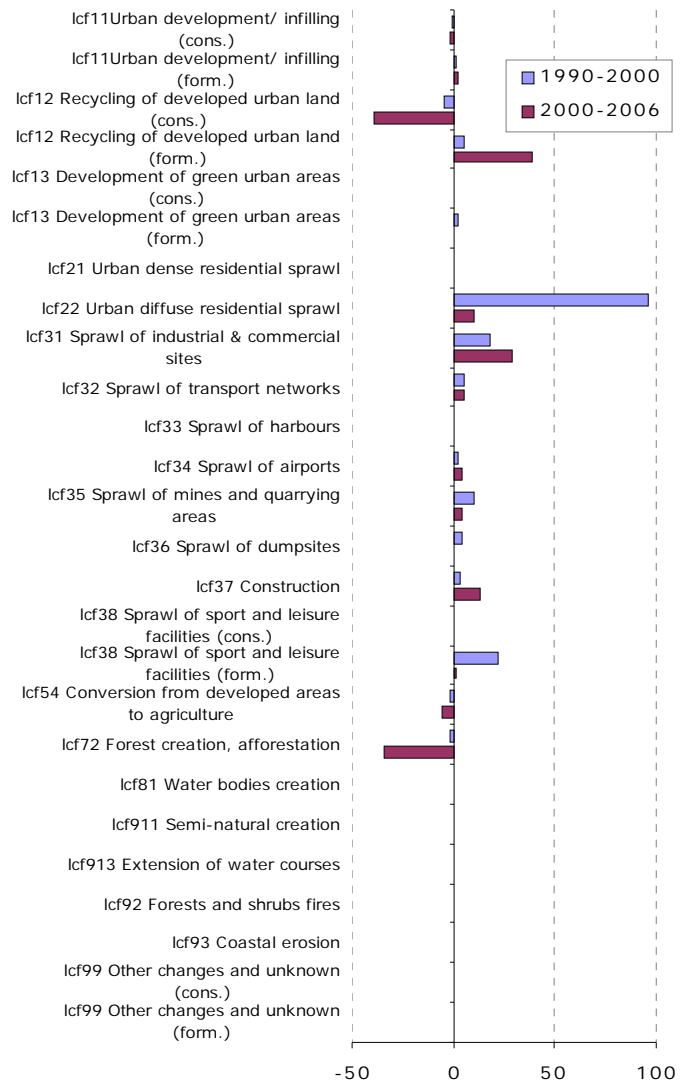
7.22. Formation by artificial land take 2000-2006 [% of total]



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



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

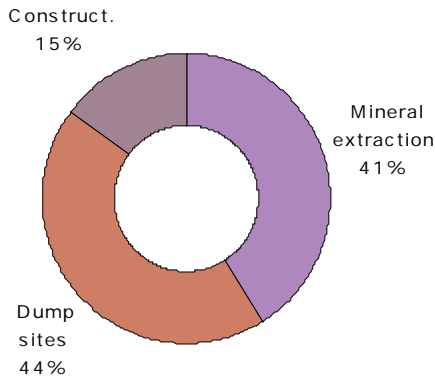




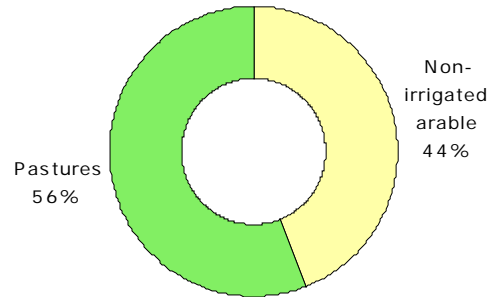
# Luxembourg

## Agriculture

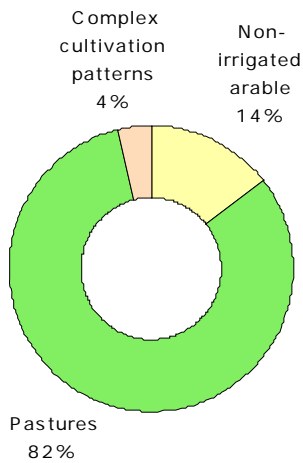
8.25. LC consumed by agriculture 2000-2006 [% of total]



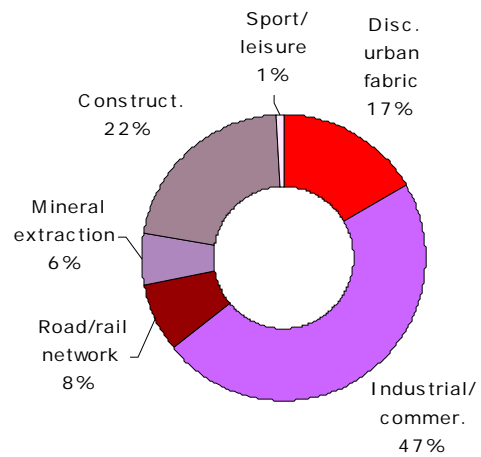
8.26. Formation of agricultural land from non-agriculture 2000-2006 [% of total]



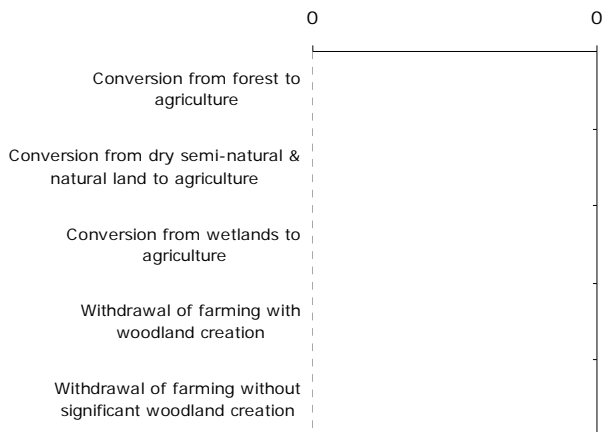
8.27. Consumption of agricultural land by non-agriculture 2000-2006 [% of total]



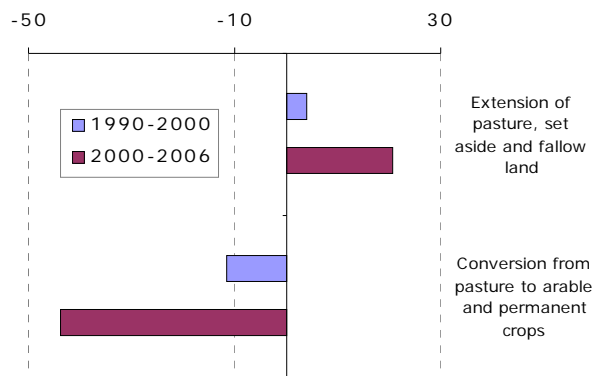
8.28. Formation of non-agricultural land from agriculture 2000-2006 [% of total]



8.29. Main annual conversions between agriculture and forests & semi-natural land 2000-2006 [ha/year]



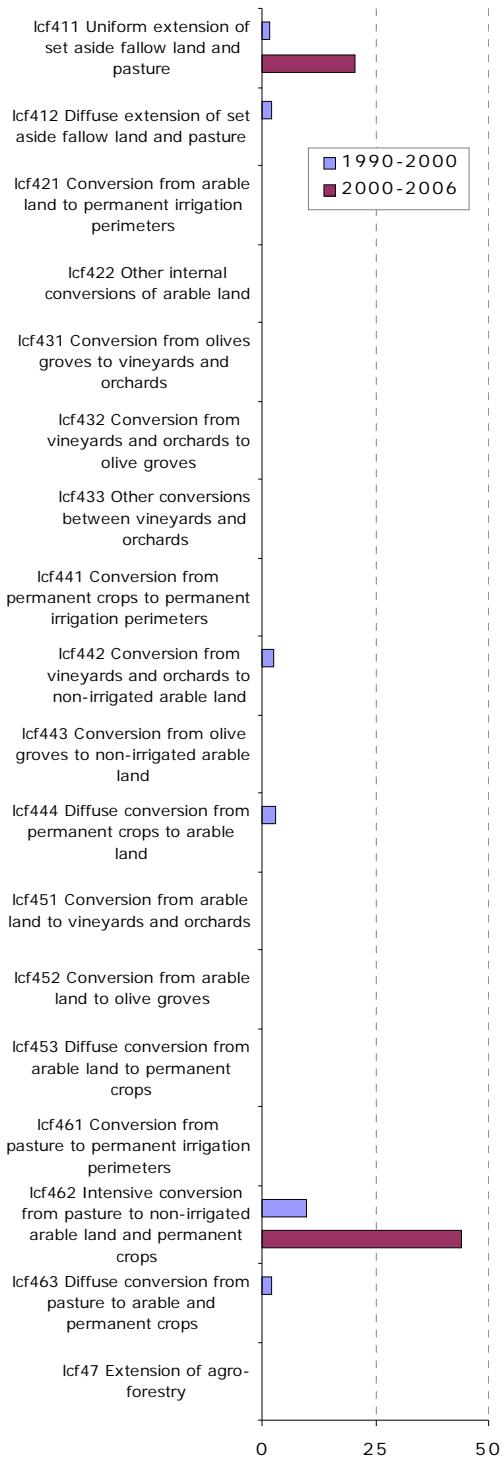
8.30. Mean annual conversion between arable land and pasture [ha/year]



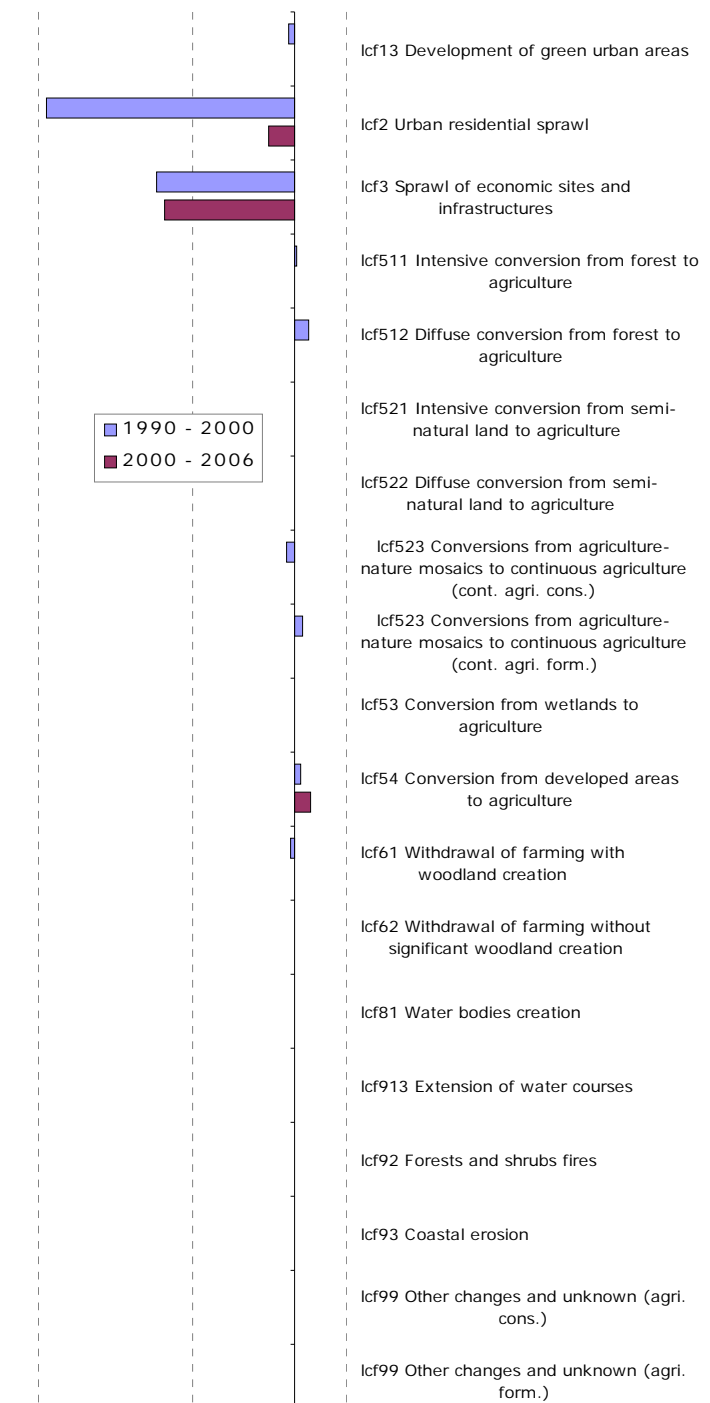


# Luxembourg

9.31. Mean annual agriculture internal conversions [ha/year]



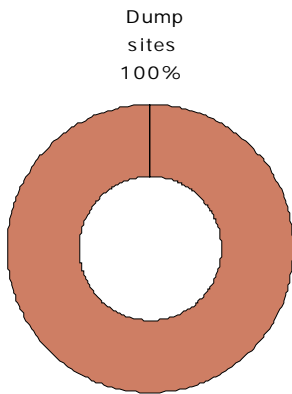
9.32. Mean annual conversions between agriculture and other LC types [ha/year]



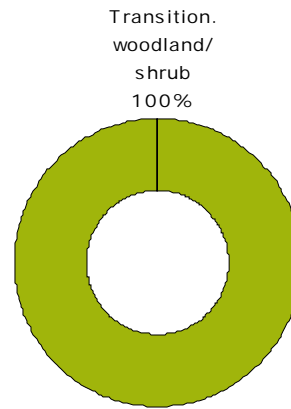
# Luxembourg

## Forest & nature

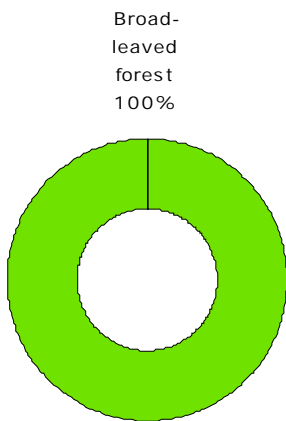
10.33. LC consumed by forest & nature 2000-2006 [% of total]



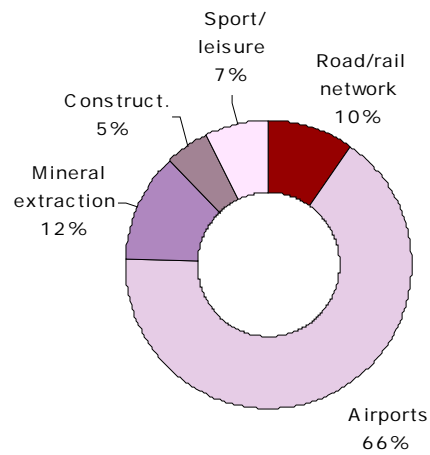
10.34. Formation of forest & nature land from non-forest /nature 2000-2006 [% of total]



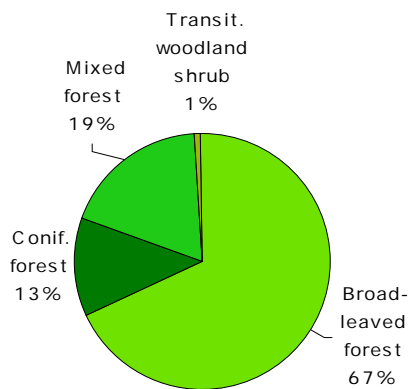
10.35. Consumption of forest & nature land by non-forest/nature 2000-2006 [% of total]



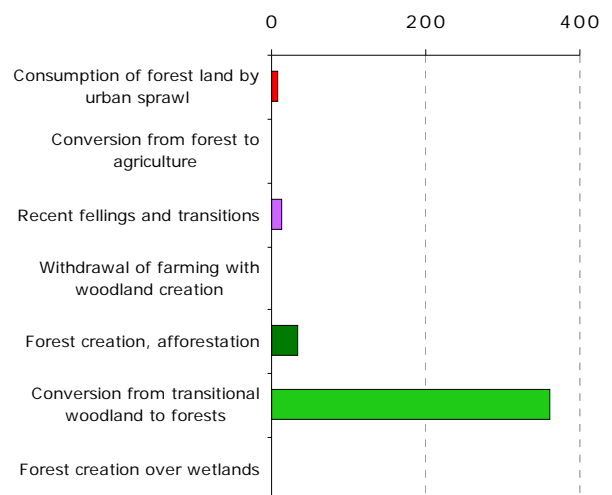
10.36. Formation of non-forest/nature land from forest & nature 2000-2006 [% of total]



10.37. Forested land 2006 [% of total area]



10.38. Main trends in woodland & forests consumption/formation 2000-2006 [ha/year]

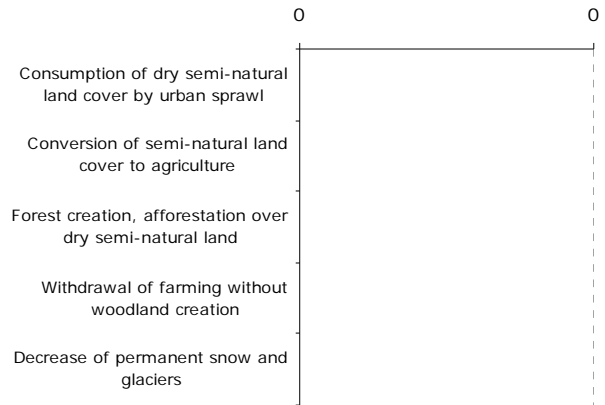


# Luxembourg

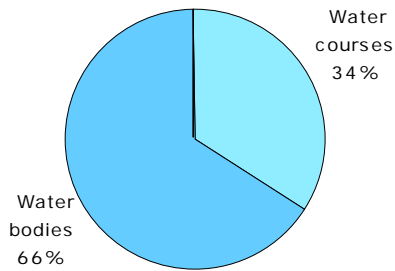
11.39. Dry semi-natural areas 2006  
[% of total area]



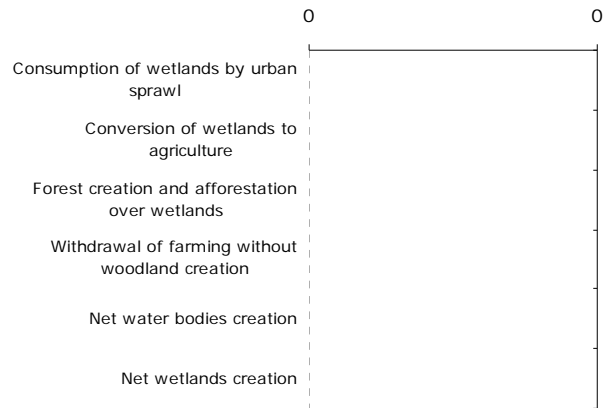
11.40. Main trends in dry semi-natural land consumption/formation 2000-2006 [ha/year]



11.41. Wetlands & water 2006  
[% of total area]



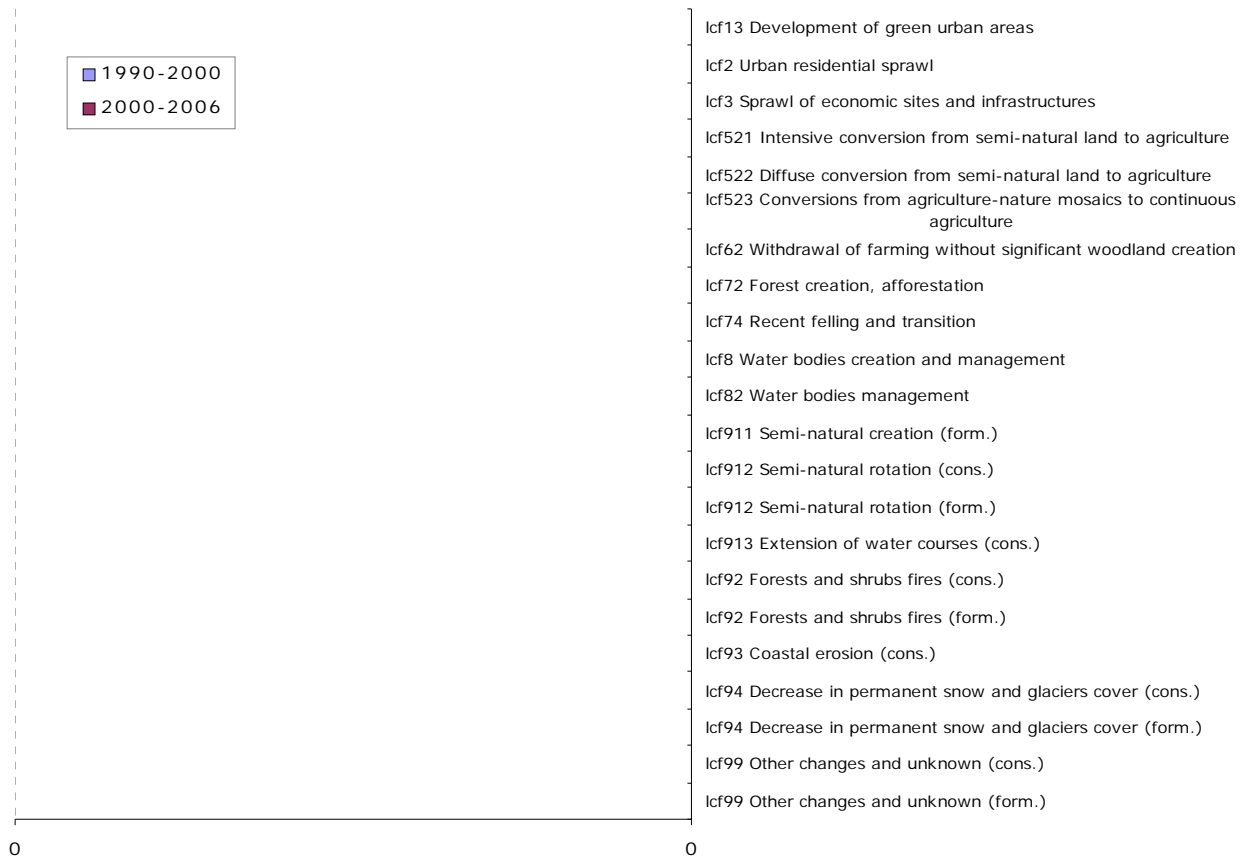
11.42. Main trends in wetlands & water consumption/formation 2000-2006 [ha/year]



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



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

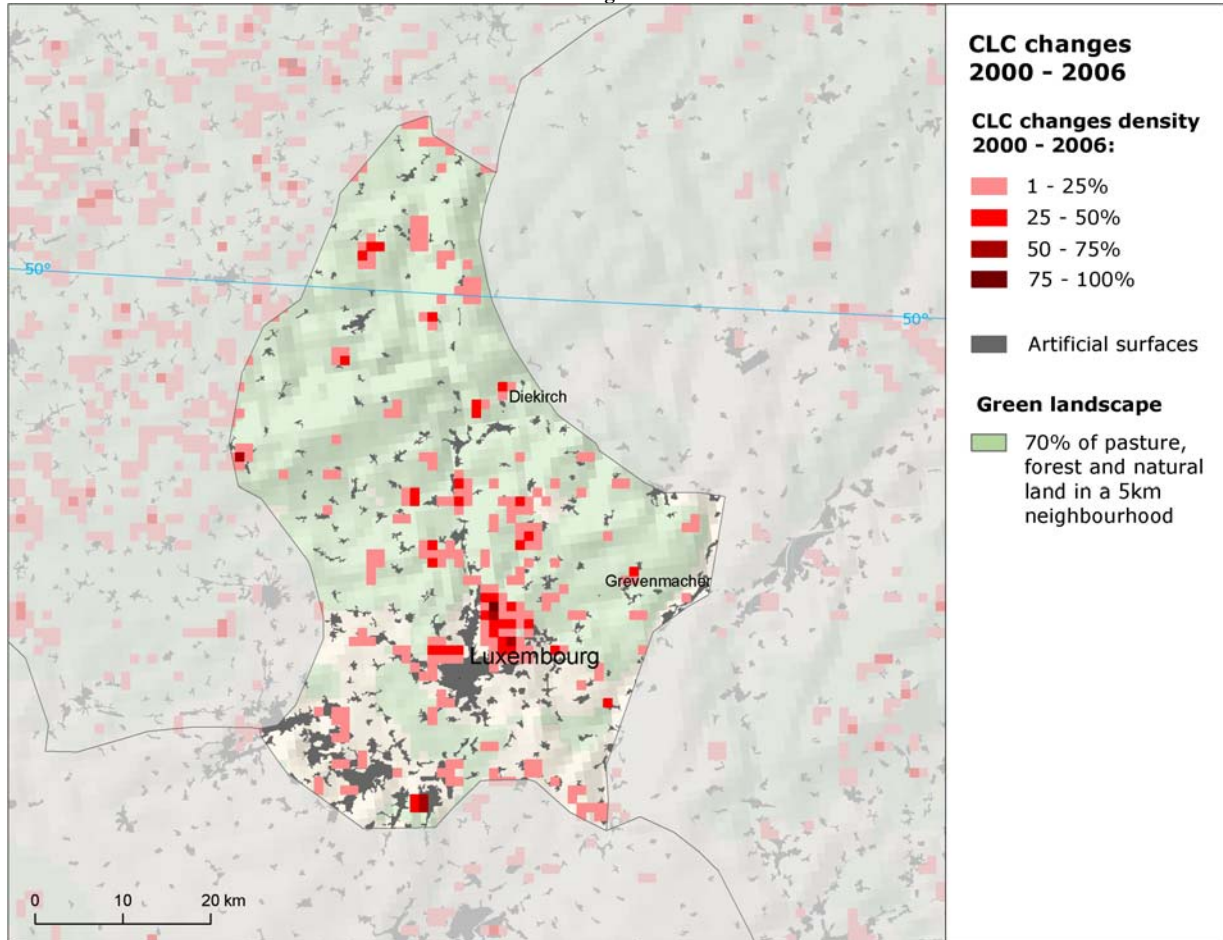


12.45. Mean annual conversions of wet lands and water LC [ha/year]

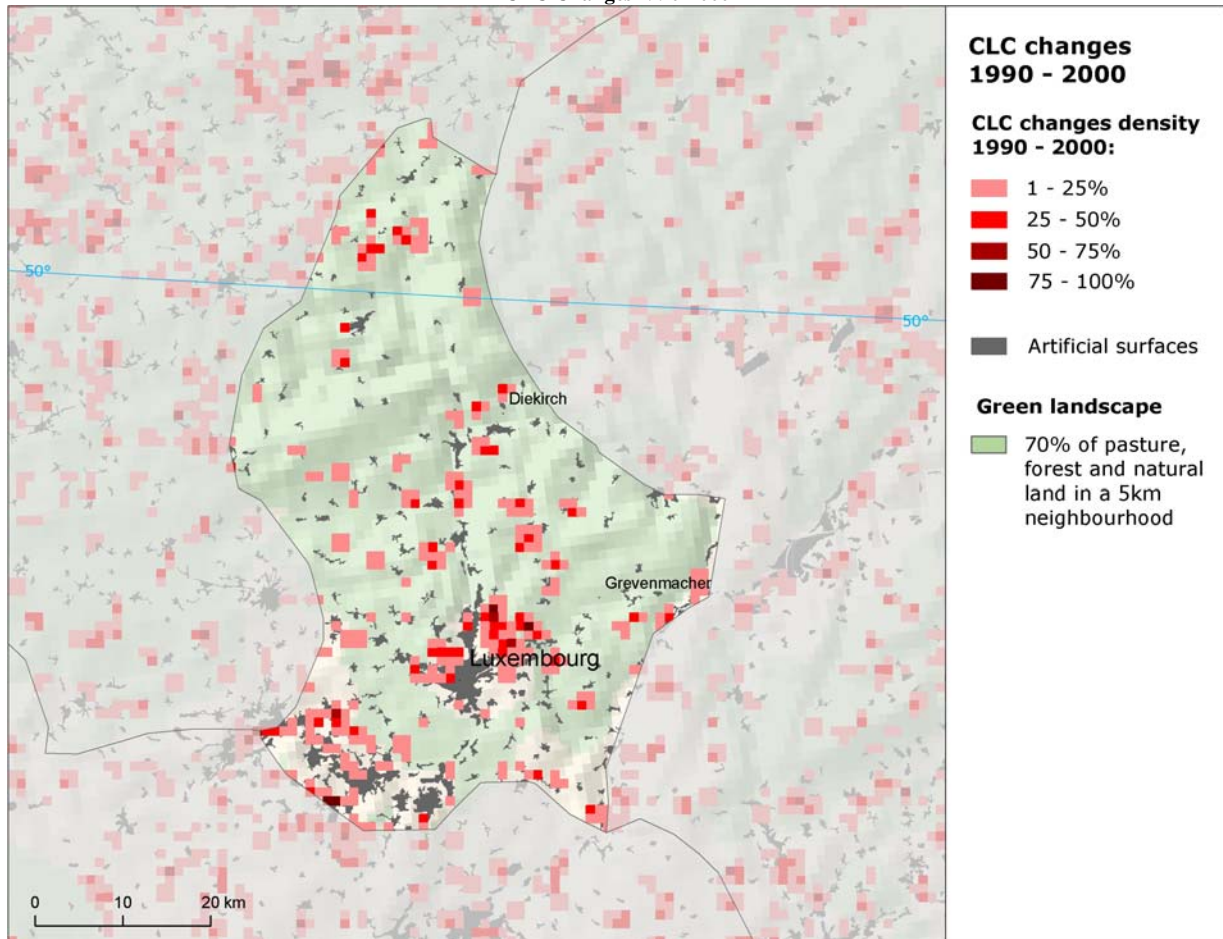


# Luxembourg

CLC Changes 2000-2006



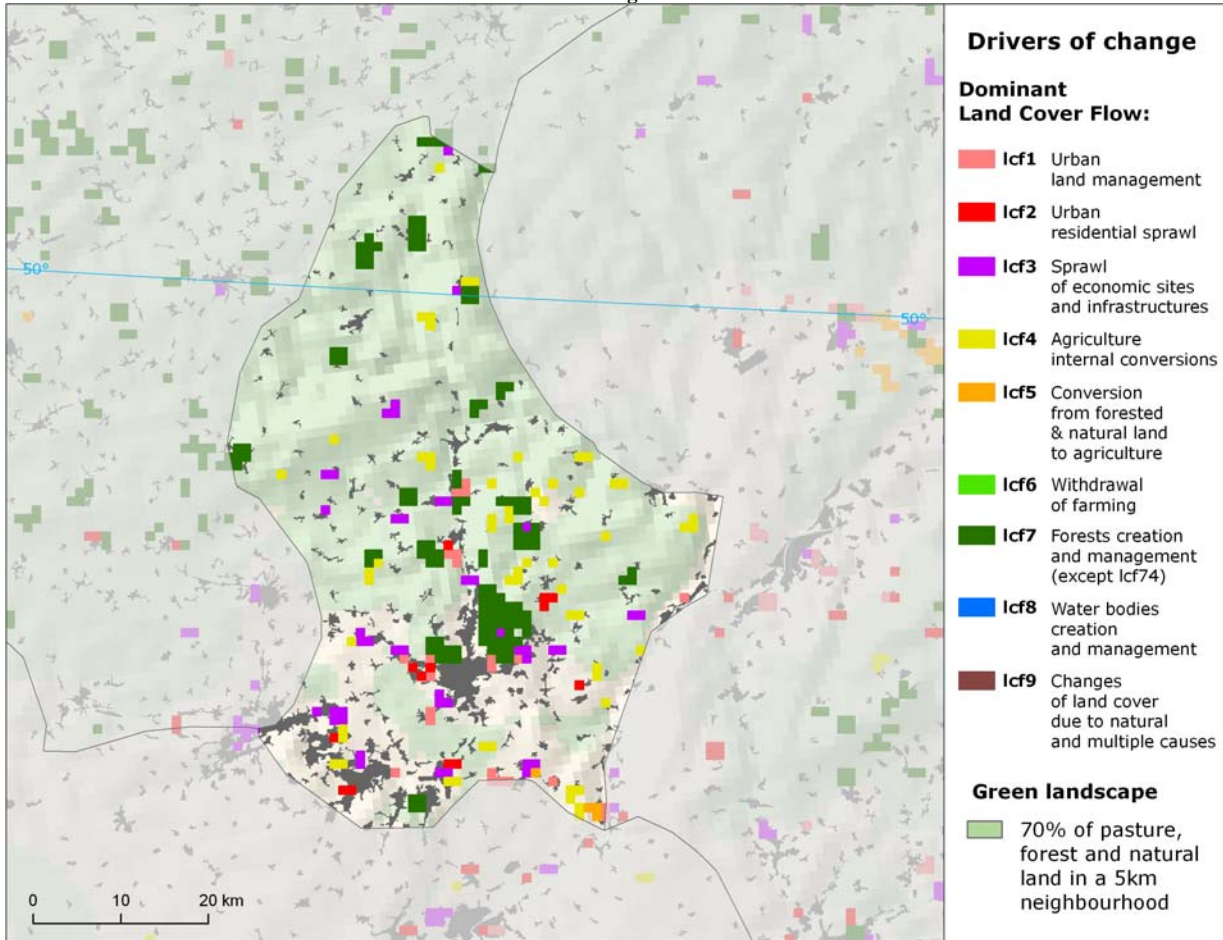
CLC Changes 1990-2000



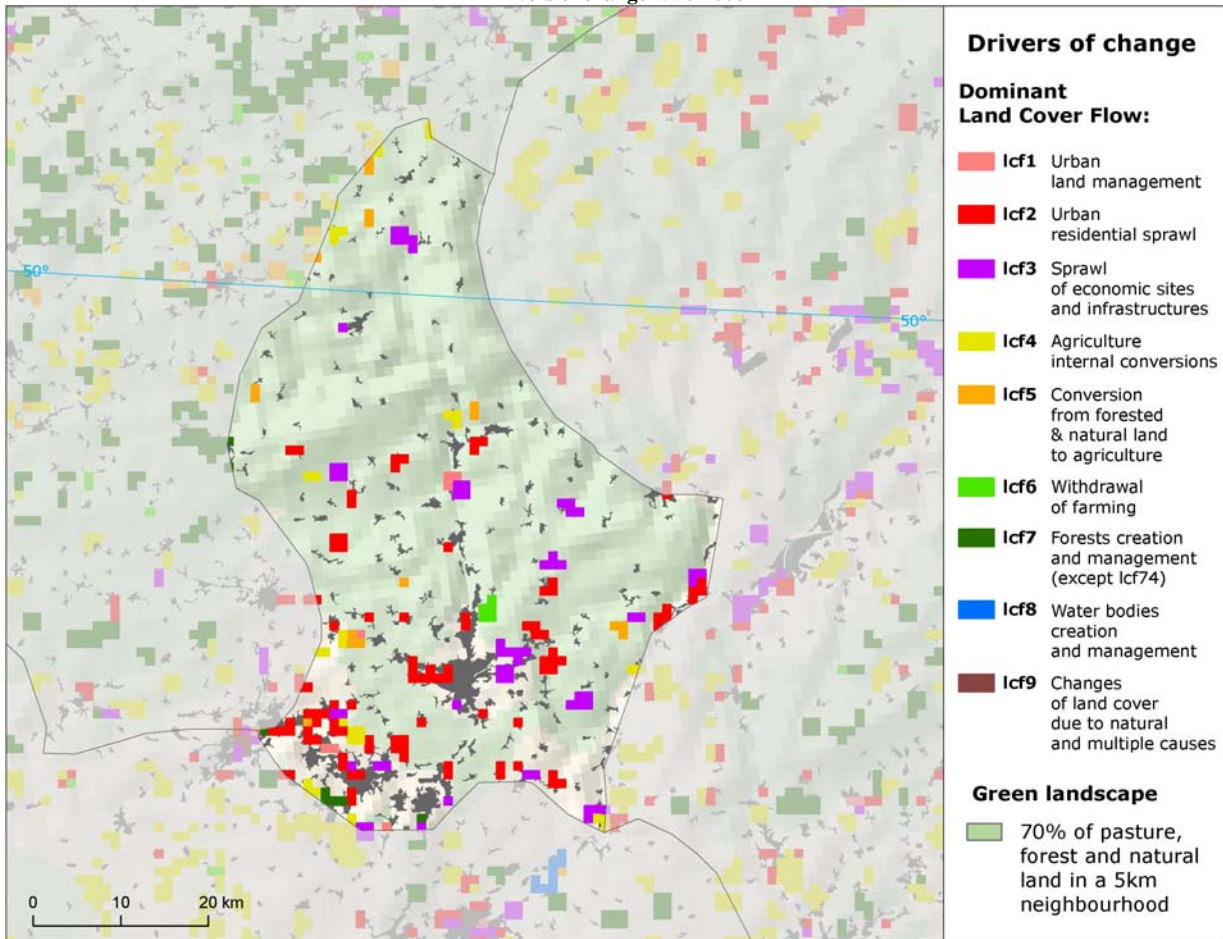


# Luxembourg

Drivers of change 2000-2006

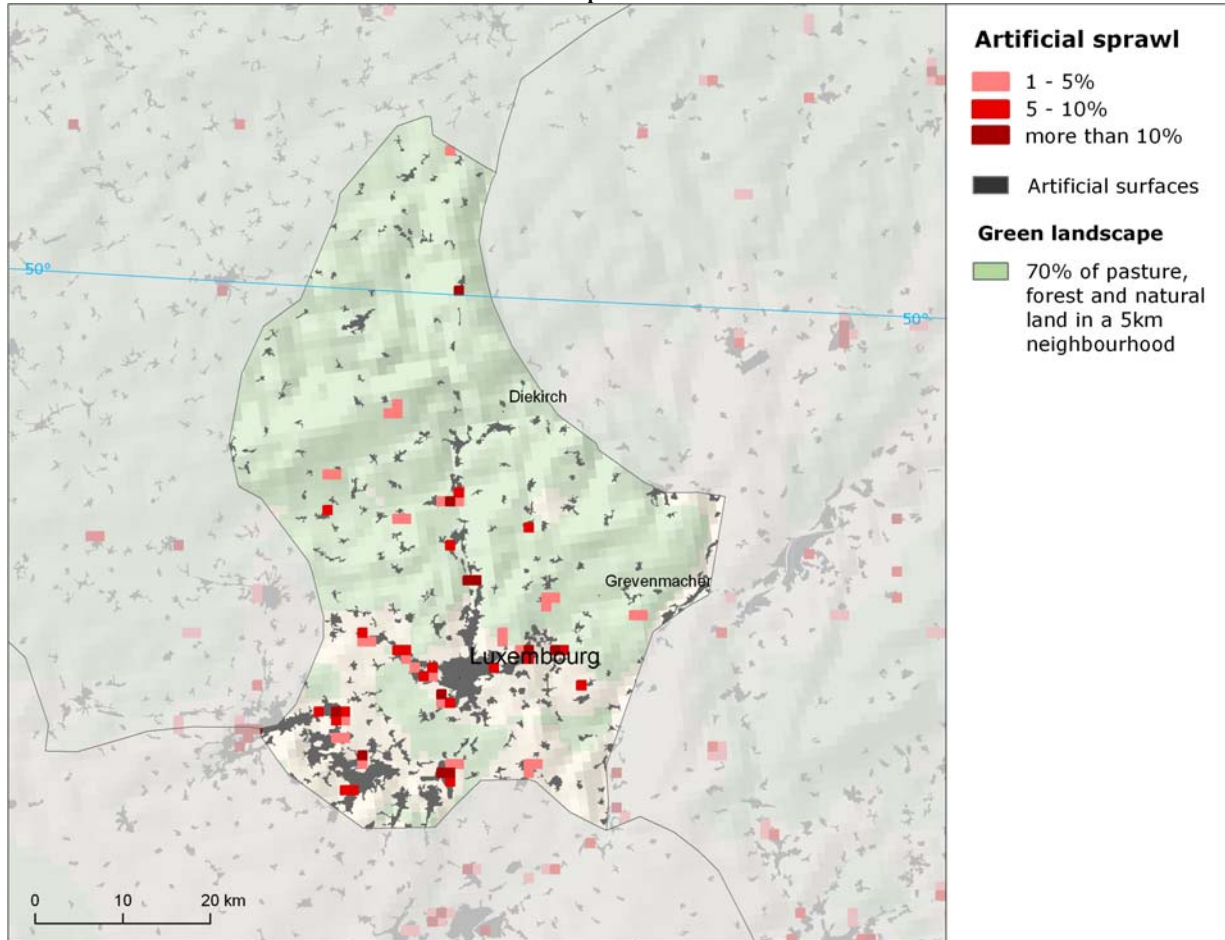


Drivers of change 1990-2000

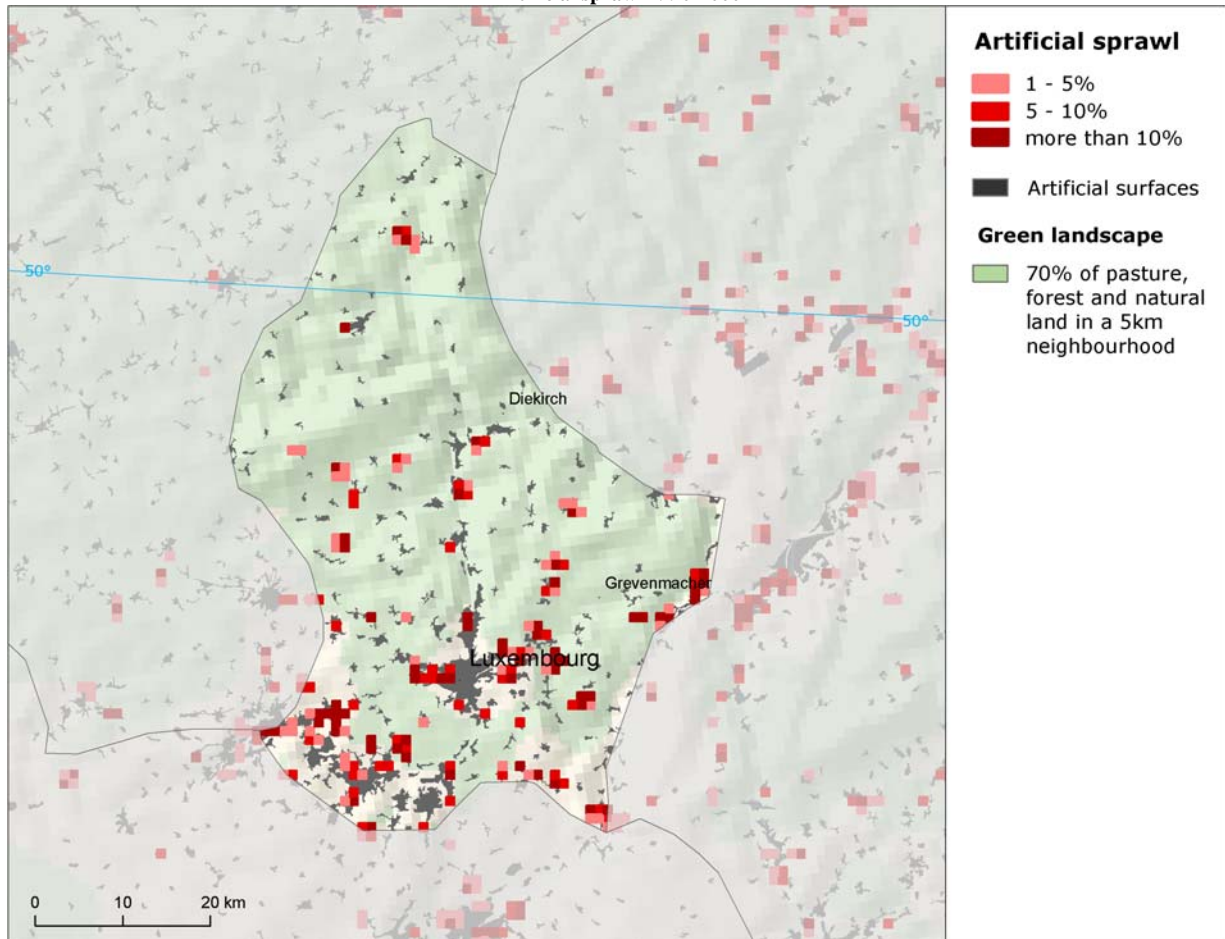


# Luxembourg

Artificial sprawl 2000-2006



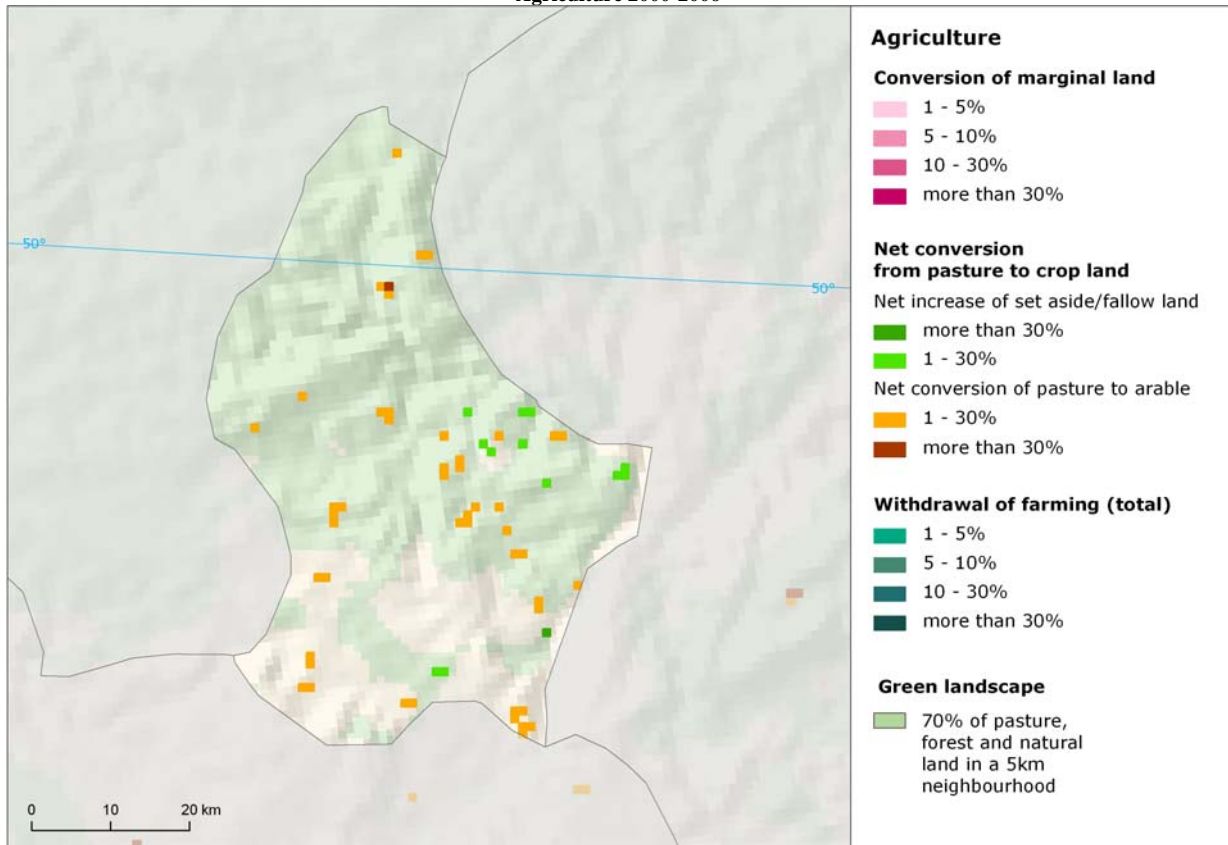
Artificial sprawl 1990-2000



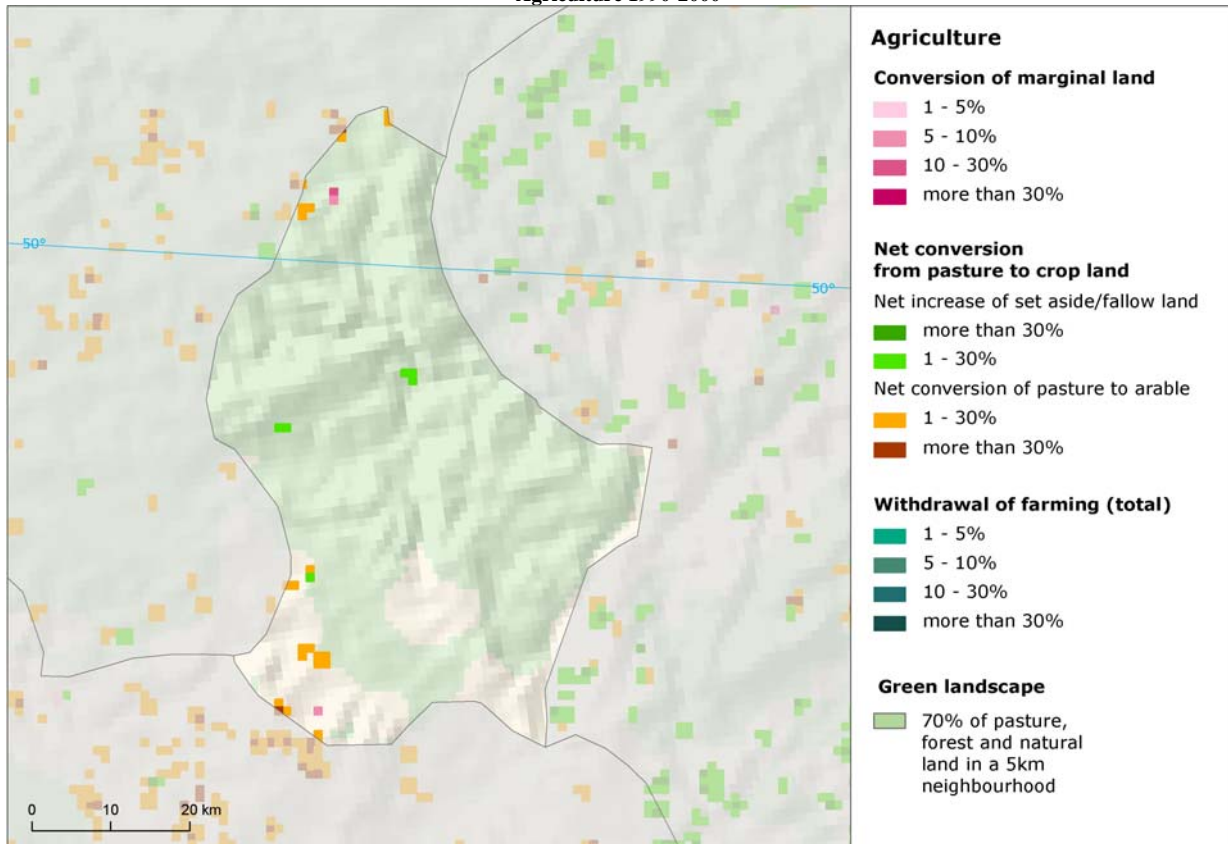


# Luxembourg

Agriculture 2000-2006

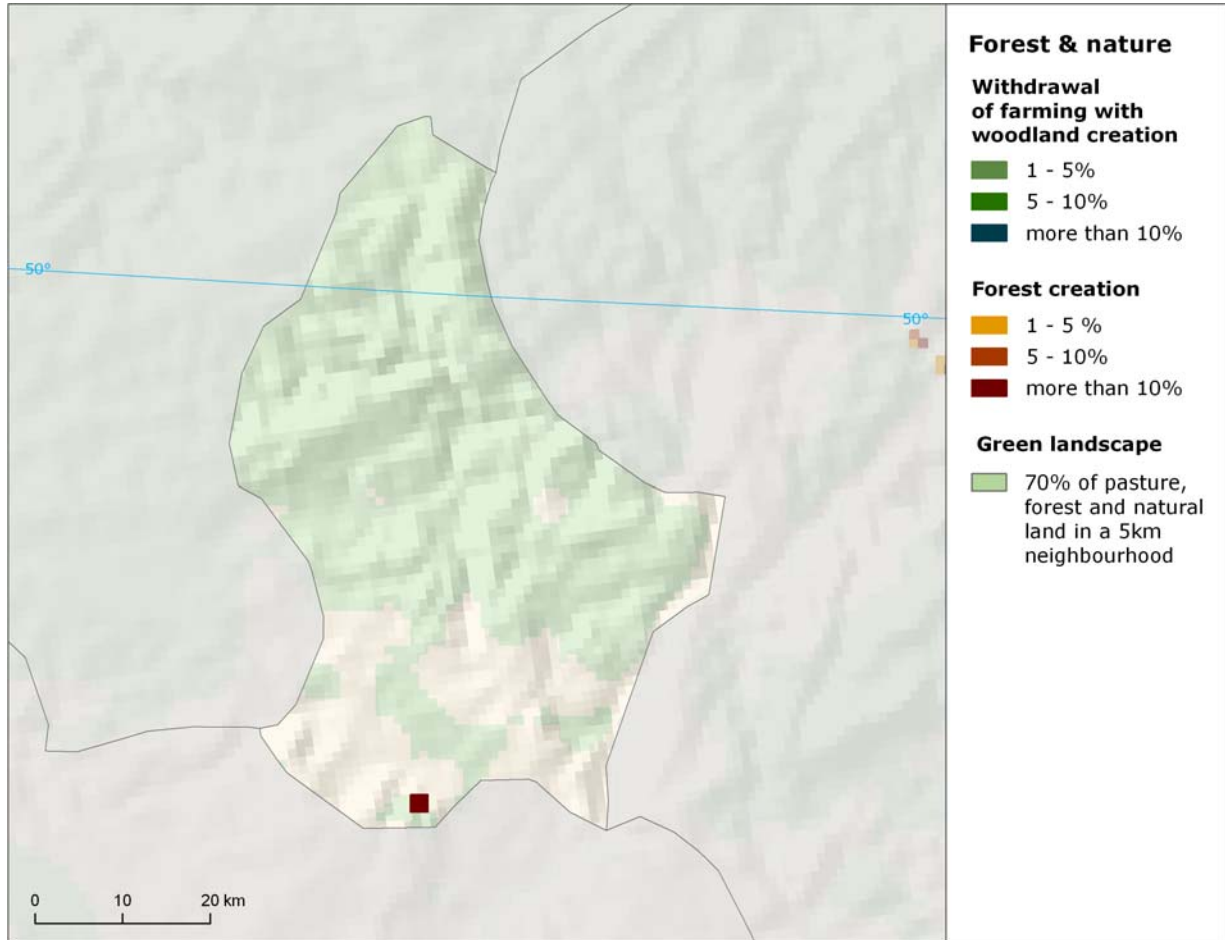


Agriculture 1990-2000



# Luxembourg

Forest and nature 2000-2006



Forest and nature 1990-2000

