



## ECRAN-TAIEX Regional Seminar on assessment of GHG Inventories in Agriculture

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## Overview



- 1- Convention and Protocols
- 2- GHG Inventory (First, second and third Communication under UNFCCC)
- 3- Data sources
- 4- Methodology used for calculation of GHG emissions for the period 2001-2009
- 5- GHG emissions data by sectors (agriculture, LUCF)
- 6- The main sources of GHG emissions
- 7- Result analyses
- 8- Sector specific issues and recommendations for improvement

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## Convention and Protocols ratified



- Albania ratified the United Nations Framework Convention on Climate Change and the Kyoto Protocol on the 3rd October 1994 and the 1st April 2005, respectively.
- Albania The ratified the Long Range Transboundary Air Pollution (LRTAP) Convention on the 2nd December 2005.
- In order to comply to the commitments coming from the above mentioned international conventions, Albania has to yearly produce and officially transmit the national air emissions inventory, containing updated data on emissions of greenhouse gases and all atmospheric pollutants relevant for LRTAP Convention.

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## GHG Inventory



- The GEF/UNDP prepared Initial National Communication (INC), which was submitted to the UNFCCC in July 2002. The core focus of the INC was the preparation of the GHG emissions inventory *for the year 1995*, considering *seven main GHG-emitting sectors*: (i) energy, (ii) industrial processes (iii) agriculture and livestock, (iv) land use change and forestry (LUCF); (v) waste; (vi) solvents; and (vii) international bunkers. The inventory was the basis for the GHG mitigation analysis, which projected GHG emissions for each year up to the end of 2020.
- The SNC built on the results of the INC and the 2004 Technology Needs Assessment (TNA) extended the inventory of anthropogenic GHG emissions and removals to the *period 1990-2000, with 2000 being the base year*. The SNC considered *six main GHG-emitting sectors*: i) energy, ii) industrial processes, iii) agriculture, iv) waste, v) LUCF, and vi) solvent and other product uses. (Uncertainties particularly on fuel wood consumption) The inventory was again the basis for the GHG mitigation analysis, which was extended to 2025 and had a pronounced focus on energy and transport (the main emitting sectors).
- GHG Inventory in TNC (draft) has narrower and deeper analysis than the previous inventory (i.e., more detailed activity levels, data permitting) with the baseline year of 2005. The inventory adopted the higher tiers of the IPCC methodology and maintained a strong data validation focus on the energy and transport sectors. The inventory covers the refined time-series for the period *2000-2009*. TNC is developed using the 1996 revised IPCC Guidelines

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## Data sources



- 1- Institute of Statistics
- 2- Statistical Yearbook of Agriculture (Ministry of Agriculture, Rural Development and Water Administration)
- 3- FAO/FAOSTAT
- 4- Forest Cadaster
- 5- Reports/Projects
- 6- Research Institute of Forest and Pastures 2004 (I.K.PK-2004)

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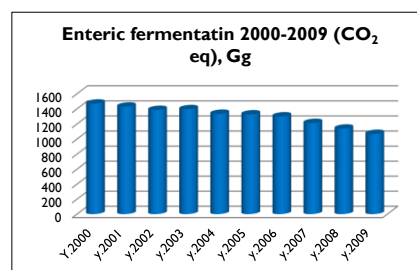
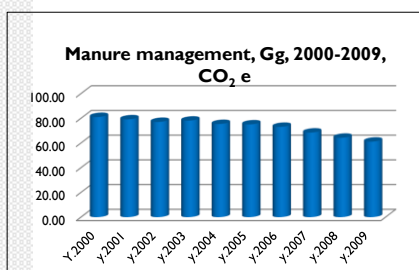
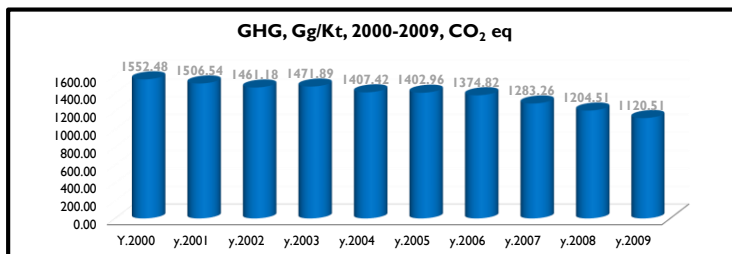
## Methodology used for calculation of GHG emissions for the period 2001-2009



- National GHG inventory includes among others the agriculture and LUCF
- LUCF includes: Changes in forests and other biomass, conversion of forests and pastures, abandoned land management, emissions/sequestration from land.
- GHG are considered: CO<sub>2</sub>, CH<sub>4</sub> and N<sub>2</sub>O, and indirectly CO, NO<sub>x</sub>.
- Results are reflected expressing GHG emission in CO<sub>2</sub> eq.
- The basis of IPCC Good Practice Guidance

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## The preliminary results of GHG inventory. Agriculture 2001-2009

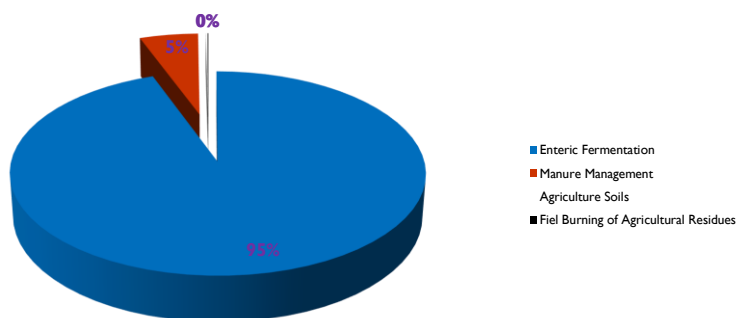


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## GHG Agriculture Year 2005

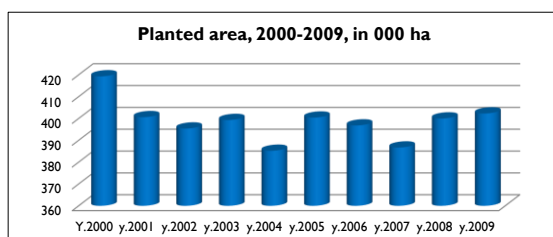
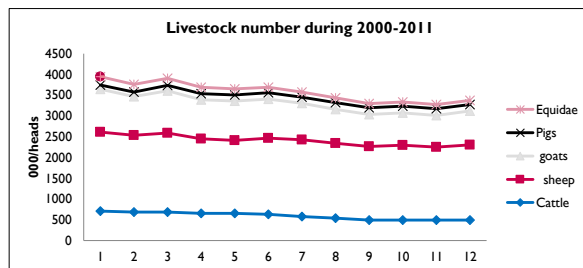


### GHG, 2005 Agriculture



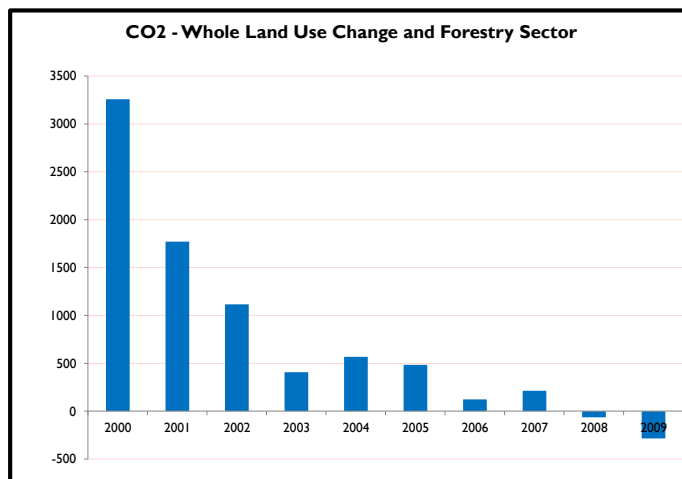
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## Agriculture, trends....!



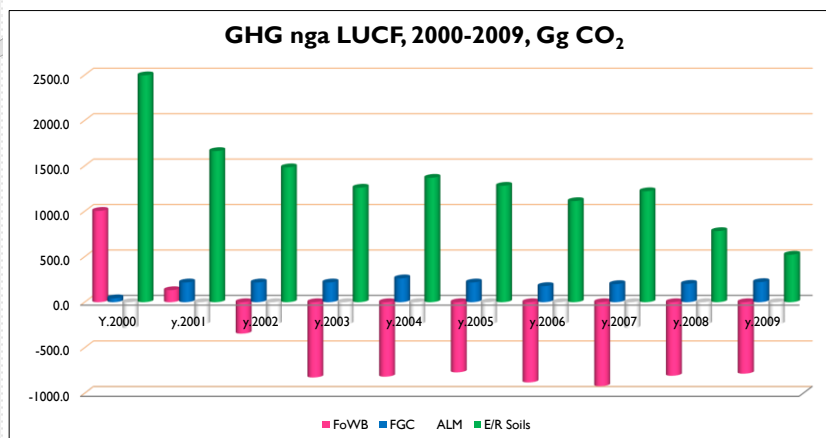
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## GHG, LUCF – Gg CO<sub>2</sub> eq, 2000-2009



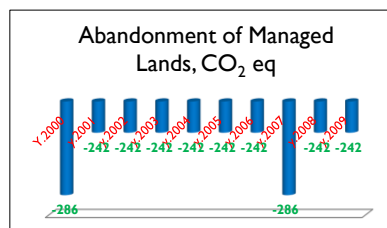
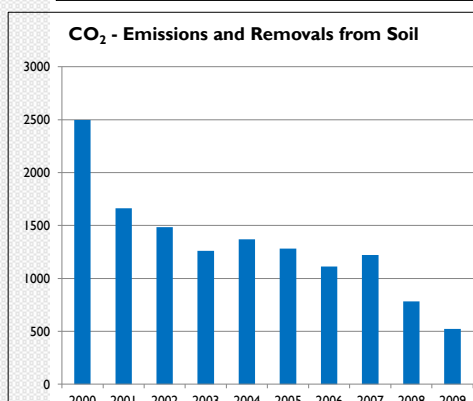
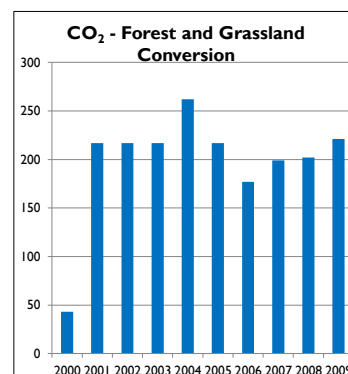
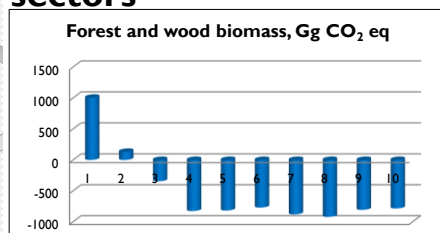
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## GHG, LUCF – Gg CO<sub>2</sub> eq, 2000-2009

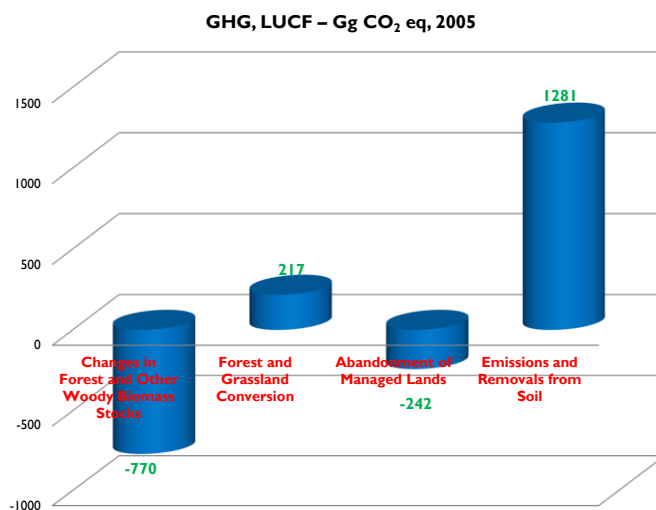


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## GHG, LUCF – Gg CO<sub>2</sub> eq, 2000-2009, by sub sectors

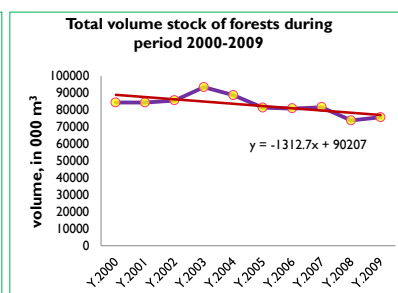
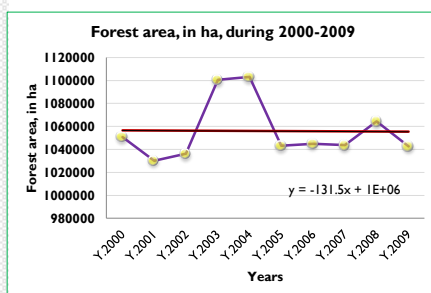
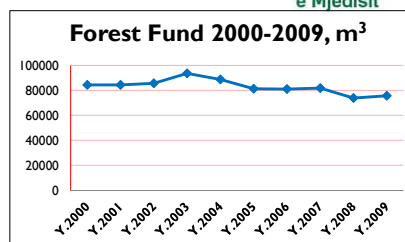
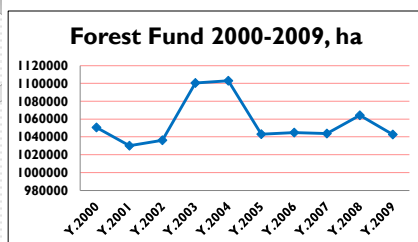


## GHG, LUCF – Gg CO<sub>2</sub> eq, 2005

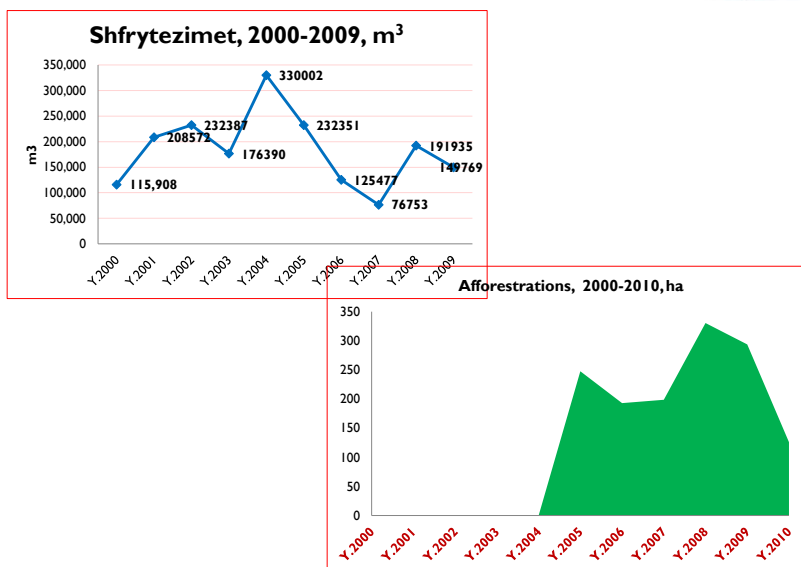


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## Forest Fund



## Forest Fund additions/decreases



## Reasons of these results (LUC)



- Technological improvements (use of equipment with greater efficiency, the quality of houses, renewable energy, etc) is increasing (2000-2009).
- Use of electricity in heating and cooking (low price, easy of use and non-payment of electricity).
- Incorrect reporting of changes to the forest fund. No matter what happen on the ground, the forest fund is reported to be minimally reduced (55,000-200,000 m<sup>3</sup>/year) – commercial logging.
- There are no accurate reports for firewood used by residents in the villages.
- Fires almost in no case are reported as shortages of forest fund, and thus are not part of the GHG inventory.
- There are no logical figures in the national forest cadaster (forest fund for 2-3 years hovers at +/- 75,000 ha or 15% of it).
- References used for forest cadaster (National Forest Institute of 1985).
- No significant changes in land use



## Sector Issues (FOREST)



- Reliability of data is minimal (10-20 %).
- Forest Cadaster and calculation of annual forest growth- there is not a credible basis (data based on the 30 years before).
- The methodology of calculating the annual growth –it must be based on concrete data).
- Need an unified methodology for calculating of GHGs on forest that are burnt or fire permeates.
- Need for multiannual data available (a time series of 30 years).
- Details of data- Data to be detailed by categories of forest, etc.
- Reflecting of surfaces that are forested and their situation in the next years onwards.
- Improvement surfaces of forest (treated) should be reflected in the cadaster.
- The sector, in the absence of any other alternative, has to use the NANR's methodology for calculating the consumption of firewood for heating and cooking.

## Sector Issues (LUCF)



- There is not an national cadaster, where are registered the land cover categories on which to reflect relevant changes in them (domestic water surfaces, surfaces of residential areas, roads, hydropower, empty surfaces, sandy surfaces, etc).
- The data format is not compatible with the GHG inventory.
- No data according to the inventory time series.
- Online sources of data are very limited (INSTAT, FAO, etc).
- Pastured surfaces had significant fluctuations.
- Forest and LUCF recommendation: review/revaluation of cadastral data, the average annual growth, and reporting to increase the forest fund (afforestation) for the entire period of reporting within this inventory.
- Unique cadaster for land use at the national level.

## Sector Issues (Agriculture)



- No data on land that are burnt.
- Need for an unified methodology for calculating the GHG emissions in the surfaces that are burned or permeates fire.
- It is better to have specific coefficient of GHG emissions from livestock, since it has specific nature (we are using IPCC coefficients).
- No accurate data for organic soils.
- No data on system (if any) for the treatment of sewage farms.
- No data for the number of livestock.
- No data for the quality of pastures.

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# THANK YOU!

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