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HARVESTING OF NON-WOOD
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HARVESTING OF NON-WOOD FOREST PRODUCTS

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Contents

Gall production strategy that is interferring with life cycles of two important gall-maker species, Andricus galleatocinctoriae (Oliv.) and A. kollari Htg. (Hymenoptera: Cynipidae) in Turkey / Stratégie de production de galles interférant avec le cycle évolutif de deux importantes espèces galligenes, andricus galleatocinctoriae (oliv.) et andricus kollari htg. (Hymenoptera : cynipidae), en Turquie - (Mr. M. Eröğlu, Turkey) .......................................................... 279

Sustainable utilization of gum and resin by improved tapping technique in some species / Utilisation durable des gommes et des résines par une technique améliorée de gémage pratiquée sur certaines espèces - (Mr. B. Nair, India) .......................................................... 293

The review of non-wood forest products management in the five year development plans and forest main plans / Evaluation de la gestion des produits forestiers autres que le bois dans les plans de développement quinquennaux et dans les plans d’aménagement forestier - (Messrs. M. Türker, M. Pak & A. Öztürk, Turkey) .......................................................... 307

Conservation of medicinal plants in Idukki District of Kerala by community management / Conservation des plantes médicinales à Idukki, État du Kerale, dans le cadre d’une gestion communautaire - (Messrs. J. Mathew, S. Abraham & M. Nair, India) .......................................................... 319

Harvesting of Irvingia gabonensis and Irvingia wombulu in Nigerian forests: potentials for the development of sustainable systems / Récolte de Irvingia gabonensis et de Irvingia wombulu dans les forêts nigériennes : potentiels de développement de systèmes durables - (Mr. D.O. Ladipo, Nigeria) .......................................................... 325

Harvesting practices and management of two critically endangered medicinal plants in the natural forests of central India / Méthodes de récolte et gestion de deux plantes médicinales sérieusement menacées dans les forêts naturelles du centre de l’Inde - (Mr. M. Mishra, India) .......................................................... 335

The essential oil fade of aromatic Laurus Nobilis in the Mediterranean region / Déclin de l’huile essentielle de Laurus nobilis, dans la région méditerranéenne - (Messrs. C. Hassiotis & P. Efthymiou, Greece) .......................................................... 343

Sustainable wild harvesting of medicinal and aromatic plants: an educational approach / Récolte sauvage durable des plantes médicinales et aromatiques : éduquer la population - (Messrs. K. Hünsü & C. Başer, Turkey) .......................................................... 349

Turkey’s foreign trade in non-wood forest products / Commerce extérieur de la Turquie en ce qui concerne les produits forestiers autres que le bois - (Messrs. D. H. Koç, B. Aksu & A. Kurtoğlu, Turkey) .......................................................... 361

Certification of NWFP, approaches in the Russian Federation / Certification des produits forestiers autres que le bois : modes d’approches appliqués en Fédération de Russie - (Ms. N. Demidova, Russian Federation & Mr. P. Alhojärvi, World Bank) .......................................................... 373

The present state and possibilities of collection and subsequent utilization of non-wood forest products in the Czech Republic / Collecte et utilisation des produits forestiers autres que le bois dans la République tchèque : état actuel et possibilités - (Mr. J. Kadlec, Czech Republic) .......................................................... 397

Improved tapping of almamiga tree for sustainable resin yield / Production durable de résine grâce à une technique améliorée de gémage de l’Almaciga - (Mr. A.B. Ellis, Philippines) .......................................................... 405

The role of research in NTFP management / Rôle de la recherche dans la gestion des produits forestiers autres que le bois - (Mr. J. Maas, The Netherlands) .......................................................... 407


Non-wood forest products programme / Programme concernant les produits forestiers autres que le bois - (Mr. P. Vantomme, FAO Forestry Department, Rome) .......................................................... 415
**THE REVIEW OF NON-WOOD FOREST PRODUCTS MANAGEMENT IN TURKEY AS FROM THE FIVE YEAR DEVELOPMENT PLANS AND FORESTRY MAIN PLANS**

Messrs. M. Fehmi TURKER, Mehmet PAK & Atakan ÖZTÜRK  
Karadeniz Technical University, Faculty of Forestry, Department of Forest Engineering,  
TRABZON  
Turkey

**Abstract**

Approximately 9500 plant species have been discovered in Turkey which has a rich flora according to other countries as geographically and up to 3000 of these species are endemic species for the country. Some of non-wood forest products which are weighted in the world production also denote endemic species characteristics.

The utility from these resources has increasingly been continuing. As known, the production is realised according to internal and external demands. Because the production potential is very high for home consumption. Therefore, there is a chance for exporting of non-wood forest products for the country. For example, in between 1990 and 1998, a total of $ 300,937,000 forest products was exported. A part of $ 294,448,000 of total export revenues was obtained from non-wood forest products. The remaining of it ($6,488,000) was from round wood. In this case, about 98% of total forest products export revenues was obtained from the non-wood forest products.

Although non-wood forest production is very important for Turkey, not so much information are given place in the development plans about it. However, first principles, targets and policies on this point were mentioned clearly in the fourth Five Year Development Plan. For the many plan periods, it has been seen that the production targets of non-wood forest products harvested systematically have been realised over production targets at the end of plan period.

On the other hand, the approaches related to the production of non-wood forest products in Forestry Main Plans which is prepared for the 20 years period are not different from that in the development plans.

In this study, the possible effects of the targets, strategies and policies determined in the Five Year Development and Forestry Main Plans as related to non-wood production on the rational management of wood and non-wood forest products of forest resources owned by State Forest Enterprises have been discussed.

**Keywords:** Non-wood Forest Products, Forest Management, Five Year Development Plans, Forestry Plans

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**Introduction**

The Five Year Development Plans (FYDPs) are prepared for a five year period to plan the improvement of Turkish economy with the assistance of the targets, principles and policies determined at the macro economic level. In Turkey, planned development periods began in 1960s and the first FYDP was made in 1963. Then until the year 2000, six (6) more FYDP have been prepared and put into practice.

The basis of planning works in question is the sectors formed from enterprises, which activate in various areas. In Turkish economy, forestry is also one of these sectors. The forestry sector needs sectoral plans in order to organise its activities according to targets, principles and policies mentioned in the FYDPs. For this purpose, the General Directorate of Forestry makes Forestry Main Plans (FMP) for a 20-year period in Turkey. The first FMP for 1973 - 1995 period and the second one for 1990 - 2009 were made. Under the FMPs which are made at sectoral level, other plans prepared at the regional and management levels take part in.
The targets and strategies determined in the FYDPs require to be taken part in the sector, region and management plans in the system mentioned above. Unless this consistency is not obtained, it is impossible to state that the existing resources are used effectively and according to the national development plan's targets and strategies. Especially in the sectors in which complex and multi-dimensions activities occur like forestry, obtaining the consistency is more important for these kind of sectors. Therefore, it is required to be consistent among various plans mentioned above for sustaining forest management activities rationally.

On the other hand, the production of forest outputs is generally divided into two main categories as wood and non-wood forest products. The main objective of this paper is to review the management of non-wood forest products in the Turkish Forestry sector. But, it is fact that in Turkish forestry sector, it has not been attached required importance to the non-wood forest outputs so far. So that a forest product is named as fundamental or secondary product according to the management objective, because of the wood raw material management dominating in the forest sector (Türker, 2000), wood based products are fundamental and non-wood based forest products are named as secondary product (GDF, 1998).

However, the importance of the non-wood forest outputs in the Turkish forestry sector is increasing more and more because of the following characteristics; Turkey has a rich flora according to other countries as geographic location and also 9500 plant species have been discovered over the country and up to 3000 of these species are endemic species for the country and lastly some of our non-wood forest products which are weighted in the world production also denote endemic species and a 97% of total Turkish forest product export revenues in 1990 is non-wood forest products (Ministry of Forestry, 1994, SPO, 1995, Konukçu, 1999).

In Turkish forestry sector, it is stated that the management activities of non-wood forest products are also carried according to the targets, principles and policies determined by FYDPs and FMPs (GDF, 1988). However, in the Turkish forestry sector, it has not been attached required importance to the non-wood forest outputs as mentioned above and consequently, with some problems in practice are faced as will be mentioned later. As a result of these negative situations, in the scope of principles and policies related to forest sector in the seventh FYDP; it is stated that ".... forest management and silvicultural plans would be reorganised and applied by taking into consideration wood and non-wood products and services, various functions of forests and management objectives..."It is also stated that a new approaches on the basis of non-wood forest harvesting planning are needed (SPO, 1995).

In this study, the non-wood forest product management in Turkish forestry sector will be reviewed from the point of objective, principles and policies determined in the FYDPs and FMP especially with the assistance of various figures relating to import and export.

Material and Method

In this study, the objectives, principles, targets and policies related to non-wood forest products in the FYDPs and Forestry Special Impression Commission Reports (FSICR) which have been prepared by State Planning Organisation (SPO) since 1963 and FMP made by the General Directorate of Forestry (GDF) for the 1990 - 2009 period have been used as a research material.

On the other hand, in this paper the evaluation of the management of non-wood forest products in the Turkish forestry sector has been reviewed from the point of the FYDPs and FMP in detail.

Findings

3.1. The Production of Non-Wood Forest Products in Turkey

It is possible to classify the goods and services provided by forest resource as national and global benefits according to the level of getting profit (Topak, 1999). Non-wood forest products as one of national benefits are tree, shrub, wooden, grass and herbaceous growing in forest and its open spaces,
various crops obtained from their leaves, flowers, seeds, stems and roots and gum resins. These are also named as secondary forest products (SPO, 1995a).

The production of non-wood forest products in Turkey is realised in two ways as planned and unplanned (SPO, 1995a, GDF, 1995). The planned production has been realised according to the targets determined by the FYDPs, the demands of home and foreign markets and management and silvicultural plans and the basic of budgets, the regulations belong to the logging of forest outputs and the production and sale rules of forest secondary products. Particularly resin, storax, laurel leaf, box-tree, garden stake and fat pine among produced in this way can be taken into account.

On the other hand, other non-wood forest products which have high potential of exporting and distributed forest areas such as pine nuts, chestnut, sage, mushrooms, sumac, lime etc. are produced without any plan and independently from the market demands and in accordance with the articles 37 and 40 of Forest Law 6831, provided stumpage price are taken.

As seen, the production of non-wood forest products in Turkey is realised according to the home and foreign demands. Because the production potential is high for the home consumption. Therefore, the exporting chance of non-wood forest products for the country has been occurred. For example, in between 1990 and 1998, a total of $300 937 000 of forest products was exported. A part of $294 448 000 of total export revenues was obtained from the non-wood forest products. The remaining of it ($6 488 000) was from round wood (Konukçu, 1999), representing 98 % of total forest products exports.

3.2 Five Year Development Plans and Non-Wood Forest Outputs Production

In this part of the study, a general review of the production of non-wood forest products will be made according to the FYDPs. As the production of these crops is generally devoted to exportation, the information about exporting and importing of non-wood forest products are given below table for all plan periods and $317 311 000 in the sixth plan period and $302 534 000 in the first three years of seventh FYDP are paid for importing the natural rubber also shown in that table (Konukçu, 1999).

The production of the non-wood forest products is different for each plan period. Therefore, the FYDPs will be reviewed one by one.

<table>
<thead>
<tr>
<th>PLAN PERIOD</th>
<th>YEARS</th>
<th>Export ($</th>
<th>Import ($)</th>
<th>Import - Export ($)</th>
<th>Import/Export (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>I</td>
<td>1963 - 1967</td>
<td>11 279</td>
<td>456</td>
<td>10 823</td>
<td>4</td>
</tr>
<tr>
<td>II</td>
<td>1968 - 1972</td>
<td>13 235</td>
<td>500</td>
<td>12 735</td>
<td>4</td>
</tr>
<tr>
<td>III</td>
<td>1973 - 1977</td>
<td>34 723</td>
<td>695</td>
<td>34 028</td>
<td>2</td>
</tr>
<tr>
<td>IV</td>
<td>1979 - 1983</td>
<td>76 764</td>
<td>256</td>
<td>76 508</td>
<td>-</td>
</tr>
<tr>
<td>V</td>
<td>1985 - 1989</td>
<td>177 367 800</td>
<td>5 656 000</td>
<td>171 711 000</td>
<td>3</td>
</tr>
<tr>
<td>VI</td>
<td>1990 - 1994</td>
<td>141 720 000</td>
<td>13 861 000</td>
<td>127 859 000</td>
<td>10</td>
</tr>
<tr>
<td>VII*</td>
<td>1996 - 2000</td>
<td>119 568 000</td>
<td>27 562 000</td>
<td>92 006 000</td>
<td>23</td>
</tr>
</tbody>
</table>

* First three years achievements

I. FYDP Period (1963 - 1967)

The forestry sector is a sub-sector of Agricultural sector in this plan period (1963 - 1967). In this plan, it is only anticipated that valonia oak and stone pine forests seen as considerable export material are subjected to special forest regime to prevent the destruction of it related to the production and management of the non-wood forest outputs (SPO, 1963). There are some more information about the supply, demand, import and export estimations of the non-wood forest outputs and various policies relating to this subject in the first Five Year Forestry Development Plan which was made for the same period and source for the first FYDP in detail (Ministry of Agriculture [GDF], 1963).
On the other hand, when looking at home demand estimations for the non-wood forest products in the first FYDP period, while it was not anticipated any increase in resin, about -2% annual average increase in other non-wood forest products would be realised, in another word, it was estimated that a 2% decrease in the home demand of non-wood forest products would be occurred in the first plan period. However, when looking at foreign demand estimations in the same period, it was estimated that about 9.7% annual average increase would be occurred at the end of period. In this plan period, it is stated that the achievement rate of the targets determined as related to the production of non-wood forest products was 30 - 50% (SPO, 1968).

However, at the end of first FYDP, about $11.279 export revenue was obtained from the non-wood forest outputs production and only $456 of non-wood forest products was imported. Consequently, in the first plan period, a total of $10,823 net foreign exchange revenue was obtained from the non-wood forest products for the national economy (SPO, 1985a).

II. FYDP Period (1968 - 1972)

In the second FYDP, it is noticed that the estimations of the production export and import relating to resin and other non-wood forest outputs. According to these information, annual increases in home demands were estimated to be 8% in resin and 1.2% in other non-wood forest outputs during the second plan period. For the same period, when looking at the foreign demands of the non-wood forest outputs; it was estimated that while there was no any increase in the resin production, about 1.4% annual demand increase in the other non-wood forest outputs would be occurred. On the other hand, annual production increases were estimated to be 20% in resin, 3.7% in storax and 1.3% in other non-wood forest outputs during the same period.

At the end of the plan period in question, a total of $13,235 non-wood forest output export revenues was obtained from the non-wood forest outputs such as storax, valonia oak and pine nuts. Consequently, the amount of import in the same plan period was a $500. So in the second plan period, a total of $10,823 net foreign exchange revenue was obtained from the non-wood forest products for the national economy (SPO, 1985a).

III. FYDP Period (1973 - 1977)

In third FYDP period, any principle and policies related to the non-wood forest products and services have not been noticed. But during this period, annual increases of non-wood forest outputs were estimated to be 3.1% in the home demand and 10.8% in the foreign demand. In the period in question, while it was reached to a 66% of the annual increase proportion at the level of general production expected in the forestry sector, a 22% annual increase rate aimed in the non-wood forest products was realised.

In the plan period, a total of $34,723 revenue from exporting the non-wood forest outputs were obtained and a $695 of the non-wood forest outputs was imported. So at the end of the third plan period, a total of $34,028 net foreign exchange revenue was obtained from the non-wood forest products (SPO, 1985a).

IV. FYDP Period (1979 - 1983)

The targets in detail about the non-wood forest outputs were recognised in the fourth FYDP prepared for the 1979 - 1983 period. In this context, it was stated that a 7.4% annual increase in the home demand of forestry sector outputs including fire wood and secondary products would be occurred (2.1% in non-wood forest products) and about 150 million TL revenue from the exporting of secondary products would obtained and again among the targets, meeting the demand of forest products with the home (internal) production, but the importing of some tree species which are not growing in Turkey and required for some uses and some secondary products would be occurred.

In this period, a total of $76,764 export revenues were obtained from the non-wood forest outputs and a $256 of the non-wood forest outputs was imported. So at end of the fourth plan period, a total of $76,508 net foreign exchange revenue was obtained from the non-wood forest products (SPO, 1985a).
V. FYDP Period (1985 - 1989)

The forestry sector is accepted as a sub sector under the agricultural sector in the fifth FYDP. It was exposed that the management works related to the non-wood forest products including the non-wood products and services would be concentrated as an objective (SPO, 1985). In this plan period, annual average increases were estimated to be 0.2 in the demand of the non-wood forest products and 9.2 % in rubber. In the same period and also annual average increases were estimated to be 5.9 % in the non-wood forest products export and 7.7 % in their importation and 9.2 % in the rubber importing and lastly 1.2 % in the production of the non-wood forest outputs.

At the end of the period in question, a total of $177,367,800 export revenue was obtained and a $5,656,000 of the non-wood forest products was imported (SPO, 1985a).

VI. FYDP Period (1990 - 1994)

After the fifth plan period, a written target related to non-wood forest products (especially finishing non-wood products inventory works) is recognised in this plan. In addition, in the scope of the principles, policies placed in the plan; it was accepted that the organisation, the body of current law and education of forestry were reorganised according to all functions of the forest resources producing the wood and non-wood products. Furthermore, annual increases were estimated to be 1.9 % in the demand of non-wood forest outputs and 5.7 % in the rubber and 2.9 % in the production during this plan period (SPO, 1990).

On the other hand, at the end of plan period a $141,720,000 of export revenue was obtained and a $13,860,000 of non-wood forest products was imported (SPO, 1995; Konukçu, 1999).

VII. FYDP Period (1996 - 2000)

Lastly in the seventh FYDP prepared for the 1996 - 2000 period, forestry sector was a sub-sector of agricultural sector as it was in the fifth FYDP. It was stated that the reorganising the management and silvicultural plans should be made considering to the non-wood forest products. However, it is possible to find some more information detailed in the Forestry Special Impression Commission Reports (FSICR) prepared for the period in question.

The improvements proposed for the seventh FYDP period as related to the non-wood forest products, which is the topic of research, are stated as the following:

- It is expected that conservation - cultivation and harvesting plan and projects related to the species completed the field and stock inventories were completed and put into practice;
- It is also expected that the cultivation of non-wood forest products that have high economic value subject to foreign trade is encouraged.

As the revenue from the produced non-wood outputs would be more than others, it is expected that the exporting the produced non-wood are increased.

At the end of first three years of the plan period, a total of $119,586,000 revenue was obtained from the exporting of non-wood forest products and a $27,562,000 non-wood forest outputs was imported and a total of $92,006,000 net foreign exchange revenue was obtained from the non wood forest products (Konukçu, 1999).

Forestry Main Plan and Non-Wood Forest Outputs Production

The sectoral developments mentioned in the national development plans including social and economic preferences related to forestry are examined at the macro level and it is not stated that how the improvements of sectors at the level and direction previously determined would be realised. Forestry Main Plan organises internal activities of forestry sector and deals with integration in itself. With this perspective, FMP aims to make connection between national plan's targets and detailed projects related to realise the targets to reach the sectoral development determined by the national plans.
In the FMP made for the 1990 - 2009 period, under the topic of secondary forest products harvesting activities, firstly the definition of non-wood forest products was made and then present position, the status and policy of employment made for this purpose and problems faced as related to the matter were examined. Then the improvements and achievements were reviewed according to the FYDPs. Lastly, the targets of 1990 - 2000 period, utilities to be provided and policies to be followed and precautions to be taken were determined. In this plan the policies and precautions related to non-wood forest products were determined as the following:

- The inventory works which were firstly done in 1978 should be done periodically for protecting the existence of forest secondary products in the nature and to be produced according to the principle of sustain yield;
- Co-operating with the various research organisations and universities;
- To be followed the books and periodicals related the subject;
- To be explained that these resource are needed to be used by protecting and planning by co-operating with the TRT (Turkish Radio Television);
- It is decided to be taken financial measures for the works which will be periodically done in the context of non-wood forest products and cultivation to be prepared in this area and assistant personnel, tool-equipment needed for these works.

Results And Recommendations

The proportions of Turkish forestry sector's export and import in the national export and import are at the level might be ignored such as 0.0005 and 0.0006 per cent (Türker, 1999). However, a majority of forestry sector's export in the national economy is non-wood forest products export. As a matter of fact, in Turkish forestry sector in the period (1990 - 1998), about 98 % of forest product export and 2 % of its import were from non-wood forest products. In this case, non-wood forest products contain forest outputs that are produced to meet the foreign demand and a $28.113.900 foreign exchange were obtained in related period.

On the other hand, as related to non-wood forest outputs in the Turkish forestry sector, although various objectives, principles and policy were determined in the FYDPs and FMP, many problems have occurred in the management activities of non-wood forest outputs production and their applications.

Among these problems, it is especially stated that the non-wood forest products are rapidly destroyed as a result of unplanned, unconscious, faulty, excessive utility and technical, legal and institutional arrangements to prevent the destruction made with the disappearing some important species and illegal collections can not be realised (SPO, 1995).

In this scope, that it is not attached importance to export the manufactured non-wood forest product and to be exported the wet or seasoned plant are other problems as related to non-wood forest products in Turkey. For this reason, considerable amounts of foreign exchange are lost and unmanufactured vegetable outputs are imported. On the other hand, enough research on the production techniques for non-wood forest products such as resin, storax have not been done far, economic loses are occurred for the national economy (Turkish Ministry of Forestry, 1994).

In addition, any detailed inventory information relating to the scope and potential amount of non-wood forest products are not available, existing inventory information are periodically repeated. Thus, as it has not been sufficiently attached importance to the non-wood forest products at the macro level in the FYDPs and FMP and accepted as secondary products, to be realised a effective and productive non-wood forest products management has been getting difficult at the level of forest enterprises.

By taking into consideration all difficulties and given earlier information, required recommendations to be improved the management of non-wood forest products can be stated as follow:

- Firstly, it should be attached into required importance to the exportation of the non-wood forest products by considering their proportion in the Turkish forest export. At this point, favourable
inventories relating to especially existing and potential products have to be constituted and these inventories should be regularly repeated and technical and legal arrangements that will diminish the unregistered production to minimal level have to be reviewed;

• The basis of increasing the exportation is to make the products suitable for world standards. Therefore, instead of marketing the non-wood forest products as a raw and unmanufactured material, maximum contribution to the national economy has to be obtained by importing the products as final crop manufactured in suitable places at the world standards. In addition, growing by cultivation works of crops which have high economic value should be encouraged and in this way, technical and economic assistance to forest villages should be made (SPO, 1995a);

• On the other hand, forest resources should be planned by considering the alternative production methods which the enterprise and local community are able to obtain more income and gain welfare in the frame of continuity principle. In this case, forest enterprises should be purposeful, planned and managed by taking into consideration the non-wood vegetable crops. As related this matter, management plans should be extended to operation plans (Geray, 1998). In this context, the discrimination of main forest product - secondary forest product in Turkish forest management should be abandoned and the idea which a product might be a main or secondary product according to the management objective should be adopted and put into practice. For this purpose, the management objectives at the level forest enterprises should be clearly determined according to the targets, principles and policies mentioned in the FMP, FYDPs, and the non-wood forest products should take place among these objectives as depending upon time, place and socio-economic conditions;

• Lastly, as a necessity of modern forest management and multiple use benefits from forest resources, a new approach which will be adopted and applied to improve the non-wood forest products and their production and management should be developed as soon as possible.

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