Forestry Department
Food and Agriculture Organization of the United Nations

GLOBAL FOREST RESOURCES ASSESSMENT

COUNTRY REPORTS

ALBANIA

FRA2005/134
Rome, 2005

The Forest Resources Assessment Programme

Sustainably managed forests have multiple environmental and socio-economic functions important at the global, national and local scales, and play a vital part in sustainable development. Reliable and up-to-date information on the state of forest resources - not only on area and area change, but also on such variables as growing stock, wood and non-wood products, carbon, protected areas, use of forests for recreation and other services, biological diversity and forests' contribution to national economies - is crucial to support decision-making for policies and programmes in forestry and sustainable development at all levels.

FAO, at the request of its member countries, regularly monitors the world's forests and their management and uses through the Forest Resources Assessment Programme. This country report forms part of the Global Forest Resources Assessment 2005 (FRA 2005), which is the most comprehensive assessment to date. More than 800 people have been involved, including 172 national correspondents and their colleagues, an Advisory Group, international experts, FAO staff, consultants and volunteers. Information has been collated from 229 countries and territories for three points in time: 1990, 2000 and 2005.

The reporting framework for FRA 2005 is based on the thematic elements of sustainable forest management acknowledged in intergovernmental forest-related Fora and includes more than 40 variables related to the extent, condition, uses and values of forest resources. More information on the FRA 2005 process and the results - including all the country reports - is available on the FRA 2005 Web site (www.fao.org/forestry/fra2005).

The Global Forest Resources Assessment process is coordinated by the Forestry Department at FAO headquarters in Rome. The contact person for matters related to FRA 2005 is:

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Contents

1 Table T1 – Extent of Forest and Other wooded land

1.1 FRA 2005 Categories and definitions

Category	Definition
Forest	Land spanning more than 0.5 hectares with trees higher than 5 meters and a canopy cover of more than 10 percent or trees able to reach these thresholds in situ. It does not include land that is predominantly under agricultural or urban land use.
Other wooded land	Land not classified as "Forest". Spanning more than 0.5 hectares; with trees higher than 5 meters and a canopy cover of 5-10 percent or trees able to reach these thresholds in situ. It does not include land that is predominantly under agricultural or urban land use.
Other land	All land that is not classified as "Forest" or "Other wooded land"
Other land with tree cover (Subordinated to "Other Land")	Land classified as "Other land", spanning more than 0.5 hectares with a canopy cover of more than 10 percents of trees able to reach a height of 5 meters at maturity.
Inland water bodies	Inland water bodies generally include major rivers, lakes and water reservoirs.

1.2 National data

1.2.1 Data sources

References to sources of information	Quality (H/M/L)	Variables	Years	Additional comments
ARFCSCFF. 1991-1998.Annual Reports of Forest Cadastre on Situation of Country Forest Fund. 1991-1999. Institute of Forest and Pasture Researches	M	-Forest area -High stem forest -Coppice -Other forest area -Brushes	1990-1998	
ARFCSCFF. 1999-2003.Annual Reports of Forest Cadastre on Situation of Country Forest Fund. 2000-2004. General Directory of Forest and Pastures.	M	-Forest area -High stem forest -Coppice -Other forest area -Brushes	1999-2003	

1.2.2 Classification and definitions

National class	Definition
Forest area	Forest was named a density forest tree group with an area more than 0.1 hectare and with cover grade no less than 30 % that produce wood mass and affect on the environment.
High stem forest area	Area covered by seed regenerated forest
Coppice area	Area covered by sprouts regenerated forest
Brushes area	Area covered with tree no over 5 m high
Other forest area	The land with forest plants was named the areas with cover grade from 5 % to 30 % uncadastrated in the other soil stocks. Also, were included in the forest stock all nude areas as clearing areas, rock and sandy areas with an area to 2 hectare located in the forest, the areas occupied from shelterbelts, isolated tree groups and brushes areas.

*Our definitions on Forest area and Other forest area were approved by the law no.7623, date 13.10.1992 (item 3) on forest and policy of forest service.

**High stem forest and Coppice forest areas are subclasses of forest area also, brushes area were included in Other wooded land area.

1.2.3 Original data

National Data

FRA 2005	Forest Cover in "000" ha													
Classes	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
Forest	788.8	785.9	782.1	778.2	776.8	775.2	774.3	772.0	768.9	771.6	769.3	772.1	778.9	779.9
-High stem	486.5	483.2	479.1	474.7	473.0	471.2	470.3	468.7	463.7	464.1	459.6	460.7	459.5	456.0
-Coppice	302.3	302.7	303.0	303.5	303.8	304.0	304.0	303.3	305.2	307.5	3097	311.4	319.4	323.9
Other forest area	**NDA**	**NDA**	**NDA**	**NDA**	13.7	14.7	17.3	19.6	21.5	22.7	23.9	20.9	21.5	23.4
Brushes	255.9	255.7	255.9	255.1	254.9	254.8	255.9	256.1	256.1	256.1	254.5	257.9	257.3	258.5
Other	1695	1698	1702	1707	1695	1695	1693	1692	1693	1690	1692	1689	1682	1678
Inland water bodies	135	135	135	135	135	135	135	135	135	135	135	135	135	135
Total Area of Country	2875	2875	2875	2875	2875	2875	2875	2875	2875	2875	2875	2875	2875	2875

1.3 Analysis and processing of national data

1.3.1 Calibration

Not needed. The areas were checked with total area of land according to United Nations Organization Statistics.

1.3.2 Estimation and forecasting

Estimation and forecasting

1990-2003 reported
2005 evaluated by mean of regression:

Category	Area in 000 ha forecasted for 2005
Forest	793.8
Brushes	260.8

Forecasting for the year 2005 by mean of the found regression amongst the figures for each one-year with number of year was made.

After replacing for X=16 correspond for the year 2005 the figures for the year 2005 was found.

The found regressions are following:

Forest $Y=-0.0198\ X^3-0.1434\ X^2-2.622\ X+791.21$ $R^2=0.9512$

Shrubs $Y=0.0008\ X^4-0.0229\ X^3+0.2435\ X^2-1.0678\ X+256.92$ $R^2=0.6596$

For X=16 the forecasting figures of the year 2005 in the table 1.3.2 were taken.

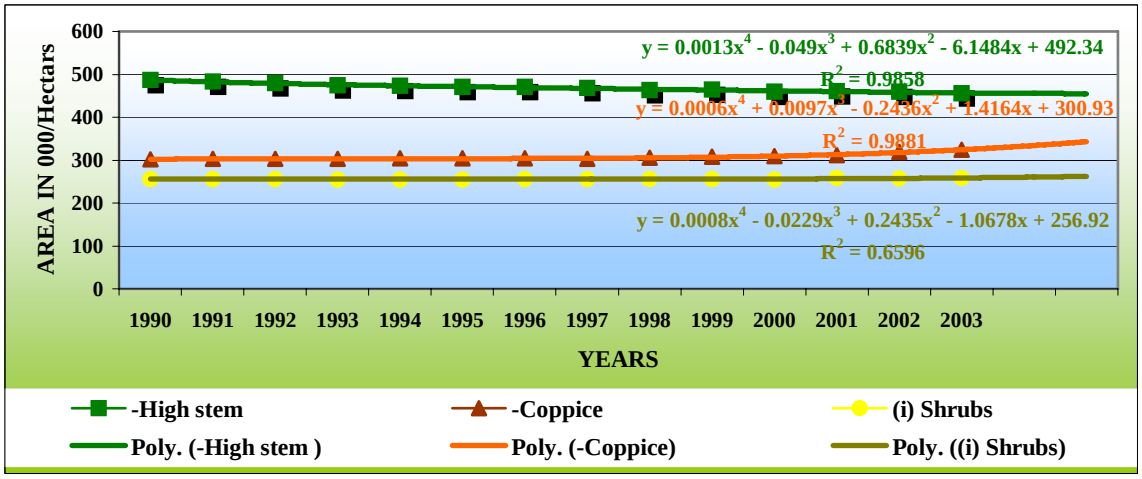

Fig.no.1-Area after classes-High stems forest, Coppice and Shrubs

1.4 Reclassification into FRA 2005 classes

Reclassification

National classes	Percentage of national classes belong to FRA classes			
Classes	Forest	Other wooded land	Other land with forest tree	Other land
Forest				
-High stem	100			
-Coppice	100			
Other forest area				100
Shrubs		100		
Other				100

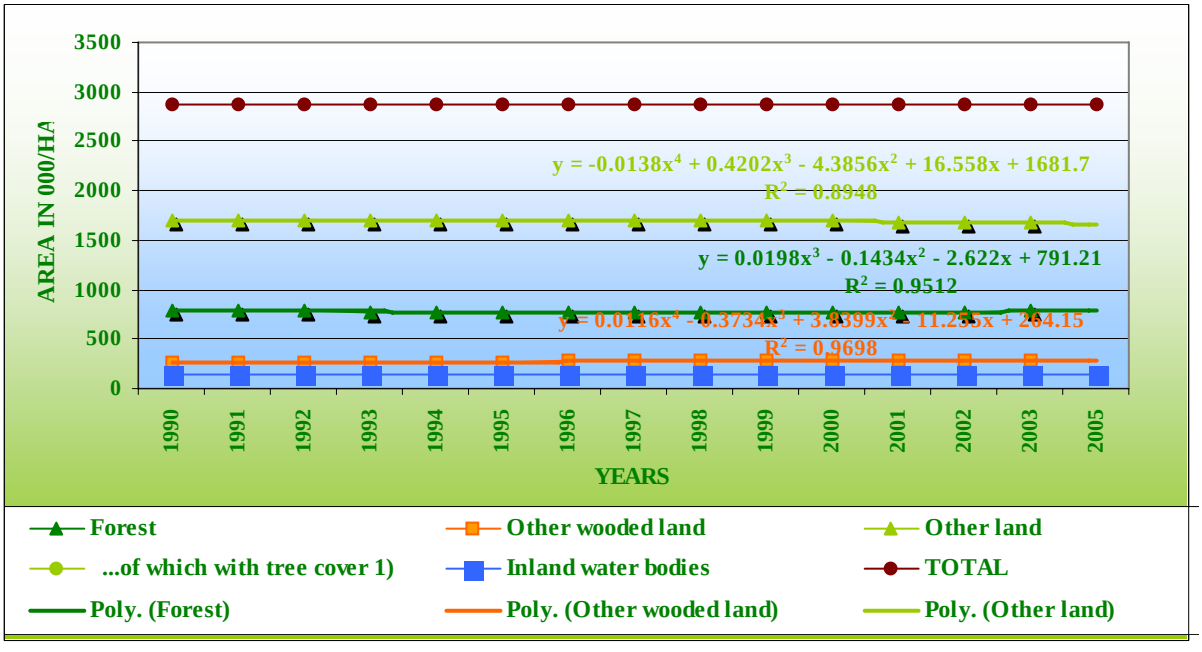

Fig.no.2-Area after classes-Forest, Other wooded land and Other land

1.5 Data for National reporting table T1

FRA 2005 Categories	Area 1000 hectares		
	1990	**2000**	**2005**
Forest	789	769	794
Other wooded land	256	255	261
Other land	1695	1716	1685
...of which with tree cover [1)]	NDA	NDA	NDA
Inland water bodies	135	135	135
TOTAL	**2875**	**2875**	**2875**

1) Area of "Other land with tree cover" is included in the area reported under "Other land" and should therefore be excluded when calculating the total area for the country.

1.6 Comments to National reporting table T1

The area of forest is lower than that reported for FRA 2000, due of the definition there not so clear on the forest, from us, included the area of shrubs in the forest area instead of classifying this as other wooded land.

2 Table T2 – Ownership of Forest and Other wooded land

2.1 FRA 2005 Categories and definitions

Category	Definition
Private ownership	Land owned by individuals. Families. Private co-operatives. Corporations. Industries. Religious and educational institutions. Pension or investment founds. and other private institutions.
Public ownership	Land owned by the State (national. state and regional governments) or government-owned institutions or corporations or other public bodies including cities. Municipalities. Villages and communes.
Other ownership	Land that is not classified either as "Public ownership" or as "Private ownership"

2.2 National data

2.2.1 Data sources

References to sources of information	Quality (H/M/L)	Variables	Years	Additional comments
ARFCSCFF. 1991-1998. Annual Report of Forest Cadastre on Situation of Country Forest Fund. 1991-1999. Institute of Forest and Pasture Researches	M	Private ownership Public ownership	1990-1998	
ARFCSCFF. 1999-2003. Annual Report of Forest Cadastre on Situation of Country Forest Fund. 2000-2004. General Directory of Forest and Pastures.	M	Private ownership Public ownership	1999-2003	

2.2.2 Classification and definitions

National class	Definition
Private ownership	Private forests were all forest tree groups and reforestations established and existent inside of their own land ranges
State ownership	This forests were the ownership of the state
Communal forest	These forests were the ownership of the state but, were given in common using from village or some villages of the municipality.

*The definitions were approved by the law no.7623, date 13.10.1992 (item 4) on forest and policy of forest service**.**

2.2.3 Original data

National Data

FRA 2005	Area in "000" ha

*Communal forest area is included in Public ownership

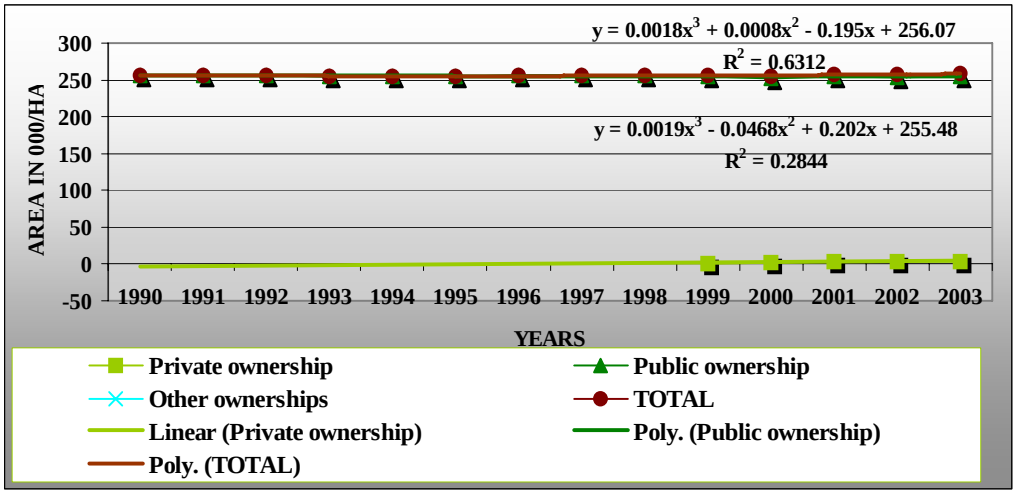

Fig.no.3-Area after classes of forest ownership-Private, Public and Total

National Data

FRA 2005	Area in "000" ha													
Categories	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
Other Wooded Land														
Private ownership	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.2	2.3	3.3	3.3	3.6
Public ownership	255.9	255.7	255.9	255.1	254.9	254.8	255.9	256.1	256.1	254.9	252.2	254.7	253.9	254.9
Other ownerships	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TOTAL	255.9	255.7	255.9	255.1	254.9	254.8	255.9	256.1	256.1	256.1	254.5	258.0	257.2	258.5

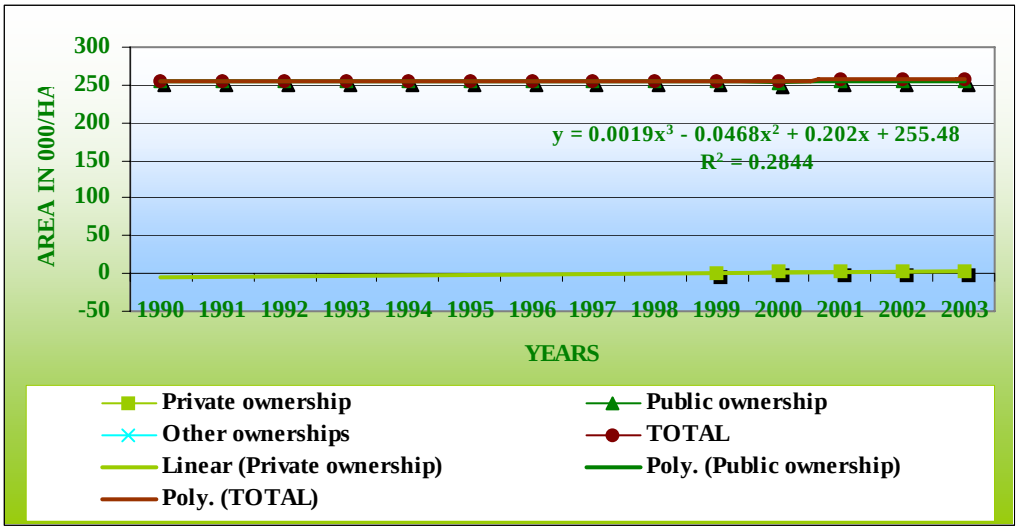

Fig.no.4-Area after classes of other wooded land ownership-Private, Public and Total

2.3 Analysis and processing of national data

2.3.1 Calibration

Not needed.

2.3.2 Estimation and forecasting

Not needed since figures for 1990 and 2000 are available directly.

2.4 Reclassification into FRA 2005 classes

Not needed.

2.5 Data for National reporting table T2

FRA 2005 Categories	Forest		Other wooded land	
	1990	2000	1990	2000
Private ownership	**0.0**	**6.8**	**0.0**	**2.3**
Public ownership	**789**	**762**	**256**	**252**
Other ownership	**0.0**	**0.0**	**0.0**	**0.0**
TOTAL	**789**	**769**	**256**	**255**

2.6 Comments to National reporting table T2

3 Table T3 – Designated function of Forest and Other wooded land

3.1 FRA 2005 Categories and definitions

Types of designation

Category	Definition
Primary function	A designated function is considered to be primary when it is significantly more important than other functions. This includes areas that are legally or voluntarily set-aside for specific purposes.
Total area with function	Total area where a specific function has been designated. Regardless whether it is primary or not.

Designation categories

Category / Designated function	Definition
Production	Forest/Other wooded land designated for production and extraction of forest goods. Including both wood and non-wood forest products.
Protection of soil and water	Forest/Other wooded land designated for protection of soil and water.
Conservation of biodiversity	Forest/Other wooded land designated for conservation of biological diversity.
Social services	Forest/Other wooded land designated for the provision of social services.
Multiple purpose	Forest/Other wooded land designated to any combination of: production of goods. Protection of soil and water. conservation of biodiversity and provision of social services and where of these alone can be considered as being significantly more important than the others.
No or unknown function	Forest/Other wooded land for which a specific function has not been designated or where designated function is unknown.

3.2 National data

3.2.1 Data sources

References to sources of information	Quality (H/M/L)	Variables	Years	Additional comments
ARFCSCFF. 1991-1998.Annual Report of Forest Cadastre on Situation of Country Forest Fund. 1991-1999. Institute of Forest and Pasture Researches	M	Production Protection of soil and water Conservation of biodiversity Social services Multiple purpose No or unknown function	1990-1998	
ARFCSCFF. 1999-2003. Annual Report of Forest Cadastre on Situation of Country Forest Fund. 2000-2004. General Directory of Forest and Pastures.	M	Production Protection of soil and water Conservation of biodiversity Social services Multiple purpose No or unknown function	1999-2003	

3.2.2 Classification and definitions

FRA definitions were used to form the classes from national data.

3.2.3 Original data

National Data

FRA 2005 Categories/ Designated function	Forest Area in "000" ha Primary function													
	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
Forest														
Production	685.0	683.3	680.0	677.7	676.5	675.3	646.4	638.5	638.6	628.4	620.0	623.5	609.8	605.6
Protection of soil and water	86.9	86.0	85.8	84.3	83.7	83.1	83.5	87.1	85.1	102.6	96.8	130.8	129.1	134.3
Conservation of biodiversity	16.9	16.6	16.3	16.3	16.6	16.8	44.5	46.4	45.4	40.6	52.4	18.0	40.0	40.0
Social services	NDA	NDA	NDA	NDA	NDA	NDA	NDA	NDA	NDA	NDA	NDA	NDA	NDA	NDA
Multiple purpose	NDA	NDA	NDA	NDA	NDA	NDA	NDA	NDA	NDA	NDA	NDA	NDA	NDA	NDA
No or unknown function	NDA	NDA	NDA	NDA	NDA	NDA	NDA	NDA	NDA	NDA	NDA	NDA	NDA	NDA
TOTAL	**788.8**	**785.9**	782.1	778.3	776.8	775.2	774.4	772.0	769.1	771.6	769.2	772.3	778.9	779.9

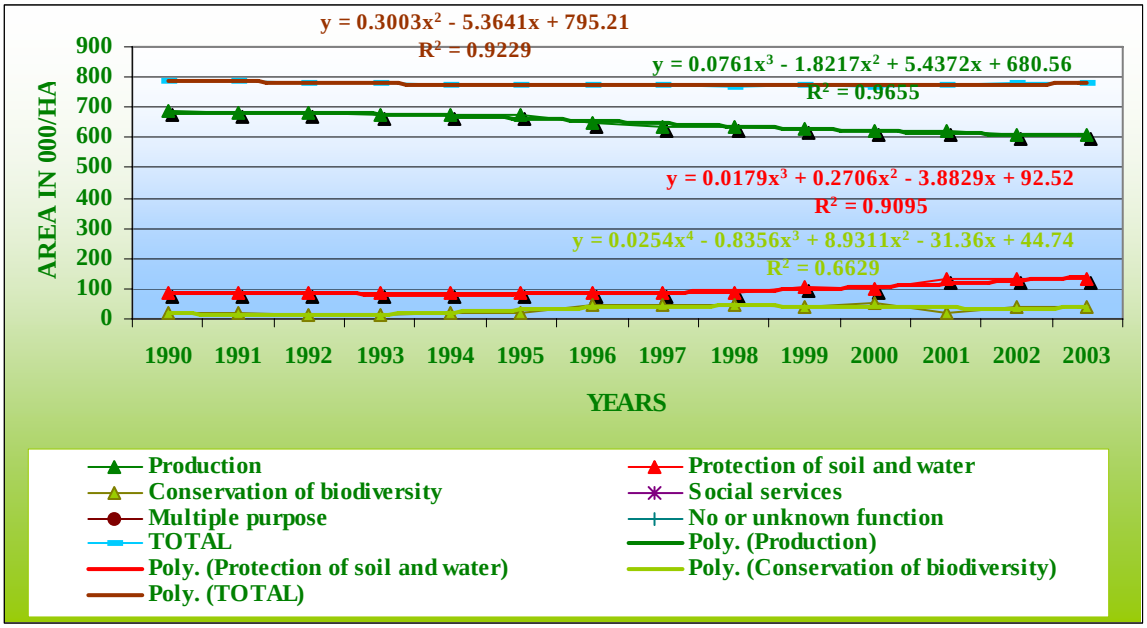

Fig.5-Area of forest after functions-Production, Protection of soil and water and Conservation of biodiversity

National Data

FRA 2005 Categories/ Designated function	Other Wooded Land Area in "000" ha Primary function													
	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
Other wooded land area														
Production	226.3	226.1	226.3	227.2	227.0	226.8	221.6	219.3	221.2	211.4	217.1	221.5	217.4	215.0
Protection of soil and water	25.8	24.7	25.8	24.1	24.1	24.2	24.5	24.9	25.2	27.3	25.5	18.5	21.8	25.5
Conservation of biodiversity	3.9	4.9	3.9	3.8	3.8	3.8	9.8	11.9	9.7	17.4	11.9	18.0	18.0	18.0
Social services	NDA	NDA	NDA	NDA	NDA	NDA	NDA	NDA	NDA	NDA	NDA	NDA	NDA	NDA
Multiple purpose	NDA	NDA	NDA	NDA	NDA	NDA	NDA	NDA	NDA	NDA	NDA	NDA	NDA	NDA
No or unknown function	NDA	NDA	NDA	NDA	NDA	NDA	NDA	NDA	NDA	NDA	NDA	NDA	NDA	NDA
TOTAL	255.9	255.7	256.0	255.1	254.9	254.8	255.9	256.1	256.1	256.1	254.5	258.0	257.2	258.5

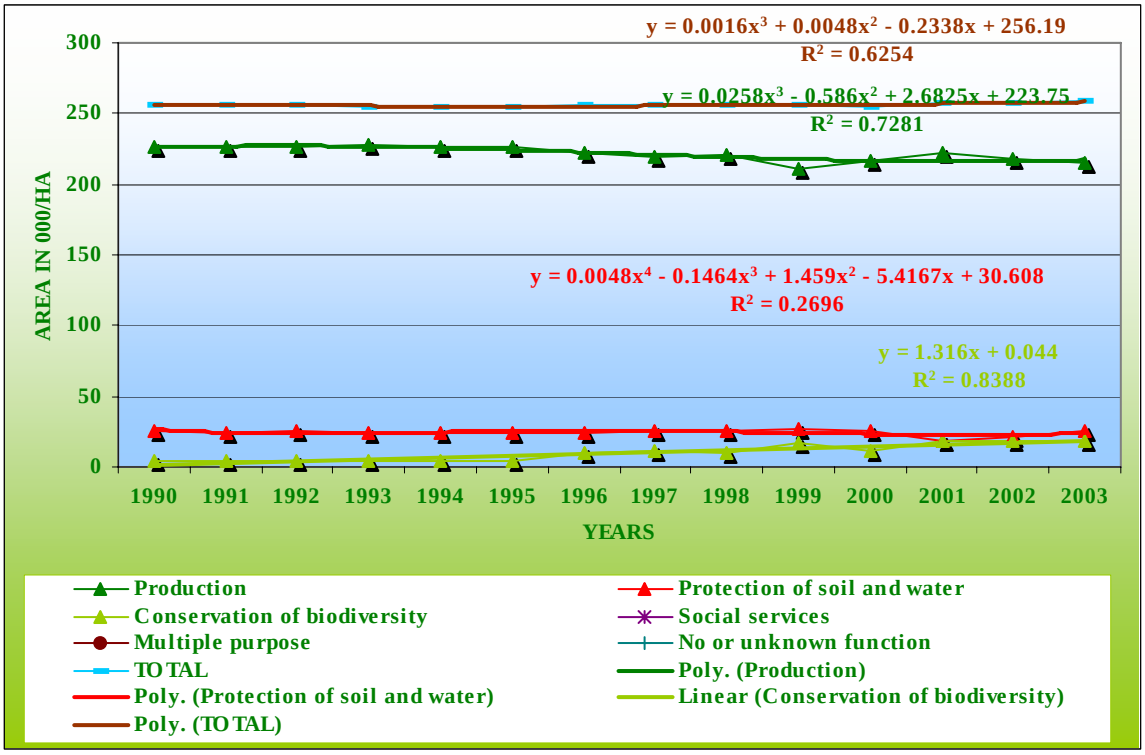

Fig.6-Area of other wooded land after functions-Production, Protection of soil and water, Conservation of biodiversity and Total

3.3 Analysis and processing of national data

3.3.1 Calibration

Not needed.

3.3.2 Estimation and forecasting

Estimation and forecasting

1990-2003 reported
2005 evaluated by mean of regression.

Forecasting for the year 2005 by mean of the found regression amongst the figures for each one-year with number of year was made.

After replacing for X=16 correspond for the year 2005 the figures for the year 2005, was found.

The found regressions are following:

Forest

Forest Production	$Y=0.0761\ X^3-1.8217\ X^2+5.4372\ X+680.56$	$R^2=0.9655$
Protection of soil and water	$Y=0.0179\ X^3+0.2706\ X^2-3.8829\ X+92.52$	$R^2=0.9459$
Conservation of biodiversity	$Y=0.0048\ X^4-0.1464\ X^3+1.459\ X^2-5.4167\ X+30.608$	$R^2=0.6629$

Other wooded land

Production	$Y=0.0258\ X^3-0.586\ X^2+2.6825\ X+223.75$	$R^2=0.9655$
Protection of soil and water	$Y=0.0254\ X^4-0.8356\ X^3+8.9311\ X^2-31.36X+44.74$	$R^2=0.2696$
Conservation of biodiversity	$Y=1.316\ X+0.044$	$R^2=0.8388$

For X=16 the forecasting figures of the year 2005 in the table 3.5, were taken.

3.4 Reclassification into FRA 2005 classes

Not needed.

3.5 Data for National reporting table T3

FRA 2005 Categories / Designated function	Area (1000 hectares)					
	Primary function			Total area with function		
	1990	2000	2005	1990	2000	2005
Forest						
Production	685.0	618.9	542.0	685.0	618.9	542.0
Protection of soil and water	86.9	96.8	180.5	86.9	96.8	180.5
Conservation of biodiversity	16.8	52.4	71.3	16.8	52.4	71.3
Social services	NDA	NDA	NDA	NDA	NDA	NDA
Multiple purpose	NDA	NDA	NDA	not appl.	not appl.	not appl.
No or unknown function	NDA	NDA	NDA	not appl.	not appl.	not appl.
Total – Forest	**788.8**	**769.2**	**793.8**	**not appl.**	**not appl.**	**not appl.**
Other wooded land						
Production	226.3	217.1	206.7	226.3	217.1	206.7
Protection of soil and water	25.8	25.5	33.0	25.8	25.5	33.0
Conservation of biodiversity	3.9	11.9	21.1	3.9	11.9	21.1
Social services	NDA	NDA	NDA	NDA	NDA	NDA
Multiple purpose	NDA	NDA	NDA	not appl.	not appl.	not appl.
No or unknown function	NDA	NDA	NDA	not appl.	not appl.	not appl.
Total – Other wooded land	**255.9**	**254.5**	**260.8**	**not appl.**	**not appl.**	**not appl.**

3.6 Comments to National reporting table T3

4 Table T4 – Characteristics of Forest and Other wooded land

4.1 FRA 2005 Categories and definitions

Category	Definition
Primary	Forest / Other wooded land of native species. Where there are no clearly visible indications of human activities and the ecological processes are not significantly disturbed.
Modified natural	Forest / Other wooded land of naturally regenerated native species where there are clearly visible indications of human activities.
Semi-natural	Forest / Other wooded land of native species. Established through planting seeding or assisted natural regeneration.
Productive plantations	Forest / Other wooded land of introduced species and in some cases native species established through planting or seeding mainly for production of wood or non wood goods.
Protective plantations	Forest / Other wooded land of native or introduced species established through planting or seeding mainly for provision of services.

4.2 National data

4.2.1 Data sources

References to sources of information	Quality (H/M/L)	Variables	Years	Additional comments
ARFCSCFF. 1991-1998.Annual Report of Forest Cadastre on Situation of Country Forest Fund. 1991-1999. Institute of Forest and Pasture Researches	M	Primary Modified natural Semi-natural Productive plantations Protective plantations	1990-1998	
ARFCSCFF. 1999-2003. Annual Report of Forest Cadastre on Situation of Country Forest Fund. 2000-2004. General Directory of Forest and Pastures.	M	Primary Modified natural Semi-natural Productive plantations Protective plantations	1999-2003	

4.2.2 Classification and definitions

FRA definitions were used to form the classes from national data.

4.2.3 Original data

National Data

FRA 2005 Categories	Forest Area in "000" ha													
	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
Primary	84.8	84.8	84.8	84.8	84.8	84.8	84.8	84.8	84.8	84.8	84.8	84.8	84.8	84.8
Modified natural	600.7	600.0	596.0	599.0	594.0	599.4	599.8	599.2	598.8	593.4	588.0	598.9	598.5	606.0
Semi-natural	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Productive plantations	10.8	10.0	10.5	9.3	8.6	6.1	5.9	6.4	5.2	5.3	4.7	4.3	5.2	5.1
Protective plantations	92.5	91.1	90.8	85.2	89.4	84.9	83.9	81.6	80.3	88.1	91.7	83.4	90.4	84.0
TOTAL	788.8	785.9	782.1	778.3	776.8	775.2	774.4	772.0	769.1	771.6	769.2	772.3	778.9	779.9

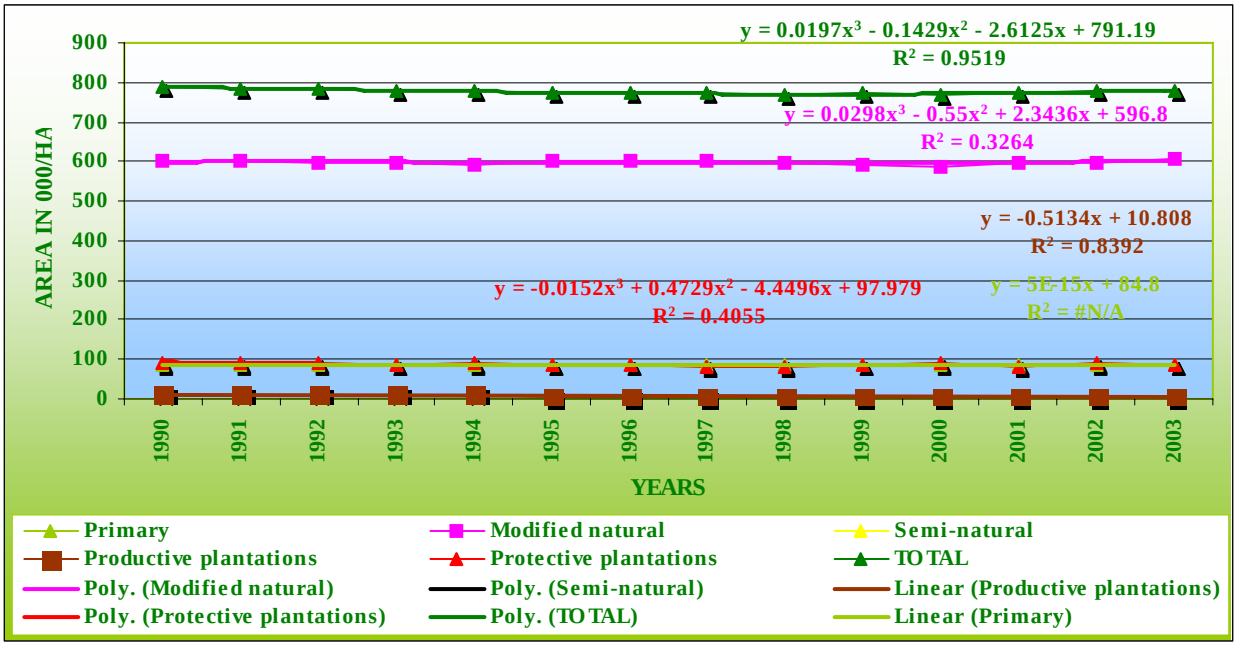

Fig.7-Area of forest after characteristics-Primary, Modified natural, Semi-natural, Productive Plantations, Protective plantations and Total

National Data

FRA 2005 Categories	Other Wooded Area in "000" ha													
	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
Primary														
Modified natural	254.2	253.9	254.3	253.7	253.8	253.9	254.6	254.6	255.3	255.2	253.5	257.4	256.7	258.2
Semi-natural	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Productive plantations	1.5	1.7	1.5	1.5	1.1	0.8	0.6	0.7	0.7	0.7	0.7	0.5	0.5	0.3
Protective plantations	0.2	0.2	0.2	0.0	0.0	0.1	0.7	0.8	0.1	0.2	0.3	0.1	0.0	0.0
TOTAL	255.9	255.7	255.9	255.1	254.9	254.8	255.9	256.1	256.1	256.1	254.5	258.0	257.2	258.5

*In productive plantations, willow plantations to produce withes and sweet ball plantations to produce leaves, were included. Also, in protection plantations *Hypophea rhamnoides* plantations and willow plantations to protect the soil from water erosion were included.

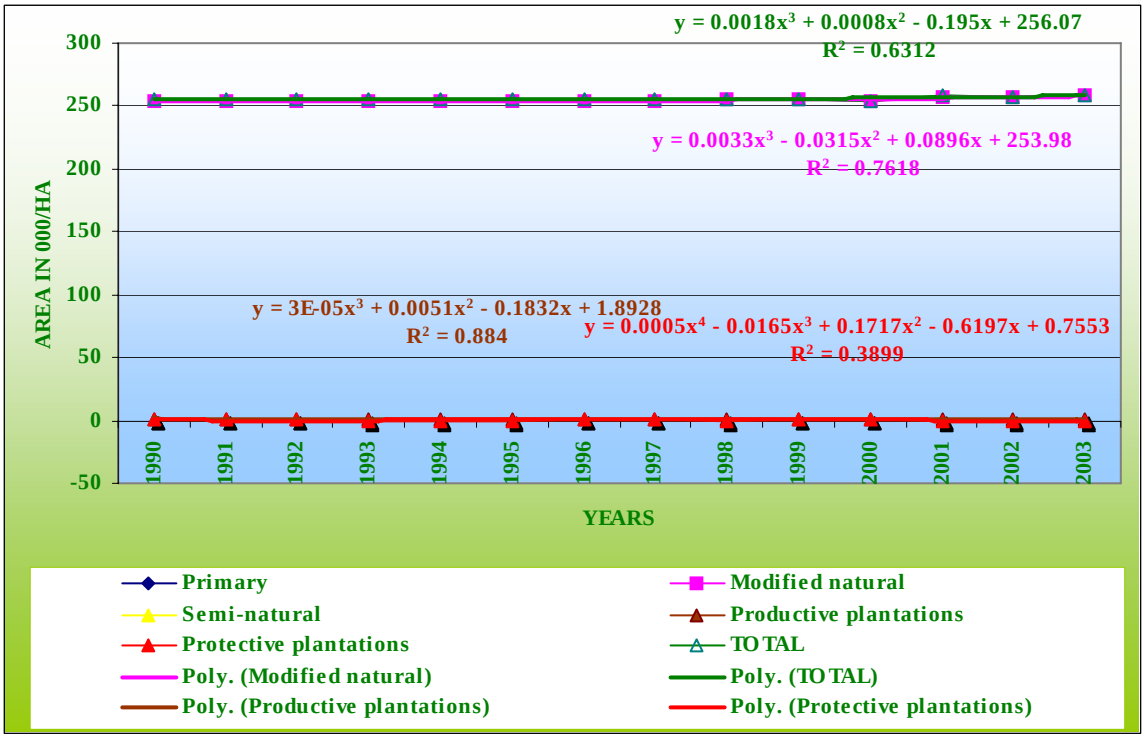

Fig.8-Area of other wooded land after characteristics-Primary, Modified natural, Semi-natural, Productive plantations, Protective plantations and Total

4.3 Analysis and processing of national data

4.3.1 Calibration

Not needed.

4.3.2 Estimation and forecasting

Estimation and forecasting

1990-2003 reported
2005 evaluated by mean of regression.

Forecasting for the year 2005 by mean of the found regression amongst the figures for each one-year with number of year was made.

After replacing for X=16 correspond for the year 2005 the figures for the year 2005 was found.

The found regressions are following:

Forest

Primary	Y=5E-15 X+84.8	R^2=#N/A
Modified natural	Y=0.0298 X^3-0.55 X^2+2.3436 X+596.8	R^2=0.3264
Semi natural		
Productive Plantations	Y=-0.5134 X+10.808	R^2=0.8392
Protective Plantations	Y=-0.0152 X^3+0.4729 X^2-0.4496 X+97.979	R^2=0.4055

Other wooded land

Primary		
Modified natural	Y=0.0033 X^3-0.0315 X^2+0.0896 X+253.98	R^2=0.7618
Semi naturel		
Productive Plantations	Y=3E-0.5 X^3+0.0051 X^2-0.1832 X+1.8928	R^2=0.884
Protective Plantations	Y=0.0005 X^4-0.0165 X^3+0.1777 X^2-0.6197 X+0.7553	R^2=0.3899

For X=16 the forecasting figures of the year 2005 in the table 4.5 were taken.

4.4 Reclassification into FRA 2005 classes

Not needed.

4.5 Data for National reporting table T4

FRA 2005 Categories	Area (1000 hectares)					
	Forest			Other wooded land		
	1990	2000	2005	1990	2000	2005
Primary	84.8	84.8	84.8	0.0	0.0	0.0
Modified natural	601	588	621	254	254	261
Semi-natural	0.0	0.0	0.0	0.0	0.0	0.0
Productive plantations	10.8	4.7	2.6	1.5	0.7	0.3
Protective plantations	92.5	91.7	85.6	0.2	0.3	0.0
TOTAL	**789**	**769**	**794**	**256**	**255**	**261**

4.6 Comments to National reporting table T4

Productive plantations classified as OWL include willow plantations to produce withes and sweet ball plantations to produce leaves.

Protective plantations classified as OWL include *Hypophea rhamnoides* plantations and willow plantations to protect the soil from water erosion.

Starting from the year 1990 Albania changed the social system from socialist system to market economy system and is passing a transition period from one to another system also, during the years 1996-1997 the all social system was in total collapse situation and no possibility to make the investment and in forestry area development so, this was the main reason that the investments were reduced to zero level in the plantation area. Beginning from these years by supporting of World Bank begun a project on Forestry Development of Albania certainly, starting at first to consolidate the forestry institutions and after to make the investments in different areas of forestry. In Albania there are the terrenes to make plantations on the area over 300.000 hectares (three hundred thousands hectares). Absolutely, it isn't simply a reflection of the method used for data collection/forecasting.

5 Table T5 – Growing stock

5.1 FRA 2005 Categories and definitions

Category	Definition
Growing stock	Volume over back of all living trees more than X cm in diameter at breast height (or above buttress if these are higher). Includes the stem from ground level or stump height up to a top diameter of Y cm. and may also include branches to a minimum diameter of W cm.
Commercial growing stock	The part of the growing stock of species that are considered as commercial or potentially commercial under current market conditions. and with a diameter at breast height of Z cm or more.

5.2 National data

5.2.1 Data sources

References to sources of information	Quality (H/M/L)	Variables	Years	Additional comments
ARFCSCFF. 1991-1998.Annual Report of Forest Cadastre on Situation of Country Forest Fund. 1991-1999. Institute of Forest and Pasture Researches	M	Growing stock Commercial growing stock	1990-1998	
ARFCSCFF. 1999-2003. Annual Report of Forest Cadastre on Situation of Country Forest Fund. 2000-2004. General Directory of Forest and Pastures.	M	Growing stock Commercial growing stock	1999-2003	

5.2.2 Classification and definitions

FRA definitions to form the classes from national data were used.
Our Volume Tables and Yield Tables consider the diameters >2 cm to calculate the tree volume and stand wood production for one hectare (See complementary information in the table).

The definition of Growing Commercial Stock is the same as it of FRA but, after my opinion the Growing Stock of Protection Forest could not be Growing Commercial Stock because we can not harvest it for commercial aim.

5.2.3 Original data

Commercial growing stock was calculated discounting from the amount of growing stock the volume of protection forest of soil and water and conservation of biodiversity forest.

National Data

FRA 2005 Categories	Volume (million cubic meters over bark)													
	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
Forest														
Growing stock	75.2	74.6	74.3	74.6	75.6	76.0	76.6	80.3	74.6	75.3	75.8	76.4	77.8	77.6
Commercial growing stock	66.1	65.6	68.3	65.7	66.6	67.0	61.4	64.6	59.1	66.4	59.3	64.1	63.4	60.1
TOTAL	75.2	74.6	74.3	74.6	75.6	76.0	76.6	80.3	74.6	75.3	75.8	76.4	77.8	77.6

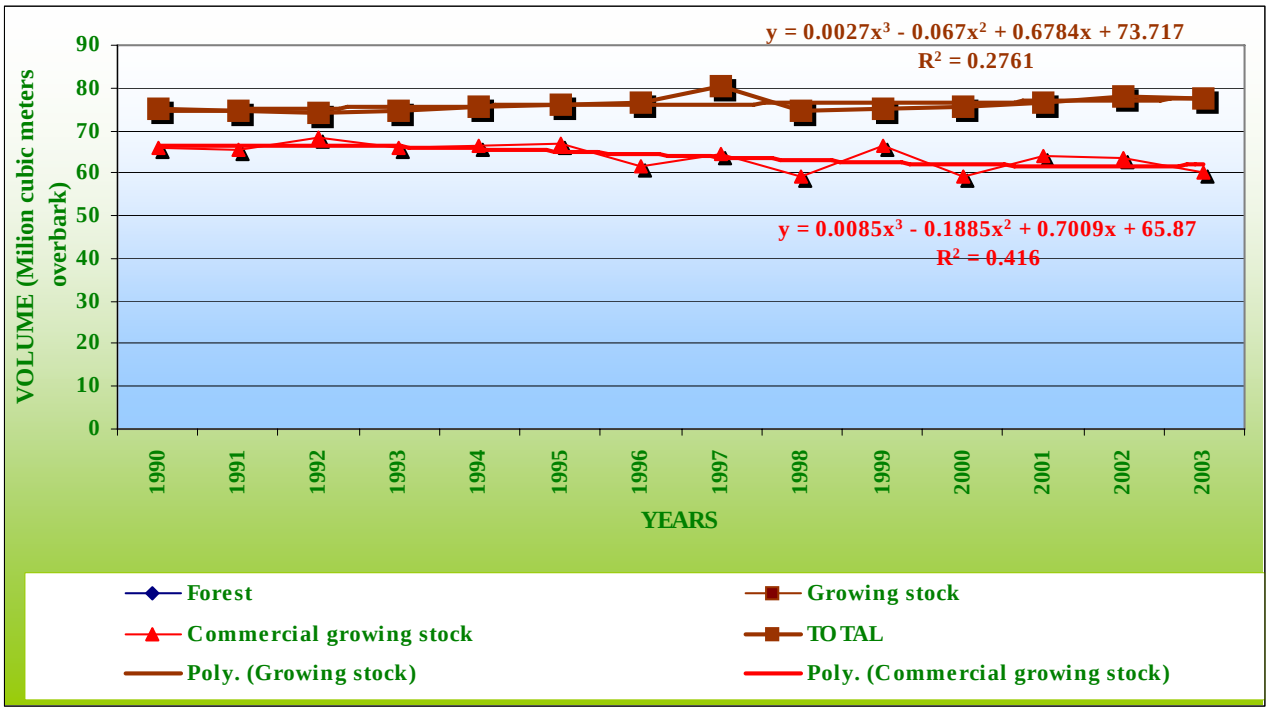

Fig.no.9-Growing stock of the forest-Growing stock and Commercial growing stock

National Data

FRA 2005 Categories	Volume (million cubic meters over bark)													
	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
Other wooded land														
Growing stock	6.9	6.8	6.9	7.1	7.2	7.4	7.6	8.0	7.8	8.0	8.0	7.9	7.8	8.0
Commercial growing stock	6.2	6.1	6.2	6.4	6.5	6.7	6.6	6.9	6.9	7.0	7.0	6.9	6.8	7.0
TOTAL	6.9	6.8	6.9	7.1	7.2	7.4	7.6	8.0	7.8	8.0	8.0	7.9	7.8	8.0

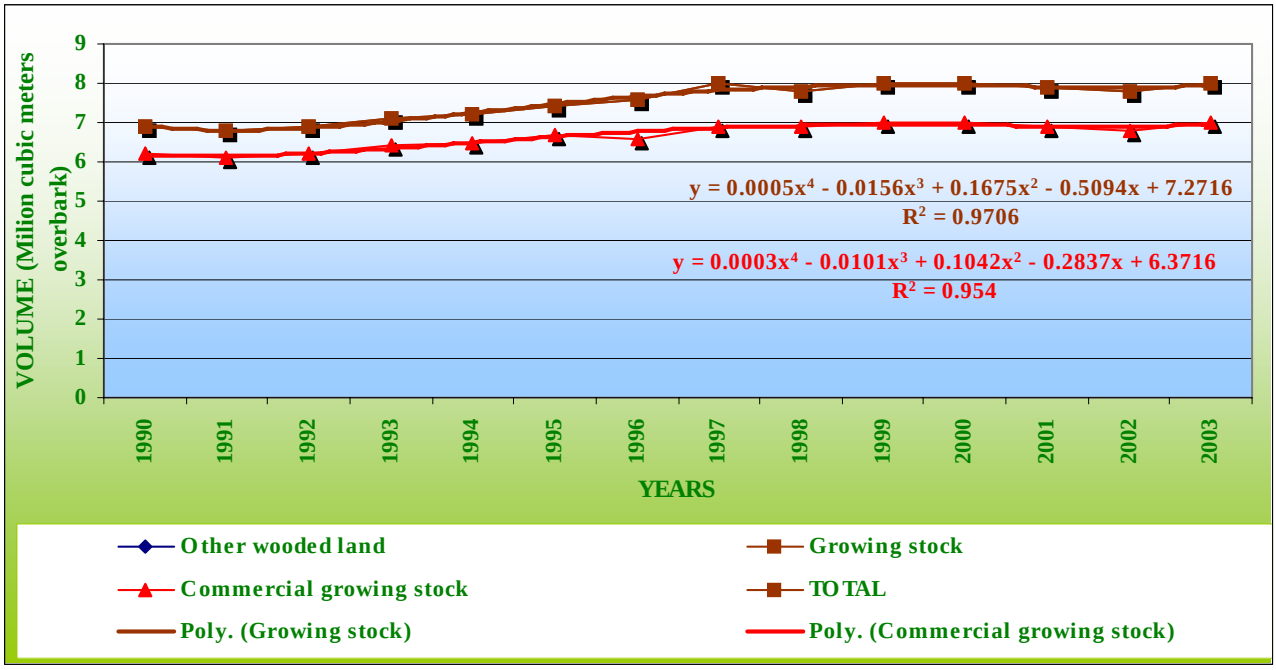

Fig.no.10-Growing stock of the other wooded land-Growing stock and Commercial growing stock

Specifications of country threshold values	**Unit**	**Value**	**Complementary information**
1. Minimum diameter at breast height of trees included in Growing stock (X)	Cm	2.0	Volume and Yield Tables
2. Minimum diameter at the top end of steam (Y) for calculation of growing stock	Cm	2.0	Volume and Yield Tables
3. Minimum diameter of branches included in Growing stock (W)	Cm	2.0	Volume and Yield Tables
4. Minimum diameter at breast height of trees in Commercial growing stock (Z)	Cm	2.0	Volume and Yield Tables
5. Volume refers to “Above ground” (AG) or “Above stump” (AS)	AG / AS	AG	Volume and Yield Tables
6. Have any of the above threshold (points 1 to 4) Changed since 1990	Yes / No	No	
7. If yes. then attach a separate note giving details Of the change	Attachment		

5.3 Analysis and processing of national data

5.3.1 Calibration

Not needed.

5.3.2 Estimation and forecasting

Estimation and forecasting

1990-2003 reported
2005 evaluated by mean of regression.

Forecasting for the year 2005 by mean of the found regression amongst the figures for each one-year with number of year was made.

After replacing for X=16 correspond for the year 2005 the figures for the year 2005 was found.

The found regressions are following:

Forest

Growing Stock $Y=0.0027\ X^3-0.067\ X^2+0.6784\ X+73.17$ $R^2=0.2761$

Commercial Growing Stock $Y=0.0085\ X^3-0.1885\ X^2+0.7009\ X+65.87$ $R^2=0.416$

Other wooded land

Growing Stock $Y=0.0005\ X^4-0.0156\ X^3+0.1675\ X^2-0.5094\ X+7.2716$ $R^2=0.9706$

Commercial Growing Stock $Y=0.0003\ X^4-0.0101\ X^3+0.1042\ X^2-0.2837\ X+6.3716$ $R^2=0.954$

For X=16 the forecasting figures of the year 2005 in the table 5.5 were taken.

5.4 Reclassification into FRA 2005 classes

Not needed.

5.5 Data for National reporting Table T5

FRA 2005 Categories	Volume (million cubic meters over bark)					
	Forest			Other wooded land		
	1990	2000	2005	1990	2000	2005
Growing stock	75.2	75.8	78.5	6.9	8.0	10.9
Commercial growing stock	66.1	59.3	63.6	6.2	7.0	6.8

5.6 Comments to National reporting table T5

6 Table T6 – Biomass stock

6.1 FRA 2005 Categories and definitions

Category	Definition
Above-ground biomass	All living biomass above the soil including stem. branches. bark. seeds. and foliage.
Below-ground biomass	All living biomass of live roots. Fine roots of less than 2mm diameter are excluded because these often cannot be distinguished empirically from soil organic matter or litter.
Dead wood biomass	All non-living woody biomass not contained in the litter. either standing. lying on the ground. or in the soil. Dead wood includes wood lying on the surface. dead roots. and stumps larger than or equal to 10 cm in diameter or any other diameter used by the country.

6.2 National data

6.2.1 Data sources

References to sources of information	Quality (H/M/L)	Variables	Years	Additional comments
ARFCSCFF. 1991-1998.Annual Report of Forest Cadastre on Situation of Country Forest Fund. 1991-1999. Institute of Forest and Pasture Researches	M	Growing stock of each one species as follow: 1.Fagus silvatica L.-Beech 2.Quercus sp.L.-Oaks 3.Quercus vallonea L.-Vallonea oak 4.Pinus nigra Arn.-Black pine 5.Other broadleaves 6.Abies alba Mill.-Silver fir 7.Other coniferous 8.Carpinus orientalis L.-Hornbeam 9.Arbutus unedo L.-Strawberry 10.Other bushes	1990-1998	
ARFCSCFF. 1999-2003. Annual Report of Forest Cadastre on Situation of Country Forest Fund. 2000-2004. General Directory of Forest and Pastures.	M	Growing stock of each one species as follow: 1.Fagus silvatica L.-Beech 2.Quercus sp.L.-Oaks 3.Quercus vallonea L.-Vallonea oak 4.Pinus nigra Arn.-Black pine 5.Other broadleaves 6.Abies alba Mill.-Silver fir 7.Other coniferous 8.Carpinus orientalis L.-Hornbeam 9.Arbutus unedo L.-Strawberry 10.Other bushes	1999-2003	

6.2.2 Classification and definitions

FRA categories were applied to derive the biomass values from national data.

6.2.3 Original data

National Data

FRA 2005 Categories	Biomass (million metric tones oven-dry weight)													
	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
Forest														
Above-ground biomass	74.6	73.9	73.4	73.7	74.4	75.2	75.7	74.8	73.6	74.3	74.8	75.4	76.7	76.3
Below-ground biomass	23.8	23.6	23.4	23.5	23.7	23.9	24.1	23.9	23.4	23.6	23.8	24.0	24.4	24.4
Dead wood biomass	28.9	28.8	28.7	28.5	28.5	28.4	28.4	28.3	28.2	28.3	28.2	28.3	28.5	28.5
TOTAL	127.3	126.3	125.5	125.7	126.6	127.5	128.2	127.0	125.2	126.2	126.8	127.7	129.6	129.2

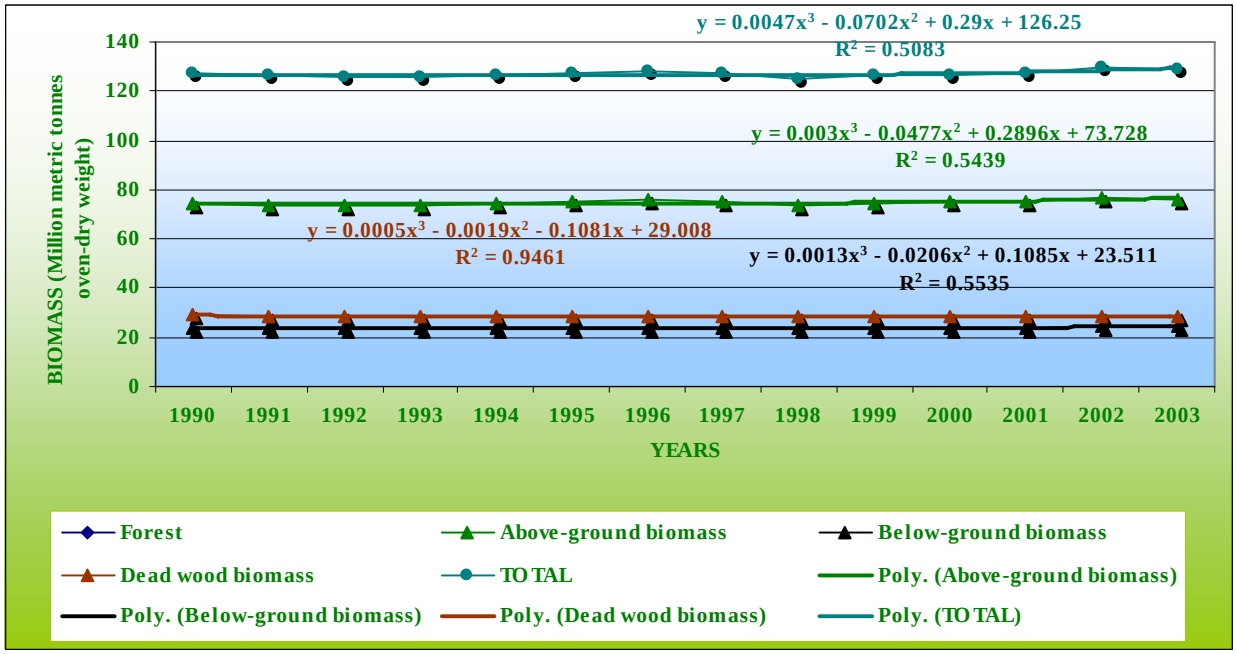

Fig.no.11-Biomass stock of the forest-Above-ground, Below-ground, Dead wood and Total

National Data

FRA 2005 Categories	Biomass (million metric tones oven-dry weight)													
	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
Other wooded land														
Above-ground biomass	7.5	7.5	7.5	7.7	7.9	8.1	8.3	8.4	8.6	8.7	8.7	8.6	8.5	8.7
Below-ground biomass	21.3	21.1	21.3	21.9	22.4	22.9	23.3	23.8	24.2	24.7	24.7	24.4	24.1	24.7
Dead wood biomass	9.6	9.6	9.5	9.7	9.6	9.6	9.6	9.6	9.6	9.6	9.6	9.8	9.7	9.8
TOTAL	38.4	38.2	38.3	39.3	39.9	40.6	41.2	41.8	42.4	43.0	43.0	42.8	42.3	43.2

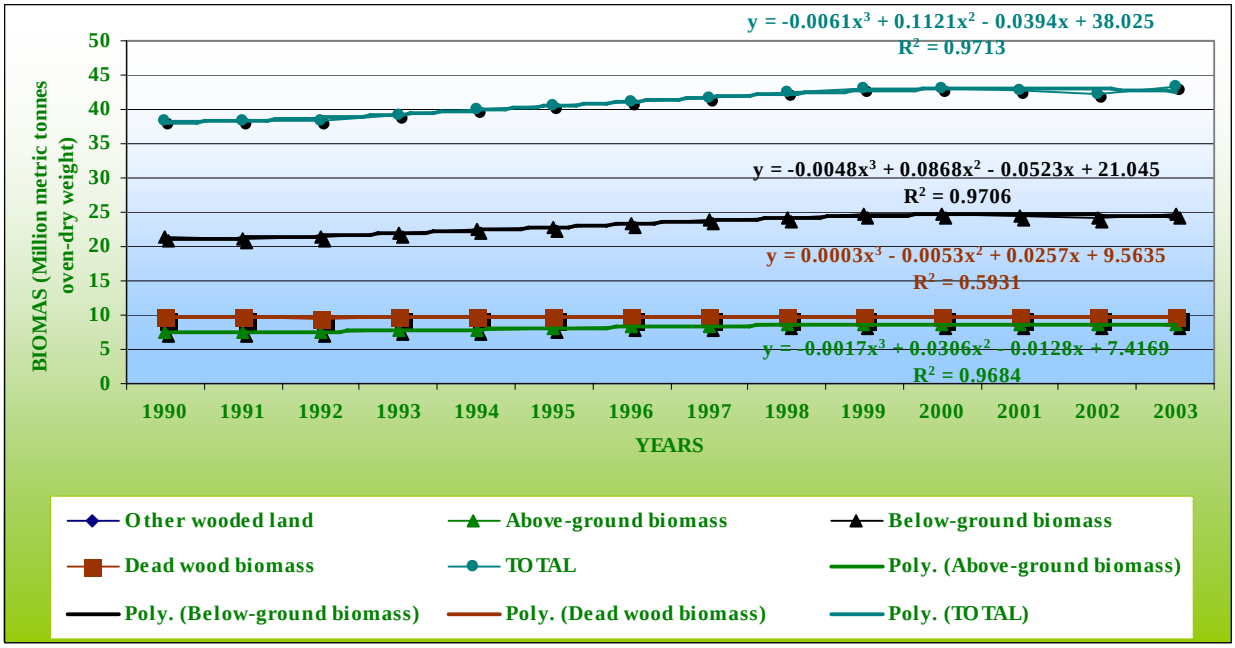

Fig.no.12-Biomass stock of the other wooded land-Above-ground, Below-ground, Dead wood and Total

Thresholds used by the country are the following:

Biomass was calculated after the Methodology of International Panel of Climate Change and Guidelines for Country Reporting to FRA 2005.

Above-ground biomass was calculated multiplying the growing stock of each one specie with their dry matter gravity weight getting from regional study (Italy) and with biomass expansion factor (over bark) as follow, were used:

Gravity weight Ton dry matter/m^3 fresh volume	Biomass expansion factor (over bark)

Coniferous	0.60	1.3
Pinus nigra Arn.-Black pine	0.65	
Abies alba Mill.-Silver fir	0.47	
Other coniferous	0.65	
Broadleaves	0.75	1.4
Fagus silvatica L.-Beech	0.74	
Quercus sp.L.-Oaks	0.82	
Quercus vallonea L.	0.93	
Other broadleaves	0.62	
Bushes		1.0
Carpinus orientalis L.-Hornbeam	0.85	
Arbutus unedo L.-Strawberry	0.70	
Other bushes	0.77	

Below-ground biomass was calculated using reports with above-ground biomass as follow:

Coniferous	
Pinus nigra Arn.-Black pine	0.32
Abies alba Mill.-Silver fir	0.32
Other coniferous	0.32
Broadleaves	
Fagus silvatica L.-Beech	0.26
Quercus sp.L.-Oaks	0.43
Quercus vallonea L.	0.43
Other broadleaves	0.43
Bushes	2.83
Carpinus orientalis L.-Hornbeam	2.83
Arbutus unedo L.-Strawberry	2.83
Other bushes	2.83

The report 0.43 instead of 0.35 for oak forests selected because our oak forest have the average above ground biomass more less 70 t/ha^{-1} therefore, we have selected the value of other broadleaf forest with average above ground biomass more less 75 t/ha^{-1} (Appendix 5-Table 5.5).

Dead wood stock was calculated multiplying the forest area of group species (evergreen species and deciduous species) with dead wood stock in ton/ha as follow, used:

Evergreen forest	43.4 ton/ha^{-1}
Deciduous forest	34.7 ton/ha^{-1}

6.3 Analysis and processing of national data

6.3.1 Calibration

Not needed.

6.3.2 Estimation and forecasting

Estimation and forecasting

1990-2003 calculated
2005 evaluated by mean of regression.

Forecasting for the year 2005 by mean of the found regression amongst the figures for each one-year with number of year was made.

After replacing for X=16 correspond for the year 2005 the figures for the year 2005 was found.

The found regressions are following:

Forest

Above-ground biomass $Y=0.0027\ X^3-0.067\ X^2+0.6784\ X+73.17$ $R^2=0.2761$ Below-ground biomass $Y=0.0005\ X^3-0.0019\ X^2-0.1081\ X+29.008$ $R^2=0.9461$

Dead wood biomass $Y=0.0013\ X^3-0.0206\ X^2+0.1085\ X+23.511$ $R^2=0.5535$

Other wooded land

Above-ground biomass $Y=-0.0017\ X^3+0.0306\ X^2-0.0128\ X+7.4169$ $R^2=0.9684$

Below-ground biomass $Y=-0.0048\ X^3+0.0868\ X^2-0.0523\ X+21.45$ $R^2=0.9706$

Dead wood biomass $Y=0.0003\ X^3-0.0053\ X^2+0.0257\ X+9.5635$ $R^2=0.5931$

For X=16 the forecasting figures of the year 2005 in the table 6.5 were taken.

6.4 Reclassification into FRA 2005 classes

Not needed.

6.5 Data for National reporting table T6

FRA 2005 Categories	Biomass (million metric tones oven-dry weight)					
	Forest			Other wooded land		
	1990	2000	2005	1990	2000	2005
Above-ground biomass	74.6	74.8	78.4	7.5	8.7	8.1
Below-ground biomass	23.8	23.8	25.3	21.3	24.7	22.8
Dead wood biomass	28.9	28.2	28.8	9.6	9.6	9.8
TOTAL	**127.3**	**126.8**	**132.5**	**38.4**	**43.0**	**40.7**

6.6 Comments to National reporting table T6

7 Table T7 – Carbon stock

7.1 FRA 2005 Categories and definitions

Category	Definition
Carbon in above-ground biomass	Carbon in all living biomass above the soil. including stem. stump. branches. bark. seeds. and foliage.
Carbon in below-ground biomass	Carbon in all living biomass of live roots. Fine roots of less than 2mm diameter are excluded. because these often cannot be distinguished empirically from soil organic matter or litter.
Carbon in dead wood biomass	Carbon in all non-living woody biomass not contained in the litter. either standing. lying on the ground. or in the soil. Dead wood includes wood lying on the surface. dead roots. and stump larger than or equal to 10 cm in diameter or any other diameter used by the country.
Carbon in litter	Carbon in all non-living biomass with a diameter lasso than a minimum diameter chose by the country for lying dead (for example 10 cm). in various states of decomposition above the mineral or organic soil. This includes the litter. fumic. and humic layers.
Soil carbon	Organic carbon in mineral and organic soils (including peat) to a specified depth chosen by the country and applied consistently through the time series.

7.2 National data

7.2.1 Data sources

References to sources of information	Quality (H/M/L)	Variables	Years	Additional comments
ARFCSCFF. 1991-1998.Annual Report of Forest Cadastre on Situation of Country Forest Fund. 1991-1999. Institute of Forest and Pasture Researches	M	Growing stock of each one specie as follow: 1.Fagus silvatica L.-Beech 2.Quercus sp.L.-Oaks 3.Quercus vallonea L.-Vallonea oak 4.Pinus nigra Arn.-Black pine 5.Other broadleaves 6.Abies alba Mill.-Silver fir 7.Other coniferous 8.Carpinus orientalis L.-Hornbeam 9.Arbutus unedo L.-Strawberry 10.Other bushes	1990-1998	
ARFCSCFF. 1999-2003. Annual Report of Forest Cadastre on Situation of Country Forest Fund. 2000-2004. General Directory of Forest and Pastures.	M	Growing stock of each one species as follow: 1.Fagus silvatica L.-Beech 2.Quercus sp.L.-Oaks 3.Quercus vallonea L.-Vallonea oak 4.Pinus nigra Arn.-Black pine 5.Other broadleaves 6.Abies alba Mill.-Silver fir 7.Other coniferous 8.Carpinus orientalis L.-Hornbeam 9.Arbutus unedo L.-Strawberry 10.Other bushes	1999-2003	

7.2.2 Classification and definitions

FRA definitions, were applied

7.2.3 Original data

Carbon in above-ground, in below-ground and in dead wood after the Methodology of International Panel of Climate Change and Guidelines for Country Reporting to FRA 2005, multiplying the calculated biomass with carbon factor 0.5, was calculated.

Carbon in litter multiplying the forest area after group species with their carbon density of forest floor litter was calculated.

	Carbon density of forest floor litter Mg C ha^{-1}
Broadleaf	
Deciduous	13
Needle leaf	
Evergreen	22

Soil carbon to a depth of 0-30 Cm passing the steps follow, was calculated.

-Identification of Albania after the region.

According to average annual growing season temperature with 10-20 ^{0}C and with annual precipitation near or exceeding potential evapotranspiration the Albanian territory in the Region Warm Temperate, Moist, was included.

-The figures of forest land area after USDA land classification from Pandi ZDRULI (March 1995)-Benchmark Soils of ALBANIA Volume I: Soils and agro-ecosystem assessment were taken. After it the forest land area in Inceptisols, Entisols, Mollisols and Sandy soils (Entisols-Ustipsamments, Xeropsamments) land orders, were included.

According to APPENDIX 5-Table 5.8 of the Guidelines for Country Reporting to FRA 2005 these land orders in high clay activity soils, were included while Entisols-Ustipsamments, Xeropsamments in Sandy soils, were included.

-Classification of soil after activity, depending from clay content, resulted:

	Soil organic C stock Ton C/ha^{-1}
Forest area	
High clay activity soils	88
Sandy soils	34
Other wooded land area	
High clay activity soils	63

-Multiplying the soil areas after activities with their soil carbon stock in Ton C/ha^{-1} the soil carbon in a depth 0-30 Cm we have won. Results are in the table's no.7.5 and in the Figures no.13 and 14.

National Data

FRA 2005 Categories	Carbon (Million metric tones)													
	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
Forest														
Carbon in above-ground biomass	37.3	36.9	36.7	36.9	37.2	37.6	37.9	37.4	36.8	37.1	37.4	37.7	38.3	38.2
Carbon in below-ground biomass	11.9	11.8	11.7	11.7	11.8	12.0	12.1	11.9	11.7	11.8	11.9	12.0	12.2	12.2
Sub-total: Carbon in living biomass	49.2	48.7	48.4	48.6	49.0	49.6	50.0	49.3	48.5	48.9	49.3	49.7	50.5	50.4
Carbon in dead wood	14.5	14.4	14.3	14.3	14.2	14.2	14.2	14.1	14.1	14.1	14.1	14.2	14.3	14.3
Carbon in litter	11.9	11.8	11.8	11.7	11.7	11.7	11.6	11.6	11.5	11.6	11.5	11.6	11.6	11.7
Sub-total: Carbon in dead wood and litter	26.4	26.2	26.1	26.0	25.9	25.9	25.8	25.7	25.6	25.7	25.6	25.8	25.9	26.0
Soil carbon to a depth of 0-30 cm	69.0	68.8	68.4	68.1	68.0	67.8	67.8	67.5	67.3	67.5	67.3	67.6	68.2	68.3
TOTAL CARBON	144.6	143.7	142.9	142.7	142.9	143.3	143.6	142.5	141.4	142.1	142.2	143.1	144.6	144.7

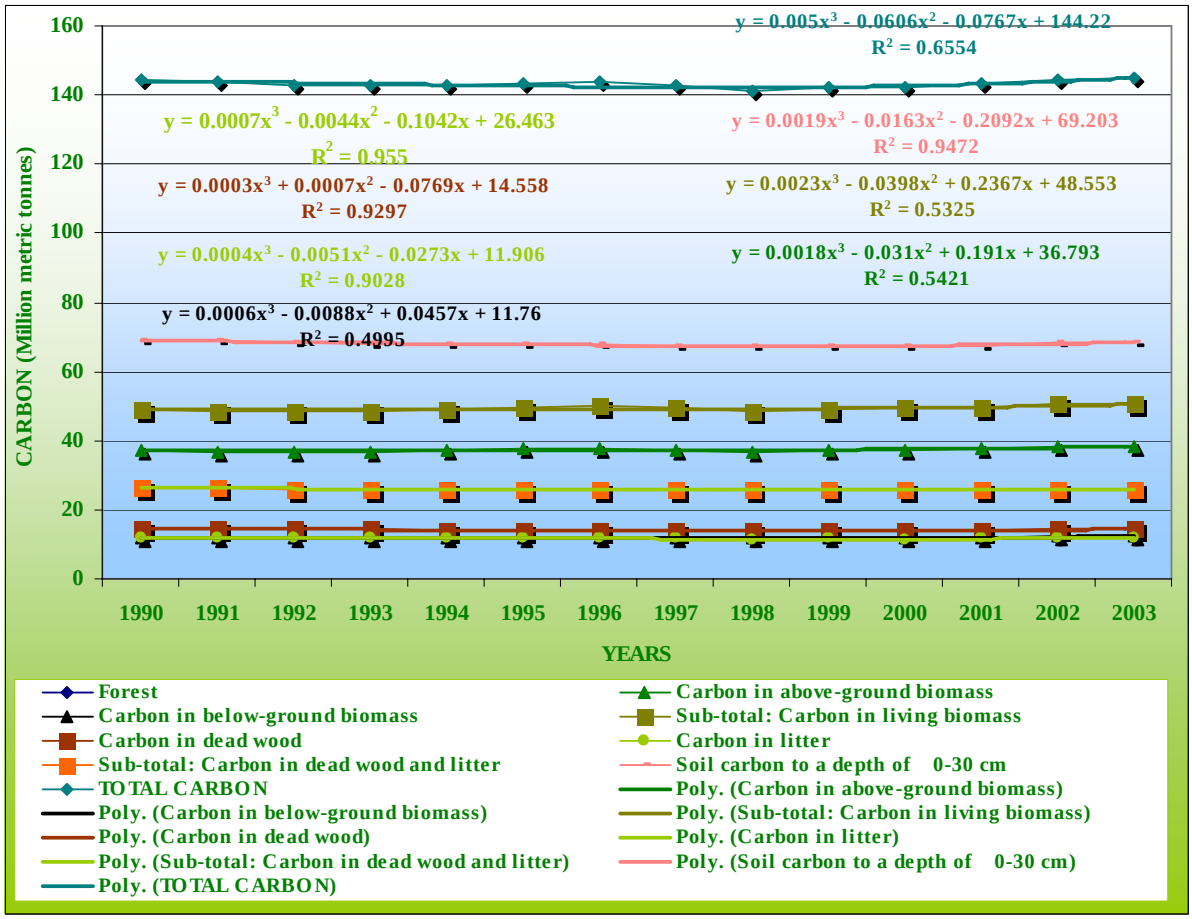

Fig.no.13-Carbon stock of the forest-Above-ground, Below-ground, Living biomass, Dead wood, Litter, Dead wood and Litter, Soil in depth 0-30 cm and Total

National Data

FRA 2005 Categories	Carbon (Million metric tones)													
	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
Other wooded land														
Carbon in above-ground biomass	3.8	3.7	3.8	3.9	4.0	4.1	4.1	4.2	4.3	4.4	4.4	4.3	4.2	4.4
Carbon in below-ground biomass	10.7	10.6	10.7	10.9	11.2	11.5	11.7	11.9	12.1	12.4	12.3	12.2	12.0	12.3
Sub-total: Carbon in living biomass	14.5	14.3	14.5	14.8	15.2	15.6	15.8	16.1	16.4	16.8	16.7	16.5	16.2	16.7
Carbon in dead wood	4.8	4.8	4.7	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.9	4.9	4.9
Carbon in litter	4.1	4.1	4.0	4.2	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.2	4.2	4.2
Sub-total: Carbon in dead wood and litter	8.9	8.9	8.7	9.0	8.9	8.9	8.9	8.9	8.9	8.9	8.9	9.1	9.1	9.1
Soil carbon to a depth of 0-30 cm	22.5	22.5	22.5	22.5	23.6	23.7	24.0	24.3	24.4	24.5	24.5	24.5	24.5	24.8
TOTAL CARBON	45.9	45.7	45.7	46.3	47.7	48.2	48.7	49.3	49.7	50.2	50.1	50.1	49.8	50.6

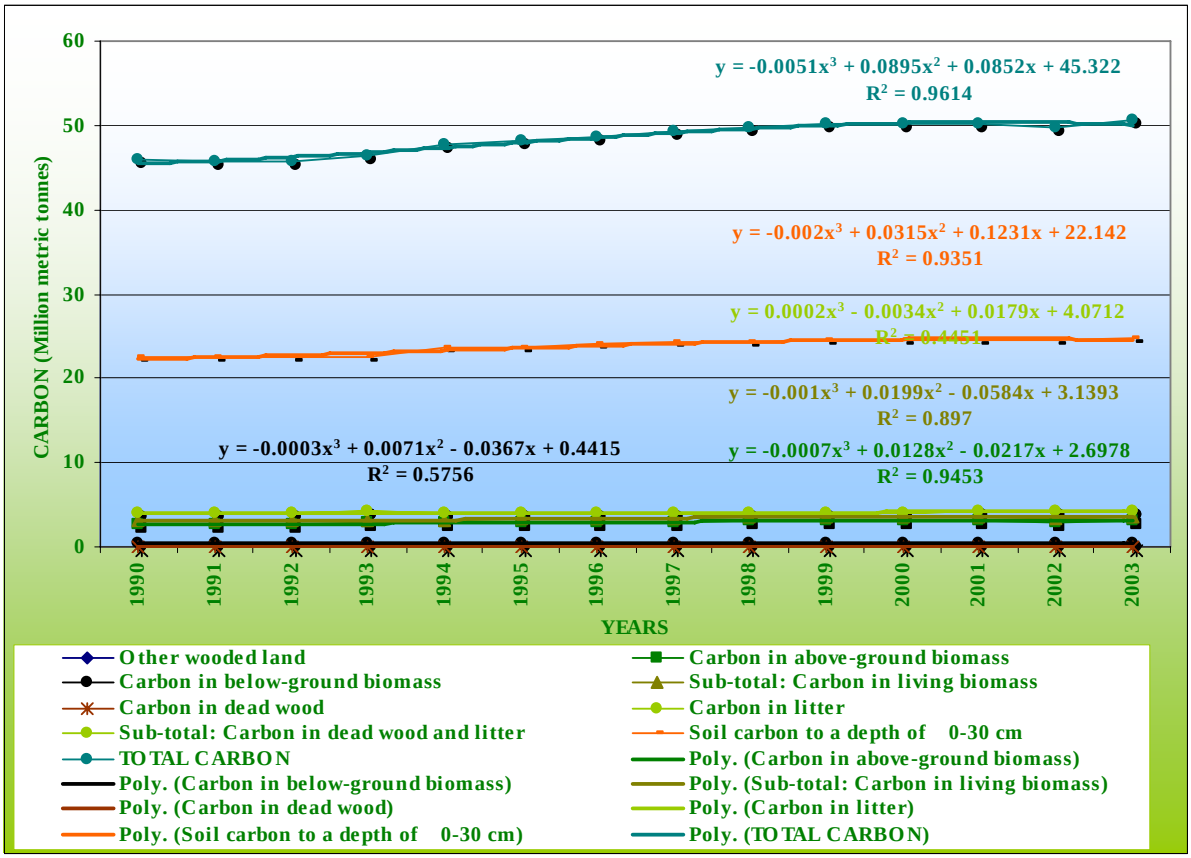

Fig.no.14-Carbon stock of the other wooded land-Above-ground, Below-ground, Living biomass, Dead wood, Litter, Dead wood and Litter, Soil in depth 0-30 cm and Total

7.3 Analysis and processing of national data

7.3.1 Calibration

Not needed.

7.3.2 Estimation and forecasting

Estimation and forecasting

1990-2003 calculated
2005 evaluated by mean of regression.

Forecasting for the year 2005 by mean of the found regression amongst the figures for each one-year with number of year was made.

After replacing for X=16 correspond for the year 2005 the figures for the year 2005 was found.

The found regressions are following:

Forest

Carbon in above-ground biomass	$Y=0.0018\ X^3-0.031\ X^2+0.191\ X+36.793$	$R^2=0.5421$
Carbon in below-ground biomass	$Y=0.0006\ X^3-0.0088\ X^2+0.0457\ X+11.76$	$R^2=0.4995$
Carbon in living biomass	$Y=0.0023\ X^3-0.0398\ X^2+0.2367\ X+48.553$	$R^2=0.5325$
Carbon in dead wood biomass	$Y=0.0003\ X^3+0.0007\ X^2-0.0769\ X+14.558$	$R^2=0.9297$
Carbon in litter	$Y=0.0004\ X^3-0.0051\ X^2-0.0273\ X+11.906$	$R^2=0.9028$
Carbon in dead wood and litter	$Y=0.0007\ X^3-0.0044\ X^2-0.1042\ X+26.463$	$R^2=0.955$
Soil carbon to a depth of 0-30 cm	$Y=0.0019\ X^3-0.00163\ X^2-0.2092\ X+69.203$	$R^2=0.9472$

Other wooded land

Carbon in above-ground biomass $Y=-0.0008\ X^3+0.0132\ X^2+0.0049\ X+3.7177$ $R^2=0.9218$ Carbon in below-ground biomass $Y=-0.0026\ X^3+0.0477\ X^2-0.0546\ X+10.599$ $R^2=0.965$
Carbon in living biomass $Y=-0.0034\ X^3+0.0609\ X^2-0.0496\ X+14.317$ $R^2=0.957$
Carbon in dead wood biomass $Y=4E\text{-}05\ X^3+0.0005\ X^2-0.0061\ X+4.7963$ $R^2=0.6712$
Carbon in litter $Y=0.0002\ X^3-0.0034\ X^2+0.0179\ X+4.0712$ $R^2=0.4451$ Carbon in dead wood and litter $Y=0.0002\ X^3-0.0029\ X^2+0.0118\ X+8.8635$ $R^2=0.5722$
Soil carbon to a depth of 0-30 cm $Y=-0.002\ X^3+0.0315\ X^2+0.1231\ X+22.142$ $R^2=0.9351$
For X=16 the forecasting figures of the year 2005 in the table 7.5, were taken

7.4 Reclassification into FRA 2005 classes

Not needed.

7.5 Data for National reporting table T7

FRA 2005 Categories	Carbon (Million metric tones)					
	Forest			Other wooded land		
	1990	2000	2005	1990	2000	2005
Carbon in above-ground biomass	37.3	37.4	39.3	3.8	4.4	3.9
Carbon in below-ground biomass	11.9	11.9	12.7	10.7	12.3	11.3
Sub-total: Carbon in living biomass	**49.2**	**49.3**	**52.0**	**14.5**	**16.7**	**15.2**
Carbon in dead wood	14.5	14.1	14.7	4.8	4.8	4.8
Carbon in litter	11.9	11.5	11.8	4.1	4.1	4.3
Sub-total: Carbon in dead wood and litter	**26.4**	**25.6**	**26.5**	**8.9**	**8.9**	**9.1**
Soil carbon to a depth of 0-30 cm	69.0	67.3	69.5	22.5	24.5	24.0
TOTAL CARBON	**144.6**	**142.2**	**148.0**	**45.9**	**50.1**	**48.3**

7.6 Comments to National reporting table T7

Forest and Other wooded Soil area in million hectares after activity clay.

National Data

Categories of soil after activity clay	Area in million hectares													
	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
Forest														
Soil of High Activity Clay (HAC)	0.782	0.779	0.775	0.771	0.770	0.768	0.767	0.765	0.762	0.765	0.762	0.765	0.772	0.773
Sandy Soils	0.007	0.007	0.007	0.007	0.007	0.007	0.007	0.007	0.007	0.007	0.007	0.007	0.007	0.007
Other Wooded Land														
Soil of High Activity Clay (HAC)	0.256	0.256	0.256	0.255	0.269	0.269	0.273	0.276	0.278	0.279	0.278	0.279	0.279	0.282
Sandy Soils	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Total	1.045	1.042	1.038	1.033	1.045	1.045	1.048	1.048	1.046	1.050	1.048	1.051	1.058	1.062

8 Table T8 – Disturbances affecting health and vitality

8.1 FRA 2005 Categories and definitions

Category	Definition
Disturbances by fire	Disturbance caused by wildfire. independently whether it broke out inside or outside the forest/OWL.
Disturbances by insects	Disturbance caused by insect pests that are detrimental to tree health.
Disturbance by diseases	Disturbance caused by diseases attributable to pathogens. such as a bacteria. fungi. phytoplasma or virus.
Other disturbance	Disturbance caused by other factors than fire. insects or diseases.

8.2 National data

8.2.1 Data sources

References to sources of information	Quality (H/M/L)	Variables	Years	Additional comments
S.G.D.F.P.Statistics of General Directory of Forests and Pastures (G.D.F.P.)	M	Disturbance by fire	1996-2003	
M.F.H.S.-Monitoring of forest health situation Institute of Forest and Pasture Researches (I.F.P.R.)	M	Disturbance by insects, diseases and other disturbance	1997-2003	

8.2.2 Classification and definitions

FRA categories were applied.

8.2.3 Original data

Figures from Monitoring of the Albanian forest health situation were taken.

National Data

FRA 2005 Categories	Average annual area affected (100 hectares)													
	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
Forest														
Disturbances by fire	NDA	NDA	NDA	NDA	NDA	NDA	15.7	18.2	5.0	34.3	110.1	5.4	5.9	23.4
Disturbances by insects	NDA	NDA	NDA	NDA	NDA	NDA	NDA	619	643	704	720	727	727	736
Disturbances by diseases	NDA	NDA	NDA	NDA	NDA	NDA	NDA	929	952	952	968	968	1014	1022
Other disturbance	NDA	NDA	NDA	NDA	NDA	NDA	NDA	193	217	232	240	240	232	240

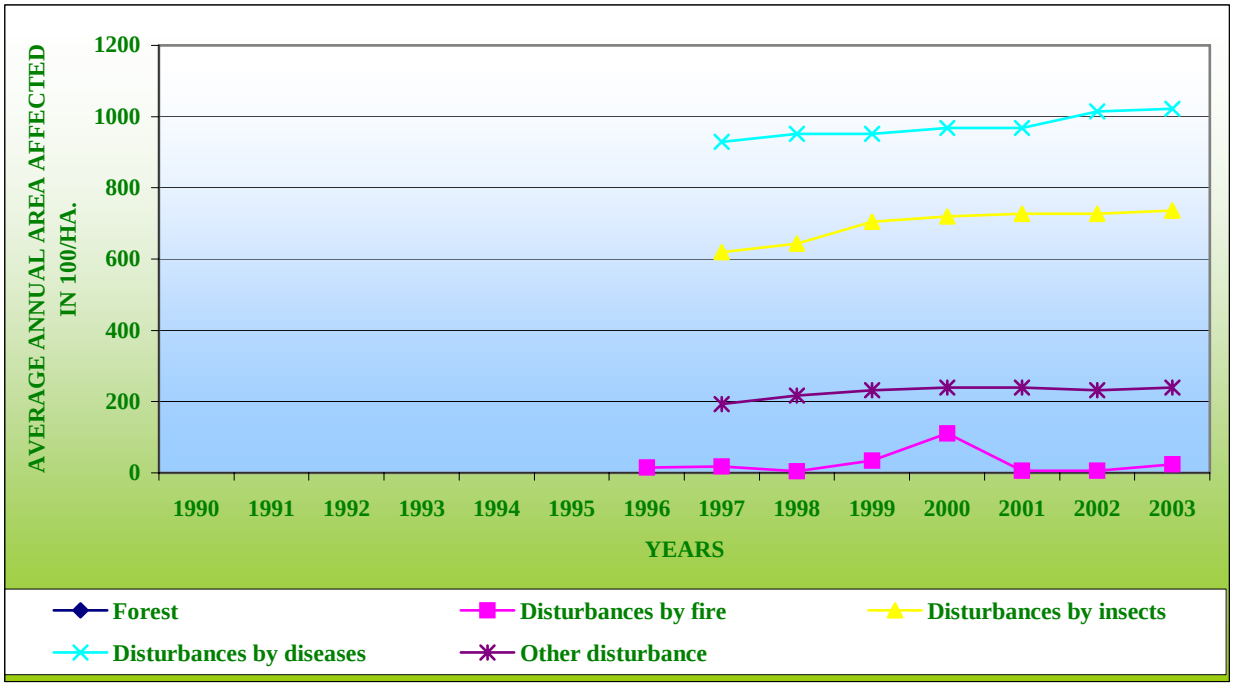

Fig.no.15- Disturbances affecting health and vitality in the forest-Fire, Insects, Diseases and Other disturbances

National Data

FRA 2005 Categories	Average annual area affected (100 hectares)													
	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
Other wooded land														
Disturbances by fire	NDA	NDA	NDA	NDA	NDA	NDA	30.6	73.9	34.2	106.9	22.2	9.0	1.0	40.3
Disturbances by insects	NDA	NDA	NDA	NDA	NDA	NDA	NDA	205	212	232	238	241	241	243
Disturbances by diseases	NDA	NDA	NDA	NDA	NDA	NDA	NDA	307	315	315	320	320	335	338
Other disturbance	NDA	NDA	NDA	NDA	NDA	NDA	NDA	64	72	77	79	79	77	79

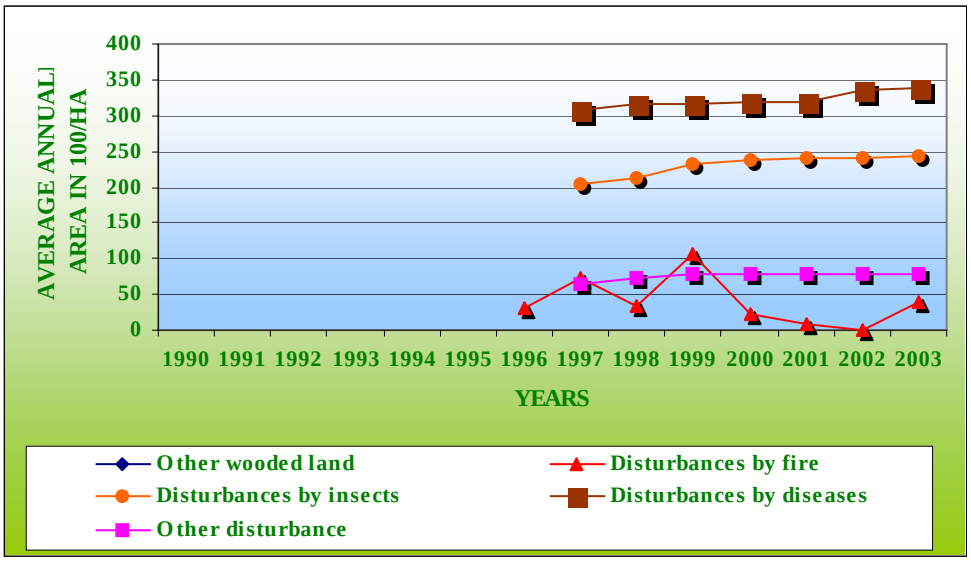

Fig.no.16- Disturbances affecting health and vitality in the other wooded land-Fire, Insects, Diseases and Other disturbances

8.3 Analysis and processing of national data

8.3.1 Estimation and forecasting

The averages of 1998-2002 were used for reporting year 2000.

8.4 Reclassification into FRA 2005 classes

Not needed.

8.5 Data for National reporting table T8

FRA 2005 Categories	Average annual area affected (1000 ectares)			
	Forest		Other wooded land	
	1990	2000	1990	2000
Disturbances by fire	NDA	3.2	NDA	3.5
Disturbances by insects	NDA	70.4	NDA	23.3
Disturbances by diseases	NDA	97.1	NDA	32.1
Other disturbance	NDA	**23.2**	NDA	**7.7**

8.6 Comments to National reporting table T8

9 Table T9 – Diversity of tree species

9.1 FRA 2005 Categories and definitions

Category	Definition
Number of native tree species	The total number of native tree species that have been identified within the country.
Number of critically endangered tree species	The number of native tree species that are classified as "Critically endangered" in the IUCN red list.
Number of endangered tree species	The number of native tree species that are classified as "Endangered" in the IUCN red list.
Number of vulnerable tree species	The number of native tree species that are classified as "Vulnerable" in the IUCN red list.

9.2 National data

9.2.1 Data sources

References to sources of information	Quality (H/M/L)	Variables	Years	Additional comments
The Tree and Shrubs of Albania MITRUSHI,I.-1955	H	Number of native tree species	1953	
Red list of IUCN (http://www.fao.org/forestry/foris/webview/forestry2/index.jsp?siteId=5461&sitetreeId=20747&langId=1&geoId=0	H	Number of critically endangered tree species Number of endangered tree species Number of vulnerable tree species	2004	
Red book of Albania. VANGJELI,J.;RUCI,B.; MULLAJ,A.-1995	L	Number of critically endangered tree species Number of endangered tree species Number of vulnerable tree species	1995	

9.2.2 Classification and definitions

FRA categories and definitions were applied.

9.2.3 Original data

FRA 2005 Categories	Number of species (Year 2000)
Native tree species	280
Critically endangered tree species	0
Endangered tree species	0
Vulnerable tree species	0

9.3 Data for National reporting table T9

FRA 2005 Categories	Number of species (Year 2000)
Native tree species	280
Critically endangered tree species	0
Endangered tree species	0
Vulnerable tree species	0

9.3.1 Comments to National reporting table T9

The number of native species listed in the table includes shrubs or all tree species (see the table over).

There is not any institutional document or government decision for approval of the red book and its species list.

Certainly, the list of species to compare with it of IUCN, changes because what is critically endangered, endangered and vulnerable for Albania, in a larger scale could not be the same.

The list of species after IUCN categories prepared to red book of Albania by our Biologists is as follow:

FRA 2005 Categories	**Number of species (Year 2000)**
Native tree species	280
Critically endangered tree species	3
Endangered tree species	26
Vulnerable tree species	2

Extinct-Ex

1.-Aesculus hyppocastanum L.-Horse chestnut

Probably Extinct-Ex?

1.-Berberis vulgaris L.-Barberry
2.-Quercus robur L.-Common oak
3.-Taxus baccata L.-Common yew
Endangered-E

1.-Acer hyrcanum Fischer et C.A. Meyer
2.-Arbutus andrachne L.-Oriental strawberry-tree
3.-Betula pendula Roth.-Birch
4.-Corylus colurna L.
5.-Fraxinus excelsior L.-Ash
6.-Jasminum fruticans L.-Yellow jasmine
7.-Juglans regia L.-Walnut-tree
8.-Juniperus communis L.-Common juniper
9.-Juniperus excelsa Bieb.-Greek (Crimean) juniper
10.-Juniperus foetidissima willd.-Stink juniper
11.-Juniperus oxycedrus L.-Prickly cedar
12.-Laurus nobilis L.-Sweetbal-tree
13.-Lycium europium L.-European box-thorn
14.-Picea abies (L.) Karsten.-Common spruce
15.-Pinus peuce Griseb.-Macedonian pine
16.-Pinus silvestris L.-Scotch fir,Common pine
17.-Prunus cerasifera Ehrh.
18.-Prunus Webbii (Spach) Vierh.
19.-Quercus ilex L.-Holly oak
20.-Salvia officinalis L.-Shop-sage

21.-Sambucus nigra L.-Elder
22.-Sambucus racemosa L.-Grape-elder
23.-Sarcopoterium spinosum (L) Spach.
24.-Tilia platyphyllos Scop.-Large-leaved lime
25.-Vaccinium uliginosum L.-Bogbilberry
26.-Viburnum tinus L.-Laurestine

Vulnerable-V

1.-Salix fragilis L.-Crack willow
2.-Salix triandra L.-Almond-leaved willow

Rare-R

1.-Celtis tournefortii Lam.
2.-Crataegus heldreichii (Mespilus heldreichii (Boiss.) Asch.et Graeb.)
3.-Daphne gnidium L.-Spurge flax
4.-Euphorbia dendroides L.-Treespurge
5.-Malus florentina (Zuccagni) C.K.Schneider.
6.-Petteria ramentacea (Sieber) C.Presl.-Petteria
7.-Rhamnus intermedius Steud.et Hochst.
8.-Salix hastata L.
9.-Salix reticulata L.
10.-Salix waldsteiniana willd.
11.-Styrax officinalis L.
12.-Teucrium fruticans L.

Insufficiently known-K

1.-Rosa andegavensis Bast.

Not threatened-nt

1.-Forsythia europaea Degen et Bald.-European forsythia

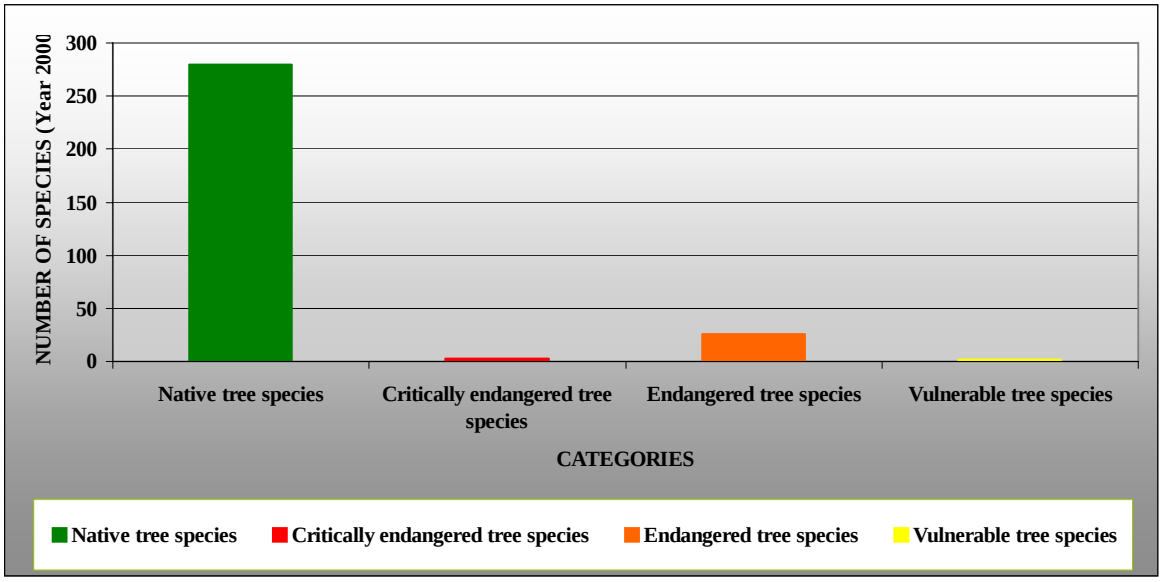

Fig.no.17- Diversity of tree species-Native, Critically endangered, Endangered and Vulnerable

There is a decision of Albanian Govern no.804 date 04.12.2003; after it there are identified the protecting species but there are not identified their status after the classes of IUCN, yet.

10 Table T10 – Growing stock composition

10.1 FRA 2005 Categories and definitions

List of species names (scientific and common names) of the most common species.

10.2 National data

10.2.1 Data sources

References to sources of information	Quality (H/M/L)	Variables	Years	Additional comments
ARFCSCFF. 1991-1998. Annual Report of Forest Cadastre on Situation of Country Forest Fund. 1991-1999. Institute of Forest and Pasture Researches	M	Growing stock Composition	1990-1998	
ARFCSCFF. 1999-2003. Annual Report of Forest Cadastre on Situation of Country Forest Fund. 2000-2004. General Directory of Forest and Pastures.	M	Growing stock Composition	1999-2003	

10.2.2 Original data

National Data

FRA 2005 Categories/ Species name (Scientific name and common name)	**Growing Stock in Forests** (Million cubic meters)													
	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
Forest														
1.Fagus silvatica L. - Beech	37.8	37.6	37.5	37.7	38.0	38.3	38.5	38.4	37.5	37.9	37.9	38.4	38.6	38.4
2.Quercus sp. L.- Oaks	15.1	14.7	14.3	14.3	14.4	14.5	14.8	14.7	13.9	14.0	14.3	14.4	14.5	14.8
3.Pinus nigra Arn. - Black pine	10.4	10.6	10.7	10.9	11.1	11.3	11.3	11.3	11.2	11.3	11.4	11.3	12.0	12.0
4.Other broadleaves	4.6	4.4	4.3	4.2	4.3	4.3	4.3	4.3	4.3	4.4	4.4	4.5	4.6	4.6
5.Abies alba L.- Silver fir	3.9	3.9	3.9	3.9	4.0	4.0	4.0	4.0	3.9	4.0	4.0	4.0	4.1	3.9
6.Other coniferous	3.5	3.5	3.5	3.5	3.6	3.7	3.7	3.7	3.7	3.7	3.8	3.8	4.0	3.9
TOTAL	75.2	74.7	74.2	74.5	75.4	76.1	76.6	76.4	74.5	75.3	75.8	76.4	77.8	77.6

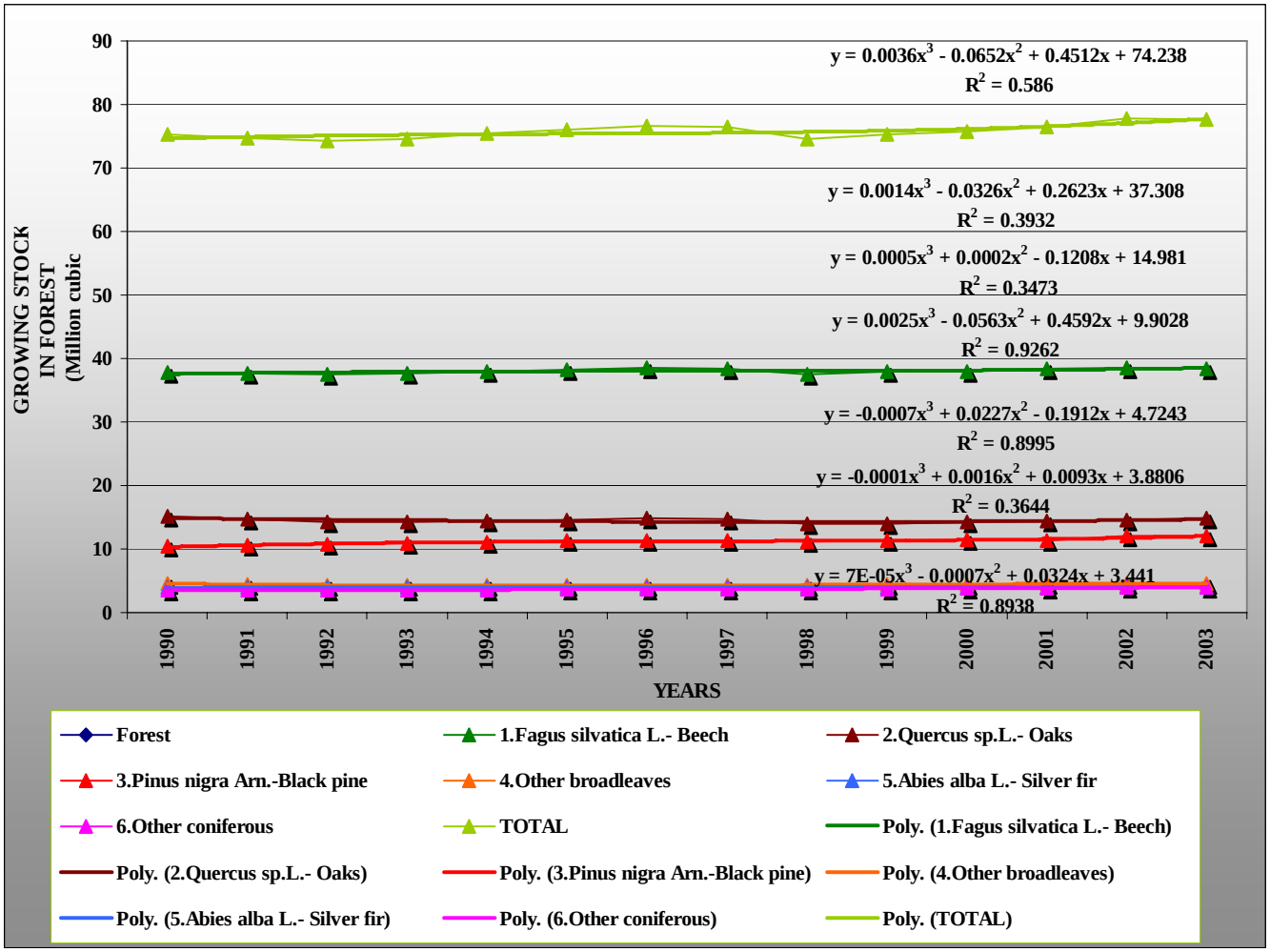

Fig.no.18-Growing stock composition of forest after species

10.3 Analysis and processes of national data

10.3.1 Calibration

Not needed.

10.3.2 Estimation and forecasting

Not needed as estimates are available for the two reporting years.

FRA 2005 Categories / Species name (Scientific name and common name)	Growing Stock in Forests (Million cubic meters)	
	1990	2000
Forest		
1. -Fagus silvatica L.-Beech	37.774	37.928
2. -Quercus sp. L.-Oaks	15.067	14.346
3. -Pinus nigra Arn. -Black pine	10.370	11.370
4. -Abies alba L.-Silver fir	3.928	3.956
Other broadleaves	4.566	4.415
Other coniferous	3.543	3.807
TOTAL	**75.248**	**75.822**

10.4 Data for National reporting table T10

Insufficient data

10.5 Comments to National reporting table T10

Data available covers only the four most common species and the rest are grouped in two categories: Other broad leaves and Other coniferous.

Here we have presented the national figures and forecasting of growing stock for other wooded land after species.

National Data

FRA 2005 Categories/ Species name (Scientific name and common name)	**Growing Stock in Other Wooded Lands** (Million cubic meters)													
	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
Other Wooded Lands														
7.Carpinus orientalis L.- Hornbeam	2.9	2.8	2.8	2.9	3.0	3.1	3.1	3.1	3.2	3.2	3.2	3.0	3.0	3.1
8.Arbutus unedo L.- Strawberry	2.1	2.1	2.1	2.1	2.2	2.3	2.3	2.4	2.4	2.5	2.5	2.5	2.5	2.6
9.Other shrubs	1.9	1.9	2.0	2.0	2.1	2.1	2.2	2.2	2.2	2.3	2.3	2.4	2.3	2.3
TOTAL	6.9	6.8	6.9	7.0	7.3	7.5	7.6	7.7	7.8	8.0	8.0	7.9	7.8	8.0

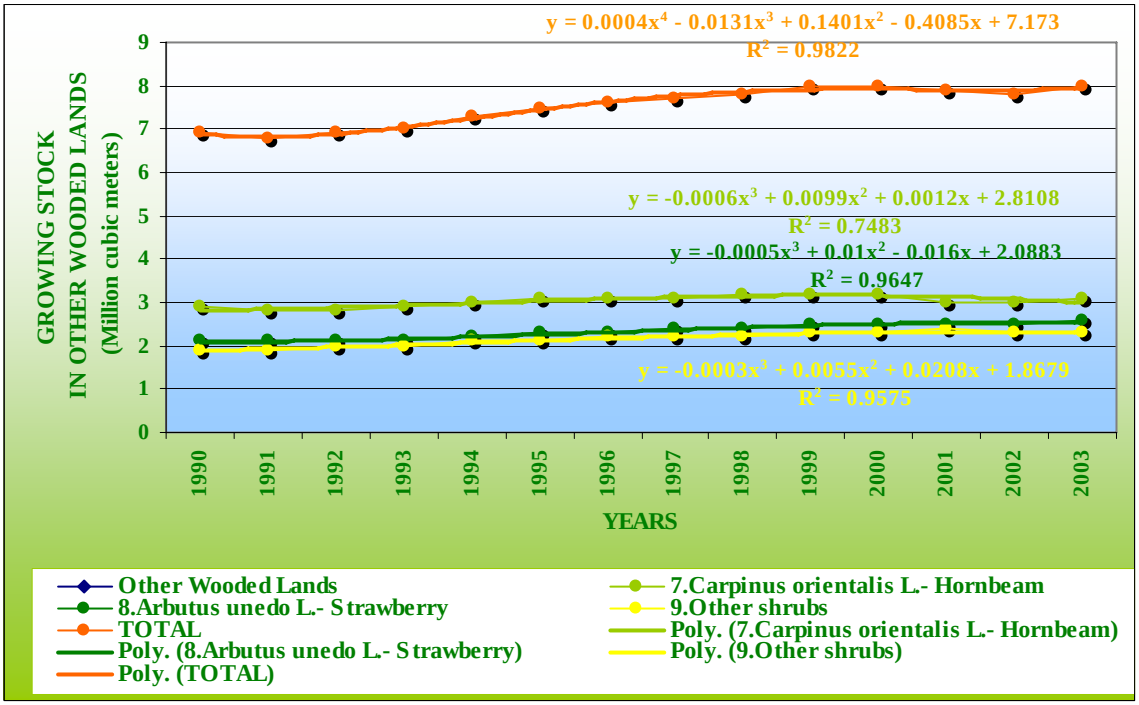

Fig.no.19-Growing stock composition of other wooded land after species

FRA 2005 Categories /Species name (Scientific name and common name)	Growing Stock in Other Wooded Lands (Million cubic meters)		Forecasting of Growing Stock in Other Wooded Lands (Million cubic meters)
	1990	2000	2005
Other Wooded Lands			
7. -Carpinus orientalis L.-Hornbeam	2.862	3.185	2.9
8. -Arbutus unedo L.- Strawberry	2.118	2.531	2.3
9. -Other brushes	1.932	2.258	2.4
TOTAL	**6.912**	**7.974**	**7.6**

Forecasting for the year 2005 by mean of the found regression amongst the figures for each one-year with number of year was made.

After replacing for X=16 correspond for the year 2005 the forecasting figures for the year 2005 were found.

The found regressions are following:

Other wooded land

Carpinus orientalis L.-Hornbeam $Y=-0.0006\ X^3+0.0099\ X^2+0.0012\ X+2.8108$ $R^2=0.7483$

Arbutus unedo L.-Strawberry $Y=-0.0005\ X^3+0.01\ X^2-0.016\ X+2.0883$ $R^2=0.9647$

Other bushes $Y=-0.0003\ X^3+0.0055\ X^2+0.0208\ X+1.8679$ $R^2=0.9575$

For X=16 the forecasting figures of the year 2005 in the table 10.4 were taken.

11 Table T11 – Wood removal

11.1 FRA 2005 Categories and definitions

Category	Definition
Industrial wood removal	The wood removed (volume of round wood over bark) for production of goods and services other than energy production (wood fuel).
Wood fuel removal	The wood removed for energy production purposes. regardless whether for industrial. commercial or domestic use.

11.2 National data

11.2.1 Data sources

References to sources of information	Quality (H/M/L)	Variables	Years	Additional comments
Unpublished Statistics of General Directory of Forest and Pastures (G.D.F.P.)	M	Industrial wood removal Wood fuel removal	1990-2003	

11.2.2 Classification and definitions

FRA categories and definitions were applied.

11.2.3 Original data

National Data

FRA 2005 Categories	Volume in 1000 cubic meters of round wood over bark													
	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
Forest														
Industrial round wood	446	204	82	79	106	79	74	29	37	53	45	40	40	21
Wood fuel	499	356	290	366	211	124	132	76	94	118	115	114	130	104
TOTAL for Country	945	560	372	445	317	203	206	105	131	171	160	154	170	125

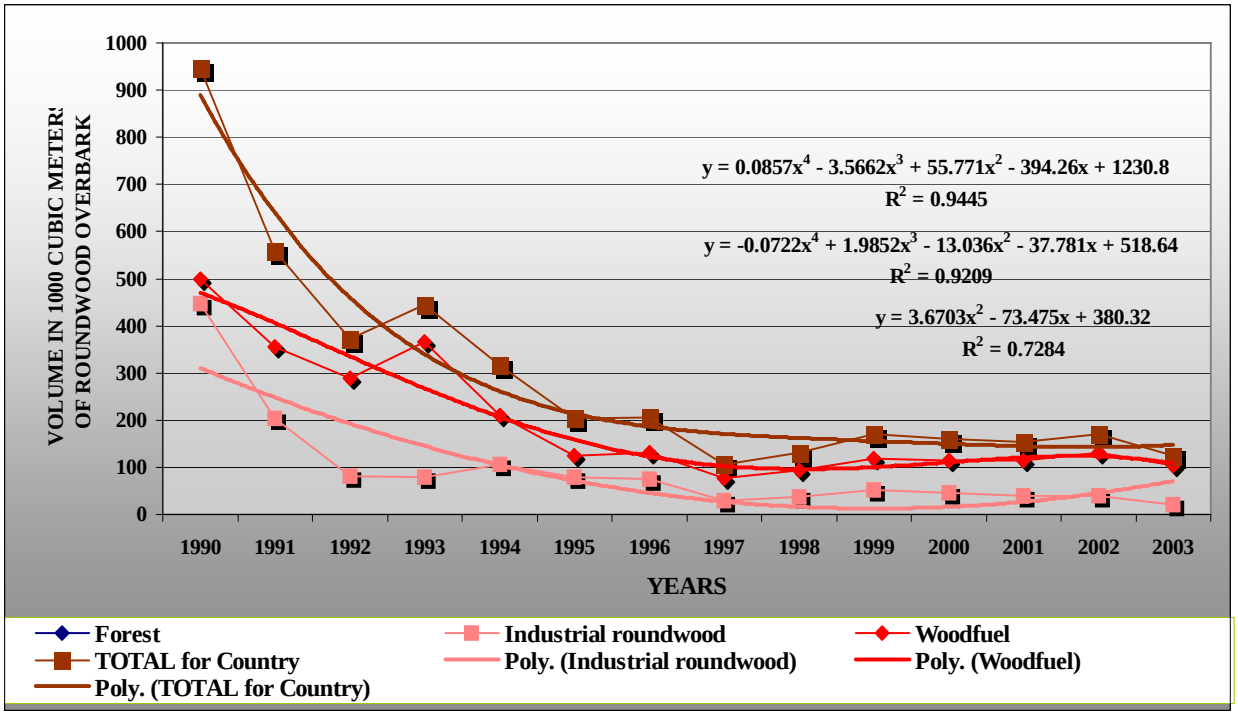

Fig.no.20-Volume of wood removal from the forest-Industrial round wood, Wood fuel and Total

National Data

FRA 2005 Categories	Volume in 1000 cubic meters of round wood over bark													
	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
Other wooded land														
Industrial round wood	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Wood fuel	235	167	137	172	98	58	62	35	43	55	54	53	61	50
TOTAL for Country	235	167	137	172	98	58	62	35	43	55	54	53	61	50

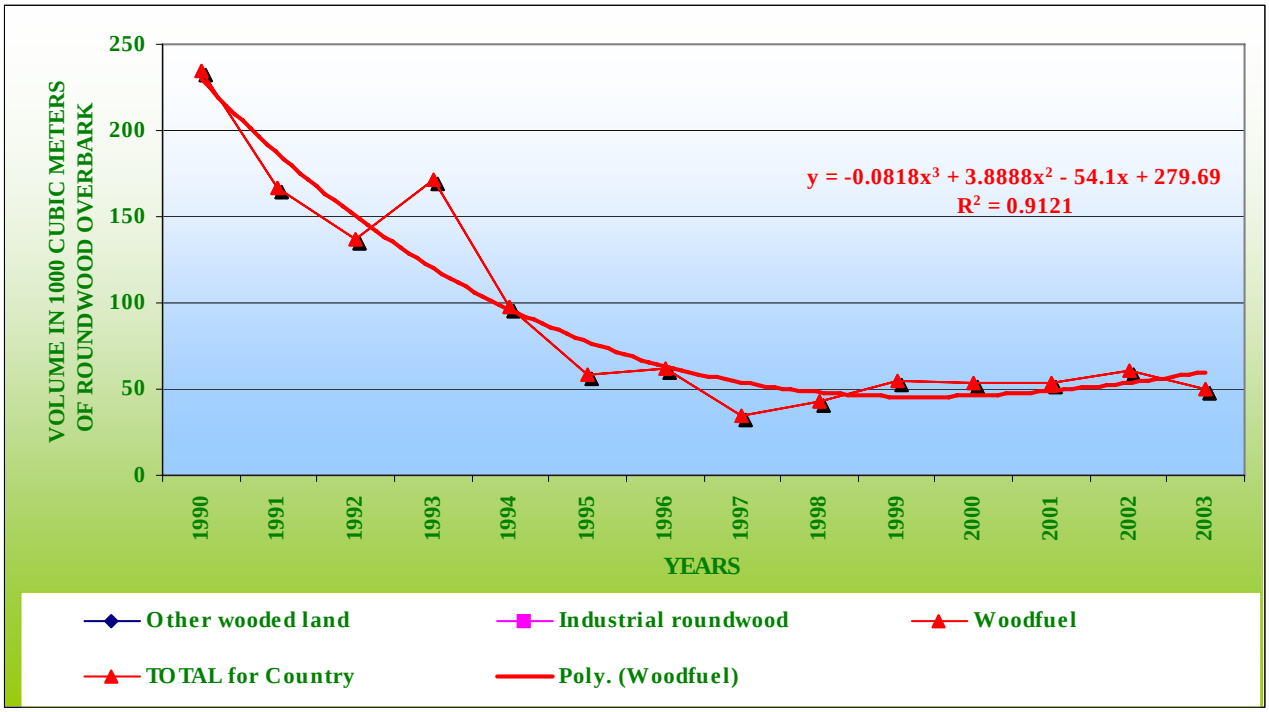

Fig.no.21-Volume of wood removal from the other wooded land-Industrial round wood, Wood fuel and Total

11.3 Analysis and processing of national data

11.3.1 Estimation and forecasting

Estimation and forecasting

The average for 1990-1992 was used for 1990 and the average for 1998-2002 was used for 2002.
Forecasting for the year 2005 by mean of the found regression amongst the figures for each one-year with number of year was made.
After replacing for X=16 correspond for the year 2005 the forecasting figures for the year 2005 were found.
The found regressions are following:
Forest

Industrial round wood $Y=0.0047\ X^6-0.251\ X^5+5.344\ X^4-57.098\ X^3+320.5\ X^2 -899.65\ X +1081.9$ $R^2=0.9883$

Wood fuel $Y=0.0107\ X^6-0.4999\ X^5+8.9704\ X^4-77.399\ X^3+332.75\ X^2 - 712.67\ X +1081.9$ $R^2=0.9501$

Other wooded land

Wood fuel $Y=0.0051\ X^6-0.237\ X^5+4.2498\ X^4-36.637\ X^3+157.37\ X^2 - 336.78\ X +1081.9$ $R^2=0.9504$

For X=16 the forecasting figures of the year 2005 in the table 11.5 were taken.

11.4 Reclassification into FRA 2005 classes

Not needed.

11.5 Data for National reporting table T11

FRA 2005 Categories	Volume in 1000 cubic meters of round wood over bark					
	Forest			Other wooded land		
	1990	2000	2005	1990	2000	2005
Industrial round wood	244	43	24	0	0	0
Wood fuel	382	114	144	180	53	75
TOTAL for Country	**626**	**157**	**168**	**180**	**53**	**75**

11.6 Comments to National reporting table T11

The steep decrease in production of industrial wood and fuel wood we can explain as follow:

1.-After the social system changed, instantly begun the privatization of big forest harvest state enterprises and foundation of small forest harvest private enterprises which at first were feeble so, influencing considerable reduction of wood productivity amount.

2.-Increasing of wood and wood processed products imports from the other countries.

3.-Reduction of investments to open the new forest harvest roads in unharvested forests.

4.-Changing of the forest age class's structure increasing forward to young forests.

5.-Govern decision no.648 date 13.12.2002 stopping the forest harvest for an undetermined period.

All are the difficulties of transition period to change the social systems.

12 Table T12 – Value of wood removal

12.1 FRA 2005 Categories and definitions

Category	Definition
Value of industrial wood removal	Value of the wood removed for production of good and services other than energy production (wood fuel).
Value of wood fuel removal	Value of the wood removed for energy production purposes. regardless whether for industrial. commercial or domestic use.

12.2 National data

12.2.1 Data sources

References to sources of information	Quality (H/M/L)	Variable(s)	Year(s)	Additional comments
Unpublished Statistics of General Directory of Forest and Pastures (G.D.F.P.)	M	Value of industrial wood removal Value of wood fuel removal	1990-2003	

12.2.2 Classification and definitions

FRA categories and definitions were applied.

12.2.3 Original data

National Data

FRA 2005 Categories	Value of round wood removal (Million ALBANIAN Leke)													
	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
Forest														
Industrial round wood	590.4	269.4	109.0	104.4	91.8	108.0	92.4	31.4	58.8	85.7	90.7	80.1	86.6	62.5
Wood fuel	35.6	25.4	20.7	26.3	40.1	17.8	13.5	4.1	6.2	18.3	14.8	14.3	13.9	18.2
TOTAL for Country	626.0	294.8	129.7	130.7	131.9	125.8	105.8	35.5	65.1	104.0	105.5	94.4	100.5	80.7

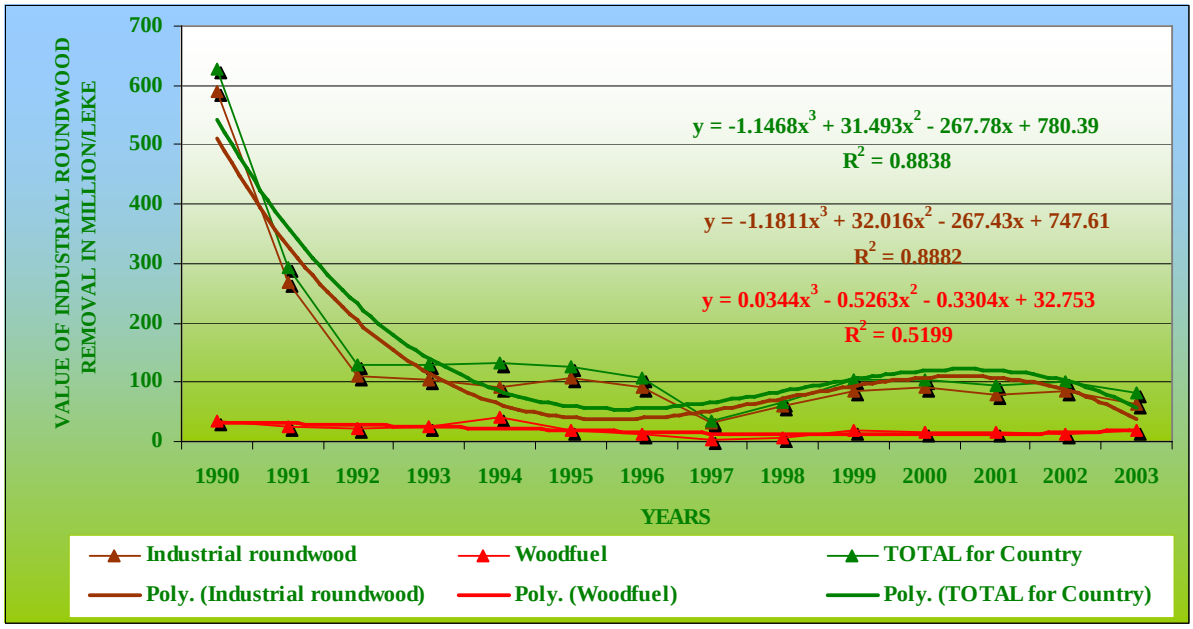

Fig.no.22-Value of wood removal from the forest-Industrial round wood, Wood fuel and Total

National Data

FRA 2005 Categories	Value of round wood removal (Million ALBANIAN LEKE)													
	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
Other wooded land														
Industrial round wood	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Wood fuel	16.8	11.9	9.8	12.4	18.6	8.3	6.3	1.9	2.9	8.5	7.0	6.7	6.5	8.7
TOTAL for Country	16.8	11.9	9.8	12.4	18.6	8.3	6.3	1.9	2.9	8.5	7.0	6.7	6.5	8.7

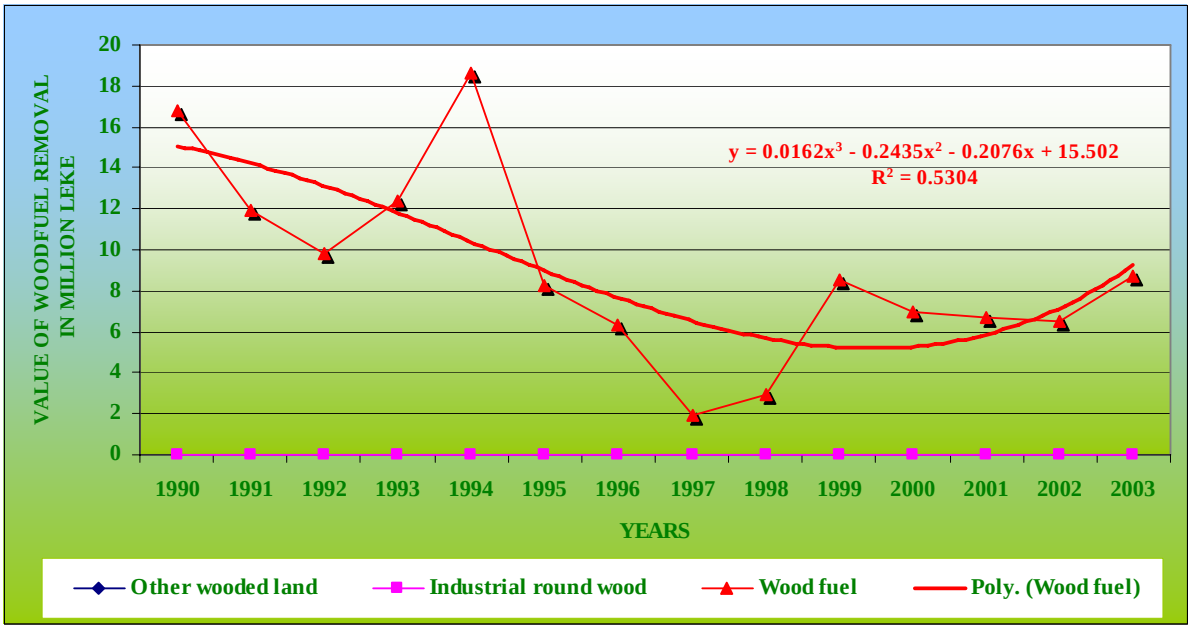

Fig.no.23-Value of wood removal from the other wooded land-Industrial round wood, Wood fuel and Total in Million Albanian Leke

12.3 Analysis and processing of national data

12.3.1 Estimation and forecasting

Estimation and forecasting

1990-2003 reported
2005 evaluated by mean of regression.

Forecasting for the year 2005 by mean of the found regression amongst the figures for each one-year with number of year was made.

After replacing for X=16 correspond for the year 2005 the forecasting figures for the year 2005 were found.

The found regressions are following:

Forest

Industrial round wood	$Y=-1.1811\ X^3+32.016\ X^2-267.43\ X+747.61$	$R^2=0.8882$
Wood fuel	$Y=0.0344\ X^3-0.5263\ X^2-0.3304\ X+32.753$	$R^2=0.5199$

Other wooded land

Industrial round wood		
Wood fuel	$Y=0.0162\ X^3-0.2435\ X^2-0.2076\ X+15.502$	$R^2=0.5304$

For X=16 the forecasting figures of the year 2005 in the table 12.5 were taken.

12.4 Reclassification into FRA 2005 classes

Not needed.

12.5 Data for National reporting table T12

Value of round wood removal in 1000/USD for years 1990 and 2000, by dividing average values of 1990-1992 years and average values of 1998-2002 years in Albanian Leke with exchange rate of 1992 year and average exchange rate of 1998-2002 years (Taken from Appendix 4 historical exchange rates-Guidelines for Country Reporting to FRA 2005), were calculated.

Forecasted values of round wood removal of 2005 year, by multiplying of forecasted industrial round wood removal volumes of the Table 11.5 with prices in Albanian Leke and exchange rate of the 2003 year, were calculated.

FRA 2005 Categories	Value of round wood removal (1000 USD)					
	Forest			Other wooded land		
	1990	2000	2005	1990	2000	2005
Industrial round wood	3138.0	583.8	662.2	0.0	0.0	0.0
Wood fuel	264.3	98.0	236.6	124.4	45.7	123.2
TOTAL for Country	**3402.3**	**681.8**	**898.8**	**124.4**	**45.7**	**123.2**

12.6 Comments to National reporting table T12

13 Table T13 – Non-wood forest product removal

13.1 FRA 2005 Categories and definitions

Category
Plant products / raw material
1. Food
2. Fodder
3. Raw material for medicine and aromatic products
4. Raw material for colorants and dyes
5. Raw materials for utensils. handicrafts & construction
6. Ornamental plants
7. Exudates
8. Other plant products
Animal products / raw material
9. Living animals
10. Hides. skins and trophies
11. Wild honey and bee-wax
12. Bush neat
13. Raw material for medicine
14. Raw material for colorants
15. Other edible animal products
16. Other non-edible animal products

13.2 National data

13.2.1 Data sources

References to sources of information	Quality (H/M/L)	Variables	Years	Additional comments
Unpublished Statistics of General Directory of Forest and Pastures (G.D.F.P.)	H	Total incomes	1993-2003	

13.2.2 Classification and definitions

FRA categories and definitions were applied.

13.2.3 Original data

Annual incomes from 1993 to 2003 years were recorded from Finance Department of GDFP.

The quantity of non-wood products after classes for each year, shared in percent after the specialist experiences and according to it dividing the incomes of each one share with their prices, was calculated.

The quantities of meat from hunting, multiplying the number of killed species with each one average weight, were calculated. The amount of meat corresponds for hunting season (August to March months) not for astronomic year.

National Data

FRA 2005 Categories	Non-wood product removal (1000 Tonnes)											
	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004
Plant products/Raw material	6.576	2.104	4.061	1.025	0.185	1.345	1.049	1.589	2.230	2.324	6.403	2.343
Food	0.233	0.075	0.144	0.036	0.007	0.050	0.040	0.061	0.085	0.089	0.245	0.046
Fodder	NDA	NDA	NDA	NDA	NDA	NDA	NDA	NDA	NDA	NDA	NDA	NDA
Raw material for medicine and aromatic products	4.370	1.398	2.699	0.681	0.122	0.891	0.694	1.051	1.476	1.538	4.237	1.594
Raw material for colorants and days	0.658	0.210	0.406	0.103	0.019	0.135	0.105	0.159	0.223	0.232	0.640	0.234
Raw material for utensils, handicrafts and construction	1.315	0.421	0.812	0.205	0.037	0.269	0.210	0.318	0.446	0.465	1.281	0.469
Ornamental plants	NDA	NDA	NDA	NDA	NDA	NDA	NDA	NDA	NDA	NDA	NDA	NDA
Exudates	NDA	NDA	NDA	NDA	NDA	NDA	NDA	NDA	NDA	NDA	NDA	NDA
Other plant products	NDA	NDA	NDA	NDA	NDA	NDA	NDA	NDA	NDA	NDA	NDA	NDA
Animal products/Raw material	0.005	0.009	0.090	0.044	0.009	0.011	0.017	0.021	0.021	0.015	0.023	
Living animals	NDA	NDA	NDA	NDA	NDA	NDA	NDA	NDA	NDA	NDA	NDA	NDA
Hides. skins and trophies	NDA	NDA	NDA	NDA	NDA	NDA	NDA	NDA	NDA	NDA	NDA	NDA
Wild honey and bee-wax	NDA	NDA	NDA	NDA	NDA	NDA	NDA	NDA	NDA	NDA	NDA	NDA
Bush neat	NDA	NDA	NDA	NDA	NDA	NDA	NDA	NDA	NDA	NDA	NDA	NDA
Raw material for medicine	NDA	NDA	NDA	NDA	NDA	NDA	NDA	NDA	NDA	NDA	NDA	NDA
Raw material for colorants	NDA	NDA	NDA	NDA	NDA	NDA	NDA	NDA	NDA	NDA	NDA	NDA
Other edible animal products	0.005	0.009	0.090	0.044	0.009	0.011	0.017	0.021	0.021	0.015	0.023	
Other non-edible animal products	NDA	NDA	NDA	NDA	NDA	NDA	NDA	NDA	NDA	NDA	NDA	NDA
TOTAL for Country	6.582	2.113	4.151	1.069	0.194	1.356	1.083	1.610	2.272	2.354	6.449	2.343

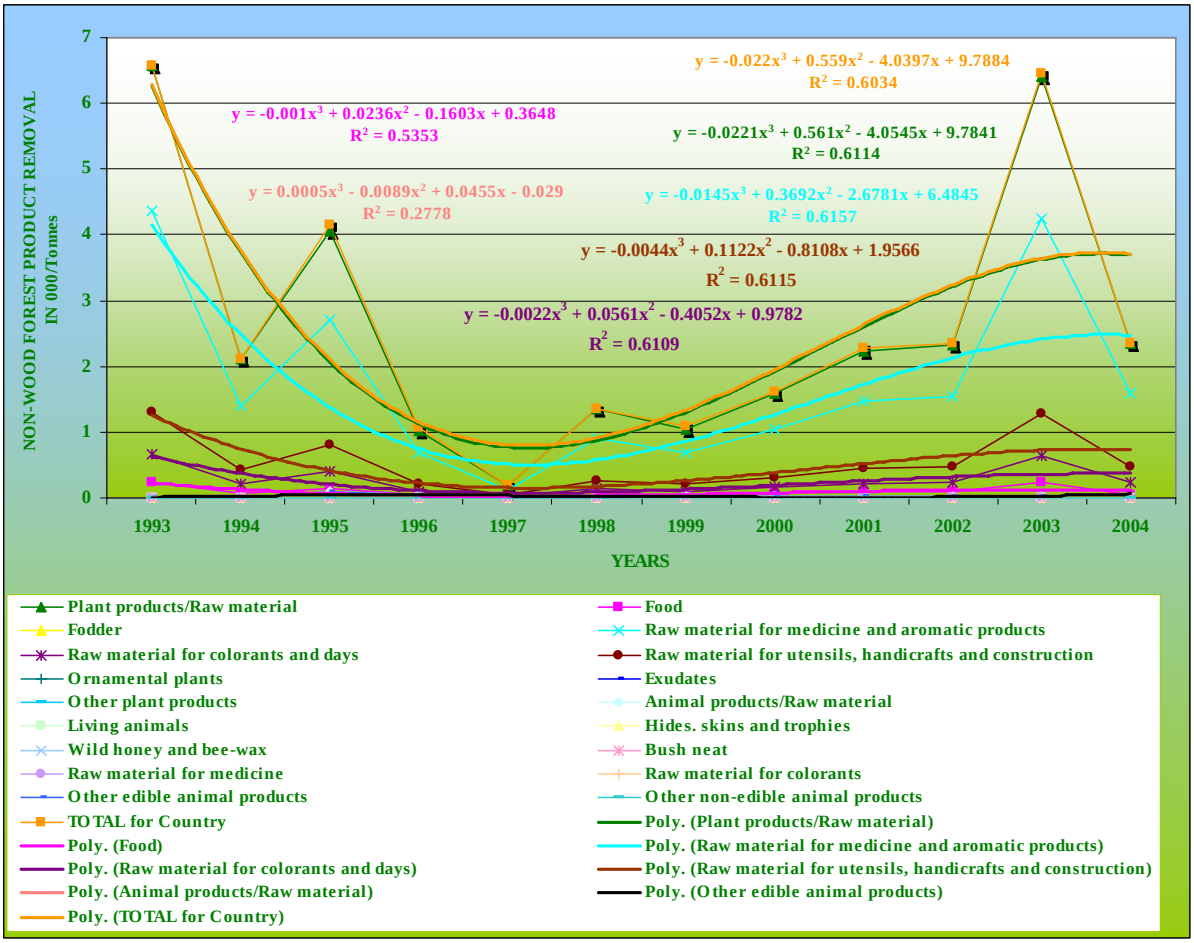

Fig.no.24-Non-wood forest product removal

13.3 Analysis and processing of national data

13.3.1 Estimation and forecasting

Original data calculated from annual incomes beginning from 1993 year (instead of 1990 year as an average of 1988-1992) to 2004 year, to forecast the amounts for 2005 year, were used.

Estimation and forecasting

1993 figures were used to report for 1990. The average of the figures from 1988-2002 was used to report for year 2000.
2005 evaluated by mean of regression.

Forecasting for the year 2005 by mean of the found regression amongst the figures for each one-year with number of year was made.

After replacing for X=13 correspond for the year 2005 the forecasting figures for the year 2005 were found.

The found regressions are following:

Non-wood forest products removal in 000/Ton.

1. Food	$Y=-0.001\ X^3+0.0236\ X^2-0.1603\ X+0.3648$	$R^2=0.5353$
2. Fodder		
3. Raw material for Medicine and Aromatic products	$Y=-0.0145\ X^3+0.3692\ X^2-2.6781\ X+6.4845$	$R^2=0.6157$

4. Raw material for Colorant and days	$Y=-0.0022 X^3+0.0561 X^2 -0.4052 X +0.9782$	$R^2=0.6113$
5. Raw material for Utensils, handicrafts& Constructions	$Y=-0.0044 X^3+0.1122 X^2 -0.8108 X +1.19596$	$R^2=0.6113$
6. Ornamental plants		
7. Exudates		
8. Other plant products		
9. Other animal products	$Y=0.0005 X^3-0.0089 X^2 +0.0455 X -0.029$	$R^2=0.2778$

For X=13 the forecasting figures of the year 2005 in the table 13.5 were taken.

13.4 Reclassification into FRA 2005 classes

Not needed.

13.5 Data for National reporting table T13

FRA 2005 Categories	Scale factor	Unit	NWFP removal		
			1990*	2000	2005
Plant products / raw material					
1. Food	1000	Ton	0.233	0.065	0.072
2. Fodder			NDA	NDA	NDA
3. Raw material for medicine and aromatic products	1000	Ton	4.370	1.130	2.208
4. Raw material for colorants and dyes	1000	Ton	0.658	0.171	0.358
5. Raw materials for utensils. handicrafts & construction	1000	Ton	1.315	0.342	0.711
6. Ornamental plants			NDA	NDA	NDA
7. Exudates			NDA	NDA	NDA
8. Other plant products			NDA	NDA	NDA
Animal products / raw material					
9. Living animals			NDA	NDA	NDA
10. Hides. skins and trophies			NDA	NDA	NDA
11. Wild honey and bee-wax			NDA	NDA	NDA
12. Bush neat			NDA	NDA	NDA
13. Raw material for medicine			NDA	NDA	NDA
14. Raw material for colorants			NDA	NDA	NDA
15. Other edible animal products	1000	Ton	0.005	0.017	0.157
16. Other non-edible animal products			NDA	NDA	NDA

***The figures are of the 1993 year.**

13.6 Comments to National reporting table T13

14 Table T14 – Value of non-wood forest products removal

14.1 FRA 2005 Categories and definitions

The following categories of non-wood forest products have been defined:

Category
Plant products / raw material
1. Food
2. Fodder
3. Raw material for medicine and aromatic products
4. Raw material for colorants and dyes
5. Raw materials for utensils. handicrafts & construction
6. Ornamental plants
7. Exudates
8. Other plant products
Animal products / raw material
9. Living animals
10. Hides. skins and trophies
11. Wild honey and bee-wax
12. Bush neat
13. Raw material for medicine
14. Raw material for colorants
15. Other edible animal products
16. Other non-edible animal products

14.2 National data

14.2.1 Data sources

References to sources of information	**Quality (H/M/L)**	**Variables**	**Years**	**Additional comments**
Unpublished Statistics of General Directory of Forest and Pastures (G.D.F.P.)	H	Total incomes	1993-2003	

14.2.2 Classification and definitions

FRA categories and definitions were applied.

14.2.3 Original data

Incomes from non-wood products were recorded but, the shared after classes were made by mean of the specialist experiences.

National Data

FRA 2005 Categories	Value of non-wood product removal (Million Albanian Leke)											
	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004
Plant products/Raw material	3.81	1.22	2.35	0.59	0.18	1.33	1.64	2.48	3.49	3.63	10.0	8.21
Food	0.27	0.09	0.16	0.04	0.01	0.09	0.12	0.17	0.24	0.25	0.70	0.58
Fodder	NDA	NDA	NDA	NDA	NDA	NDA	NDA	NDA	NDA	NDA	NDA	NDA
Raw material for medicine and aromatic products	2.40	0.77	1.48	0.37	0.11	0.85	1.03	1.56	2.20	2.29	6.30	5.17
Raw material for colorants and days	0.38	0.12	0.24	0.06	0.02	0.13	0.16	0.25	0.35	0.36	1.00	0.82
Raw material for utensils, handicrafts and construction	0.76	0.24	0.47	0.12	0.04	0.26	0.33	0.50	0.70	0.73	2.00	1.64
Ornamental plants	NDA	NDA	NDA	NDA	NDA	NDA	NDA	NDA	NDA	NDA	NDA	NDA
Exudates	NDA	NDA	NDA	NDA	NDA	NDA	NDA	NDA	NDA	NDA	NDA	NDA
Other plant products	NDA	NDA	NDA	NDA	NDA	NDA	NDA	NDA	NDA	NDA	NDA	NDA
Animal products/Raw material	2.24	3.85	40.30	23.25	6.14	6.98	11.12	17.60	21.38	22.50	23.28	25.37
Living animals	NDA	NDA	NDA	NDA	NDA	NDA	NDA	NDA	NDA	NDA	NDA	NDA
Hides. skins and trophies	NDA	NDA	NDA	NDA	NDA	NDA	NDA	NDA	NDA	NDA	NDA	NDA
Wild honey and bee-wax	NDA	NDA	NDA	NDA	NDA	NDA	NDA	NDA	NDA	NDA	NDA	NDA
Bush neat	NDA	NDA	NDA	NDA	NDA	NDA	NDA	NDA	NDA	NDA	NDA	NDA
Raw material for medicine	NDA	NDA	NDA	NDA	NDA	NDA	NDA	NDA	NDA	NDA	NDA	NDA
Raw material for colorants	NDA	NDA	NDA	NDA	NDA	NDA	NDA	NDA	NDA	NDA	NDA	NDA
Other edible animal products	2.24	3.85	40.30	23.25	6.14	6.98	11.12	17.60	21.38	22.50	23.28	25.37
Other non-edible animal products	NDA	NDA	NDA	NDA	NDA	NDA	NDA	NDA	NDA	NDA	NDA	NDA
TOTAL for Country	6.05	5.07	42.65	23.84	6.32	8.31	12.76	20.08	24.87	26.13	33.28	33.58

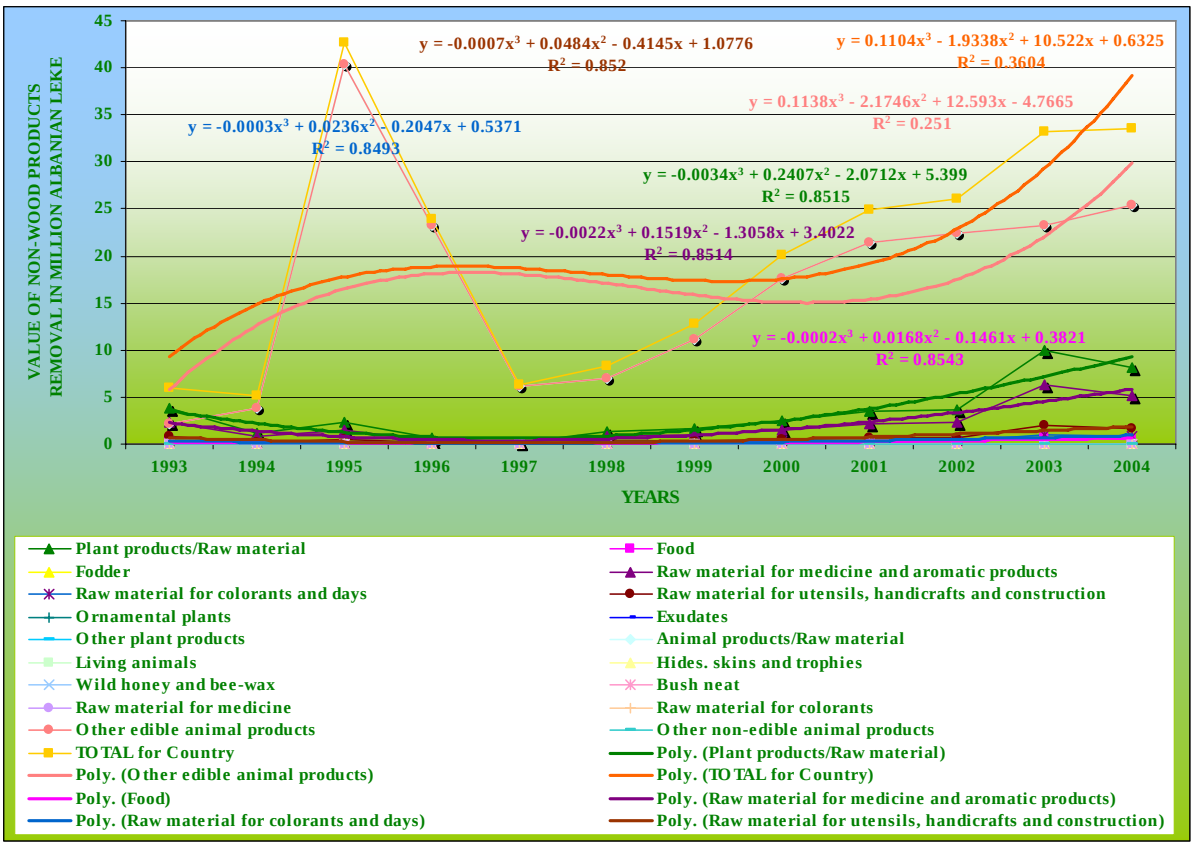

Fig.no.25-Value of non-wood product removal-Plant products/Raw material and Animal products/Raw material in Million Albanian Leke

14.3 Analysis and processing of national data

14.3.1 Estimation and forecasting

Original data calculated from annual incomes beginning from 1993 year (instead of 1990 year as an average of 1988-1992) to 2004 year, to forecast the amounts for 2005 year, were used.

Estimation and forecasting

1993-2003 reported as annual total and calculated for each one specification
2005 evaluated by mean of regressions except other edible animal products.

Forecasting for the year 2005 by mean of the found regression amongst the figures for each one-year with number of year was made.

After replacing for X=13 correspond for the year 2005 the forecasting figures for the year 2005 were found.

The found regressions are following:

Value of non-wood forest products removal in 000/USD.

1. Food 2. Fodder	$Y=-0.0002\ X^3+0.0168\ X^2-0.1461\ X+0.3821$	$R^2=0.8232$
3. Raw material for Medicine and Aromatic products	$Y=-0.0022\ X^3+0.1519\ X^2-1.3058\ X+3.4022$	$R^2=0.8514$
4. Raw material for Colorant and days	$Y=-0.0003\ X^3+0.0236\ X^2-0.2047\ X+0.5371$	$R^2=0.8493$
5. Raw material for Utensils, handicrafts& Constructions	$Y=0.0007\ X^3+0.0484\ X^2-0.4145\ X+1.0776$	$R^2=0.852$
6. Ornamental plants		

7. Exudates
8. Other plant products
9.Other animal products $Y=0.1138\ X^3-2.1746\ X^2+12.593\ X-4.7665$ $R^2=0.251$

For X=13 the forecasting figures of the year 2005 in the table 14.5 were taken.

14.4 Reclassification into FRA 2005 classes

Not needed.

14.5 Data for National reporting table T14

Value of non-wood products in 1000/USD for years 1990 and 2000, by dividing average values of 1993 (instead of 1990 year as an average of 1988-1992 years) and average values of 1998-2002 years in Albanian Leke with exchange rate of 1992 year and average exchange rate of 1998-2002 years (Taken from Appendix 4 historical exchange rates-Guidelines for Country Reporting to FRA 2005), were calculated.

Forecasted values of non-wood products of 2005 year, by dividing of forecasted values of non-wood products in Albanian Leke with exchange rate of the 2003 year, were calculated.

14.6 Data for National reporting table T14

FRA 2005 Categories	Value of the of NWFP removal (1000USD)		
	1990*	**2000**	**2005**
Plant products / raw material			
1. Food	1960	1263	8285
2. Fodder	NDA	NDA	NDA
3. Raw material for medicine and aromatic products	17425	11515	68165
4. Raw material for colorants and dyes	2759	1815	11306
5. Raw materials for utensils. handicrafts & construction	5518	3659	21871
6. Ornamental plants	NDA	NDA	NDA
7. Exudates	NDA	NDA	NDA
8. Other plant products	NDA	NDA	NDA
Animal products / raw material			
9. Living animals	NDA	NDA	NDA
10. Hides. skins and trophies	NDA	NDA	NDA
11. Wild honey and bee-wax	NDA	NDA	NDA
12. Bush neat	NDA	NDA	NDA
13. Raw material for medicine	NDA	NDA	NDA
14. Raw material for colorants	NDA	NDA	NDA
15. Other edible animal products	16.26	115.56	388.95
16. Other non-edible animal products	NDA	NDA	NDA
TOTAL	**43.927**	**133.812**	**498.574**

***The figures are of the 1993 year.**

14.7 Comments to National reporting table T14

15 Table T15 – Employment in forestry

15.1 FRA 2005 Categories and definitions

Category	Definition
Primary production of goods	Employment in activities related to primary production of goods. like industrial round wood. wood fuel and non-wood forest products.
Provision of services	Employment in activities directly related to services from forests and woodlands.
Unspecified forestry activities	Employment in unspecified forestry activities.

15.2 National data

15.2.1 Data sources

References to sources of information	Quality (H/M/L)	Variables	Years	Additional comments
Unpublished Statistics of General Directory of Forest and Pastures (G.D.F.P.) and Institute of Forest and Pasture Researches (I.F.P.R.)	H	-Industrial round wood -Wood fuel -Total incomes from Secondary productions -Forest Service and Researchers Personal -Reforestation area -Hidrotechnical Constructions	1990-2003 1990-2003 1993-2003 1990-2003 1990-2003 1990-2003	

15.2.2 Classification and definitions

FRA categories and definitions were applied.

15.2.3 Original data

The number of employers for industrial round wood and fuel wood were calculated dividing the harvested quantity with annual production rate of one worker.
The other number of employees were calculated dividing the investments and expenditures and incomes with average annual salary of one worker.
Some figures on services number were taken from statistics of GDFP and IKPK.

National Data

FRA 2005 Categories	Employment (1000 person-years)													
	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
Primary production of goods	2.063	1.235	0.832	0.927	0.661	0.440	0.430	0.215	0.277	0.363	0.347	0.340	0.374	0.330
Provision of services	1.650	1.650	1.650	1.650	1.650	1.650	1.550	1.450	1.350	1.270	1.270	1.270	1.180	1.080
Unspecified forestry activities	4.720	2.790	3.450	0.160	0.000	0.120	0.009	0.720	0.015	0.017	0.175	0.188	0.281	0.264
TOTAL for Country	8.433	5.675	5.932	2.737	2.311	2.210	1.989	2.385	1.642	1.650	1.792	1.798	1.835	1.674

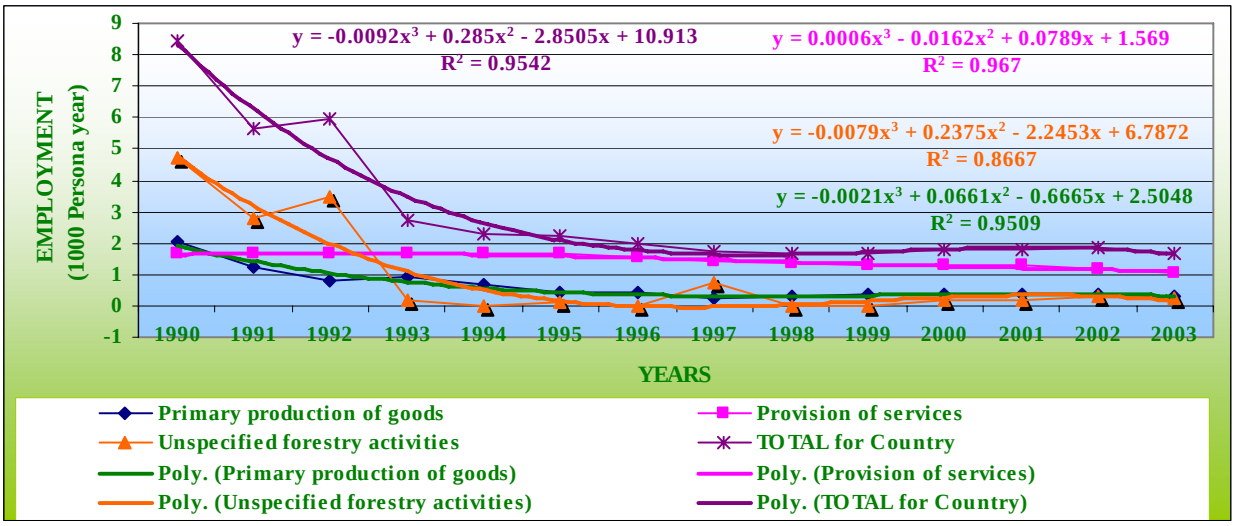

Fig.no.26-Employment in forestry and Other wooded land

15.3 Analysis and processing of national data

15.3.1 Estimation and forecasting

Not needed as figures available for 1990 and 2000.

15.4 Reclassification into FRA 2005 classes

Not needed.

15.5 Data for National reporting table T15

FRA 2005 Categories	Employment (1000 person-years)	
	1990	**2000**
Primary production of goods	2.063	0.347
Provision of services	1.650	1.270
Unspecified forestry activities	4.720	0.175
TOTAL	**8.433**	**1.792**

15.6 Comments to national reporting table T15

The steep decrease of employment we can explain as follow by:

1.-Reduction of industrial round wood and wood fuel production.

2.-Reduction of total incomes from secondary products.

3.-Reduction of Forest Service and Researchers Personnel after the recommendations of World Bank project on the Forestry Development in ALBANIA.

4.-Reduction of investments in forest harvest, reforestation and hidrotechnical constructions areas.

All are the difficulties of transition period to change and to improve the social system.