

Regional Training Seminar on assessment of GHG Inventories in the Forestry and Other Land Use

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This Project is funded by the European Union



Project implemented by Human Dynamics Consortium

National system

- Ministry of Agriculture and the Environment Protection is a National Focal Point for *United Nations Framework Convention on Climate Change*, while inventory preparation is under responsibility of Serbian Environment Protection Agency (SEPA).



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National system

- Department of National Register of pollution sources of the Agency, is responsible for the establishment of the National inventory of emissions of greenhouse gases.



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Greenhouse gas inventory

- Data is collected and processed for the period 1990-2013.
- For inventory compiling was used the 2006 IPCC Guidelines for National Greenhouse Gas Inventories, as well as all other instructions whose use is mandatory.
- To calculate the emissions of greenhouse gases from all categories, it is used the IPCC Inventory Software 2006th.



Greenhouse gas inventory

- Uncertainty analysis was not performed.
- 2006 IPCC Guidelines for GHG Inventory offers default values for the Activity data and Emission factors uncertainties, which were used.



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Greenhouse gas inventory

- Emissions and removals in sector Forestry and Other Land Use are reported in subcategory land remaining in the same category and land converted to another land use category.

Area	ha	%
Forestland	2724359.7	35.1
Cropland	3191941.3	41.2
Grassland	1399263.3	18.0
Wetland	127364.6	1.6
Settlements	260140.1	3.4
Other land	54046	0.7
Total	7757114.96	100.0



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Data sources

- To obtain the data for the Forestry and Other Land Use and to calculate emissions, we use different sources.
- Country specific data for forests are used from *Global Forest Resources Assessment 2010 – Country Report*. For other land use categories data are extracted from Statistical Yearbooks, calculated, or IPCC default values are used.



Data sources

- Area of each land use categorie is made by Corine Land Cover Mapping in Serbia from 1990, 2000 and 2006 year. Areas in the years from 1990 to the 2006 (excluding 2000) were determined by interpolation for each area. Thereafter, the land use change was made, based on Land Use Change in the existing Corine land cover Mapping in Serbia in 1990, 2000 and 2006.
- Calculation was made for all areas separately; first from 1990 to 2000 and then from 2000 to 2006. After the 2006 there were no data, so the results for the land use change are extrapolated from 2006.



Data sources

Area [ha]	Settlement	Cropland	Grassland	Forest	Other land	Wetlands
Settlement		545	287	1125		17
Cropland	4028		9529	2828		1046
Grassland	1270	2416		4249	47	1919
Forest	546	639	2234		237	937
Other land			25	90		68
Wetlands	79	238	399	343	376	

Land use change 1990-2000

Area [ha]	Settlement	Cropland	Grassland	Forest	Other land	Wetland
Settlement		15	77	605		26
Cropland	2744		633	328		670
Grassland	478	5508		445		656
Forest	1066	317	69		20	387
Other land				749		23
Wetland	36		78	27		

Land use change 2000-2006



Key source categories

- 3.B.1.a - Forest land Remaining Forest land (CO₂)



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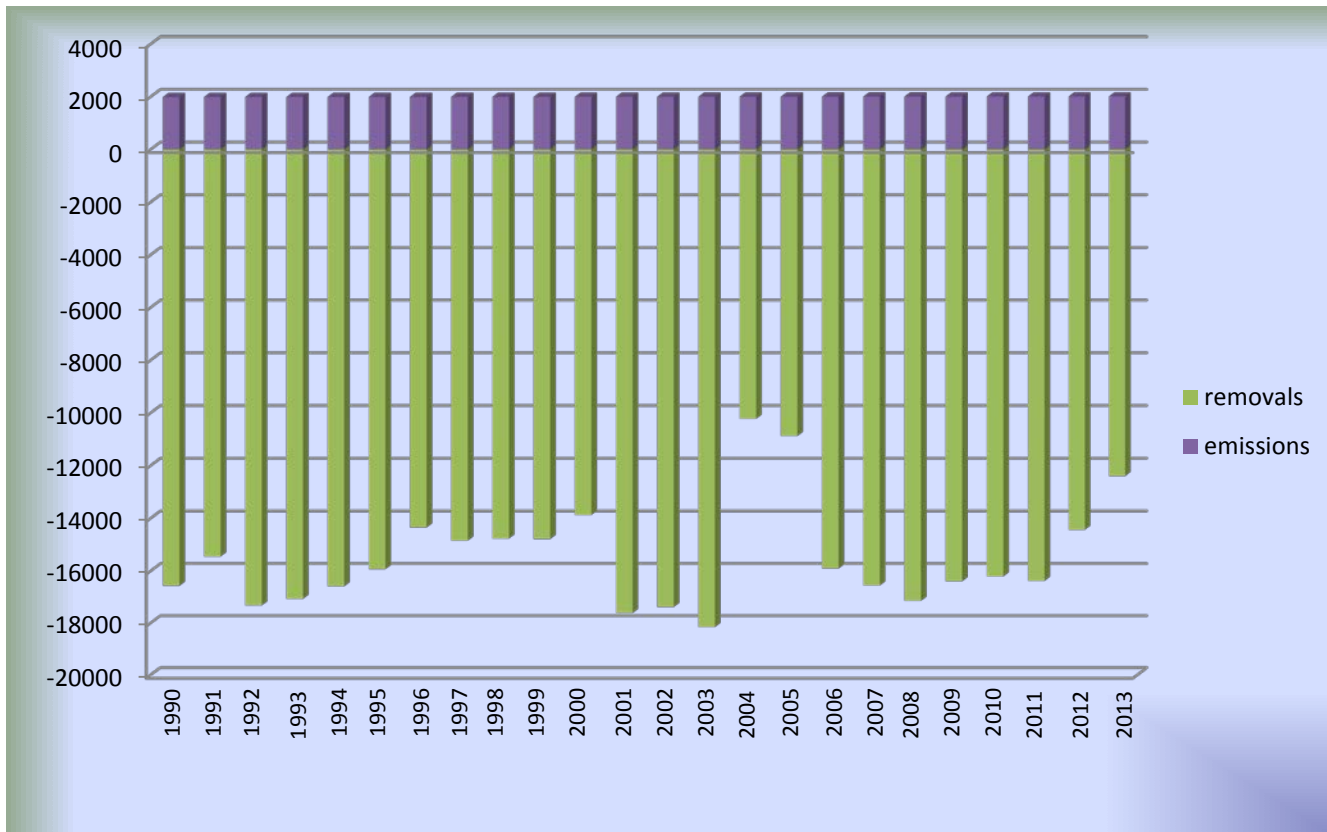
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Key source categories

- The main sink category in Forestry and Other Land Use in Serbia is forest land, while every other category represents an emission source. The total net removals of CO₂ from LULUC sector from 1990 to 2013 vary between -10.216,61Gg and -18.148,74Gg, as shown in the figure:



Key source categories



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NE categories

- NO categories:
 - 3.B.2.b.v - Other Land converted to Cropland
 - 3.B.5.b.v - Other Land converted to Settlements
 - 3.B.6.b.ii - Cropland converted to Other Land
 - 3.B.6.b.v - Settlements converted to Other Land
 - 3.C.1.b - Biomass burning in croplands
 - 3.C.1.c - Biomass burning in grasslands
 - 3.C.1.d - Biomass burning in all other land



Critical issues

- Major problem is the limited information on the land use changes and the conversion between the separate categories.



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Conclusion

- Significant improvements were made since INC (2010.):
 - Complete time-series (1990 – 2013)
 - Land-use and land-use change.



THANK YOU

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