



Cross-sectoral Policy Impacts between Forestry and other Sectors

Summaries of Findings and Opinions of Participants

Forestry Department Technical Meeting

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FOREWORD

Before the Technical Meeting, authors of thematic papers and country case studies as well as other participants were requested to provide the Secretariat with a summary of their findings or opinions. This document is a collation of summaries provided by participants. They give an overview of the range of issues or possible solutions related to improving the influences of public policies between forestry and other sectors.

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Cross-sectoral linkages in Romanian forest sector

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Impacts of public policies on forest sector development

There is a complex network of public policies and legislation which directly and indirectly affects the development of the forest sector in Romania: (a) policies establishing the institutional framework: macroeconomic, privatization, land tenure etc.; (b) policies related to specific economic sectors: agriculture, timber processing, transport, tourism etc.; (c) policies promoting development: environmental, nature protection, education, research etc. Apart from these public policies, the development of the forest sector is also influenced by the international commitments of Romania and the European Union (EU) accession process.

In the last decade the economic situation (and especially economic growth) has significantly affected the forestry sector, including forest management. The years of economic decline have negatively impacted on the activity of logging and processing companies and indirectly reduced the volume and quality of forest operations, as well as the income of the National Forest Administration and its investment capacity. Budgetary allocation for forest sector has been relatively small in the last decade, thus particularly affecting the control and extension functions, as well as the public authority staff quality and commitment.

The restitution of forest land and the privatization of wood harvesting, transport and the processing sector have probably had the highest impact on the development of the forestry sector and forest management in Romania. The size of the restituted forests according to Law 18/1991, which in many cases represented only part of the pre-nationalization individual ownership, created frustration among forest owners. In addition, the poor capacity to enforce the forest legislation and to raise forest owners' awareness on sustainable forest management, resulted in significant environmental damages in private forests. The general opinion is that in the short term, the forests restituted according to the second restitution law promulgated in 2000, will be poorly managed. The reasons for this include: lack of capacity and knowledge; vested interest in gaining immediate economic benefits; and improper law enforcement capacity.

The almost completed privatization of wood harvesting, transport and processing has had mainly positive effects on forest management. Privatization resulted in a higher competition for wood resources and increased prices for standing wood, with direct financial benefits for National Forest Administration.

Unemployment has had both negative and positive effects on forest management. Frequent illegal felling and over-harvesting were recorded in some rural areas where the

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unemployment rate was high and the respective communities were poor. On the other hand, the availability of labour for forest operations has been higher in areas with high unemployment rates, thus impacting positively on forest management.

An important aspect of Romanian forestry is that any agricultural policy and regulation must not lead to the reduction of the public forest area. Indeed the afforestation of degraded agricultural land is a priority within the present Governmental policy to increase the forest cover. Such priorities also agree with EU agricultural and rural development policies, given that Romania's forest cover per capita is presently lower than the EU average. Some agricultural policies as well as agricultural activities have negative effects on forests and forest management. Despite being forbidden by law, grazing represents by far the main problem.

Game management and hunting legislation are also impacting on forest management. According to the existing legislation the central public authority for game management assigns the game management right to the legally established hunting organizations. This provision has created some conflicts between hunting organizations and private agricultural and forest land owners.

The last decade has been characterized by an almost continuous dispute between the ministry responsible for forest management and the public authority responsible for wood harvesting and processing. While the first one has taken measures towards a better use of forest resources, free competition for wood resources and harvesting methods fulfilling ecological requirements, the latter has been fighting and lobbying for a cheap resource and advantageous contractual terms for wood harvesting. Wood harvesting is seen as the most critical activity in the Romanian forest, with a potentially high environmental impact, due to obsolete equipment, improper harvesting technique and poor law enforcement.

The Medium-Term Environmental Protection Strategy includes strategic objectives with direct positive influence on forest development: extension of forest area; establishment of forest belts in areas exposed to desertification; afforestation of degraded agricultural land and improvement of the legislation on forest protection. Other positive influences on forest sector development result from the provisions of the Environmental Protection Law.

A close cooperation has been developed in the last decades between the forest and water management sector. Special forest management practices are recommended to protect waters and watersheds. Despite the fact that wood harvesting and transport guidelines and norms, largely consider the water protection requirements, they are not always followed in practice.

While intensive logging had negative impacts on nature conservation in the first half of the twentieth century, the close to nature approach that has been practiced extensively since the 1950s in Romanian forestry has reduced such impacts. Forest organisations have been largely involved in most of the processes, programs and

activities related to nature conservation in the last decade including the establishment of the administrations for the first three protected areas (two national parks and one natural park) in the Carpathians. 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 close linkages between tourism and forestry, especially in the Carpathian region and recently the cooperation between the public authorities responsible for tourism and forestry has improved significantly. While the presence of forest seems to have a positive impact on tourism, the latter has mainly had a relatively negative impact on forests: clear-felling to allow development and construction of hotels, restaurants, skiing facilities etc.; garbage left in the forest by tourists; illegal camping and picnicking; and forest fires caused by the negligence of tourists are relevant examples.

Development and modernization of the road infrastructure (public and forest roads) have had both negative and positive impacts on forest sector development. The negative impacts result from forest clear-felling to make room for new public roads or motorways. On the other hand, the development of the transport infrastructure has a positive impact on forest management, as it provides better access to forest resources, both for harvesting and tending and maintenance operations.

In the last decade, the impact of mining on the forestry sector has reduced significantly. There are now plans to afforest many closed quarries. Oil extraction has also influenced the forest sector both by reducing the forest area and increasing the risk of accidental pollution. However the impact has been relatively low and the affected area small. The energy sector has impacted both positively and negatively on the development of the forest sector. Expansion of the gas network in rural areas in the last decades reduced the demand for firewood traditionally used for heating and cooking. This reduced the pressure on the forest resource in the forest-poor areas (plains and hilly regions). In the forest-rich areas (mountains) the expansion of the gas network has determined a decrease in the price of fire-wood and a lower income for the National Forest Administration.

Although there is no separate public authority responsible for rural development, this sector is highly important, especially within the framework of the EU accession process. Romania has developed a National Plan for Agriculture and Rural Development (NPARD) and significant EU support for the NPARD implementation in the period 2002-2006 will be available to Romania under the Special Accession Program for Agriculture and Rural Development (SAPARD). Some of the measures eligible for funding under SAPARD are directly related to forestry and will have a positive influence on forest sector development.

Forestry education and research have played an important role in the development of the forestry sector. Forestry high schools and the higher education institutions have provided the technical staff employed by the sector and have also carried out forestry research. The recent years “inflation” of graduates of both medium and higher education

institutions has impacted both positively and negatively on the development of the forest sector. The negative effect resulted from the lower level of knowledge of the graduates. The quality of education was affected by the increased number of students, while the higher competition for a job in the forest sector led to the employment of qualified staff. In recent years the fields of research have been adapted to the needs of the forest sector development. However, the research institute, like many other organizations with a mandate for forest research is finding it increasingly difficult to source funding. While it has the professional and technical expertise to implement management planning and research, it does not have as yet a sufficiently developed capability in identifying international funding lines.

Recommendations to maximize the positive impacts and minimize the negative impacts on forest sector development.

The policy and institutional changes to maximize the positive impacts and minimize the negative ones depend on both internal factors specific to the forest sector and also external factors. Some of the external factors are related to the political decision making level (the public policies establishing the institutional framework, international commitments of Romania and the EU accession process). Other external factors are related to the policy and institutional arrangements of other economic sectors.

The strengthening of the Department of Forests within the Ministry of Agriculture, Food and Forests should be a priority in order to increase the capacity of the forest sector to actively influence the political decision-making level and the macro-economic policies with direct impact on forest sector development. The impacts of the other economic sectors' policies on the forest sector, could be minimised by engaging the public authority responsible for forests in the development of any new legislation initiated by other sectors which may influence the forest sector.

The establishment of inter-ministerial committees or working groups as mechanisms to address cross-sectoral issues seems to have a beneficial effect on the development of the forest sector, at least in relation to the following sectors: agriculture, timber processing, environmental protection, water management, nature conservation, tourism, research and education. Another way to increase the influence of the forest sector on other sectoral policies is to improve its lobbying and public relation capacity.

In the legislation development process, the Department of Forests should enhance its collaboration and dialogue with the main forest stakeholders and interest groups (private owners, private sector, research and education, conservationists, NGOs etc.) in order to adequately reflect and represent their opinions and interests.

The Department of Forests will play an important role in the establishment and development of the private forest management structures. Thus, the Department of Forests and the Forest Inspectorates should increase their capacity to coordinate and monitor the development and functioning of the private forest districts in order to ensure the sustainable management of private forests. There is an urgent need for the

establishment of a strong unit to coordinate the activities related to private forests, considering the ongoing forest restitution process. The Department of Forests should also be able to provide extension services through its territorial units.

While in the near future a significant proportion of the Romanian forests will be in private hands, the role and mandate of the National Forest Administration (NFA) should be adapted to its new position in the Romanian forestry sector. The administrator of the state forests should enhance its commercial mandate as it has to face the private sector competition. NFA should also improve its organizational, operational and commercial efficiency, and optimize its contribution to the economy of Romania, through the sustainable management of state forest resources.

The National Association of Private Forest Owners (APPR) should be supported to fulfil its role in the sustainable development of restituted forests and the provision of services to new forest owners. The development and enforcement of the appropriate regulations and the development of financial mechanisms to support sustainable forest management, as well as the development of alternative income generating activities in rural areas, are potential ways to maintain the ecological functions of the restituted forests. This will require a coordinated effort of the Department of Forests, Forest Inspectorates, APPR, local associations of private owners and the central and local authorities.

There is a strong need for a public awareness campaign on sustainable management and conservation of forest resources. The campaign should target key stakeholders including: the general public, with particular emphasis on communities living in forested areas; private forest owners (individuals and communities); Forest Inspectorates; Government decision makers, and other influential groups including the Church and NGOs.

Brazil Case Study on Cross-Sectoral Linkages in Forestry

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Summary

The present work is concerned with the study of the influences of the socio-economic factors and public policies influences over the Brazilian Amazon deforestation. The specific objectives are: a) to identify main impacts of external policies over the Brazilian Amazon deforestation; b) to estimate the direction and valence of these impacts, and evaluate any successful country approaches in dealing with these influences; and c) to recommend policy changes, instruments or mechanisms to maximize positive impacts and minimize negative impacts.

This study has several contributions. First, it explores a time-series data variation period from 1980 to 1999. Second, it generates elasticities for percentage changes in deforestation with respect to the following explanatory variables: roads, population, logging, timber industry, GDP, land prices (agricultural and pasture), cattle-herd, cattle prices, agricultural credit, energy, and wood prices (variables that can be influenced by the government).

Based on the statistical analysis over time-series data from 1980 to 1999, the Amazonian deforestation is mainly associated with macroeconomic and government policies like the building of roads, and other forces such as population, logging, the timber industry, and cattle-herd. Nevertheless, GDP, energy and cattle-price are related with deforestation.

The main conclusions and recommendations of this study are:

In the Brazilian Amazon, as in other regions of the world, deforestation is not being halted. As the agricultural frontier gets expanded, forest areas diminish and the Amazon economy grows. The loss of forest areas due to conversion to alternative uses of land is a crucial mark of the development model established for that region, a model which, by its turn, is part of a wider and more complex process, that of the Brazilian socio-economic development.

Due to the complexity and magnitude of the deforestation process underway in Amazonia, the quantification approach, employed in the present work, to estimate directions and valence of this process, as well as magnitudes of the effects or impacts of conditions and factors influencing the process, is limited, undoubtedly.

Firstly, one tries to reduce or translate the process, quantitatively, to only one of its “manifestation” forms, viz., annual deforestation areas.

Secondly, although one tries to relate this “reflection” or “manifestation” form of the process to what tend to be the main factors or variables, as singled out by different

authors and experts as significant in explaining or influencing the process, there still are other causes or conditions not inserted in the quantitative model employed, that may have as much, or more, importance than those that have been chosen here.

Notwithstanding these limitations – that are as much inherent to other quantitative approaches or methods of analysis and evaluation – the model here employed, and its results serve to corroborate various arguments and hypotheses that have been formulated for helping our understanding of deforestation and its causes, and for proposing public policies and intervention measures aimed at reverting the process, reducing its causes, or making it more suitable to a sustainable development path for the Amazon.

Just as an example, of the several results and findings already underscored and mentioned in the previous sections of the text, one might repeat the cattle-raising case: the quantitative data of the analysis seem to demonstrate that cattle-breeding, as it has been carried out in Amazonia, heavily based on the expansion of cattle herds, exerts a significant influence on deforestation growth, even more important than the profitability of the activity itself (which one tried to measure through the “proxy” of time series variation of cattle prices). This may serve to indicate that the adoption of policy measures that lead to, or stimulate, the use of production technologies or practices that allow an intensification of cattle-breeding activity in Amazonia would be recommendable if one intends to reduce deforestation rates in the region.

Among all, however, one intends to underscore and emphasize, in this section, those results and findings of the analysis, that not only for their quantitative expression (because of the high correlation indexes, high principal component parameter values, high elasticity coefficients), but much more for their nature or identity, must be singled out for their more direct implications to existing, or index discussion, forest policies in Brazil.

There are, exactly, the results and findings related to logging and timber industry activities, whose effects on deforestation have been measured, in the adopted model, through variables “total roundwood production for different end-uses and production of logs for installed capacity of sawnwood and veneer production”.

The quantitative results have shown that these two variables are highly significant in explaining or influencing deforestation rates. Given the explanations, and the highlighted limitations, to make the definitions of these variables more precise, as well as to provide a better understanding of how well they reflect or represent the activities (logging and timber industry), in spite of the higher numerical indices for “logging”, it became clear that the effects or contributions to deforestation relative to “timber industry” were more relevant, more meaningful and significant.

Another outstanding fact is that, the propelling effect that timber industry exerts on deforestation, becomes more serious given an almost total inexpressiveness (unfeasibility) of alternative, sustainable and permanent, supply sources of timber, instead, in the place of deforestation.

As presented above (item 3.3.6.), the results of function of “total supply of logs for the industry”, relating (i) total production of industrial timber (for sawn wood and veneer), (ii) wholesale timber prices (measured by the wholesale aggregate index), (iii) deforestation areas, and (iv) areas of sustainable forest management projects/plans, demonstrate that variable (iv), managed forest, is not statistically significant in explaining the supply of industrial timber in the region. This reinforces the hypothesis that the production of industrial timber in Amazonia is highly dependent on deforestation. At the prevailing conditions, such as prices for timber, and others, the supply of industrial timber in Amazonia is not yet affected by sustainable forest management projects or initiatives.

These findings are crucial, in terms of their implications, for the discussion and proposition of forest and non-forest policies, specially for propitiating a rising of sustainable forest management in Amazonia.

The Eu Forestry Strategy

Robert Flies, European Commission

Setting the scene: the public perception of forests in the European Union

The Ministers responsible for Forests, at the third Ministerial Conference on the Protection of Forests in Europe, held in Lisbon, 2-4 of June 1998, made the following forecast in their General Declaration:

“In the 21st century, the European forest sector, while respecting the social, economic, environmental and cultural functions of forests, will optimise its contribution to the sustainable development of society, especially to the development of rural areas, the provision of renewable resources and the protection of the global and local environment.”

This message of the European Ministers responsible for Forests is putting into evidence one of the major challenges the forest sector has to face in Europe at present time:

– how to develop to its full value the multifunctional approach in forests for meeting an equilibrated and integrated interpretation of the concept of sustainable forest management under specific European natural and socio-economic conditions. –

Forest policies within the Community, besides their great variety, are nowadays influenced by a number of social structural changes affecting their traditional values. Developments, - such as the globalisation of forest products markets, the rural migration from remote rural areas to cities or at the contrary, the increasing environmental and social pressure to forests around urban and highly populated areas, changing policies and patterns of governance and a growing environmental awareness on global level – will probably require fundamental policy changes in redefining the partnership between society and the forest sector on regional or national level.

The average citizen in the Union no longer depends on forests for livelihoods. The urbanised population, which is about 80 percent of the total population in the Community, has contrasting views on the multiple role of forests and considers forests mainly as space for leisure, recreational and amenity needs or as manifestations of nature which are supposed to be largely free from human intervention and where management activities should be limited to conservation measures. The public awareness about the importance of the industrial and commercial role of the forest production is nearly entirely concentrated on the few regions in the Community where the forest sector has a considerable economic importance.

On the international level and in particular from the outcome of the Johannesburg Conference, it becomes evident that the concept of sustainable development will remain omnipresent in all political debates concerning the future about our society and our

natural environment. The protection and sustainable use of our natural resources has thereby been upgraded to a global society issue and will most probably continue to be subject of several international institutional processes leading inevitably to a number of more or less stringent political commitments. Such engagements will to a certain extent affect traditional policy fields and economic sectors in the individual countries in the near future.

Forests, as an important part of our natural resources, are therefore increasingly subject of discussion on international level and the visible debates on forests and the utilisation of forest products are often concentrated at the centre of major environmental controversies. This may be explained by the fact that forest areas have a considerable impact on future welfare of all, in terms of the sustainable use of natural and renewable resources, oxygen and water cycles, carbon storage, erosion protection and bio-diversity.

It appears in addition that these discussions on forestry issues are no more confined to a circle of specialists gathering together different disciplines of forest sector expertise. The globalisation and the promotion through the media of the debates on bio-diversity conservation and climate change as a follow-up from the Rio-process, has actually favoured the launching of broad-based inter-sectoral policy planning initiatives where nature's potential, economic aspects of various activities as well as the values and expectations of citizens and society are increasingly taken into account.

The course of events influencing forest policies is nowadays nearly entirely shaped by broader social issues and forest policies mainly act in applying their know-how and expertise within the action frame defined by such horizontal and global political frameworks. Or to tell it in more easy terms: what happens in forestry is largely decided by what happens outside the forest sector.

Policy options concerning forest issues cannot therefore continue to be focused entirely on sectoral, technocratic programmes by using a discipline-focused approach and ignoring the dynamics of other policy sectors. Forest policies need to be more oriented in meeting general society issues and in particular:

- Within the global approach of political decision-making processes, the EU forest sector has the potential to play a more active role in the shaping of horizontal policy issues by mobilising specific forestry expertise not only for silvicultural issues, but as a contribution to deal with the wider problem on how to ensure the sustainable development of our natural resources.
- In the framework of the regional and local territorial policies favouring an integrated approach and a more accentuated multi-purpose land use, the EU forest sector can contribute in finding ways to strengthen the social fabric in rural areas and to maintain employment and living standards by being actively involved in bottom-up oriented decision-making structures with transparent and participatory procedures, which are addressing the problems across all the sectors that tend to affect sustainable development and management of our rural areas.

The Forest Strategy within the European Community

The natural and institutional diversity of the European forest sector can be best illustrated by the wide range of ecological, economic, social, cultural and political conditions of the forest sector in the Community.

Forests are situated in very different ecological environments, from boreal to Mediterranean and from alpine to lowlands. These forests have been influenced by human settlement and action over the centuries, and in some regions of the Member States, plantation forestry is even constituting the major part of the resource.

Forest management in the Union is characterised by a large proportion of private, fragmented, small-scale farm-related ownership structures in most of the countries, whereas the proportion of public forests and forests owned by private forest enterprises is predominant in few others.

Forest policies are implemented within clearly established ownership rights and with a long history of national and regional laws and regulations based on long-term planning.

The European Union is recognising and acknowledging these regional or national characteristics and particularities of the forest sector in adopting a decentralised approach to forest policy, in line with the principle of subsidiarity. The responsibility for forest policy therefore lies with the Member States and forest based commercial activities fall within the open sector of the economy.

There are, however, in the framework of several Community policies, a number of legal measures and financial incentives addressing directly or indirectly sustainable forest management in such a way that the European Union is nevertheless influencing significantly the drafting the political map for the forest sector in Europe.

The growing concern of coherence and added value between the forest policies of the Member States and forest related issues within several Community policies as well as the recent international developments in relation to overall sustainable development, have been the main driving forces for initiating several initiatives by different Community institutions on the design of an EU forest strategy.

Based on a legislative initiative from the European Parliament in 1997 and followed by a Commission Communication on a EU Forestry Strategy in November 1998, the Member States adopted on 15 December 1998 a Council Resolution on a Forestry Strategy for the European Union which has identified as overall principles for action sustainable forest management and the multifunctional role of forests.

The objective of this EU Forestry Strategy has not been oriented for conferring new tasks to the European Union's level, but the principal aim of this strategy has been in fact the attempt to ensure a more dynamic role for the foresters of the Member States at

EU level by advocating a better co-ordination between their forest policies and different Community policies having an influence on the forest sector.

The forest policy players in the Member States have to face an increasing number of broader cross-sectoral approaches where decisions of several policy networks at different institutional levels are interdependent because individual set goals can only be achieved in a common action or because individual activities significantly affect the interests of others. It unfortunately happens that the responsible forest policy actors are not enough involved in the established institutional structures of such horizontal decision-making processes, but are obliged, later, at the implementation stage, to apply the decisions taken by these general political networks in the framework of their national or regional forest policies without having the opportunity to provide their forestry expertise at an early stage within the general decision-making processes.

Therefore, without any intention to put into question the respect of the principle of subsidiarity, the EU Forestry Strategy has been adopted by the Council in order to be in a better position for dealing with the following policy developments:

- an increasingly complex array of Community legislation, such as for example the competition rules, internal market or environmental policy directives, as well as Community measures providing financial incentives to regional or national policies, such as rural development or research, that may considerably influence the forest policies of the Member States;
- a growing tendency in policy making to deal with general horizontal key issues concerning our natural and socio-economic environment in favouring a cross-sectoral approach, as for example the overall sustainable development of our society; such a cross-sectoral approach is disassembling established boundaries between traditional policy areas and is leading to overlapping responsibilities inside different policy sectors for the formulation and implementation of relevant policy objectives;
- the objective of the European Union to express itself with a single voice on the international forestry scene by preparing common EU positions at the level of the Council Presidency;
- the need to strengthen the Community internal co-ordination and expertise in dealing with matters relating to the forest sector.

The Forestry Strategy, being now in place since four years, for certain, has not fulfilled all expectations and objectives in relation to the four challenges mentioned here above. Moreover, since the introduction of the EU Forestry Strategy, quite a number of changes, developments, new initiatives and discussions addressing directly or indirectly sustainable forest management have occurred in the framework of different Community policies.

The Commission therefore intends to start still during this year with the preparation of an implementation report in analysing the achievements and failures of the strategy and making recommendations on how to improve this strategy for the future.

This report could for instance serve as a sound basis for updating and revising the EU Forestry Strategy after a broad consultation with all relevant stakeholders.

Main cross-sectoral forest issues within the Community

The emerging treatment of important and more comprehensive society issues in relation to the sustainable use of our natural resources is leading to more complex and interdependent linkages and interplay between an increasing number of traditional policy areas. The concept of “sustainable management of natural resources” implies more intensive co-ordination, both among policy sectors and the different levels of governance within the Member States as well as on European level.

Forest policies of the Member States are in particular of political relevance within the Union in the framework of regional land use policies, industrial and energy policies, research as well as environmental policies.

There are Community policies, such as rural development, that are providing financial incentives to the Member States, based on a flexible and voluntary framework, for supporting measures promoting sustainable forest management. Such Community actions are reinforcing measures implemented by the Member States in areas where they may contribute to the general objectives of these Community policies. Other examples of financial support to Member States’ efforts in implementing sustainable forest management are the Community’s research programmes and LIFE projects.

In looking to the impact of the regulatory Community framework on forest policies of the Member States, the directives and regulations of the European Environmental Policy can be considered as the main external driving force at European level in influencing the forest sector in the Member States. The most eminent environmental thematic issues in relation to sustainable development are at present stage biodiversity as well as climate change.

This may be, at the first look, astonishing, the forest sector being a major economic sector within the Union, as the Community is the second largest paper and sawn-wood producer in the world and the third largest exporter of forest products. It should be however remembered that forestry and forest based commercial activities are operating within the open sector of the economy and that their commercial functions are primarily guided by market forces. The internal market and competition policy framework at EU level is already well established and is functioning in a way which doesn’t allow great additional, sector targeted, economic policy initiatives. The remaining instruments at EU level for contributing to increase the competitiveness of the forest industries are certain EU research programmes as well as training and education programmes in the framework of the Structural Funds.

The main forest policy discussions in relation to global trade in forest products have to be situated in the context of “Trade and Environment” and are mostly

concentrated on issues such as “eco-labelling” and “forest certification” as well as “illegal logging”.

The need for an integrated regional approach in relation to sustainable forest management and multifunctionality

We are using a number of theoretical, flexible, not clearly defined and therefore sometimes ambiguous, but very noble concepts as established references in forest policy, such as sustainable management, multifunctionality or public participation. Such concepts, addressed at international or European level, have surely the advantage that diplomats and policy experts, which are active on the international scene, have the possibility to use the same terminology throughout the world for negotiating poorly formalised action programmes or strategies.

It must be however admitted that the real application of such concepts clearly requires guidelines or measures that are adapted to the local or regional natural and socio-economic conditions as well as a consensus of the relevant actors to implement such measures. The operational level for actions to ensure sustainable forest management remains the management unit or the forest massif and this operational level needs to be embraced, in first instance, by a coherent and specific oriented regional or national institutional and regulatory forest policy framework.

Moreover, if we want to encourage a real conceptual application to “public participation structures in decision-making”, as advocated in the framework of national forest programmes* – e.g. if we want to favour the famous civil society dialogue – we should be aware that public participation can only take on a concrete form when applied at the regional or local level, where consideration can be paid to the specific ecological, economical, social, traditional and political values and in particular to the structure of forest ownership.

As a consequence, given the great natural and socio-economic diversity of forest conditions in Europe, the key for success for ensuring sustainable forest management and the multifunctional role of forests is the development of a decentralised integrated approach (“bottom up approach” and “multi-stakeholder process”) with the aim to reach a reasonable balance between overlapping but also conflicting interests on multi-purpose forestry at regional and local level.

The Community policy for the development of rural areas, in embracing a broader cross-sectoral concept of rural areas and in adopting a more integrated and flexible approach, provides hereby a sound basis for the promotion of the multifunctional role of forests.

*MCPFE description of participation: “a voluntary process whereby people, individually or through organised groups, can exchange information, express opinions and articulate interests, and have the potential to influence decisions or the outcome of the matter at hand”.

The evolving political framework of forest resources management, both in its multisectoral dimensions as well as with respect to different political levels, requires innovative strategies on the part of landowners, a commitment to effective, efficient and transparent process steering on the part of public institutions, and a more collaborative decision-making involving the main users as well as other stakeholders of the civil society.

The linkages and interplay between an increasing number of policy areas, the superposition of international commitments, Community thematic issues and national political actors, and the increasing importance of sub-national and local entities, are all likely to play a powerful role in shaping the sustainable development of the forest sector in the coming years.

Cross-Sector Linkages in Mountain Development: The Case of Northern Thailand²

Mingsarn Kaosa-ard and Jeff Rutherford³, Thailand

Summary of Findings and Conclusions

Main Points

1. Key findings of the study

- State enclosure of forest areas disproportionately impacts upland minorities and severely constrains their livelihood security options, especially the problem of land tenure insecurity.
- The key environmental problem of the region has changed from resource depletion to resource conflict.
- National security concerns of the Thai state have changed but upland minorities are still primarily viewed as agents of threat rather than victims. A key security problem facing many upland minorities is a lack of citizenship.

2. Areas needing improvement

- The environmental orthodoxy dominating popular and state thinking about mountain resources.
- Lack of a sophisticated, depoliticized understanding of the dynamic cultures and land-use systems of upland people.
- Lack of a comprehensive understanding of the human security threats facing mountain communities and harmonization of these concerns with national security planning.

3. Priority future actions

- Funding for participatory studies of dry-season cultivation and water requirements by teams composed of lowland and upland farmers, state officials, academics and NGOs.
- Support for the development of a genuinely participatory process linking the resolution of two persistent problems of upland minorities: village tenure insecurity and lack of citizenship.
- Support for community forestry legislation, including the establishment of community forests in enclosed areas like national parks.

Elaboration of main points

Key findings of the study

²Summary of findings and conclusions of paper to be presented to UN Food and Agriculture Organization. Submitted August 22 2002.

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The first key finding: *State enclosure of forest areas disproportionately impacts upland minorities and severely constrains their livelihood security options.* The last two decades – most dramatically since 1990 – has seen a dramatic expansion of strict regulation of land previously only nominally enclosed by the state. These areas under Royal Forest Department jurisdiction are national parks, wildlife sanctuaries and watershed protection zones. Of the 81 national parks established by 1997, only 16 were set up before 1980. A quarter of the total were established between 1990 and 1995. As far as watershed areas are concerned, while only 25 percent of the country is placed in class one or two zones with severe restrictions on land use, the proportion doubles in the northern region and rises to 90 percent in upper tributary watersheds like Mae Chaem in Chiang Mai Province. Ethnic minorities largely populate such upper tributary watersheds. The population of Mae Chaem, for example, is 64 percent upland minority, mainly Karen and Hmong. Technically, most of the 68,000 people in this watershed are illegal squatters, regardless of the fact that the Karen population has lived there for generations.

The results of this policy are that traditional land-use systems have become illegal. Stepped-up enforcement has resulted in changes in farmer behavior resulting in unsustainable forms of land-use, including problems of reduced fallow periods, soil infertility, dependence on expensive chemical inputs and, in some cases, food insecurity. This also has the consequence of driving impoverished farmers to turn to more remote forests in so-called protected areas to clear fields or compete for a dwindling supply of non-timber forest products.

The second key finding is that *the key environmental problem of the region has changed from resource depletion to resource conflict.* Conflicts over natural resources are an everyday aspect of life in northern Thailand. During the dry season, conflicts can be found in literally every catchment in the region. These can be grouped into two broad categories: conflicts over forest between people and the state (which nominally encloses forestland for water conservation), 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. Conflicts over water pit lowlanders against uplanders. Other conflicts involve land rights struggles between poor farmers, wealthy landowners and the police. Near the border, these conflicts often involve security forces and have sometimes resulted in eviction and even deportation of upland villagers to Myanmar.

Third, *national security concerns of the Thai state have changed but upland minorities are still primarily viewed as agents of threat rather than victims.* For hundreds of thousands of upland minorities, however, the biggest problem is not having citizenship documents. This problem restricts villagers to certain areas and denies them access to many public services. They live in constant fear of deportation. From the perspective of the state, prominent security problems today are drug trafficking, deforestation and illegal immigration. One of the ironies of the northern Thai borderlands is that these legitimate concerns of the state and larger society are also real threats to the livelihood security of local people. However, state officials and lowland Thai villagers and city dwellers, as reflected in conversation, case studies and the mass media, usually view ethnic minorities

as agents of these threats. Upland peoples, on the other hand, have a more nuanced perspective due to their intimacy with these sources of insecurity. They live in villages torn apart by drug dealing and drug use. Both outsiders and fellow villagers, transgressing against customary law in pursuit of profit, have cleared their forest fallows of trees. Unrest across the border spills into their villages and new arrivals sometimes bring trouble into once stable communities. The us-vs.-them perspective of the majority Thai population and its state agents ignores the far more complex reality of communities struggling with a confluence of pressures.

Areas needing improvement

Three areas in need of improvement are recognized in relation to the main findings discussed above. The first thing is to *encourage scholarly challenges to the environmental orthodoxy dominating popular and state thinking about mountain resources*. Confusion about the ecological services of forests (the forest “sponge” effect) and the desirability of fixed-field agriculture, among other things, has resulted in policy rigidity towards mountain development. Such thinking, together with Western models of dubious applicability in areas like northern Thailand – forest enclosure, most importantly – infuse popular thinking and the rhetoric of state officials. The challenge is for objective scholars to persistently challenge these views and broaden the range of knowledge, options and strategies that can be brought to bear in mountain development. Such a project, currently spearheaded by just a few scholars in the region, could concentrate on such subjects as the effects on mountain hydrology of different types of land use (e.g. forest fallow systems vs. tree plantations), participatory studies of watershed contamination by agricultural chemicals, and on appropriate (drought-resistant) dry-season crops and cropping systems.

The second recommendation for improvement required is the abandonment of racial stereotyping of ethnic minorities and *the search for a sophisticated, depoliticized understanding of the dynamic cultures and land-use systems of upland people*. While some communities have indeed engaged in land-use practices that have led to resource depletion and degradation, these practices should not be seen as inherent to upland cultures. In many cases, upland communities practice ecologically sensitive farming. These include age-old forest fallow systems and more recent innovations in response to resource scarcity and an increased awareness of agroecology (and environmental politics). The assumption of forest farmers as forest destroyers should be abandoned and replaced with multi-stakeholder research into the ways that upland land-use systems are sustainable or not, and how they may be improved in ways that harmonize local needs and the common good.

The third thing needed is a *comprehensive understanding of the human security threats facing mountain communities and harmonization of these concerns with national security planning*. The catastrophic spread of amphetamine use and trafficking, for example, is a security threat on many levels. Upland communities, while sometimes

demonized as purveyors of the threat, have also suffered greatly from drugs. Law enforcement, especially given the poverty and lack of good options for earning income in mountain communities, should be just one of many strategies in an options portfolio that include alternative education and employment programs, treatment and, above all, land tenure and citizenship reform. This holds true for problems of illegal immigration, crime and HIV-AIDS. The human face of these so-called national security threats need to be understood, not stereotyped.

Areas for future action

First, *more funding should be made available for participatory studies of dry-season cultivation and water requirements – especially optimum water use -- by teams composed of lowland and upland farmers, state officials, academics and NGOs.* These are required to resolve recurrent conflicts over resources, especially water. Such research projects would help to increase understanding about the relationship between land use and environmental services within watersheds, while simultaneously building trust and relationships amongst diverse stakeholders.

The second target of future action is *the development of a participatory process linking the resolution of two persistent problems of upland minorities: village tenure insecurity and lack of citizenship.* The Thai government does not recognize about 68 percent of upland village clusters as official villages. This problem intersects with the problem of the estimated one-third to one-half of upland minorities who do not possess citizenship documents. Lack of official village registration bars many from applying for citizenship. The current system is hierarchical and suffers from a great deal of corruption. It is recommended that studies be conducted on the development of a participatory system of checks-and-balances involving villagers, NGOs and state officials.

The final suggestion for future action is the *encouragement of community forestry legislation, including the establishment of community forests in enclosed areas like national parks.* The people's version of a bill under consideration by parliament offered a balanced, inclusive approach that rejects relocation of villagers from enclosed areas but involves the state in a system of checks-and-balances that would increase local livelihood options while helping to ensure sustainable forest management. Foes of community participation and urban adherents of inappropriate nature-conservation ideology threaten to undo progress made on the community forest bill, and a stepped-up education campaign to explain the potential of local people is needed.

Etude des liens intersectoriels et l'aménagement durable des forêts au Mali

(synthèse)

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Introduction

Le secteur forestier malien est confronté à de nombreuses contraintes climatiques, et anthropiques. Il est caractérisé par une dégradation des ressources forestières et fauniques et la disparition souvent irréversible de certaines espèces végétales et animales mettant en mal, la riche diversité biologique du pays.

Cette situation inquiétante est le résultat d'une forte demande en terres forestières (plus de 100 000 ha/an pour la production agricole), le déboisement de l'équivalent de 400 000 ha pour la récolte du bois énergie, la persistance des systèmes de production extensifs peu productifs et l'insuffisance des actions de protection et de restauration.

Le bilan bois énergie sera négatif à partir des années 2010 si des actions vigoureuses ne sont pas immédiatement mises en œuvre (Etude prospective du secteur forestier du Mali FOSA 2001).

Malgré les changements politiques et institutionnels : instauration de la démocratie, de la décentralisation, l'adoption de diverses politiques et stratégies, la mise en œuvre de programmes et de projets divers, l'élaboration et/ou de révision de très nombreuses lois de gestion des ressources naturelles, les forêts naturelles sont de plus en plus défrichées et sur-pâturées, les exploitations restent encore peu contrôlées et l'accès aux ressources quasiment libre.

La conservation de la diversité biologique fait l'objet d'une certaine préoccupation intellectuelle. Mais les actes concrets allant dans ce sens sont timides. En effet, les aires protégées sont très souvent violées, abandonnées ou totalement occupées par les agriculteurs ou les éleveurs.

La demande de plus en plus croissante de terres agricoles et du bois énergie a pour impact direct, la perte de grandes superficies de forêt et d'habitat pour la faune.

Les efforts d'intensification de l'agriculture et de l'élevage sont encore insuffisants, et les mesures envisagées pour la substitution d'autres produits au bois énergie ont eu peu d'impact sur l'exploitation de la forêt.

Méthodologie de l'Etude

L'étude a été basée sur une revue bibliographique qui a connu quelques difficultés à cause du manque de données statistiques cohérentes et fiables d'une part et de la rareté d'étude d'impacts sur l'environnement en général et les ressources forestières d'autre

part. La revue bibliographique a cependant permis de capitaliser des informations sur les données physiques, socio-économiques, macro-économiques et sur les aspects de politiques, d'institutions et de plan de développement; trois rapports d'étude d'impacts disponibles ont été présentés pour servir d'étude de cas.

L'analyse des informations recueillies à la suite de la revue bibliographique a conduit aux constats suivants:

- Les facteurs principaux qui ont des liens avec le développement du secteur forestier sont l'aridité du climat, le système de production extensif, la forte pression démographique et la pauvreté.
- Le contexte macro-économique est tributaire du secteur agro-pastoral. Malgré une certaine croissance économique enregistrée à partir de 1991, la population vit sous le seuil de la pauvreté qui est la cause sous-jacente de la dégradation des ressources naturelles. Le défi majeur à relever pour le développement durable du secteur forestier reste sans contexte la lutte contre la pauvreté.
- Les institutions responsables du développement rural ont pour objectifs essentiels l'accroissement de la production; l'aspect environnemental n'est pas une préoccupation essentielle.
- Au plan politique, la dimension environnementale constitue une préoccupation du gouvernement bien que souvent prise en compte de manière sectorielle ou partielle. Les responsables de certains sous secteurs tels que l'urbanisme et l'habitat, le transport, les mines et industries se préoccupent beaucoup plus des réalisations et performances que des impacts environnementaux induits.
- La mise en œuvre de la plupart des politiques et stratégies se heurtent à une insuffisance d'approche intégrée et cohérente des interventions dans la gestion de l'environnement, à une faible implication des bénéficiaires, et à la quasi inexistence d'informations et de données fiables susceptibles d'aider à la prise de décision.
- L'analyse des politiques macro-économiques fait ressortir que le PAS, la dévaluation, la politique fiscale, ont eu des impacts positifs indirects sur le sous secteur forestier grâce à l'amélioration du taux croissance, l'augmentation des recettes budgétaires, la mise en valeur des produits locaux et la répartition des taxes d'exploitations entre l'état, les collectivités et les privés ; par contre certains effets négatifs ont été identifiés : dégradation des conditions de vie, arrêt du recrutement du personnel forestier, augmentation du prix des produits forestiers.
- Sur le plan des politiques sectorielles, la SED, l'intensification amorcée des systèmes de production et le développement des médias pourraient avoir quelques effets positifs sur le secteur forestier.

Les impacts négatifs proviennent principalement de l'agriculture, de l'élevage, de l'urbanisme, des transports, de l'énergie et des mines.

Les impacts positifs du secteur forestier se ressentent sur le plan macro-économique par sa contribution au revenu national, au PIB et au niveau de la politique sociale. Le secteur forestier contribue aussi dans les performances économiques globales.

Trois rapports d'études d'impact sont présentés pour servir d'étude de cas:

- Le Projet de Gestion des Ressources Naturelles (PGRN) et le Projet de Lutte Contre l'Ensamblage (PLCE) qui ont des impacts de la politique sur les autres secteurs.

Ces exemples sont suivis de quelques expériences qui montrent les efforts du Gouvernement en matière de protection de l'Environnement

- l'aménagement des bas-fonds de la zone Mali Sud, est un exemple d'impact sur le secteur forestier et autre.

1) **Le PGRN** est un exemple de la politique environnementale du gouvernement qui obéit à la convention des Nations Unies sur la lutte contre la désertification. Il faut rappeler que le PGRN fait partie des neuf programmes d'action nationaux élaborés conformément à la CCD et il correspond aussi à trois axes stratégiques de la politique forestière nationale à savoir: améliorer les capacités d'intervention des différents partenaires, préciser le mode de gestion des ressources et conserver la diversité biologique.

Les résultats de l'étude d'impact du PGRN font apparaître des effets positifs sur les ressources naturelles, les capacités locales, l'exode rurale et le niveau de revenu.

2) **Le Projet de Lutte contre l'Ensamblage et le développement des ressources forestières dans la région Nord du Mali. Le PLCE** a eu des résultats élogieux en matière de stabilisation des dunes, de production forestière, de restauration et de conservation des eaux et du sol ; les impacts du projet sont d'ordre socio-économique et écologique.

L'exemple de ce projet montre à suffisance les liens existant entre le secteur forestier et le secteur social et économique même dans les conditions aussi précaires que celles du désert.

3) **Les efforts du gouvernement malien en matière de protection de l'environnement:** il s'agit d'expériences réussies en défense et restauration des sols, reboisement, aménagement participatif des forêts, agroforesterie, fixation des dunes et lutte contre l'ensamblage, gestion des ressources en eau, éducation environnementale.

Ces divers programmes et projets ont contribué à minimiser quelques impacts négatifs des politiques externes sur le secteur forestier et maximiser leurs impacts positifs.

4) **L'aménagement des bas-fonds de la zone Mali Sud.** Le Mali-Sud constitue un cas particulier en matière de pression sur les ressources agro-sylvo-pastorales. Cette particularité qui est liée à la très grande importance des superficies cultivées en coton, a

conduit à une dégradation galopante des ressources naturelles en zone CMDT notamment les sols.

L'augmentation de la production agricole est une des préoccupations majeures de la CMDT qui évolue essentiellement dans la zone Mali-Sud. Son objectif était d'atteindre 300 000 tonnes de coton à l'horizon 1994/1995. Aujourd'hui la production est de 600 000 Tonnes. Pour les céréales, il s'agissait de favoriser la production et de mettre en place les mécanismes permettant de limiter les effets des fluctuations saisonnières du marché céréalier.

Un effort particulier a été fait en faveur la riziculture par l'aménagement et la mise en valeur des bas-fonds. Le potentiel est estimé à 250 000 ha. Aujourd'hui plusieurs aménagements de bas fond ont été exécutés et de nombreux petits barrages y ont été construits.

La CMDT a initié une étude d'impacts environnementaux de l'aménagement des bas fonds, dont les objectifs sont de:

- Savoir l'impact réel de toutes les réalisations sur la vie socio-économique de la région d'une part et d'autre part sur le milieu naturel;
- Permettre de procéder à une planification spatiale des actions;
- Prévoir les mesures d'atténuation nécessaires pour endiguer ou au moins atténuer les impacts négatifs.

Les impacts environnementaux positifs de l'aménagement des bas-fonds constatés ont été les suivants :

- l'amélioration de la production agricole, de sa sécurisation et de sa diversification;
- le développement du maraîchage, de la pisciculture, de l'arboriculture et du reboisement;
- l'abreuvement des animaux pendant une période plus ou moins longue en saison sèche;
- l'allègement de la surexploitation des terres agricoles;
- la diminution de l'exode rural;
- l'accroissement du revenu des paysans;
- l'amélioration du niveau nutritionnel des populations.

Les principaux impacts négatifs constatés et imputables à l'aménagement des bas-fonds se résument à:

- la dégradation des sols
- la pollution des eaux
- l'envasement du bas-fond
- la dégradation de la faune aquatique

- La dégradation de la faune terrestre.
- la dégradation de la flore
- les conflits sociaux.

S'il n'apparaît pas avec évidence que l'aménagement des bas fonds de cette zone a eu de nombreux impacts négatifs sur les ressources forestières, la faune et les sols forestiers, les propositions de nombreuses mesures curatives, d'atténuation et de correction permettent de montrer que cette action a eu de nombreux effets négatifs sur les ressources forestières et très peu d'effets positifs. On peut se poser des questions sur la pertinence de la méthode utilisée pour cette étude. De toute évidence les superficies défrichées ont le plus souvent touché les forêts galeries situées le long des cours d'eau c'est à dire les zones de plus haut potentiel productif. Les surfaces déboisées pour installer ces aménagements ont certainement entamé gravement des forêts locales. L'augmentation des superficies aménagées a été proportionnelle à la perte des surfaces boisées.

Conclusions et suggestions

L'insuffisance de données fiables, l'absence d'indicateurs d'impact et de suivi de l'état de l'environnement et un système de gestion de l'information environnementale inexistant constituent un handicap important pour une gestion efficace de l'environnement. Cette situation rend difficile l'analyse et le diagnostic de l'état des ressources, ainsi que leur évolution et le suivi-évaluation des diverses actions.

Au plan politique, la prise en compte de la dimension environnementale est le plus souvent partielle et sectorielle et les procédures d'évaluation classique ne permettent pas toujours d'appréhender l'ensemble des effets des politiques engagées et les inter-relations entre les différents secteurs.

- Au plan institutionnel l'environnement est d'une manière générale au cœur des préoccupations. Mais en dépit des dispositifs juridiques et institutionnels dont le pays s'est doté, il ne semble pas être parvenu à mettre en place un mécanisme de coordination efficace pour la gestion des questions d'environnement.

«La sectorialisation» des problèmes et la responsabilisation de nombreuses structures rendent difficiles la coordination et la mise en cohérence des actions de protection et de gestion de l'environnement.

Il apparaît donc urgent de mettre en place une structure appropriée, chargée d'assurer une meilleure coordination des activités. Un des rôles d'une telle structure serait de créer les conditions d'une véritable synergie entre les intervenants et garantir une cohérence entre les différentes politiques sectorielles, ainsi qu'une complémentarité des actions sur le terrain.

A ce propos M. Alain Onibon Consultant FAO a dans le cadre du FOSA fait une proposition de système de coordination que le Mali pourrait examiner. Il s'agit de mettre en place un système pour assurer la gestion de l'interface entre le secteur forestier et les autres secteurs contiguës (agriculture, élevage, eau, énergie, construction et infrastructures), vu le lien étroit entre ces secteurs: le Dialogue Intersectoriel Périodique, (DISP).

Au Mali, la gestion du DISP pourrait être confiée au STP/CIQGE qui joue un rôle important dans l'analyse de la problématique environnementale, la définition de politique environnementale, programme d'action et de mesures institutionnelles ; il est actuellement la structure de référence de toutes les institutions nationales et étrangères lorsqu'il s'agit des questions portant sur l'environnement.

Le STP/CIQGE pourrait évoluer vers une structure nationale stable de type Secrétariat d'Etat ou Commissariat à l'Environnement Chargée de la définition, et de la coordination de la politique nationale de protection de l'environnement.

Quant à la FAO, elle devrait entreprendre les actions futures suivantes en direction du gouvernement du Mali :

- informer sur les objectifs et les conclusions de l'étude;
- sensibiliser sur la nécessité de renforcer le dialogue intersectoriel;
- appuyer pour la mise en place d'un système de gestion de l'information environnementale;
- élaborer et mettre en œuvre un programme de formation en EIE.

The Study of the Influences of External Policies on Miombo Forest Development in Tanzania

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(Prepared under overall guidance of the Director of FAO Forestry Policy and Planning Division and the supervision of the Chief of FAO Forestry Policy and Institutions Branch and the Joint Technical Monitoring Team)

Main Cross-Sectoral Issues and Policy Impacts

Forestry sector contribution in the national economy

Regarding forestry sector contribution to the national GDP, there are no reliable data at present. Most estimates place sector contribution close to 3.3% of the GDP (including some wildlife related services). This figure seems too low because of known but unrecorded contributions of forest sector to the rural economy.

Environmental degradation

Tanzania is facing environmental degradation problems. Among the most important ones are deforestation and forest degradation. 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.

Cross-sectoral issues and linkages

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 are a number of crosscutting issues with implications on the sustainable management of forest resources.

Impacts of sectoral policies on forestry

Land Policy

Forests on general lands have been under constant pressure for conversion to other competing land uses such as agriculture (shifting cultivation), livestock grazing, settlement and industrial development and also suffer from repeated forest fires because of unclear ownership, absent of security of tenure and formal user rights. There has been little incentive for investment, systematic and sustainable management of these forests leading to continued degradation.

This has resulted into degradation of the forest bringing the forest cover down to 38 percent (1999) from 44 percent (1971) at an estimated deforestation rate of between 130 000 and 500 000 ha per annum.

Agriculture Policy

Agricultural extension services are a crucial cross-sectoral matter linking agriculture and forest sectors. Experience has revealed that conflicting extension messages are given by the extension agents on matters related to land use especially on agriculture and afforestation programmes. Harmonisation of the extension messages is required in order to avoid confusing the target population.

Another important issue is the common perception in agricultural sector that views forests particularly on public lands, as a land reserve for agricultural expansion. From the point of view of forestry sector, increasing agricultural productivity and efficiency would be preferable agricultural development policy instead of expanding the area under cultivation.

Minerals Policy

According to the Mining Act, the Forest Ordinance cannot prevent exploration right or exclusive prospecting licence. This entails a major risk for forest reserves management. This kind of conflict of interest can be mitigated by an obligatory consultative process between mining and forestry authorities before any decision is taken to provide a prospecting licence in a forest reserve.

Environment Policy

The main emphasis of the 1997 Environment Policy is to promote cross-sectoral matters related to management guidelines, environmental impact assessment and criteria and indicators for environmental assessment.

Wildlife Policy

The 1998 Wildlife Policy aims at promoting involvement of the local communities in wildlife conservation in and outside the protected area network and creating an enabling environment for international cooperation in wildlife conservation. The strategies include the transfer of wildlife management areas to local communities and sharing of benefits and responsibilities.

Beekeeping Policy

Most beekeeping activities are often combined with the collection of forest produce. Beekeeping has been reported to have an important role in the economy of small scale farming households in Tanzania contributing to about 50% of the household income (Monela et al. 2000).

Impact of Private Sector investment

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.

Since 1993, the government has been taking a variety of measures to spur private investment in all sectors including forestry.

Impact of globalization of economy

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, and increased demand for fuel for tobacco curing.

Impact of International treaties and Initiatives

Tanzania having signed and being a party to those resolutions and agreements has the obligation of implementing recommendations for the respective initiatives. This includes development of policies supporting sustainable forest management and formulating and implementing programmes towards the same.

Impact of Refugees

Deforestation in refugee's camps/settlements has been derived from three angles. One is the refugees themselves, two the villagers around the refugee settlements and three the people who are attracted to the settlements as workers and small-scale business. The combination of this coupled with the rapid population growth have accelerates deforestation.

Options for Improvement

Policy options

Decentralisation and devolution policy to Local Governments

The present administrative and political decentralization policy by the government has resulted into two main features, Firstly, significant changes on the role and structure of government at Ministerial and regional levels and secondly, political devolution and decentralization of functions and finances to the local authorities.

This has provided a platform aimed at improving institutional set up focusing on decentralisation and devolution of forest management to local governments, communities and the private sector for enhancing capacity in the respective levels.

At Ministerial level the policy include Government withdrawing from direct production of goods and services such that the roles and functions of ministries are mainly on policy formulation, monitoring and evaluation; and regulatory roles.

The options are privatization, creation of Executive Agencies and abolition. Currently there are studies ongoing to elaborate on establishment of executive agency(ies) that will take up management responsibilities for forest under the central government.

These macro-policy changes have had fundamental impact on the forestry sector, which has gradually been forced to face international competition, and to increase its efficiency both in productive and conservation activities. Unprofitable productive operations are not tolerated any more by the government.

Coordination between Forestry and other sectors

The launch of the implementation of Local Government Reform Programme (LGRP) in Tanzania have introduced major issues and problems in the co-ordination between ministries, sectors and district councils.

There are four major problems: The Parastatal Sector Reform Programme (PSRP) does not appear to address adequately the re-orientation needed to sectoral ministries to be consistent with the decentralisation programme; the staff in the forestry sector need to be re-oriented to embrace decentralisation and the roles and mandate of the district councils; the role and status of the regional secretariats, which potentially can facilitate effective co-ordination, remain ambiguous; and the capacities of the district councils across the country remain rather weak and uneven.

The institutional development approach

The Government in March 1998 approved the present National Forest Policy which vests the responsibility of managing the forest resources sustainably under the sector in collaboration with key stakeholders. The policy emphasizes on participatory management and decentralization.

The Forest legislation approved early this year is also the revision of the out dated Forests Ordinance CAP 389 of 1957 which addresses the inadequacies of the Forests Ordinance CAP 389 and provides the appropriate legal framework to enable the policy to be implemented effectively including:

- The National Forestry Programme.
- National Forestry Advisory Committee.
- Management plan for national and local authority, community, village and private forests, collaborative forest management such as Joint Management Agreements.
- By-laws, Environmental Impact Assessment in forestry development.
- Development of Best Forest Practices.
- Criteria and Indicators for sustainable forest resources management.

National Forestry Programme Strategy

The National Forest Policy emphasizes that SFM requires strategic sectoral planning, which takes into account changes in the macro-economic policies towards market economy, participation of the private sector and other relevant stakeholders. This is also clearly expressed in the recently approved Forest Act.

The National Forestry Programme has been conceived be an instrument for putting the New Forest Policy and related legislation into operation. It is also meant to rectify the inadequacies, which have been prevalent in the sector. It should be stressed that the success of the implementation of this programme depends on active participation of all stakeholders both local and international community.

Development of national criteria and indicators for sustainable forest management

Tanzania has already embarked on developing her own national C&I, but this work is still in its initial phases. The country has participated in meetings, which developed C&I for Dry Zone Africa (Nairobi Process) and for Southern Africa Development Community (Lilongwe Process). In May 1999 a workshop on C&I was organized in Arusha where local forestry experts and stakeholders developed C&I applicable to Tanzania, based on the criteria and indicators for SADC. In this connection, the policy relevance, data availability and research priority of indicators were also assessed. It appears that the forest policy largely cover the crucial SFM element apart from carbon sequestration

A task Force was formed to facilitate the consultative process to prepare operational guidelines for the incorporation of C&I in forest management plan, to identify resources for the implementation of C&I, and to prepare an action plan for the implementation of C&I. Work in national criteria and indicators for sustainable forest management has generated some important conclusions about the general design of indicators.

Priority Future Action

There is a need to:

- Promote income generation from activities outside agriculture. Extra income can be generated through: casual employment, small scale Enterprises from Non-timber Forest Products such as basket and mat weaving, services such as shop keeping, transport and tourism. For example various species in miombo forests give possibility for no timber commercial use, such as ecotourism.
- Continue promoting/ enhancing interactive gender balanced community participation in the management of forest resources hence reduction of social conflicts.
- Clarify the tenure rights, which 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.

- Ensure that the NFP programme document is disseminated and publicized to all relevant stakeholders for action at national level. This is important taking into account the necessary coordination of development partners. Local and international agencies should support the implementation of the programme and facilitate the move towards a programme approach in NFP implementation.
- Reinforce capacity building (training and education) in the local government and private sectors to which management is being transferred.
- Open other venues of revenue regeneration so as to improve finance in the forest sector.

Multifunctionality and Related Policy Formulation and Implementation Issues

Catherine Moreddu, Organization for Economic Co-operation and Development (OECD), Directorate for Food, Agriculture and Fisheries

This note draws on my experience of agriculture in developed countries and in particular on the work developed in the OECD on the multifunctionality of agriculture. This work focuses on issues related to agricultural policy reform, in particular in the context of trade negotiations, but as background information, it reviewed economic literature on joint production in the forestry sector (see Annex 3 in OECD, 2001a). In fact, forestry economics has a long history of considering joint production while examining multiple uses of forestry. Work on multifunctionality raises a wide range of questions pertaining to policies, in terms of design and implementation. This note will, however, focus on cross-sectoral policy impacts, as requested.

There are lots of similarities between the two sectors: they are land-based activities, depend on biological processes and site-specific environmental factors and are influenced by climatic conditions, although production cycles are longer in forestry. This connection to land results in a number of common issues linked in particular to property rights, and leads to interactions between the two sectors. There can be for example competition between agriculture and forestry for land use and other resources like water, competition for the provision of public goods like recreational areas or landscape, or conversely, synergies from the integrated occupation of land. In many countries, farmers own a significant share of forest land and the management of both forest and agriculture is integrated in the organisation of work and contributes jointly to the formation of income.

Main issues

Many sectors provide multiple outputs jointly. Some are valued positively by society, others negatively, and the nature and degree of their jointness with the main market output differs. The policy issue arises from the fact that some of the joint outputs are externalities for which markets fail and exhibit public good characteristics that make voluntary provision difficult. As a result, negative outputs may be over-supplied and positive output may be under-supplied, in which case governments may wish to intervene to correct this market failure. This is particularly the case in the agricultural sector, where, traditionally, there is widespread government intervention in many countries. The focus has for a long time been on the negative externalities generated by production processes, in particular pollution. More recently, countries have paid increasing attention to the positive multiple outputs provided by the sector.

For a list of agricultural multiple outputs, such as landscape, biodiversity, animal welfare, cultural and historic heritage values, environmental quality, rural viability and food security, OECD work on multifunctionality has examined the cause and degree of jointness with commodity production, their externality and public goods characteristics,

both analytically and empirically (see the analytical framework in OECD, 2001, and information from the workshop on empirical work on <http://www.oecd.org/agr/mf/>). Work is now proceeding towards the elaboration of policy implications.

The main cross-sectoral issues identified were as follows:

- Some externalities of agriculture may have unwanted, negative repercussions on other sectors (pollution).
- Other sectors, such as forestry, cannot compete with agriculture for the provision of public goods because the agricultural sector is subsidised (economies of scope are distorted by agricultural support).
- Public goods (different from agricultural ones) from less subsidised sectors, like forestry for example, are underprovided because excess resources are kept in agriculture (for example, land).

Options for improvement

A range of measures from regulations to taxes/incentives can be used to **limit negative externalities**. The polluter-pays principle should apply, but it is not often the case in agriculture. General principles, criteria and guidelines for policy action, which can contribute to improving the environmental performance of agriculture in a sustainable way, are provided in OECD (2001b).

Support should be reduced and policy measures that distort markets should be removed. In the OECD area, support to agricultural producers accounted for one third of farm receipts in 1999-2001 (OECD, 2002). Over three quarters of this support was of the most distortive type (i.e. market price support, output payments and payments based on input use). Moreover, it does not target externalities but conversely encourages intensive methods of production that provide fewer positive outputs and larger negative externalities.

Measures can be taken to improve market functioning, create markets (e.g. though labelling) and more generally to **encourage non-government provision**.

Targeted incentives for the provision of public goods that are still under-supplied could be envisaged. The problem is to assess whether public goods are under-provided and, if they are, which sector is able to provide them the most efficiently. This is a difficult task that requires a lot of information, in particular, better knowledge about demand. Hence the risk of policy failure (in particular over-provision). In fact, non-government provision avoids that problem as it allows demand to reveal freely (e.g. though markets, clubs, etc.).

When several sectors can provide the same public good, the same incentive should be available to all agents to allow market forces to reveal **competitive advantage** for the provision of that good (through tenders for example).

The regional aspects of **local public goods** should be taken into account.

Priority for future actions

In my opinion, the reduction of support levels granted to agriculture in OECD countries and the decoupling of support measures from commodity production are essential.

There is also a need to improve the functioning of markets, including for land, and in some cases, change regulations to allow the development of non-governmental solutions.

It would be useful to improve institutions that facilitate the provision of public goods and the design and implementation of adequate options.

Finally, it would be helpful to improve information about these issues in general and, in particular, to better understand the mechanisms behind the provision of multiple outputs (such as the degree of jointness, economies of scope or household behaviour in terms of provision), and to know more about societal demand and its determinants.

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Strengthened cross-sectoral linkages between forestry policies and other national policies

Roger A. Sedjo

It is well recognized that there are cross-sectoral linkages among the various sectors of the economy. This brief paper suggests ways to better understand these linkages and their likely nature and strength, with a focus on the forestry sector. This paper also delivers a warning that unintended consequences of certain policies are often the result of strong cross-sectoral or cross-country linkages, often driven directly or indirectly by markets.

Intersectoral Linkages as described in Input-Output Models

It appears obvious that the nature and strength of the cross-sectoral linkages between forests and the several nonforest sectors will vary considerably depending upon the specific nonforestry sector under consideration.

In terms of the production relationships, the input-output approach used by economists can provide an indication for the extent of interrelatedness among the sectors. In the input-output context outputs of the various sectors are traced to either final consumption or as inputs (or intermediate inputs) into other sectors. In the case of raw forest resources, almost all of the wood production would find its way into one of the various processing sectors. Where one sector provides large inputs flows to another sector, one would expect the market cross-linkages to be substantial, where the inputs flows to another sector are small, one would expect the market cross-linkages to be modest. An exception could exist where inputs from one sector are important to another sector, but only after they have passed through, i.e., been processed in a third intervening sector.

In forestry, one would expect the market linkages to be substantial between the forestry sector and, e.g., the lumber industry or the pulp and paper industry. The linkages might be strong, but indirect between forestry and the newspaper industry.

These basic economic linkages probably provide clues as to the relationship between policies in forestry and other sectoral or national policies. In the US, for example, the both the home building and the newspaper industries have a direct interest in forest policies. Policies that reduce wood construction materials availability will affect housing and housing costs. This can carry over to international trade policy. Thus, for example, the tariffs imposed by the US on Canadian softwood lumber exports have been greeted negatively by the US housing industry.

Also, and somewhat surprisingly, the US newspaper industry has a keen interest in forest policy. Reacting to criticism among newspaper consumers of the damage done to forests by logging, some of which is undertaken to provide newsprint, the newspaper industry has been a supporter of various forest certification schemes.

Nonmarket Policy Impacts Transferred Through Markets

Many policies, however, do not work directly through markets. Nevertheless, many of them will have market implications, which may be predicted by looking at market interactions as reflected in input-output models.

Again, drawing from the experience in the US, these may act through consumption levels directly or indirectly via impacts on markets. For example, the policy of the US government to reduce harvests from the national forests for environmental purposes, generated both intended and unintended consequences on the sector and on other sectors. The initial response was to drive up wood prices in the US. Subsequently, however, price rises were moderated through increased imports, largely from Canada. In addition, the higher prices provided incentives for increased harvests elsewhere in the US. Ultimately, the new sources of supply provided downward pressure on wood prices.

Another interesting question is the extent to which policies, such as set-asides, ultimately reduce harvests. The partial set-aside of the US National Forest System, at best, reduced harvests only slightly over the longer term. It did, however, substantially reallocate harvests out of the national forests and onto Canadian and southern US forests. It is the interaction between the various regional forest sectors that creates this outcome. Thus, as is well known, a policy to promote (or retard) an industry in one country typically has “spill-over” effects elsewhere by changing the relative competitiveness of the various producing countries and thereby often affecting the distribution of production more than the aggregate level.

The force transferring the effects of policies on one sector to the performance of other sectors is typically the market. To some degree markets can be insulated. However, this typically involves trade restrictions between countries and perhaps regions. For the last 50 years the tendency has been toward freer more open trade. The rationale for this tendency is found largely in the belief, and evidence, that freer trade is typically associated with improved consumer and country welfare. Thus, intersectoral and interregional impacts should be viewed as the norm, rather than as an unexpected aberration.

Of course, the set-aside may be undertaken for a specific purpose. Suppose it is to improve water flows. In this case the water flow benefits associated with the set-aside are likely to be positive, even if nonmarketed. However, increased harvests elsewhere could offset some of this gain in the global context. Similar arguments could be made for forest protection for biodiversity preservation. Again, the impact of a policy are likely to be felt far beyond that sector and often may have unintended negative consequences outside of the sector of direct application.

Why Policy Sectors?

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Emile Durkheim (1949) in his seminal work, The Division of Labour, distinguished "organic" from "mechanical" solidarity as patterns of social organization based upon the degree of autonomy of individuals from the collective. Whereas "organic" solidarity required consciously planned coordination of autonomous individuals through social roles, structures and functions, "mechanical" solidarity rested on the lack of differentiation of individuals from the collective consciousness so as to be fully integrated by the community. Durkheim's observations at the turn of the 19th century addressed the problem of why individuals could become more autonomous from one another and society and yet society remain capable of collective action. He concluded that the division of labour created an "organic" solidarity as different parts of society functioned as a whole "organism." He focused on how law reflected the type of solidarity in a society, and thus organic solidarity led to "restitutive" law in which society legitimated and supported individual agreements or sanctions.

Durkheim's observations also help explain the social basis for policy control over different social functions through the creation of semi-autonomous structures – policy sectors. Administrative, managerial, political and scientific control was created through differentiation of social functions into separate social organizations and institutions. As society differentiated into numerous specialized organizations, political actors organized into associations of interests in order to shape, influence, and control policy and management choices.

Differentiation of social functions led, however, to increased simplification of policy and practice. Farming or forestry, for example, shifted towards simple "profit and production" objectives. Thus, the activity itself was simplified by being dissociated from its broader contributions to social livelihoods and well-being. In addition, the limits on the kind of knowledge – scientific and technical information about growth and profit – simplified the connection to local knowledge.

"The simple "production and profit" model of agricultural extension and agricultural research has failed in important ways to represent the complex, supple, negotiated objectives of real farmers and their communities. That model has also failed to represent the space in which farmers plant crops – its microclimates, its moisture and water movements, its microrelief, and its local biotic history" (Scott 1998: 262.)

This simplification in forestry is a well-known story. Forests became viewed as "tree farms" with crops harvested when mature. Forests, like crops, were often planted in monocultures to maximize the production of profitable species and reduce the influence of extraneous factors, like other plant and animal species. Nature had to be controlled in order to ensure maximum production of desired species. Indeed, as we know, most

forestry research focuses on the growth and yield of tree species under different, controlled, conditions.

However, the efforts to simplify forests through forestry meant that many factors were ignored or eliminated. Only later did their importance become clear as productivity declined sometimes or species once abundant disappeared. These "externalities" in economic terms became very important when long-term consequences of forestry grew ever more evident in terms of declining soil structure, water quantity and quality, species decline, and biodiversity reduction. Thus, by not recognizing the importance of knowledge outside the narrow confines of "growth and yield", forestry has been severely limited in its ability to incorporate knowledge created outside this model of production and profit.

Policy sectors are not only semi-autonomous, they are also highly permeable and fluid! Policy conflicts and debates of the last century challenged the autonomy and participation of many policy sectors, but especially forestry. The effects of the "externalities" created by simple forestry on society and nature were profound and mattered a great deal to people. As a result, new political interest groups emerged – the environmental movement – in the 1960s which insisted that forestry and other industrial processes with significant environmental effects become accountable for these affects and reduce them to the lowest level possible. And, if reduction or elimination of negative effects was not possible, then the activity should cease as its long term cost to society was much greater than any short term benefit.

So, why policy sectors? To exercise social control. However, the greater the autonomy of a policy sector, the greater the simplification of knowledge and the fewer the factors considered in management and decision making. Thus, the stronger and less permeable a policy sector, the more likely externalities will lead to a crisis rather than natural adaptation of practice. This means that the forestry sector is likely to have more negative impacts on other aspects of social life and the natural world the more insulated it is from other actors, organizations, knowledge, and communication.

It is not surprising that the policy imperative of recent years has been "integration" and "cross-sectoral" policy coordination. What is not clear is whether the policy sectors remain semi-autonomous in an integration model or if a new form of social structure based on principles of integration is necessary. In a model of coordination, it seems likely that the sectors remain distinct, but with reduced autonomy and greater permeability. What is clear is that as Durkheim observed two centuries ago, the greater the autonomy of the individual from the collective, the greater the need for systemic means of coordination and integration into an "organic" whole.

Understanding Policy Integration and Coordination

The European Union COST Action E-19 – "National Forest Programmes in a European Context" – focused on processes of intersectoral policy processes in its April

2002 meetings in Savonlinna, Finland. The following ideas come from Working Group 1 which addressed the basic notion of intersectoral policy dynamics.

Defining Policy Sectors

First, we defined policy sectors in a very broad way: "Policy Sectors: those actors from a variety of public and private organizations who are actively concerned with a policy problem or issue." This definition tries to capture the openness and fluidity of the concept. Secondly, we distinguished two, quite different, approaches for defining a policy sector. Institutional in which formal governmental jurisdictions and agencies are the basis for artificially defining sectors. This approach is pragmatic, useful, and familiar. However, an institutional approach treats policy sectors as fairly stable associations of interests, actors, organizations, and knowledge. Thus, this perspective seldom reveals the dynamics of change.

The second approach to defining policy sectors is constructivist. In this approach, the boundaries of a policy sector are defined by the actors. Thus, there are always multiple boundaries since they are personal, based on concepts of territory, information, and conflict. This perspective points to the importance of the quality of the boundaries of a policy sector and the degree of permeability to new knowledge as well as new actors. By understanding policy sectors as created through social communication and action, the processes of change as well as stability can be understood.

Neither of these approaches to defining policy is sufficient by itself. Rather, both are useful in that the institutional approach is commonly used to categorize areas of public policy and the constructivist approach focuses attention on the social dynamics of change and negotiation.

Both approaches help understand policy sectors at different governance levels and geographic and political scales. In order to clarify terms, COST E-19 Working Group 1 developed the following graphic representation. However, the following figure is largely based on an institutional approach to defining policy sectors.

Governance Level	Policy Sectors				
	Sector A	Sector B	Sector C	Sector D	
Global					Horizontal Intersectoral Coordination
Inter-continental					
Europe					
Nations					
Regional					
Local					Inter-sectoral Multi-Level Coordination
	Intra-Sectoral Coordination				

Figure 1: Defining Types of Policy Sector Coordination

Thus, we also created a figure to represent policy sector coordination as interactive communication networks. This figure also includes scale and governance level, but reduces them to simply vertical and horizontal levels of organization.

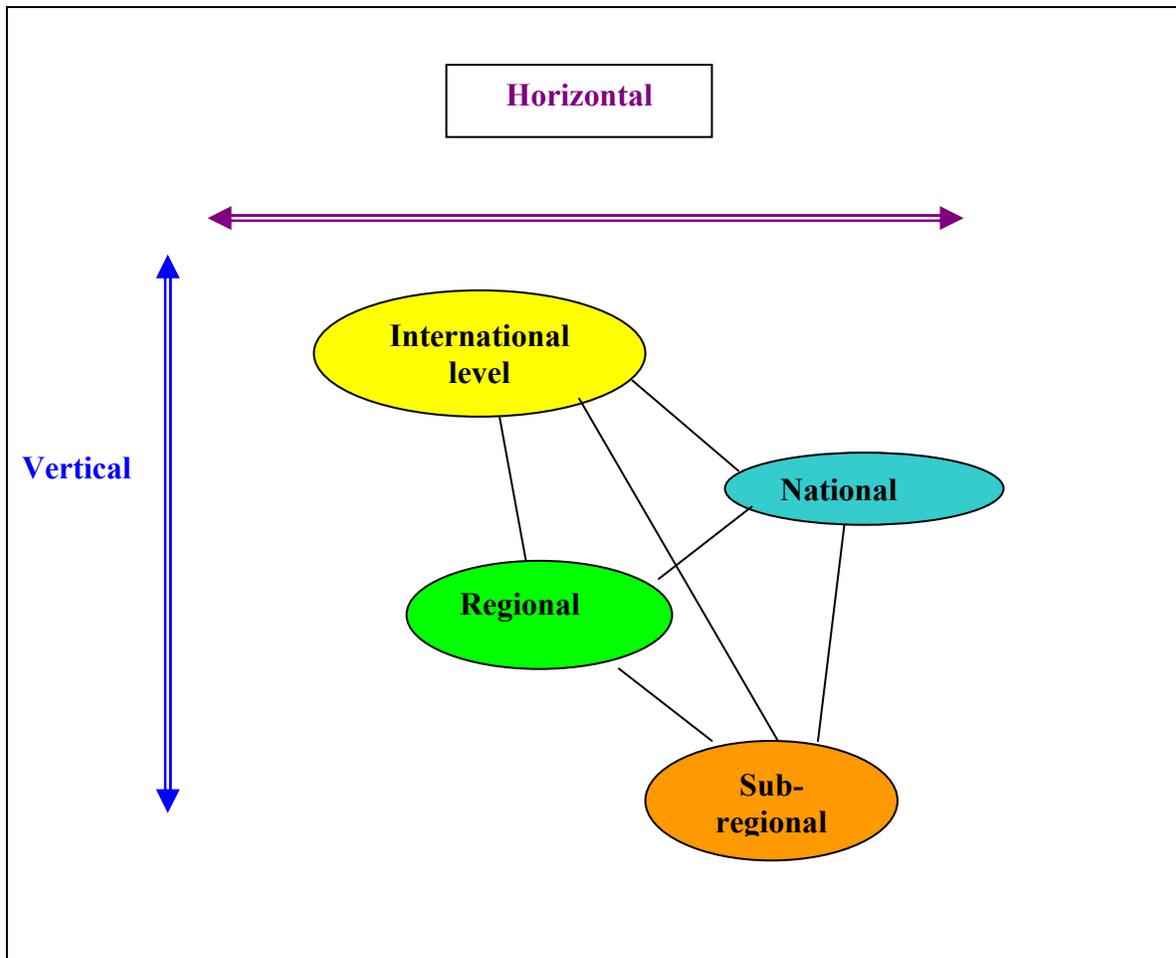


Figure 2: Communicative Model of Intersectoral Coordination

Why is Intersectoral Coordination Necessary in Forestry?

Several reasons were identified by Working Group 1:

- Need for a new image of forestry
- Survival of the forestry sector
- Transition of forestry and society
- Optimizing benefits of forestry for society
- Joint production of forest services
- Dynamic relationship of forests and society
- Learning from other sectors in order to integrate new knowledge
- Importance of the capacity to act not simply react to external demands

However, we also identified several conditions that we believed were necessary for intersectoral coordination to occur and be effective.

- Active distribution and demand of knowledge on common issues
- Building of knowledge and institutional capital
- Common understanding
- Common diagnostics = agree on common issue to be tackled/definition of problem
- Common language
- Empowerment of disadvantaged groups
- Multi-level approaches to coordination in place
- Institutionalization of actors-networks
- Allocation of resources and motivation
- Definition of stakeholders and institutional boundaries
- Mechanisms for equal (fair and balanced) participation

Clearly, our observations fit well with Durkheim's hypotheses of how organic solidarity can create both a strong collective capacity to act as well as strong individual identities of actors and organizations.

From these initial ideas regarding the types and conditions of policy sector coordination, our working group then developed a series of propositions based both on empirical observations and theoretical explanations. This list follows and hopefully will be useful in prompting new ideas and understanding.

Propositions regarding intersectoral policy coordination

- Formal jurisdiction or competency means that a policy formulation process is "authorized" at a specific government level. (Theoretical)
 - However, in reality the levels are artificial and participation can come from any level and relevant policy sectors related to the issue. (Empirical)
- Influential actors tend to come from the level with implementation responsibility. (Empirical)
- When there is a strong institutional – rules, organizations, procedures, and ways of behaving – infrastructure, then policy sectors tend to be clearly defined. (Theoretical)
 - This means that participation is important in spanning boundaries
- When there is a weak institutional infrastructure, then policy sectors are defined more by actors. (Theoretical)

- This means that participation is important in defining who are the relevant actors.
- In order to promote intersectoral coordination, one must use or create intersectoral institutions. (Empirical)
- Coordination should start at the earliest policy stage in the policy cycle. (Empirical)
- Each partner involved in a coordination should have a clear mandate (Empirical)
 - All involved administrative institutions have to be aware of that mandate (Empirical)
- Results of the coordination process depends on quality of information (Empirical)
- A coordination process should aim at a common understanding of the issues you're talking about. (Theoretical)
- Stakeholders need to be activated through the media, participation, personal contacts and will need to be supported in order to be proactive in policy processes. (Empirical)
- Pro-active attitudes arise through recognition of other actors, positions, goals, and consequences and the opportunity for interaction with other actors. Thus, constructive conflict occurs in discussions of competing and complementary goals. (Theoretical)

Conclusions

Durkheim provides a useful vantage point from which to consider the definitions and propositions developed by our COST Action E-19 working group. The seeming impossibility that lead to his question of how individuals could develop strong, separate identities and yet society could also remain a strong remains. As policy sectors become more clearly defined, their capacity for integration and coordination can grow. However, just as with individuals this growth occurs in direct proportion to their capacity to learn and adapt to new conditions.

Thus, perhaps an important question to consider in understanding the impacts of other policy sectors on forestry is to examine the ability of the forestry sector to listen, interpret, learn, and respond to them. If an individual becomes alienated from society, then suicide is much more likely (also from Durkheim's study of suicide). Thus, we might posit that the more a policy sector becomes "deaf" to society, the more likely its roles and functions are to become irrelevant to society and redefined by new actors and organizations.

Policy sectoral coordination is clearly a process of communication, learning, adaptation and change. When a policy sector is heavily identified with narrow objectives and narrowly constrained forms of knowledge, coordination is greatly restricted. Thus, just as for society, the more a policy sector is strengthened through connections to society, the greater its capacity for autonomy and self-organization.

Cross-Sector Linkages in Mexico Forestry with Special Reference to the State of Chihuahua

Victor Sosa

Main Aspects

A case study of Mexico is presented with special reference to the state of Chihuahua, one of the main forest states, with a surface area of seven million hectares of temperate forests. The study deals with the influence of other sector's public policies in the forest sector and vice versa.

Main findings and conclusions of the study are:

- The impact of the public policies in the forest sector varies considerably in Mexico, depending on the type of forest ecosystem (temperate, tropical, arid), and on the socioeconomic conditions (population's density, per capita income, etc.). For example, the deforestation rate in the state of Chihuahua is lower than the national average and most of the other states, due mainly to the fact that its soils in the forest area are not, in general, suitable for agriculture and cattle raising activities, and because population's density is low.
- The main problems derived from the impact of public policies in Mexico's forest sector are: high deforestation rates and levels of forest degradation; water supply and quality problems; soil erosion; as well as poverty prevailing amongst the ethnic groups and inhabitants of the forest areas. The effects of these factors differ when compared at a national level and the state of Chihuahua. The above-mentioned factors demand substantial improvement of the inter-sectoral coordination.
- Plans for development exist at a national and state level. There are also specific national and state medium and long term Forestry Sectoral Programs. However, there is a lack of integration amongst the different sectoral programs and with those of the state level, and a great need of more appropriate administrative structures and the necessary resources for the realization of these programs.
- It is common to find different perceptions between the federal government and the state governments regarding the government's role in this matter (i.e. decentralization), the role forest resources play, and on the type and characteristics of the different policy instruments (subsidies, infrastructure development, trade, land tenure, etc.).
- Regarding the analysis of the influence public policies have over the forest sector, it is very important to differentiate the positive or negative impact recorded in the

past, and the impact these will have in the future, at the short, medium and long term.

- The results of this analysis show, in general terms, that the sectoral public policies have had a negative impact on the forestry sector in Mexico. The policies with probably the highest negative impact on the sector were found to be: a) Policies establishing an institutional framework (public expenditure, trade, land tenure, rural development and social development); b) Policies for specific economic sectors (agriculture and cattle raising), positive changes in public expenditure, trade and water management have been observed and these are expected to continue for the future.
- The public policies that have had a positive impact are: privatization, civil protection (prevention and fighting of forest fires), environment, education and science and technology. From 1997, the public expenditure and the incentives to foster sustainable management of natural forests and development of commercial plantations has increased substantially, this will subsequently result in a series of benefits for the forest sector and other sectors.
- Understanding of both the participants in the forest sector (producers, forest industry, institutions, etc.) and people and external groups to the forestry sector, on the topic of this case study it is very low. The widespread perception is that the problems of the sector are originated for the own policies defined inside the forestry sector and not for other external factors. This is clearly reflected in the very low response rate obtained for our questionnaire.
- Regarding the impact the forest sector policies have had over other sectors, in most cases, have also been negative and most positive effects are mainly related to employment and revenue generated by forest production. In the future, for the medium and long term, forest sectoral programs' objectives and goals are expected to have a positive impact on other sectors.
- In Mexico there are several laws directly related to the forest sector. The main ones being: Forest Law; Environmental Law; Agrarian Law and the Wildlife Law. This legal frame is quite complex and sometimes even objectives and norms are contradictory, such would be the case of regulations for environmental impact and non-wood products.
- On the other hand, the federal government's administrative structure concentrates legal powers and these are allocated to diverse institutions. Development is located in the National Forest Commission, environmental and forest regulations in the Secretariat of Environment and Natural Resources; surveillance of the execution of the forest and environmental regulations at the Environmental Attorney's office, whereas, the forest protected natural areas are handled at another Commission. Forest related research at dependent Institute of the Secretariat of Agriculture. The administrative forest structure in the Chihuahua's

state government is very reduced and lacking of resources, as well as of legal attributions in forest matters, although from a wood production point of view, it is the most important forest state in the country. All of these hinders the coordination of intra and inter sectoral public policies.

- Regarding mechanisms for public policies' coordination there are several mechanisms in the forest sector that have produced good results, although these have been mainly for the intra-sectoral area. At a national level, there is the National Consultative Forest Technical Council and an equivalent organism exists at a state level, supported by the Chihuahua Forest Trust and the Chihuahua Model Forest. For the inter sectoral coordination, new and recent mechanisms are being developed, such as the Presidential Coordination Commissions and the National Forest Commission Government's Board, in which several federal Secretariats participate.

Improvement Options

The main improvement actions recommended are:

- Review and adapt the regulatory scheme directly related to the forestry sector, update it and make it compatible with the objectives defined in the medium and long term forest programs, and eliminate contradictions among laws.
- Integrate the federal forest administration in a single organism that groups the currently dispersed functions, with a higher level of specialized professionals. Decentralize most of the operational responsibilities to state governments. Promote the creation of highly integrated forest services in the main forest states as Chihuahua.
- Direct the required resources for reaching the goals defined in the federal and state forest programs.
- Maintain and strengthen the existing mechanisms for intra sectoral coordination.
- Develop the newly created mechanisms for inter sectoral coordination (Presidential Commissions and the National Forest Commission Government's Board) in order to achieve better coordination of the policies in relation to the content and actions of the programs . For example, in the subsidies granted to the agricultural sector, so that these do not have a negative impact on the forest resources.
- Increase Mexico's participation in the different international forums and initiatives, such as the United Nations Forum on Forests UNFF and the Montreal Process, in order to achieve an appropriate link between Mexico's forest policies and international policies. In the past there have been problems such as non-

specialized representation, incoherent positions regarding the established policies and forest programs, changing representatives, etc.

Priorities for future Actions

- Have the FAO debrief state governments on the main conclusions and recommendations on the matter that resulted from the analyses performed on the different countries and conditions.
- Disclose, analyze and improve Mexico's case study between the main participants of the forest and related sectors.
- Conduct in-depth studies based on quantitative indicators to demonstrate the effects other sectoral public policies have on the forest sector in order to achieve a better inter-sectoral and intra-sectoral coordination.
- Introduce the subject in discussions and recommendations at the international forums and meetings for the forest sector.
- Promote the consideration of this matter in the integration and execution of the different national forest programs.

Cross-sector Policy Impacts in Forestry - Chinese Experiences

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Impact of policy change in other sectors on forestry in China

Agricultural reform

China's agricultural reform started in 1978, when government gradually loose control over agricultural production. The most important reform was the rural household production responsibility system (HRS) installed late 1970s and early 1980s. The reform gave farmers' right to utilize the land for individual benefit. Agriculture sector started dramatic growth since then. This reform was spill-overed to China's collective forest areas. The collective forest areas often overlap with agricultural areas, where farmers cultivate land for crop production as well as for tree growth. In early 1980s, due to the influence of the HRS, a policy called "forestry three fix" was approved by the central government and was implemented in the collective forest areas, mostly in southern China. This reform gave the rural household status as independent producer and manager of the forest resources. Household gained use right over the collectively owned forestland. Due to the reform, plantation projects became much more successful in the collective forest area for the last two decades than the three decades before.

Market liberalization

China used to put food security as number one priority in its economic policy. This policy, nevertheless, was only applied to staple food, considered critical for the objective of the policy. Government provided investment and protection price to promote staple food production and also maintain certain level of market control over the products. Other productions, such as those of vegetable, aquaculture, orchard, etc, were liberalized early and marketing for the products have been rather free. This policy skewness, not only boosted the production of these less regulated products, but also had major impact on land use pattern, which affected forestland use. Forestland was converted to crop production, under the favourable policy toward food production, and to orchard due to less market regulation. Due to the fact that timber production has been heavily regulated by harvesting quota and procurement monopsony, forest producers tend to do away with timber reproduction. Consequently, reforestation was very unsuccessful and lots of former timber forestland was either degraded or converted to cropland or orchard land.

Agricultural policy shift

In the process of China's accession into WTO, national leaders started re-thinking of China's agricultural policy. Production of many important staple feed will face increased competition and will decline. A pro-active policy was put forward by the national leaders, namely, conversion of steep cropland back to forests and grasslands. The government provides subsidy in form of food, cash and seed and seedlings to make farmers give up their crop production and grow trees and grasses. This policy was one of

the important components in the newly launched western China development plan, with profound impact on its agricultural structure and forest ecology.

Negative Impact from other sectors

Timber producers in China face severe taxes on their timber sales. Imbalance between regulations in forest sector and others is considered critical reason for the heavy charges. First of all, current fiscal system in China calls for heavy taxes over marketed goods. Second, regulation in timber production is very strict. To enforce the regulations, such as harvesting quota, forest sector has to maintain a large enforcement force. On the other side, production of many non-staple feed has been liberalized. Taxation on these production is relatively difficult and of high cost. Levying more taxes on timber sales maybe a low cost solution for the local finance.

Impact of Forest policy change on other sectors in China

Logging ban

The logging ban was imposed in 1998, on state owned natural forests throughout southwest and northeast China. The logging ban was necessary to rehabilitating the much-degraded natural forests, but is causing severe social economic consequences in the communities surrounding the forests under logging ban. In most of the regions affected by logging ban, forest sector was the most important source of revenue and local financial income. The economic cost of the affected enterprises and local finance has been compensated by central government. The loss induced to the local communities, which build their livings around forest resources, however, was largely ignored, causing significant social welfare damage.

Forest plantation and carbon sequestration:

China has the world largest and probably most successful forest plantation projects. These projects are designed to address issues such as soil erosion. The plantation projects, however, has the potential to become important carbon sink, contributing to the international effort in mitigating the impact of global climate change. The policy of promoting large-scale plantation in China creates unintended benefit to the nation in carbon sequestration. It might be used to offset China's future responsibility to reducing greenhouse gas emission, reducing the cost of industrial sectors in emission control. It might also be used to attract international investment in China's plantation projects, which might serve to alleviate China's financial pressure in forest development, and also enhance the profitability of forest investment for Chinese forest producers, good for China's environment and the mission of poverty alleviation in the mountainous areas.