

Cross-Sectoral Linkages in Forestry

COUNTRY CASE STUDY SUMMARY REVIEW

by
Giorgio Andrian
Luca Musumeci
Davide Pettenella
Laura Secco

Land Use and Agro-Forestry Systems Department
University of Padova
Agripolis - Via Romea 16
35020 Legnaro PD - Italy

FAO Forestry Department
Policy and Planning Division
Policy and Institutions Branch

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1. Introduction

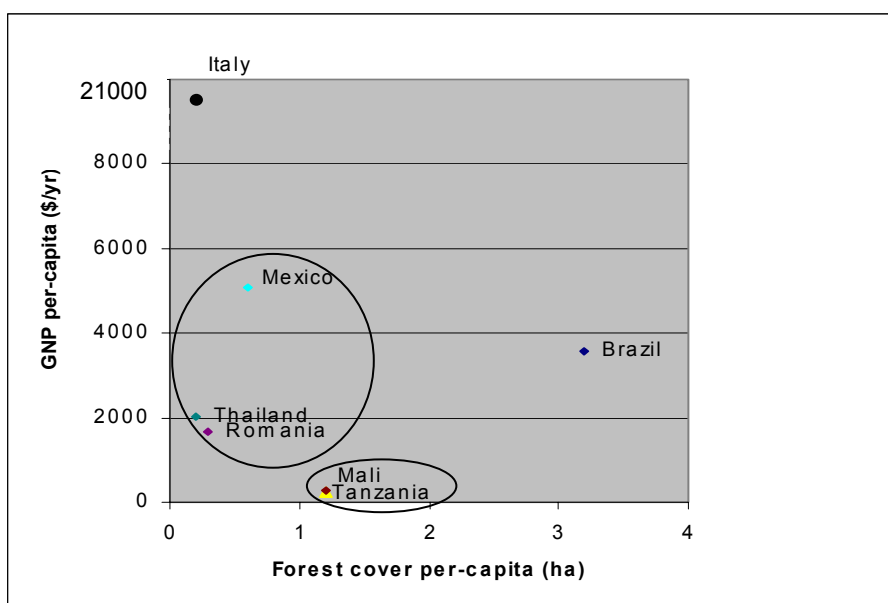
This report summarizes the main findings and conclusions of seven country case studies (Brazil, Italy, Mali, Mexico, Romania, Tanzania and Thailand) prepared within the FAO Forestry Department Programme on “Cross-sectoral policy impacts in forestry”. The objective is to identify specific questions or issues that could be addressed by working groups during the Technical Meeting to be held in FAO Rome, 18-20 September 2002.

The report is organised in three sections. The first section presents the socio-economic and bio-physical characteristics of the seven countries. The aim of this section is to highlight the very diverse general contexts of the case studies, to facilitate the understanding of the causes of policy failures and the instruments to improve policy coordination. The second section summarizes each of the case studies on the basis of a standard structure: brief description of the forestry sector, main cross-sectoral issues and policy impacts considered, stakeholders’ response, effects and instruments of policies as well as lessons learned. The third section proposes specific questions. In addition, boundaries of sectors, elements to specify policy linkages and policy coordination tools are discussed in Annex 1.

Section I - Socio-economic and Bio-physical Characteristics

The case studies offer a wide range and a diversified picture of the relations between forest policies and external policies and of the problems and potentials in improving coordination in policies implementation. Figure 1 for example shows GDP and forest cover per capita. Hence Mali and Tanzania could be classified as low income and low forest cover per capita countries; on the other hand, Brazil, Mexico, Romania and Thailand are medium income and low forest cover per capita countries with the exception of Brazil, characterised by a high forest cover per capita. Finally, Italy could be considered a high income with a low forest cover per capita country.

Figure 1 - Country GDP and Forest Cover per capita



As it concerns many relevant aspects related to the size and growth of their economies, the selected countries present huge differences in relative and absolute terms (table 1).

Table 1 - Selected socio-economic indicators for the seven case studies countries (2000)

	Total population	Population Density (per sq. Km)	Population Growth (%)	Rural Population (%)	GDP annual growth (% 1999-2000)	GDP per capita (US \$)	Life Expectancy (years)	Illiteracy Level(*) (%)	Country human development index
Brazil	168.2	19.9	1.3	19	5	3,580	67.5	15	69
Italy	57.7	191.5	0.1	33	3	20,160	78.4	2	20
Mali	10.8	9	2.9	73	5	240	51.2	68	153
Mexico	98	51.3	1.4	26	7	5,080	72.4	9	51
Romania	22	97	-0.3	45	2	1,670	69.8	2	58
Tanzania	33.7	38	2	70	5	280	51.1	24	140
Thailand	60.7	118.9	0.8	81	4	2,010	69.9	5	66

(*): population with age > 15 years/total population

Source: World Bank (<http://www.worldbank.org/data/wdi2002/>), FAO (<http://apps.fao.org/default.htm>) and UNDP (<http://www.undp.org/hdr2001/indicator>)

Table 2 provides more detailed data on the countries' forest resources. It is noteworthy that in all the states' forest cover (with the exception of the two European ones) is decreasing. Annual change ranges from -1.1 (Mexico) to -0.2 (Thailand).

Table 2 – Forest cover

(a)

	Total forest 2000			
	Area (1,000 ha)	Percentage of land area (%)	Area per caput (ha)	Percentage of world forest area (%)
Brazil	543905	64.3	3.2	14.06
Italy	10003	34.0	0.2	0.26
Mali	13186	10.8	1.2	0.34
Mexico	55205	28.9	0.6	1.43
Romania	6448	28.0	0.3	0.17
Thailand	14762	28.9	0.2	0.38
Tanzania	38811	43.9	1.2	1.00
TOTAL WORLD	3869455	29.6	0.65	100.00

(b)

	Forest cover change 1990-2000		Forest protected area 2000	Forest area under certified SFM 2000
	Annual change (000 ha)	Annual change rate %	% of forest area	(000 ha)
Brazil	-2309	-0.4	17	666
Italy	30	0.3	11	11
Mali	-99	-0.7	7	0
Mexico	-631	-1.1	4	169
Romania	15	0.2	4	0
Thailand	-91	-0.2	23	0
Tanzania	-112	-0.7	14	0
TOTAL WORLD	-9391	-0.22		80,717

Source: FAO, Forest Resources Assessment 2000 (<http://www.fao.org/forestry/fo/fra/index.jsp>)

The case studies offer a broad range of views on the cross-sectoral policy linkages between forest and external policies. Three broad categories could be identified for the sake of comparison (see figure 2):

- some reports are more oriented to provide an in-depth analysis of the **problems and constraints faced by the forest sector** when confronted with macroeconomic policies and external sectoral policies, while other studies provide also a thorough examination of possible ways to reduce policies failures and improve policies coordination;
- the process of decentralization and devolution is affecting almost all the countries and this may explain why some reports are considering in detail the problems of **vertical integration** (i.e. the coordination among the international, national and local level of planning – see Annex 1), while in others attention is given to the links among policies designed and implemented at the same territorial level;
- in some reports focus is mainly given to the **linkages among public policies**, while other papers are considering also the conflicting relations between market development forces and forest protection policies.

Figure 2 – Case studies displayed by main focus of the analysis of cross-sectoral policies linkages

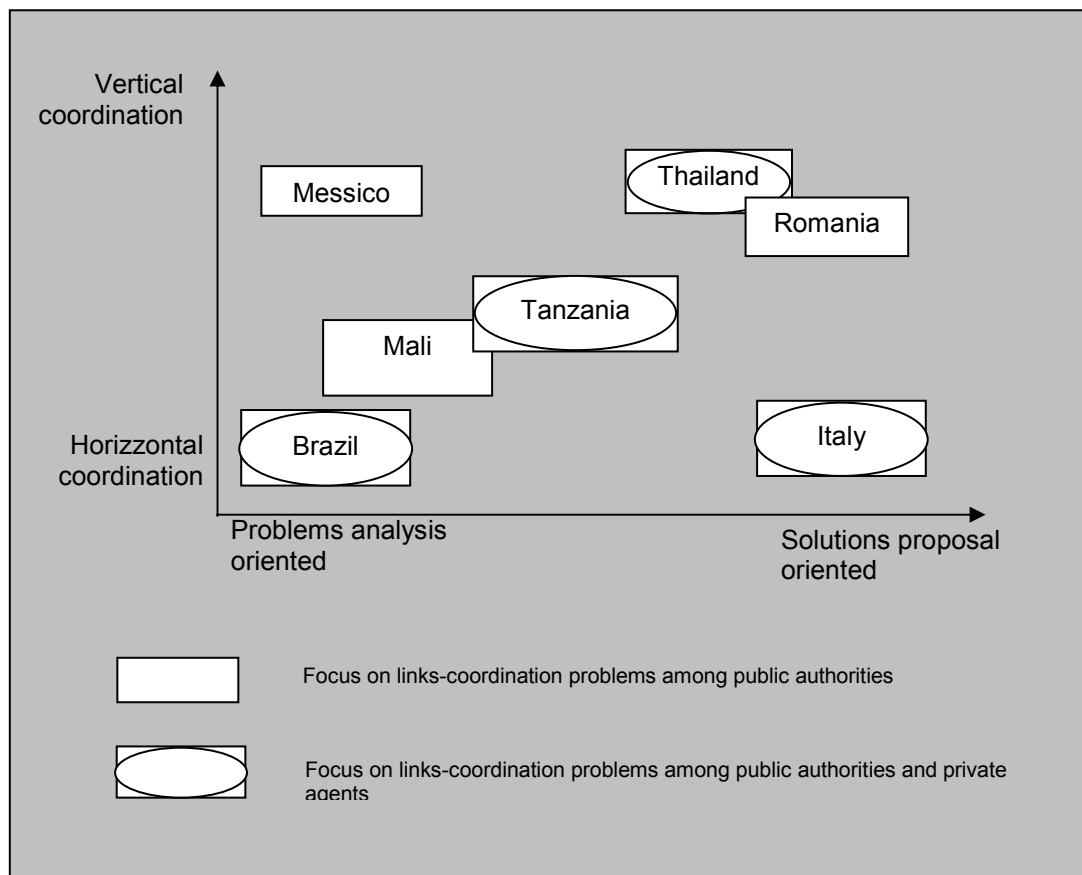


Table 3 shows the attention given to the institutional aspects as well as to the scale and the time span of analysis vary from one country to the other..

Table 3 – Some elements characterizing the case studies reports

	Description of national institutional setting	Local case studies	Time span considered (main focus)
Brazil	No	Yes (Amazonia region)	1980-99
Italy	Yes	Yes (3 North-East mountain provinces)	1950-...
Mali	Yes	Yes (2 Northern and Southern regions)	1985-...
Mexico	Yes (detailed)	Yes (Chihuahua State)	1995-...
Romania	Yes (detailed)	No	1990-...
Thailand	Yes	Yes (Northern mountain region)	End of '80s-...
Tanzania	No	Yes (Miombowoodlands)	1970-...

Section II - Country Case Study Summary Review

2.1 Brazil

Brazil has the world's largest area of tropical rainforests. Forests cover around 2/3 of Brazil's land area. The country's forest classes can largely be divided into Amazon, Atlantic and araucaria forests. The humid tropical Amazon rainforests in the north-western half of the country account for 95 percent of Brazil's forest area. The Amazon forests comprise large areas of broad-leaved forests including those growing in a variety of dry land and alluvial zones, and lowland and sub-mountain forests. To the south of the Amazon are extensive areas of *cerrado*



MAIN SOCIO-ECONOMIC INDICATORS

Population : 168.2 million
Population per sq. km : 19.9
Population growth : 1.3%
Life expectancy (1999): 67.5 years
Poverty (%population below 1\$/day): 11.6%
GDP per capita : 3,580 US\$
GDP : 529.4 billion US\$

(savanna-type) woodlands. Brazil has around 5 million hectares of forest plantations, based on pine and eucalyptus species. Brazil has more than 30 million ha of protected areas including many state parks and reserves.

Brazil is the world's fifth-largest industrial wood producer and the largest producer of tropical wood. Brazil produces significant quantities of both hardwoods and softwoods with almost half domestic wood production being used to produce sawn timber, and a large quantity of the remainder being used to produce pulp and paper.

MAIN BIO-PHYSICAL AND FOREST INDICATORS

Surface area: 845.6 million hectares
Forest cover: 543.9 million hectares
%of land area: 64.3 %
Forest area per capita: 3.2 hectares
Deforestation (annual change 1990-2000): - 0.4%
Average growing stock: 131 cm/ha
Removals: 235.4 million cm
Import: 1,003 million US \$
Export: 3,218 million US \$

Brief presentation of the case study.

The research is focused on the study of the influences of external policies on sustainable Amazon forest management in Brazil. The specific objectives are: a) identify main impacts of external policies; b) estimate the direction and valence of impacts, c) report any successful country approaches in dealing with these influences; and d) recommend policy changes, instruments or mechanisms to maximize positive impacts and minimize negative impacts.

Based in the statistical analysis over time-series data from 1980 to 1999, the Amazonian deforestation is principally associated by macroeconomic and government policies - remarkably changed after the mid-eighties - like roads, population, logging, the wood industry, and cattle-herd. Nevertheless, GDP, energy and cattle-price are related with deforestation

Main cross-sectoral issues and policy impacts considered in the case study

Past governmental policies caused a process of forest cover degradation; in fact, since the mid-eighties, several government policies have changed. Agriculture credit subsidies have decreased considerably, tax exceptions have been reduced drastically, direct colonization settlements have terminated and large infrastructure projects have been phased out. Nevertheless, deforestation has not slowed down. The building of new paved and the pavement of existing roads are regarded as one of the main factors driving the persistence of the deforestation process. The macroeconomic policies adopted during the nineties may have exacerbated the prevailing institutional failures. Stabilization macro policies may have increased incentives for deforestation through high interest rates and low credit availability that could have had a significant impact on the choice for land clearing

The main external policies with negative impacts on the forest frontier in the Amazonian region have been identified as the following:

- population policy (re-settlement policy, not adequate protection of indigenous people's rights agriculture policy (financial incentives for forestland clearing and conversion to farmland for cattle breeding);
- infrastructures policies (road construction);
- tax exemption policies for new economic activities policies related to land use rights regulation.

Logging and the development of the local capacity of the wood industry are also important internal factors. It is estimated that the sustainable timber production in the Amazon region is around 6%; thus, the logging industry in the region is an important actor in deforestation process, because its 94% wood production provided from deforested areas.

Stakeholders' response

The study is not deeply identifying and analyzing the role played by the stakeholders in the policy making and implementing processes. Nevertheless, some factors have been indicated as key variables in the process of deforestation.

Rural-urban migration phenomenon (growing at an average rate of 5.9% over a national average of 2.7%) is increasing the Amazon population at a very high speed and bringing new demands from these stakeholders into the complex reality of the forest management.

A strong relationship between incentives for land clearing and insecure property right regimes has been found, so far bringing the local farmers around the table of the effective stakeholders.

The study identified the role of the populations as an 'endogenous variable' and clarify that migrations occur as a response to economic incentives. Additionally, most fires occur during the dry season and are caused by farmers and ranchers who burn off cleared land for planting crops or pastures, so far intensively participating in the process of direct deforestation and carbon release in the atmosphere.

The indigenous populations, amounting at 206 ethnic groups, speaking some 170 languages, play a particular role. The vertical relations between the National and State governments and the indigenous population, as well as the horizontal ones occurring amongst the different ethnic groups are key variables in the cross-sectoral policy definition process.

The study mentions the additional private actors too, being mostly characterised by the industrial complex, which has, indeed, only little capacity to provide the extra and long-term support needed for sector development.

Effects and instruments of policies and lessons learned

In order to develop in a sustainable way the forestry sector, external public policies (especially in the fields of roads expansion, population growth, commercial logging activities, and cattle breeding) should pay more attention to the value of forest resources and to the interests of people directly and indirectly dependent from them. In particular, the forest may become a source of economic alternatives for the indigenous societies, which have a comparative advantage in forest management over agriculture and cattle farming, given by their rich resource base and skilled labor.

Although the most important industrial sector mark is related to the Forestry Law (created in 1965), consolidation of the institutional changes and stability were only recently and partially achieved.

The strategic institutional organs (the Ministry of Environment (created in 1992) and the IBAMA agency (created in 1989), which are respectively responsible for the policy-making and for implementing are not well coordinated and the Federal-State 'institutional dialogue' is still far to be fluent. On the other side, their mainly regulatory features proved to be of detriment for the entire sector.

External influences - mostly related to the international wood and non-wood forestry product market fluctuations - have been and are still affecting very much the domestic market policies in Brazil, making the country very vulnerable to exogenous factors.

The Brazilian government has recently shown signs of taking a stronger stance on enforcement - integration of international issues into national policies, sensitiveness to biodiversity protection - and has become increasingly sensitive to ecological issues concerning development of the Amazon's resources - better zoning, forest certification -, reversing or eliminating many of the policies and programs contributing to deforestation and taking important steps to increase forest protection. Nevertheless, the Amazon is still viewed mostly as an opportunity for economic growth that can aid in its fight against poverty.

The strengthen of innovative economic activities and sectors - such as the eco-tourism - in combination with the launch of structural reforms - the Agrarian reform is the most relevant in process - are considered as key-factors for a sound development of the forest and forest-related sectors

2.2 Italy



Italy occupies a long peninsula stretching from the Alps into the central Mediterranean Sea with a mountainous "backbone" where the forests are mostly located. Forest and other wooded land accounts for less than two fifths of the land area. Half is high forest, the rest coppice, often of indifferent quality. Because of its long north-south extension and wide range of altitudes, a large variety of forest types and of flora and fauna are found.

Broadleaved

species make up two thirds of the volume of growing stock, the principal species being beech, deciduous and evergreen oaks, poplars and chestnut. The main coniferous species are pines, Norway spruce and European larch. Three fifths of the forest is available for wood supply and two fifths not available, partly for conservation, partly for economic reasons. Virtually all forest is semi-natural, with some areas of plantations. Two thirds of Italian forests are privately owned, mostly by individuals in small holdings; one third is publicly owned, mainly by communes and municipalities. Non-wood forest products are of importance for the rural economy.

Italy is a major consumer, producer and trader of forest products in Europe. Its share of European paper and wood-based panel production is nearly ten per cent.

MAIN SOCIO-ECONOMIC INDICATORS

Population : 57.7 million
Population per sq. km : 191.5
Population growth : 0.1%
Life expectancy (1999): 78.4 years
GDP per capita : 20,160 US\$
GDP : 1.1 trillion US\$

MAIN BIO-PHYSICAL AND FOREST INDICATORS

Surface area: 29.4 million hectares
Forest cover: 10.0 million hectares
%of land area: 34 %
Forest area per capita: 0.2 hectares
Deforestation (annual change 1990-2000): 0.3%
Average growing stock: 145 cm/ha
Removals: 9,3 million cm
Import: 7,859 million US \$
Export: 2,741 million US \$

Brief presentation of the case study

The main institutional changes occurred in the last 50 years, with the decentralisation process completed in the '90s, represent the descriptive frame of the case study.

Particular attention has been given to the growing interdependence between non-forest sector policies and forest sector ones and to the peculiar characteristics of the decentralisation process. The prevalence of non-sectoral policies (e.g. the Common Agricultural Policy) in influencing the state of Italian forest resources, as well as the decentralisation process have radically reduced the traditional role of State institutions in forest sector planning.

Moreover, the conflicting process of decentralisation has significantly reduced all forms of multi-level coordination among State and Regional authorities. The overall consequence is that, at the moment, Italy has not a coherent national forest strategy, clearly coordinated with other sectoral policies, but a collage of 20 regional forest policies, with very limited inter-regional coordination.

In particular, the core of the analyses focuses on a comparative investigation of the role of the forestry sector and of related policies in three Italian north-eastern mountain Provinces (Bolzano, Trento and Belluno).

In analysing the different development patterns, special reference has been made to the role of the three key-variables identified: the landownership tenure, the institutional aspects (decentralisation, public administration structure, participation of the different interest groups in the decision making process) and the sectoral policies in non-forest related sectors (mainly agriculture, tourism and industrial policy).

The concluding remarks are guided by the attempt to synthesise the relationship between the endogenous and exogenous factors driving the mountain forest economies in the territories that have been analysed. Some lessons learnt from the Italian experience mainly in terms of policy failures due to the lack of coordination in the decentralisation process are presented.

Main cross-sectoral issues and policy impacts considered in the case study

In considering the main cross sectoral issues and policy impacts, the study, at first, defines the important aspect of the territorial level of policies coordination. A distinction is drawn among four main levels: international, regional (i.e. sovra-national), national and regional (i.e. sub-national or local). It has been remarked how problems in coordinating sectoral policies are conditioned by the time span of policy planning and the frequency of political actions. Two groups of key issues have been particularly considered: the institutional arrangements (decentralisation, public administration structure, participation of the different interest groups in the decision making process) and the role of external policies (the European Union Common Agricultural Policy, tourism and industrial policy) in influencing the state of forest resources.

As it concerns the former aspect, the decentralization process has been particularly influencing the institutional and policy arrangements in the recent Italian forestry history: the country's Constitution has given large responsibilities in decision making and in policy implementation in the agro-forestry sector to the Regional authorities, but a lack of coordination, combined with different development speeds, created a 'puzzle' of 20 different forest policy concepts. On the other side, the State authorities proved not to be able to fully implement the decentralization process in a reasonable time frame and it has not been providing the country with a significative representitiveness at international level.

So far, the characteristics, as well as the intensities of the influences from the external policies differ very much, region by region and sector by sector; a lack of coordination among the different national and regional policies and the absence of a sound harmonization with the EU main directives resulted in a fragmented forestry sector development characterised by many paradoxical contrasts amongst its internal branches.

Stakeholders' response

Landowners' response to rural development policies has been strongly influenced by the different patterns of land fragmentation in the three analysed provinces. In mountain areas the land tenure regime represents a key factor for any policy regarding the development of local entrepreneurship. The small-scale extension of surfaces under the same tutorship represents a significant constraint to the implementation of a multifunctional and coordinated use of land resources.

The diverse level of stakeholders involvement have been analysed, starting by the most important multi-level permanent vertical co-ordination agency related also to forest policies: the State-Region Conference (*Conferenza Stato-Regioni*). The horizontal coordination patterns (internal to the organizations, between the different public structures and among public and private actors) have been taken into consideration. At this respect, the examples of the *Tavolo Forestale (Forestry Table)* - a group of stakeholders' representatives that meets periodically to discuss the initiatives and problems of the forest sector at provincial level - as well as the Local Action Groups (*Gruppi di Azione Locale - GALs*) have been cited as real and effective decision making bodies to negotiate and implement the activities in the forestry sector.

Effects and instruments of policies and lessons learned

Within the context of a rich industrialised country as Italy, activities related to the mountain forestry are becoming strategically important, mostly for the provision of environmental services rather than for the production of raw materials.

Several stakeholders, with different rights and duties, are involved in forestland management. Theoretically, society has the right to be provided with forest environmental services, while forest managers have the duty to implement a sound planning; in fact, public authorities are required to translate these rights and duties into institutional and concrete actions by means of adequate mechanisms and instruments.

Multi-level co-ordination between organisations and political actors is still lacking as a result of a long-lasting conflict among State and Regional authorities in completing the decentralization process; it has absorbed almost all the interests and expectations of *Minister of Agricultural and Forest Policies* and a very limited attention was therefore given, in the crucial years of the '80s and '90s, to all the developments at international level (UNCED, CBD, IPF/IFF, UNFF, Ministerial Conference for the Protection of European Forests, etc.).

It will take time before the Regions "re-discover" the utility of having a supra-regional coordinating agency and the State to assume a role as interactive liaison between the international scenario and the local (regional) activities.

2.3 Mali



Mali is lightly forested with around 9 percent forest cover and an additional 14 percent of other wooded land. Mali's vegetation types extend from Sudanian-Guinean in the south, through Sudanian and Sahelian zones, to Saharan desert occupying most of the northern half of the country. An extended drought and desertification are major problems in Mali. Closed forests are almost exclusively patches of gallery forest in riparian areas and comprise a mix of mainly semi-deciduous forest and savannah

species.

Mali's wooded areas are dominated by savannah, with *Isobertia doka* characterising the Guinean-type savannah, *Parkia biglobosa* representative of Sudanian-type, and *Acacia spp.* scrub representative of Sahelian vegetation. Mali has established modest areas of plantation

MAIN SOCIO-ECONOMIC INDICATORS

Population : 10.8 million
Population per sq. km (1997): 9
Population growth : 2.9 %
Life expectancy (1998): 51.2 years
Poverty (%population below 1\$/day): 72.8%
GDP per capita : 240 US\$
GDP : 2.3 billion US\$

MAIN BIO-PHYSICAL AND FOREST INDICATORS

Surface area: 122.0 million hectares
Forest cover: 13.1 million hectares
%of land area: 10.8 %
Forest area per capita: 1.2 hectares
Deforestation (annual change 1990-2000): %-0.72
Average growing stock: 22 cm/ha
Removals: 5.1 million cm
Import: 8.7 million US \$
Export: 1.6 million US \$

forest with the most common species being *Eucalyptus spp.* and *Gmelina arborea*. Mali has extensive land areas in parks and reserves.

Wood is the major fuel and energy source in Mali. There are no large-scale forest industries in the country..

Brief presentation of the case study

Forest resources in Mali are under a process of rapid degradation. The demographic pressure - characterised by a growing request of fuelwood - and the demand for new farmland have been identified as the two most relevant causes of deforestation. Additionally, the combination of the extensive agricultural methods, still in use in large areas of the country, and the lack of appropriate legal frames to protect natural resources are resulting in a growing depletion of forests. The arid climate conditions affecting the country represent an additional constraint to the development of the forestry sector.

The case study focuses on the main impacts caused by the different national development policies on the traditional forestry sector, trying to estimate their directions and intensities. The successful cases of sound policy implementation are examined too and some recommendations are given to intensify the positive effects and minimize the negative ones. The intersectoral approach in policy analysis - as suggested also by UNCD in a recent (1992) document addressed to the country - has been utilised by the authors to take in consideration the most recent intervention in Mali; the case study intends to be a further contribution in this direction.

In particular, two more specific case-studies are presented: a program of protection of forest resources in an area - in the Southern part of the country - of development of cotton and rice productions; an integrated project to fight desertification in an area of the Northern region.

Main Cross-sectoral issues and policy impacts considered in the case study

Cross-sectoral issues are considered at two separated levels:

- in the macro-economic context, where effects of structural adjustments policy on rural poverty and on capacity by public authorities to carry out regulatory functions are presented as the main driving forces of the process of forest degradation,
- at the level of single sectoral policy, making reference to the agriculture development, to the household energy, to the mining and industrial policies.

As far as the first aspect is concerned, the institutions which are expected to design the development policies are mostly driven by the attention to reduce the impact of poverty, mainly by improving the quantitative level of the agriculture productions; little attention is posed on the aspects which are related to a sound overall management of the natural resources, so far accelerating the process of their depletion.

As a consequence, institutions setting and the decentralisation policy as well as other sectoral programs (the national policy to fight poverty, the national plan for the women promotion) have minor impacts on the state and quality of forest resources.

The sectoral policies and their mechanisms are analysed in details: despite a declared interest of the government to protect and develop the natural resources of the country, the single branches of the economy are neglecting the impact of the interventions on the environment.

The study emphasis that at the implementation phase, the incapacity of coordination and the lack of transparencies and information are resulting in an overall failure of most of the governmental policies in the different strategic sectors of the country.

Stakeholders' response

The stakeholders' responses have not directly been touched by the case study. On the other side, their identification and direct involvement is frequently mentioned.

In addition to the institutional main actors, the indigenous population are playing a key role in the definition of the most sustainable ways of management of the natural resources. The establishment of common forests and the launch of environmental education campaigns have been identifies as the most suitable ways of improving the quality of the main stakeholders' response.

Without a serious cross-sectoral approach in defining the main policy for the population (poverty abatement, nutrition improvement, living standards amelioration) it is not possible to balance the negative effect of the poverty pressure on the natural resources.

Effects and instruments of policies and lessons learned

The analysis of the main macro economics polices showed as the Rural Development policies in combination with the fiscal manoeuvres resulted in an indirect benefit for the forestry sector, mostly thank to the amelioration of the tax system and the consequent redistribution of the incomes to the population. On the other side, some negative effects emerged; the halt in the forestry personnel recruitment, the improvement of the prices of forest products and the worsening of the forest road system.

At the national level, three main axes have been identified as strategic for the development of the forest sector: the indication of the most suitable planning items, the improvement of the different partners' efficiency and the conservation of biodiversity.

Improving agriculture practices and reducing pressure on forest resources appear as feasible means to control the main deforestation trends. Decentralisation with a larger involvement of local populations in the decision making process are additional supports to the implementation of for forest protection policies.

The close relations between the natural resources management practises and the involvement of the indigenous population proved to be a key passage to be considered as a starting point for any sound policy; environmental and social issues are to be jointly present at any planning level.

So far, to react to the lack of coordination at national level, a *forum* for analysing and negotiating policies with impacts on the forest resources has been officially proposed. To improve the awareness of people, large campaigns of environmental education are suggested as a good mean of better involve people in a more responsible management and better impact reduction.

The existing sectoral approach of the policy-making organs to the natural resources management call for a coordination action; which is expected to be taken by an appropriate body in charge in order to create the most appropriate synergies among the diverse sectoral policies. A “Periodical Intersectoral Dialogue” - to be set up between the forestry authorities and the other related sectors - has been identified by a recent FAO consultancy, as a possible relevant contribution in the direction of ameliorating the coordination processes.

2.4 Mexico



Mexico is moderately forested with around 30 percent forest and woodland cover. It encompasses, however, a broad range of climatic zones and these give rise to a broad range of vegetation and forest types. More than 70 percent of the country is classified as semi-arid, or drier, but Mexico also has wet humid zones, as well as mountain and alpine vegetation. Lowland forest is mainly broadleaved, with significant areas of dry and arid-tropical forest, and moist tropical forest on the southern Yucatan peninsula. Inland mountain regions have large areas of mixed coniferous forest, dominated by pine and fir species, but also with significant proportions of oak. Mexico has more

MAIN SOCIO-ECONOMIC INDICATORS
Population : 98 million
Population per sq. km : 51.3
Population growth : 1.4 %
Poverty (%population below 1\$/day): 15.9%
Life expectancy (1999): 72.4 years
GDP per capita : 5,080 US\$
GDP : 574.5 billion US\$

than 2.5 million hectares of forest in protected areas. Mexico produces significant quantities of wood and paper products, mainly for domestic consumption. The majority of production is softwood sawn wood and wood-based panels. Mexico's paper industry relies on secondary fibres from recycling for 80 percent of its fibre needs.

MAIN BIO-PHYSICAL AND FOREST INDICATORS

Surface area: 190.8 million hectares
Forest cover: 55.2 million hectares
%of land area: 28.9 %
Forest area per capita: hectares
Deforestation (annual change 1990-2000): -1.1%
Average growing stock: 52 cm/ha
Removals: 45.7 million cm
Import: 2,728 million US \$
Export: 267 million US \$

Brief presentation of the case study

Starting by assuming that Mexico has the fourth world's highest annual deforestation rate (75% of which is located in the tropical area, mainly caused by the conversion of lands for livestock activities), the case-study intends firstly to analyse the causing factors of the phenomenon, mostly related to the country's development policies and institutional arrangements in the forestry sector.

The overall analysis is related to the national level and - as a specific domestic case-study - to the state of Chihuahua, an area characterized by poor living conditions, the presence of four ethnic groups and serious problems of forest degradation (fires).. The public policies analysed are grouped in: policies that establish the institutional framework; policies related to specific economic sectors; and policies that promote the nature protection and the development.

The research concludes that in Mexico the public policies external to the forestry sector seem to have a greater influence than the traditional sectoral ones. At the same time, the ones establishing the institutional frameworks have the greater impact and due to their comprehensive features and importance are also the most difficult to change, to adapt and to coordinate.

A possible solution is indicated in the already existing coordination mechanisms and - more promisingly - the ones designated by the new federal government; they intend to substantially improve the institutional coordination and to minimize the negative impacts while improving the benefits.

Lastly, the inclusion of Mexico in the main international forestry platforms represents a key factor for a sustainable resources management.

Main cross-sectoral issues and policy impacts considered in the case study

Water supply, environmental protection and development policies for the areas polluted by the ethnic minorities are the main cross-sectoral issues identified by the study as closely related to the forestry sector.

The most influential external policies have been identified as follows:

- the macroeconomic policies; they are mostly intended to support the forestry sector (better protection and development) by introducing fiscal dispositions, incentives and financial supports;
- the agricultural policies; they are playing a key role in supporting sustainable agricultural and livestock practices. On the other side, it is important that the rural initiatives will be better coordinated with the forestry ones in order to avoid drastic reduction of the forest surfaces. The agriculture incentives themselves should not promote the deforestation and any form of cover degradation;
- the policies of such related sectors as the National Defence, the Secretariat of the Interior and the state governments, which have clear mandate for the forestry. Common forests fire protection plans are expected to be jointly designed;
- the land tenure policies; it is necessary to revise the cadastre of the forest properties, in order to have local people more involved in the conservation and sustainable utilization of the forests.

In Mexico water supply policies are particularly strategic and closely related to the forestry ones; in fact, most of the mountainous forests are of crucial importance for the downstream and, consequently, expected to be included in a common resources master plan.

Stakeholders' response

Traditionally, the forestry sector in Mexico has had a very low priority regarding macroeconomic policies i.e. the lack of fiscal and direct incentives and low public expenditure. This situation has been one of the main reasons for the absence of significant investment or interest in forest conservation and development and no real stakeholders involvement ever occurred. This situation has negatively affected the forest owners, the forest industry and large parts of the rural population, in terms of the quantity and quality of the services provided by forest resources.

The recently initiated policy process of privatisation in many sectors of the wood chain made it difficult to integrate forest management units and it also increased illegal harvesting activities. All these aspects improved the deforestation and forest degradation processes.

Most of the ethnic groups live in the forests. To improve their quality of life, the research indicates a better coordination among the agrarian, social and rural sectoral initiatives, in order to minimize these groups' pressure on the forest resources.

These aspects are particularly emphasised in the context of the Chihuahua State, where the mountainous areas are strategically important for the water supply of the flat lands and the local indigenous population are extremely poor.

Effects and instruments of policies and lessons learned

The external public policies proved to have a greater influence than the forest ones. Among different policies those connected to the institutions setting have the greater impacts on the deforestation process and, in the same time, they are more difficult to change and to coordinate.

The overvaluation of the Mexican currency (*peso*) on many occasions (like now), cause increased imports of forest products. This negatively affects the forest industry in general and the single actors, in particular. Additionally, this situation makes it difficult to maintain the protection and sustainable use of the forests. Similar negative impacts are caused by the elimination or reduction of import tariffs for forestry products, due to the free trade policy and the commercial globalisation. The national wood production decreases causing many forest industries to close and the unemployment rate to dramatically grow in some areas.

The lesson so far learned is mostly concerned with the coordination between State and Federal policy-making and implementation levels; in particular:

- forestry policies and programs are elaborated with different methodologies, time frames and scenarios;
- at the different strategic planning levels, forestry resources are considered of different relevance;
- the decentralization process is lacking appropriate financial resources and proper administrative bodies in the forestry sector are almost absent; a real resources delocalisation is expected.

Nevertheless, a strategic forestry program (PEF) for Mexico, leading to year 2025, has been elaborated with the support of the international cooperation (Government of Finland and Inter-American Development Bank). The objective of PEF is to reinforce the sustainable development of the forest ecosystems by means of conservation, protection, restoration, promotion and production actions, by using the established strategies to formulate plans and operational programs within short-, medium- and long-term scenarios. The key passages to a more fluent cross-sectoral policy coordination have been identified as the follows:

- clear definition of the legal frame and responsibilities;
- common agreement at the highest policy formulation level (involving the President, Secretaries and Governors);
- more skilled leadership at the heads of the Secretariat and State agencies;
- better development of National and State programs;
- clear definition of each boards' members responsibilities.

In most of the cases, adequate policies coordination does not occur because preconditions or mechanisms do not exist; in the case of Chihuahua State, the Consultative Council has been a fundamental instrument for stakeholders' participation and intersectoral coordination.

Finally, Mexico needs to participate in the international forests fora related to forestry, as UNFF, with a clear country's position; professional representatives specialized in the forestry sector and permanence in both aspects. To compensate the lack of international institutional coordination, which used to be characteristic of Mexico in the past, new professionals are requested to drive the future development of the forestry sector.

2.5 Romania



Romania lies on the western shore of the Black Sea. Its terrain consists mainly of rolling, fertile plains to the east and the Carpathian mountain range in the centre and west. Forest and other wooded land accounts for less than one third of the land area, with most of it located in the Carpathian mountainous region and the pre-Carpathian hills. Nine tenths of the forest is available for wood supply and an even higher proportion is semi-natural forest, with only small areas of forest undisturbed by man and of plantations. Three fifths of the volume of growing

stock is comprised of broadleaved species, the main species being beech and oak. Norway spruce is the principal coniferous species. There is a wide diversity of flora and fauna in Romania's forests. Net increment, which is above the European average, has exceeded fellings by a considerable margin for some decades, leading to an expansion of growing stock.

MAIN SOCIO-ECONOMIC INDICATORS

Population: 22 million
Population per sq. km: 97
Population growth: -0.3 %
Life expectancy (1999): 69.8 years
Poverty (%population below 1\$/day): 2.8%
GDP per capita (US\$): 1,670
GDP (US\$ millions): 36.6 billion US \$

MAIN BIO-PHYSICAL AND FOREST INDICATORS

Surface area: 23.0 million hectares
Forest cover: 6.4 million hectares
%of land area: 28 %
Forest area per capita: 0.3 hectares
Deforestation (annual change 1990-2000): 0.2%
Average growing stock: 213 cm/ha
Removals: 13.1 million cm
Import: 189 million US \$
Export: 516 million US \$

Ownership of the forests was formerly entirely by the State, but the process of privatisation and restitution is leading to an increase in private ownership.

Romanian forests provide sufficient raw material resources for the domestic industry and also for exports. There have been

substantial investments in new MDF and particle board mills as well as in modernisation the of older mills which will lead to significant increase in production in the near future.

Brief presentation of the case study After the fall of communism, Romania is in transition to a market economy and - more recently - applying to the European Union accession; so far, the country is facing fundamental changes and challenges to both the overall national policy framework and the forest sector. In particular, the accession to the EU is influencing sectoral policy formulations, which are now expected to be based on principles of participation, transparency and market liberalization.

Despite significant progress, there are still many improvements to be achieved in Government policy, especially as it concerns the dialogue between sectors and interest groups, as well as within policies that determine the role and structure of public administration.

The study attempts to analyse in details the increasingly complex network of legislation and policy programs related to environmental protection, nature and wildlife conservation, as well as protected area establishment and management - which directly and indirectly affects conservation and sustainable management of forests.

More than ever, it seems clear how the forestry sector can no longer considered as an isolated one in the context of the Romanian economy; consequently, the co-ordination of forest policy aims and the objectives of traffic, energy and infrastructure policies - frequently neglected so far - has increasingly become a sensitive issue for the civil society.

In particular, eco-tourism - in most of the cases related to the presence of forests - plays an important role in the mountain rural development in several regions of the country. The case study concludes by providing some recommendation on policy and institutional changes to maximize the positive impacts and minimize the negative ones, with a particular emphasis on the forest sector development.

Main cross-sectoral issues and policy impacts considered in the case study

The main cross-sectoral linkages in forestry result nowadays from the policies on macro-economic development and - more specifically - from land tenure and privatization acts.

Romania policy-making, as well as implementation processes, are very centralised, at State level and depending on the Government Inter-Ministerial cooperation. The EU accession procedures are positively accelerating this process, although the authors maintain some doubts about the speed and effectiveness of the decentralisation process.

Both external (the requirements deriving from the EU bodies, the World Bank operational policies and the Comprehensive Development Framework) and internal (mostly the democratization of the society, increased pressure from various interest groups and NGOs) factors are supporting this ongoing process.

Despite the high number of Ministries in charge (21) in the existing Romanian governmental structure, many of them are characterised by inter-sectoral coordination and cross-sectoral responsibilities, in the attempt to eradicate the traditional extremely sectoral-focus approach in the policy-making process; the different phases of policy formulation, planning development and implementation have been drastically redefined. Nevertheless, the complexity of the delicate inter-ministerial coordination process is resulting in delaying the entire process and reducing its efficiency.

In the recent decades, the overall negative socio-economic situation has affected very much the forest sector, which used to be one of the most relevant in the Romanian economy: to contrast this trend, new policies of restitution of forestland and privatisation of wood harvesting, transport and processing sectors had the highest impact at national level. Despite the first positive performances registered after the re-allocation of forest land in private hands (improving environmental awareness, increasing operational efficiency, better association sensitiveness), the overall public financial restrictions posed several limits to the further development of the entire sector.

In particular, some key-problems in policies coordination are particularly affecting the forest sector. The absence of a sound institutional capacity and a legal and clear regulatory frame, combined with a weak and not-coordinated implementation of the land restitution processes, resulted in a reduction of efficiency of the entire process of privatisation. Additionally, the lack of inter-sectoral (inter-ministerial) cooperation, especially in the implementation of infrastructure development policies and agricultural policies, combined with budgetary constraints influenced by the recent low performance of the national economy, are reducing the chances for improving performances in the forest sector.

Stakeholders' response

In order to promote coherent national policies and development planning and to eliminate the deficiencies regarding inter-sectoral coordination, various institutional mechanisms have been developed at Governmental level in the last decade (inter-ministerial committees, cross-sectoral coordination groups, council for economic and financial coordination etc.).

In this process, larger rooms have been dedicated to the involvement of the main stakeholders, both public and private (ranging from the public authorities to the private forest owners' association and the main research centers).

Many sectoral policies have been developed through open, transparent and participatory processes, usually coordinated by the public authority responsible for the respective sector and actively involving other related sectors (e.g. the National Forest Policy and Strategy formulation).

Nevertheless, it is remarked how the accelerated reform policy is having a negative overall environmental impact; in the specific case of the forestry sector, a reduced volume and quality of the forest amelioration operations has been noticed.

The high fragmentation of the forest plot ownership deriving from the partial restitution process is determining an immediate loss of forest cover.

The scarce lobbying capacity of the forest sector is influencing the low commitment of public decision makers in implementing a policy for the sustainable forest development.

The research marked the growing role of the private tourism entrepreneurs, which are more and more searching for nice forested landscapes to supply the demand of ecotourism. On the other side, the impact of an unregulated tourism might turn into a serious damage to the forests, by reducing their surfaces (new sport resorts' construction) and causing degradation to their qualities (intensive hiking and non wood forest products collection, as well as unregulated waste disposal).

Effects and instruments of policies and lessons learned

Since the end of 1999, the European Union accession process has had a major positive impact on policy formulation, development planning, inter-sectoral coordination, participation and transparency. However, in the transition process, there is a strong need for an effective coordination among institutional actors and a better law enforcement.

As far as the strategic policies for the rural areas (especially those related to grazing and hunting activities) proved to particularly affect the forest sector; their integration into the overall natural resources management is very necessary to obtain mutual benefits.

The forestry issues must be clearly considered in the rural development planning process, providing compensation and subsidies; the research shows how it is difficult to move from a traditional command and control approach to a participatory one.

Better land allocation policies (i.e. avoiding excessive land fragmentation), law enforcement, provision of services for improving forest management operations must accompany the privatization of the forestry sector.

In particular, in the last decade, the responsibilities for forest management and wood harvesting, transport and processing have belonged to different public authorities, often resulting in disputes and conflicts. As being the management and logging activities the most strategically ones, more flexible procedures including the implementation of a proper auctioning system are indicated as the most urgent measures to be taken.

The most recent norms introduced within the environmental legislation frame, have been affecting the forestry sector too; the new tax regime had a negative impact but the overall financial resources available thanks to the 'Environmental Fund' had positive influences.

The improved importance of the biodiversity protection policies combined with a growing sensitiveness toward the nature protections issues resulted in an amelioration of the public Forest Service performances within the protected areas. Despite the fact that foresters and forest organizations have significantly contributed to nature conservation, there has also been situations when their actions have had negative impacts. There are examples of negative cumulative effects of harvesting on water quality, flora and fauna. However, in the last decade foresters have increasingly become more open to the dialogue with conservation organizations and the general public on nature conservation issues.

Finally, infrastructure realizations, as well as mining and energy activities, are mostly conflicting with the forest preservation and amelioration; nevertheless, their strategic importance for the country's development has to be balanced with the nature preservation issues.

2.6 Tanzania



MAIN SOCIO-ECONOMIC INDICATORS

Population : 33.7 million

Population per sq. km (1997): 38

Population growth : 2 %

Life expectancy (1999): 51.1 years

Poverty (%population below 1\$/day): 19.9%

GDP per capita : 280 US\$

GDP : 9.3 billion US\$

Tanzania is moderately forested with around 37 percent forest cover and an additional 39 percent other wooded land. Tanzania has relatively small areas of closed forest with the bulk of these being mountain or sub-mountain forests. Lowland closed forests are generally semi-deciduous secondary forest, bamboo or mangroves. Open forests are much more extensive with "miombo" woodland being the predominant type. The extensive Itigi thicket comprises a large area of shrubland on the central plateau. Tanzania has established significant areas of plantation forest with *Pinus spp.* and *Cupressus lusitanica* common. Tanzania has an extensive network of national parks, game reserves and game controlled areas. Around 15 percent of Tanzania's forests are inside protected areas.

Most wood harvested in Tanzania is burned for fuel. Tanzania produces sawn wood, softwood pulp and paper from local raw material. The bulk of the industrial roundwood harvest is utilised for posts, poles and other agricultural purposes.

MAIN BIO-PHYSICAL AND FOREST INDICATORS

Surface area: 88.3 million hectares

Forest cover: 38.8 million hectares

%of land area: 43.9 %

Forest area per capita: 1.2 hectares

Deforestation (annual change 1990-2000): - 0.2%

Average growing stock: 43 cm/ha

Removals: 23.1 million cm

Import: 9.9 million US \$

Export: 5.3 million US \$

Brief presentation of the case study

Tanzania is facing environmental degradation problems; deforestation and forest degradation are among the most important ones. The consequences have been loss of biodiversity and general decline of forest products and services, such as fuelwood, and water catchments values. For a long time, the Government of Tanzania has attempted to curb the problem of deforestation by promoting village and community forestry aimed at producing sufficient amount of forest products and services to meet both local demands and promote the forests contribution to global environmental conservation. Despite these efforts, environmental degradation continues at a fast rate.

The paper starts by describing the changes in national forest policy and development planning connected and influenced by the macro-economic policy framework in Tanzania. Within this context, the framework of competing policies and stakeholders in which forestry is placed is further analysed. It is traced the impacts of different policies on forestry through a balanced synopsis of how forestry is integrated with external policies.

Furthermore, the Tanzanian development vision, the national poverty eradication strategy and the decentralization and privatization processes are considered as cross-sectoral planning schemes influencing the forest sector.

Some specific policy options and institutional arrangements, in relation to sustainable management of forestry in the country are presented too.

Main cross-sectoral issues and policy impacts considered in the case study

The forest sector in Tanzania is strongly influenced by sectoral policies. The major sectoral policies that have a bearing on the forest sector include the Environment, Livestock, Energy, Land, Beekeeping, Wildlife, Minerals, Agriculture, Water, Health and Gender. Consequently, there is a number of crosscutting issues among these policies with implications on the sustainable management of forest resources.

Government restructuring associated with decentralisation and devolution policy to local administrations are having direct impact on the forestry sector.

Another key issue is privatisation: also the forestry sector has gradually been forced to face international competition, and to increase its efficiency both in productive and conservation activities. Important components of previously fully controlled forest sector are being privatised through various means, ranging from outright sales to handing over management roles to local government and villages.

The major sectoral policies that have impact on forest resources are connected with the following topics/area of concern: environmental protection and wildlife management, agriculture development (livestock, land reform, beekeeping, etc.), refugees protection, energy policy, minerals extraction, water use and health and gender.

Lastly, globalisation of economy has also affected forestry in Tanzania. The integration of the national economy into the world market has led to intensification of agriculture in both commercial and small holder farms in order to meet market demands for export crops. Such intensification has led to accelerated conversion of woodland areas to crops and pasturelands.

The implementation of these policy options is occurring through the adoption of a number of institutional reforms; in particular: the National Forest Policy Revision; the Forest Legislation revision; the National Forestry Programme Strategy; the Community based forest management; the Development of best practices for sustainable forest management in Tanzania; and the Development of national criteria and indicators for sustainable forest management.

Stakeholders' response

For a long time, the Government of Tanzania has attempted to curb the problem of deforestation by promoting village and community forestry aimed at producing sufficient amount of forest products and services to meet local demands and promote environmental conservation. Despite these efforts, environmental degradation continues at a fast rate.

The integration of the national economy into the world market has led to intensification of agriculture in both commercial and small holder farms in order to meet market demands for export crops. Such intensification has led to accelerated conversion of woodland areas to crops and pasturelands.

The private sector also has a stake in forestry. Before the introduction of the macro-economic and policy reform most public owned forest industries in the country have virtually come to a stand still for various reasons, mainly economic. Similarly, the management of government-owned forest plantations was very poor. In the wake of recent policy reforms the drive has been to privatise most of these enterprises. Positive results have become evident in most of the privatised ventures, as output has improved. Since 1993, the government has been taking a variety of measures to spur private investment.

Effects and instruments of policies and lessons learned

The study emphasises how the negative effects on the forest resources in Tanzania are mainly the reflection of the lack of co-ordination among the different sectoral policies, which are still implemented without considering the mutual impacts on the other branches of the country's economy. As a result, some of the policies are incompatible and sometimes conflicting.

The existing decentralisation systems between the central and the local Governments often reflect an overlapping of roles and functions. Local authorities are weakly financed, because they lack reliability, cost effective and buoyant sources of tax and non-tax revenues. Hence, are more concerned with extraction of forest products to raise revenue at the expense of forests.

Sector-based basket funding mechanism is currently underway as an approach to establish, rationalise and streamline donor support in the forestry sector.

New forest policy has opened up for the rediscovery of traditional management practices which depend on local knowledge and experience and traditional beliefs and laws. These changes pose a major challenge to government services in developing and supporting effective and appropriate resource management strategies. Community based forest management is still under pilot study, although the new forest policy has adopted it as a key instrument for sustainable forest development. In both village afforestation and community woodland management, security of tenure is a crucial factor.

The research identifies some concluding recommendations. Firstly, a need to review policies and rules governing land use and tenure; the existing series of laws - which are complex ambiguous and arbitrary- particularly with regards to the legal status of the customary rights through which access to resource is obtained, should be revised. In fact, a clarification of tenure rights is seen as a fundamental step towards improved and sustainable use and management of land resource. Insecurity of ownership and access to land, which is a major constraint affecting both agricultural production systems and use of "public" resources, including forests and woodlands should be improved.

Large informational campaigns should be promoted in order to improve the awareness of the local population, in the vision of their direct involvement as stakeholders in the process of sustainable forest resources management. In addition to that, there is the need to reinforce capacity building (training and education), both at the local government and private sector levels.

Lastly, the traditional forest management practices have to be included in the overall national cross-sectoral natural resources management.

2.7 Thailand



Thailand is moderately forested, although its forest cover has roughly halved since 1960. Thailand presently has slightly less than 30 percent forest cover. Most of the forests are restricted to relatively inaccessible mountainous areas. The main forest types are evergreen mountain rain forest; mixed deciduous monsoon forest; and open dry dipterocarp and savannah forests. Teak (*Tectona grandis*) has generally been the most important timber species. Since 1989, Thailand has had a ban on all logging in natural forests, and has implemented a series of

supporting measures to protect the remaining forests and to promote private sector involvement in forest management and plantations. Thailand presently has more than a half-million hectares of plantation forests. A network of parks and reserves encompasses more than 10 percent of the total land area.

MAIN SOCIO-ECONOMIC INDICATORS

Population : 60.7 million
Population per sq. km : 118.9
Population growth : 0.8 %
Life expectancy (1999): 69.9 years
Poverty (%population below 1\$/day): 2.0%
GDP per capita : 2,010 US\$
GDP : 121.9 billion US\$

MAIN BIO-PHYSICAL AND FOREST INDICATORS

Surface area: 51.3 million hectares
Forest cover: 14.7 million hectares
%of land area: 28.9 %
Forest area per capita: 0.2 hectares
Deforestation (annual change 1990-2000): - 0.7%
Average growing stock: 17 cm/ha
Removals: 23.4 million cm
Import: 1,323 million US \$
Export: 855 million US \$

Thailand's primary sources of industrial wood are plantation forests, non-forest trees, agricultural tree crops (particularly rubber wood) and imports. The country produces significant quantities of sawn timber, wood-based panels and paper. Furniture manufacturing is an increasingly important industry.

Imports of logs, sawn wood, short and long-fibre pulp, and recovered paper are important constituents of Thailand's wood processing sector.

Brief presentation of the case study

A couple of generations ago, in Thailand the upland and lowland spheres - ethnic minority and Thai majority, forest and rice paddy - existed largely independently of each other. Today, population expansion, state enclosure of forests and competing land claims by diverse stakeholders have created strong interlinks and conflicts between the upland and lowland zones.

The study addresses the institutional web of pressures and influences that are at work in the continuing transformation of patterns of livelihood and land use in the rugged and multicultural terrain of the Thai uplands.

By looking at the linkages between sectors - connections both formal and inadvertent - the paper seeks to illustrate the ways in which Thai government policies neglect potential avenues toward sustainable development. The key sectors, or fields considered are forestry, national security, agriculture, and tourism. These have combined in northern Thailand, often under the rubric of highland development, to facilitate the integration of remote and semi-subsistence-based mountain villages into a rapidly changing regional, national and global economic milieu. The consequences of these changes on mountain communities and the biophysical environment have been profound.

Today, population expansion, state enclosure of forests and competing land claims by diverse stakeholders has thrown together the upland and lowland spheres with a great crash. This clash of interests - local and state, upstream and downstream, poor and powerful - is a subject of great importance for those who're interested in mountain development.

External forces combine to exert tremendous pressures on traditional lifestyles, and local people respond by adapting in different ways. The array of forces, which is outlined by the study, is diverse, but so are the responses. Understanding the complexity of pressures on local actors, and the resultant complexity of the radically transformed mountain communities of northern Thailand, is a crucial challenge for developers and donors alike.

Main cross-sectoral issues and policy impacts considered in the case study

The nature of government in Thailand is "fragmented" and essentially vertically oriented within sectors, with few horizontal linkages, and sectoral concerns such as agriculture or infrastructure become a form of turf fought over in inter-bureaucratic rivalries. In the case of natural resources, most are managed by a number of line ministries.

Most relevant cross-sectoral issues in conditioning the development in the case study area are the following:

- the expansion of the highland population, with an increasing land scarcity as residentially mobile ethnic minority groups, originally from China, have come into conflict with longer established local communities;
- the increased presence of lowland farmers and investors in the mountain area;
- the establishment of forest enclosures by the state authorities, nominally for conservation of forest resources, with a huge expansion of national parks, wildlife sanctuaries and watershed protection zones;
- the reduced forest land availability, also as a consequence of forest enclosures, that - coupled with an increasing local population - has brought about a decreased fallow length and the related problems of soil fertility loss and food insecurity;
- opium cultivation eradication policies based on coercive, balanced by a plethora of government, bilateral and international highland development projects for crop replacement;
- infrastructure development (roads) linked to the national security policies and highland development programs;
- the most relevant social issues, as high rate of ills, urban migration, labour forces exploitation, are affecting the traditional approach of people towards the natural resources management, thus turning into a decreasing awareness of the possible environmental consequences of their actions.

Stakeholders' response

The pressures from key sectors have combined in a fundamental shift from subsistence to market agriculture and the emergence of a complex uplands economy including off-farm employment sources like tourism, migration to the city or even abroad, and black economy jobs in drug trafficking and prostitution.

In an increasingly integrated economy, both broad sets of stakeholders - local farmers of various ethnicity and outsiders like developers and state foresters - compete to make use of land, trees and water. In particular, in the mountains of northern Thailand, an ethno-cultural *trichotomy* (which divides the mountains of northern Thailand by altitude to describe how different ethnic groups use the land) has been employed since a long time ago to analyse land-use patterns.

Without some sort of broad consensus on new directions in development thought and action, the increasing pressures on finite ecosystems will mean more and intensified strife. Without a fundamental change in government viewpoint and policy, however, this consensus seems unlikely.

Current Thai government policies preclude many potential options for sustainable development. The authors recommend that policies be devised that link land tenure with sustainable land use, promote human security and encourage collaborative research among diverse stakeholders like villagers, academics, state authorities and NGOs.

Conflicts over natural resources is an everyday aspect of life in northern Thailand. During the dry season, conflicts can be found in literally every catchments in the region. These can be grouped into two broad categories: conflicts over forest between people and the state, and conflicts between people, generally over water usage. Conflicts over forests involve state policies and actions limiting local access and increasingly assertive villagers demanding rights to land and natural resources. Near the border, these conflicts often involve security forces and have sometimes resulted in eviction and even deportation of highland villagers.

All the most recent documents (in particular the 8th *National Social and Economic Development Plan*) stressed the importance of stakeholders' participation; in terms of mountain development, an integrated community approach was promoted in the 1990s as a means to stop deforestation and to improve the standard of living of the people who depend on the forests. The emergence of state and local cooperation is seen as the key to answering environmental and social problems in the uplands of Thailand.

In fact, Thailand has a long and rich, though mostly unwritten, history of local participation in the management of natural resources (mostly 'community forestry'), which now is in an urgent need to be included in the modern planning instruments.

Effects and instruments of policies and lessons learned

Thailand is a unitary state, with the central government operating out the capital city, Bangkok. Power flows from the centre, and all levels of government have traditionally been responsible to a chain of command headquartered in the capital. The paper stressed that the administrative system itself is not really based on these territorial subdivisions, i.e. these levels do not have horizontally integrated authorities constituting organizations in their own right that are led by chief executive officers. Instead, the system is vertically integrated. Ministries directly delegate their officers to work at provincial or district levels; what happens simply is a spatial expansion of these organizations. In fact, this too strong centralized policy does not fit the need of combining the local populations issues in the national and international policy frame.

Policies that link land tenure with sustainable land use, promote human security and encourage collaborative research among diverse stakeholders like villagers, state authorities and NGOs are in strong need to be further developed.

Decentralization is a key theme in the 1997 constitution as well as an important value of Thailand's assertive civil society. Nevertheless, the efficacy of the new *Tambon* Administrative Organizations (TAO) in devolving power to the grassroots and, most significant for upland areas, giving local people a voice in the management of natural resources, is still controversial. Lastly, without an appropriate system of monitoring, it is feared that corruption will increase in government at all levels, and the 35 percent of government revenue transferred to local authorities will disappear down a black hole.

Moreover, the lack of personnel, monitoring capabilities, and the lack of people's participation in the management of local resources mean that important natural resources in Thailand for the most part continue to remain under *de facto* if not *de jure* open access. This has clearly led to the abuse of forest, water and aquatic resources.

The most recent planning instruments (the 9th Plan, the 1992 National Environmental Quality Enhancement Act) have been prepared by convening meetings with different interest groups and stakeholders in every region of the country, including the representatives of the grassroots, and have been hailed as being people-centred. It has therefore become actually a synthesized aspiration of the multifarious stakeholders, even if it is considered lacking prioritisation of strategies, programs or projects.

The peculiar situation of the Thailand forest resources is presented by the authors as a very controversial one; the high rate of deforestation which has been reduced the country's patrimony in the last decades is officially contrasted by a rigorous State policy of nature conservation (establishing of national forest reserves); in fact, despite the importance that the government claims to place on the management of forest resources and reforestation, the budgets allocated to the pursuit of these goals have been pitifully inadequate.

A balance must be struck between local livelihood and the common good. Convergence of local and scientific knowledge must be a goal of policy makers at all levels. Human dignity and ecological integrity must take top priority. The study concludes that the existing rigid command-and-control philosophy of the Thai natural resources administrations (forestry department included) and security agencies, are still implementing policies that ignore the potential of mountain communities to work toward sustainable development, thus leading increasingly toward confrontation rather than cooperation.

Three are the key areas of intervention identified by the final recommendations in order to meet the environmental and social challenges of the mountainous North: the problem of tenure insecurity must be solved; the human security of local communities must be incorporated into national security policies and, lastly, a multi-actor cooperation in empirical assessments of the environmental and social sustainability of mountain livelihoods and development plans must be promoted.

Section III - Specific Questions for Discussion

The summary review of the seven case studies raises several questions. They have been grouped in three main topics for discussion:

1 - Policy and legal framework and related issues of linkages specification, coordination and harmonization.

1a - How could sectoral linkages and policies impacts be more accurately specified and quantified?

The definition of “sector” and, more precisely, of the sector's boundaries represents a preliminary problem to solve in analyzing policy cross-sectoral linkages. It clearly emerged how important is to define appropriate analysis frames to be able to specify and quantified the linkages among the traditional sectoral policies and the impact they may have on each others.

In some cases sub-sectors analysis may have a more explanatory value than evaluation made on the intra-sectors relationship. If we take into consideration the complex arrangements of public offices, the overlapping responsibilities, the role of external lobbying parties, the blurred lines of authority, it may be useful to refer to the concept of “sub-sector or issues niches where more specialized but clearly related policy making takes place. Hence a field or sector such as ‘forest policy’ is divisible into producer sub-sectors, geographical sub-sectors, and even sub-sectors organised around enduring issues” (Rayner *et al.*, 2001, p. 320). In many cases, due to the fact that the policy decision making process is so disaggregated, the sub-sectoral links and conflicts may be more relevant in understanding the policy making process than the inter-sectoral linkages.

1b - How to improve links between decentralised systems, based on negotiation and participation at local level, and high level (i.e. international, regional, national) policies coordination?

Down-sizing and restructuring of the forest administration with delegation of authority in organising local offices and public spending is not synonymous with autarchy: strong interdependent links with different institutions operating at the same level or on larger administrative areas are always needed. In this process of transformation, central State offices are needed to provide support for local activities.

Some public administrations have delegated all their traditional responsibilities to the local level as a reaction to over-centralisation in the past. While more direct involvement of local public organisations and greater use of local technical knowledge are undoubtedly positive elements (Rebugio, 1997), decentralisation can trigger serious new problems such as loss of economies of scale, predominance of local, short-term interests over the community's interest in sustainable management and lack of feedback from other contexts for comparison and control. Decentralisation may also lead to overlapping areas of authority at local level with ineffective implementation of forest policies (Miranda *et al.*, 1992). The ideal balance between centralisation and decentralisation is far from being achieved in many countries (Buttoud, 1992).

1c - How to improve inter-agency co-operation?

Problems of overlapping and conflicting agencies working in forestry tend to be solved through increased interdepartmental co-operation and streamlined forms of management are promoted. There is a tendency to move from a traditional organisation based on vertical program divisions to interdisciplinary teams, working on clearly defined, short-term policies, fully responsible for their mandate, resulting in a consequent reduction in the supervisor/employee ratio. In organising services used directly by the public there is a tendency to ‘co-locate’ the offices of several agencies dealing with forest problems providing ‘one-stop shopping’ for the public (Johnson, 1996).

2 - Environmental and economic accounting framework and related relevant information/data need; quantification and evaluation as well as monitoring aspects.

2a - What are the main information and institutional gaps that hinder cross-sectoral policy formulation and implementation? How public institutions may

deal with the problems deriving from a more informed civil society that is requiring also a stronger empowerment in decision making?

The traditional sectoral policy formulation and implementation processes are still prevailing, especially in the forest sector. However it is still not clear which are expected to be the more suitable instruments to use to fill in the gaps at the informational as well as institutional sides.

To successfully address cross-sectoral policy impacts, information and knowledge sharing need to be improved. This is a basic constraint in a process aimed at motivating and involving civil society in decision-making. Most up-to-date information and knowledge can foster action and change through a bottom-up approach. How to organise information and knowledge sharing?

2b - Which instruments must be used/developed to improve the transparency and effectiveness of the decision making process and of the links and coherence of different policies?

Frequently, in the decision making processes related to conflicting issues, public institutions are not anymore responsible of negotiating and coordinating policies: private stakeholders tend to have a prevailing role and decisions taken by public organisations are influenced by the lobbying pressures of private operators. Lack of inter-sectoral policies coordination is one of the negative outputs of this situation.

3 - Policy instruments and institutional mechanisms including involvement and empowerment of civil societies, information and knowledge sharing, and other instruments to reinforce positive links and mitigate the effects of negative interactions.

3a - Which is a reasonable balance between hierarchy and negotiation in the policy cycle (from policy design to implementation)?

Hierarchy and negotiation are basic mechanisms for policies co-ordination (Holg, 2002). Hierarchy used to be the traditional co-ordination mechanism in many central State administrations. The term "negotiation" includes elements such as participation, collaboration and conflict or dispute resolution procedures. Negotiation is quite easy if carried out by parent institutions, by agents with the same political relevance and with similar background of information, while hierarchical criteria are quite effective in vertical coordination. Negotiation process may be time consuming and not always effective in dealing with urgent matters of policy coordination.

3b - How to reinforce civil society participation in policies coordination?

The request for increased efficiency and coordination of public agencies is coupled with the need to enhance community participation and multi-stakeholder partnership. Co-operation between public institutions, voluntary or non-profit non-governmental sectors and business and industry has many advantages (Nkhata 1997): it can reduce duplication of costs and efforts, improve mutual trust, self-reliance, creativity and technology transfers and mobilise greater and more varied resources. "The 'good old days' when society left decisions on the forest to the professional judgement of local Forest Services officials do not appear to be returning anytime soon" (Sabatier *et al.* 1994).

3c - How public agencies may stimulate the attention by other sectors on the importance, benefits and needs for their support to protect and develop the forestry sector?

In general, politicians tend to give a marginal role to the forestry sector. Other sectors are, from an economic and social point of view, perceived as much more important to rise the consensus of local people. This is why external policies tend to prevail and to have a more effective impact on the state and use of forests than the sectoral forest policies. Public institutions play an essential role to adequately address cross-sectoral impacts, in particular when – like in the case of forest resources – the market alone is not providing good signals of the true value of the products and services (Carvalho Mendes, 2002).

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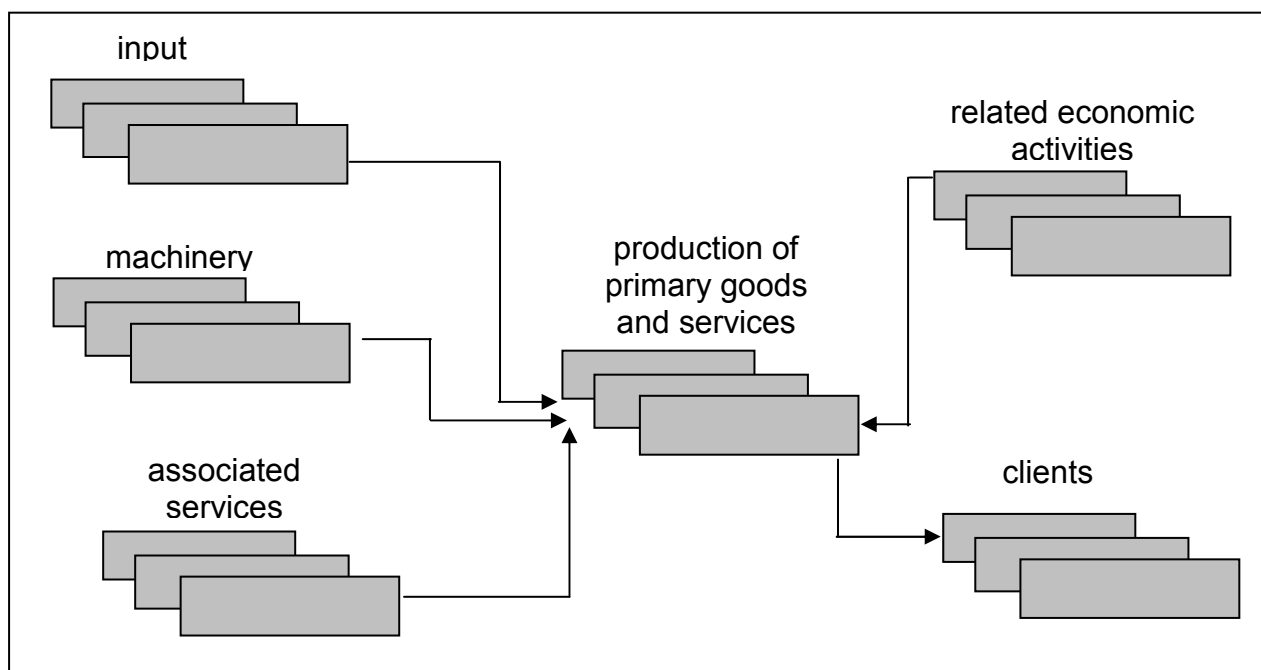
Annex 1 - Boundaries of Sectors, Elements to Specify Policy Linkages and Policy Coordination Tools

1 - Sector Boundaries

The definition of “sector” and, more precisely, of the sector’s boundaries represents a preliminary problem to solve in analyzing cross-sectoral linkages. Different approaches may be used in defining the “arena” for policies implementation and coordination:

- A. the broad (economic) concept of “**cluster**”, where focus is put on the group of branches or operators characterized by mutual connection and interaction. Clusters refer to the flow of products and information within interlinked operators and firms. The cluster chart (see figure 1) contains the relevant component of a cluster (Hazley, 2000);
- B. the rather sweeping concept of “**sector**”, that may be more clearly defined with reference to:
 - 1. the institutional setting/structure of a national or local administration (like, for example, the competences of a Ministry);
 - 2. the National Accounting Systems, the NACE-CLIO or ISIC systems of economic activities classification or other systems based on a pre-defined definition of sectors (sometimes referred as “branches”);
 - 3. the actors, i.e. the economic-social homogeneous group of people, the “territory” of stakeholders (“coalition”);
- C. the concept of “**area of political relevance**”, or “conflict area” that make reference to an inter-sectoral resource (e.g.: water use and management) or to an inter-sectoral issues (e.g.: environment protection, renewable energy policy, National Parks management).

Figure 1 – The cluster chart



Sectors and sub-sectors

“The analytical issue of blurred boundaries and overlapping responsibilities between policy sectors has usually been handled by identifying broad policy sectors in the traditional manner as places where an empirically observable set of actors defines a general set of rules and norms for commonly accepted characterizations of policy-relevant issues or concerns (Knoke and Laumann, 1982; Brandes, 1999; Bressers et al., 1994; Wasserman, 1994). However, in order to deal with the enhanced institutional and organizational complexity of contemporary policy-making, this sector is immediately divided into a number of sub-sectoral or issue niches in which more specialized but clearly related policy making takes place (Hosseus and Pal, 1997)” (Rayner *et al.*, 2001).

2 - Typological elements to specify policy linkages

Policy:

the sum of governmental activities, whether pursued directly or through agents, as those activities have an influence on their lives of citizen (Peters, 1999, by Broadhead, 2001)

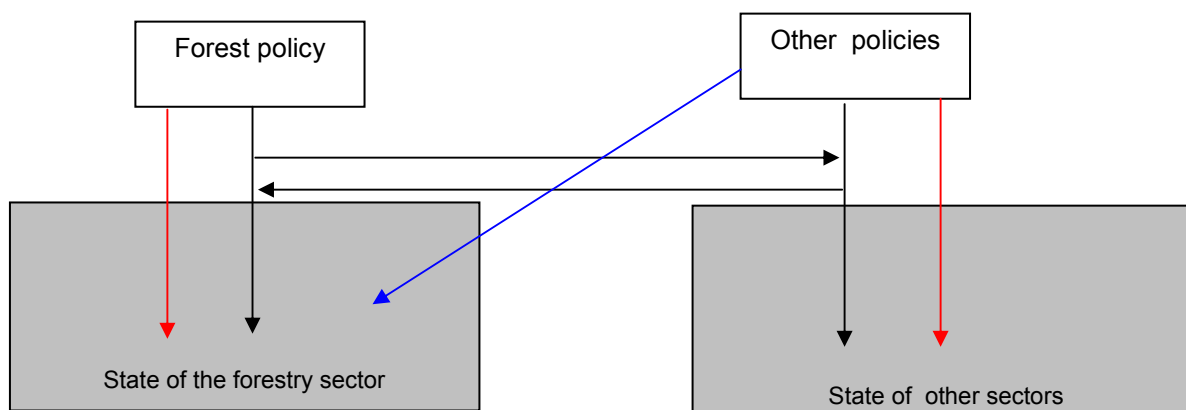
Type of public forest domain (von Prittwitzet *et al.*, 1994, quoted by Schmitüsen *et al.*, 2001):

- public policies establishing a general institutional framework
- sectoral public policies
- thematic public policies (education, environment, technology, etc.)

Direction in which policy linkages operate (Schmitüsen *et al.*, 2001):

- Unilateral (blue arrow)
- Reciprocal (black arrows)
- Neutral (red arrows)

Figure 2 – Direction in which policy linkages operate



Valence or impacts (Schmitüsen *et al.*, 2001)


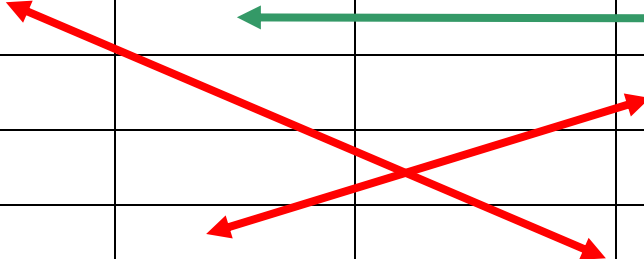
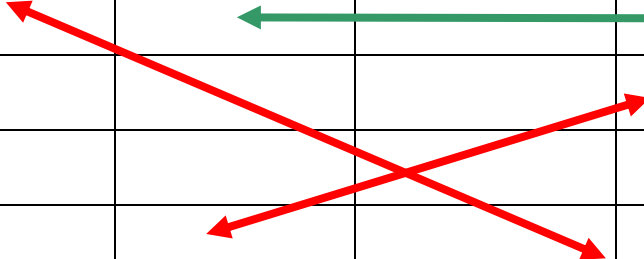

For the forestry sector/for other sectors

- Positive
- Neutral
- Negative

Levels of coordination

An important aspect that has been considered is the territorial level of policies coordination. A distinction may be done among four main levels: international, regional¹ (i.e. supra-national), national and regional (i.e. sub-national or local). As illustrated in the figure 3, three typologies of coordination may be defined.

Figure 3 – Different level of policies coordination

	Sectors (cluster/area of interest)			
	A	B	C	...
International				
Regional				
National				
Local				




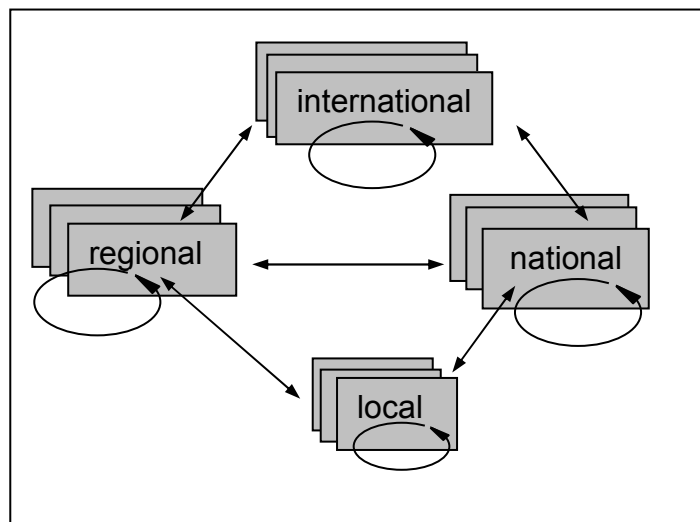
-  horizontal, inter-sectoral coordination
-  infra-sectoral, vertical coordination
-  inter-sectoral, multi-level coordination

Figure 4 – Multilevel and horizontal coordination



-  : horizontal, inter-sectoral coordination
-  : sectoral policy

¹ With reference to institutional and political initiatives (like the Council of Europe or the Ministerial Conference for the Protection of Forests in Europe) or to area of free trade agreements.

Frequency and time span

Problems in coordinating sectoral policies are conditioned by the time span of policy planning and the frequency of political actions. Table 1, based on a simple distinction among three time horizons and four cases of frequency, highlights the main fields of coordination taken into consideration in the case-study.

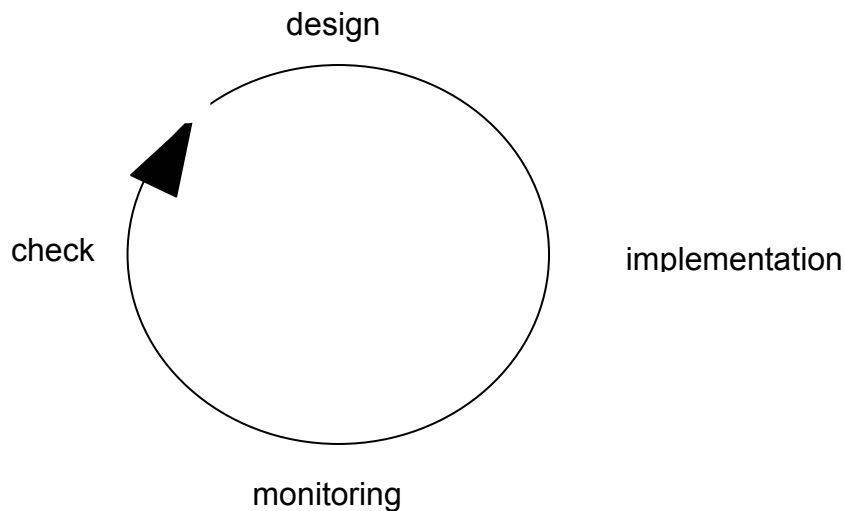
Table 1 – Some examples, taken from the Italian experience, of different time span and frequency in sectoral policies coordination

Time span	Frequency			
	<i>continuous and regular coordination</i>	<i>irregular, formalized coordination</i>	<i>irregular, non formalized coordination</i>	<i>"spot coordination" (one-time coordination)</i>
<i>strategic planning</i>	Town Development Scheme	Regional Development Plan	NFP, National Forest Inventory	Agenda 21 Local Programme
<i>medium-term planning</i>	Forest Management Plan	Rural Development Plan (EC Reg. 1257/99)	Public investments by Mountain Communities	Winter Olympic Game Investment Plan
<i>short-term planning</i>	Wood harvesting in protected areas	Environmental Impact Assessment	Fire fighting in an urban-forest fringe area	Interventions after a land slide

Co-ordination stages

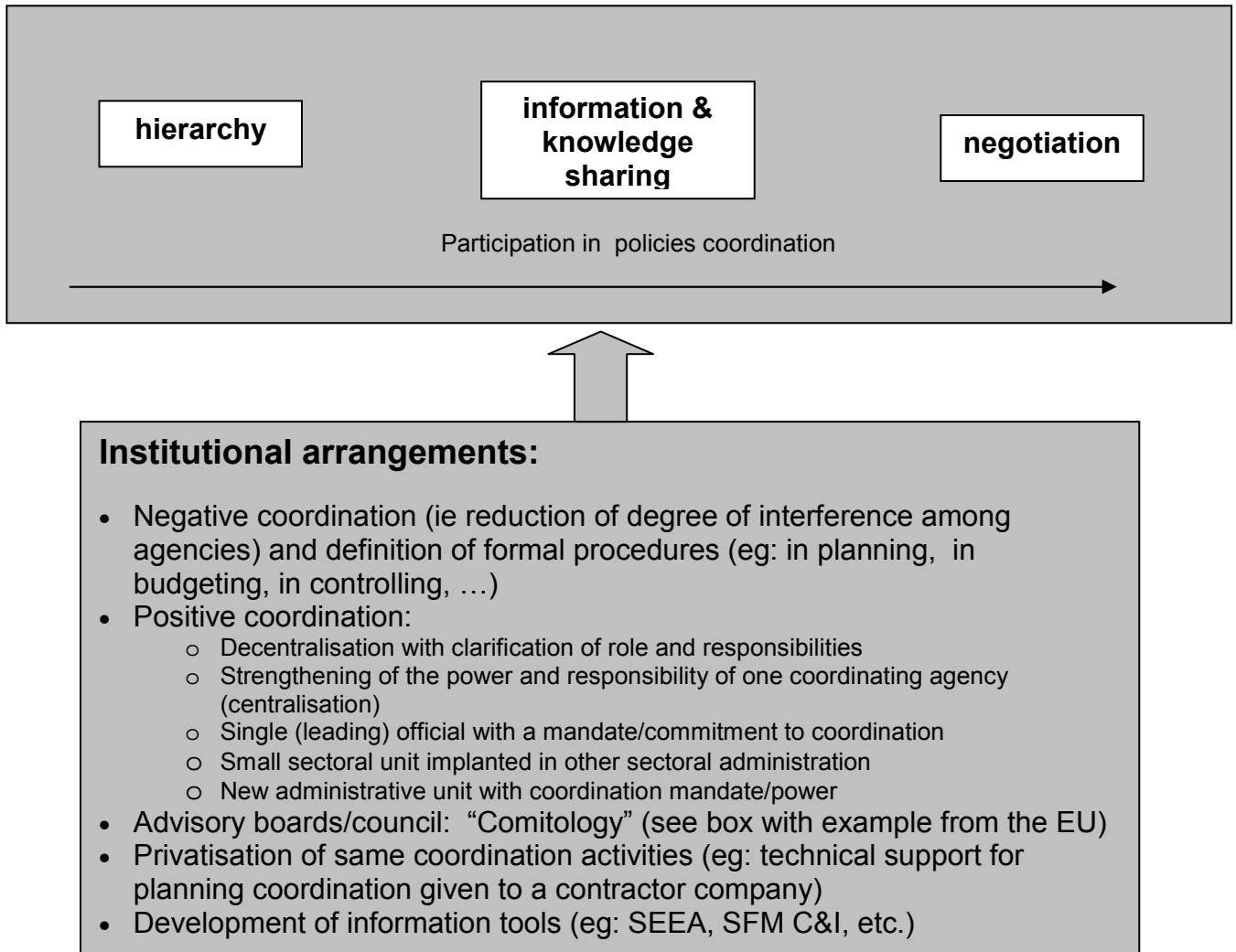
See steps in the decision making process (figure 5).

Figure 5 – Stages in the decision making process



3 - Policies coordination tools

Institutional arrangements



Inter-sectoral coordination capacity scale

Step 8	Establishing an overall inter-sectoral strategy. This step is added for the sake of completeness, but is unlikely to be attainable in practice.
Step 7	Establishing commonly agreed or binding priorities. Inter-sectoral agreement to common priorities and/or centre of government lays down the main lines of policy and establishes cross-sector priorities.
Step 6	Defining common limits by setting parameters for sectoral activities. A central organisation of an inter-sectoral decision-making body may play a more active role by constraining the admissible range of sectoral activity. The parameters define what sectoral actors must not do, rather than prescribing what they should do.
Step 5	Arbitration of inter-sectoral differences. Where inter-sectoral differences cannot be resolved by the horizontal co-ordination processes defined in steps 2 to 4, a central mechanism of an ex ante commonly agreed procedure for arbitration is applied (e.g. state hierarchy, voting).
Step 4	Avoiding policy divergences among sectors and seeking consensus. Beyond negative coordination to find out differences and prevent mutual negative effects, actors/organisations work together, e.g. in joint committees and project teams, because they recognise their interdependence and their mutual interest in resolving policy differences.
Step 3	Consultation with others. A two-way process. Sectors/actors inform others about what they are doing, they consult others in the process of formulating their own policies, or positions.
Step 2	Information exchange among sectors. Sectors/actors keep each other up to date about arising issues and how they propose to act in their own areas. Reliable and accepted channels of regular communication must exist.
Step 1	Sectors/actors manage independently within their domain/jurisdiction. Each sector retains autonomy within its own policy domain.

Source: Hogl (2002) based on Metcalfe (1994 and 1997) and OECD (1996)

Types of public involvement in policies coordination

(Source: FAO ECE/ ILO Joint Committee Team of Specialists on Participation In Forestry, 2002)

1. Forest policies, programmes and plans. These processes introduce public involvement at an early stage of decision-making in order to anticipate conflicts and to enhance transparency and social acceptance of policies, strategies or plans. Their implementation is usually the task of national or regional forest services but can in some cases be directed by others actors.

2. Promotion of public involvement in specific forest project. In some cases, public participation aims at promoting or increasing direct public involvement in the implementation of specific forest projects - based on decision taken earlier (with or without public participation) by forest authorities or other actors (e.g. creation of urban green spaces, afforestation projects, prevention of forest fires).

3. Public auditing of forestry projects and practices. Public participatory processes may also refer to formal procedures of public consultation about specific practices or projects (e.g. environmental/social impact assessment, ...). They are often based on legal requirements but also result from voluntary codes of practice.

4. Advisory boards/council for public advice or management of conflicts. Advisory boards or councils are permanent types of forum that help the public to be better informed and to have a more direct influence in forestry-related matters. They group various – mainly organized – interest groups (governmental or non-governmental) and can be found at different institutional levels (see Box on Comitology)

Types of public participation process in forestry (country experience)

	1. Forest policies programmes, plans	2. Promotion of specific forest projects	3. Public audits of projects/practices	4. Advisory boards / permanent councils
National level	<ul style="list-style-type: none"> - National forest programmes or strategies - Definition of national sustainable forest management standards - Forest Council - Framework for public involvement in forest management 	<ul style="list-style-type: none"> - Forest education and awareness raising projects 	<ul style="list-style-type: none"> - Environmental or/and social impact assessment - Nature complaints board - Public audits of private enterprises - Citizens' Juries 	<ul style="list-style-type: none"> - Forest council and advisory boards or commissions - Round table with forest industry, environmental groups - User Council
Sub-national level	<ul style="list-style-type: none"> - Longer term regional forest or natural resources planning - Landscape ecosystem level planning - Management planning at forest management until level - Nature protection and recreation planning 	<ul style="list-style-type: none"> - Planning and implementation of afforestation programmes/projects 		<ul style="list-style-type: none"> - Regional forestry commission - Permanent advisory councils
Local level	<ul style="list-style-type: none"> - Management planning at forest management until level - Nature protection and recreation planning - Real estate planning - Management of community woodlands - City and communal land and forest use planning 	<ul style="list-style-type: none"> - Groups of private forest owners - Regulation for forest contractors/merchants - Creation of new forest zones in urban areas - Partnership for the provisional of local amenities - Prevention of forest fires - Community based forestry schemes 	<ul style="list-style-type: none"> - Allocation of public grants and subsidies for specific forestry operations 	<ul style="list-style-type: none"> - Partnership with users' organizations - Cases of public discontent - Community based management

National experiences show that:

- There are no ideal **stages** (whether legislative, strategic or operational) or **intensities** (which may range from exchange of information, consultation, joint decision-making) of public participation in forestry.
- Public participation processes are **dynamic** and may change from one another type of process over time. Some are short lived, others turn into more permanent arrangements.
- The institutional levels, stages in decision-making or implementation and intensities of public participation processes **depend** on the issues, the objectives of the initiators and the participants, and on the cultural, political and institutional context.

Box: Comitology in the European Union - Under the Treaty establishing the European Community, it is for the Commission to implement legislation at Community level (Article 202 of the EC Treaty, ex-Article 145). In practice, each legislative instrument specifies the scope of the implementing powers granted to the Commission and how the Commission is to use them. Frequently, the instrument will also make provision for the Commission to be assisted by a committee in accordance with a procedure known as "comitology".

The committees which are forums for discussion, consist of representatives from Member States and are chaired by the Commission. They enable the Commission to establish a dialogue with national administrations before adopting implementing measures. The Commission ensures that they reflect as far as possible the situation in each country in question.

Procedures which govern relations between the Commission and the committees are based on models set out in a Council Decision ("comitology" Decision). The first "comitology" Decision dates back to 13 July 1987. In order to take into account the changes in the Treaty - and, in particular, Parliament's new position under the co-decision procedure - but also to reply to criticisms that the Community system is too complex and too opaque, the 1987 Decision has been replaced by the Council Decision of 28 June 1999.

The new Decision ensures that Parliament can keep an eye on the implementation of legislative instruments adopted under the co-decision procedure. In cases where legislation comes under this procedure, Parliament can express its disapproval of measures proposed by the Commission or, where appropriate, by the Council, which, in Parliament's opinion, go beyond the implementing powers provided for in the legislation.

The Decision clarifies the criteria to be applied to the choice of committee and simplifies the operational procedures. Committees base their opinions on the draft implementing measures prepared by the Commission. The committees can be divided into the following categories:

- advisory committees: they give their opinions to the Commission which must take the utmost account of them. This straightforward procedure is generally used when the matters under discussion are not very sensitive politically.
- management committees: where the measures adopted by the Commission are not consistent with the committee's opinion (delivered by qualified majority), the Commission must communicate them to the Council which, acting by a qualified majority, can take a different decision. This procedure is used in particular for measures relating to the management of the common agricultural policy, fisheries, and the main Community programmes.
- regulatory committees: the Commission can only adopt implementing measures if it obtains the approval by qualified majority of the Member States meeting within the committee. In the absence of such support, the proposed measure is referred back to the Council which takes a decision by qualified majority. However, if the Council does not take a decision, the Commission finally adopts the implementing measure provided that the Council does not object by a qualified majority. This procedure is used for measures relating to protection of the health or safety of persons, animals and plants and measures amending non-essential provisions of the basic legislative instruments.

It also provides the criteria which, depending on the matter under discussion, will guide the legislative authority in its choice of committee procedure for the item of legislation; this is meant to facilitate the adoption of the legislation under the co-decision procedure.

Lastly, several innovations in the new "comitology" Decision enhance the transparency of the committee system to the benefit of Parliament and the general public: committee documents will be more readily accessible to the citizen (the arrangements are the same as those applying to Commission documents). Committee documents will also be registered in a public register which will be available from 2001 onwards. The ultimate aim is, with the computerisation of decision-making procedures, to publish the full texts of non-confidential documents transmitted to Parliament on the Internet. From 2000 onwards, the Commission will publish an annual report giving a summary of committee activities during the previous year.

Source: <http://europa.eu.int/scadplus/leg/en/cig/g4000.htm>