

FOWECA
Forestry Outlook Study for Western and Central Asia

FORESTRY OUTLOOK STUDY FOR TURKEY
Towards the 100th Anniversary of the Republic of Turkey

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CONTENTS

1	ABBREVIATIONS	4
2	SUMMARY	5
3	INTRODUCTION	12
4	COUNTRY SITUATION	13
4.1	PHYSICAL CONTEXT	13
4.2	DEMOGRAPHY	13
4.3	ECONOMY	14
4.4	POLITICAL AND INSTITUTIONAL CONTEXT	14
5	FORESTS AND FORESTRY – TRENDS	15
5.1	BACKGROUND	15
5.2	FOREST RESOURCES	16
5.3	FORESTRY POLICY, LEGAL AND INSTITUTIONAL FRAME	16
5.3.1	<i>Forestry Policy and Development Plans</i>	16
5.3.2	<i>Legal Frame</i>	18
5.3.3	<i>Institutional Frame</i>	18
5.3.4	<i>Financial Frame and Economy</i>	20
5.4	FORESTRY ACTIVITIES	21
5.4.1	<i>Protection of Forests</i>	21
5.4.2	<i>Protected Areas and National Parks</i>	22
5.4.3	<i>Forest Management Planning</i>	23
5.4.4	<i>Silviculture</i>	24
5.4.5	<i>Production and marketing</i>	24
5.4.6	<i>Aforestation and Erosion Control</i>	26
5.4.7	<i>Forest Village Relations</i>	27
6	DRIVING FORCES – KEY FACTORS	28
6.1	DEMOGRAPHIC CHANGES	29
6.2	SOCIO ECONOMIC CHANGES	30
6.3	POLITICAL AND INSTITUTIONAL CHANGES	31
6.4	TECHNOLOGICAL CHANGES	32
6.5	ENVIRONMENTAL CHANGES	33
7	FUTURE SCENARIOS	33
7.1	THE EVALUATION OF THE SURVEY	33
7.2	SCENARIO NO 1: PRESENT TREND	34
7.3	SCENARIO NO 2: DOWN TREND	35
7.4	SCENARIO NO 3: UP TREND	36
7.5	ANALYSIS OF THE SCENARIOS	37
8	PRIORITIES AND STRATEGIES TOWARDS 2023	38
8.1	PRIORITIES BY CONTEXT	38
8.2	STRATEGY TOWARDS 2023	39
8.2.1	<i>The aim of the strategy</i>	39
8.2.2	<i>The vision</i>	39
8.2.3	<i>The objectives and goals:</i>	39
8.2.4	<i>The Action</i>	42
9	CONCLUSION	43
10	ANNEXES	45
10.1	ANNEX 1 WORK PROGRAMME	45
10.2	ANNEX 2 MEMBERS OF CORE WORKING GROUP	46

10.3	ANNEX 3 MEMBERS OF EXPANDED WORKING GROUP	47
10.4	ANNEX 4 SOCIAL AND ECONOMIC INDICATORS	48
10.5	ANNEX 5 OUTLOOK SURVEY RESULTS	49
10.6	ANNEX 6 FOREST RESOURCES	53
10.7	ANNEX 7 ORGANIZATION STRUCTURE OF MEF	54
10.8	ANNEX 8 ORGANIZATION STRUCTURE OF GDF	56
10.9	ANNEX 9 FOREST FIRES & OFFENCES	57
10.10	ANNEX 10 PESTS IN FORESTS OF TURKEY	58
10.11	ANNEX 11 SILVICULTURAL PRACTISES	59
10.12	ANNEX 12 WOOD PRODUCTION.....	60
10.13	ANNEX 13 GDF REVOLVING BUDGET	61
10.14	ANNEX 14 NON WOOD FOREST PRODUCTS	62
10.15	ANNEX 15 FORESTRY IN THE CONSTITUTION AND FOREST ACT	63
10.16	ANNEX 16 WOOD HARVESTING SYSTEM AND PRODUCTION COST	65
10.17	ANNEX 17 FORESTRY SECTOR REVIEW – EXECUTIVE SUMMARY.....	66
10.18	ANNEX 18 CADASTRE AND OWNERSHIP CONFLICTS	75
10.19	ANNEX 18 FOREST RELATED INTERNATIONAL COMMITMENTS	77
11	REFERENCES	78

1 ABBREVIATIONS

Alphabetical order

AGM	Aforestation and Erosion Control General Directorate
CWG	Core Working Group for Forestry Outlook Study in Turkey
DHKV	Foundation for Protection of Natural Life
EWG	Expanded Working Group for Forestry Outlook Study in Turkey
FMP	Forest Management Plan
FOWECA	Forest Outlook Study for Western and Central Asia
FOWL	Forest and Other Wooded Land
FRA	Forest Resource Assessment
GDF	General Directorate of Forestry
GOP	Global Overlay Program
IPF/IFF	UN Intergovernmental Panel on Forests / Intergovernmental Forum on Forests
MCPFE	Ministerial Conference on the Protection of Forests in Europe
MEF	Ministry of Environment and Forestry
NFP	National Forest Program
NGO	Non Governmental Organization
ORKOOP	Forest Villages Cooperation Association
ORKOY	Forest-Village Relations General Directorate
OWL	Other Wooded Land
SPO	State Planning Organization
TEMA	Foundation for Combating Erosion and Aforestation in Turkey
TGNA	Turkey Great National Assembly
TOBB	Turkish Chambers of Commerce
TOD	Turkey Foresters Community
TTKD	Foundation for Turkey's Nature Protection
UNFF	United Nations Forum on Forestry

2 SUMMARY

Turkey is a mountainous country with regional climatic differences. The total area is 779.452 Km² of which 6500 Km² occupied by inland waters. The population reached 71 million with 91 people per Km². The population growth is in a down trend but it is still high when compared to OECD countries. The migration from rural to urban is a long standing phenomenon; two thirds of the people live in big cities.

GDP amounts to 207 billion \$ (3383 \$ per capita). Agriculture, forestry and fishing account to 16 % of the GDP. Despite the interruptions caused by economic crises along the way, Turkey is proved to be the second strongest growing country in OECD for the last twenty years. The recent figures depict improvement in economy, however fragile for some economists.

Turkey is run by parliamentary democracy, and legislative power is vested in the Turkish Grand National Assembly (TGNA). State administrative system is based on ministries and their main, connected and related units. Ministries and their main units are primarily in charge of public services that usually directed to individuals. Connected and related units have connection or relation with the respective ministries, they have separate budgets and revenues, separate organic laws and most of them are “Public Legal Entities” that is separate from “State Legal Entity”.

The administration of forest affairs is a good example of this system. Ministry of Environment and Forestry (MEF) has main service units in charge of national parks, protected areas, forest villages, plantation, erosion control, range improvement, seedling production, environment management, environmental impact assessment. The MEF also has three connected units: The General Directorate of Forestry (GDF) is in charge of management of forests; State Meteorology Affairs; and Specific Environment Management which is in charge of managing 16 specific protected areas.

The first organization of forestry extends back to 1839; the first forest decree of the Republic of Turkey enacted in 1924 and the present Forest Law (No 6831) has been in effect since 1956. All forests were nationalized in 1945 and soon after the country entered to multi-party political system, forests were restituted to their former owners. The majority of the foresters connect the biggest problem of the Turkish forestry, “cadastre and ownership conflicts”, to these legal instability.

The last figures show that there is 21.056.443 hectares of forest in Turkey. There is an increase of 857.147 ha when compared the first regular inventories done between 1963-1972. Forests are generally located on mountainous areas and they are generally semi-natural with high biodiversity value. The country has 9000 plant species of which 3000 is endemic. Most of these plants are located in forest areas. Deciduous forests are prevalent and relatively uninterrupted at moderate elevations along northern Turkey. Coniferous forests, depending on the species and locations, are found at varying altitudes from sea level to the timber line.

The Forestry Policies in Turkey have been protection of forest areas, sustainable provision of industrial and fuel wood to meet the domestic demand, provision of non-wood products, rehabilitation and reclamation of degraded forest areas, establishing and expanding national parks and protected areas, protecting wild-life, providing social services such as recreation, hunting etc. and also contributing to the rural economy to decrease their pressure on forests.

The last National Development Plan highlights ecosystem approach for forestry under five principles which are 1) sustainability 2) multi-use 3) participation 4) protection of biodiversity and 5) contribution to the development and stabilization of community.

During the course of IPF/IFF, the first serious study “Forestry Sector Review” was realized in cooperation with the World Bank. The Final Report (2001) concentrated on poverty in forest areas, ownership disputes, participatory forest management planning, soil erosion, reclamation of degraded forest areas, the sector’s financial viability, and it provided a vision for forests in Turkey. The process to prepare the National Forestry Program, on the other hand, started in 2001 with the assistance of FAO. The Program approved by the MEF.

The Forestry in Turkey has deep rooted institutions. Cross sectoral relations have been in a better trend recently. Civil societies are growing more effectively. Among others, the biggest stakeholder “Forest Villagers Cooperative” is the most effective one. The non-profit organizations are strengthening their positions and taking role almost in each forestry event. Forestry faculties are also important elements of the forestry’s institutional structure. Finally the forest industry is getting stronger and participating in forest related issues. It is very clear that civil societies will play very effective role in shaping the forestry in the next 20 years.

The share of the forestry sector in GNP is 1.8 %, but this is accepted not to include most of the values provided by the forests. According to the GOP study on the value of non wood forest products and services, forests in Turkey yields a total of 3.400.000.000 US\$ per year.

Forestry activities are financed from the Treasury, wood sales, funds, other revenues such as fees, rentals and sales of non wood forest products. In general 45-48 % of the total budget is met from the Treasury and the remaining from the sales and other revenues. Forest revenues are likely to grow in the next 20 years because of the anticipated capacity growth in the chip and fibre industry, new legal arrangement that adds new revenues form hunting, improved management of NWFPs, and valuation of land that has been excluded from forest status.

Turkish forestry has been very successful in combating forest fires. People’s sensitivity against forest fires has played an important role in this success. Most of the fires are human caused such as ignorance. With a comprehensive awareness building and training program, it is believed that the number of forest fires will decrease in the Future. Same can be said for forest offences which are at high scores today. Decrease in the rural population and growing awareness of people have brought the offences into down-trend. Pest and diseases, however, are continuing to be an important concern for foresters; particularly the growing adverse environmental changes are thought to worsen the problem.

The protected areas of different kinds constitute 23 % of the total forest area with 5 million hectares. But around 3.8 million of this land is protected because they were found vulnerable to any kind of production activity. Upon rehabilitation some of these forests might be opened to regular forestry activities in the Future. Still there is a growing trend in the area of protected forest areas.

Forest management planning system is a very prestigious discipline in Turkish forestry. All forests have to be managed according to management plans. Since the first management plan in 1917, the planning system has evolved in terms of techniques used. After a long period of forest management plans practices which are wood production oriented, GDF has declared to initiate functional planning. The prime constraints are know-how to integrate and balance different functions of forests in a plan and different forest organizations that operate on different forest units with separate plans.

Participation in planning process has not caught the desired level. Although forest management teams consult to local dwellers, administrations, cooperatives and other related stake holders,

this is not done in a regular and formal manner. The experience in a GEF project is expected to contribute to the establishment of participatory mechanisms in planning as well as other processes.

Each year around 25.000 ha of forests are regenerated both naturally and artificially, and around 250.000 ha of forests are tended. Rehabilitation of degraded forests, conversion of coppices into high forests, establishment of energy forests, pruning are the silvicultural activities that gained impetus recently.

The GDF produces around 13,2 million m³ round wood each year. (7-7.5 million m³ industrial and 7-8 million steres fuel-wood . This production meets about 75 % of the domestic round wood consumption. Private forests and agricultural land provide 3.3 million m³ industrial wood and of 1.9 million steres fuel-wood to market. The remaining demand is met from imports.

The production trend signals a stable curve with a slight increase in 20 years, the increase will mainly be in chip & fibre wood and paper wood. Fuel-wood production is expected to decrease while wood production for energy purposes may increase.

GDF used to be a monopoly in wood market before 1990. Accession to the Custom Union led to increased imports and consequent drops in the wood prices. The situation was aggravated by a recession in the economy, and then by economic crises both national and international. From 1999 and then on, GDF has taken tough austerity measures to reduce the production cost. The deficit was narrowed at the beginning of the Century and with the improvement in the market prices and increase in demand for round wood, budget surpluses were achieved in 2002, 2003 and 2004.

Some of the wood sales are made through allocations, State Economic Enterprises and some of the private paper, chip and fibre companies are obtaining their needs through the allocations. Sale prices are decided by GDF taking into consideration the latest averages of auction sale prices.

Subsidized sales are also affect the market. GDF sells 150.000 m³ timber and around 4 million steres of fuel wood to forest villagers at very low prices each year. It also sells around 400.000 m³ timber and 2.2 million steres fuel woods to villagers and ORKOOOP at cost price.

Forestry Industry is almost completely controlled by private sector. The industry has flourished in the last 4-5 years, particularly MDF, OSB producers have realized great developments by multiplying their production capacity (recent figures are 3 million m³ MDF and 2 million m³ fibre board, all together around 7-8 million m³). They all modernized their technology reaching to the level of state-of-art enterprises able to compete in world markets. The use of the capacity is quite high and most of the products are exported. Many of these companies are now in joint ventures with their European Partners.

The general thought is that the forestry industry will even more develop in the near future and will spread to neighboring countries where wood prices are more favorable. But still the domestic demand will stay higher than domestic supply.

Turkey is considered rich in terms of NWFPs. Many tree, shrub and herbaceous plant species naturally grow in the Country. Most of the NWFPs are collected by forest villagers at low prices (Tariff price). Permission and amount to be collected decided by GDF while endangered plant species are protected to sustain the biological and genetic diversity. Some essential non-wood products are resin, storax, leaves of *Laurus nobilis* L, *Eucalyptus* sp, *Thymus* sp, etc, fruits of *Quercus ithaburensis* Decne, *Rhus* L., *Cerasus mahaleb* L, *Pistacia terebintus* L, *Pinus pinea* L etc, incense, bark of *Pinus brutia* Ten, *Betulus* sp, corms of *Galanthus*, oak gull, mushrooms.. etc.

Since 1950 a total of 1.887.927 ha area has been afforested and 100.000 ha range has been improved. According to the studies still there is about 3.480.000 ha potential land with in the forest regime that could be reforested and another 1 million ha bare state land that can be planted. And also about 520.000 hectares of ranges need to be improved.

The MEF aims to expand afforestation activities on available lands and manages 76 nurseries all over the Country with the 200-300 million annual seedling production. According to the records, a total of 10 billion seedlings have been produced so far. 165 seed orchards and 338 seed stands are managed to produce quality seedlings.

Plantations constitutes 15 % of the total forested area and 6 % of the plantations were established by private sector. Private plantations are also among one of the priority areas of the MEF, with in the last decade a total of 46.998 ha of land allocated for private plantations.

The MEF is responsible for controlling erosion and stabilizing sand dunes. The erosion control activities has reached 542.485 hectares. And finally in 32 provinces a total of 132.000 hectares of green belt established around the cities.

Forest resources provide vital socioeconomic contributions especially for local communities, which comprise around 7-8 million people living over 20 000 forest villages. Almost all energy needs of these communities are provided at highly subsidized prices from the state forests as fuel wood. In addition, significant amount of wood volumes are illicitly cut and utilized by the forest village dwellers. Round wood needs of forest villagers are also provided at subsidized prices from the state forests. NWFPs produced from forest areas also provide some important contributions to family diet as well as cash income to household budget in forest regions. Fodder provided by free grazing and by cutting and carrying away for winter feeding is by far the most important NWFP for the forest region communities for which livestock is one of the main source of income especially in remote mountainous areas

Based on the Constitution item 170, ORKOY was founded with the aim of contributing to the economic, social and cultural development of rural people who lives within or nearby forest areas to minimize their adverse effects on forests. The contributions of ORKÖY is generally categorized as 1) donation to village legal entity 2) low interest credits for social needs 3) low interest credits to individuals for economic investments 4) training services. The average annual contribution of ORKÖY is araound 20-25 million US\$ which is far from expected amount by the forest villagers. GDF's yearly contribution, however, is around 400 million US\$ including the wages and salaries paid for employed forest villagers.

For the next 20 years it is expected that the contribution of GDF will continue at the same level. ORKOY will be downsized but the contribution of ORKOY is not thought to be less than present level which is already low. Also there are promising evidences that many innovative schemes will provide income opportunities to forest villagers such as eco-turizm. The general expectations from the EU adaptation process are also signal some opportunities for rural development.

The effect of the globalization has been very evident in Turkey for the last two decades. And the adaptation process to EU has shaped the political agenda with in the almost same period. Generally the forestry has shown the flexibility to adapt itself to fast changing conditions. But this does not free the forestry quarters from the concerns in longer run. Economic and political reforms have not lost steam and the effects of globalization is believed to be more effective in the next 20 years both negatively and positively.

The population growth and increased urbanization is thought to be continued. In 2023 the population of Turkey is estimated to be around 95 million. It is also believed that because of the

migration from rural areas, the population increase would highly be felt in the urban environs. The impact of this demographic change is commonly believed to be negative. Increasing population will increase the demand and hence the value of land in the big cities. And doubts about the law enforcement leads to the protection related concerns in various forms. The second concern is the increasing air pollution and the unsolved problem of waste disposal. Increase in the urban population, on the other hand, will be escorted by increase in the level of education, culture and awareness. This provides an opportunity for forestry.

Governments will likely invest more in rural development to reverse or at least to slow down the migration from rural to urban. New incentives will be introduced to attract people in rural areas. Incentives might cover employment opportunities, improvement of services such as education, health, infrastructure, credit schemes in agriculture etc. This will lessen the negative effects of rural people to forest resources.

Globalization will lead to competitive trade and GDF will be in a search to reduce its cost prices. At the early stages, this may cause disputes between the forestry organizations and rural people. Subsidies, cuts for various funds, high overhead expenses, social services that mandated to GDF, sale system of forest products are among the items that inflate the production cost.

Demand for forest products will increase. Urbanization and industrialization will increase the variety and quantity of forest products needed. For example, paper consumption might double in parallel to increase in population and education level. The second expectation is higher demand from construction sector for wood. Environmental concerns joined with the fear of earthquakes are slowing down the demand for wood substitutes.

Increases in education and awareness level, in the number of environmental organizations and in the public demand for green spaces, also, in the demand for ecotourism suggest a probable pressure against forest administration to spare more protected areas and reduce production. This pressure may exceed the rational and logical limits and squeeze production output sometimes unnecessarily. But it will also help in wiser management of forest resources.

17 December 2004 was an important day because EU has given a date to start negotiations with the Government of Turkey. This has steamed the works towards adaptation. The adaptation process is commonly believed to shape the near future of Turkey including the forestry sector. At the first place institutional changes are expected. Improvement in administrative bodies, elimination of overlaps of responsibilities, reforms towards decentralization, transparency, accountability have already started.

State domination in the management and supervision of forests will continue. But the participation schemes will be developed and local administrations as well as NGOs will have a stake at the decisions taken.

Development in the technologies will effectively contribute to forestry. Particularly GIS technology is developing very fast. In the next 20 years it is expected that this technology will very widely be expanded because of the reduced cost and it would effectively be used because of easy use. When combined with the developments in communication systems and INTERNET, the informational need of the stakeholders as well as public will largely be met. The consequences of this development will be marked by; awareness building, transparency, monitoring, evaluation, reporting, accountability, good governance, reduced illicit interventions. Undesired populist political interventions will be less since civil society will constitute pressure groups in favor of forestry. Forest fire combating operations will also benefit from technological developments, particularly from satellite based early warning systems. Performance of fire preventing and suppression activities will be improved.

Forest Industries will be more able to process thin material, the demand for log will drop whereas demand for every type of second or third quality wood will increase. Even the branches of the trees or brushwood will be utilized by the industry. The change in the demand pattern will positively affect the forests and forestry. The sector will be able to finance itself by making use of every asset left to forests today. Forest will be freed from the pressure of producing big diameter quality logs. Rotation ages will be less for fast growing species and this will attract private sector to invest in private plantations.

Access to forests will be easier, this may bring difficulties in controlling access to forests. Richness of biological diversity is usually attributed to the poor access to forests in remote mountainous areas. With the better conditions in transportation and easy access to remote areas, biological diversity may be exposed to infringements. The number of forest fires, also, might increase in these areas.

There is no consensus on the effect of global warming on forest resources. But droughts, erosion, water quality, industrial wastes, air pollution are the main concerns for the next 20 years. Evidences of damages from acid rains and air pollution are a slight increase. Reports of observations of air, soil and tree foliage suggest increase in soil acidification, loss of conifer needles. Atmospheric pollution damage is clearly observable around big cities. Forest fires and genetic deterioration are among other adverse environmental effects.

The basic scenario suggest population increase, industrial development, technological advances, environmental problems in the future. And it is also definite that EU Process will markedly catalyze structural changes. Globalization will blur the lines between domestic and international markets. Private companies will face sharper competition and will ask back-up from governments. Governments will challenge budget deficits and try to take tight inflation control. Their success will depend on how well they manage to constitute a strong regulatory authority to deal with anti-competitive practices and to what extent they build a partnership with private sector to spot and adapt best practices. Finally, most economists expect full of uncertainties and many point out geo-political risks.

The first scenario based on the assumptions that the present conditions will continue. In such a case, forests would continue to exist with slight increase; but they would lose some of their ecological values. Participation mechanisms would not develop properly and forestry system would lose some of its resistance against threats. The use of forest resources would be less economic and this would decrease the revenues that would be piped up to rural economies and forestry activities. The continuation of present public relations, conflicts in ownership issues and lack of dialog between stakeholders would constitute a barrier against understanding of forest issues both at public and at government level. Forestry would stay among the second class sectors at the national agenda. The effects would be less support in term of personnel, means, funding. The wide forestry organization would no longer be an advantage.

Forestry would continue to be successful in combating forest fires, because people are very sensitive in this issue and the fire sensitive forests are usually located at touristic regions. But this would lead into disguising other forestry concerns such as deterioration of biodiversity, degradation, pest and diseases. Forest offences would decrease, the organization will be able to cope against offences. Problems that stems from the past would start to blur. Rural areas would be less problematic.

Demand for thin wood material would continue but the cost of supply would rise. Forest industry would develop into quasi-monopoly structure, small sized manufacturers would vanish or diminish. As the distance to forest resources increases, so the cost of obtaining thin material. Hence the industry would slowly shift to positions closer to wood sources including that of neighboring countries.

Down trend scenario adds a few factors to present trend with much more undesired results. The present strengths of the sector are assumed to degrade. And worse, the weaknesses will increase both in number and quantity. In such an unfortunate trend the forestry will enter into vicious circle resulting in un-restorable damages to natural resources. Participation mechanisms would turn into high tension arguments. The central administration will not allow any development that will bear possibilities of power loss and there would be a lot off prevention against transparency, accountability, good governance, decentralization and participation. People would not be able to access to the information and, hence, would be unaware of down trend. Governments would not wish to spare time for the forestry issues and would regard the sector as cost burden.

In the up-trend scenario it is assumed that the adaptation process to EU will stamp the future of forestry. The dialog will be better between stakeholders. Newly developed basic laws, particularly those related to administrative and financial structure will successfully be put into force. Which, among others, will introduce: strategic planning and regulatory impact assessment; law enforcement; smaller but stronger administrative bodies; interlinked cross sectoral relations; new financial resources; transparency; synergetic developments such as possibilities of cooperation between government, civil society and private sector. Development plans and, in case of forestry, national forestry plans will foster law enforcement and good governance. Forest villages will also reap the benefits of this policy change by becoming less dependent to forest resources and more integrated to national economic development.

In terms of the priorities, settlement of ownership conflicts is the first. Redefinition of “public good criteria” for forest land allocations is another priority. Then come forest land registry, inventory and integration of biodiversity into management plans, classification of protected areas, establishment of participatory mechanisms, decentralization, training and awareness building, cross sectoral relations.

Strategy can be defined as: considering the ongoing globalization, acknowledging also the opportunities and concerns related to it, and within the frame of the National Development Plan and the National Forestry Program, forestry related international conventions and resolutions; and also adhering to Pan-European approach; Turkish forestry must use its strengths and improve its weaknesses to harness future opportunities and must take effective measures to prevent future threats, in an integrated and coordinated manner and in a partnership with related stake holders; and also must improve cross sectoral relations and increase cooperation with private sector; to achieve sustainable forest management towards 20023.

The possible actions are suggested as follows:

- **Establishment of a high level advisory body conduct, review, assess and advise on the forest issues.**
- **Administrative structure should be reviewed and modified to prevent overlaps and disintegration.**
- **National Forestry Program must be in effect and must be updated as necessary**
- **De-centralization should be realized in a controlled way to allow the system to digest**
- **Cadastre works should be intensified, and conflicts must be resolved by using innovative methods**
- **Criteria and indicators for SFM must be developed at field level**
- **Protection and wise management of biodiversity in forest areas must be achieved**
- **Technical capacity and know-how on the inventory and integration of biodiversity to forest management plans should be increased.**
- **Forest districts must reduce its production cost by caring the forest villagers interests and must strive to put cost reduction measures in implementation by collaborating with ORKOOP and forest industry.**

- The existing legal rights of forests villagers from forests resources should be safeguarded and additional rights, such as benefits that come out of the sustainable use of biodiversity, should be provided.
- Forest villagers should be trained, guided and supported in developing the potential of eco-tourism in their rural environs.
- Social functions of forests should be enriched, the number of recreation areas, urban forests, forests for amenity purposes should be increased.
- Private sector that operates in forestry issues should be strengthened and work opportunities should be provided in sustainable manner.
- International cooperation must be developed, special teams must be set to follow the forestry negotiations at international level and they must inform the related bodies about opportunities available at international level.
- Relations and dialog with international organizations must be intensified, cooperation at the region must be developed, information and expertise must be exchanged.

3 INTRODUCTION

Upon the request of the member countries at the Near East Forestry Commission 15.th Session, FAO has decided to start FOWECA (Forest Outlook Study for Western and Central Asia). The study includes 23 countries and focuses on providing a better understanding of emerging issues in the forest sector to the year 2020, specifically taking into account the inter-sectoral issues that impact forests and environment. By providing a regional and global perspective, FOWECA will help countries to envisage the implications of globalization in the forest sector, to identify emerging opportunities and challenges, and to facilitate appropriate investment decisions.

Country outlook studies together with thematic studies constitute the very important part of the overall study. The Forestry Outlook Study for Turkey was carried out as part of this process. This paper is the output of the study and named as “Forestry Outlook Study for Turkey Towards the 100th Anniversary of the Republic of Turkey”¹.

The preparations for this paper started on 18 June 2004 by establishing a Core Working Group (CWG) of 11 members from different forestry disciplines (See Ann.1). CWG has been in charge of preparation and facilitation of expanded work. Each member of the CWG has contributed in various ways: providing feedback to expanded group; preparing concentrated notes on various thematic issues; helping in designing a web site and a questionnaire for public survey; reviewing the progress and proposing innovative approaches during the study; and carrying out many other organizational works.

CWG in its first meeting identified the stake holders, NGOs and cross sector institutions for the invitation to nominate members to Expanded Working Group (EWG). CWG had met three times before the workshop of Expanded Working Group and two times after.

EWG met on 21 September 2004 in a workshop. The participation was as it had expected, a total of 26 persons took part of which 14 from civil societies and cross sectors (see annex 2). The report of the workshop then circulated for comments to all of the stake holders. Upon receiving the comments the report was finalized and sent again for final views.

¹ The Republic of Turkey will celebrate its 100th anniversary in 2023.

This paper analyses the past and current status and trends of forestry; driving forces and their effects including the effects of policies, internal and external influences. Three scenarios also have been included before underlining the priorities and strategies in forestry towards to 100th Anniversary of the Republic of Turkey.

The paper was designed in a way to best reflect the public perspective, and it avoided to include complicated statistics graphs etc. that were already provided in annexes.

4 COUNTRY SITUATION

4.1 PHYSICAL CONTEXT

Turkey with an area of 779.452 Km², straddles Europe and Asia. It is bordered by Greece and Bulgaria on the north-west, Armenia, Georgia and Iran on the east, Syria and Iraq on the south-east. The coastline extends 8333 km along the Blacksea, the Marmara, the Aegean and the Mediterranean.

Turkey is mountainous country. More than 90 % of the territory is 250 m above sea level. The main mountain ranges are the Pontus along the Blacksea, the Taurus along the Mediterranean and The Eastern Anatolian Mountains which includes Ararat, the highest peak (5165 m).

Inland waters occupy about 6500 Km² of which 1500 Km² is artificial lakes and dams. Among the 200 natural lakes, Lake Van is the largest. Turkey's main rivers the Kizilirmak, the Yesilirmak, the Sakarya flow into the Blacksea, the Tigris and the Euphrates rise in Eastern Anatolia and leave the Country in south towards Persian Gulf. The total length of the rivers reaches 14.300 km.

Regional climatic differences are marked. The south and west costs have Mediterranean Climate with warm and dry summers and mild wet winters, while the Black Sea coast is cooler and more humid. Rainfall in these areas ranges from 690 mm to 2400 mm. The remaining regions of Anatolia show the characteristics of Continental Climate. About the 40 % of the country is semi-arid and 25 % is arid with an annual rainfall as little as 250 mm.

4.2 DEMOGRAPHY

The population of Turkey is 71 million and the density is 91 per Km². In the last twenty years the population increased by almost 46 percent. Although annual population growth slowed from 2,3 % to about 1,5 % in recent years, Turkey is still the second fastest growing country in the OECD.

The population growth is far more in urban areas (5 %) because of the rural-urban migration. Over two-third of the population live in urban areas, the biggest city Istanbul has 10 million inhabitants (9 million in the metropolitan area). The population is highly concentrated in the northern and western regions while Central and Eastern Anatolia are sparsely populated.

High inflation during 90s has resulted in uneven distribution of income. Poverty affects rural households employed in agriculture, and welfare disparities between rural and urban areas are growing.

The adult literacy rate is 90 % for men and 69 % for women. The average life expectancy have increased in recent years but basic health indicators point to deficiencies not only in health care but also in regard to factors such as environment, nutrition, housing and water supply.

Agriculture absorbs almost half the workforce and the services about one-third. The unemployment, regarded the most important problem in the country, is about 10,5 % but this reaches as high as 28 % for youths and educated workers in urban areas.

4.3 ECONOMY

Turkey is classified as a “developing country” by OECD, WB, and the UN. The GDP amounts to 207 billion US\$ (last estimations for 2004 is far more) which means 3383 US\$ Per capita. According to the price levels and purchasing power parities GDP Per capita is about 5957 US\$, the lowest among OECD countries.

Agriculture, forestry and fishing account for 13 % of the GDP; industry and construction 31 % and services 56 %. The largest industrial branches are textiles (2 million employees), food processing, oil refining, iron and steel, and chemicals. For the last decades agriculture’s share in overall output and employment has fallen, reflected by an increase in the service sector, while there has been little change in the relative size of the industrial sector.

For the last 20 years, Turkey experienced the OECD’S second strongest GDP growth. Following a sharp decline in 1994 due to foreign exchange and banking crisis, the economy quickly recovered and has grown at an average rate of 7 %. Approaching to 2000s, the growth has lost steam. And finally at the beginning of the Millennium two big economic crises have seriously hampered the national economy. Since then, however, the country has again managed to recover. The recent figures have clearly depicted an improving economy. The inflation has stabilized at around 10-12 %, and growth rate has been increasing. But still, the majority of the economists have concerns and they define the situation as susceptible to various factors of a critical passing zone, in which series of economic reforms - mainly in privatization and banking system- though progressing, are not still over.

Turkey has been an associate member of the EU since 1964. In 1996, Turkey entered the Custom Union with the EU, as a consequence, trade between the EU and Turkey has developed quickly. About half of the goods have been imported from and over half exported to the EU.

Germany is the largest export market, followed by USA, Italy, UK, Russia and France. Tourism is one of the fast growing source of the national revenue, it represents about 4 % of the GDP. Remittances from Turkish workers abroad, also makes an important contribution to the economy.

4.4 POLITICAL AND INSTITUTIONAL CONTEXT

Turkey is parliamentary democracy. Under the 1982 Constitution, legislative power is vested in the Turkish Grand National Assembly (TGNA), which is elected by universal suffrage. The president is elected by the TGNA, and is empowered to appoint prime ministers.

Turkey is divided into 81 provinces, 842 districts and 2762 municipalities. Provincial administrations are headed by governors appointed by the Council of Ministers. Provinces, districts and municipalities also have elected mayors. In the villages however, elected “muhtar”’s head villages in all affairs both governmental and local.

State administrative system is based on ministries and their main, connected and related units. Ministries and their main units are primarily in charge of public services that usually directed to individuals, such as health, education, security, justice etc. Ministries carry out their services through the funds given by the Ministry of Finance which is called “General Budget”; they do not have their own revenue. The ministries also have no separate legal entity, they all together represent “State Legal Entity” in their respective areas. Connected and related units, however,

have connection or relation with the respective ministries. They have separate budgets and revenues, separate organic laws and most of them are “Public Legal Entities” that is separate from “State Legal Entity”. Connected units are mainly in charge of managing public resources such as water, forest, mine etc. Related units are usually processing public resources or carrying out tasks that need expertise such as State Economic Enterprises. However, since State is a single unity overall, connected and related units must be tied in a way to the respective ministry. This relation called “trustee relation”.

The administration of forest affairs is a good example of this system. Ministry of Environment and Forestry (MEF) has main service units in charge of national parks, protected areas, forest villages, plantation, erosion control, range improvement, seedling production, environment management, environmental impact assessment. MEF also has three connected units: General Directorate of Forestry (GDF) in charge of management of forests; State Meteorology Affairs; and Specific Environment Management which is in charge of managing 16 specific protected areas.

5 FORESTS AND FORESTRY – TRENDS

5.1 BACKGROUND

The first organization of forestry extends back to 1839, during rule of Ottoman Empire. At the early stages, French forestry had an effect on Turkish Forestry, but at the beginning of the 20th Century Turkish foresters intensified their cooperation with German-Austrian foresters. The establishment of the first management planning team in 1916 and the preparation of the first management plan 1917 fall in this period. The first Forest Law was also released in the same year.

The development of the forest legislation gained momentum after the establishment of the Republic of Turkey. The first forest decree of the Republic of Turkey enacted in 1924 (the Law about Scientific Management and Utilization of All Forests) concentrated on economic utilization from the forest resources and had provisions for long term contracting forest management to large national and foreign companies. The Forest Law No. 3116 enacted in 1937 made first legal definition of forest and introduced the first set of forest policies. The Forest Act had been subject to many amendments until the preparation of the new Forest Law (No 6831) in 1956. This Law has been under implementation since then, but again, with many amendments.

After the experience with private national and foreign contractors of forests for management, which is believed to have resulted in excessive destruction in forests, all forests were nationalized in 1945. This year marks as one of the important benchmarks of forestry history. That year is also remembered with the broke of extensive forest fires far ahead the averages. Soon after, the country entered to multi-party political system, and following the election in 1950 the nationalized forests were restituted to their former owners. The maquis also were excluded from forest regime. These radical attempts caused a lot of problems including cadastre and ownership conflicts. Today still the problem number one in Turkish Forestry is considered to be the issues related to cadastre and ownership conflicts.

For long years, all forestry activities were carried out by single organization, The General Directorate of Forestry (GDF). GDF has been a “a public legal entity” as a connected unit (see part 4.4) to various ministries but generally to the Ministry of Agriculture. Then the Ministry of Forestry was founded in 1970. Some of the functions of GDF, such as afforestation, nurseries, national parks, protected areas, wild-life and game, were taken to the responsibility of the Ministry of Forestry. After a short interval of closure, the Ministry was re-founded again in 1991. Finally in 2003, it has been merged with the Ministry of Environment. GDF has been kept intact and connected, this time, to the MEF.

5.2 FOREST RESOURCES

Many publications have estimates on the area of the forests before the foundation of the republic. But these figures are quite different from each other. All of these figures are not based on scientific findings and hence are not much regarded. The first regular and scientific inventory was done between 1963-1972. Management plans for all forests were completed in this period. According to the plans the total forest area amounted to 20.199.296 ha, of which 11.342.889 ha unproductive. The total forest area was divided almost by half to high forests and coppices.

Since 1972, each year plans for almost one tenth of the forest area have been renewed. But, because of the frequent changes in borders and planning units, the Management Planning Department was not been able to compare the results of inventories at yearly basis until 1997. At that time, the need for the updated figures was underlined (mainly for FRA reporting) and since then updated figures for forest area have been released yearly (except for years 2000-2001). The figures indicate that there has been an increase of 857.147 ha forest area for the last 30 years.

FOREST AREA	1963-72	1997	1998	1999	2002
High Forest	10.934.607	14.283.312	14.347.965	14.418.340	15.175.389
Coppices	9.264.689	6.429.584	6.385.808	6.344.908	5.881.054
Total	20.199.296	20.712.896	20.733.772	20.763.248	21.056.443

Source: MEF Statistics Division, GDF Management Planning Department

Figure for 2002 does not include the private forests, which is around 15.000 ha, and it does not include trees outside forests (in cities, parks, farms, along roads etc.). Besides, 8.795.166 ha bare land is classified as forest soil.

Forests are generally located on mountainous areas and they are usually natural and semi-natural with high biodiversity value². The country has 9000 plant species of which 3000 is endemic. Most of these plants are located in forest areas. Deciduous forests are prevalent and relatively uninterrupted at moderate elevations along northern Turkey. Coniferous forests, depending on the species and locations, are found at varying altitudes from sea level to the timber line. Forest formations of the country include species belonging to different floristic regions, namely Irano-Turanian, Mediterranean and Euro-Siberian. Approximately 800 woody taxa occur in the country's forests. The predominant species are *Pinus brutia*, *Pinus nigra*, *Pinus silvestris*, *Abies spp.* (*A. cilicica*, *A. nordmannia*, *A. equi-trojani* are unique), *Picea orientalis*, *Cedrus libani*, *Juniperus spp.*, *Pinus, pinea*, *Cupressus sempervirens*, *Pinus halepensis*, *Fagus orientalis*, *Quercus spp.*, *Alnus spp.*, *Castanea sativa*, *Carpinus betulus*. The forests in Turkey are also home to most of 120 mammals, 454 birds and 93 reptiles found in the Country.

5.3 FORESTRY POLICY, LEGAL AND INSTITUTIONAL FRAME

5.3.1 Forestry Policy and Development Plans

All of the sector policies have been articulated in National Development Plans in Turkey. Forestry policies in these plans have traditionally been protection of forest areas, sustainable provision of industrial and fuel wood to meet the domestic demand, provision of non-wood products, afforestation, rehabilitation and reclamation of degraded forest areas, range improvement, erosion control, establishing green-belts establishing and expanding national parks and protected areas, protecting wild-life, providing social services such as recreation, hunting, eco-tourism etc. and also contributing to the rural economy to decrease their pressure on forests.

² The plantation activities have reached 1.854.577 ha area, considering the overlaps, the planted area is around 1,5 million ha.

However the past implementations were criticized due to not encompassing the changing conditions and varying demands of the community. Forestry, although recorded successful implementations, was claimed to focus on wood production. In fact this and most of other critics are not directed to the Development Plans but rather to their interpretations and distortions in implementations. It is true that management plans solely concentrated on wood production until recently. But it is not generally true that this production reached the extent to harm environmental values, on the contrary, the planning system has made great sacrifices in allowable cuts. Recently the management planning teams have been preparing functional management plans in which ecologic and social functions of forests and their harmonization with the economic functions are formulated.

Preparations for the last Development Plan (The VIII Five Year Development Plan) in 2000 were carried out with in this atmosphere. Not only the forestry sector but also all other sectors were clearly expressed their need to reformat the Development Plans under the light of International Commitments and changing political and socio-economic structure. The forestry sector, referring to IPF/IFF Process which was taking many proposals for action, including preparation of National Forestry Programs and to the decisions of MCPFE) decided 1- to reflect the new approaches of forestry to the Development Plan 2- to prepare a National Forestry Program 3- to update the existing Forestry master Plan.

The VIII Five Year Development Plan accepts the following national policies and strategies:

1. Strengthening conservation of natural and cultural values.
2. Reducing proportion of rural population and share of agriculture in the national economy.
3. Strengthening utilization of the natural resources potentials in the development of low-income rural populations. Increasing roles and contributions of NGOs and local administrations and strengthening rural communities institutions (e.g. cooperatives) for this purpose.
4. Decentralization of the authorities and responsibilities.
5. Reducing development inequalities between different regions.
6. Development of participation in the management of country resources.
7. Strengthening regulatory and inspectory roles and reducing implementation roles and responsibilities of the state institutions.
8. Reducing state budget allocations for implementation programs/activities of the state agencies.
9. Liberalization in economy, strengthening competitiveness at domestic/international markets.
10. Integration with the European Community.

The plan highlights ecosystem approach for forestry under five principles which are 1) sustainability 2) multi-use 3) participation 4) protection of biodiversity and 5) contribution to the development and stabilization of community. The elements of forestry policy, within this frame, listed as follows :

1. Protecting of forest areas and their integrity
2. Protecting of biodiversity and expanding the protected areas
3. Developing and updating forest management plans based on the SFM and varying public demand and the capacity of the forests
4. Valuing and caring cross sectoral effects and relations
5. Reforestation for environmental, economic and social purposes; rehabilitation of degraded forests; and consideration of benefits of local communities in these activities.
6. Increasing institutional capacities to combat against biotic and abiotic harmful agents
7. Training of forest workers and provision and development of ergonomic work conditions

8. Strengthening research in environmental and socio-economic issues
9. Strengthening cooperation between forestry and civil society organizations
10. Adapting to European Union, working toward establishing certification and green labeling
11. Developing Forest Law to more integrate environmental protection, ecosystem integrity, public benefit, wildlife issues

The Plan is in force and will be renewed in 2005.

As a response to IPF/IFF proposal for action which requests countries to analyze the underlying causes of deforestation and forest degradation, Turkey started “Forestry Sector Review” in cooperation with the World Bank. The Final Report, delivered in June 2001, concentrated on poverty in forest areas, ownership disputes, participatory forest management planning, soil erosion, reclamation of degraded forest areas, the sector’s financial viability, and it provided a vision for forests in Turkey (See Ann.17).

The process to prepare the National Forestry Program started in 2001 with the assistance of FAO. The process has been highly participatory and this extended the time up to now. The Program which is at approval stage, contains two sections; the first section gives a comprehension overview of the present situation of our forestry, the second section gives the (i) national forestry principles, objectives and policies (ii) follow-up strategies to achieve the national forestry policies and to meet the objectives, (iii) short term Action Program (for 2004-2008 period).

Hence, with this paper, forestry in Turkey will have its three main policy documents namely, “Sector Review”, “National Forest Program” and “Forestry Outlook Study” before the IX National Development Plan. This is considered to be an important mile stone in terms of forestry policy.

5.3.2 *Legal Frame*

The Forest Law No.6831 constitutes the backbone of forest legislation. The National Park Law No. 2873, the Land Hunting Law No.4915, the National Mobilization Law for Afforestation and Erosion Control No.4122, the Law on Development of Forest Villagers are other laws that directly involve forests. Also the organization laws for GDF and MEF (Numbered 3234 and 4856 respectively) deal with the responsibilities, duties and organizational matters. On the other hand more than 17 laws indirectly involve forestry.

5.3.3 *Institutional Frame*

State Forestry Organization

The MEF represents the highest authority in Forestry. It was founded in 2003 by merging the Ministry of Forestry and the Ministry of Environment. As it has already been explained the Ministry is primarily responsible (in terms of forestry) for reforestation, erosion control, range improvement, seedling production, protected areas, national parks, wildlife, forest villages and research works. The responsibility for the protection, development and management of forest lies with the GDF which is one of the connected units of the MEF.

The administrative structure of forestry has been subject to frequent changes over years. This caused a lot of criticism in the forestry community. Most of the critics were about the instability and fragmentation in forestry administration. Attempts to improve the organizational structure did not reach its goal in the last decade.

Presently, the Government has been preparing a reform pack of laws within the frame of EU adaptation, the one of the main elements of this pack is about re-constructing state administrative structure. The draft has been voted and accepted in the TGNA but it was vetoed by the President. Therefore it is not clear when this Law will be in effect.

The most important scope of the Law, in terms of forestry, that it removes all rural organization of the MEF on the assumption that ministries are not involved in any kind of resource management affairs. The Law keeps GDF intact, but, since many activities related to resource management were transferred to MEF in the past, there would be a problem of restituting of these activities to the ir former authority.

Forestry Education

Until 1970, there was only one Forestry Faculty (The University of Istanbul), then in 1970 the second one established (The Blacksea Technical University-Trabzon). But the number of the faculties reached 9 in the last decade so the number of the graduated foresters. That has caused an accumulation of unemployed foresters (around 2500), and with the strict State Personnel Policy which aimed reduction in cadre, the situation has been aggravated. This stands as another institutional problem in the forestry agenda of Turkey.

There used to be intermediate schools for different forestry disciplines (2 years after high school). They were training forest guards, technicians and similar sub-engineering level foresters. These schools were closed. Instead, some of the Forestry Faculties have opened 2-year intermediate branches.

Research

Forest Research is one of the deep rooted institutions in forestry. Now there are 11 forestry research institutions in the country. Research institutions are connected to the Research and Development Department of the MEF. Some of these institutions deal with specific issues such as fast growing species, seed and soil.

Cross Sectoral Relations

The agriculture sector is in a process of liberalization. State subventions have been decreasing and aimed to be removed. The sector prioritizes the development of communities in upper watersheds and remote parts of the country by agricultural activities and animal husbandry. Integrated and participatory management and rehabilitation of watersheds is another prime concern of the sector.

Identification of rangelands and their rehabilitation and development and also the sustainable use of small water resources and products are the other themes that forestry might interact and cooperate with the agricultural sector.

Overall, recent agricultural policies do not conflict with those of forestry. On the contrary there are a lot of opportunities that both sectors could cooperate.

Tourism is one of the fastest developing sectors in Turkey. Most of the tourism areas are located in forested areas and forests increase the value of the sea sides in terms of tourism. Relations between the two sectors have usually been as allocation of forest lands for tourism purposes. So far 1607 hectares of forest land has been allocated for 111 tourism investments. Ecotourism is the one of the areas that forestry and tourism could cooperate.

Civil Societies

Civil societies are growing more effectively. The biggest stakeholder, Fo rest Villagers Cooperative (ORKOOP), is the most effective one. There over 2900 cooperatives with 290.000 members all around the country, they are also represented by a union in Ankara. ORKOOP and forestry administration have always had close relations. Most of the harvesting operations are carried out by these cooperatives. Forest villages and cooperatives have some concessions in forestry.

The syndicate of forest workers is also a big organization. Permanent or temporary around over 25.000 workers are employed by the forestry organization.

Among the non-profit organizations TEMA, DHKV, TTKD, TOD and many others are strengthening their positions and taking role almost in each forestry event. They have different contributions and most of the recent projects are carried out in cooperation with NGOs. Forestry faculties are also constituting important elements of forestry institutional structure. They play effective consultative role particularly in technical matters as well as in administrative and policy issues.

The Chamber of Forest Engineers has very prestigious position in forestry community. The Chamber is not directly involved in forestry activities, but it rather focuses on the problems and issues of foresters and has a say in other managerial decisions. The chamber's monthly periodical reaches all of the forestry units even at the remotest part of the country.

Finally the forest industry is another important dimension of the forestry institutional frame. Until recently the industry had no effective role in the management of forests and related policies. But recently, parallel to the economical development of the country, the forest industry as well is being more and more interested in forestry issues.

It is very clear that civil societies will play very effective role in shaping the forestry in the next 20 years. Non-profit organizations are growing both by number and by capacity. After a short break, forestry faculties started to take their traditional role in almost all forestry matters. ORKOOP, as usually, will be one of the most effective stake holder and dialog between ORKOOP and Private sector signals new era in the future. Private sector, particularly chip and fibre processors, have tremendously grown in capacity and their products spilt the national boundaries. This made the industry to follow forestry issues from closer points and they have started through their upper institutions interfering in forestry discussions. Finally the Chamber of Forest Engineers is preparing to involve in forestry activities by supporting new structures out of the state departments. The chamber is missioned to provide employment opportunities to unemployed foresters and to cooperate with the Ministry of Environment and Forestry on this issue.

5.3.4 Financial Frame and Economy

The share of the forestry sector in the gross national product (GNP) is shown at official statistics as 0,9 %. It is estimated that if undeclared firewood consumption and private sector wood production are included in calculations would increase this to 1.8 %. Additionally, value -adding secondary forest products (grasses, leaves, mushrooms, pine nuts, thyme, licorice, sage, nutgall, sumac, acorns, etc.) and recreation services sector could increase absolute product values. This calculation does not include some significant contributions of forests resources such as amenity and recreation, protection of soil and water resources.

GOP Study

The Forestry Sector Review included a GOP (Global Overlay Program) study on the value of non wood forest products and services. According to this study, forests in Turkey yields a total of 3.400.000.000 US\$ per year.

Non wood forest products	110.000.000	\$
Wild life	96.000.000	\$
Fodder	307.000.000	\$
Tourism	7.000.000	\$
Recreation	2.000.000	\$
Genetic resources	112.000.000	\$
Carbon storage	3.200.000.000	\$
Watershed protection	64.000.000	\$
TOTAL	3.400.000.000	\$

This figure does not include specific values such as chestnut production in Simav (750 \$/ha), Genetic value of Termessos National Park (1250 \$/ha), Sahsuvar micro-catchment soil protection (460 \$/ha).

Although the net contribution is not known, the next 15 years will very likely witness more contribution to national economy. Only the proposed sale of the excluded forest land by 2/B is estimated to bring in over 25 billion \$.

Financing Forestry Activities

Forestry activities are financed from the Treasury, wood sales, funds (abolished), other revenues such as fees, rentals, non wood forest products. The Budget system is somewhat complicated, transfers between different budgets makes it difficult to analyze the net contribution State Budget to forestry. But in general 45-48 % of the total budget is met from the Treasury and the remaining from the sales and other revenues.

Budgets of MEF and GDF in 2003

BUDGET TYPE	1000 YTL	1000 US\$
MEF- General Budget	298.992	199.771
MEF- Revolving Budget	15.941	10.601
MEF- Funds	40.775	27.244
GDF- Added Budget	321.703	214.946
GDF- Revolving Budget	548.591	366.542
TOTAL	1.226.002	819.104

Note that General budget and 80 % of the Added Budget are contribution from Treasury, funds were usually direct contribution of GDF to MEF, but now cuts for funds are first transferred to Treasury, then some certain part of it reallocated to MEF.

Forest revenues are likely to grow;

- The progress of chip and fibre industry led to extra revenues and since this industry demands thin material which is mainly produced from the tending of young forests, this will consequence into more quality timber products in the next 20 years.
- The new legal arrangement on hunting is also another item that prospects high revenues from forested areas. Estimations are not supported by concrete evidences but in any way hunting permissions and fees will yield an extra income.
- The forestry programs points out to improvement in the sustainable management of non-wood products, a revenue item that is believed to be ignored so far.
- Solution of cadastre problem will open new forest areas to production which might compensate to likely loss of decrease in production because of the expansion of protected areas.

Increase in the revenues from forest resources will lessen the state budgeted contribution. National administrative reform packs are also targeting less overheads and this will in turn decrease operational expenses.

5.4 FORESTRY ACTIVITIES

5.4.1 Protection of Forests

Forest Fires & Preventing and Combating

Most of the forests in Turkey are located in fire sensitive areas. Forest fire issues are prime concern of the public. The refore General Directorate of Forestry allocates most of its resources -

capital and human- to forest fire management. A total of 5906 forest guards and 10174 fire fighters take place in forest fire prevention and combating organization. (See Ann.9).

The records for forest fires have been kept since 1937. According to these records 76.250 forest fires have occurred damaging 1.561.026 ha of forests in Turkey. For the last ten years, yearly average number of forest fires is 1915, and yearly average burned area is 9.526 ha.

Most of the causes are human rooted. More than half of the fires occur because of ignorance. The share of the natural causes in forest fires is negligible. (See Ann.9).

The recent trends in forest fires suggest praiseworthy improvement in fire attack operations, but the number of fires, except for 2004, follows a steady line, which necessitates intensification of preventing measures.

Helicopters play a vital role in suppression operations, however, instability of renter countries poses a risk in obtaining helicopters. GDF raises this question in every fora and tries to find a way that will secure at least 16 helicopters ready for service during fire season.

Forest Offences

The forest guards also protect the forests against offences. According to the last ten years figures an average number of 34507 illegal actions happens in a year (unrecorded offences are claimed to be as much as third of this figure) resulting in annual 71.113 m³ industrial, 20.560 tons fuel wood cut.

Decrease in the rural population and increasing cost of agriculture result in steady downtrend of forest offences. (See Ann.9).

Forest offences are highly concentrated in some certain part of the Country, usually around the most industrialized part. GDF has been considering developing partnership with forest villages on mutual benefits to prevent forest offences. The second scheme is to organize mobile special teams that are not connected to any fixed region. The organization of these special teams is called ORKUT and the first implementations yielded promising results. GDF has decided to expand the ORKUT teams in 2005 and forward. Specifically trained ORKUT teams will also take part in Forest Rescue operations.

Pests and Diseases

There are about 50 harmful insects that affect 2 million ha of forest in Turkey. Particularly spruce forests in the East Blacksea Coast are suffering from bark beetles. Among them, *Dendroctonus micans*, *Ips typographus* and *Ips sexdentatus* are most harmful. Within the last six years 2,1 million ha of forest land has been hit by pests and diseases, resulting in 1.900.000 m³ wood loss.

GDF continuously monitors pests and diseases and combats on 500.000-800.000 ha infected area each year, through mechanic, chemical, bio- technique and biological methods. The annual cost of this work is around 2-4 million US\$. (For the most widely seen pests see Ann.10)

Turkey has recently developed cooperation with Georgia against pests and diseases in the region.

5.4.2 Protected Areas and National Parks

There are two different schemes in regard to the protected areas. The first one is applied by GDF and based on the Forest Act. Within the this scheme;

- 1) Forest that is critical mainly for water and soil protection is declared as “conservation forest” by a ministerial decree if it is a state forest, by a Ministers Council decree if it is a

private forest or private land (in this case it is expropriated). Conservation forests are solely protected, no any activity including forestry activities are allowed with in this protection class except for indispensable interventions against pest and diseases. There is 56 Conservation Forests with a total area of 210.192 ha in Turkey.

- 2) During the management planning process, separate forest stands are viewed and if these stands are found vulnerable to regeneration or harvesting type activities, they are recorded as “stands with conservation characteristic”. Most of the forestry activities are banned or strictly limited with in this management class. A total of 3.861.754 ha of forest falls in this category of protection.
- 3) Gene protection areas and seed stands are also counted among protected areas within the jurisdiction of GDF.

The second scheme is applied by MEF and based on National Parks Law. Some of the protected areas fall in IUCN categories. So far 34 national parks, 35 nature protected areas, 17 natural parks and 102 natural monuments are declared as protected area on 956.805 ha of land.

These protected areas are managed according to the provisions of National Park Law and based on classic protection fundamentals found in western countries. But most of the national parks lack Long Term Development Plans and MEF suffers from the lack of well trained staff.

5.4.3 Forest Management Planning

Forest management planning system is a very prestigious discipline in forestry. All forests have to be managed according to management plans. Since the first management plan in 1917, the planning system has evolved in terms of techniques used. Several models used, among them, Mut-Gazipasa Model has resulted in satisfactory outputs but the model applied to certain places and it has not been replicated; German GTZ project “Management of Broadleaved Forests in the West Blacksea Region” aimed to solve silvicultural problems of broadleaved forests and gained a lot of support from forestry quarters, but intense inventory and the cost of planning has brought about difficulties in expanding the implementation. Another model was developed through a Finnish Project, and this model introduced effective use of GIS in planning, GIS model developed on GTZ planning system and now the works are continuing to use it in classic planning system.

But the forest management plans were still wood production oriented when GDF declared to initiate functional planning. After the first trials of functional planning, most of the management teams complained about lack of know-how to integrate and balance different functions of forests. Studies with faculty staff, also, found complicated and not feasible. But now the works are expanding.

The last development is the decentralization of forest management system. All forest management teams were located in Ankara before 2004, then, as a part of structural reform program, the teams were distributed to regions. This decision was criticized very highly by forestry quarters including the faculties. The main claim was that management planning would lose its control over implementation and consequently unfair practice might damage forests. Despite all of critics GDF has declared its determination in decentralizing the planning system.

Participation in planning process has not caught the desired level. Although forest management teams consult to local dwellers, administrations, cooperatives and other related stake holders, this is not done in a regular and formal manner. The experience in GEF project is expected to contribute to the establishment of participatory mechanisms in planning as well as other processes.

5.4.4 *Silviculture*

Silvicultural practices are carried out by field staff within the frame of silvicultural plans that are prepared just after the completion of the management plans. These plans are complementary to management plans and constitute the second tier in the control of forestry practices. The plans usually emphasize the safety of regeneration and may narrow the regeneration areas given by related management plan.

Each year around 25.000 ha of forest regenerated both naturally and artificially, and around 250.000 ha of forest is tended (See. Ann.11). Rehabilitation of degraded forests, conversion of coppices into high forests, establishment of energy forests, pruning are the silvicultural activities that gained impetus recently.

In the last decade Silviculture Department has initiated campaigns such as restoring natural forms of Taurus Mountains by dispersing billions of cedar seeds from helicopters. GDF targets 75.000 ha of reforestation each year (except for the afforestation and plantation activities carried out by MEF) through various activities. There are also good examples of Government-NGO partnership in forestry one example of this cooperation is realized with TEMA, among the biggest environmentalist NGOs, in planting Oak through a campaign.

5.4.5 *Production and marketing*

Wood products

GDF produces around 13,2 million m³ round wood each year. (7-7.5 million m³ industrial and 7-8 million steres fuel-wood . See Ann.12). This production meets about 75 % of the domestic round wood consumption. Private forests and agricultural land (mostly private eucalyptus and poplar plantations that are not considered to be forest) provide 3.3 million m³ industrial wood and of 1.9 million steres fuel-wood to market. The remaining demand is met from imports.

Production of round-wood from state forests has dropped from 23,2 million m³ to 13,2 million m³ since 1980. This drop mainly occurred in fuel-wood production (%64). At the same time, the share of thin material has increased and the share of logs has decreased (from 5.5 million m³ to 3 million m³) in total production. This drop has mainly attributed to the increasing use of metals and plastics in the construction sector and introduction of new technologies that uses chipboards, MDF and OSB in the furniture sector.

Production of paper wood reached a peak with 1,5 million m³ in 90s, but then, it dropped to 250.000 million m³ in 2003. Competitive weakness of the sector, lack of state-of-art technologies and finally the prolonged privatization of state paper factories have hampered the demand for pulpwood.

Chip and fibre sector, on the other hand, has dramatically developed. In the recent years Turkey has found a place among leading countries in Europe in terms of the production capacity. The annual domestic processing capacity reaches 10 million steres (80 % of this capacity is used).

The production trend signals a stable curve with a slight increase in 20 years, the increase will mainly be in chip & fibre wood and pulpwood. Fuel-wood production is expected to decrease while wood production for energy purposes may increase (depending on the development of plants that uses wood for energy production).

The study³ named “Development of European Forests Until 2050” projects the future development of wood production in Turkey as follows:

³ G.J. Nabuurs, R. Paivinen, A. Pussinen, M.J.Schelhaes, in cooperation with U.Us, D.Berghmans, 2000

“Results for Turkey may indicate that the present fellings are at their biological maximum, or slightly above. However, the result should be viewed with care as we have covered only part of the forests available for wood supply, and the increment data seemed to be quite uncertain.

Taking all these into account, the projections indicate that under the present fellings level, the average growing stock may decline from 153 m³/ha at present to 140 m³ ha in 2050. The projections for the 5.5 million ha of forests show that a maximum sustainable production of 13.6 million m³/yr may be achieved, which is a moderate decrease from the present level of around 14.2 million m³/yr. By 2050 the growing stock under the MTF scenario may amount to 162 m³/ha.”

Wood sales

GDF was a monopoly in wood market before 1990. Removal of the custom barriers led to increased imports and consequent drops in the wood prices. The situation was aggravated by a recession in the economy, then by economic crises both national and international. GDF's Revolving Budget started giving deficits in 90s, to the extent to reach 100 million dollars in 1999. One of the reasons of this deficit is the high production cost (see Ann.16) and declining sale prices. The production cost has been high because of the high labour cost, overheads, subsidies and harsh geographic conditions that increase skidding and transportation costs. Cuts for various funds are also another important factor that inflates production cost. Tariff price, one of the components of the production cost, is kept low, however, since this price is an index for various subsidies given to local dwellers.

From 1999 and then on, GDF has taken tough austerity measures to reduce the production cost. The deficit was narrowed at the beginning of the Century and then with the improvement in the market prices and increase in demand for round wood, budget surpluses achieved in 2002, 2003 and 2004. (See Ann.13)

Some of the wood sales are made through allocations, State Economic Enterprises and private paper, chip and wood based panel industry are obtaining their needs through the allocations. Sale prices are decided by GDF taking into consideration the latest averages of auction sale prices.

Subsidized sales also affect the market. Based on Forest Act, GDF gives 150,000 m³ timber and around 4 million steres to forest villagers at very low prices each year. It also sells around 400,000 m³ timber at the price 20 % lower than its market price and 2.2 million steres fuel woods at cost price to the villagers and ORKOOP.

Forest Industry

Forestry Industry is almost completely controlled by private sector. The industry has flourished in the last 4-5 years, particularly MDF producers have realized great developments by multiplying their production capacity (recent figures are 2 million m³ MDF and 3 million m³ fibre board). Most of them are modernizing their technology reaching to the level of state-of-art enterprises able to compete in world markets. The use of the capacity is quite high. Many of these companies are now in joint ventures with their European Partners.

The general thought is that the forestry industry will even more develop in the near future and will spread to neighboring countries where wood prices are more favorable. But still the domestic demand will stay higher than domestic supply.

The industry has no major constraint other than high sale prices. The Forest Industry repeatedly appeals for lower prices and complains about high production cost, which they claim, is inflated by non-cost elements. GDF, on the other side, defends the idea that whatever the cost

price, the sales made through auctions and companies are free to bid, and the low cost is for the GDF's benefit in the first place.

Non-wood forest products⁴

Turkey is considered rich in terms of NWFPs (See Ann.13). Due to different climatic and geographic conditions in Turkey so many tree, shrub and herbaceous plant species naturally grow in the Country. Of 11000 plant species exist in whole Europe, Turkey has 9000 plant species of which almost 3000 are endemic. Most of the NWFPs are found in forests along the coast line with canopy cover less than 10 % (Other wooded land). Inhabitants of these areas are usually forest villages with low income. Most of the NWFPs are collected by these people at low prices (Tariff price). Permission and amount to be collected decided by GDF, and endangered plant species are protected to sustain the biological and genetic diversity.

The non-wood products derived from those plants are generally exported as raw or semi-raw materials while some of the products are needed in domestic market as medicine, culinary and aromatic matters and usually the chemical substances fixed from those products are imported for medicine and chemistry industries in Turkey

Some essential non-wood products are resin, storax, leaves of *Laurus nobilis* L, *Eucalyptus* sp, *Thymus* sp, etc, fruits of *Quercus ithaburensis* Decne, *Rhus* L., *Cerasus mahaleb* L, *Pistacia terebintus* L, *Pinus pinea* L etc, incense, bark of *Pinus brutia* Ten, *Betulus* sp, corms of *Galanthus*, oak gull, mushrooms.. etc.

NWFPs were not attached enough importance by villagers and collectors before 1995. Then with the increase in exports the demand for these products was escalated. This led to the increased contribution of NWFPs to the rural economy and increased demand for more production. Factories and other facilities that processes NWFPs are increasing so is the quality of processed NWFPs.

GDF recently handled the issue and initiated works towards identifying the NWFPs potential in forests, conducting workshops and panels to improve management of NWFPs in sustainable manner and increasing their contribution both to rural people and national economy.

Still there is no detailed inventory on actual potential of NWFPs, the last inventory is made last year and distribution of main NWFPs are located together with their important habitats. The GDF is preparing for more accurate inventories and with the integration of biological diversity to the management plans, it is expected to have accurate information on NWFPs in the Country. The plans will also facilitate more sustainable use of NWFPs in sound controlled manner.

5.4.6 Aforestation and Erosion Control

Aforestation policies and strategies have shown significant variations in time. Coniferous species have almost completely dominated plantation implementations for long periods, From the beginning of 1980's, planting of suitable broadleaved species on certain proportions of the available sites was accepted. Fast growing exotic species and high yielding varieties were given special importance during 1970-1980 period. Mechanized methods were developed especially under the FAO Project titled "Development of Industrial Forest Plantations in Turkey", which was carried out during 1972-1977 period. Lower costs, deeper soil preparation and avoidance of conflicts with workers have been the reasons for preferring mechanized site preparation techniques on suitable sites at increased rates since then. Establishment of greenbelt areas

⁴ FAO-ECE-ILO Committee on Forest Technology, Management and Training organized an international seminar in Izmir on Harvesting of Non-wood Forest Products between 2-8 October 2000 (proceedings and report of the seminar can be found from the UN Timber Section-Geneva)

around urban areas and towns have gained increasing importance from the middle of 1980s and carried out under a special program.

Since 1950 a total of 1.887.927 ha area has been aforested and 100.000 ha range has been improved. According to the studies still there is about 3.480.000 ha potential land with in the forest regime that could be reforested and another 1 million ha bare state land that can be planted. And also about 520.000 hectares of ranges needed to be improved.

The MEF aims to expand afforestation activities on available lands and manages 76 nurseries all over the Country with the 200-300 million annual seedling production. According to the records, a total of 10 billion seedlings have been produced so far. 165 seed orchards and 338 seed stands are producing quality seedlings.

The recent policy is to encourage private nursery activities and various incentives have been provided for entrepreneurs to invest in seedling production. State nurseries that have not been found economic have gradually been closed.

Plantations constitutes 15 % of the total forested area and 6 % of the plantations are established by private sector. Private plantations are also among one of the priority areas of the MEF, with in the last decade a total of 46.998 ha of land allocated for private plantations. However this figure is not at the level that has been expected. Although the MEF provides incentives, low interest rate credits even land, private plantation is not seen as attractive investment. But the MEF is determined to expand the plantations both state and private and take necessary measures to attract private investments.

The area of the poplar plantations out of forest land is about 130.000 though declining. The estimated production from these poplar plantations is around 3.87 million m³.

Also the big industrial companies have started to plant around industrial facilities recently. These plantations have no commercial purposes.

The MEF is responsible for controlling erosion and stabilizing sand dunes. The erosion control activities have reached 542.485 hectares. And finally in 32 provinces a total of 132.000 hectares of green belt established around the cities.

5.4.7 Forest Village Relations

Forest resources provide vital socio-economic contributions especially for local communities, which comprise around 7-8 million people living over 20 000 forest villages. Almost all energy needs of such communities are provided as fuel wood at highly subsidized prices from the state forests. In addition, significant amount of wood volumes are illicitly cut and utilized by the forest village dwellers. Round wood needs of forest villagers are also provided at subsidized prices from the state forests which is around 400 000 m³ annually. NWFPs produced from forest areas also provide some important contributions to family diet and cash income to household budget in forest regions. Fodder provided by free grazing and by cutting and carrying away for winter feeding is by far the most important NWFP for the forest region communities for which livestock is one of the main source of income especially in remote mountainous areas

Based on the Constitution item 170, ORKOY was founded with the aim of contributing to the economic, social and cultural development of rural people who lives within or nearby forest areas to minimize their adverse effects on forests. The ORKOY is financed through the sales of land excluded from forest by 2/B, 3 % of the revenues from wood sales, 3 % of the total amount of the projects of allocations and rentals from forest land, 10 % of the net profit of the forest districts and from other sources such as donations, credit interest returns etc.

The contributions of ORKÖY is generally categorized as 1) donation to village legal entity 2) low interest credits for social needs (841.171 units proposed) 3) low interest credits to individuals for economic investments⁵ (1.112.916 individuals proposed) 4) training services.

In terms of concept and methods applied ORKOY used to be one of the success story of Forestry in Turkey, but contrary to the early times of its foundation, the effects of ORKOY has been gradually been in down trend. For the last decade for example, the annual average budget used for contributions was about 20-25 million US\$ which is far from expected amount by villagers.

GDF's yearly contribution however is around 400 million US\$ including the wages and salaries paid for forest villages for employment. In 2003, for example, GDF has paid 150 million \$ for harvesting operations, 98 million \$ for other type employment, 84 million \$ for subventions (wood sales on low price), 75 million \$ for forest fire suppression teams (all composed of forest villages).

Besides around 15.000 ton of non-wood forest products are collected by villagers at very low prices (yearly export value of these products is estimated to be over 100 million \$).

Contribution of forest sector from other activities such as plantation, nursery, protected areas, wild-life and game (through wages and others means) are not added here because of the lack of data.

For the next 20 years it is expected that the contribution of GDF will continue at the same level, ORKOY is likely to be downsized and integrated to the General Directorate of Rural Development, in either case the contribution of ORKOY is not thought to be less than present level which is already low.

But also there are promising evidences that many innovative schemes will provide income opportunities to forest villagers such as eco-tourism. The general expectations from the EU adaptation process are also signaling some improvements related to rural development.

6 DRIVING FORCES – KEY FACTORS

Almost all sectors in Turkey are under the effects of multitude of factors that interrelated. Turkey, first of all, has gone through unfavorable economic and unstable political processes for long time. In the last period, particularly from 1983 and forward, the effects of globalization have been very evident. Since then, many economic and political reforms have taken place. With in the first ten years of this period, radical attempts secured and stabilized free market economy, improvements in many sectors such as communication and transportation, followed by privatization process. In the 90s however Country has been highly indebted and become very vulnerable to international economic affairs. The main result of this period is the transformation of economy to market and service industry. As much again, the adaptation process to EU has shaped the political agenda with in the last 15 years.

It cannot be said, however, forestry has been among the most affected sectors. Of course, fluctuations in the market have some impact, but, generally the forestry has shown the flexibility to adapt itself to fast changing conditions. But this does not free the forestry quarters from the concerns for longer run. Economic and political reforms have not lost steam and the effects of globalization is believed to be more effective in the next 20 years both negatively and positively.

⁵ Cooking, heating, sheltering, beekeeping, animal husbandry, poultering, handcraft, gardening, farming, green house, fishing, oil production, soap manufacturing etc.

The key factors, with in this general frame, that affect forests and forestry are grouped as demographic changes, socio-economic changes, political and institutional changes, technological and environmental changes.

6.1 DEMOGRAPHIC CHANGES

Turkey has always been subject to demographic changes since its foundation. The First World War led to big demographic movements, particularly from Balkans to Turkey. The government usually placed the immigrants to agricultural sites surrounded with forests. Trace, West Black Sea, East Marmara and some other parts of the Aegean Coast were densely populated. Livelihood of the immigrants highly depended on agriculture and forestry. This impacted the forestry in various ways, although not favored by foresters, the expansion of coppices were one of the outcomes of this impact. When compared to high forest management system, coppice management is far more beneficial to rural people. Today the forest management is in effort to convert the coppices to the high forest (BY avoiding change in natural tree species). But since no scheme that would substitute the benefits of local dwellers has been developed so far, the progress is not at a desired level.

The above kind of big immigrations are not expected in the future. But temporary influxes might still occur. The frequent unrest in neighboring countries in the past leads to thoughts of such possibilities. The last influx happened in 1989-1990, during the Gulf War, and thousands of people from Iraq had to move northward passing the border in desperate conditions. In very short time the highly natural and biologically valuable forests of Hakkari Province were damaged badly. No one had thought that this remote area would have been hit by such an unusual incident.

These exceptional cases are not considerably come into question when demographic changes and their possible impacts on forests in the near future are discussed. The common worry is the population growth in the country. Although the growth rate is in a downward trend, it is still very high. In 2023 the population of Turkey is estimated to be around 95 million. It is also believed that because of the migration from rural areas, the population increase would highly be felt in the urban environs. This doesn't mean that population would decrease in the rural areas, but relatively the population pressure would be less than that of the urban areas.

The impact of this demographic change is commonly believed to be negative. Increasing population will increase the demand and hence the value of land in the big cities. Most of the big cities are surrounded by forests. Although the forest land is protected by the Constitution, it is thought to be ways to violate. Law enforcement in forestry still stands as a worrisome topic. Agricultural land might face bigger threat and is considered to be defenseless. Urban expansion will shrink the arable land and ruin the available water resources. This also might indirectly affect forests in the form of agricultural pressure up to slopes of forested land.

The demand for forest resources will also increase but this is not deemed to have a damaging effect on forest resources. On the contrary the increased demand might foster investments in forestry such as investments of the private sector on industrial plantations.

Shortening distances between urban settlements and forests might pose industrial threats to forests such as air pollution and city wastes. In parallel to the settlement expansion, requests of local administrations for waste disposal areas in forests might increase to intolerable levels.

Increase in the urban population, on the other hand, will be escorted by increase in the level of education, culture and awareness. This provides an opportunity for forestry. The interest of urban people in forests and forestry will increase, so is the number and power of the environmental organizations. This would strength the position of administrative structures in natural resources management.

Governments will invest more in rural development to reverse or at least to slow down the migration from rural to urban. New incentives will be introduced to attract people in rural areas. Incentives might cover employment opportunities, improvement of services such as education, health, infrastructure, credit schemes in agriculture etc. This will loose the negative effects of rural people to forest resources.

6.2 SOCIO ECONOMIC CHANGES

Globalization will highly be felt in the form of social and economic changes. Competitive trade, more foreign investments, larger share of service and industry sectors in the National Economy, increase in GNP, better law enforcement, lesser role of the government in the economy, better communication and transportation, widening gap between low and high income groups, higher unemployment, better health and education services, merges of companies are some of the characteristics that globalization would bring about in the next 20 years.

First of all, competitive trade signals harsh conditions for GDF, the biggest producer of the forest products in Turkey. GDF will be in a search to reduce the cost prices. At the early stages, this may cause disputes between the forestry organizations and rural people. Subsidies, cuts for various funds, high overhead expenses, social services that mandated to GDF, sale system of forest products are among the items that inflate the production cost.

In the past, attempts to reduce the cost simply by removing or reducing subsidies and changing sale patterns were opposed by the Forest Village Cooperatives and this resistance forced the governments take different compensating measures such as financing forest fires combating activities from the State Budget. But the next 20 years will apparently face this question again. The Forest Village Cooperatives are well aware of the situation and point out to the need of better dialog. They are also committed to review their existing structure and find ways for different activities that would improve the livelihood of their members. Cooperation with private sector on mutual benefits are among that kind of approaches. Forest villages and their cooperatives are aim to free themselves from dependence on forests for their basic needs.

It is also expected that government will take effective measures towards the development of rural economy, these measures will highly be concentrated on the elimination of negative effects of globalization such as widening gap between income groups and increasing unemployment. Forestry has also a role in contributing to these efforts. It is a shared idea that after a long period, in which governments were usually prioritized industry and service economy and neglected the rural and agricultural economies, the turn has come to rural economy. The more these efforts reach the goal, the better forestry builds its competence.

Otherwise, forestry will not be able to reduce the cost of production and this may lead to higher figures of import or shift of processing industry to Caucasian and Balkan Countries where cheap workforce and wood material are available.

Demand for forest products will increase. Urbanization and industrialization will increase the variety and quantity of forest products needed. For example, paper consumption might double in parallel to increase in population and education level. The second expectation is higher demand from construction sector for wood. Environmental concerns joined with the fear of earthquakes are slowing down the demand for wood substitutes. The share of wood used in construction is still very low when compared to that of developed countries.

Better economic conditions and increased GNP will lead to higher consumption. It is not easy to estimate the consequences of this trend, since it completely depends on how governmental structure will manipulate this trend. High consumption pattern will include forest wood or non wood products. This will have positive effects since the production of these items are done in a sustainable manner. But unconscious consumption of other materials may bring environmental problems with negative effects on forests.

Eco-tourism is another topic that is believed to flourish in the next 20 years. On the condition that it will be managed in a controlled and wise manner, it will contribute to the wellbeing of rural people thus changing their expectations from forest resources and it will meet the needs of urban people for refreshment, leisure activity etc. Moreover, ecotourism will provide opportunities to local dwellers as an alternative income source which in turn will lessen the burden of forestry, particularly the need for employment of forest villagers. The negative effects of rural people will decrease, and as local dwellers benefit from forests through revenues of ecotourism, their interest in wiser management of forest resources will increase. Eco-tourism is generally not assumed to have negative impacts on forests in the near future.

Increases in education and awareness level, in the number of environmental organizations and in the public demand for green spaces, also, in the demand for ecotourism suggest a probable pressure against forest administration to spare more protected areas and reduce production. This pressure may exceed the rational and logical limits and squeeze production output sometimes unnecessarily. But it will also help in wiser management of forest resources.

6.3 POLITICAL AND INSTITUTIONAL CHANGES

In terms of Forestry in Turkey, the most effective driving force has always been political and institutional changes. There have been many different political points of views and frequent changes in the forestry organizational structure. The adverse effects of these unstable political and institutional positions constitute most of the today's problems. For example Forestry organization has been placed under various ministries such as the Ministry of Commerce, Ministry of Finance, Ministry of Agriculture, Ministry of Agriculture and Village Affairs, Ministry of Forestry and finally Ministry of Environment and Forestry. This has caused changes in the forestry policies under the effect of related ministry; and different policies have brought about very frequent changes in the forestry legislation. Finally, in 2005, the forestry organization will be subject to new shape under the Ministry of Environment and Forestry. But this time the past experiences are being taken into consideration and all of the political and institutional changes are done under the process of adaptation to EU, hence, expectations are positive.

17 December 2004 was an important day because EU has given a date to start negotiations with the Government of Turkey. This has steamed to works towards adaptation. A recent survey done by the State Statistics Institute has also shown that the majority of the country (70.2 %) supports the Entrance of Turkey to EU, and only 16 % is against. This is a strong indication that the process will shape the near future of Turkey including the forestry sector. At the first place, institutional changes are expected. Improvement in administrative bodies, elimination of overlaps of responsibilities, reforms for decentralization, transparency, accountability have already started. Regulative impact assessment is being made mandatory.

State domination in the management and supervision of forests will continue. But the participation schemes will be developed and local administrations as well as NGOs will have a stake at the decisions taken.

Forestry education and research have strong background in Turkey. This will continue and the quality of training as well as research will increase.

There will be more organized civil society accompanied by increased public events and activities towards the protection of natural resources and environment. This will accelerate partnership and participation schemes and will certainly have positive effects.

It is also expected that private sector will be developed to fulfill forestry operations from planning and harvesting to other activities. Most of the forestry operations will be done on contractual basis, this will also create employment opportunities for young foresters. Forestry organization will heavily take more strategic and supervisory role.

It is believed that Turkish forestry has not taken an effective role during the preparations of international conventions and decisions in forestry. And there is no enough evidences that this situation will change in the next 20 years. This may bring the problem of implementing decisions that is not applicable in Turkey.

6.4 TECHNOLOGICAL CHANGES

Development in the technologies will effectively contribute to forestry. Particularly GIS technology is developing very fast. In the next 20 years it is expected that this technology will very widely be expanded because of the reduced cost and it would effectively be used because of easy use. When combined with the developments in communication systems and INTERNET, the informational need of the stakeholders as well as public will largely be met. The consequences of this development will be marked by; awareness building, transparency, monitoring, evaluation, reporting, accountability, good governance, reduced illicit interventions. Undesired populist political interventions will be less since civil society will constitute pressure groups in favor of forestry. Altogether, the impact of this category of technological developments are agreed to be promising.

Forest fire combating operations will also benefit from technological developments, particularly from satellite based early warning systems. Performance of fire preventing and suppression activities will be improved.

Development in genetic technology may contribute to the activities of controlling harmful pest and diseases. The biotechnological methods will dominate mechanical and chemical methods.

Forest Industries will be more able to process thin material, the demand for log will drop whereas demand for every type of second or third quality wood will increase. Even the branches of the trees or brushwood will be utilized by the industry. The change in the demand pattern will positively affect the forests and forestry. The sector will be able the finance itself by making use of every asset left to forests today. Forest will be freed from the pressure of producing big diameter quality logs. Rotation ages will be less for fast growing species and this will attract private sector to invest in private plantations.

Transportation will benefit as well; better roads will reduce the production cost and the use of aerial means such as cables will increase with the desired result: little damage during harvesting.

Developments in energy technology may find more environment friendly methods of producing energy. Solar systems and wind energy will be harnessed more widely, reducing the need for traditional energy sources. This may have an undesired effect on landscape in forested areas.

Access to forests will be easier, this may be bring difficulties in controlling access to forests. Richness of biological diversity is usually attributed to the poor access to forests in remote mountainous areas. With the better conditions in transportation and easy access to remote areas, biological diversity may be exposed to infringements. The number of forest fires, also, might increase in these areas.

The development of recycling technologies, on the other hand, will improve the protection of environment, but along with the merits of this technological development, decrease in the demand for wood products might slow down carbon storage and drop the wood sales, and hence, the revenues of the forest administration. It is controversial that how much the magnitude of this loss will affect forestry. (Majority of the foresters believes that this loss will be negligible when compared to the benefits of the recycling).

6.5 ENVIRONMENTAL CHANGES

There is no consensus on the effect of global warming on forest resources. Though it is an increasing concern for the world, this may be coped by the implementation of the related conventions such as FCCC, CCD. But droughts, erosion, water quality, industrial wastes, air pollution are the main concerns for the next 20 years. Evidences of damages from acid rains and air pollution are in slight increase. Reports of observations of air, soil and tree foliage suggest increase in soil acidification, loss of conifer needles. Atmospheric pollution damage is clearly observable around big cities. Forest fires and genetic deterioration are among other adverse environmental effects.

It is accepted that purifying technologies and hydrogen technology in industrial plants will be developed and effectively controlled. But still there is space for concern. National policies that prioritize the fast industrial development may ignore such cost related measures to protect the environment. The poor capacity of the environmental government organizations worsens the problem.

7 FUTURE SCENARIOS

Population increase, industrial development, technological advances, environmental problems are almost considered certain for future. And it is also definite that EU Process will markedly catalyze structural changes. Globalization will blur the lines between domestic and international markets. Private companies will face sharper competition and will ask back-up from governments. Governments will challenge budget deficits and try to take tight inflation control. Their success will be depend on how well they manage to constitute a strong regulatory authority to deal with anti-competitive practices and to what extent they build a partnership with private sector to spot and adapt best practices. Finally, most economists expect full of uncertainties and many point out geo-political risks.

With in this general frame, three scenarios have been developed for the next 20 years of the Turkish Forestry. But before, it would be helpful to briefly evaluate the results of the survey which was done through internet (See Ann.5).

7.1 THE EVALUATION OF THE SURVEY

The survey was consisted of 30 basic questions and aimed at catching perception of forestry in the Country. The results were discussed at the workshop.

From the results, it is possible to say,

- People are sensitive to environmental issues including forestry.
- They are not satisfied with the measures against deforestation, destruction of biodiversity and against erosion.
- Fuel-wood consumption is not desired (because of the belief that it will accelerate forest destruction)
- There is a growing awareness through decentralization and participation
- There is no clear indication of what will come out of globalization
- The demand for non wood products and services will increase
- It is believed that every legislative change aims destruction of forests although they were claimed to be done for the benefits of forests (lack of trust to politicians)
- Main concern of the people is the destruction of forest ecosystem and biodiversity rather than desertification or climate change
- It is believed that the protected areas should be increased

- There is a strong wish towards cooperation of government and civil societies
- For the future foresters believe that things will be better while others have concerns
- It is almost unanimously accepted that forest cover should increase
- Uncontrolled tourism and allocation of forest land to different uses are seen the primary threat to forests in the future
- Increase in public awareness and education is the hope that will protect forests

Briefly, the results of the survey suggests that people believe that things will change in the future and these changes, if no serious measures taken, will affect forests and biodiversity adversely. The most valued measure is the development of participatory mechanisms in true sense that is with the effective contribution of civil societies.

7.2 SCENARIO NO 1: PRESENT TREND

The first scenario was built on the present trends and on the assumption that things would not considerably change except for population increase, industrial development, technological advances, environmental problems and development of EU standards.

At present, the strengths of the forestry are as follows:

- Experience, observation capacity, knowledge
- Wide forestry organization
- Forestry education
- Infrastructure, means, equipment, vehicles
- Organization capability of research works
- Public sensitivity
- Legal frame

The weaknesses are :

- Traditional authoritative behavior in the management of forests
- Low productivity of forests and their fragmented distribution
- Unsatisfactory forest multi-use practices
- Comprehensive planning, inventory techniques
- Information systems
- Protection classes and management of protected areas
- Ownership conflicts on forest land
- Public relations
- Wildlife management
- Protection of gene resources
- Management and use of non-wood forest products
- Pricing of non wood products and services
- Exaggerated reformist approaches

This picture suggests no or a little development in terms of sustainable forest management. Forests would continue to exist even with an increase in abandoned remote areas; but they would lose their authentic structures and because of the population pressure, forests near the urban areas would strive to exist. Authoritative and central management system would continue to take subjective decisions and this would lead to unexpected outcomes more on the negative side.

Participation mechanisms would not develop to the extent to affect management decisions. Therefore forestry system would lose its resistance against threats such as political pressure for short term populist schemes.

The use of forest resources, already fragmented and unproductive, would be less economic and this would decrease the revenues that would be piped up to rural economies and forestry activities. The continuation of present public relations, conflicts in ownership issues and lack of dialog between stakeholders would constitute a barrier against understanding of forest issues both at public and at government level.

Forestry would stay among the second class sectors at the national agenda. The effects would be less support in term of personnel, means, funding. The wide forestry organization would no longer be an advantage.

Forestry would not be able to easily update or change its legal frame to keep pace with international developments. Such attempts might be done without regulatory impact assessments and this in turn would exacerbate outcomes of frequently changed regulations. Likewise, any innovative financing mechanism would be more difficult to be introduced. Tax policies would not favor natural resources.

Forestry would continue to be successful in combating forest fires, because people are very sensitive in this issue and the fire sensitive forests are usually located at touristic regions. But this would lead into disguising other forestry concerns such as deterioration of biodiversity, degradation, pest and diseases.

Forest offences would decrease, the organization will be able to cope against offences. Problems that stems from the past would start to blur. Rural areas would be less problematic.

Demand for thin wood material would continue but the cost of supply would rise. Forest industry would develop into quasi-monopoly structure, small sized manufacturers would vanish or diminish. As the distance to forest resources increases, so the cost of obtaining this material. Hence the industry would slowly shift to positions closer to wood material including neighboring countries.

Protected areas would increase but their management would suffer from financial and human resources. Urban forestry would gain momentum, green spaces for recreation would expand.

There would be no problem in carrying out traditional forestry activities through private companies since there would be a wide range of unemployed foresters. This means less cost that would partly compensate for the loss from the revenues.

7.3 SCENARIO NO 2: DOWN TREND

Down trend scenario adds a few factors to present trend with much more undesired results. The present strengths of the sector are assumed to degrade. And worse, the weaknesses will increase both in number and quantity. In such an unfortunate trend the forestry will enter into vicious circle resulting in unrestored damages to natural resources.

The main factor could be considerable drops in demand to forest products which means low prices and less contribution to rural economy. Financial weaknesses of the sector would widely be felt across the country. And when rural poverty combines with the pressure of urbanization and industrial expansion forests will pay. As a chain effect the law enforcement will crawl, and unwise amendments in critical legal arrangements might cause extensive destruction in forests.

Participation mechanisms would turn into high tension arguments. The central administration will not allow any development that will bear possibilities of power loss and there would be a lot off prevention against transparency, accountability, good governance, decentralization and participation. Campaigns against decentralization will lead to inconfidence among people and authoritative management system might invest on the failure of transition to decentralization. Rebounds from participatory, market oriented, decentralized attempts would create big pits on the way to sustainable development.

People would not be able to access to the information and, hence, would be unaware of down trend. Governments would not wish to spare time for the forestry issues and would regard the sector as cost burden. So would Policy makers, they would avoid mainstreaming forestry in their development strategies. Globalistic movement will not bear any cost to save forest resources. Rural will get poorer and industry will develop in big towers.

Programs such as national forestry program would be left at selves. The similar strategies would be either impossible to implement or rather cosmetic institutional tools that never referenced.

7.4 SCENARIO NO 3: UP TREND

The adaptation process to EU will stamp the future of forestry. Whatever the result will be, something is for certain, it is the adaptation process. This means reform packs in every sector and improved standards. The process will foster the dialog between all stakeholders of the forestry. It is not easy to assess the outcome and manifold implications of this process, but the developments will overspill the boundaries of traditional and conservative sector standings. Newly developed basic laws, particularly those related to administrative and financial structure will successfully be put into force. Which, among others, will introduce: strategic planning and regulatory impact assessment; law enforcement; smaller but stronger administrative bodies; interlinked cross sectoral relations; new financial resources; transparency; synergetic developments such as possibilities of cooperation between government, civil society and private sector. Development plans and, in case of forestry, national forestry plans, will not only be comprehensively designed documents but also most respectable policy tools in front of the development.

Previous chapters have shown that the unchanged change of the future is a demographic one, the population increase and migration to urban. And it is clear that if the migration is too great for the urban to absorb, then the need to migrate should be lessened by improving matters in the rural. Rural people in Turkey could be divided in two; forest villagers and others such as farmers. Forest villagers constitute the poorest slice of the community and their development hope left, virtually, only to forestry. And because forestry organization alone has fallen short of giving this service, poor has become poorer. Now at the final hurdle things started changing, and it is expected that through adaptation process, more integrated approaches will be used and the among the first is the agricultural reforms. Forest villages will also reap the benefits of this policy change by becoming less dependent to forest resources and more integrated to national economic development.

Thus, the adaptation process will contribute to the sustainable management of forests in two collateral streams: improvement in institutions - organizations, legal tools, enforcement, effective national program and action plan implementations - and a little relief with the increased development of rural economies that has to be done to curb the migration.

It is also expected that the spectrum of social tiers aware of natural resources will be more wide, including local administrations as well as non economic sectors. This might bring about marginal environmental policies. But even in the worst scheme, the results would be more favorable for forestry. The mutual respect is expected which necessitates finding ways to deal

with the complexities of balancing multiple functions of forests. Soon, it would be understood that the key is participation and its efficient mechanisms.

Environmental readings have sometimes caused polarization between resource managing sectors and civil societies. In such cases profit oriented private sector becomes more closer and even defender of the related resource management systems. This is an important factor that should be handled carefully. Because future signals intensive business activities so cumulative that might boil down to monopolistic arguments well disguised behind developmental policies. One cannot help to think monstrous consequences of such a conflict between unconscious environmental movement and short term profit seeking sectors, which squeezes forestry in middle. Both movements can endanger rather than to protect our forest resource base. Hopefully the merge of the ministries of Forestry and Environment is a perfect chance to eliminate such possibilities at the beginning.

7.5 ANALYSIS OF THE SCENARIOS

STRENGTHS	WEAKNESSES
<p>Deep rooted forestry background Legal frame Infrastructure, means, equipment Public sensitivity Unique relations between foresters Forestry education Technical capacity Revolving budgets – semi autonomy Well developed forest industry Work force Merge of ministries of forestry and environ. Forest fires combating organization</p>	<p>Central planning and management Lack of effective participatory mechanisms Ownership conflicts Identification of protected areas Management of protected areas and wildlife Mingled and fragmented forestry organization Cross sectoral relations Unrecognized role of forestry in development Governments indifference Insufficient stakeholder dialog Use of high technology Loose international relations Pricing of non-wood products and services Ineffective position of forestry at gov.level.</p>
OPPORTUNITIES	THREATS
<p>The EU adaptation process New agricultural policies Increased awareness of public in natural res. The magnitude of forest areas Rich biodiversity and NWFPs Abundance of unemployed young foresters Concerns for clean water National Forestry Program Ongoing international process Demand for thin wood Law enforcement Diminishing forest offences Information and communication; INTERNET</p>	<p>Exaggerated reformist attempts Polarization between sectors Monopolistic development of private capital Critical legislative changes Institutional structure of local administrations Undervaluing of forest resources and services Uncontrolled urban expansion Uncontrolled and unsustainable tourism Air pollution, industrial wastes Disappearance or shift of forest industry Easy access to remote forest areas Unwise amendments in forest laws Widening gap between poor and rich</p>

8 PRIORITIES AND STRATEGIES TOWARDS 2023

8.1 PRIORITIES BY CONTEXT

To organize the priorities, we may define context areas. The first context area is composed of issues that exclusively internal to forestry. With in this context, settlement of ownership conflicts is the first priority, without it we would not be able to comprehensively plan and carry out forestry activities. Conflicts are also barrier to fostering forest and rural relations. Biological diversity comes next. The majority of forests in Turkey are semi-natural and bear rich biodiversity. Since there is no established practice to protect and manage biological diversity in forest areas, the issue becomes vulnerable. The forestry in Turkey cannot take the risk of loosing these values, for it would be almost impossible to restore them. Finally, increasing institutional capacity is another important priority in Turkish forestry. This is important because development of participatory mechanisms, transition to decentralization, transparency, accountability, productivity, law enforcement and good governance all depends on the institutional capacity.

These closely interconnected important priorities have following thematic sub priorities:

- **Cadastre of forest land and assurance of land tenure**
- **Public Good Criteria for forest land rentals and allocations**
- **GIS based forest land registry**
- **Inventory of biodiversity and non wood forest products**
- **Integration of biodiversity in forest management plans**
- **Classification of protected areas**
- **Establishment of participatory mechanisms both at national and sub-regional levels**
- **Conflict resolution mechanisms**
- **Transfer of authorities and responsibilities from central management to sub-levels gradually**
- **Improvement of forest-rural and cross sectoral relations**
- **Open ended training**
- **Public awareness programs**
- **Financial capacity of forestry**
- **Cooperation with private sector**
- **Forest certification**
- **Law enforcement**
- **Implementation, monitoring and evaluation of the National Forestry Program**

The second context area relates to the issues that come of from the interaction of forestry and external factors. Eradicating rural poverty in forested areas is the main priority here. Forestry is not in charge of economically developing rural communities in forest areas. This task is too heavy to be carried by the sector alone. However, there is a considerable potential in forestry which will contribute to the rural economy. From the beginning it has been clear that the overall situation of forest villages directly affects forests and this cannot be ignored in any way. The second priority is the forest industry and private sector that operates in forestry works. The forest industry has to sustain itself. Otherwise cuts in the flow of forest products revenues would be a serious case in the future. Almost seventy percent of forestry activities depends on wood sales. And it is clear that State Financial Authority is not satisfied with that and expects forestry not only finance itself but also contribute to the state budget. There is also need to strength the private sector that operates in forestry works. State restructuring program aims to shrink the administrative bodies and implements tough personnel policy. For the last twenty years the

number of staff has been reduced by 48 per cent in both workers and technical staff. The trend is very likely to continue. The thematic priorities;

- Legal rights of the forest villagers
- Social security of forest villagers who works in harvesting
- Agro-forestry
- Eco-tourism
- Quality timber
- Production cost reduction
- Private plantations
- Officially recognized or certified forestry companies

The last context related to forestry issues that affects external world. Forestry policies affect the many sectors. The most important ones are, tourism, culture, energy and agriculture sectors. The thematic priorities of the last context area are as follows:

- Erosion
- Clean water
- Urban forests and green belts
- Forests at touristical places
- Upper management
- Energy

8.2 STRATEGY TOWARDS 2023

8.2.1 The aim of the strategy

The overall aim is “Conservation, development, expansion and sustainable management of forests in Turkey”

Considering the ongoing globalization, acknowledging also the opportunities and concerns related to it, and within the frame of the National Development Plan and the National Forestry Program, forestry related international conventions and resolutions; and also adhering to Pan-European approach; Turkish forestry must use its strengths and improve its weaknesses to harness future opportunities and must take effective measures to prevent future threats, in an integrated and coordinated manner and in a partnership with related stake holders; and also must improve cross sectoral relations and increase cooperation with private sector; to achieve sustainable forest management towards 2023.

8.2.2 The vision

Within 20 years threats to forests in Turkey will be reduced or removed. Institutional capacity of forests will be strengthened to the extent to cope with future challenges both internal and external. Public will be more aware of the forestry issues, and will take an active role in them. The sector will be promoted at the national agenda. Defects of the forestry legal frame will be eliminated, law enforcement will be stabilized. National Forestry Program will be in place, effective and its implementation will be monitored, evaluated and reported in due course.

8.2.3 The objectives and goals:

1. Solution of the ownership conflicts, the chronic problem of Turkish Forestry.
 - Conflict resolution schemes be prepared
 - The cadastre of the forests be finished

- *All forest land be registered and recorded to a GIS system*
 - *Problems with 2-B implementations be solved⁶*
 - *Public Good Criteria for forest land allocations be established*
2. **Conservation and wise management of biological diversity in forested lands**
 - *Technical capacity for inventory of biological diversity be developed*
 - *Model for the integration of biological diversity to management plans be developed*
 - *Mechanisms to equitably share the benefits of biological diversity be established*
 - *Regulative arrangement to secure structure of natural and semi-natural mixed forests*
 - *Participatory mechanism to monitor, evaluate and report biological diversity*
 - *Regulation compatible to EU directives to monitor and assess the impact of atmospheric pollution and forest fires on forests*
 - *Environment friendly harvesting systems be developed and implemented*
 - *Forest infrastructure activities be done in environmental friendly way*
 3. **Resilient and sustainable production of wood and non-wood products**
 - *The cost of production be reduced*
 - *Pricing system of non-wood products be de-centralized*
 - *Standing sales be expanded*
 - *Wood stocks be reduced*
 - *Flexibility to market conditions in production be promoted*
 - *The quality of the timber be increased by accelerating pruning and rehabilitation activities*
 - *Tending of young stands are assured and conversion of coppices to high forests be done where biological diversity concerns do not exist and where local communities consent*
 - *Rotation age increased for biologically suitable tree species*
 4. **Competitive and strong forestry industry**
 - *Forest industry and civil societies cooperate*
 - *Harvesting work program are done considering the demand from industry*
 - *The use of wood products increased*
 - *Forest industry investments are followed and necessary measures are taken*
 - *Middle term (5 years) assurance of supply for allocations to private companies are legally made possible*
 - *Transport facilities in forests are well maintained*
 5. **Assurance of adequate financial means to implement the strategy**
 - *Financial needs for forest fires combating, research, soil and water protection, pest and diseases, plantations, erosion control, protected areas are assured by state budget.*
 - *Financial burdens such as cuts for various funds from sales are eliminated*
 - *Fees and rentals of facilities that are in forests are brought to realistic levels*
 - *Idle estates are sold, unnecessary overheads are eliminated*
 - *Austerity measures are continued, management organization is downsized*
 - *Innovative financing mechanisms are created*
 - *Previous legal arrangements for alternative financial sources for forest villages and afforestation are made implementable*

⁶ 2-B is a controversial topic that has occupied the national agenda for long years: According to the Turkish Constitution forest land can not be transferred, sold or used for another purposes. But an amendment in 1982 brought an exception that forest areas those lost their characteristics before 1981 and deemed to be more beneficial for agricultural uses might be excluded from forests and sold to forest villagers who originally live in the area where exclusion practiced. The implementation regulated by Forest Act item 2 para B, therefore the scheme is usually called 2-B.

- *The scheme that was developed for protection of young forests and planted stands through contracts made between administration and forest village legal entities is expanded*
6. **Sustaining and developing the contribution of forests to rural communities**
 - *The rate of employment of forest villages in forestry activities is maintained*
 - *The legal rights of forest villages on forest products are maintained*
 - *Awareness building program for forest villages is expanded*
 - *Forest Village Relations General Directorate (ORKOY) which is primarily in charge of contributing to the economic development of forest villages be financially strengthened*
 - *The ORKOY projects be integrated to other rural development programs of the Ministry of Agriculture and Village Affairs*
 - *The range lands are rehabilitated*
 - *Alternative income generating activities are introduced and villagers are trained and guided*
 - *Ecotourism developed and revenues of it shared equitably*
 7. **More effective use of human resources including unemployed foresters**
 - *Forestry staff are put in continued training programs*
 - *Employment of foresters through contracts are made easy*
 - *Related civil societies such as Chamber of Forest Engineers are strengthened*
 - *Legal arrangement for certified forest bureaus are made*
 8. **Expanding both private and public plantations**
 - *Incentives for establishing private plantations are mobilized*
 - *Potential areas for public plantations investments are located*
 - *Fast growing industrial tree species that adapted to natural habitat are used*
 - *Regulations and means to develop farm forestry are developed*
 9. **More wide use of social functions of forests**
 - *Urban forests are expanded to all cities*
 - *The number on quality of recreational areas are increased*
 10. **Improved information on, and awareness of, forestry issues**
 - *GIS and satellite technology used widely*
 - *Databases established and made accessible to public*
 - *INTERNET applications are expanded comprehensively*
 - *The intensity of public awareness programs is increased*
 - *The training and awareness building programs for youth are expanded*
 11. **Participatory and transparent forest management planning system**
 - *Forest management planning system is decentralized*
 - *Past experiences and outcomes of previous projects are harnessed to set a new functional planning model*
 - *During planning participation at local level be possible through legal means*
 - *Conflict resolution system be established at one step up level*
 - *Operational Level Guidelines for planning, which is developed during Pan-European Process, be adapted to national conditions and used.*
 12. **Improved cross sectoral relations**
 - *A ministerial level coordination mechanism be set*
 - *State Planning Organization takes an effective role*
 - *A national advisory committee be set*

13. Criteria and Indicators for Sustainable Forest Management

- *A national set of C&I be developed in participatory manner*
- *Field level C&I be developed in participatory manner*
- *C&I implemented, monitored, evaluated, reported and revized*
- *Pilot studies for forest products certification is done*

8.2.4 The Action

It is suggested that a high level advisory body is necessary to conduct, review, assess and advise on the forest issues and make sure that the activities are stream lined towards the aims. Such an advisory body should be composed of forest sector stake holders including NGOs, and cross sectors representatives.

Administrative structure should be reviewed and modified to prevent overlaps and disintegration in the forest authority. Forestry should not hurry in amending critical legal provisions and first must seek full consent of stakeholders and adaptability to corresponding EU's legal instruments.

Since it is not physically and legally possible to bring all related official bodies into one single official body, the National Forestry Program must fulfill to integrate the related activities in a harmonized and balanced way and must be renewed whenever necessary.

De-centralization is one of the prerequisites, but it should be realized in a controlled way to allow the system to digest handing over the authority and responsibility to field level. This is also necessary to build true participation mechanisms at local and field levels.

Works to finish delineating forest borders should be intensified, and conflicts must be resolved by using innovative trade offs such as provision of rights or guidance to use credit schemes or special projects such as land allocations for private plantings.

Field level criteria and indicators must be developed at field level and implementation must be monitored, evaluated and reported in a participatory manner.

GIS systems must be set up in a modular and integrated ways and must be piped to INTERNET to allow easy and straight forward public access to information. Awareness building programs must accompany.

Protection and wise management of biodiversity in forest areas must be achieved. Technical capacity and know-how on the inventory and integration of biodiversity to forest management plans should be increased.

Financial viability of the sector is very important, forest districts must reduce its production cost by caring the forest villagers interests and must strive to put cost reduction measures in implementation by collaborating with ORKOOP and forest industry.

The existing legal rights of forests villagers from forests resources should be safeguarded and additional rights, such as benefits that come out of the sustainable use of biodiversity, should be provided.

In cooperation with the Ministry of Agriculture and the Ministry of Tourism and Culture, as well as local administrations, forest villagers should be trained, guided and supported in developing the potential of eco-tourism in their rural environs.

Forests can be protected against forest fires and illegal acts only with cooperation of forest villagers, such cooperation schemes should be built on mutual benefits.

Social functions of forests should be enriched, the number of recreation areas, urban forests, forests for amenity purposes should be increased.

Private sector that operates in forestry issues should be strengthened and work opportunities should be provided in sustainable manner. Forest districts must be able to contract forest engineers or their certified bureaus for regular works.

International cooperation must be developed, special teams must be set to follow the forestry negotiations at international level and they must inform the related bodies about opportunities available at international level. Relations and dialog with international organizations must be intensified, cooperation at the region must be developed, information and expertise must be exchanged.

9 CONCLUSION

The history of forestry in Turkey extends back to Ottoman times and it has well established institutions. The sector has certain strengths and weaknesses but, altogether, it can be said that the forest resources have been protected and even increased.

It is commonly agreed that the biggest problems of the forestry in Turkey have been issues connected to the cadastre and ownership of forest land. It is believed that most of these problems stem from past policy variations. Attempts to resolve these problems through legal amendments did not reach the expected outcome and even sometimes aggravated the situation. These problems are still valid for today and very likely they will be valid for tomorrow also.

Along the course of the forestry history there are remarkable achievements in addition to the conservation of forest resources. Over than 1.7 million hectares of bare land planted, 32 cities were surrounded by green areas, erosion control activities were carried out in vast areas, protected area concept was introduced almost 40 years ago, forest management and silvicultural practices are praise worthy, forest management continued to provide a stable amount of wood material to forest industry, Turkey is marked with successful forest fires combating organization and forestry has always cooperated and supported the rural communities by providing cheap products, employment, credits and indirect benefits.

The key driving forces that affect forestry are demographic, socio economic, political and institutional, technologic and environmental changes.

Although not very much felt in the past, population increase and urbanization will constitute one of the factors that will affect forest sector in the 20 years. Pressure on forest resources will increase, particularly those related to the land acquisition. The pressure on the forests in remote rural areas, on the other hand, will likely to decrease. Urbanization will be escorted by increased awareness and education which in turn will lead to wiser management of forest resources.

Competitive trade will continue to affect the sector even more widely under the effects of globalization. The GDF will have to tight its austerity measures to survive, which may lead to the loss of some benefits of the forest villagers unless appropriate measures are not taken at governmental level. On the other hand, increase in demand for forest products because of the increased processing capacity of the forest industry and increased wish to use environment friendly technologies in various sectors including construction sector, will contribute to the financial capacity of forestry organizations.

EU adaptation process will be the basic force to shape the future political and institutional structures. In terms of forestry state domination is expected to continue, but the participation schemes will be developed and local administrations as well as NGOs will have important roles at the decisions taken.

Technological developments, particularly GIS technology will effectively contribute to forestry. The forestry will benefit from other possible technological developments.

Droughts, erosion, water quality, industrial wastes, air pollution are the main concerns for the next 20 years. Evidences of damages from acid rains and air pollution are in slight increase. Forest fires and genetic deterioration are among other adverse environmental effects.

The scenario for the next 20 years suggests the following opportunities: EU adaptation process, new and sustainable agricultural policies, increased awareness towards the conservation and sustainable use of natural resources, large forest areas, rich biodiversity and non wood forest products and services, high technical capacity, concerns for clean water, demand for thin wood, law enforcement, information and communication technology. The threats are listed as follows: exaggerated reformist attempts, polarization between sectors, monopolistic development of private capital, critical legal amendments without impact assessments, Institutional structures of local administrations, undervaluing of forest resources and services, uncontrolled urban expansion, uncontrolled and unsustainable tourism, weakening of small and middle scale forest industry, easy access to remote forest areas, widening gap between poor and reach.

The first and most important priority for the next 20 years is the settlement of forest cadastre and forest land ownership conflicts. Then the conservation and sustainable and equitable use of biological diversity comes next. Another important priority is the strengthening the institutional capacity of forestry in Turkey. The priorities that are not internal to forestry but with strong links include eradication of poverty in rural areas, sustainment of forestry processing industry and strengthening of private sector that operates in forestry related issues.

The overall aim of forestry towards the 100th Anniversary of the Republic is “Conservation, development, expansion and sustainable management of forests in Turkey”. Partnership with stakeholders, improvement of cross sectoral relations, cooperation with private sector are important elements of the strategy. It is anticipated that threats to Turkish forestry will be reduced or removed, institutional capacity of forestry will be strengthened to the extend to cope future challenges. The increases capacity of civil societies and more aware community will contribute to the safeguarding of natural resources. The sector will be promoted at the national agenda. Defects of the forestry legal frame will be eliminated, law enforcement will be stabilized.

It is suggested that a high level advisory body is necessary to conduct, review, assess and advise on the forest issues and make sure that the activities are stream lined towards the aims. Such an advisory body should be composed of forest sector stake holders including NGOs, and cross sectors representatives.

The national forestry program must be regarded the most important tool towards the achievement of the sustainable forest management in the country. Every possible means should be utilized in preparing, implementing, monitoring and reporting the National Forestry Programs in a participatory manner.

International cooperation must be developed, special teams must be set to follow the forestry negotiations at international level and they must inform the related bodies about opportunities available at international level. Relations and dialog with international organizations must be intensified, cooperation at the region must be developed, information and expertise must be exchanged.

10 ANNEXES

10.1 Annex 1 WORK PROGRAMME

- 18.06.04 - Establishment of Core Working Group (CWG)**
- 24.06.04 - CWG 1.st Meeting**
- 09.07.04 - Preparation and Compilation of Documents**
- 14.07.04 - CWG 2.nd Meeting**
- 16.07.04 - Preparation of Turkey FOWECA Web Site**
- 21.07.04 - Study Visit to Beypazari District**
- 23.07.04 - Announcement of FOWECA work**
- 30.07.04 - Invitation to Expanded Working Group (EWG)**
- 25.08.04 - CWG 3.th Meeting**
- 27.08.04 - Survey on INTERNET**
- 21.09.04 - EWG Workshop**
- 22.09.04 - Meeting with TEMA (environmental NGO) and ORKOOP (Forest Village Coop.)**
- 23.09.04 - Meeting with DHKV (environmental NGO) and CAMSAN (Private Sector)**
- 24.09.04 - Study visit to Camlidere District – meeting harvesters, foresters, villagers, pri.sect.**
- 27.09.04 - Circulation of EWG 1.Workshop Report for views**
- 13.10.04 - CWG 4.th Meeting (Assessment of the views received)**
- 23.11.04 – Drafting the report**
- 15.01.05 - CWG 5.th Meeting (Finalizing the draft)**
- 18.01.05 - Circulation of the Draft to the members of EWG**
- 28.02.05 – Preparing the Final Report**

10.2 Annex 2

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10.3 Annex 3

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Mufit AKTAS	Ministry of Agriculture and Village Affairs - RPC
Nevzat KARATAS	Ministry of Culture and Tourism
Nese BOLKOZ	Ministry of Education
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Sedat KALEM	WWF-Turkey (DHKV)- Environmental NGO
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Turgut CELIKKOL	TEMA- Foundation for Combatting Erosion and Aforestation
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Talat MEMIS	OMO- The Chamber of Forest Engineers
M.Ali TAN	Ankara Metropol Municipality

10.4 Annex 4

SOCIAL AND ECONOMIC INDICATORS

Indicators	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
Population (1000 person)	60612	61737	62873	64015	65157	66293	67420	68529	69626	70712
- Urban Population %							59,1	59,6	60,2	60,8
- Rural Population %							40,9	40,4	39,8	39,2
Population Growth %	1,9	1,8	1,8	1,8	1,8	1,7	1,7	1,6	1,6	1,5
GNP Per Capita (US\$)	2184	2759	2928	3079	3255	2879	2965	2123	2598	3383
Unemployment %	8,6	7,6	6,6	6,8	6,9	7,7	6,4	8,5	10,3	10,5
Adult Basic Education %	84,4	85,2	85,1	85,3	85,9	86,3	86,4	86,3	87,5	88,3
Share of Spending for Education in Budget %	13,4	12,2	11,1	11,9	12,4	11,8	10,1	8,7	8,7	10,3
Share of Spending for Health in Budget %			7,6	8,5	8,6	8,3	8,4	9,0	9,1	
Arable land (Ha/Person)	0,46	0,43	0,43	0,42	0,41	0,40	0,39	0,38	0,38	0,38
Annual Energy Consump. (KEP/Person)	976	1033	1114	1157	1153	1128	1204	1107	1125	
Protected Area for Biological Diversity %	1,83	1,91	1,98	1,98	1,99	2,09	2,89	2,89	2,89	
CO2 Emission (ton/per)		2,79	3,04	3,20	3,13	3,20	3,37	3,14		
Inflation (Consumer Price Index) %	125,5	78,9	79,8	99,1	69,7	68,8	39,0	68,5	29,7	18,4
US\$ Rate at Free Market (1000 Turkish Lira)	39	60	108	207	316	542	672	1444	1658	1400
Exports (Million US\$)					26983	26588	27775	31334	36059	47253
Imports (Million US\$)					45922	40686	54503	41399	51554	69340
Foreign Investment (Realized –Million US\$)	636	934	914	852	953	813	1707	3288	549	

Source : State Planning Organization – State Statistics Institute 30.09.2004

10.5 Annex 5 OUTLOOK SURVEY RESULTS

Forests and Forestry at 100th Anniversary of Republic of Turkey

Q1- How is the relation of the forestry sector with rural development ?	Foresters (%)	Non-Fo. (%)	Unknown (%)	Total (%)
Forestry is important for rural development but legislation limits its potential	27	24	12	19
Forestry contributes well, implementations are successful	3	6	3	4
Forest villages should be more supported to protect forests	23	53	48	42
Development of Fo.Villages is not feasible, they should be moved	47	17	37	35

Q2- Is support given by ORKOY (Forest Village Relations Department) enough ?	Foresters (%)	Non-Fo. (%)	Unknown (%)	Total (%)
No and forest villages are not well informed about ORKOY	37	56	39	42
Yes. It must continue as it is.	3	4	2	3
Models and approaches of ORKOY should be changed	43	26	45	40
ORKOY has no contribution to sustainable forest management	17	14	14	15

Q3- How industrialization and urbanization affects forestry and forests in Turkey ?	Foresters (%)	Non-Fo. (%)	Unknown (%)	Total (%)
Forestry is not affected. No need for change in policies	2	4	2	3
New demands for services and other products gain importance over wood	63	34	61	55
Wood production will always be the most important in forestry	6	6	4	5
Other sectors and local administrations will take more role & responsibility	29	56	33	37

Q4- What are the effects of globalization in forests and forestry ?	Foresters (%)	Non-Fo. (%)	Unknown (%)	Total (%)
Increases the rural poverty and destruction of forests	40	64	35	44
Provides new benefits and rights to rural community	11	11	14	12
Causes establishment of new mechanisms to protect forests better	37	18	39	33
Have no effects on forests and forestry	12	7	12	11

Q5- What is the main causes of deforestation in Turkey ?	Foresters (%)	Non-Fo. (%)	Unknown (%)	Total (%)
Legislative changes and arrangements against forests and forestry	42	41	38	40
Lack of finance and wrong use of technology in forestry activities	6	15	12	11
Ilicit cuttings, destruction of forest villagers	20	17	24	21
Developments of other sectors, narrowing arable land, urbanization	32	27	26	28

Q6- If measures against deforestation, erosion, destruction of biological diversity are not effective, what is the reasons ?	Foresters (%)	Non-Fo. (%)	Unknown (%)	Total (%)
Existing measures and implementations are effective	2	1	3	2
Not effective because of the legislative deficiency	16	22	11	15
Not effective because of the lack finance, institutions, and awareness	72	63	79	73
Other sectors do not attach any importance to the issue.	10	14	7	10

Q7- What is the most important problem that deforestation bring about ?	Foresters (%)	Non-Fo. (%)	Unknown (%)	Total (%)
Desertification	13	19	16	16
Climate change	9	11	10	11
Rural – Urban migration because of unemployment	5	15	8	8
Destruction of ecosystems and biodiversity	73	55	66	65

Q8- What can be said about the control of erosion in Turkey ?	Foresters (%)	Non-Fo. (%)	Unknown (%)	Total (%)
It is a natural process, there is no much to do	3	6	1	3
It is a national problem at disaster level, should be solved by forestry	38	49	41	42
Current works are satisfactory, forestry takes necessary measures	7	2	11	8
Cannot be solved by forestry, another specialized institution must be set up	52	43	47	47

Q9- What do you think about the protection of wild life and biological diversity in Turkey ?	Foresters (%)	Non-Fo. (%)	Unknown (%)	Total (%)
Their use- conserve balance are kept well and progressing positively	8	1	5	5
They are over used, destructed, protection is insufficient	32	52	29	36
They are good commercial resources, they contribute to national economy	35	20	33	30
They must be protected completely, should not be evaluated economically	25	27	33	29

Q10- What do you say about the institutional structure of Forestry in Turkey ?	Foresters (%)	Non-Fo. (%)	Unknown (%)	Total (%)
Existing structure is performing well, should be maintained	1	6	4	4
Forestry should be organized under a single ministry	14	31	20	21
Forestry should be organized under General Directorate of Forestry (GDF)	44	23	37	35
Forestry should be organized under a new different constitutional unit ?	41	40	39	40

Q11- How should be forestry education and training ?	Foresters (%)	Non-Fo. (%)	Unknown (%)	Total (%)
Existing education and training system is sufficient	8	2	1	3
Intermediate schools for forestry should be established (2 years after HS)	58	51	69	61
There is no need for intermediate schools, in job training is enough	1	4	1	2
The contents of the training of the forestry faculties should be updated	33	43	29	34

Q12- What do you think about the sustainable financing of forestry ?	Foresters (%)	Non-Fo. (%)	Unknown (%)	Total (%)
Current financing of the sector is fine and enough	27	11	17	18
Revolving budget should be abolished, single budget and more funds needed	34	42	42	40
More Subvention and support to forest villages are necessary	24	43	31	32
Subventions and support to forest villages should be removed	15	4	10	10

Q13- What can be done to solve the conflicts in forest ownership and land use issues ?	Foresters (%)	Non-Fo. (%)	Unknown (%)	Total (%)
Forest cadastre works should be transferred to General Deed & Cadastre Dp.	26	10	19	19
Cadastre teams of GDF should be increased and strengthened to finish cadas.	49	53	49	50
2-B and similar implementations should be abolished and avoided	13	29	23	22
More concessions should be given in a flexible approach in ownership issue	12	8	9	9

Q14- What do you think about the forest and range-land relations ?	Foresters (%)	Non-Fo. (%)	Unknown (%)	Total (%)
Current implementations and the Law on Rangelands are convenient	5	2	1	3
The Law on Rangelands and related institutions are insufficient	30	35	36	34
Plans for rangelands in forest area should be prepared by forestry department	30	44	38	37
Ministry of Agriculture and Village Affairs should manage all rangelands	35	19	25	26

Q15- What do you think about the wood production ?	Foresters (%)	Non-Fo. (%)	Unknown (%)	Total (%)
Meets market demands and standards appropriately	28	17	27	25
Production exceeds the capacity, should be dropped, imports will fill the gap	26	15	19	20
Production is less than capacity, should be increased instead of import	7	15	10	11
Wood is wasted, production of industrial instead of fuel wood must be incr.	39	53	44	44

Q16-What can be done to meet the domestic wood products demand in Turkey ?	Foresters (%)	Non-Fo. (%)	Unknown (%)	Total (%)
Use of fuel wood should be decreased by using alternative energy sources.	67	47	57	57
More block industrial plantations should be established (fast growing spe.)	7	23	16	15
Harvesting techniques should be modernized to decrease loses	17	11	14	15
Recycling particularly paper recycling should widely be expanded	9	19	13	13

Q17- Why None wood forest products are important ?	Foresters (%)	Non-Fo. (%)	Unknown (%)	Total (%)
For species diversity, gene resources, soil stabilization, curbing erosion	55	45	64	56
For food security and economic contribution in rural communities	33	40	26	32
For provision of currency	4	8	6	6
For development of industry	8	7	4	6

Q18- What do you think about the production, use and marketing of NWFPs ?	Foresters (%)	Non-Fo. (%)	Unknown (%)	Total (%)
NWFP production must be limited, all species must be protected	28	30	29	29
NWPS are important resource of currency, their production should be incr.	37	27	33	33
Instead of natural NWFP, cultures should be produced and marketed	23	40	29	30
Existing production system must be kept but processed NWFP be marketed	12	3	9	8

Q19- What is the situation in Turkey, in combating forest fires ?	Foresters (%)	Non-Fo. (%)	Unknown (%)	Total (%)
Legal and technical measures are effective, sufficient and necessary	30	5	24	21
Its too costly, the importance given is more than necessary	25	10	7	13
The awareness and knowledge of the people is low, should be increased	37	64	60	54
People fulfils its responsibility whereas Government do not	8	21	9	12

Q20- Are measures against forest pest and diseases enough ?	Foresters (%)	Non-Fo. (%)	Unknown (%)	Total (%)
Researches and implementations are insufficient	36	35	35	35
Researches and implementations are satisfactory no more waste of money	12	1	6	7
It is a natural phenomena in forests, increases do not sustain	20	19	12	16
They damage forests seriously, It must be fought at higher extends	32	45	47	42

Q21- What are your views about the methods used to prevent pest and diseases ?	Foresters (%)	Non-Fo. (%)	Unknown (%)	Total (%)
Applied techniques (mechanic, biological & chemical) are appropriate	18	8	9	12
Chemical methods should be banned instead	58	78	67	66
It is a natural phenomena in forests, increases do not sustain	4	8	6	6
They damage forests seriously, It must be fought at higher extends	20	6	18	16

Q22- What is the best practice to minimize the adverse effects of grazing in forest ?	Foresters (%)	Non-Fo. (%)	Unknown (%)	Total (%)
Grazing in forest areas should certainly not be allowed	16	22	18	19
Gaps in the forests should be rehabilitated and opened to grazing	8	15	10	10
Fodder plants should be introduced to villagers, husbandry encouraged	42	29	34	35
Grazing must regularly be planned to maintain the traditional ways	34	34	38	36

Q23- What do you think about the protected areas in Turkey ?	Foresters (%)	Non-Fo. (%)	Unknown (%)	Total (%)
Protected areas are good enough in area	10	4	5	6
The classes of protected areas weren't carefully identified, must be reviewed	17	16	16	16
The area of protected areas are not enough, they should be increased	4	18	10	11
They should be increased with careful classification and appropriate use	69	62	69	67

Q24- How do you comment on the expansion of agricultural land into forest areas and rangelands ?	Foresters (%)	Non-Fo. (%)	Unknown (%)	Total (%)
There is no such an expansion	7	7	3	5
Expansion is scientifically true and in place, it should continue	2	3	4	3
Expansion has been realized in due extend so far, must be stopped now on.	31	33	29	31
Areas that has been mistakenly opened to agriculture, must be reforested	60	57	64	61

Q25- What can be said about the use of forest land for non-forest purposes (mine, tourism structures etc) ?	Foresters (%)	Non-Fo. (%)	Unknown (%)	Total (%)
They are economic values that has to be utilized, it should be continued	61	29	46	46
The use of forest land should be more restricted to other uses	24	47	36	35
Uses for mine extraction should continue, but for tourism should not	11	20	15	15
Tourism is the most important currency source, more areas should be given	4	4	3	4

Q26- What would happen to our forests after 15 years	Foresters (%)	Non-Fo. (%)	Unknown (%)	Total (%)
There will be no change	9	18	9	11
They will increase	47	13	43	36
They will decrease	35	60	40	44
I don't know	9	9	8	9

Q27- What can be done in order to leave the forests in good conditions to future generations ?	Foresters (%)	Non-Fo. (%)	Unknown (%)	Total (%)
Existing policies will result in that	10	0	1	4
Government should take strong measures to protect them	13	18	17	16
Government should cooperate with NGOs and other civil society	71	73	76	73
Forests should be opened to private sector	6	9	6	7

Q28- What would you like to see after 15 years in terms of forests ?	Foresters (%)	Non-Fo. (%)	Unknown (%)	Total (%)
Forests must cover at least 30 % of the Country area	87	91	94	91
Forests must stay as they are	7	1	3	4
Some of forest parts should be allocated to agricultural or other uses	1	4	2	2
I have no idea	5	4	1	3

Q29- What most likely would threat our forests after 15 years ?	Foresters (%)	Non-Fo. (%)	Unknown (%)	Total (%)
Industrialization and urbanization	23	29	24	25
Increase in poverty and as consequence destruction by rural community	38	13	28	27
Uncontrolled tourism and allocations for other uses under public benefit	31	50	41	40
Other factors	8	8	7	8

Q30- What would most play a role to protect forests after 15 years ?	Foresters (%)	Non-Fo. (%)	Unknown (%)	Total (%)
Increase in public awareness and education	48	37	38	41
Civil society will become an effective force	22	23	20	21
Transition to decentralized, participatory, local protection systems	21	35	34	31
Entering into European Union	9	5	8	7

10.6 Annex 6 FOREST RESOURCES

Area of Forest and Other Wooded Land (Hectare)

	High Forest	Coppice	Total
Forests	8.732.761	1.759.421	10.491.182
Other Wooded Land	6.442.628	4.121.633	10.564.261
FOWL	15.175.389	5.881.054	21.056.443

Note 1 - The canopy cover for 2.262.875 ha of high forest is between 40-10 %

Note 2 - Total of 2.022.007 ha of high forest is currently regenerated area ("a"-“ab” age class).

Volume of Forest and Other Wooded Land (M³)

	High Forest	Coppice	Total
Forests	1.103.081.469	75.789.952	1.178.871.421
Other Wooded Land	64.946.434	23.538.863	88.485.297
FOWL	1.168.027.903	99.328.815	1.267.356.718

Note : Volume measurement unit for coppices is “ster”, it is converted to m³ by multiplying to 0.75

Increment of Forest and Other Wooded Land (M³)

	High Forest	Coppice	Total
Forests	28.922.186	4.128.039	33.050.225
Other Wooded Land	1.485.107	899.497	2.384.604
FOWL	30.407.293	5.027.536	35.434.829

Area of Forest and Other Wooded Land by Mixture (Hectare)

	High Forests			Coppices			Total		
	Forest	OWL	FOWL	Forest	OWL	FOWL	Forest	OWL	FOWL
Pure Conifer	4189690	3264927	7454616	0	0	0	4189690	3264927	7454616
Mixed Conifer	1966154	1837240	3803394	0	0	0	1966154	1837240	3803394
Pure Broadleave	306380	247413	553793	0	0	0	306380	247413	553793
Mixed Broadleave	914069	283155	1197223	1759421	4121633	5881054	2673489	4404787	7078276
Conifer+Broadleave	1356469	809894	2166363	0	0	0	1356470	809894	2166364

Area of Forest and Other Wooded Land by Tree Species (Hectare)

	High Forests			Coppices			Total		
	Forest	OWL	FOWL	Forest	OWL	FOWL	Forest	OWL	FOWL
Calabrian Pine	2961816	2425542	5387357	14694	611568	626261	2976509	3037109	6013618
Black Pine	2355575	1846933	4202508	41717	581742	623458	2397291	2428675	4825966
Scotch Pine	713284	524071	1237355	14275	261192	275467	727559	785263	1512822
Fir	397510	246472	643982	1725	60563	62288	399235	307035	706270
Spruce	213517	83879	297397	1857	44711	46568	215374	128590	343964
Cedar	169569	174023	343592	0	6472	6472	169569	180495	350064
Juniper	76014	323605	399618	1974	32602	34576	77988	356206	434194
Stone Pine	25598	13811	39409	0	1533	1533	25598	15344	40942
Aleppo Pine	465	250	715	0	0	0	465	250	715
Maritime Pine	52441	3056	55497	2509	14829	17338	54950	17885	72834
Beech	1308396	377162	1685558	21657	89045	110702	1330053	466207	1796260
Oak	322537	347364	669902	1645024	2379235	4024259	1967561	2726600	4694161
Hornbeam	10312	279	10591	1307	1654	2960	11619	1933	13551
Alder	58493	35521	94014	82	4726	4808	58575	40247	98822
Poplar	3032	4931	7963	0	16	16	3032	4947	7979
Chestnut	45095	28159	73254	7977	26536	34513	53072	54694	107766
Ash	10032	1642	11674	1328	1984	3311	11359	3625	14985
Lime	5351	1680	7031	0	702	702	5351	2382	7732
Sycamore	585	67	652	0	0	0	585	67	652
Other Species	3039	8781	11820	3295	2523	5818	6334	11304	17638

10.7 Annex 7 ORGANIZATION STRUCTURE OF MEF

Central Organization Structure of the MEF

Minister

Undersecretary
Assistant Undersecretaries (4)

Advisory and Inspection Units

Research Planning and Coordination Board
Inspection Board
Legal Consultancy
Press and Public Relations Consultancy
Advisors for Minister

Main Service Units

Environment Management GD
Environmental Impact Assessment and Planning GD
Reforestation and Erosion Control GD
Nature Protection and Natural Parks GD
Forest Village Relations GD
Research and Development Department
Foreign Relations and European Union Department
Training and Extension Department

Supporting Units

Personnel Department
Administrative and Financial Affairs Department
Data processing Department
Civil Defense Secretary
Minister's Special Bureau

Connected Units

Forestry GD
State Meteorology Affairs GD
The Authority for the Protection of Special Areas

Rural Organization Structure of the MEF

81 Provincial Directorate for Environment and Forestry
11 Forest Research Institutes

Contacts : Tel +90 312 425 4606 (Minister's Office) Fax +90 312 418 7354 (Minister's Office)
Tel +90 312 417 8499 (Coordination Unit) Fax +90 312 417 9160 (Coordination Unit)
E-mail :

Web : www.cevreorman.gov.tr

10.8 Annex 8 ORGANIZATION STRUCTURE OF GDF

Central Organization Structure of the GDF

General Director

General Director Assistants (5)

Advisory and Inspection Units

Research Planning and Coordination Department

Inspection Board

Legal Consultancy

Main Service Units

Forest Protection and Fire Combating Department

Forest Management Planning Department

Forest Production and Marketing Department

Silviculture Department

Forest Cadastre and Ownership Department

Construction and Supply Department

Supporting Units

Personnel Department

Administrative and Financial Affairs Department

Training Department

Civil Defense Secretary

Rural Organization Structure of the GDF

27 Regional Directorate

217 Forest District Directorate

1312 Forest Sub-district

Map and Photogrametry Directorate

Spare Parts Depot Directorate

Contacts : Tel +90 312 222 5159 (GD's Office) Fax +90 312 222 2078 (Minister's Office)
Tel +90 312 296 4215 (Coordination Unit) Fax +90 312 222 7336 (Coordination Unit)
E-mail : apk@ogm.gov.tr
Web : www.ogm.gov.tr

10.9 Annex 9 FOREST FIRES & OFFENCES

Forest Fires Preventing and Combating Organization

Number of Forest Guards	5906	Helicopters (hired)	16
Number of Fire Fighters	10174	Air-Crafts (hired)	15
Budget (Million \$)	93	C-130 Heavy duty air crafts (Army)	4
Fire safety roads (km)	17632	Fire Engines	645
Fire safety strips (km)	8899	Dozers	144
Ponds	344	Loders	38
Artificial lakes	19	Greyders	126
Aircraft runway	14	Treylers	100
Helicopter pistes	83	Water tanks	143
Lookout towers	775	Motor-cycles	417
Communication centers	717	Land vehicles	366
Helicopters (owned)	6		

Forest Fires Statistics (Last 7 years)

	UNIT	1998	1999	2000	2001	2002	2003	2004
NUMBER OF FOREST FIRES	Num.	1932	2075	2353	2631	1469	2171	1756
Arson	Num.	249	279	410	251	190	260	233
Ignorance	Num.	1163	1151	1380	1629	745	1192	914
Natural	Num.	53	203	132	188	179	120	131
Unknown	Num.	467	442	427	563	355	599	400
BURNED AREA	Ha	6764	5804	26353	7394	8514	6644	4876
Closed high forests	Ha	4225	2880	20134	4225	4180	4722	3611
Degraded high forests	Ha	1219	963	2473	1457	3246	1223	519
Coppice with standarts	Ha	273	136	1973	308	147	160	313
Degraded coppices	Ha	1047	825	1773	1404	952	542	414

Number of forest offences

	1998	1999	2000	2001	2002	2003	2004
-----	-----	-----	-----	-----	-----	-----	-----
FOREST OFFENCES	39320	30770	28051	29369	27298	26039	24976
ILLICIT CUTS	15044	12138	11357	10963	10227	10786	8472
SMUGGLING	5911	4085	2499	3529	4378	4436	3246
CLEARING	5429	5384	4529	5248	5008	3886	3523
ILL. POSSESSION	4411	3646	3164	3476	3157	2725	2306
ILLEGAL CONSUMING	2140	1746	1405	1554	1084	1747	397
GRAZING	6385	3771	5250	3281	3051	2726	3720

10.10 Annex 10 PESTS IN FORESTS OF TURKEY

The list of most widely seen pests:

- *Thaumetopoea pityocompa* (Red pine, Carabian pine, other pines)
- *Acleris undulana* (Cedar forests)
- *Diprion pini* ve *Neodiprin sertifer* (Red pine, Scotch pine)
- *Rhyacionia buoliana* (Pine forests)
- *Orthotomicus erosus*, *Blastophagus minor*, *Blastophagus piniperda* (Pine forests)
- *Lymantria dispar*, *Euproctis chrysorrhoea* (Broadleaved species)
- *Ips sexdentatus* (Spruce forests)
- *Dendroctonus micans* (250.000 ha Spruce forests)
- *Ips typographus* (170.000 ha Spruce forests)
- *Pityokteines curvidens* ve *Cryphalus piceae* (250.000 ha Fir forests)
- *Pissodes notatus* (18.000 ha Carabian pine, Scotch pine young stands)
- *Trisetacus pini* (Carabian pine young stands)
- *Lophodermium pinastri* (Pine young stands)
- *Ceratocystis ulmi* (Carabian pine forests)
- *Endothia parasitica* (Chestnut forests)
- *Viscum album* (Pine, Spruce and Fir)

10.11 Annex 11 SILVICULTURAL PRACTISES

SILVICULTURAL WORK	Average		2003	2004
	unit	1998-2002		
REGENERATION	Ha	30.258	25.090	26.406
Natural	Ha	14.821	14.559	11.654
Artificial	Ha	15.436	10.531	14.752
TENDING	Ha	281.741	240.258	237.398
Cleaning	Ha	77.279	80.712	77.123
Release cutting	Ha	57.439	66.392	72.866
First thinning	Ha	30.796	11.144	10.665
Culture tending (Ex-situ)	Ha	92.674	77.582	74.017
Culture tending (In-situ)	Ha	23.552	4.428	2.727
CONVERSION OF COPPICE	Ha	8.683	8.502	10.073
ENERGY FOREST ESTABLISHMENT	Ha	11.764	14.812	13.086
REHABILITATION	Ha	4.912	5.187	3.560

10.12 Annex 12 WOOD PRODUCTION

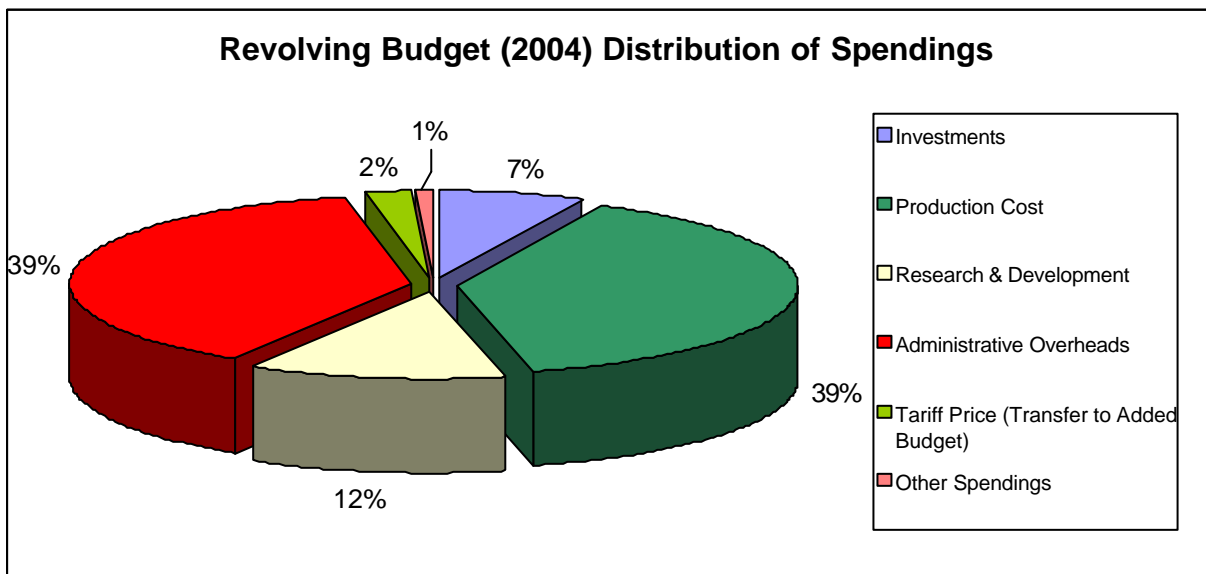
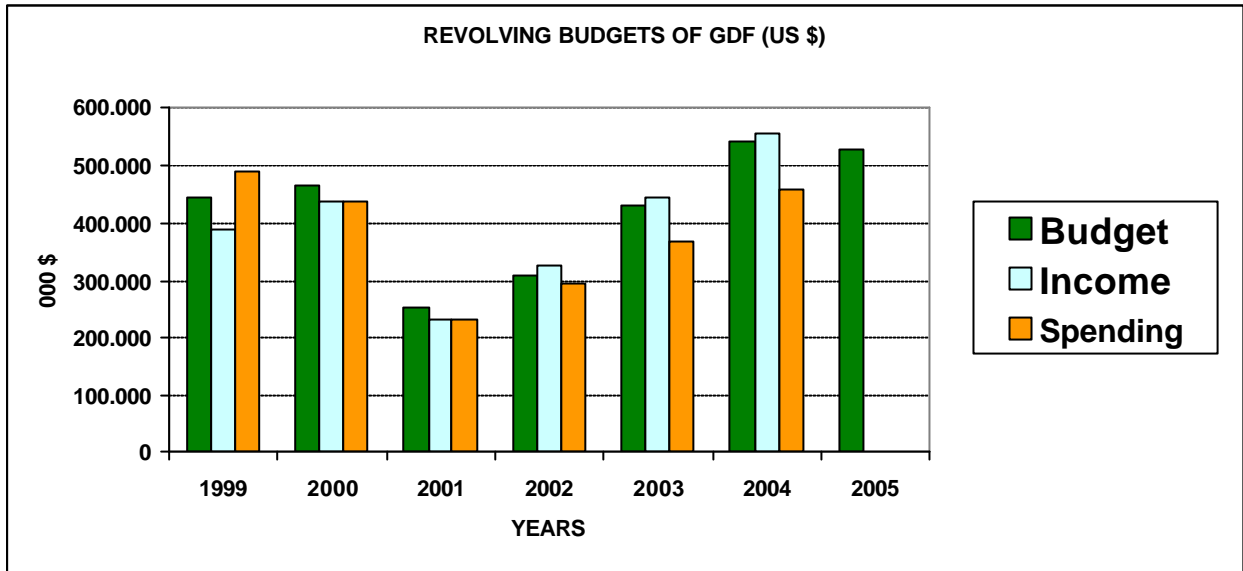
Wood production by product types

	UNIT	1996	1997	1998	1999	2000	2001	2002	2003	2004
INDUSTRIAL WOOD	1000 M3	7528	6974	7051	7066	7329	6778	8005	7320	8196
LOG	1000 M3	3172	2845	2817	2833	3007	2738	3297	2827	3033
ELECTRICITY POLE	1000 M3	88	53	36	90	155	85	29	39	45
MINE POLE	1000 M3	436	444	483	456	413	380	607	422	434
OTHER ROUND WOOD	1000 M3	883	834	826	804	830	776	776	778	741
PULPWOOD	1000 M3	1568	1369	1588	1610	1533	1525	1460	1169	1651
CHIP AND FIBRE	1000 M3	1362	1406	1278	1252	1371	1255	1821	2073	2278
THIN POLE	1000 M3	19	23	23	21	20	19	16	12	14
FUEL WOOD	1000 STR	10402	9176	8372	8167	7861	7577	7587	7816	7700

Wood production and consumption

Type		1995	1996	1997	1998	1999	2000	2001	2002	2003	2004
Industrial wood (1000 m ³)	PRODUCTION	10.984	10.548	10.146	10.315	10.442	10.590	10.078	11.300	10.620	11.496
	GDF	8.046	7.529	7.046	7.148	7.242	7.328	6.778	8.000	7.320	8.196
	PRIVATE SEC.	2.938	3.019	3.100	3.167	3.200	3.262	3.300	3.300	3.300	3.300
	CONSUMPTION	11.535	11.602	11.650	11.542	12.051	12.784	11.008	12.450	11.780	13.048
	IMP. / EXP.	854	1.170	1.099	1.271	1.500	1.880	930	1.200	1.060	1.550
Fuel wood (1000 Str)	PRODUCTION	20.053	20.658	19.270	18.160	17.806	17.205	16.712	16.437	16.381	15.730
	GDF	9.539	10.402	9.263	8.394	8.272	7.885	7.577	7.587	7.816	7.950
	Illegal	8.694	8.416	8.147	7.886	7.634	7.400	7.200	6.900	6.600	5.800
	PRIVATE SEC.	1.820	1.840	1.860	1.880	1.900	1.920	1.935	1.950	1.965	1.980
	CONSUMPTION	20.892	20.461	18.655	18.138	17.784	17.502	16.684	16.600	16.360	16.080
	IMP. / EXP.								250	338	350
Total wood (1000m ³)	PRODUCTION	26.024	26.042	24.598	23.935	23.796	23.494	22.612	23.628	22.906	23.294
	GDF	15.200	15.331	13.993	13.444	13.446	13.242	12.461	13.690	13.182	14.159
	Illegal	6.521	6.312	6.110	5.915	5.725	5.550	5.400	5.175	4.950	4.350
	PRIVATE SEC.	4.303	4.399	4.495	4.577	4.625	4.702	4.751	4.763	4.774	4.785
	CONSUMPTION	27.204	26.948	25.641	25.146	25.389	25.911	23.521	24.900	24.050	25.106
	IMP. / EXP.	854	1.170	1.099	1.271	1.500	1.880	930	1.388	1.314	1.812

10.13 Annex 13 GDF REVOLVING BUDGET



10.14 Annex 14 NON WOOD FOREST PRODUCTS

Most widely found NWFPs in Turkey

Althea officinalis	Matricaria chamomilla
Anemone Blanda	Melissa offisinalis
Arbutus unedo	Mentha aquatica
Arceuthos drupacea	Morchella conica
Arum italicum	Myrtulus cominis leaves
Arundo	Olea
Astragalus	Orchidacea
Atropa belladonna	Pinus Pinea Nut
Betula pendula	Pistasia
Bolerus edulis	Prunus avium
Buxus sempervirens	Prunus laurocerasus
Cantharellus cibarius	Prunus laurocerasus
Capparis	Prunus spinosa
Castanea sativa	Quercus ithaburensis
Celtis australis	Resine
Ceratonia siliqua	Resinous wood
Cistus	Rhizopogon luteolus
Corylus avellana	Rhodadendrom
Cotoneaster	Rosa
Crataegus monogyna	Rosmarinus officinalis
Crocus neapolitanus	Rubus ceasius
Cyclamen	Ruhus Coriariae / Catunus coggyria
Digitalis	Ruscus acilaetus
Dryopteris	Salvia
Eranthis hyemalis	Sideristis comgesta
Erica	Sorbus aucuparia
Eucalyptus leaves	Taxus baccata
Ferula elaeochytris	Thymus
Foeniculum vulgare	Ticholoma matsutake
Fragaria vesca	Tilia tomentosa
Frangula alnus	Urgenia maritima
Fritillaria persica	Urtica
Galanthus	Vaccinium
Gentiana lutea	Xites agnus -castus
Geranium tuberosum	
Hedera Helix	
Humulus lupulus	
Hypericum montana	
Juglans	
Laurus nobilis	
Lavandual stoechas	
Lentinus edodes	
Leocojum aestivum	
Liquidambar orientalis	
Lycopodium annotinum	
Makva silvestris	
Malus sylvestris	

EXTRACTS FROM THE 1982 CONSTITUTION (FORESTRY AND ENVIRONMENT)

Article 44: The state shall take necessary measures to maintain and develop efficient land utilization to prevent soil loss by erosion, and to provide land to the farmers who have no or insufficient land, with the condition that it should not lead reduction in production or depletion of forest and other land and underground resources;

Article 56: Everyone has the right to leave in a healthy and balanced environment. It is the duty of the state and citizens to improve the natural environment and to prevent environmental pollution.

Article 169: The state shall enact necessary legislation and take measures for the protection of forests and expansion of their areas. Forest areas destroyed by fire shall be reforested as soon as possible and any agricultural or livestock activity shall not be permitted on such lands. All forests shall be under the care and supervision of the state.

The ownership of the state forests can not be transferred to others. State forests shall be managed and utilized by the state under law.

Acts and actions which might damage forests shall not be permitted. No political propaganda which might lead to the destruction of the forests shall be made; no amnesties or pardons to be specifically granted for offences against forests shall be legislated. Offences committed with the intention of burning or destroying forests or reducing forest areas shall not be included within the scope of amnesties or pardons on other occasions.

The narrowing of forest boundaries shall be prohibited, except in respect of areas of which preservation as forest is considered technically and scientifically useless, but their conversion into agricultural land found definitely advantageous, and in respect of fields, vineyards, orchards, olive grows and similar areas which technically and scientifically ceased to be forest before 31 December 1981 and of which use for agriculture or animal husbandry found a advantageous, and in respect of the built-up areas in the vicinity of cities, towns and villages.

Article 170: Necessary measures shall be introduced by law to secure the cooperation between the state and inhabitants of the villages located within or near forests, in terms of supervision and utilization of forests for the purpose of ensuring their conservation and improvement of the living conditions of their inhabitants.

EXTRACTS FROM THE FOREST ACT 6831

Article 2 B. The areas that scientifically and technically lost their forest character prior to the date of 31 December 1981, and determined to be suitable for different agricultural purposes such as farmland, vineyard, garden, fruit, olive, hazelnut, pistachio orchards; or livestock purposes such as pasture, summer and winter grazing lands; or the settlement areas where city, town or village buildings exist, shall be excluded from the forest regime. Apart from such areas, no exclusion of any kind can be placed on the boundaries of forests.

Article 4: Three categories of forest ownership are accepted as: (1) state forests; (2) forests belonging to public legal entities; (3) private forests .

Article 6: The General Directorate of Forestry is responsible of all kind of works and transactions in forests.

Article 25: General Directorate of Forestry allocates, plans and manages the suitable forests and forest lands as the national parks, nature parks, nature reserves, natural monuments and forest recreation sites, to provide the needs of the society for scientific, environmental, aesthetic and recreational purposes. (Amended, some of the functions passed to the MEF)

Article 30: Auction is the basic way of marketing forest products from the state forests. The amount and quality of forest products in auctions have to be organized in parties considering the sale conditions and local necessities.

In case of meeting needs of public institutions and agencies or when considered necessary and useful in urgent needs of sale, all kind of forest products can be sold by allocation, with market prices.

Article 31, 32 and 34 : (These articles set the subsidized price of round and fuel wood sold to forest villagers for meeting their needs.)

Article 40: (The forest administration gives priority to the local forest villagers and cooperatives for employment in the wood harvesting and other forestry activities.)

Article 57: (Provides rights, supports and conditions for allocation of suitable degraded forest lands to village communities or private persons for forest plantation establishment and utilization purposes.)

Article 63: (Provides rights and conditions for tax exemption for the persons who establish forest or fast growing tree species plantations.)

Article 64: (A Reforestation Fund is established in the Ministry of Forestry for supporting reforestation/afforestation establishment and maintenance activities by the villagers, village communities, individuals, private sector and other state institutions and enterprises.)

10.16 Annex 16 WOOD HARVESTING SYSTEM AND PRODUCTION COST

Annual wood production programs of GDF are based on the annual allowable cut (AAC) values given in the forest management plans. However, actual production programs and achievement amounts are always below the AAC amounts (around 20-25 % during recent years) due to mainly : a) road access limitations, b) social disputes between village in some areas, c) lack of adequate number of staff at the field units of GDF (forest district and sub-district directorates). d) and precautions taken by forest management teams during the planning on the assumption that forest stands could be subject to illicit cuttings.

Marking and standing measurement of the trees is done under the supervision of the local forest engineers and then felling operations are contracted to local forest villagers through their cooperatives. Payments for felling, extraction and piling operations are done on piece rate determined by GDF based on work conditions (i.e. size of trees, slope, ground vegetation conditions, extraction distance to forest road side), previous year rates and inflation rate during previous year. Felling is carried out by chain saw or axe and extraction by tractor or oxen. Cable line extraction is used only in few areas of the northern regions of the country . Transportation of wood from forest road side to forest depot (usually 25-30 km distance) is also done by villagers with their trucks. Upon timely completion of the harvest, a 10 percent additional payment (premium) is made to harvesting workers. The forest law (Article 40) secures contracting of harvesting operations to local forest villagers. Private contractors can be used only if local villagers are not interested in working in harvesting or there is not sufficient local work force to complete the work.

The production cost of wood is determined by GDF, in accordance with its “Forest Enterprises Revolving Capital Regulations”. The cost components of wood cost calculations are as follows:

- **Tariff value : Standing value of wood.**
- **Harvesting costs : Average harvesting costs (felling, extraction, transportation to the roadside/forest depot, stocking and depot expenditures).**
- **Sale expenditures: Average sale expenditures spent for unit volume of wood.**
- **Distribution costs : They comprise a) forest maintenance and improvement expenditures; b) general administrative expenditures; and c) depreciation costs (for buildings, machinery and equipment).**
- **Forest rehabilitation expenditures : They are the share of transfers to the Treasury and Reforestation Fund and contingency expenditures and calculated as 20 % of the sum of the above given four cost items (1+2+3+4).**

Introduction

1. Forests cover about 25 percent of Turkey's land area and have significant economic, environmental and cultural functions. About 15 percent of Turkey's population lives in forest villages or forest-neighboring villages where forest resources make a vital contribution to livelihood. Urban dwellers are also taking an increasingly strong interest in forests particularly with respect to their biodiversity, environmental and recreational functions. The wide distribution of forests over different geographic regions provides for genetic diversity within species that represents immeasurable ecological and economical value. Turkish forests contain a broad range of valuable commercial timber species, making Turkey nearly self-sufficient in timber. Turkish forests also host a great diversity of flora of economic importance, including various medicinal, aromatic, industrial and ornamental plants; and provide the major habitats for most species of Turkish fauna. In some areas Turkish forests still include some of the last existing vestigial stands and pristine forest ecosystems of their type. Turkish forests also play a vital role in watershed protection and the control of flooding and soil erosion, an issue of major importance in Turkey.

2. The establishment of environmentally, socially and financially sustainable systems for the management of Turkey's forests will be reliant on the Government's response to a number of challenges and choices currently facing the sector. The environment of the Turkish forestry sector is changing rapidly, offering new opportunities and challenges. Perhaps the most significant changes in the sector's national context are Turkey's urbanization and overall economic growth, which have increased the demand for forest protection and willingness to pay for non-wood forest values. Turkey's reform agenda is also a very significant aspect of the sector's policy background. Steps taken to liberalize the economy put Turkey's forest products into competition with imported timber in 1993, causing the price of Turkish timber to drop and reducing an important source of sectoral revenue. Reform of state owned enterprises (SOEs) will affect some of the Ministry of Forestry's most important customers, which are slated for reform. Ongoing agricultural policy reforms, in which input subsidies and price supports are being replaced by income support payments, will lead farmers, including those living near forests, to change their pattern of production. Finally, continued emphasis on fiscal restraint by the Government of Turkey will limit support from the national budget to cover sectoral deficits.

3. To address emerging issues, the Government of Turkey requested in 1996 that the World Bank undertake a Forest Sector Review. In response, the Bank commissioned several background studies and undertook four missions to gather data and hold discussions with Government and other stakeholders. This document summarizes the results of that work. The review has identified several opportunities for the sector. First, management could improve the commercial efficiency of timber production in some of the more productive public forest areas. This could accompany a reduced emphasis on timber production in other areas, where forest management agencies could focus instead on meeting the rising demand for non-timber forest values. Second, Turkey's domestic consumption may be able to support an expansion of the forested area, yielding a net increase of revenue. Third, there is scope for improving sustainability by establishing community based forest management systems through introduction of long-term lease arrangements.

Challenges and Opportunities Facing the Forestry Sector

4. The review has identified several vital challenges facing the forestry sector. These include, poverty, land tenure, the need to establish multi-purpose, participatory forest management planning, and to control soil erosion in degraded areas; and the need to restore the sector's financial viability.

Poverty in Forest Areas

5. The first challenge is the poverty in forest areas. The 15 percent share of the Turkish population who live in forests or forest-neighboring villages are far poorer than the national average. Few agencies succeed in addressing their situation effectively, in part because of the remoteness of the areas where they live. They do not make a living from the forest; on the contrary, their incomes often depend heavily or in greater part on alternative land uses that can compete with forestry, such as agriculture and livestock grazing. Forest villagers do, however, depend on the forest for wood used for heating and cooking, and for animal fodder and grazing. Some wood is provided to forest villages by the Government's forestry agencies at reduced rates.

An equal or larger share of wood is illicitly cut by the villagers; indeed, the illicit cut is so large that the Ministry of Forestry now takes it into account in estimating the volume which can sustainably be cut for sale.

6. Forestry agency support programs for forest villagers may, in the past, have contributed substantially to villager income. However, recent surveys show that current contributions are relatively insignificant, and that the variable most associated with poverty is relative availability of land area that the villagers can use for livestock or agriculture. The inability of villagers to generate livelihoods from forest management has led to indifference toward conservation or forest development, while efforts to sustain livelihoods by other means often come at the cost of serious natural resource degradation. Out-migration from forest villages, prompted by poverty, is affecting the character of this issue. One means of harmonizing the disparate goals of villagers and other stakeholders would be to involve them in the formulation of forest management plans, in order to identify and agree on options for addressing poor forest villager's needs that are compatible with, or supportive of, sustainable forest management.

Ownership Boundaries in Forest Areas

7. A second issue of vital importance for the sustainability of forest management is the lack of clear ownership boundaries in forest areas. Vague boundaries have led to a multitude of ongoing disputes among stakeholders. Disputes have been exacerbated by revisions of the legal definition of forest, whereby revisions are followed by removal of areas from the forest regime, thereby necessitating renewal of cadastral surveys and resulting further tenure disputes. Many stakeholders believe that these changes in legal definition serve rapid urban expansion into forest areas, and are undertaken in the interest of elites rather than local rural people or the public good.

Completion of forest cadastral surveys and settlement of ownership disputes are priority challenges of the Turkish forestry sector. Establishment of an appropriate supporting legal framework will be of great importance in addressing these challenges.

Multi-Purpose, Participatory Forest Management Planning

8. The need to realign forest management planning from the centrally planned and primarily timber focussed system of the past, to a multi-purpose and participatory planning process is a priority challenge for the Turkish forestry sector. At present, different aspects of forest planning is undertaken by each of the four different General Directorates of the Ministry of Forestry (MOF). These include:

General Directorate of Forests. Forest management plans prepared and implemented by the General Directorate of Forests (OGM) aim principally at conservation of the existing forest resources and at development of forest tree vegetation (i.e. improving wood growing stock, age and diameter class distribution, wood quality) and adequate wood production. Forest

inventories with this purpose concentrate exclusively on trees, providing insufficient attention to other resources and functions of forests. Under the GEF financed Biodiversity Conservation and Natural Resource Management Project, OGM will pilot approaches to incorporating biodiversity conservation in the existing forest management planning process.

General Directorate of National Parks, Game and Wildlife. For national parks and protected areas, management plans are prepared and implemented by the General Directorate of National Parks, Game and Wildlife (MPG), in accordance with the National Parks Law. However, management plans have so far been developed for only a small fraction of designated protected areas. Wildlife resources inventories and management plans have not yet been completed for wildlife reserves - about 1.8 million ha, mostly occurring on forest lands. Moreover, plans fall short in sustainable management practices, particularly with respect to involvement of local people and other key stakeholders. Under the GEF financed Biodiversity Conservation and Natural Resource Management Project, MPG in collaboration with the other General Directorates of the Ministry of Forestry, local communities and other key stakeholders, will pilot participatory development and implementation of conservation management plans for protected areas and associated landscapes, including production forests and agricultural lands.

General Directorate for Forest Village Relations. Forest village development plans are prepared by the General Directorate for Forest Village Relations (ORKOY). These concentrate on small-scale income-generation activities, but do not establish clear linkages with development and conservation of natural resources. Further, most of the existing forest village development plans of ORKOY were prepared during 1974-1984, and are now outdated. There is a need to incorporate social issues in forest management planning and realign the role of ORKOY to a more strategic approach to catalyzing, in coordination with other development and local Government agencies, alleviation of poverty that is linked to forest resource degradation.

General Directorate of Reforestation and Erosion Control. Reforestation, erosion control and pasture improvement plans and projects, prepared by the General Directorate of Reforestation and Erosion Control (AGM), have some inadequacies with regard to socioeconomic, biodiversity and environmental impact aspects. However, during recent years significant progress is being made in the preparation and implementation of integrated/ participatory watershed development plans under the Eastern Anatolia Watershed Rehabilitation Project.

9. Forest management plans prepared and implemented by OGM continue to be the basic plans for most forestry activities and interventions. For this reason, despite recognition of the multiple dimensions of forest resources, and the planning activities of the other three General Directorates, Turkish forestry continues to be dominated by rather a narrow emphasis on forest tree resources and sustained wood yield. According to current management plans 83 percent of the forest area is managed with wood production as the main objective and only 17 percent is assigned to other primary uses, mostly to protection of soil and water resources and also to biodiversity. This strong focus on wood production does not take fully into account the rapidly growing "new" demands for forest recreation, nature conservation and other forest values; recognition of the need for greater sensitivity to the needs of poor rural populations for fuel wood, forest-based grazing and fodder, non-wood forest products and employment; or commitments by Government to globally significant forest values. There is a need to integrate and decentralise forest management planning processes to ensure the participation of key stakeholders and greater attention to environmental values, biodiversity, cost-benefit considerations and local needs and preferences.

Controlling Soil Erosion and Reclaiming Degraded Lands

10. Soil erosion occurs on about 75 percent of Turkey's land area, and is one of the most serious environmental problems in Turkey. According to surveys, the amount of soil carried off by erosion is more than 500 million tons annually, of which 350 million tons is carried by rivers and streams into dam reservoirs, interfering with their vital functions in the energy, irrigation and

agriculture sectors. Damage from frequent floods, which take lives and degrades agricultural lands and infrastructure, is also very serious.

11. While erosion control activities are underway, there are several institutional issues that may hinder the usefulness of these. One is the division of labor between AGM and OGM. AGM is assigned responsibility for planting and early maintenance of stands, while OGM assumes control after establishment through to the harvest. This allocation of effort assumes that the technical functions of forest management can be managed independent of budgetary and other incentives, and also that public agencies should have a monopoly on the management of mature stands. Experience in other countries suggests the feasibility of privatizing management of the public plantation while the State retains ownership of the forest land.

12. A further institutional issue is cooperation on watershed management. To realize maximum benefits, an integrated approach to forest management should extend to the management of watersheds, for erosion control and other purposes. There is inadequate provision in Turkish legislation to integrate the works of relevant government agencies – the Ministry of Forestry (MOF), Ministry of Agriculture and Rural Affairs (MARA), Rural Services, State Water Works (DSI) - facilitating the active involvement of local communities, nongovernmental organizations (NGOs) and other institutions in planning, rehabilitation and management of watershed areas. For example, management of degraded forest lands is technically best approached in cooperation with agencies and groups involved in livestock and range management. This integrated approach has been used effectively in several provinces in eastern Turkey, supported by the Eastern Anatolia Watershed Rehabilitation Project.

13. A third issue is how to realize the enormous opportunities for combining rural poverty alleviation with soil conservation and for involving the private sector. Various legal and financial support mechanisms have been introduced and implemented to promote private sector and rural community involvement in afforestation/reclamation activities on degraded lands in Turkey. Improvements in the current incentive system, undertaken with the participants, will be required in order to involve local communities and the private sector more extensively in afforestation and reclamation activities.

Restoring the Sector's Financial Viability

14. While timber sales were once a major source of revenues for OGM, these revenues have declined, especially since the removal of the tariff barrier and subsequent drop in wood prices. The sector now imposes net costs on the national budget. The sector's finances should be reestablished on a firm basis in order to assure sustainable management of Turkey's forests.

15. OGM's sales of wood and non-wood products are the sector's key revenue source. Until 1993, revenue from wood sales was relatively protected, because OGM operated as monopolist behind a high customs wall; duties on imported wood that year amounted to 20 percent. But in 1993, following the Customs Union Agreement with the EU, duties on imported wood were abolished. Since then imported wood has appeared in the domestic market in increasing volume, recently more than 1.5 million m³ annually, approximately 10 percent of total consumption. The sale price of Turkey's wood has correspondingly declined: prices of roundwood sold by OGM dropped by approximately 30 to 40 percent from 1993 to 1999 in real terms. This trend has had a critical effect on OGM's revenue from wood sales.

16. A separate revenue issue is that more than half of OGM production is sold through administered sales at allocated prices that apply to specific buyers. In 1998, about 3 million m³ of industrial roundwood (60 percent of total roundwood production) was sold through administered sales. OGM is also legally obliged to provide logs and fuel wood to forest villages and their cooperatives at subsidized prices.

17. The declining profitability of OGM is felt broadly across the sector. OGM finances forest management, reforestation works and research through its own agencies, and supports forest

villages through various employment initiatives and other efforts. As a result of the drop in OGM's revenue, various important field programs are no longer adequately financed. Moreover, OGM contributions to the AGM Fund, which finances afforestation, and to ORKOY, which supports economic development in forest communities, are also declining.

18. OGM has begun to identify ways to reduce costs. However, there seems little prospect for realizing significant reductions in wage and labor costs, which account for the largest share of OGM's operating costs. As a result, there appears a risk that the sector will ignore pressing long term investment needs, including plantings for erosion control and reclamation of degraded land.

19. OGM's practice is to produce and sell essentially identical volumes every year. Revenue, therefore, varies with market price fluctuations. Cost prices are not calculated for a District Enterprise where the production actually takes place. Instead, they are calculated to cover Headquarters and all District Enterprises. The uniformity of management approach across OGM operations masks a high level of cross-subsidization. Some districts have a rich forest resource and substantial revenues from timber sales; for others with a poorer resource base, expenditures in management and regeneration are higher.

20. MOF has recently been studying the possibility of closing some of the forest district directorates that have continuously imposed losses on OGM. There is a need to re-assess operations on a large number of OGM District Forest Enterprises. Management of the forest resource on many of these areas may be more appropriately shifted to a less timber-intensive style of operation, at lower cost and with potentially significant environmental and social benefits.

21. Forest resource taxation (stumpage) is a complex issue and appropriate levels and assessment methods depend on ownership structure and responsibilities for reforestation as well as on economic valuation methods. The resource tax, determined each year by the State, is the amount paid by OGM for each cubic meter of wood and each unit of non-wood products sold by OGM. This tax operates as a transfer from one budget of OGM - the revolving capital budget, the immediate recipient of revenue from wood sales - to another, the added budget, where it is one of several contributions that finance non-commercial services of OGM such as reforestation and management planning. OGM's planning should take into account the economic value of natural resources in a transparent way. Further study is required to assess the feasibility of establishing a realistic level of resource tax that will ensure sustainable resource management and optimise profitability.

22. AGM is financed by the AGM Fund which, according to legislation, has numerous sources of income, including the state budget, OGM, wood buyers/importers, the Ministry of Environment, beneficiaries of subsidized forest products and donors. However, in practice, the AGM Fund's revenues are limited. Funding shortages constrain AGM's ability to carry out its mandate, which includes afforestation of Turkey's several millions of hectares of degraded area. AGM's other assigned tasks (erosion control, range improvement) are also beyond the capacity of the current budget.

23. The state budget contribution to MPG is inadequate to support effective management of protected areas. At the same time, a significant portion of revenue from the National Parks Fund (from entrance fees for national parks, nature parks and protected areas) is transferred to the Treasury but not made available for management of national parks and protected area programs. 24. The ORKOY Fund finances ORKOY's activities, which are designed to improve the situation of forest villagers. By law, 0.1 percent of the national budget is to be allocated to the ORKOY Fund that finances ORKOY's activities. Moreover, OGM is designated to contribute 3 percent of revenue from wood sales, plus 10 percent of its annual profit. These are the ORKOY Fund's principal sources of funding. However, the allocation from the national budget has never

materialized, and in OGM's current financial difficulties, its contribution to the Fund has fallen to 3 percent of wood sales revenues. At the same time, while the flow of resources to ORKOY has been constrained, its performance with resources it does receive has also been weak. The ratio of ORKOY operating cost to funds disbursed is almost 1:2, suggesting that the targeting and performance of ORKOY operations should be subject to review and reform.

25. In summary, the financial problems of the sector arise from several sources. One set of issues relates to the operational performance of OGM and the extent to which OGM has not been able to adjust to an increasingly competitive marketplace. The second arises from the mixture of "private" and "public" good functions performed by the forest organizations. Development of a consolidated sectoral budget would provide incentives for efficient and sustainable forestry operations, promote better targeting of poverty alleviation and more secure financing for environmental management, provide information to support increased involvement of local people and other key stakeholders, and more generally improve transparency in sector operations.

Next Steps and Sector Priorities A Vision for Forests in Turkey

26. A long-term vision of the role of the Turkish forestry sector can help to formulate the agenda for sectoral change. The principal goals of forest development in Turkey have been largely consistent over the last twenty years. They have included sustainable production of forest products and services, poverty reduction, employment generation and environmental conservation. Realization of these goals in the context of strengthened economic discipline would be likely to lead to the following:

- * Multipurpose planning and management of forest resources to provide multiple benefits (environmental, social, economic and cultural) at local and national levels, and on a sustainable basis.
- * A decrease in the forest areas that are managed principally for wood production, while efficient wood production in those areas would be improved. The forest area managed with a main objective other than timber production would increase.
- * The area set aside for national parks and protected areas will be expanded and will adequately cover a representative range of Turkey's natural ecosystems. Effective management planning and operations will be introduced to the parks and protected areas system. Approaches already piloted to involve local people in management would be extended, providing effective protection and increased benefits to local communities.
- * The levels of reforestation and rehabilitation undertaken annually on degraded forest lands will rise significantly, with the active involvement and contribution of local communities and other stakeholders. A significant proportion of these areas will be managed jointly with rural communities to meet local demands for firewood, grazing, erosion control and non-timber forest products, employing forest management practices that conform to the principles of sustainable forest management.
- * Fewer people will be dependent on the forests and the responsibility for the welfare and development of poor communities in forest areas will shift from the Ministry of Forestry to other agencies and local administrations.
- * Growing public awareness and sensitivity will lead to a policy, legal and institutional framework for sustainable management of forest resources in the overall interest of Turkish society.
- * Efficient conservation and sustainable management of Turkey's forest resources will make an important contribution to global values at regional and global levels, in accordance with Turkey's commitments under the relevant global conventions and international processes (e.g., United Nations Conference on Environment and Development (UNCED), Intergovernmental Forum on Forests/United Nations Forum on Forests (IFF/UNFF), and the Pan-European and Near East Processes).

Action Priorities

27. The recommendations presented below are in line with the World Bank County Assistance Strategy for Turkey, in particular its strategic themes for strengthening environmental management, improving public sector management and expanding social services and protection. The recommendations could be incorporated into a program for natural resource development in Turkey that could be supported by the World Bank or other agencies over the medium and longer term.

28. *Poverty Alleviation.* Initiatives should be undertaken to strengthen support for poverty alleviation in forest villages that are presently dependent on excessive/destructive use of forest resources and that are not receiving adequate attention and support from present rural development programs. Farmers, including farmers in forest communities, will be eligible for direct income support under the Agriculture Reform Implementation Project (ARIP) and such payments are expected to become available in calendar year 2001. Over the course of its implementation the ARIP program is expected to phase in more targeted support for poor communities that would include forest villages. However, alleviation of poverty in forest communities will require augmenting such targeted income support with a more integrated (multi-sectoral) approach to rural development that is not based solely on forest resource management, as well as the introduction of community-based natural resource management systems.

29. *Strengthening Cadastral Surveys and Border Delineation Works for Forest Lands, Settling Tenure Disputes.* Cadastral surveys, forest border delineation and land ownership registration works have not yet been completed for significant areas of Turkish forests. The tenure disputes caused by this situation create serious constraints on adequate implementations of major forestry programs, such as reforestation and soil conservation, and also on forest villagers in use of their own agricultural and pasture lands. Moreover, frequent changes in the forest definition, followed by extraction of forest areas from forest regime, result in yet further changes in forest borders, creating additional tenure disputes. A program should be undertaken with strengthened support to complete forest cadastral surveys, register legal borders of forest lands and settle tenure arrangements. Initiatives should also be undertaken to establish a sustainable legal framework preventing inappropriate changes in the borders and areas of forests.

30. *Institutionalization and Expansion of Demonstrated Approaches to Community-Based Multipurpose Resource Management.* Promising approaches to community involvement in natural resource management have been demonstrated in Turkey. In forestry and range and pasture management, however, these have been introduced on quite a limited scale. On the basis of successful experiences, such as the Eastern Anatolia Watershed Rehabilitation Project, Government should now move to mainstream participatory planning and management into the ongoing public investment program and into local administration. There is an urgent need to improve multipurpose management of forest resources and to invest in reforestation/reclamation of existing degraded forest areas, perhaps best addressed through community-based efforts. While restructuring the organization and finances of the forestry sector, the Government could formulate a long-term national reforestation/reclamation program, providing land allocation, utilization rights, financial, technical and extension services, and research support to community-based efforts. Designing and implementing such a program would require determination of the condition and potential of forest resources (soil, water, flora, fauna, biodiversity) as well as estimates of future demand for forest products and functions at the local and national levels. Draft Terms of Reference for a pilot study of this kind are provided in Annex 3 of this report.

31. *Piloting and Testing of Improved Approaches to Biodiversity Conservation.* Turkey's rich endowment of biodiversity stands in contrast to the meager resources made available for its management and protection. While the area of designated national parks, wildlife reserves and

other protected areas has been increased in recent years, few protected areas have effective conservation focused management systems in place. Protected areas are at risk from a variety of threats including unsustainable use of natural resources by local communities and uncontrolled development for residential, tourism and other purposes. Turkish forests, both inside protected areas and in production forests, have important global values, and there may be justification for international support for conservation of biodiversity and other forest values in Turkey. In order to capture those benefits, it will be necessary to develop new models, experience and capability in protected-areas management. The recently completed GEF-supported In Situ Genetic Resource conservation project and the recently initiated Biodiversity Conservation and Natural Resource Management Project aim to provide experience in how best to manage and monitor biodiversity conservation and sustainable resource use. The objective of the Biodiversity Conservation and Natural Resource Management Project is to build capacity and develop experience that could be applied to establish sustainable decentralised participatory systems for conservation of priority Turkish conservation sites and to support sustainable forest and natural resource management more broadly.

32. Development of Operational Restructuring Options. The current structure of the forestry sector in Turkey needs to be reconsidered; in particular, the organizational structure of public sector agencies, the allocation of responsibilities among the public, private and local community sectors, and the financial and budgetary provisions which tie them together. A restructuring analysis would start from the most basic forest unit, identifying the most socially desirable use of its resources and the obstacles, financial, policy, institutional or other, that prevent realization of that use. The analysis would propose management and financing arrangements, identify the legal and regulatory measures needed to introduce the desired changes, project the consequences of such a restructuring (including impacts on wood production, production of other forest goods and services and income distribution and employment) and estimate its budgetary impact (its financing requirement and any gain/loss of Government revenue). An evaluation of this kind should cover all forest management units eventually, but it would be possible to have an initial focus on areas of particular significance, consistently strong or weak financial performance or affected by pressing social issues.

Next Steps and the Potential Role of the World Bank

33. This Sector Review provides a broad overview of the challenges facing Turkish forestry and general suggestions on policies and institutional arrangements that could be pursued. An important next step would be a formal process in which a broad range of stakeholders are engaged in discussion of the perspectives offered in this report in order to develop a consensus on sectoral priorities.

34. Because the World Bank is already active in financing projects in forestry and related sectors, and is engaged in discussions on a range of agricultural policies, there is the prospect of further Bank support addressing the policy issues raised in this review. In line with the Bank's historical support to forestry in Turkey, its current involvement in the Eastern Anatolia Watershed Rehabilitation and Biodiversity Conservation Projects, and its ongoing dialog with Government on agricultural policies, further Bank involvement in Turkish forestry could take several forms. Key Bank priorities would be expansion of environmental conservation and poverty-reducing use of forest resources, especially where the local communities and other stakeholders participated in improved multipurpose management of the forest resources and in reforestation, reclamation, and improved management and use of degraded forest lands. Expansion of these efforts would need to take into account the distorting effect of policies and financial systems that partly link the availability of resources for poverty alleviation, reforestation and other reclamation activities to OGM's performance. A preferred alternative would be the collaborative design of a sectoral restructuring program that would establish more flexible and efficient commercial forest operations, better-targeted poverty alleviation and

improved environmental management, with strengthened involvement of local people and other key stakeholders.

(Simplified Summary)

Cadastre and ownership issues in forestry areas constitute the major problem of forestry. The reasons are behind very long and multifaceted history of different policies applied along the last century. Political attempts to solve the problem has not yielded the expected result, on the contrary, worsened the problem.

The first constitution (1924) of the Republic of Turkey tried to provide land to poor farmers by nationalizing agricultural land, but the same item made nationalizing of the private forest land also (not for the purpose of opening forest land for agriculture but stopping the extreme damages made to forested areas for agricultural purposes). The constitution depicted that this processes should be arranged by a law. Then in 1945 the Act numbered 4785 nationalized all forest land. Thus, all forests under private control both with deed or without deed have been come under state control. This and following a couple of years forest fires and extreme cuts were markedly stamped the history of Turkish forests. Vast forest areas were lost since the State was not able to spot and register all of the forests overnight. Shortly after, in 1950, the new government passed the Act numbered 5658 restituting the nationalized forest to their previous owners, but the law put an expiration date for applications. Those who applied and paid the money that had given to them during nationalizing got their forests back, but those who did not apply couldn't. The situation got more complicated, because there were a lot of forests under the control of individuals without deeds, there were also forests with deed issued in Ottoman Times, there were vast forest areas that were occupied, and also there were forests used by villages and seen as property of village.

The second constitution in 1961 handled the forestry issues in detail. The constitution depicted that all forests, both state and private, were under State supervision, state forests cannot be narrowed, sold or handed over. Following these firm and determined provisions, cadastre works speeded up. But an amendment made to the Constitution in 1970 brought exceptions: the forest land which had lost its forest characteristics before 1961 could be excluded from "forest" status.

Finally in the third Constitution (now in power) forestry matters dealt with 2 items. The constitution broaden the terms of exclusion and extended the time from 1961 to 1982.

Since the cadastre work is a process of delineating of forest borders and deciding to ownership status of forest areas, each amendment in the Forest Law made the renewal of cadastre necessary. Thus cadastre works has become, somewhat, a vicious circle, and almost after each cadastre work there were objections and the courts were filled with forest cadastre cases.

Many of the cadastre works cannot start because to form a cadastre team 4 members are needed and one of the members has to be from the related village, and since finalizing of cadastre work in a village is anticipated to result in the loss of land that is used (previously occupied or cleared) by individuals, some of villagers do not nominate any one for participation to cadastre teams.

Up until now, cadastre teams have worked on around 17 million hectares (80 %) but about quarter of this land is legally registered, and the remaining is in a queue for registration (cases are in the courts and the process is slow). About 20 % of the forest land, on the other hand, is yet to be taken into program for cadastre. The situation is more serious around big cities and the black sea cost, where the land is scarce and valuable. In Istanbul for example large forested areas which were excluded because they had lost their forestry characteristics are now densely populated and since they are not settled by previous forest village settlers, they cannot own the land and buildings with deed. Thus they sale or buy this estates with papers designed by

themselves. Some of that type of settlements are now big cities with sometimes schools, hospitals and other state agencies.

10.19 Annex 18 FOREST RELATED INTERNATIONAL COMMITMENTS

At Global Level

Convention on Biological Diversity (signed in 1992 ratified in 1996)

United Nations Framework Convention on Climate Change (ratified in 2004)

United Nations Convention to Combat Desertification (signed in 1994 ratified in 1998)

Convention on International Trade in Endangered Species of Wild Fauna and Flora (ratified in 1996)

Ramsar Convention on Wetlands (1994)

Decisions of IPF/IFF/UNNF

At Pan-European Level

Convention on the Conservation of European Wildlife and Their Natural Habitats (ratified in 1984)

European Landscape Convention (signed in 2000)

MCPFE Strasbourg, Helsinki, Lisbon and Vienna Resolutions

11 REFERENCES

SPO, 2000; The VIII.th Five Year Development Plan 2001-2005

SPO, 2000; Forestry Special Expertise Report

WB, 2001; Forestry Sector Review

MEF, 2004; National Forestry Program (last draft)

MEF, 1993; 1.st Forestry Summit Publications

MEF, 1997; 1.st Forestry Villagers Summit minutes.

Muthoo K.Maharaj, 1997; Forests and Forestry in Turkey

Saouma Edward, 1993, Statement, FAO 27th Conference

Hraoui Elias, 1993, 18th McDougall Memorial Lecture

Dogru MUZAFFER, FINNTYR SEKA Report,

Turkey National Report for IPC, 2004

Development of European Forests Until 2050, G.J.Naburs, R.Paivinen, A.Pussinen, M.J.Scheals