

National Education and Accreditation of the Cadastral Surveyors in Türkiye

Ümit Yıldız

Land Registry and Cadastre Expert, General Directorate of Land Registry and Cadastre, Ankara, Türkiye
uyildiz@tkgm.gov.tr

Volkan Çağdaş

Prof. Dr. Department of Geomatic Engineering, Yıldız Technical University, İstanbul, Türkiye
volkan@yildiz.edu.tr

In contemporary Türkiye, the field of cadastral surveying is predominantly structured around three fundamental pillars concerning human resources: (1) public officers; (2) the private sector; and (3) licensed surveyors. Legal regulations clearly demarcate the duties and responsibilities of each of these pillars. Within the scope of this study, evaluations pertaining to the education and accreditation of cadastral surveyors will be provided, taking into account these three pillars.

The responsibilities of surveyors operating within the cadastral domain are succinctly outlined in Table 1.

Table 1. Responsibilities of Surveyors Operating at Cadastral Works

Tasks / roles	Private surveyor Accredited by the Chamber*	Licensed surveyor Accredited by GDLRC**	Public surveyor (officer) Employed by GDLRC
Initial cadastral surveys (Completed)			▲ ● ◇ ★
Property formation processes (e.g. subdivision, land readjustment, land consolidation)	▲ ● ◇		★
Other property formation processes (e.g. amalgamation, boundary re-establishment)		▲ ● ★	★
*The Chamber of Survey and Cadastre Engineers **General Directorate of Land Registry and Cadastre			
▲	Technical works and logistic		
●	Production of the dossier		
◇	Legal and administrative works		
★	Control and registration		

The origin of cadastral works in Türkiye dates back to the period of the Ottomans. In the Ottoman Empire, the calculation of land revenue held significant importance in various aspects, including taxation and military regulations (Yıldırım & Kadioğlu, 2010). However, modern cadastral studies gained attention after the Land Code (*Arazi Kanunnamesi*) issued in 1858, considered the first comprehensive land law in the country (Özmen, 1986). The first legal regulation related to associating land records with scaled maps was enacted in 1907 (Esmer, 1998), and in 1912 the first cadastral law was issued (Toker, 2021). Although these regulations could not be fully implemented due to the challenges of the mentioned era, including wars and other pressing issues, the need for cadastral surveyors was acknowledged. The first educational organization in this field, named Cadastral School (*Kadastro Mekteb-i Alisi*), was established in 1911 (Yıldırım et al., 2021). Until the 1980s, actors working in cadastral surveying were predominantly public officers.

Establishing a comprehensive cadastral system across the entire country has been one of the most ambitious objectives of the Republic of Türkiye since it was founded in 1923. The Cadastre Law numbered 658 was one of the first laws issued in the republic period (Official Gazette, 1925). In 1926, the Turkish Civil Code, a translation of the French version of the Swiss Civil Code, was enacted. Since then, a systematic adjudication process has been applied by the General Directorate of Land Registry and Cadastre (GDLRC) in the whole country to determine the geometric and legal status of real properties. Land parcels were demarcated on the site and on the cadastral plans, and property rights and holders of these rights were ascertained and registered into the land registry. The plan (cadastral maps) is regarded as one of the main components of the land registry, and this structure is covered by state guarantee. Nevertheless, it took nearly a century to finish the initial systematic cadastral surveys nationwide due to various factors, such as the country's significant geographic variety and a shortage of adequately trained personnel (Yıldız et al., 2022). In the early years of the republic, the demand for trained cadastral surveyors was met by experts graduated from the above-mentioned Cadastral School. The curriculum of the school was designed to enable students to perform legal tasks such as determining rights, responsibilities, and restrictions on real properties, as well as technical tasks including establishment of geodetic networks, demarcation and surveying property boundaries, and various calculations like surface area. Upon graduation, students were directly appointed as civil servants, and their salaries were determined on the basis of their diploma grades, as specified in the related regulations (Yıldırım et al., 2021).

The inability to complete cadastral works until the 1950s was associated with a shortage of trained human resources. In response to the need for institutions providing higher education in the field of surveying engineering, the first geodesy department was established in 1949 at Yıldız Technical University, Istanbul. Then, the Chamber of Survey and Cadastre Engineers was established in 1954 as a professional association serving society for the public benefit. Up to 1957, a total of 154 individuals graduated with the engineering degree (Şerbetçi, 1999). As of today, higher education in the field of geospatial engineering is conducted in 19 universities with different graduate and postgraduate levels programs. As of this year, the number of people holding a degree in surveying or geomatics engineering has reached nearly 20,000. The curriculum of surveying and geomatics engineering education generally includes theoretical courses such as mathematics, measurement knowledge, geodesy, photogrammetry and remote sensing, cartography, property law, cadastral surveys, land readjustment and land consolidation implementations, real estate valuation, and geographic information systems, alongside practical applications in fieldwork.

In addition to the engineering education, short-term (one to two years) and intensive course programs had been developed by the GDLRC since 1951 for high school graduates to be employed as cadastral surveyors (civil servants) after graduation (Yıldırım et al., 2021). These programs have since evolved into two-year surveying programs within universities. As of today, two-year surveying programs are provided in 57 universities. In contrast to the program initiated in 1951, graduates of these programs are not guaranteed employment in state agencies.

The advancement of systematic cadastral studies at the national level has led to the necessity for regulatory adjustments concerning property formation processes (e.g. subdivision, amalgamation, expropriation, and development plan implementations). With the 1973 regulation, 'authorisation and responsibility' was given only to the survey engineer in the processes of property formation (Official Gazette, 1973). The second pillar of cadastral surveying was formed by regulations that allow the private sector, accredited by the Chamber of Surveying and Cadastre Engineers,¹ to conduct property formation activities (TKGM, 1989). The accreditation process conducted by the Chamber is carried out in the form of annual registration. The accreditation process aims to enhance service quality and regulate competition conditions for companies engaged in professional activities in the private sector. This is achieved through regulations such as determining minimum service fees and setting minimum employee salaries. Furthermore, there are supervisory actions such as the temporary suspension of accreditation in instances where ethical principles are breached.

Since the 1990s there has been an increase in the number of universities offering surveying engineering education in Türkiye. The Chamber of Surveying and Cadastre Engineers anticipates that the number of engineers will reach 37,000 by 2027 (HKMO, 2017). The utilization of the private sector in systematic registration processes (Ercan, 2020) has led to an increase in demand for surveying and geomatics engineering graduates between 2004 and 2014. However, in subsequent periods, this surge in demand has paradoxically given rise to the issue of unemployment. Licensed Surveying and Cadastral Engineering Offices, established as a third pillar since 2010, aim to undertake certain activities conducted by the public sector and authorized by the GDLRC. Initially, licensing was granted on the basis of a written exam and professional experience scores evaluated by the GDLRC. However, a legal amendment in 2021 removed the written exam requirement and introduced a mandatory 10-year post-graduation experience criterion (Official Gazette, 2021). The documentation of experience requirements takes into consideration membership of the Chamber. Licensed engineers are primarily authorized at the provincial level for activities such as parcel boundary re-establishment, establishment of easement plans (e.g., right of way), amalgamation, and alteration of property use type. Currently, there are 670 licensed cadastre offices that employ 670 licensed engineers, 780 engineers and 1,365 technicians at the undergraduate level (TKGM, 2024).

The education and accreditation regulations for cadastral surveyors have been purposefully established in Türkiye. During the period from 1923 to 1980, when systematic registration (cadastre) processes were conducted by the state agency, there was an insufficient human resource in the field of surveying. However, educational organizations (cadastre high schools, vocational courses) with guaranteed public employment, and universities offering surveying engineering education, played a crucial role in providing the foundational human resources in cadastral surveying. The establishment of a professional association

¹ <https://www.hkmo.org.tr/genel-merkez/hakkimizda>

occurred with the increase in the trained workforce. Accreditation initiatives were initially undertaken in collaboration with the Chamber. Finally, some tasks previously managed by the state agency have been transferred to the licensed surveyors.

References

- Esmer, G. (1998). *Mevzuatımızda Gayrimenkul Hükümleri ve Tapu Sicili, Tapu ve Kadastro Vakfı Yayınları*, Ankara.
- HKMO (2017). *Türkiye’de Harita / Geomatik Mühendislik Eğitimi*. Available online at https://obs.hkmo.org.tr/show-media/resimler/ekler/0b230afa1c8258c_ek.pdf?tipi=2&turu=H&sube=0, accessed 26/02/2024.
- Official Gazette (1925). *Kadastro Kanunu. Resmi Ceride, 7 Teşrinievvel 1336 No: 3*. Available online at <https://www.tkgm.gov.tr/kadastro-db/658-sayili-kadastro-kanunu-yeni-alfabe>, accessed 26/02/2024.
- Official Gazette (1973). *Tescile Konu Harita ve Planlar Yönetmeliği*. Available online at <https://www.mevzuat.gov.tr/File/GeneratePdf?mevzuatNo=4735&mevzuatTur=KurumVeKurulusYonetmeliği&mevzuatTertip=5>, accessed 26/02/2024.
- Official Gazette (2021). *Lisanslı Harita Kadastro Mühendisleri ve Büroları Hakkında Kanunda Değişiklik Yapılmasına Dair Kanun*. Available online at <https://www.resmigazete.gov.tr/eskiler/2021/04/20210427-7.htm>, accessed 26/02/2024.
- Özmen, İ. (1986). *Eski ve Yeni Hukukumuzda Gayrimenkul Mevzuatı*. Ankara.
- Şerbetçi, M. (1999). *Türk Haritacılığı Tarihi (1895–1995). Türk Haritacılığının 100. Kuruluş Yılı Anısına*, İstanbul.
- TKGM (1989). *Kadastro Haritalarındaki Değişiklikler ve Tescile Konu Olan Harita ve Planlar Yönetmeliğinin Uygulanması ile İlgili Yönerge*. Available online at <https://www.lexpera.com.tr/mevzuat/genelgeler/tapu-ve-kadastro-genel-mudurlugunun-13-04-1989-tarihli-ve-300-2-19-sayili-genelgesi-300-2-19>, accessed 26/02/2024.
- TKGM (2024). *Lisanslı Harita ve Kadastro Mühendisleri Büroları*. Available online at <https://www.tkgm.gov.tr/lihkab>, accessed 26/02/2024.
- Toker, K. (2021). *Kadastro Mevzuatı Hukuku Ders Notu*. Available online at <https://www.tkgm.gov.tr/kadastro-db/egitim-dokumanlari>, accessed 26/02/2024.
- Yıldırım, M., & Kadioğlu, S. (2010). *Defterhâne’den Tapu ve Kadastro’ya: Tapu ve Kadastro Genel Müdürlüğü’nün Tarihçesi*. TC Bayındırlık ve İskan Bakanlığı Tapu ve Kadastro Genel Müdürlüğü. Ankara.
- Yıldırım, M., Kadioğlu, S., Işık, S. (2021). *Kadastro Mektebi Alisi, Kadastro Meslek Okulunun Tarihçesi ve Kaynakları*, Ankara.
- Yıldız, U., Gürel, M., & Kocaman, S., (2022). State liability and uncertainty perception on cadastral parcel area registry in Turkey. *Land Use Policy*, 116, 106075. <https://doi.org/10.1016/j.landusepol.2022.106075>