

The potential of multi-purpose land consolidation in Eastern Europe

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Keywords: Land consolidation, land banking, multi-purpose, Eastern Europe, FAO

SUMMARY

Many countries in Western Europe have a long tradition for the implementation of land consolidation projects. In most Western European countries, land consolidation has in the last decades developed into a multi-purpose instrument. Multi-purpose land consolidation means that one land consolidation project has more specific objectives to pursue. Agricultural development, the traditional objective of land consolidation, often remains the purpose in some parts of the project area while in other parts of the project area there are other aims, often related to nature restoration, improved environment, climate change adaptation and mitigation or construction of large-scale infrastructure.

Land consolidation and land banking instruments started to develop in Central and Eastern Europe after 1990 and most of the countries have introduced land consolidation while only few already have ongoing national land consolidation programmes. The introduction of land consolidation in Central and Eastern Europe has been driven by the political aim to facilitate agricultural development by reducing land fragmentation and facilitating a structural development towards larger farms. The countries in Eastern Europe that already have operational national land consolidation programmes, i.e., North Macedonia, Serbia and Türkiye, are in a very favorable situation because this will allow these countries to apply their land consolidation instruments in a multi-purpose approach in the future.

Land consolidation instruments applied in a multi-purpose approach have a high potential in the countries in Eastern Europe when the scope is broadened from only agricultural development to an integrated approach where agricultural development is facilitated in some parts of the project area and the land use is changed in other parts in connection with the implementation of public initiated projects on nature restoration, improved environment, climate change adaptation and mitigation etc. Multi-purpose land consolidation is more complex than the traditional facilitation of agricultural development but it also adds new strong political arguments for the introduction of land consolidation instruments in the countries and ensuring their sustainability.

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1. Introduction

Many countries in Western Europe have a long tradition for the implementation of land consolidation projects. The objective of land consolidation has traditionally been agricultural development by reducing land fragmentation and facilitating the structural development in agriculture towards larger and more competitive farms. In most Western European countries, land consolidation has in the last decades developed into a multi-purpose instrument. Multi-purpose land consolidation means that one land consolidation project has more specific objectives to pursue. Agricultural development, the traditional objective of land consolidation, often remains the purpose in some parts of the project area while in other parts of the project area there are other aims, often related to nature restoration, improved environment, climate change adaptation and mitigation or construction of large-scale infrastructure. The Voluntary Guidelines on the Responsible Governance of Tenure on Land, Fisheries and Forests in the Context of National Food Security (VGGT) is encouraging to introduce land consolidation instruments and to apply them in a multi-purpose approach when appropriate (CFS, 2012, 13.3; Veršinskas et al., 2020, p. 6-8).

With multiple crisis – climate change, the COVID 19 pandemic and the war in Ukraine – Europe is facing a pressure on food security that has not been seen for decades. Countries have a renewed focus on strengthening local food production but in a sustainable way. This also reflects that the land use in rural areas is under an increasing pressure and competition between different sectors in many territories in Europe.

Land consolidation and land banking instruments started to develop in Central and Eastern Europe after 1990 and most of the countries have introduced land consolidation while only few already have ongoing national land consolidation programmes. The introduction of land consolidation in Central and Eastern Europe has been driven by the political aim to facilitate agricultural development by reducing land fragmentation and facilitating a structural development towards larger farms. This paper is based on the Western European experiences with multi-purpose land consolidation and the experiences with land consolidation so far in Eastern Europe discussing if

and how a multi-purpose approach to land consolidation in Eastern Europe can be a shortcut to building up land consolidation programmes supported by land banking.

2. Multi-purpose land consolidation in Western Europe

In many countries in Western Europe, land consolidation instruments go back more than 100 years. The traditional objective has been to support agricultural development by reducing land fragmentation and facilitating on a voluntary basis farm enlargement and often linked with improvement of agricultural infrastructure such as irrigation, roads and drainage based on local needs (Gorgan and Hartvigsen, 2022, p. 10). In most Western European countries with ongoing national land consolidation programmes, land consolidation has from the 1980s developed into a multi-purpose instrument, which allows to pursue different objectives in the same project, e.g. agricultural development in one part of the project area and public initiated nature restoration or climate change adaptation in another part of the area (Hartvigsen, 2015). The approach also allows, as an alternative to expropriation of private owned agricultural land, to compensate landowners and farmers in land instead of a monetary compensation and in this way refraining from destroying the local farm structures and where possible improving them.

The development from single to multi-purpose land consolidation has in Western Europe been driven by several different factors at the same time. An important focus in many countries from the early 1980s to the 2000s was an increased general attention to nature, environment and sustainability and a need for nature restoration and to address the loss of biodiversity and environmental problems caused mainly by intensive agricultural production, in particular from industrialized livestock production. Another related driver has been a continued increased competition on the land use in rural areas with growing conflicts between different types of land use (Vitikainen, 2004). In Denmark, an analysis conducted in 2015 found that the demand for land is at least 140 percent of the land resource that is actually available (Arler et al. 2015).

During the 1970s and 1980s, the land consolidation instruments in Western Europe were not only associated with agricultural development but also often seen as leading to loss of biodiversity and nature values with the focus on intensification of the agricultural production (Lisec and Pintar, 2005). This created a political drive to develop land consolidation into an environmentally friendly and sustainable land management instrument and as well influencing EU agricultural and rural development policy. The updated EU policy then again led to a reinforced push for a more sustainable development and to apply land consolidation instruments in this context (Thomas, 2006).

In addition to land consolidation, land banking instruments have increasingly been applied in a multi-purpose approach in Western Europe (FAO, 2022). Land banking is according to an online survey conducted by FAO in 2021 in 13 European countries supporting the implementation of land consolidation programmes and projects and the objective of land banking is in this way following

the objectives of the land consolidation projects that is being supported (Hartvigsen et al. 2021). When multi-purpose land consolidation projects are facilitating the implementation of public purpose projects where private owned agricultural land is taken out of production, then it is of crucial importance that the land mobility needed for successful re-allotment planning can be provided through land banking unless the state already owns a significant amount of available agricultural land in the project area or many private owners are willing to sell.

The Netherlands

The Netherlands has a land consolidation tradition that is more than 100 years old with the first voluntary project in 1916 (Ameland) and the first land consolidation law entered into force in 1924 (Veršinskas et al., 2020, p. 27-29). Land consolidation was seen as an important instrument that could support agricultural modernization. Since then, more than 500 land consolidation projects, including almost 1.4 million ha, have been implemented (Leenen, 2014). In addition, some hundreds of thousands of hectares have been consolidated through voluntary land exchange projects. The economic return of the public investments in land consolidation was high with an average rate of return of 9% to the national economy for projects implemented during 1960-1987 (Stanczuk-Galwiaczek et al., 2018).

With the introduction of the Land Development Law of 1985, the term “land development” replaced “land consolidation”. The Law of 1985, which was introduced in response to public pressure, saw the legal establishment of multi-purpose land consolidation. With this, the objectives of land consolidation changed from being purely agricultural to a multi-purpose instrument for the implementation of comprehensive spatial policy in rural areas (infrastructure, water management, nature, landscape, outdoor recreation). It included an integrated planning and implementation approach towards land development. The principle goal was shifted towards improvement of rural areas in accordance with spatial plans and the newly introduced instrument of land development was used for areas that had agricultural as well as non-agricultural land use. An important consequence was that public authorities and organizations defending general public interests became legitimate stakeholders in the process, ensuring that general public interests could outweigh purely agricultural interests. The more complex approach resulted often in very large projects that had a duration of more than 10 years.

In 2007, the new land development law resulted in the transfer of responsibility for land development from the central Government to the provincial governments (Hartvigsen, 2015, p. 10-12). At the same time, the re-allotment process was simplified with the intention to speed up the process and reduce the duration of projects in the implementation phase to three to four years in compulsory projects. Also the size of project areas was reduced from often 5,000 to 10,000 ha to a maximum of 1,500 to 2,000 ha. Today rural development projects implemented through multi-purpose land consolidation try to integrate functions such as agriculture, infrastructure, nature, landscape, drainage, flood protection and recreation (Stanczuk-Galwiaczek et al., 2018). Water

management has over time become an increasingly important element in land consolidation projects and the Netherlands has incorporated climate change-related goals and adapted local water management practices in their land consolidation projects. Recently, there has been a growing interest on national level in establishing a national land bank and renewed interest to apply mandatory land consolidation. The many spatial tasks including reduction of nitrogen emissions, EU water framework directive etc. require an integrated approach in which the land bank and land consolidation again can be key instruments.

Germany

The German land consolidation tradition is more than 150 years old (Thomas, 2004, p. 5). In Western Germany, modern land consolidation developed in the decades after the Second World War. In Eastern Germany, land consolidation was reintroduced after the German reunification in 1990 (Hartvigsen, 2015, p. 12-13). Since the 1970s, the focus of implementing land consolidation in Germany has shifted from a specific agricultural farm-focused instrument to a multi-purpose instrument that covers public demand in land and solve land use conflicts (Thomas, 2006). Over the last decades, objectives have shifted from agricultural development and infrastructure projects to nature protection, and land consolidation today is often used as a tool for integrated rural development where several purposes are pursued at the same time.

Land consolidation in Germany is a tool where planning and implementation are closely connected to each other through, first, the preparation of a “Plan for Common and Public Facilities” and then the subsequent re-allotment in the project area (Thomas, 2014). Land consolidation in Germany is regulated by the federal Land Consolidation Act. According to the law, five types (instruments) of land consolidation can be applied: i) Comprehensive land consolidation; ii) Voluntary land exchange; iii) Accelerated land consolidation; iv) Simplified land consolidation; and v) Land consolidation in case of permissible compulsory acquisition.

Denmark

In Denmark, land consolidation began after the adoption of the land consolidation law in 1924 (Hartvigsen, 2014b). Until 1990, land consolidation was used mainly as an instrument for agricultural development (i.e. mainly through reduction of land fragmentation and increase in agricultural holding sizes). In 1990, the objective of land consolidation was broadened after a few pilot projects had been implemented during the second half of the 1980s, combining land consolidation and nature restoration. In 1990, it was explicitly included in the preamble of the land consolidation law that the objective of the instrument is both to contribute to agricultural development and to the implementation of nature and environmental projects as well as to provide land as compensation for agricultural holdings and farms affected by such projects. This in principle opened for multi-purpose land consolidation in Denmark. However, what really happened was that the implementation of land consolidation projects with the objective of agricultural development were phased out and completely stopped in 2006. Since 1990, the land

consolidation and land banking instruments in Denmark have proven to be absolutely essential in the process of reaching voluntary agreements with the landowners affected by the many publicly initiated programmes and projects related to nature restoration, recreation of wetlands, afforestation to protect ground water used as drinking water, etc. Land consolidation became a tool for conflict solutions related public interventions in rural areas (Haldrup, 2011). These land consolidation projects, implemented from 1990 in connection with nature and environmental programmes and projects, have however all been limited in scope as they could in principle only include land transactions, which directly or indirectly contributed to the implementation of the nature project. Therefore, land consolidation in Denmark did not become multi-purpose but rather moved from one single purpose (agricultural development) to another single purpose (nature restoration). Only in 2016 a process was started that has finally let to the implementation of multi-purpose land consolidation projects (Veršinskas et al., 2020, p. 23). Multi-purpose land consolidation was piloted first in four projects during 2016-2020 and in 2020, the Ministry of Food, Agriculture and Fisheries launched a new support scheme to further pilot multi-purpose land consolidation, encouraging an integrated approach to agricultural development, nature restoration, environmental protection, climate change adaptation and mitigation and improvement of recreational values in rural areas. A recent evaluation of the first nine projects under the new support scheme for multi-purpose land consolidation concluded that multi-purpose land consolidation can be an essential tool to ensure local solutions where public interventions on climate, nature and environment are integrated with continued agricultural production in some areas and local needs for recreational areas and rural development initiatives (Collective Impact, 2022). However, the evaluation also concluded that many aspects do not yet well, e.g. coordination between different support schemes, and that further development and improvement is needed. Political discussions are ongoing (August 2022) to further scale up to a full land reform programme where the main instruments are expected to be multi-purpose land consolidation supported by land banking.

3. Experiences with land consolidation in Eastern Europe

Most of the countries in Eastern Europe have from the 2000s onwards introduced land consolidation instruments. However, only a few of the countries today have a fully operational national land consolidation programme. In this section, we will first look into the farm structures in these countries as the political wish to address the inefficient farm structures has been the main driver for the introduction of land consolidation instruments. Second, we will provide an update on the introduction of land consolidation in the Eastern European countries with particular focus on the objective of land consolidation programmes and projects in the countries.

3.1 Farm structures in Eastern Europe

In Europe and Central Asia, FAO provides technical support in 18 programme countries and territories of which 13 are located in Eastern Europe¹ and five in Central Asia. All of the 13 Eastern European countries except Belarus and Ukraine have farm structures dominated by smallholders and family farms or dualistic farm structures with many small farms and few large corporate farms.

Land reforms were high on the political agenda and a key part of the overall agrarian reforms together with the restructuring of large-scale socialist farms in most countries in Eastern Europe at the beginning of the transition from centrally planned to market economy in the 1990s (Lerman et al., 2004).

Two fundamentally different overall approaches to land reform were applied: i) distribution of land rights to the population in rural areas at the time of privatization and ii) restitution of land rights to former owners who lost their rights during the collectivization process (Hartvigsen, 2013a). Many and often contradictory factors such as historical background, land ownership situation at the time of collectivization and ethnicity have been important while designing the land reform process in each country. In Albania, Armenia, Azerbaijan, Georgia, Moldova and Ukraine, the former state owned agricultural land was during the land reform process equally divided and distributed into the ownership of the rural population. The way in which the land reforms were conducted largely defines in many (but not all) of the countries the farm structures and the status of development of agricultural land markets today (Hartvigsen, 2013b).

In most of the Eastern European countries, except in the former Yugoslavia countries, the land reforms after 1989 have completely changed the farm structures that existed during the socialist era. The countries in the former Yugoslavia suffer from excessive land fragmentation. However, the collectivization process was never completed and around 80 percent of agricultural land remained in both private ownership and use during the socialist era. Thus, land fragmentation in these countries is not an outcome of recent land reforms but rather a result of the pre-WWII farm structures that were largely “frozen” between 1950 and 1990 combined with continued fragmentation through inheritance.

The farm structures in the Eastern European countries are today dominated by smallholders and small family farms farming mainly for subsistence and semi-commercial purposes. Fragmentation of both land ownership and of land use is excessive in all 13 countries and average farm sizes are small except in Belarus and Ukraine. In Albania, Armenia, Bosnia and Herzegovina, Georgia and North Macedonia, the average farm sizes are between one and three hectares and between 95 and 99 percent of all farms are smaller than 5 ha (FAO, 2020). In the same countries, the average sizes of arable agricultural land parcels are around 0.3 ha. Other countries such as Serbia and Moldova

¹ The 13 FAO programme countries that in the context of this paper are considered located in Eastern Europe are the following: Albania, Armenia, Azerbaijan, Belarus, Bosnia and Herzegovina, Georgia, Kosovo*, Republic of Moldova, Montenegro, North Macedonia, Serbia, Türkiye and Ukraine. * References to Kosovo shall be understood to be in the context of the UN Security Council Resolution 1244 (1999).

have dualistic farm structures with many small family farms, some larger commercial family farms and few large-scale corporate farms.

Small average farm sizes and excessive land fragmentation represent a long-term handicap of farm structures and are in general a limiting factor for agricultural and rural development. This structural problem in agriculture is not just causing low productivity and competitiveness of the farms but is also creating bottlenecks limiting the impact of other development programmes and initiatives (Gorgan and Hartvigsen, 2022). There are several typical reasons why farm structures only develop very slowly. Common among many countries is the low income-generating capacity of the sector, which makes investments, including investment in purchasing or renting additional land, less attractive. Investments in purchase of additional land are also hampered by weak agricultural land markets, lack of access to credit and finance for the small family farms, outdated production technologies, lack of access to markets, weather-induced and climate change risks, etc.

Land fragmentation and small farm sizes are also among the root causes of out-migration from rural areas and in several countries in the region a main reason for arable agricultural land being abandoned. In particular, the young generation is leaving resulting in an ageing rural population in many countries. Land abandonment is widespread in Armenia and in most Western Balkan countries. In North Macedonia, around one-third of all arable agricultural land is unutilized. In Bosnia and Herzegovina, the figure is as high as 45 percent. This has created an unutilized potential for local economic growth - local food production could be strengthened if the unutilized land were put to use.

3.2 Status of the introduction of land consolidation in Eastern Europe

Since the early 2000s, Governments throughout Eastern Europe have recognized the need to address the structural problems of the inefficient farm structures hampering the development of agriculture and rural development. This has led to the introduction of land management instruments such as land consolidation but also recently to a growing interest in land banking.

The current status of introducing land consolidation instruments in the countries in Eastern Europe is illustrated in Table 1. The overview provided in the table builds on a study published in 2015 (Hartvigsen, 2015) and has been updated for the purpose of this paper.

<i>Countries with ongoing national land consolidation programme</i>	<i>Countries with land consolidation experiences but not yet with a national programme</i>	<i>Countries with little or no experiences in land consolidation</i>
North Macedonia	Albania	Belarus
Serbia	Armenia	Montenegro
Türkiye	Azerbaijan	
	Bosnia and Herzegovina	
	Georgia	
	Kosovo*	
	Moldova	
	Ukraine	

*Table 1: Status of the development of national land consolidation programmes in Eastern European countries (as of September 2022). * References to Kosovo shall be understood to be in the context of the UN Security Council Resolution 1244 (1999).*

The same study found that five minimum criteria have to be in place before a national land consolidation programme is established and operational: i) land consolidation, as a land management instrument, is embedded in the overall land policy of the country, ii) a legal framework for land consolidation has been developed and adopted, iii) a public lead agency for land consolidation has been established and delegated the task to manage the national land consolidation programme, iv) secured funding on an annual basis allows the lead agency to plan activities years ahead, and v) technical and administrative capacity has been developed to implement land consolidation projects in the field and to manage the programme.

Three of the 13 countries, North Macedonia, Serbia and Türkiye, already have ongoing national land consolidation programmes, meeting all the five criteria. At the same time, eight countries have introduced land consolidation but do not yet meet the criteria to have an operational programme.

North Macedonia

In the mid-2000s, land consolidation again became a political priority in North Macedonia (Hartvigsen and Mitic Arsova, 2022). The background was the structural problems in agriculture with excessive land fragmentation and small sizes of agricultural holdings and farms, and also a need for improved agricultural infrastructure, such as rural roads, irrigation and drainage. The farm structures in North Macedonia are dominated by small family farms with an average farm size of around 1.6 ha and an average of seven land parcels per agricultural holding (Hartvigsen, 2019). International technical assistance for land consolidation and rural development was provided during 2008-2012 by DLG and SNV from the Netherlands through two projects funded by bilateral Dutch development programmes. The National Strategy on Agricultural Land Consolidation for

the period of 2012-2020 was developed and politically adopted in March 2012 (Ministry of Agriculture, Forestry and Water Economy of the Republic of North Macedonia, 2012). From 2013, the Ministry of Agriculture, Forestry and Water Economy (MAFWE) established a Land Consolidation Department with responsibility for the preparation and operation of a National Land Consolidation Programme. During 2013, MAFWE drafted the Law on Consolidation of Agricultural Land. The law was adopted by the Parliament in December 2013.

North Macedonia has in recent years developed into a flagship country for FAO support to land consolidation in Europe and Central Asia. The first Technical Assistance Project began in 2014. Since 2017, support to the national land consolidation programme has been scaled up with EU IPA funding through the FAO implemented MAINLAND project. By the end of the project in November 2022, land consolidation feasibility studies will have been completed in 14 project areas and re-allotment planning completed in nine project areas (see Figure 1). The main objective of the field projects implemented under the MAINLAND project has been to support agricultural development except in two of the project areas, Logovardi and Optichari, where an equal important objective has been to acquire the land needed to build the express road from Bitola to the Greek border and to compensate the affected private landowners and farmers in other land instead of a monetary compensation in connection with expropriation. The two mentioned projects can be considered the first multi-purpose land consolidation projects in North Macedonia (see Figure 2).

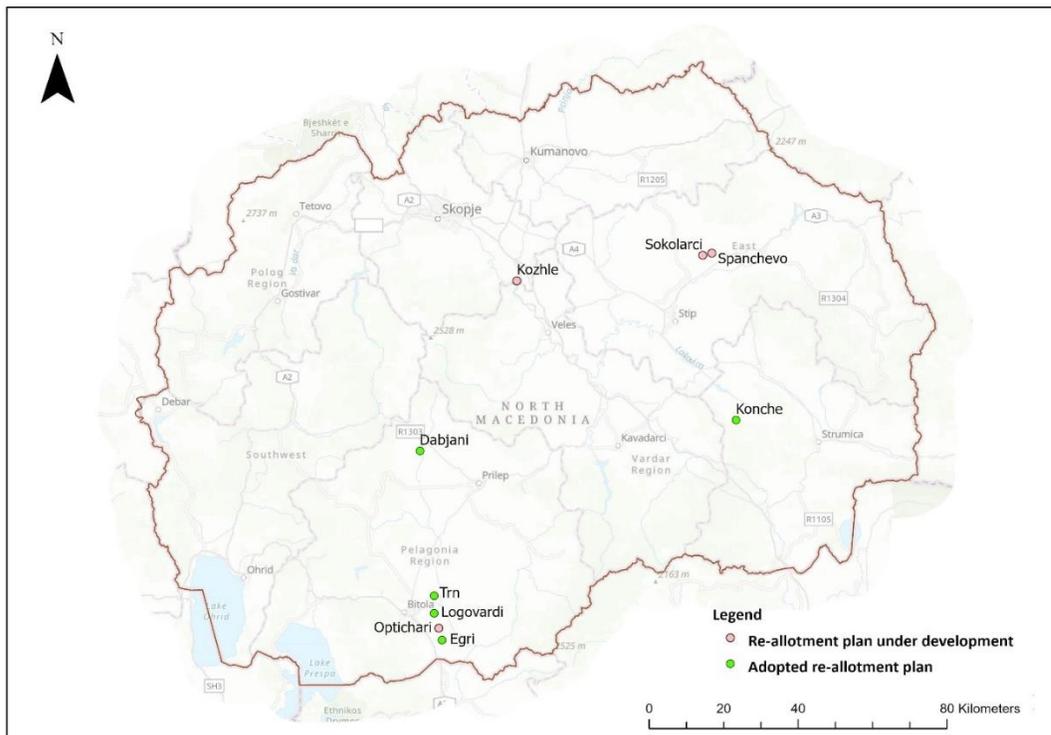


Figure 1: Projects in re-allotment phase in North Macedonia (as of August 2022).

Land consolidation is according to the legislation in North Macedonia implemented in three overall phases in line with the FAO Legal Guide on Land Consolidation (Veršinskas et al., 2020): i) feasibility phase, ii) re-allotment phase, and iii) registration and implementation phase.



Figure 2: The planned express way from Bitola to the Greek border passing through the Logovardi and Optichari land consolidation project areas in North Macedonia.

Serbia

Serbia has a long tradition for land consolidation. In 1836, the Habsburg monarchy adopted the Law on Land Consolidation, which was applied in Vojvodina from 1860 (Hartvigsen, 2015, p. 41-44). The collectivization process after World War II had largely failed in Yugoslavia and, in 1992, 74 percent of the agricultural land in Serbia was owned and farmed by private individual family farms. Land consolidation projects began again in the Autonomous Province of Vojvodina from 1956. Land consolidation started in Central Serbia only when land consolidation legislation was adopted in 1981.

Up until 1990, land consolidation was carried out in 710 cadastral municipalities, across an area of 1,445,720 ha, representing 25 percent of total agricultural land in Serbia (Veršinskas et al., 2020, p. 30-31). Hydro-technical melioration for the disposal of excess water was simultaneously carried out in a considerable portion of the land consolidation areas, and the accompanying drainage canal network was increased for about 60 percent of the area. The rural road network increased by about 26 percent overall and the number of land parcels reduced in average with a factor 2.9 in the project areas. Land consolidation halted in 1990 with the breakdown of the Socialist Federal Republic of Yugoslavia. Between 1992 and 2007, the Republic Geodetic Authority and the Photogrammetric Institute completed works in 20 municipalities on previously commenced projects.

In 2006, the Parliament introduced the Law on Agricultural Land. The Law brought about significant changes to the regulation of land consolidation and utilization of state-owned agricultural land.

Today, the objectives of land consolidation in Serbia are primarily related to agricultural development. The justification for implementation of land consolidation is: i) excessive fragmentation and irregular shape of cadastral parcels, which hinder the rational use of agricultural land; ii) need for improvement of drainage and irrigation systems; iii) need for improvement of the network of field roads; iv) reduction of additional fragmentation of land parcels and/or the disturbance of field roads network, drainage and irrigation systems, due to construction of infrastructure and large-scale facilities; and v) watercourses regulation and extension of the construction area and the need to undertake erosion control activities and measures.

In Serbia, the municipalities play an exceptionally important role in the land consolidation process. The Ministry of Agriculture, Forestry and Water Management, the Provincial Secretariat for Agriculture, the Directorate for Agricultural Land and the State Geodetic Authority, constitute the centralized part of the institutional infrastructure. The municipal authorities are responsible for determining the land consolidation project area, establishing a Land Consolidation Commission, adopting the objectives of each land consolidation project, and selecting the service providers for the works related to land consolidation, and the Land Consolidation Plan is adopted by the municipal Land Consolidation Commission.

Since 2008, 39 land consolidation projects have been initiated, of which, 27 have been in the territory of Autonomous Province of Vojvodina and 12 in Central Serbia. The area covered amounts to approximately 125,000 ha.

During the period from 2013 to 2016, the EU and German funded project “Strengthening Municipal Land Management”, implemented by GIZ, supported the Serbian Ministry of Agriculture in piloting new approaches and implementing land consolidation projects in seven pilot municipalities, based on the existing legal framework. Experiences and lessons learnt were taken on-board to draft improved secondary legislation for implementation of land consolidation based on the Law on Agricultural Land.

As of 2019, out of 43 launched land consolidation projects since 2006, only five cases have been fully finalized by registering the Land Consolidation Plans in the real estate cadaster, whilst the rest are awaiting juridical proceedings over unsolved property issues dating from before the land consolidation project.

Türkiye

In Türkiye, land consolidation began in 1961 and was in the initial stages supported by FAO. Until 2002, 450,000 ha were consolidated and from 2002 to 2013 an additional 4.5 million ha were

consolidated (Veršinskas et al., 2020, p. 33-34). Since 2002, land consolidation has been a priority area for the Government. During the period 2014-2023, it planned to consolidate approximately 14 million ha. Currently, Türkiye has the largest national land consolidation programme in Europe.

Türkiye has 3 million agricultural holdings with an average size of 5.9 ha and an average of 11 parcels per holding. About 64 percent of all holdings are below 5 ha. In addition, 40 million people are reported to be co-owners of agricultural land, mainly through inheritance. According to recent estimates of the Ministry of Agriculture and Forestry, the amount of abandoned agricultural land in Türkiye is around 2 million ha out of in total 23.2 million ha of arable agricultural land.

Since the scaling up of the land consolidation programme in 2008, land consolidation has become an important instrument for agricultural development. Land consolidation is combined with the improvement of the local agricultural infrastructure in the project areas with priority being given to irrigated areas or areas that are planned for irrigation. In most cases, the main objective of land consolidation projects is to reduce land fragmentation, to improve the local road infrastructure, to solve irrigation and drainage problems, and to provide in-field land development services such as levelling and stone collection. There are so far only very few examples that land consolidation in Türkiye has been applied with objectives that are not related to agricultural development.

The key state agency responsible for the implementation of the national land consolidation programme in the country is the General Directorate of State Hydraulic Works (DSI) under the Ministry of Agriculture and Forestry. Land consolidation projects may be initiated by either the DSI, institutions responsible for the construction of railways or highways, or by other agencies and institutions, in the case where land consolidation is applicable during the implementation of their respective projects. The project can also be requested by the mayor of a town or the head of a village, by local agricultural cooperatives, as well as by landowners. Most land consolidation projects are, however, requested by public authorities. Projects can only be launched if a legally defined number of landowners within the preliminary project area vote in favour. However, if the landowners do not give consent for the implementation of the land consolidation project in the area, the relevant state agencies (DSI or others), based on public interest, may initiate the adoption of the presidential decision to launch a mandatory land consolidation project. Once the decision regarding the mandatory land consolidation project is published in the Official Gazette, the respective state agency may launch the land consolidation project without the consent of the landowners.

Türkiye is with the support of FAO during 2022-2025 introducing a land banking instrument with the double objective to facilitate enlargement of farm sizes and address land abandonment. Land banking will in particular support the implementation of the national land consolidation programme. At the same time it is also considered to broaden the scope of land consolidation in the country.

Countries with land consolidation experiences but not yet a national programme

In the eight countries (listed in Table 1), Albania, Armenia, Azerbaijan, Bosnia and Herzegovina, Georgia, Kosovo², Moldova and Ukraine, land consolidation has as mentioned been introduced, often through the implementation of pilot projects with international technical assistance, but the countries do not yet fulfill the minimum requirements to have an operational national programme (Hartvigsen, 2015). In all these countries, the main driver of introduction of land consolidation has been a political wish to improve the farm structures by reducing land fragmentation and facilitating farm enlargement and in this way improve productivity and competitiveness of the participating farms. Land consolidation is by decision makers seen as an instrument for agricultural development.

The experiences from many countries in the region show that it is often a long and not always straightforward process to develop a fully operational national land consolidation programme (Hartvigsen, 2019) and also more complex than anticipated 10-15 years ago, when the FAO regional land consolidation programme was launched. It takes at least around five years from the first introduction of land consolidation in a country and until a national programme can be fully operational. This means that the political support can easily be lost in the process, as governments and key persons in ministries and other public institutions are replaced. However, the political support and the drive for finalizing can also come back after years of no or little progress.

Even with strong political support, the experiences show that preparing for a fully operational national land consolidation programme takes time and needs to go through different stages from the first pilot implemented without specific land consolidation legislation to developing and adopting a land consolidation strategy and / or subsequently the legal framework. Then comes testing the legal framework in a second round of pilots and fine-tuning of procedures and legislation based on pilot experiences. Extensive and continued international technical assistance will often be needed throughout the process.

4. The potential of multi-purpose land consolidation in Eastern Europe and the way forward

In this final section of the paper, we will discuss the application so far of multi-purpose land consolidation in the countries in Eastern Europe and in particular the potential in the future.

4.1 Current status of application of multi-purpose land consolidation in Eastern Europe

² References to Kosovo shall be understood to be in the context of the UN Security Council Resolution 1244 (1999).

As discussed in Section 3, 11 of the 13 countries in Eastern Europe have so far introduced land consolidation instruments. Three of the countries already have ongoing national land consolidation programmes, while eight countries do not yet have operational national programmes. The main driver behind the introduction of land consolidation instruments has as discussed above been the political wish to improve local farm structures by reducing land fragmentation and facilitating farm enlargement on a voluntary basis. The three countries with ongoing land consolidation programmes – North Macedonia, Serbia and Türkiye – have so far only very few experiences with land consolidation with non-agricultural objectives and the best known example of multi-purpose land consolidation is the land consolidation projects in Logovardi and Optichari in North Macedonia highlighted in Section 3.2, where the instrument at the same time is used to improve the local farm structure (reduce land fragmentation and facilitate farm enlargement), improve the existing agricultural infrastructure and to acquire the private owned agricultural land needed for the construction of the express road from Bitola to the Greek border. In this process the farmers are compensated in other agricultural land for the land that they give up for the construction of the highway project. These objectives are all integrated in the same re-allotment planning process.

The general experience from the re-allotment planning in nine project areas in the MAINLAND project in North Macedonia during 2017-2022 has been that the concept of integrating land consolidation with the improvement of the agricultural infrastructure in the project area (roads, irrigation and drainage) based on local needs has been very feasible and strongly motivated the local landowners and farmers to participate in the land consolidation process. This is not a big surprise as local farmers usually have many more development needs and constraints than the consolidation of their land parcels.

4.2 The potential for multi-purpose land consolidation and land banking in Eastern Europe

Based on the Legal Guide on Land Consolidation published in 2020, FAO strongly promotes multi-purpose land consolidation (Veršinskas et al., 2020, p. 47-50). This includes that land consolidation legislation should define broad land consolidation objectives reflecting a sustainable multi-purpose approach going beyond agricultural development. In the same way, FAO also recommends to apply land banking instruments in a multi-purpose approach, in particular when land banking is supporting the implementation of multi-purpose land consolidation projects (FAO, 2022, p. 74-77).

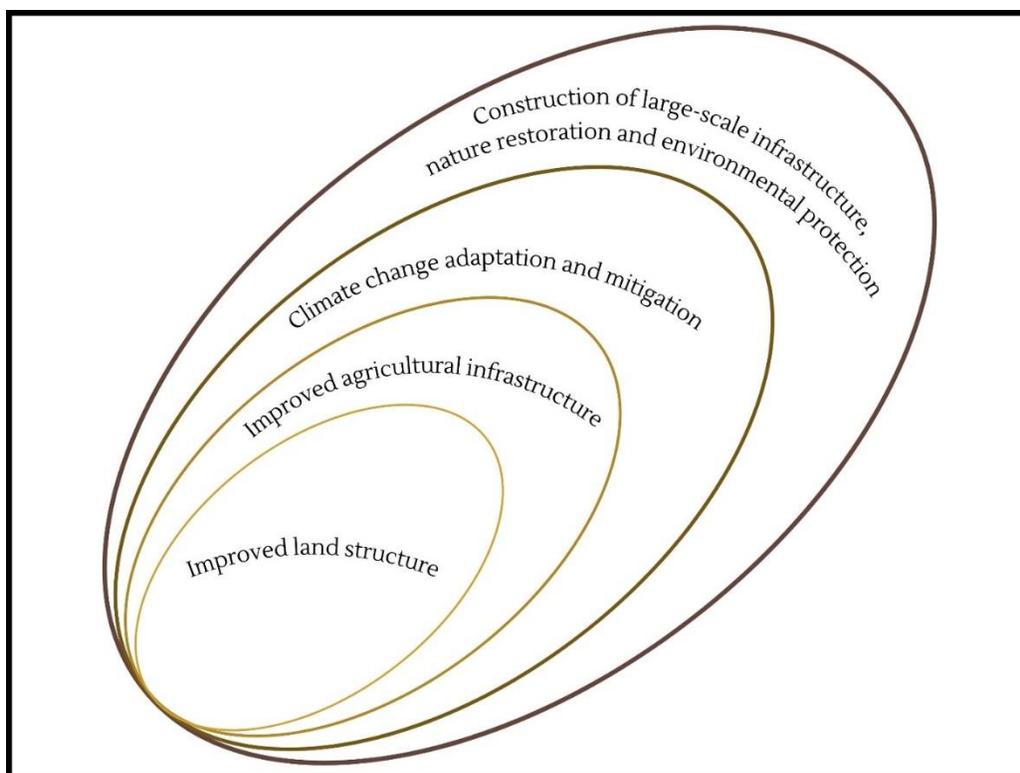


Figure 3: Objectives of land consolidation in a multi-purpose land consolidation approach.

The countries in Eastern Europe that already have operational national land consolidation programmes, i.e., North Macedonia, Serbia and Türkiye, are in a very favorable situation because this will allow these countries to apply their land consolidation instruments in a multi-purpose approach in the future. In North Macedonia a project is currently (August 2022) under formulation where the land consolidation instrument is suggested to be applied in the Radovish Valley integrated with climate change adaptation through large-scale rehabilitation of the existing poor irrigation system (currently around 70 percent of the water in the system is lost before it reaches the fields) (Hartvigsen and Mitic Arsova, 2022). Also in Türkiye there is political and technical interest to use the land consolidation instrument to improve nature and environmental values and biodiversity. This can also be seen as a first step toward multi-purpose land consolidation.

The different objectives that can be pursued in addition to agricultural development through multi-purpose land consolidation in Eastern Europe are similar to the land consolidation objectives already pursued in many countries in Western Europe (see Section 2). These objectives are illustrated in Figure 3. The core objective in most land consolidation projects will be to improve the local land structure by reducing land fragmentation, improving the shape of land parcels, reducing distance between parcels and increasing the size of parcels and farms. The second layer

of objectives is to integrate the re-allotment planning with improvement of the local agricultural infrastructure depending on local needs and the budget available (field and access roads, irrigation rehabilitation and construction and improved drainage). These objectives are still closely related to agricultural development in the project area. The third layer of objectives in Figure 3 is closely related to climate change adaptation and mitigation where there is still a strong connection to agriculture, e.g. linking irrigation rehabilitation and land consolidation. Finally, the fourth layer of the “onion of objectives” includes additional public objectives such as nature restoration, environmental objectives and protection and the construction of large-scale infrastructure such as highways and railways. Here the land consolidation instrument in some parts of the land consolidation project area is applied to acquire private land and take it out of agricultural production and use (e.g. with the aim of restoring nature areas or construction of a highway) and at the same time compensate the private landowners and farmers in other agricultural land and improving local farm structures in other parts of the land consolidation project area. The different interventions in different parts of the land consolidation project area need to be carefully planned in an integrated cross-sectoral approach involving also local stakeholders in an inclusive and participatory process. One way to facilitate the integration of land consolidation with broader local development needs is to prepare a Community Development Plan for the community to which the land consolidation project area belongs (Hartvigsen, 2016).

When the objectives of land consolidation projects require that private owned agricultural land is taken out of production for public purpose projects, it is important for the success of the land consolidation project that the state has additional land to offer in compensation. Providing such additional land can come from either i) existing available state owned agricultural land in the land consolidation project area, ii) private land purchased through land banking in advance of the implementation of the land consolidation project or iii) private land purchased during and as part of the re-allotment planning. Land banking becomes in particular important when large areas of private owned agricultural land is planned to be taken out of production, when the state does not own significant amounts of land in the area and when few private owners are interested to sell (FAO, 2022). In this case the land mobility in the project area is low but can be increased through land banking, i.e. strategic purchases of private owned agricultural land in areas where there is demand for land to compensate landowners and farmers for the land that is taken out of production while the land consolidation project and integrated public purpose projects are being planned (Hartvigsen, 2014a). Additional land provided through land banking can also in the same integrated re-allotment process be used to enlarge farms interested to purchase more land.

In most countries with ongoing national land consolidation programmes, both in Western and Eastern Europe, the programmes are led by the Ministries of Agriculture or subordinated agencies. A second key institution related to land consolidation is in all countries the Cadastre Agency / Land Registry which provides all the information related to formal land rights at the beginning of

the land consolidation process and registers the updated land rights in the project area after the approval of the Land Consolidation Plan. When engaging in multi-purpose land consolidation also the institutional framework becomes more complex and challenging as more public institutions are involved such as the Ministry of Environment and Ministry of Transport. This requires much more frequent and intensive inter-institutional coordination by the Lead Agency for land consolidation, e.g. the Ministry of Agriculture. One way to overcome this can be to establish a standing inter-ministerial working group or similar as a platform for the necessary coordination.

When learning from the experiences from some countries in Western Europe, in particular the Netherlands and Germany (see Section 2), it will in Eastern Europe be very important to ensure that the duration of complex (multi-purpose) land consolidation projects in total will not continue beyond maximum three to five years. The patience of politicians and decision makers in countries in Eastern Europe is even shorter than in Western Europe and complex structural reforms like land consolidation take time.

Land consolidation instruments applied in a multi-purpose approach have a high potential in the countries in Eastern Europe when the scope is broadened from only agricultural development to an integrated approach where agricultural development is facilitated in some parts of the project area and the land use is changed in other parts in connection with the implementation of public initiated projects on nature restoration, improved environment, climate change adaptation and mitigation etc. Multi-purpose land consolidation is more complex than the traditional facilitation of agricultural development but it also adds new strong political arguments for the introduction of land consolidation instruments in the countries and ensuring their sustainability.

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