

## Historical development of forestry education in the context of forest resources management in Turkey

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**Abstract:** The beginning of forestry education in Turkey dates back to the second half of the 19th century. Initially the French were predominantly seen to be the experts in forestry education. By 1910, when the Forestry High School opened, the Austrian and German nations became the leading experts. The first half of the 20th century was established as a forest faculty. In this study forest policies followed in Turkey, institutional developments experienced in the context of these policies, institutional and philosophical responses demonstrated by forestry education to these developments was examined.

**Keywords:** History of forestry education, Period of Tassy and Simon, Turkey

## Türkiye’de orman kaynakları yönetimi bağlamında ormancılık eğitiminin tarihsel gelişimi

**Özet:** Türkiye’de ormancılık eğitiminin başlangıcı 19. yüzyılın ikinci yarısına kadar uzanmaktadır. İlk olarak ormancılık eğitiminde Fransız uzmanların ağırlıklı olarak görülmesine karşın 1910 yılı itibarıyla Ormancılık Yüksek Okulunun açılmasıyla yerlerini Avusturyalı ve Alman uzmanlara bırakmışlardır. 20 yüzyılın ilk yarısı itibarıyla de orman fakülteleri kurulmuştur. Bu çalışmada Türkiye’de tarihsel süreç içerisinde izlenen ormancılık politikaları ve bu politikalar kapsamında yaşanan kurumsal gelişmelere ormancılık eğitiminin verdiği kurumsal ve felsefi yanıtlar incelenmiştir.

**Anahtar kelimeler:** Ormancılık eğitimi tarihi, Tassy ve Simon dönemi, Türkiye

### 1. Introduction

Forestry policy is a phenomenon that plans forests at the country level in order to establish a balance between forest resources and societies for the long term and meet the expectations of society regarding forests. In this context, it sets goals and evaluates options on how to reach goals.

Laws and legal regulations are the most important tools of forest policy. It is trying to balance between the priorities of governments and society’s demands regarding forests within legal regulations. Forestry organizations, forest ownership, forestry training and education are also some of the other forest policy tools.

There is an absolute need in forestry organization for the achievement of the objectives be regulated by law, conducting of envisaged activities. No doubt that, with the assumption that they are organized in a rational manner "forestry organizations", or referred to in this paper "forestry institutions" as important as forestry legal arrangements are any other tools of forestry policy.

There is a need for an expertise in human resources to achieve forestry institutions objectives which have been demonstrated successfully by law. In this context, forestry education has great importance.

Trained manpower in the context of forest policy is also an indispensable tool in rational management of forest

resources, as in the solution of forestry problems. Therefore it takes non-negotiable place in forestry. Training takes place within an environment of social and political apathy towards the importance of forestry issues within our country.

Forestry education in our country has a long history. Technical training and education in forestry began with the establishment of the first Forestry School in İstanbul, on 17th November, 1857.

From this date, the country's priorities, forestry perspective, forest policy in the context of experienced social, economic and political developments and forestry agencies developed. Depending on these developments forestry education system also was forced to keep pace with changes.

In this article, forest policies followed in our country, institutional developments experienced in the context of these policies, institutional and philosophical responses demonstrated by forestry education to these developments will be assessed.

### 2. Interest of Ottoman Empire to forest resources

In the Ottoman period, a very large proportion of the population lived in villages. Urban areas were in the form of small towns. In this period, rural people were free to benefit

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from the forests how they wish. Only the palace, the shipyard and the armory needing to benefit from forests could over-ride these restrictions. Wood needs of the town's people were provided by woodcutters cut the trees from years despite the measures begun to be taken from the middle of the 19th century (Gümüş, 2012).

The Empire began to take steps in terms of Westernization in 1839 after the Tanzimat Edict. Towards the end of 1839 a Forestry Department was established in Istanbul but closed within 11 months. The first attempt to protect forests and benefitting economically from them failed.

Experienced political and economic developments in later years determined that forest resources must be mobilized. Thus, establishing a Forest School with experts' advice and support brought in from France, after that General Directorate of Forestry was established and which still exists.

The Crimean War is the most important political and economic development. It had an impact on institutionalization, institutional and educational development of forestry activities (1853-1856). Therefore it is primarily useful to assess the cause and effect of the battle (Gümüş, 2004).

The Crimean War began with the Russian's attack to the Ottoman Empire on the pretext of the rights of non-Muslim. This movement had harmed the interests of other major states in Europe, Britain and France included. Russia entered the territory of the Ottomans from the Balkans. Britain and France sided alongside the Ottoman Empire. They had created a European Bloc. France, Britain, and Sardinia supported the Ottoman Empire with nearly two hundred thousand people. Eventually Russia lost and the Paris Treaty was signed in 1856.

Although the Ottoman Empire appeared to not have lost the war, it was the first time borrowing money was from British and French for financing the war. Thus, disordered finances were weakened. Financial liabilities of minorities were eliminated by the Reform Edict (1856) announced within the framework of treaty provisions. Because of that, this financial structure thoroughly corrupted.

Forests and mines began to be seen among the sources thought to be consulted with regard to improvement of disordered economic structure (Şendil, 2015). They were among the remedies suggested by foreigners.

### 3. Period of contractor management (1857-1934)

As stated before, the first serious step, about the managing of the Ottoman forests, taken after the Crimean War, was based on the scientific methods. The Turkish forestry's base has been initiated by the forest engineers brought from France in three separate groups on separate occasions from 1857 onwards. These French forest engineers carried out soil analysis to determine the existence of forest, besides being instrumental in setting up the forest school (Keskin, 2010).

#### 3.1. Tassy Period (1857-1862; 1866-1868)

In this period, Louis Tassy, a French forestry expert, was the head of committee which conducted forestry studies. Tassy stayed in our country between the years of

1857-1862 and 1866 to 1868 about a period of 8 years. The basic duties brief given to Tassy included;

- Opening of the Forest School,
- The Preparation of Forest Regulations,
- An inventory of our forests and
- The establishment of forest organization (Yund, 1969).

In 1857 the Forestry School in Turkey was established in Istanbul first through the efforts of Tassy (Kutluk, 1957; Eryılmaz, 2008) and the director of this school had been granted to him. In response to the efforts of the founder of this school, he was granted directorship of the school and consequently called after him as "Tassy Forest School" (İÜ, 2015).

The establishment of the Forestry School, in 1857 was considered by many scientists and foresters as the beginning of forestry in Turkey (Eraslan, 1989; Kutluk, 1957).

For students taken to school, it was forced to know French. Because of the teachers brought from France (Louis Tassy and M. Alexandere Stheme) did not know Turkish and school books were in French. The school was in the nature of a course (Kutluk, 1948).

During this period, there was not a forestry organization in our country. Thus, to study in a school did not have much meaning relevance.

In school, it was understood that aims of educating technical personnel for designed establishment of forestry organizations and getting this staff to work particularly on reconnaissance business that was urgent need at that time stood in the fore front (Eraslan, 1989).

The second Forestry School was founded by the Ministry of Commerce in the Tassy Period. According to records of 1865 Tassy served as vice chairman of the Council of Communications (Meclis-i Ma'âbir) under the Ministry of Commerce (Kutluk, 1948).

#### 3.2. Simon Period (1868-1879)

Tassy left Turkey in 1868. Thus, Charles Simon then became a director of the school. He prepared a regulation for the school (Eraslan, 1989; TBMM, 2015).

In the Simon Period the Forest School gained a meaning with establishment of General Directorate of Forestry in 1870 and Forest Regulation entered into force. The Forest School which was previously semi-official became formal (Özdönmez et al., 1996).

When the first article of the Regulation was examined, it was understood that The school was established with the aim of educating forest employee for this organization needs under the supervision of General Directorate of Forestry established under Ministry of Finance.

In the period after Crimean War it was seen that the State could provide income from forests. For this purpose, a legal regulation was entered into, the Forest regulations, 1870, were enforced General Directorate of Forestry. From this date, it was seen that forests began to manage through commitment or privilege. Forests were a source of income anymore. Therefore, the benefit from the forests must be terminated randomly. In this context, General Directorate of Forestry established in 1869 one year before the Regulation will be an organization provides protection of forests and gaining income by stumpage sales.

Forests seen as a source of income were protected by the law; the forests began to be sold to domestic and foreign traders by the established organization.

Forestry directorates established in the countryside with the aim of protecting forest and regulating sales jobs. Forest school/forest secondary school graduates worked under forestry directorates serving as forest inspector (inspector general), second inspector, third inspector or deputy inspector according to their work.

After experience of forestry directorates established under the Ministry of Commerce in 1839 and lasted 11 months, ministries that General Directorate of Forestry existed within showed developments regarding to the actions that expected form forestry the forms of organization began under the Ministry of Trade in Ottoman Period ended with Ministry of Economic.

### 3.3. Forest and Mining School (1880-1893)

It is understood that forests began to manage due to government's financial embarrassment and western foresters' suggestion. Forests and mines began to be used with the same purposes in this period seen that sustainable utilization of forests do not have an importance, it was taken into account that both sources provided income as natural resources and forest and mining organizations which had management of this resources were connected to Ministry of Finance. Until 1880 forestry and mining schools were independent from each other but were amalgamated by the Regulations.

It was the first time that the title of "**forest engineer**" was given to those who graduated from this school. That was one of the prominent features of this school. Education at this school served for 13 years was continued jointly for the first two years, the next two years it was continued by separating the forest and mining.

Lessons at the school were more related to language science like as French and Ottoman. There were joint lessons related to geography or calculation. There were a total of 3 lessons directly related to the forest sector. The lessons of "plants and wood science" was in 3rd year, "forest science" and "forest generation" were in 4th year (Kutluk, 1948).

### 3.4. Halkalı Agricultural High School (1893-1903) - Halkalı Agriculture and Forestry High School (1903-1910)

The Forestry and Mining School was closed in 1893. It was decided to educate foresters under the Agriculture school. The Department of Mining was seen as a secondary importance and students were sent to Europe to study.

It was decided to expand the lessons taken in Agriculture school as include forestry science. Agricultural school curriculum was expanded to include forestry science as well as agricultural science plant physiology and anatomy, forest trees classification, wood recognition, map arranging, forest management and maintenance methods, wood production and cutting (Kutluk, 1948).

Halkalı Agricultural School's name was changed as "Halkalı Agriculture and Forestry High School" in 1903.

Forestry High School was established in 1910 because of forestry lessons in this school were seen insufficient after

2<sup>nd</sup> Constitutional Monarchy and forestry education was separated from this school.

### 3.5. Forestry High School (1910-1934)

The Forestry High School was founded by Ali Rıza Efendi in 1910 (Yund, 1969). School located in Sultanahmet for a short time, and then moved to Sarıyer and Bahçeköy.

The school aims to train forest science officers. In 1910, a regulation had been prepared for the school. According to article 10 of the Regulation the lessons to be taught were in 5 groups (Kutluk, 1948):

1. Forest science,
2. Lessons related to Limitation of Forestry and rectification of maps,
3. Construction courses on transport ways and guard house,
4. Lessons regarding to combat pests and insects, hunting animals,
5. Official correspondence relating to forestry related courses.

From 1910, Austrian and German began to take the place of French in our forestry and forestry education. Austrian experts Dr. Bauer and Dr. Micklitz were brought in to teach at the High Forest School in 1914 (Kutluk, 1967). German and Austrian foresters' retained their status after the First World War and the proclamation of the Republic (Pamay et al., 1973).

In period that was before Republic, the Ministries that General Directorate of Forestry and Forestry Education organizations were under (Ministry of Commerce, Ministry of Finance, Ministry of Forestry and Mining, Ministry of Commerce and Agriculture, etc.) simplified understanding forestry approach and purpose of educating students in high schools.

During the years of First World War forestry education was significantly hampered. There was only one PhD among academic staff during the years of 1922-1925. There was not any assistant. In this period lessons taught at school were; botany, chemistry, mathematics, topography, geology, mining, law, insects and animals, life science, construction, forest management, silviculture, wood technology, French, Forest Planning Department (İlkmen, 1974).

The benefits began from foreign experts with the aim of preparing a Forest Act and regulating forestry. In this context, French Sapy came to Turkey in 1925. Prof. Dr. Bernhard, Who was old director general in Saxony of forestry in the Kingdom of Prussia, came to Turkey in 1926 (Bingöl, 1990).

Since 1926 (1926-1934) the Forest High School was governed by an independent rectorate with the suggestions of Prof. Dr. Bernhard. The approach of Prof. Dr. Bernhard "it should provide improving forestry knowledge and educating in science field to young foresters by sending them Europe (Kutluk, 1965) was interesting. This statement was a kind of an explanation that forestry education in our country was inadequate at that time.

#### 4. State forestry management period (1934- )

##### 4.1. Ankara High Institute of Agriculture - Forestry Faculty (1934-1948)

“Ankara High Agriculture Institute (AHAI)”consisting of Natural Sciences, Agriculture, Veterinary and Agricultural Arts faculties had been established with Law No.2291 enacted in 1933.

Education and training studies were achieved with the contributions of German scientists in the first period of AHAI. According to the new law accepted on November 1, 1934 the Forestry High School became a part of AHAI as the fifth faculty. Forestry training and education system gained an exact academic identity under AHAI.

High Forest School in İstanbul had been converted into a faculty in 1934 and was connected to AHAI. Education duration was increased to four years. Kutluk (1967) expresses that forestry gained a scientific identity with this development.

Forestry Law No.3116 enacted in 1937 bears a revolutionary qualification for forestry. Managing the forests by the private sector ended with this law to manage the forests by the state began with Law No.3116 and in this context, forestry directorates is subject to a new assessment. Forestry directorates were named as "forest directorate" (32 units) in 1937, "forest infirmary authority" in 1944. Since 1937 “Forest Sub- District Directorates” known as "forest district chieftaincy" has been created under the mentioned directorates (Gümüş, 2013).

Students of the Higher Agriculture Institute Forestry Faculty were educated for the first two years in Ankara the next two years in İstanbul. Since the academic year 1944-1945, only first and second Semester students were educated in Ankara (botany, zoology, chemistry, physics, mathematics courses at the Faculty of Natural Sciences, Forestry and Meteorology courses at the Faculty of Agriculture); third-eighth semester students educated in İstanbul (İlkmen, 1974).

Higher Agriculture Institute adventure of Forestry Faculty lasted until 1948. The Forestry Faculty was connected to İstanbul University by a law enacted in that year. “State Forest District Directorate” period was initiated within the framework of Law No.4767 enacted in 1945 in the provincial organization. It was needed for the creation of a new organizational degree between the Forest District Directorate and the General Directorate as a result of increased number of the Forest District Directorate. A new organizational structure which was named “Forest Regional Directorate” in 1980 known as "forest head directorate" since 1951 has been created.

During this period, Forest School graduates were tasked directly with the management of forests. Forest inspectorship period ended in 1937. Graduates of Forestry Faculty undertook all forestry activities besides the audit duty. Thus, it was forced to change the nature of forestry education, after this date all issues related to the sustainable management of forests began to be taught.

##### 4.2. Attaining Independence of Forestry Education by Separation from the Organization of Forestry (1948- )

The Faculty of Forestry was connected to İstanbul University, by closing of AHAI which had an agricultural nature (Eryılmaz, 1993). Substantially, the connection of Faculty of Forestry to İstanbul University is the closure of an era. Because from the foundation date of 1857 to 1948, Forestry Education Institutions was an agency within General Directorate of Forestry or/and was an institution within the ministry that the directorate is connected to. Since 1948, it left the institution (GDF) which is conducting forestry activities and it doesn't have any organic relationship with this institution.

Starting from this year, the faculty of forestry gained the facility independently determining of all priorities related with education. This situation has caused many positive and negative results.

Almost all forests in Turkey are state owned. State owned forests are not expected to be transferred to others. Law no 3116 dated 1937; Turkish Constitutions of 1961 and 1982 did not allow this. Management and exploitation must be served by the state according to constitution. In this context, separation of forestry education from the organization of forest resources management was an exciting development in 1948. Forestry education has gained a universal character. At the same time, coordination between institutions began to experience problems from this date.

The first problem is the issue of the number of students in the faculty. Until 1948 Forest Higher School and AHAI Faculty of Forestry which located at the Ministry of Agriculture was educating number and quality of students extent of institution's or country's needs. After this date, it's seen that, the number of students is determined by Faculty of Forestry that is independent from ministry, regardless of Turkey's needs. Thus, according to a report which was arranged by FAO in 1968 (Osara et al., 1968) in İstanbul, opinions have been expressed to greatly reduced the number of students at Faculty of Forestry.

While this opinion submitted to the competent authority, opening the second faculty of forestry in Trabzon, in 1971 is remarkable for creating the beginning of negativities on this issue.

The new knowledge about forest resources obtained by inventory works during 1960s has changed the understanding of forestry in our country. It is understood that more rich forestry resources owned. Turkey stepped into the limelight for actuating its own resources. Turkey was an importer country in terms of timber and wood-derived products until the end of 1960s. So, 17 years between 1950 and 1967, the foreign trade deficit was USD 235 million (Osara et al., 1968)

Under the new information on Turkey's forestry resources, it's seem possible not only closing deficit but also achieving an export surplus (Gümüş, 2004).

Wood production has increased during this period focused on substructure investments mainly including road and transportation. In addition to production of forestry products (wood) demand for forestry products industry is developed. According to the demand at the forest industry, a need of trained personnel was raised.

All these developments facilitated the opening of the second faculty in Trabzon, by the new faculty forest industry engineering department began education for the first time. In 1982 this department was also founded in Istanbul University.

As a result of global and national rapid urbanization of the 1970s, reactional social demands occurred in our country. In accordance with this request, a Landscape Architecture department was founded at Istanbul University in 1985, at Karadeniz Technical University in 1990 and progressing at the other faculties.

By 1980s employment problems of graduate students occurred. Graduates began to be unemployed. As a result of successful high school graduates do not prefer the forest faculty, students with low scores began to enter the university. Thus, the negative effects on student motivation decreased the quality of education studies (Gümüş, 2012).

While it was expected to increase quality by accepting less students to the Forestry Faculties under Istanbul University and Black Sea Technical University, six Forestry Faculties were opened in 1992 (Artvin, Bartın, Düzce, Isparta, Kahramanmaraş and Kastamonu), with another faculty (Çankırı) was opening in 1994, new faculties were opened in 2010 in Bursa and Izmir, the other faculty was opened in 2012 Karabük.

Thus the number of forestry faculty has increased to 12. These faculties led to negative developments in terms of educating qualified human resources required to achieve forestry policy objectives in Turkey. Forestry faculties and especially departments educate forest engineer, are influenced badly with the above-mentioned reasons.

One of the developments that have an impact on forestry education in Turkey is the profession law No.5531 enacted in 2006. The tasks of forestry professionals have been described primarily with this law. Some forestry activities associated with the duty definition began to be achieved by self-employed members. A new period has begun.

In recent years, "Wildlife Management and Ecology" departments also have been opened in some forestry faculties including KTU Forestry Faculty being the first. Existence of this department being linked to the fields of biology and veterinary schools in forestry faculties is interesting. The opening of this department consistent with the above-mentioned profession law is controversial. The Chamber of Forest Engineers also is in suspicion. Recently, there is no middle level forestry technical school in Turkey. Still, Forestry Faculties have been increased in accordance with the expectations of political authority and trivialized, being a politic material;

- International norms,
- Profession Act,
- Demands of the forestry organization,
- The expectations' academic staff of Forestry Faculty entered into a process that trying to balance.

## References

- Bingöl, İ., 1990. Geçmişten Günümüze Ormanlarımız ve Ormancılığımız [Our past to present our forests and forestry]. Ormanlık Eğitim ve Kültür Vakfı, Matbaa Teknisyenleri Basımevi, İstanbul.
- Eraslan, İ., 1989. Türkiye’de Ormanlık Öğretim ve Eğitim Kurumlarının Tarihsel Gelişimi [Historical development of forestry education and training institutions in Turkey]. Ormanlık Eğitim ve Kültür Vakfı Yayını, İstanbul.
- Eryılmaz, A.Y., 1993. Karadeniz Teknik Üniversitesi Orman Fakültesi’nin Kuruluşu ve Eğitim-Öğretim Etkinliklerinin Tarihsel Gelişimi [Establishment of the Black Sea Technical University Faculty of Forestry and historical development of academic activities]. KTÜ Basımevi, Trabzon.
- Eryılmaz, A.Y., 2008. Tarihsel Gelişim Süreci İçerisinde Ormanlık Öğretimi [Historical development in forestry education]. 3.Ulusal Ormanlık Kongresi Kongresi (150. Yılında Türkiye’de Ormanlık Eğitimi), 20-22 Mart 2008, Türkiye Ormanlıklar Derneği, Ankara, s.31-44.
- Gümüş, C., 2004. Ormanlık Politikası (Forest policy), KTÜ Orman Fakültesi, Trabzon.
- Gümüş, C., 2012. Türkiye’de Ormanlık Eğitiminin Tarihsel Gelişimi [Historical development of forestry education in Turkey]. 5531 Sayılı Kanunun Yüksek Öğretim ve Eğitime Yansımalarının İrdelenmesi ve Hedefler Kongresi, 23-24 Kasım 2012, TMMOB Orman Mühendisleri Odası, Kastamonu, s. 31-46.
- Gümüş, C., 2013. Türkiye’de Ormanlık Etkinliklerinin Örgütlenmesi ve Güncel Sorunlar [Organization of forestry activities and current problems in Turkey], Geçmişten Günümüze Ormanlıkta Yapılanma ve Personel Politikası Paneli, 20 Mart 2013, Türkiye Ormanlıklar Derneği, Ankara.
- İlkmen, Ş.N., 1974. İ.Ü. Orman Fakültesi Öğretim Üyelerinden 1973 Yılında Emekliye Ayrılanlar (Prof.Dr. Şeref Nuri İLKMEN, Prof.Dr. Abdulgaffar ACATAY, Prof.Dr. Selahattin İNAL) İçin Düzenlenen Törende yapılan Konuşmalar) [IU Faculty of Forestry in 1973 who retired], Sermet Matbaası, İstanbul.
- İÜ, 2012. History (Tarihçe). İstanbul University, Faculty of Forestry website, <http://orman.istanbul.edu.tr/node/4874>, Access: 13.09.2012.
- Keskin, Ö., 2010. Osmanlı Ormancılığında Kanunlaştırma Hareketleri ve Yabancı Uzmanların Bu Alandaki Etkileri [Legislation activities in Ottoman forestry and influence of foreign experts in this subject]. Journal of the Faculty of Forestry İstanbul University, 60(1): 5-13.
- Kutluk, H., 1948. Türkiye Ormanlığı İle İlgili Tarihi Vesikalar 893–1339 (1487–1923) [Historical records related to Turkish forestry], Osmanbey Matbaası, İstanbul.
- Kutluk, H., 1957. Fransız Ormanlıları Nasıl Getirildi? Orman Mektebi Kimlerin İsteği ile ve Ne Suretle Açıldı? Türkiye Ormanlığı 100. Tedris Yılına Girerken, Türkiye Ormanlıklar Cemiyeti, Ankara.
- Kutluk, H., 1965: Prof.Bernhard’ın 38 yıl önce vermiş olduğu konferans, OGM Teknik Haberler Bülteni 4 (16): 181-193.

- Kutluk, H., 1967. Türkiye Ormancılığı ile ilgili Tarihi vesikalar 1202-1341 (1787-1925) [Historical records related to Turkish forestry]. Ogun Kardeşler Matbaası, Ankara.
- Osara, N.O., Rydbo, F., Vakomies, P.J., 1968. Türkiye Milli Ormanlık ve Orman Sanayii Ana Hatlarını Hazırlamakla Görevli Heyetin Rapor Taslağı [Draft Report of Turkey National Forestry and Forest Industries], FAO/Roma.
- Özdönmez, M., İstanbullu, T., Akesen A., Ekizoğlu, A., 1996. Ormanlık Politikası [Forest Policy]. İ.Ü. Basımevi ve Film Merkezi, İstanbul.
- Pamay, B., Çanakçıoğlu, H., Özdönmez, M., İstanbullu, T., 1973. Cumhuriyetimizin 50. Yılı Münasebetiyle Türkiye’de Ormanlık Öğretimi ve Eğitiminin Gelişimi ile İÜ Orman Fakültesi Kürsü Kuruluşları ve Çalışmaları [Development of Forest education in Turkey and, establishment and essays IU Faculty of Forestry Devisions with 50th Anniversary of our republic]. İÜ Orman Fakültesi Yayın No: 1886, İstanbul.
- Şendil, A.F., 2015. An example to the technical academies established with the Tanzimat: Academy of Forestry [Tanzimat İle Açılan Teknik Okullara Bir Örnek: Orman Mektebi]. Cappadocia Journal of History and Social Sciences, 4(1): 213-226.
- TBMM, 2015. Official report (Zabıt Ceridesi). TBMM website, [http://www.tbmm.gov.tr/tarihce/ataturk\\_konusma/01\\_03\\_1339.pdf](http://www.tbmm.gov.tr/tarihce/ataturk_konusma/01_03_1339.pdf), Access: 13.09.2015.
- Yund, K., 1969. Türkiye Orman Umum Müdürleri Albumü [Forest managers album in Turkey], Hüsnütabiat Matbaası, İstanbul.