

## LAND CONSOLIDATION PRACTICES IN TURKEY

Sedat Karaman <sup>1\*</sup>, Zeki Gokalp <sup>2</sup>

<sup>1</sup> Gaziosmanpasa University, Agricultural Faculty, Biosystems Engineering Department, Tokat, Turkey

<sup>2</sup> Erciyes University, Agricultural Faculty, Biosystems Engineering Department, Kayseri, Turkey

### Abstract

*In Turkey, agricultural lands are mostly composed of small, fragmented and scattered plots. Size of agricultural lands usually decreased through inheritance, then productivity of these lands decreased in time. As the number of plots increases, the area to be allocated for plot boundaries, roads, agricultural roads and irrigation canals also increases. Such an improper structure should be rearranged and efficient time, labor and capital use should be provided with modern agricultural practices. The objective in such practices should also be the optimum utilization of agricultural inputs to improve efficiency and yield levels in production activities and ultimately to improve life standards of rural people. Agricultural infrastructure should be rehabilitated to meet ever-increasing food demands of increasing population and to meet raw material needs of various industries. Rehabilitation of agricultural infrastructure requires integration and implementation of several inter-related economic policies. Among such policies, land consolidation and on-farm development services are the leading ones. In this study, present land consolidation practices of Turkey were generally assessed and recommendations were provided for better, reliable and sustainable implementations.*

*Keywords: Land consolidation, land size, on-farm development services, Turkey.*

### 1. INTRODUCTION

Land consolidation is generally defined as to bring small and scattered agricultural plots together. In other words, compounding irregular-shaped small plots into large regular-shaped plots to increase yields and productivity in agricultural practices. In land consolidation projects, plot shapes are regulated, small plots are compounded into large plots, scatter of plots is prevented, field conditions are improved and several in-field services are provided (Figure 1).

The primary purpose of land consolidation is economics. The target is to increase yields and provide savings in time and labor. With the implementation of land consolidation projects, productions and thus farmer incomes are increased, life and working conditions of rural people are improved and ultimately economic and social welfare of rural people is provided.

Besides agricultural practices, land consolidation works have great significance for socio-economic problems of rural sections of the country. Therefore, land consolidation projects are not designed solely for agricultural purposes. There are always social and economic aspects of the projects. When the life and working conditions of rural people are improved with land consolidation projects, the migration from villages to cities will also be decreased or prevented.



*Figure 1. Agricultural plots before land consolidation (a) and after land consolidation (b) (Source: <https://www.tarimdanhaber.com/haber/tarim/tokatta-arazi-toplulastirmasi-yapilacak/>)*

Agricultural lands are scattered around rural settlements and they have quite small sizes. Therefore, productivity and yield levels are quite below the expected levels. Such small sizes have made agricultural activities uneconomic. Hereditary split of agricultural lands is the greatest problem in Turkey. Local farmers are trying to implement agricultural practices over small and scattered lands with traditional means. Such practices then become uneconomic, thus result in various socio-economic problems for rural people. All such problems necessitate a comprehensive arrangement of agricultural lands through land consolidation projects. (Çevik and Tekinel 1988; Emel, 2013; Bilgin, 2014).

## 2. LAND CONSOLIDATION WORKS OF TURKEY

In Turkey, there were several legislations for land ownership until 1960s. Of these legislations, 2540-numbered settlement law issued in 1934 and 4753-numbered Land Provision law enacted in 1945 are the most important ones. With these laws, state-owned lands were distributed to farmers without any lands or with small lands (Bilgin, 2014).

In Turkey, the very first land consolidation project was implemented in Kargın village of Çumra town of Konya province in 1961 by the abrogated General Directorate of Soil-Water. In 1966, Land Consolidation Regulations were made. In 1973, Soil and Agricultural Reform Law was enacted (Küsek, 2014). With these regulations, 97 projects covering a land area of 67 303 ha were implemented until 1993 (Anonymous, 2016).

From the first land consolidation project in 1961, 87 projects were implemented and 58 000 ha land area was consolidated until 1980. While total land consolidation was 0.6 million ha until 2006, the area consolidated reached to 3.2 million ha by the year 2012. Such an area reached to 8 million ha by the end of 2018 and expected to reach to 14 million ha by the year 2023. GAP (Southeastern Anatolia Project) is the greatest agricultural project of Turkey and land consolidation was about 1.1 million ha within the scope of this project by the year 2012 (Figure 2) (Tekeloğlu, 2010; Duru et al., 2018). By the year 2015, land consolidation works were completed over 5.1 million ha land area and works are going on over 1.9 million ha land area. The primary target is to complete land

consolidation works initially over the irrigated lands (8.5 million ha). The Ministry of Food Agriculture and Livestock is planning to finish up land consolidation works over 14 million ha land area by the year 2023 (Anonymous, 2017).



*Figure 2. Land consolidation within the scope of GAP project (Source: <https://www.emlakpencerem.com/8-5-milyon-hektar-alanda-arazi-toplulastirmasi/101350/>)*

### 3. LAND OWNERSHIP AND SPLITS IN TURKEY

Available agricultural lands are not increasing parallel to increasing population of Turkey. Such unparallel increases then exert serious population pressure on agricultural lands. The increase in population should be directed to other sectors than agriculture.

In Turkey, size of agricultural enterprises is not sufficient for economic practices. Majority of Turkish farmers have insufficient land sizes, agricultural plots are scattered around the settlements and far away from each other. Thus, regular and large-size enterprises are not available and thus desired increase in yields and productivity is not achieved (Anonymous, 2009).

Number of agricultural enterprises is always increasing because of splits in agricultural lands through various means. The number of enterprises was 2 274 675 in 1950. Such a number then increased to 3 058 900 in 1970, to 3 558 815 in 1980, to 3 966 800 in 1991, but decreased to 3 022 127 in 2001. The average enterprise size was 10 ha in 1950. Such a size decreased to 6 ha in 1980, to 5,7 ha in 1990, but increased to 6,1 ha in 2001 (Anonymous 2009; Bilgin, 2014; Parlak, 2010).

The primary reasons of land splits significantly reducing yields and productivity levels of agricultural lands can be summarized as follows (Figure 3) (Anonymous 2009):

- Splits through inheritance and succession,
- Splits through shared and divided selling,
- Splits through rents or share cropping because of insufficient capital and labor,
- Splits through expropriations for various purposes,
- Splits through excessive population pressure on agricultural sector,
- Splits through pastures and highlands,
- Splits through geographic locations and topography.

Despite currently implemented land consolidation projects, agricultural lands are still fragmented through especially Inheritance Law. In each year, greater size of land is fragmented than the size of



consolidated land. Since various disciplines work together in land consolidation projects, there are always conflicts among them. Such conflicts then make the progress impossible in some projects. Therefore, a well cooperation and integration among them should be provided to better and quick implementation of the projects (Bilgin, 2014).



*Figure 3. Fragmented lands of agricultural enterprises (Source: <https://www.facebook.com/dsitoplulastirma/>)*

#### 4. CONCLUSION AND RECOMMENDATIONS

Measures should be taken to prevent population pressure on agricultural lands and migrations from the villages to the cities. Land consolidation projects are among the primary measures to be taken for such purposes. Rural infrastructure should be improved, production and marketing systems should be restructures and environmental measures should be taken all to have desired benefits from land consolidation projects.

Land consolidation is especially applied to provide implementation of modern agricultural techniques in agricultural enterprises, to provide access roads, irrigation and drainage facilities to each plot, to provide savings in time and labor in agricultural practices and to prevent land fragmentations.

Agriculture has a great share in Turkish economy. Land consolidation brings fragmented plots together in large regular shapes. Such a union of lands together with in-field services through land consolidation projects improves yields and productivity levels, increase then farmer incomes, social and economic welfare of rural people. Such an increased welfare will ultimately reduce or totally prevent migrations from rural parts to urban sections of the country.

Following recommendations can be made for better implementation of land consolidation projects and to get desired benefits from those projects (Bilgin, 2014):

- A separate and improved Land Consolidation Law should be enacted urgently.
- The institutions and organizations implementing land consolidation projects should be revised and united under the roof of a single institution.
- Legal reforms should be made to prevent splits of lands and agricultural enterprises though inheritance and other reasons.
- Optimum enterprise sizes should be determined based on ecological and economic conditions for conservative and modern agriculture.

## 5. REFERENCES

- Anonymous, (2017). General Directorate Of Agricultural Reform, Land Consolidation Studies. Retrieved: December 14, 2017 from <http://www.tarim.gov.tr/Konular/AraziToplulastirma-ve-Tarla-Ici-gelistirme/Projeler>
- Anonymous, (2016). Konya Provincial Directorate of Agriculture, Food and Livestock. Agricultural Infrastructure and Land Assessment Department, Konya.
- Anonymous, (2009). [http://www.tarimkutuphanesi.com/arazi\\_toplulastirmasi\\_00160.html](http://www.tarimkutuphanesi.com/arazi_toplulastirmasi_00160.html) (Data of access: 31.10.2018).
- Bilgin, C. (2014). Land Consolidation's Effectiveness and Evaluation on Farmers at Thracian Region. MSc. Thesis, Namık Kemal University Graduate School of Natural and Applied Sciences, Department of Biosystem Engineering, p. 93s, Tekirdağ.
- Cevik, B., Tekinel, O. (1988). Land Consolidation. Land Consolidation Seminar on Irrigation Projects. DSI, 14-17 November, Bursa, 45-68p.
- Duru, S., Gül, A., Hayran, S. (2017). Land Consolidation In Turkey: Legislation and Practices, *Turkish Journal of Agricultural Economics*, 23,(2), 263 – 269.
- Küsek, G. (2014). Legal Status and Historical Developments of Land Consolidation in Turkey. , *J. Agric. Fac. Ç.Ü.*, 29 (1), 1 – 6.
- Emel, M. (2013). Land consolidation as a tool for protection, development and planning of rural areas: A comparison of European Union-Turkey. MSc. Thesis, Graduate School of Natural and Applied Sciences, Urban and Regional Planning, Ankara, 138s.
- Parlak, Z. (2010). Creating a Livable Rural-Land Consolidation, General Directorate of Agricultural Reforms, Ankara.
- Tekelioğlu, Y. (2010). Land Reform and Turkish Applications, *Journal of Akdeniz İ.İ.B.F.*, 19, 43-80.