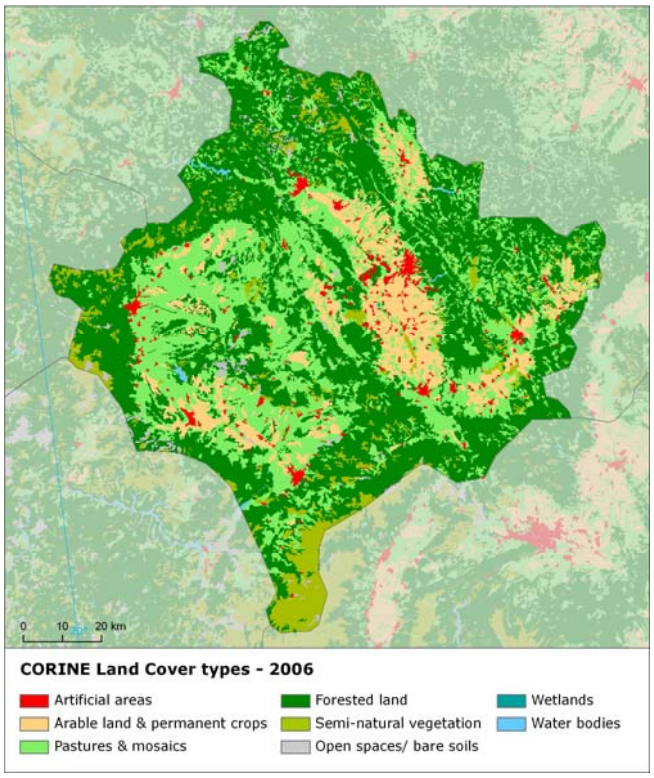
Kosovo

Land cover 2006

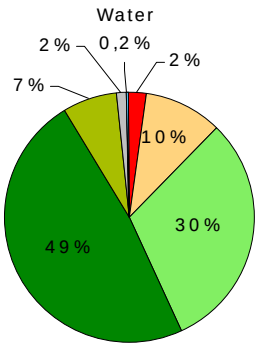
Overview of land cover & change 2000-2006

The development of landscape in Kosovo is characterized by formation of artificial areas, forested land and, to a lesser extent, arable/crop land and consumption of dry semi-natural vegetation, open spaces/bare soils and pastures/mosaics.
The highest change dynamics, characterized by total turnover of land cover, has forested land. However, exchange of forested land cover is caused mainly by internal forest conversions between standing forests and transitional woodland due to forestry activities. The second most significant driver of change is agriculture with internal conversions, mostly from pasture to arable/crop land. Besides these internal conversions of forested and agricultural land, the main driver of change is urban residential sprawl, followed by changes due to natural and multiple causes (forest and shrub fires).
Spatially, artificial land take is concentrated mostly in surroundings of the capital city Pristhina and other major cities. Changes of agricultural areas are distributed in the central part of the country and areas of change in forested land are scattered all over the country.

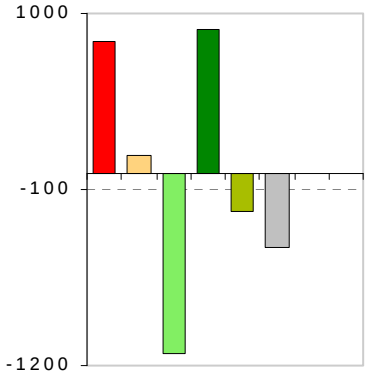


Note: The results presented here are based on a change analysis of 44 land cover types mapped consistently on a 1:100.000 scale across Europe over almost two decades 1990-2006 - see Corine land cover (CLC) programme for details.
Number of years between CLC2000-CLC2006 data for Kosovo: 6

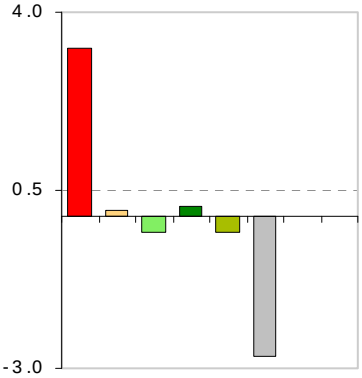
1.1. Land cover 2006 [% of total]



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

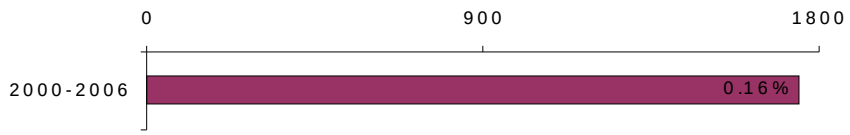
Summary balance table 2000-2006

	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	**249**	**1120**	**3331**	**5278**	**762**	**170**	**0**	**23**	**10932**
Consumption of initial LC	3	12	20	55	2	12	0	0	105
Formation of new LC	11	13	9	64	0	7	0	0	105
Net Formation of LC	**8**	**1**	**-11**	**9**	**-2**	**-5**	**0**	**0**	**0**
Net formation as % of initial year	*3.3*	*0.1*	*-0.3*	*0.2*	*-0.3*	*-2.8*	*#DIV/0!*	*0.0*	
Total turnover of LC	**15**	**25**	**30**	**120**	**2**	**19**	**0**	**0**	**210**
Total turnover as % of initial year	*5.9*	*2.2*	*0.9*	*2.3*	*0.3*	*11.1*	*#DIV/0!*	*0.0*	*1.9*
Land cover 2006	**257**	**1121**	**3320**	**5287**	**759**	**165**	**0**	**23**	**10932**

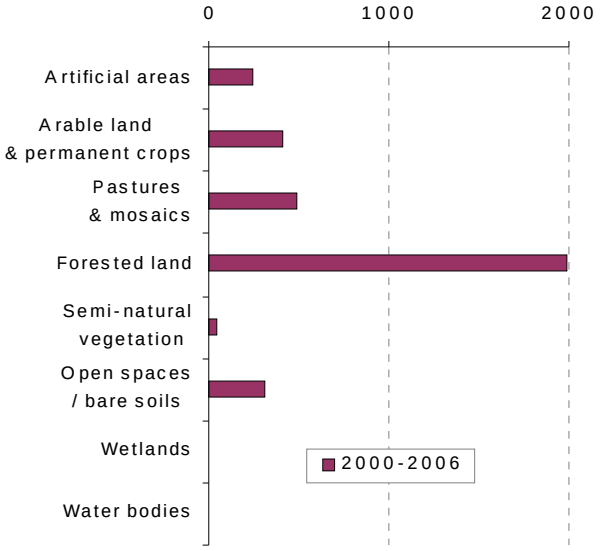
Kosovo

Land cover trends 2000-2006

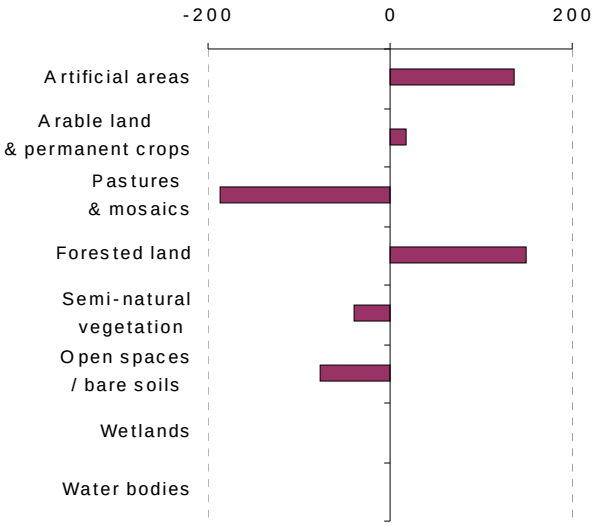
2.4. Annual land cover change [ha/year, % of total area]



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

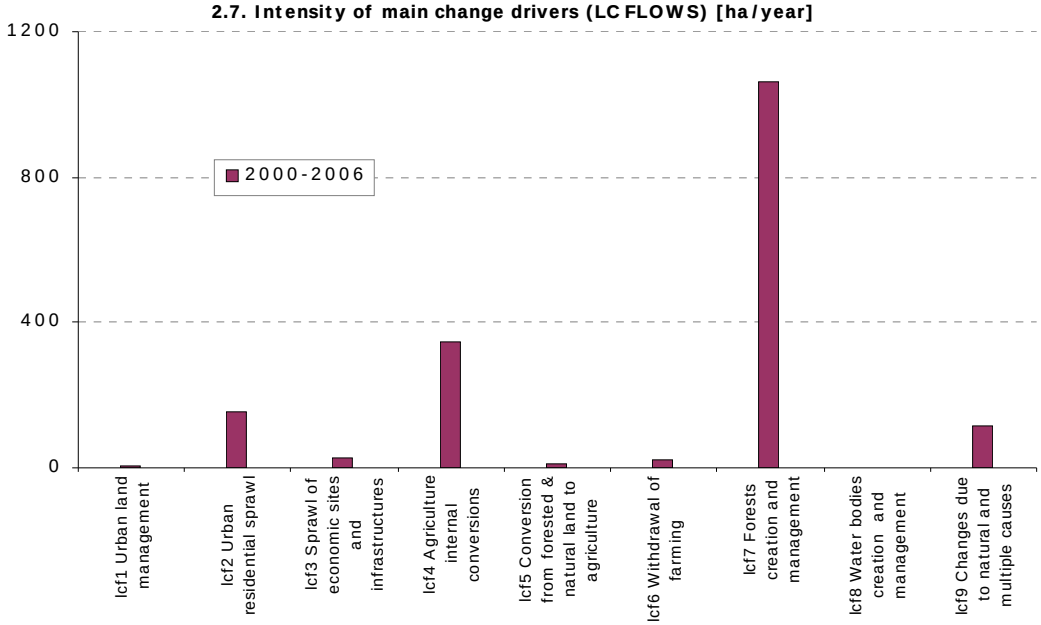


2.6. Net annual change of LC types [ha/year]



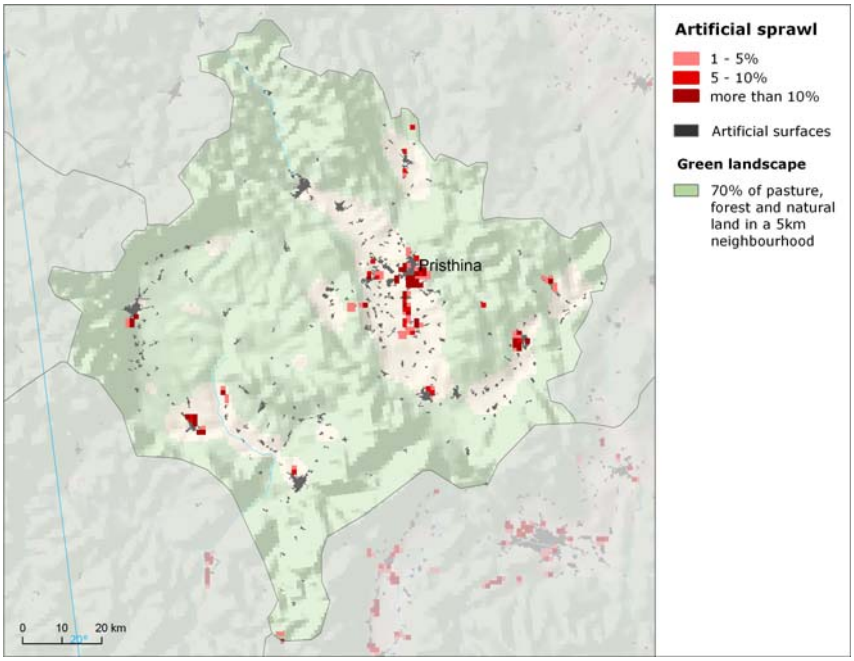
Summary trend figures	2000-2006
Annual land cover change [ha/year]	**1746**
Annual land cover change as % of initial year	**0.16%**
Land uptake by artificial development as mean annual change [ha/year]	183
Agricultural land uptake by urban and infrastructures development as mean annual change [ha/year]	168
Net uptake of forests and semi-natural land by agriculture as mean annual change [ha/year]	-16
Net conversion from pasture to arable land and permanent crops as mean annual change [ha/year]	225
Forest & other woodland net formation as mean annual change [ha/year]	150
Dry semi-natural land cover net formation as mean annual change [ha/year]	-118
Wetlands & water bodies net formation as mean annual change [ha/year]	0

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

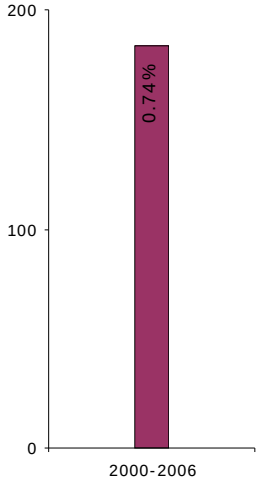


Kosovo

Artificial areas



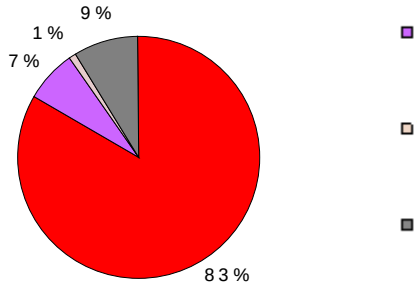
3.8. Artificial land take [ha/year, % of initial year]



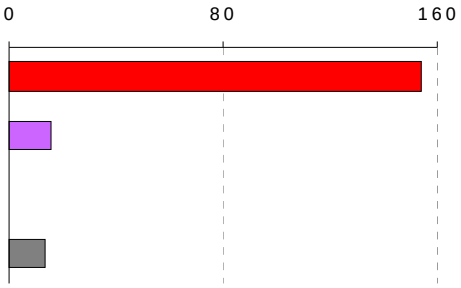
Dominance of residential sprawl

The dominant driver of artificial land development is diffuse residential sprawl (85%), accompanied by sprawl of industrial and commercial sites (8%), mines and quarrying areas (5%) and construction sites (2%) to a lesser extent. Mostly agricultural land with almost equal share of arable/crop land (46%) and pastures/mosaics (45%) has been taken, followed by forested land (7%). On consumption side, abandoned mineral extraction sites were turned into transitional woodland or pastures. Internal recycling of developed urban land has been represented by conversion of construction sites into industrial or commercial units. Artificial land take is concentrated mostly in surroundings of the capital city Pristhina and other major cities.

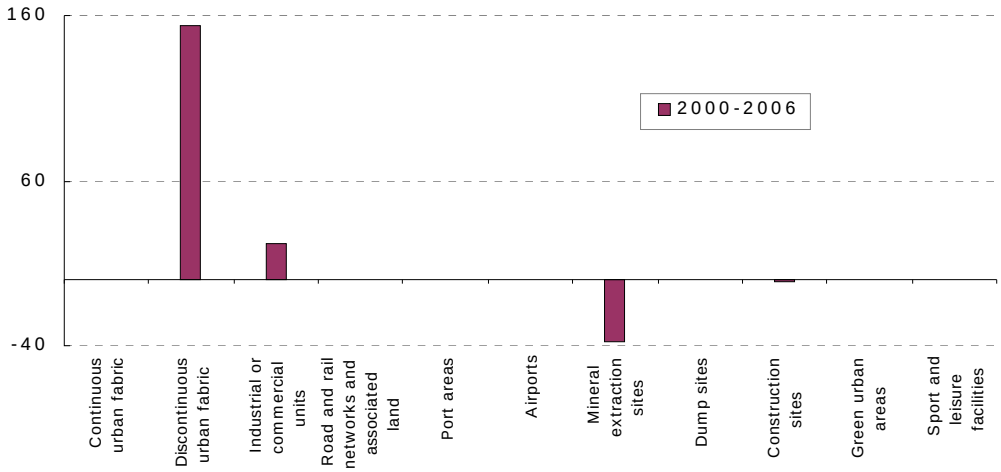
3.9. Artificial surfaces 2006 [% of total area]



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

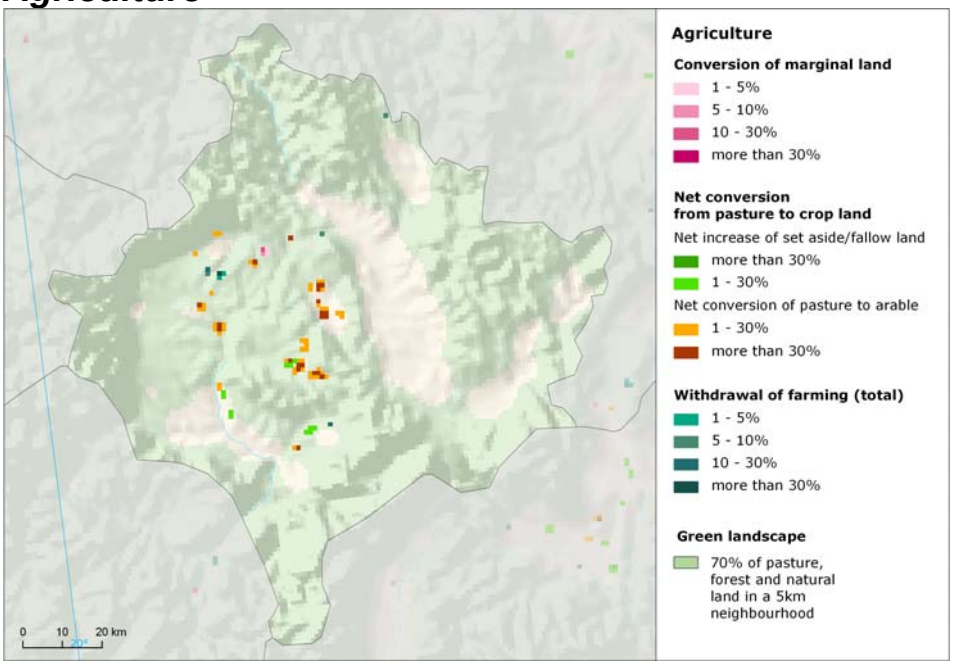


3.11. Mean annual artificial change by class [ha/year]



Kosovo

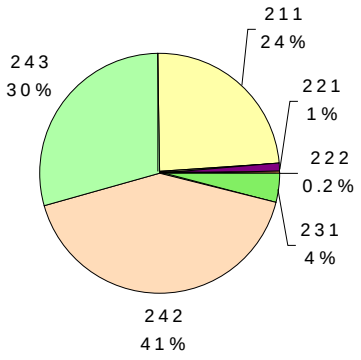
Agriculture



Land take by urban sprawl, conversion from pasture to arable/crop land

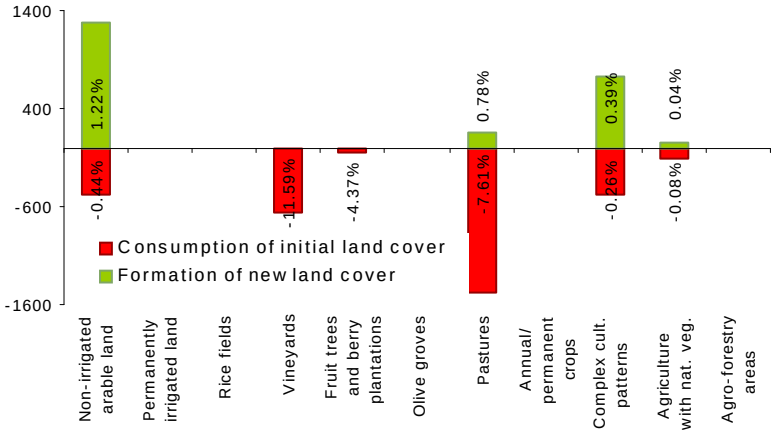
Complex cultivation patterns are the predominant class of agricultural land in Kosovo (41%). The other classes with significant share on total agricultural area are agricultural land with natural vegetation and arable land, together with pastures and vineyards to a lesser extent.
Development of agricultural land in Kosovo in 2000-2006 has been influenced mainly by artificial land take and by internal agriculture conversions. Mostly non-irrigated arable land and complex cultivation patterns have been taken by mainly diffuse residential sprawl, followed by agriculture with natural vegetation and vineyards to a lesser. Besides, agricultural land also decreased due to withdrawal of farming. In contrast, some new pastures or arable land areas has been created from former mineral extraction sites and natural grasslands. The dominant driver of internal agricultural exchange is the conversion from pasture to arable/crop land, followed by conversion from vineyards and orchards to non-irrigated arable land.

4.12. Agricultural areas 2006 [% of total area]

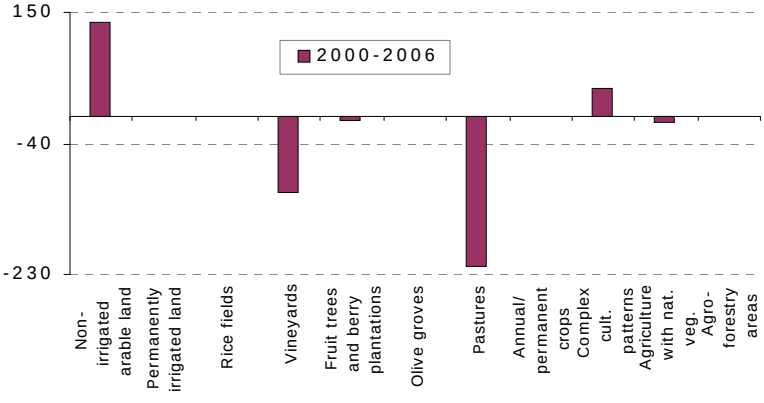


211 Non-irrigated arable land
212 Permanently irrigated land
213 Rice fields
221 Vineyards
222 Fruit trees and berry plantations
223 Olive groves
231 Pastures
241 Annual crops associated with permanent crops
242 Complex cultivation patterns
243 Agriculture land with significant areas of natural vegetation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

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

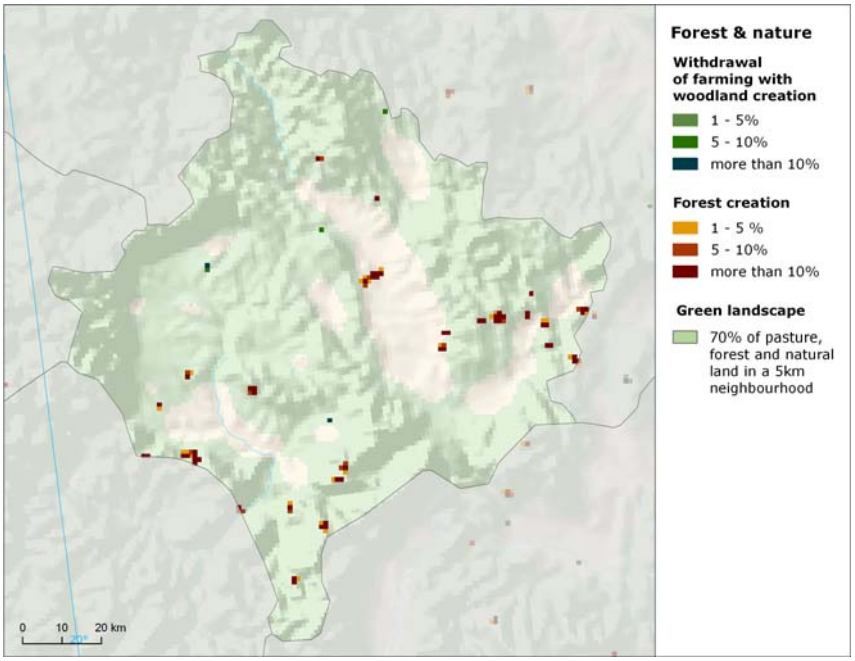


4.14. Mean annual agricultural change by class [ha/year]

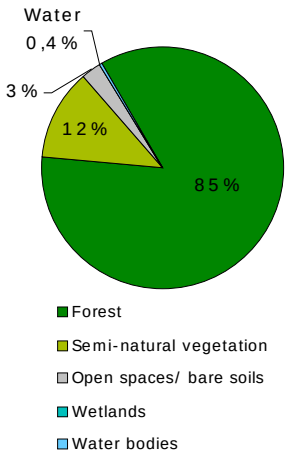


Kosovo

Forest & nature



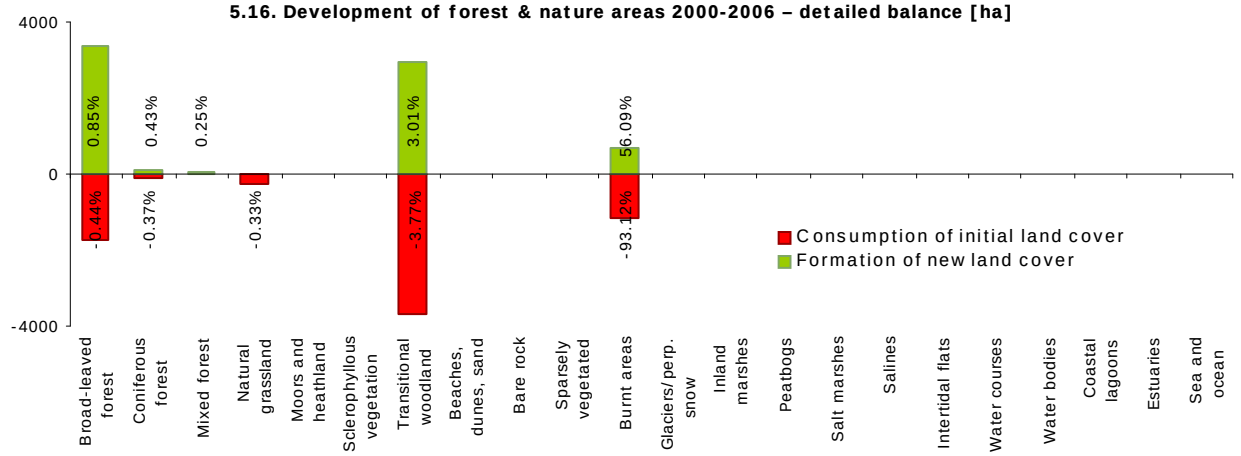
5.15. Forest & nature areas 2006 [% of total area]



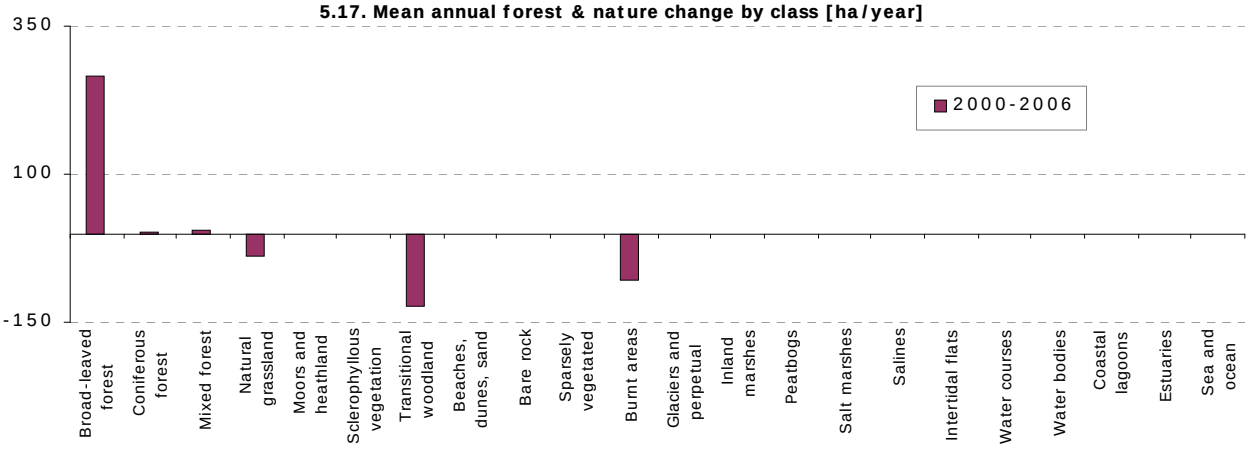
Internal forest conversions and conversions due to forest and shrub fires

Natural land cover in Kosovo consists mostly of forested areas (85%) represented mainly by broad-leaved forest and transitional woodland and from natural grassland and sparsely vegetated areas. The development during observed period was driven mainly by forest internal conversions between transitional woodland and standing forests reflecting forestry activities. Besides, development of natural land cover has been also influenced by forest and shrub fires. The area of transitional woodland restored over former burnt areas has been almost twice larger than the area of forested land consumed by these fires.

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



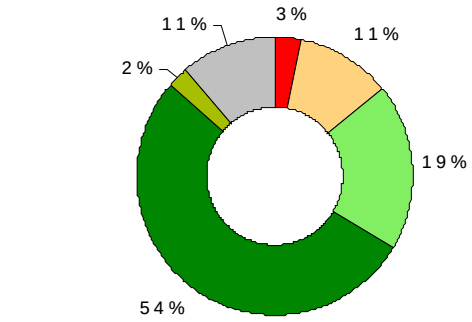
5.17. Mean annual forest & nature change by class [ha/year]



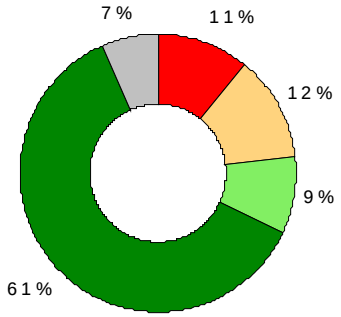
Annex: Land cover flows and trends

Land cover flows 2000-2006

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

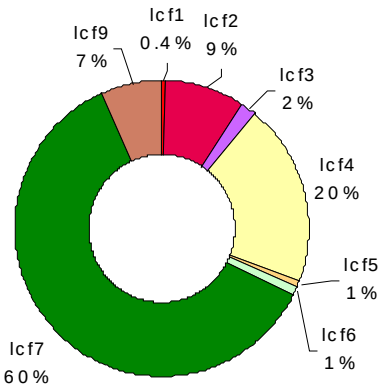


6.19. Formation of land cover 2000-2006 [% of total change area]



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]

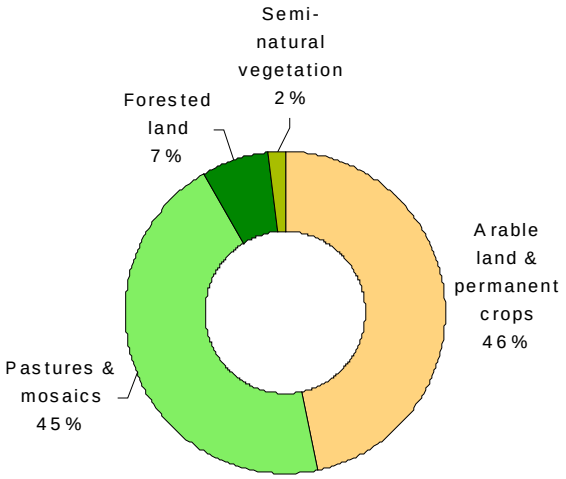


lcf1 Urban land management
lcf2 Urban residential sprawl
lcf3 Sprawl of economic sites and infrastructures
lcf4 Agriculture internal conversions
lcf5 Conversion from forested & natural land to agriculture
lcf6 Withdrawal of farming
lcf7 Forests creation and management
lcf8 Water bodies creation and management
lcf9 Changes due to natural and multiple causes

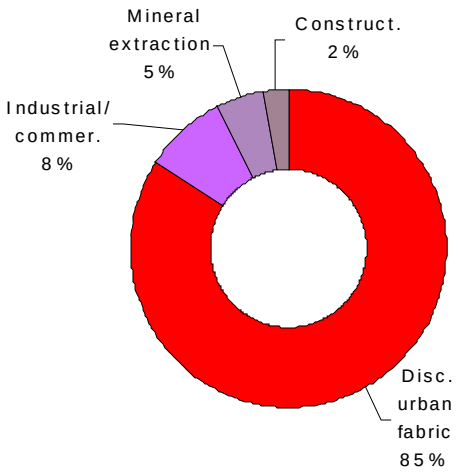
Kosovo

Artificial areas

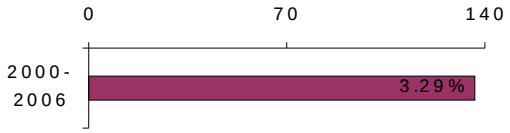
7.21. Consumption by artificial land take 2000-2006 [% of total]



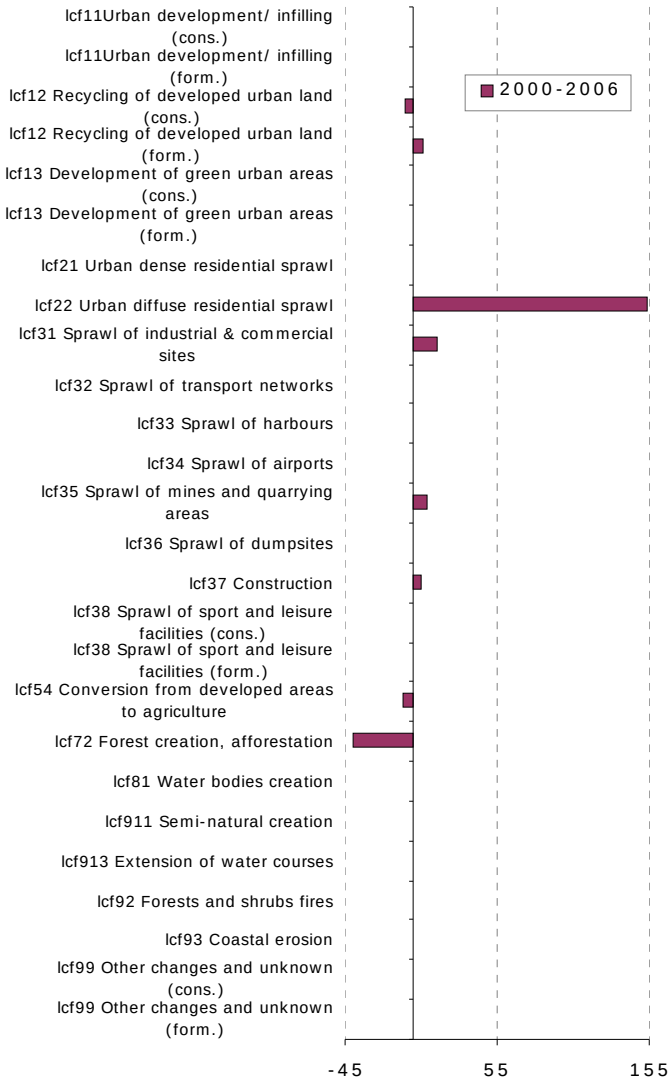
7.22. Formation by artificial land take 2000-2006 [% of total]



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



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



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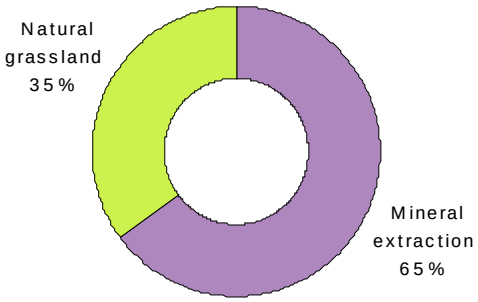
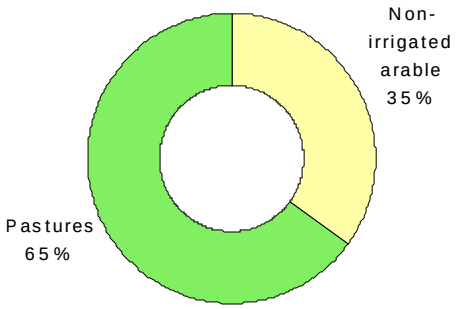
Agriculture

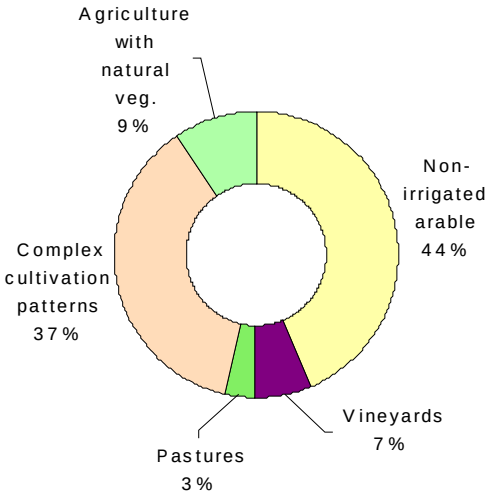
8.25. LC consumed by agriculture 2000-2006 [% of total]



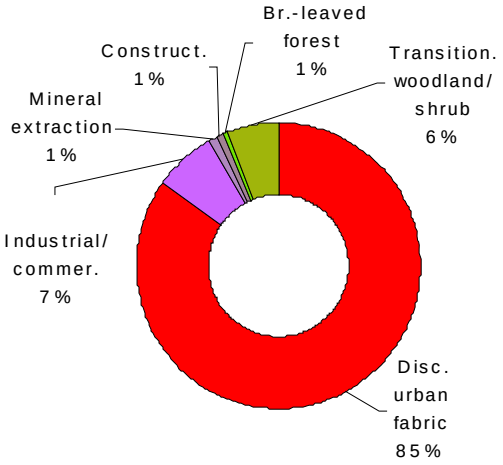
8.26. Formation of agricultural land from non-agriculture 2000-2006 [% of total]



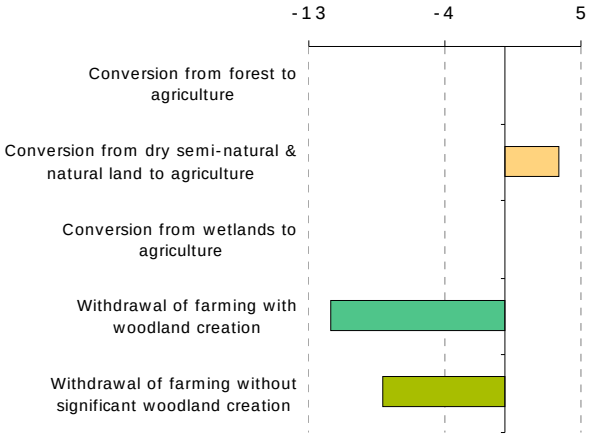
8.27. Consumption of agricultural land by non-agriculture 2000-2006 [% of total]



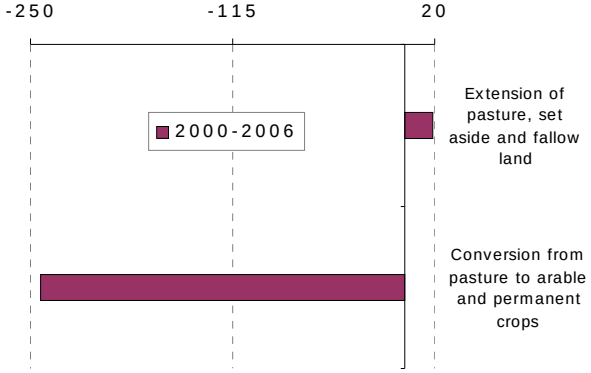
8.28. Formation of non-agricultural land from agriculture 2000-2006 [% of total]



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]



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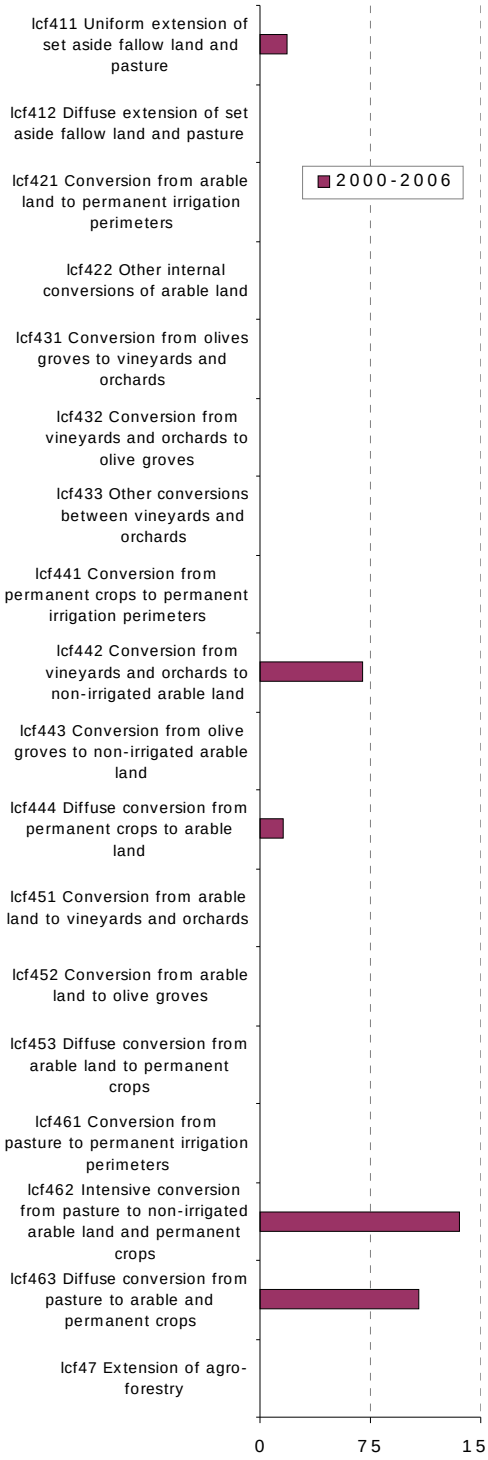
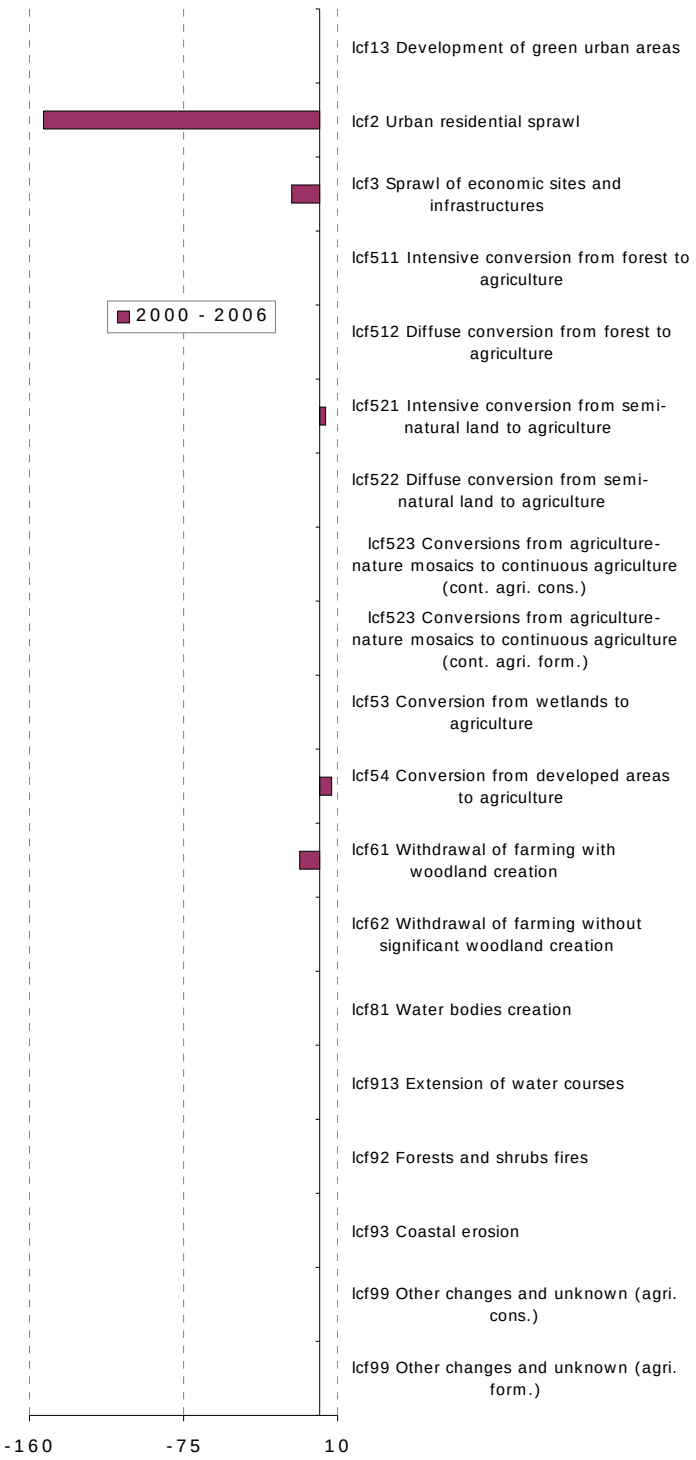
9.31. Mean annual agriculture internal conversions [ha/year]



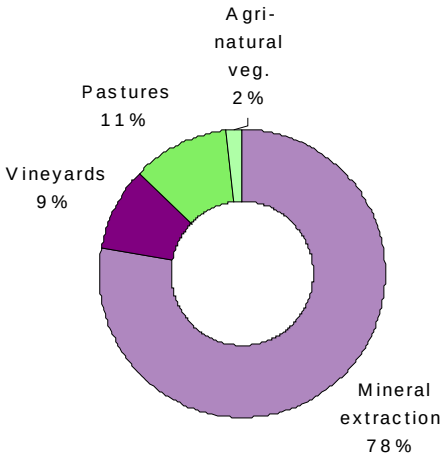
9.32. Mean annual conversions between agriculture and other LC types [ha/year]



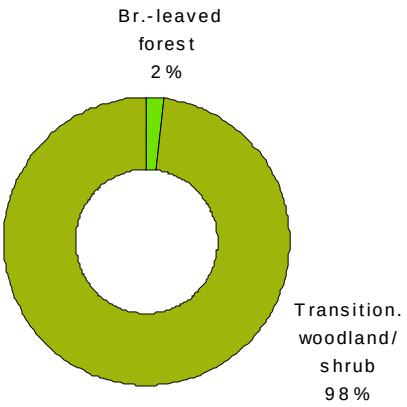
Kosovo

Forest & nature

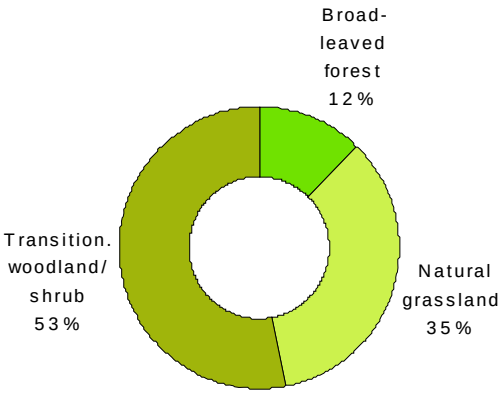
10.33. LC consumed by forest & nature 2000-2006 [% of total]



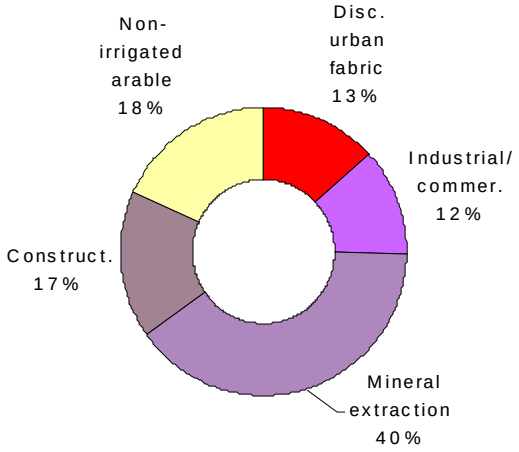
10.34. Formation of forest & nature land from non-forest /nature 2000-2006 [% of total]



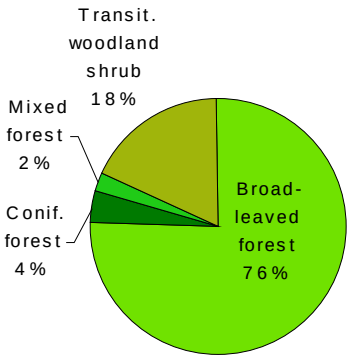
10.35. Consumption of forest & nature land by non-forest /nature 2000-2006 [% of total]



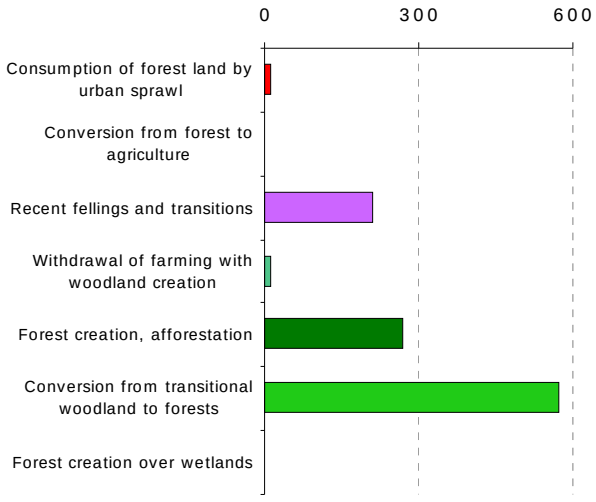
10.36. Formation of non-forest /nature land from forest & nature 2000-2006 [% of total]



10.37. Forested land 2006 [% of total area]

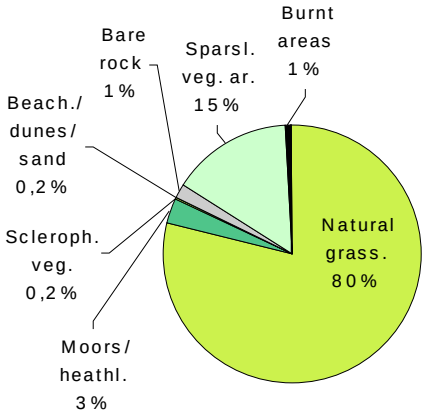


10.38. Main trends in woodland & forests consumption/formation 2000-2006 [ha/year]

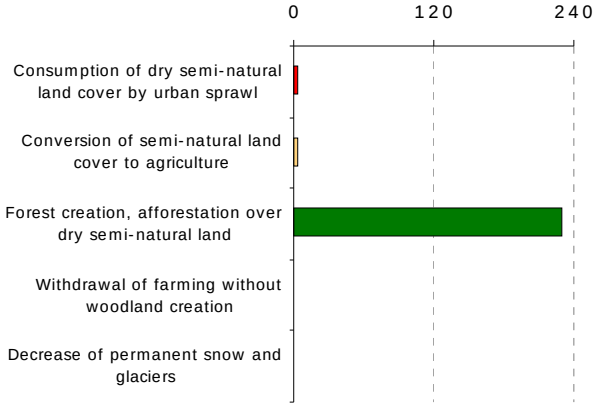


Kosovo

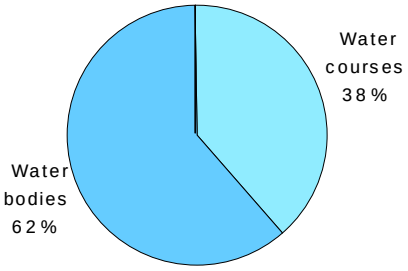
11.39. Dry semi-natural areas 2006 [% of total area]



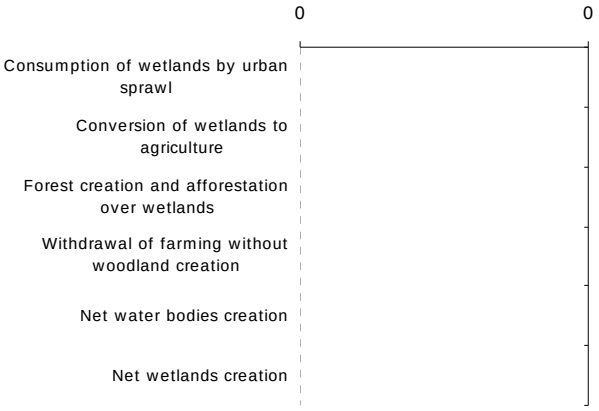
11.40. Main trends in dry semi-natural land consumption/formation 2000-2006 [ha/year]



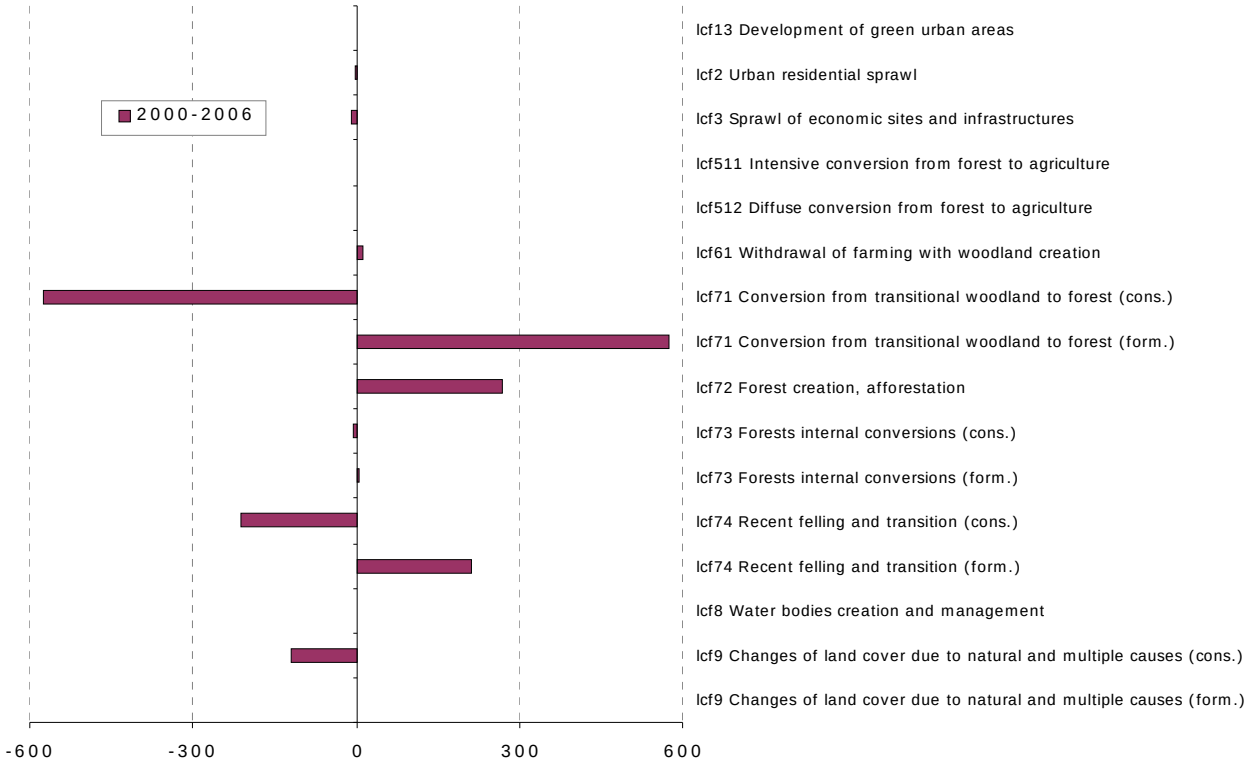
11.41. Wetlands & water 2006 [% of total area]



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

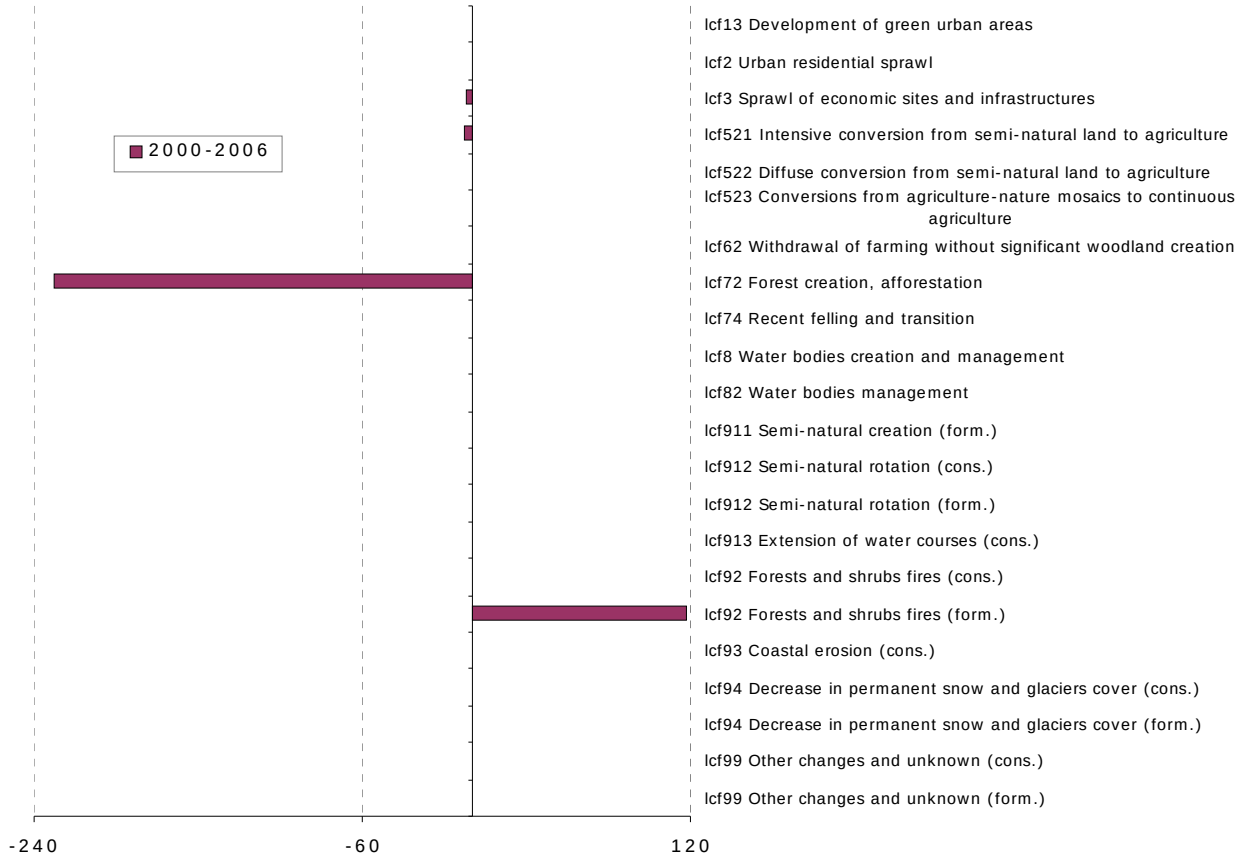


11.43. Mean annual conversions of forest & other woodland [ha/year]

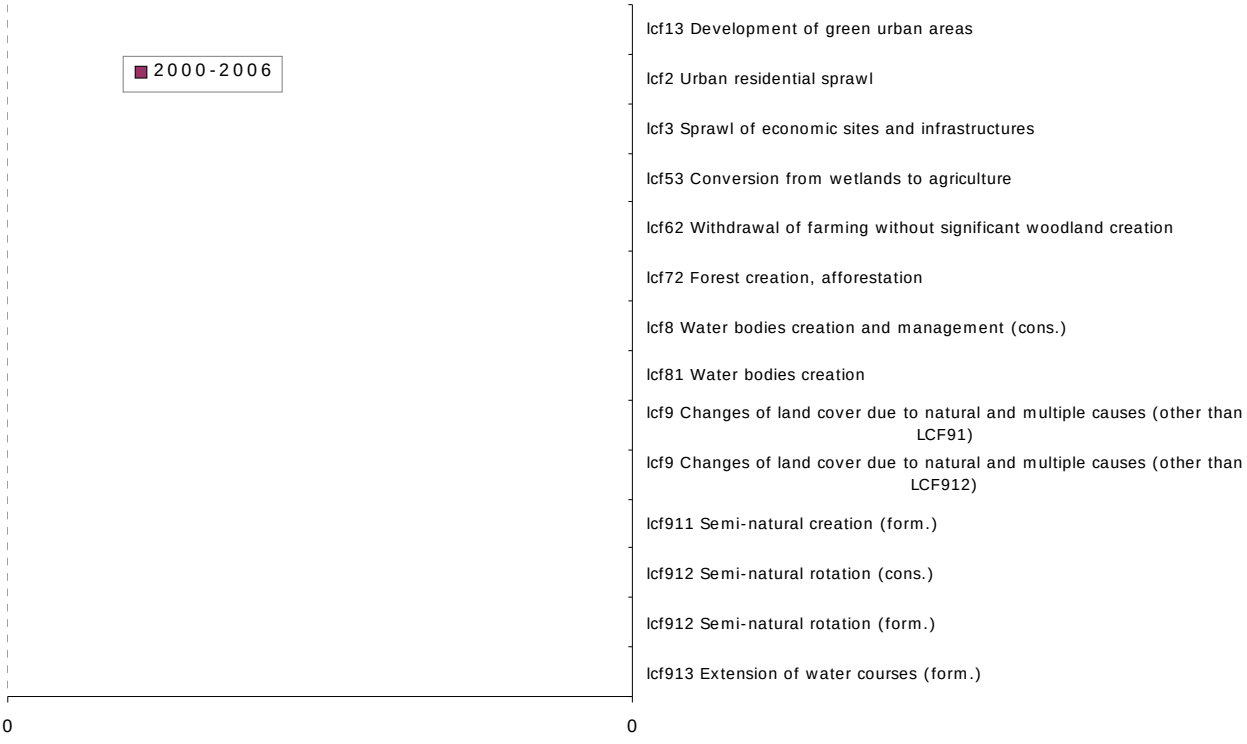


Kosovo

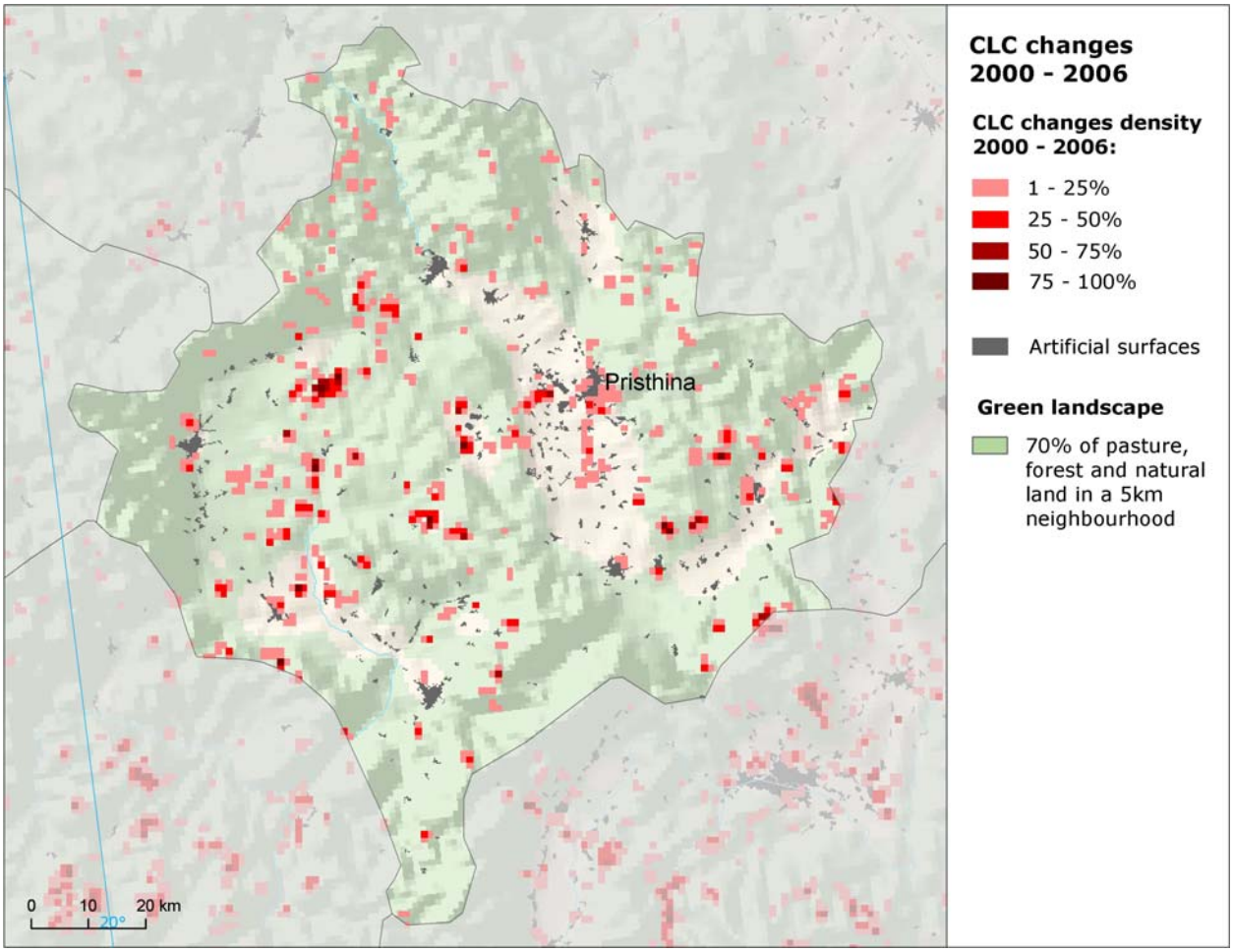
12.44. Mean annual conversions of dry semi-natural LC [ha/year]

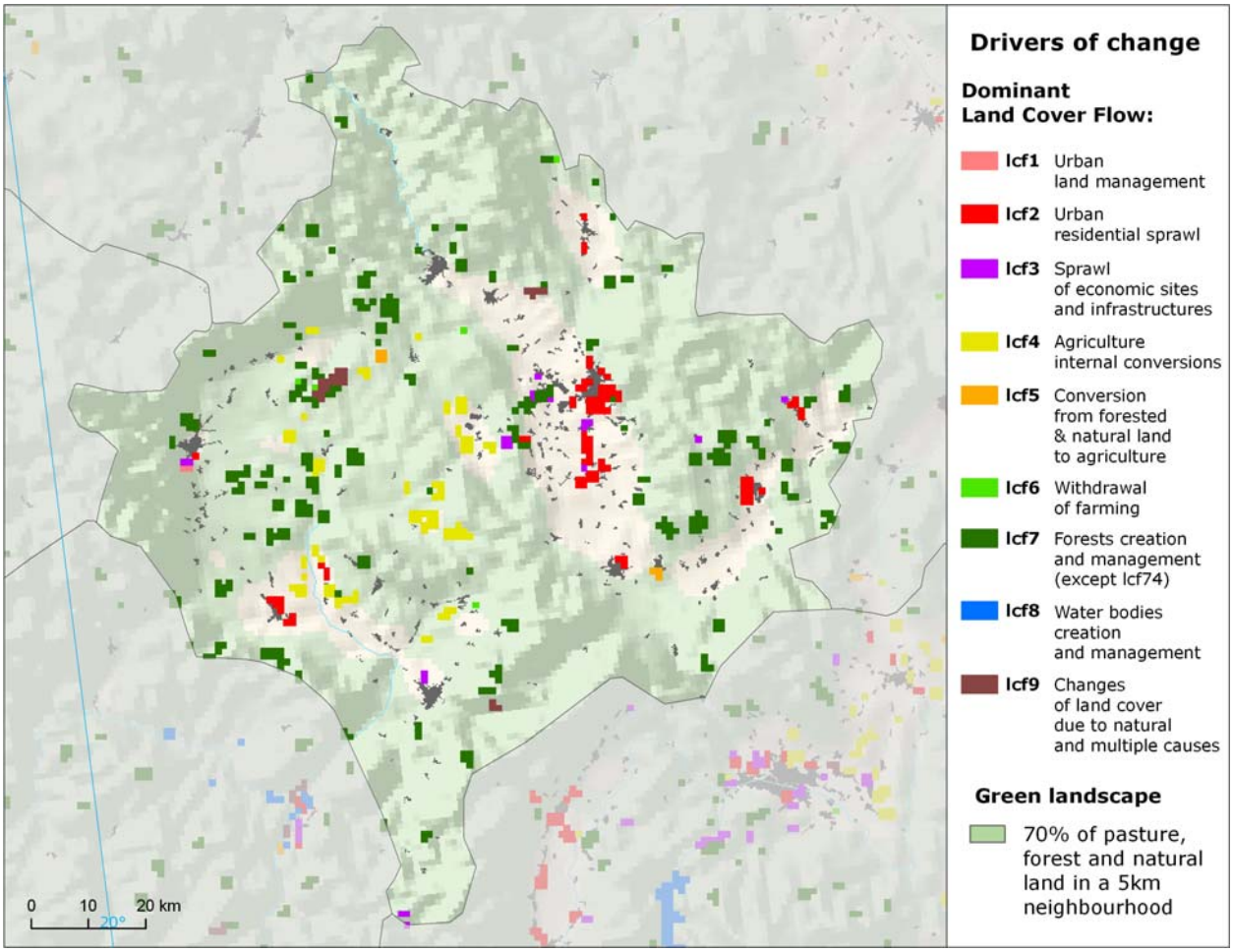


12.45. Mean annual conversions of wetlands and water LC [ha/year]



Kosovo


Pristhina
0 10 20 km
CLC changes 2000 - 2006
CLC changes density 2000 - 2006:
1 - 25%
25 - 50%
50 - 75%
75 - 100%
Artificial surfaces
Green landscape
70% of pasture, forest and natural land in a 5km neighbourhood


0 10 20 km
Drivers of change
Dominant Land Cover Flow:
lcf1 Urban land management
lcf2 Urban residential sprawl
lcf3 Sprawl of economic sites and infrastructures
lcf4 Agriculture internal conversions
lcf5 Conversion from forested & natural land to agriculture
lcf6 Withdrawal of farming
lcf7 Forests creation and management (except lcf74)
lcf8 Water bodies creation and management
lcf9 Changes of land cover due to natural and multiple causes
Green landscape
70% of pasture, forest and natural land in a 5km neighbourhood