

## RECENT DEVELOPMENTS IN LAND CONSOLIDATION PROJECTS IN TURKEY

The total surface area of Turkey is 778 997 km<sup>2</sup> consisting of 767 415 km<sup>2</sup> (98.5%) of continental land (excluding water surface 11 582 km<sup>2</sup> as lakes, rivers, etc.), of which 34.13 percent is agricultural land. Of the 24 million ha of agricultural land, 8.5 million ha are irrigable.

Land tenure structure in Turkey can be summarized like this; farms comprise a number of parcels, about 6-10 parcels in a holding is common and some farmers have even more, the average area of land per holding is only 6 ha., the great majority of farms are less than 5 ha, fragmentation continues because of inheritance, parcels are often some distance apart, sometimes up to 20 km, land parcels are often poorly shaped for modern agriculture and sometimes do not have direct access to roads and water, farms are often owned by the elderly, farms are often jointly owned by a number of people, farm owners are often absent, with many living in urban areas, owners sometimes do not have legal titles.

There are 3,1 million agricultural holdings and their average size is smaller than the European Union's average. The average area of land per holding is only 6 ha. Some 65 percent of holdings have less than five ha. In addition, the holdings are very fragmented, often into 6-10 parcels, and fragmentation continues because of inheritance. Land parcels are often poorly shaped for modern agriculture and sometimes do not have direct access to roads and water. These conditions are not conducive to agriculture and sometimes result in farmers abandoning their land.

The Ministry of Food, Agriculture and Livestock, through the General Directorate of Agrarian Reform (GDAR), is implementing a programme of land consolidation to address the problems of small and fragmented holdings, poorly shaped land parcels, and lack of access to roads. Projects can also include the provision or rehabilitation of infrastructure (e.g. water canals, pipelines, roads, drainage, etc) and to improve environmental sustainability and agriculture.

Land consolidation was introduced in Turkey in 1961. During the period 1960 – 2002, in total 450 000 ha was consolidation through the national land consolidation programme. Work has been scaled up significantly from 2009. In total during 2009 - 2014, 225 projects have been launched including 4.44 million ha and of these 95 completed including 4 million ha. 3205 villages have been included in projects. The annual budget for land consolidation works has increased from 90 million USD in 2009 to 192 million USD in 2013.

Between 1961 and 2008;

- Land consolidation executed in the simple sense
- Simply tractor ways between parcels was building
- Project generation was very slow. It was 30.000 Ha/Year

Improvement Management;

- Regulations about legal procedures
- Started to use High Technology (Softwares, Photogrammetry, GPS etc.)
- Had given educations to technical staff for improving the human sources
- Created Public Awareness by using media and extensions
- Creating New Financial Sources from National Budget

Between 2008 and 2015;

- Basin based land consolidation projects has started
- Multi purpose land consolidation has started (ecology, hydrology, historical places, public investment, state investments etc.)
- Project area has been improved to 1 milliyon Ha per year
- Total budget per year has improved to 200 Million USD per year

The General Directorate of Agrarian Reform (GDAR) implements land consolidation work covering more than one million hectare each year.

Legal provisions for land consolidation are in Law No. 5488 (Agricultural Law), Law No. 5403 (Soil Conservation and Land Use Law), and Law No. 3083 (Agrarian Reform Law about Land Arrangement on Irrigation Areas)

In order to avoid land fragmentation problems arising from the inheritance law, Ministry of Food, Agriculture and Livestock (MFAL) has published a "Soil Conservation and Land Use Law" (Law no. 6537) on 14th May of 2014. Fragmentation of agricultural land has prevented by inheritance law. The preparation of complementary regulations of this Law is still ongoing.

While one of the aims of the legal arrangements is to prevent the fragmentation of lands between inheritors, the other objective is to restart the usage of divided and problematic lands for agricultural production.

This regulation is anticipated to;

- Provide land acquisition to actual users of the uncompleted succession of the land due to any reason.
- Identify the land valuation methods during land acquisition.
- Increase the size of the lands to sufficient income farm size.

Land Consolidation projects in Turkey have been carried out using CAD-based software. This software consist of various modules and each of the modules produce a solution in itself so the lack of software which will manage projects from start to finish, has been felt.

In recent years, a new tool has been developed in order to resolve this lack by analyzing each process, from project management to project delivery and project planning. In this way improving of projects quality is also ensured as well as accelerating of project process.

This study presents the importance, overall strategy and current operations of land consolidation in Turkey. Meanwhile, the developing history of land consolidation and stresses the significance of promoting land consolidation in Turkey. The significant results obtained are also emphasized in this paper.

Key words: fragmentation, land consolidation, land management