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The Land Consolidation Trends: Case Study of Ukraine

Land consolidation in Ukraine should meet the aims of the agricultural development of small and large economic entities [1]. The separate households land consolidation is a great spatial improvement challenge in Ukraine.

At the current stage in Ukraine, land consolidation is usually considered for large land owners, land consolidation mechanisms are developed in accordance to the peculiarities of the land tenure formation of large land owners [2].

However, the household profitability is a key priority area of the government land policy. Strip farming is a common problem for households. One of the most important land reallocation characteristics for such land tenures is the limited possibility of the placement change for separate land plots.

The household land plots reallocation using the optimization model aimed at the optimization of distances between land plots of the same land tenure has been suggested. The reallocation has been carried out without the road network and land plots characteristics alteration.

It is offered to define the peerness of agricultural land plots by a set of qualitative and spatial and technological characteristics. The improvement of the existing approaches to land reallocation by limiting for the reallocated land plots peerness by the preset characteristics has been suggested [3].

Provided model is tested on the project territory with the area of 131 075 sq. m. in Kyiv region. Project areas include agricultural land (plough-land) and in accordance to State Land Cadastre of Ukraine are privately owned and distributed for

individual peasant agriculture. Land plots formed in the process of land mass parceling have a form close to rectangular with the side ratio 1:1.5 to 1:3. There is a path to every plot [3].

The project territory includes soil of two soil suitability groups: soddy non-gleic soil and sod-podzolic non-gleic soil. Relief of the project territory is plain; irrigation is not needed, there are no land improvements, easements or servitudes.

Twenty landowners take part in the reallocation, their households are formed by stripped land plots.

The quantity of the overlapping land plots of any land owner wasn't increased after reallocation and the remoteness of the overlapped land plots was reduced by an average factor of 2.5 for each land owner (Fig. 1).

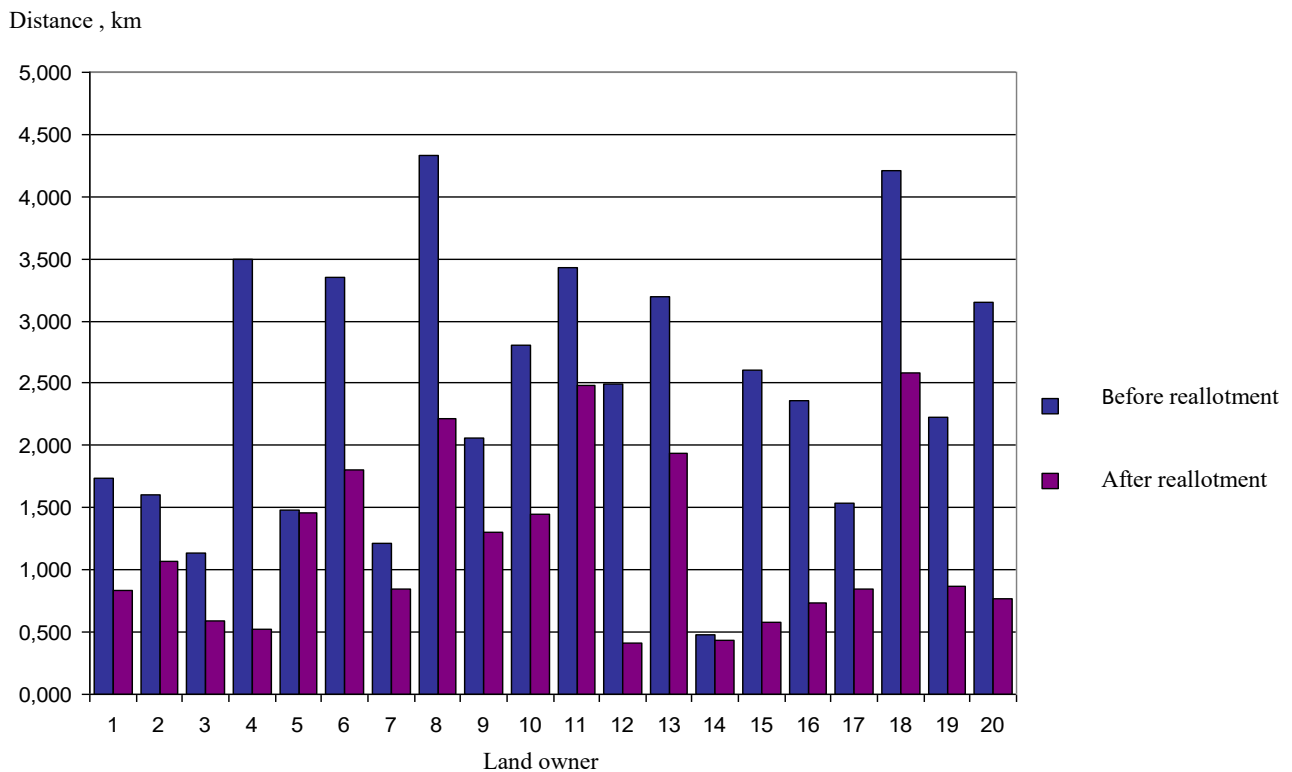


Figure 1. Distances from households to land plots

The largest quantity of overlapped land plots was reduced to two plots per owner (Fig. 2). After the reallocation, spatial characteristics of land tenures the optimization of which the provided model is aiming at, have not been deteriorated.

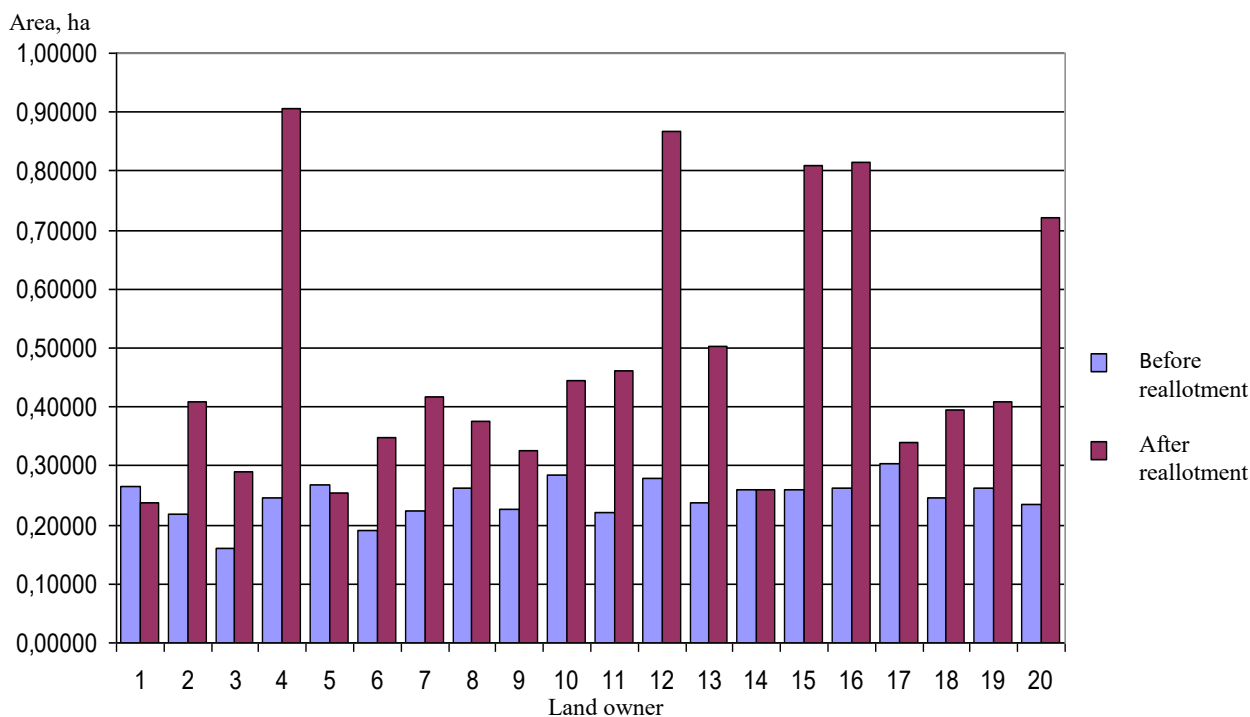


Figure 2. Average area of land plots

The results can be used: at land consolidation in the modern environment and in particular in the case of the launching of the agricultural land market in Ukraine; rented land improvement by means of the secondary leasing; in case of land allocation within the previously formed mass of agricultural land tenure aiming at the placement of infrastructure facilities, nature conservation of other measures demanding the change of the existing land tenure and land ownership parameters; for future scientific studies.

References:

1. Malashevskiy M., Palamar A., Malanchuk M., Bugaienko O., Tarnopolsky E. (2018). The Opportunities for use the peer land exchange during land management in Ukraine. *Geodesy and Cartography*, 44 (4), 129-133.
2. Verkhovna Rada of Ukraine. (2002). The Land Code of Ukraine. Available at: <https://zakon.rada.gov.ua/laws/show/2768-14#n2213>
3. Bugaienko O. (2018). The land reallocation model in the course of agricultural land consolidation in Ukraine. *Geodesy and Cartography*, 44(3), 106-112.