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# Lessons learned from the introduction of land consolidation in North Macedonia during 2014–2023





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## Abbreviations

AREC	Agency for Real Estate Cadaster
CEE	Central and Eastern Europe
FAO	Food and Agriculture Organization of the United Nations
GIZ	Deutsche Gesellschaft für Internationale Zusammenarbeit
IPA	Instrument for Pre-accession Assistance
LPIS	Land Parcel Identification System
MAFWE	Ministry of Agriculture, Forestry and Water Economy
MAINLAND	Mainstreaming of the National Land Consolidation Programme
REU	Regional Office for Europe and Central Asia
SOE	Socially Owned Enterprise
TCP	Technical Cooperation Project
UNECE	United Nations Economic Commission for Europe
VGGT	Voluntary Guidelines on the Responsible Governance of Tenure of Land, Fisheries and Forests in the Context of National Food Security
WPLA	Working Party on Land Administration (UNECE)
WWII	World War II



# 1. Introduction

In the late 1990s, land fragmentation and land consolidation re-appeared on the agenda in Central and Eastern Europe (CEE), where land reforms launched in the 1990s in many countries had led to farm structures characterized by excessive land fragmentation and small farm sizes (Hartvigsen, 2013b). The Food and Agriculture Organization of the United Nations (FAO), through its Regional Office for Europe and Central Asia (REU), has supported several member countries in the region since the early 2000s to introduce land consolidation instruments and build up national land consolidation programmes (Hartvigsen, 2019). An informal regional technical network, LANDNET, has been established with participants from Western and Eastern Europe and Central Asia representing governments, academia, civil society and the private sector. The Munich Symposium in 2002, a milestone in the process, was the first of more than 20 regional workshops held to date on land consolidation, land banking, land market development, land abandonment and related topics.<sup>1</sup> In addition, several online events have been organized. Finally, FAO has published a number of documents related to land consolidation and land banking in recent years.<sup>2</sup>

Since 2014, North Macedonia has developed into the region's flagship country for FAO support to land consolidation. The first small technical assistance project (TCP) began in 2014. During 2017–2022, support to the national land consolidation programme was scaled up with European Union Instrument for Pre-accession Assistance (EU IPA) funding through the FAO implemented MAINLAND project. In August 2022, a second EU IPA funded and FAO implemented project "Enhancing land consolidation in North Macedonia" was launched and will continue until 2026 in close collaboration with the Ministry of Agriculture, Forestry and Water Economy (MAFWE). Further scaling up of land consolidation is under preparation to be funded by MAFWE from the state budget and available climate financing.

In addition to the mentioned core land consolidation activities and projects in North Macedonia in the same period, FAO has supported a number of land policy and land consolidation related areas including the privatization of state-owned agricultural land, addressing land abandonment and supporting the development of agricultural land markets.

From the beginning, the Government of North Macedonia's vision has been to build up and implement a fully operational national land consolidation programme. Based on experiences from other countries in the region, having a fully operational national programme has five minimum requirements: i) land consolidation, as a land management instrument, is embedded in the overall land policy of the country, ii) an operational legal framework for land consolidation has been adopted and tested, iii) a lead public agency for land consolidation has been established and delegated to manage and run the national programme, iv) secured funding on an annual basis allows the lead agency to plan activities for at least two to three years in advance and v) technical and administrative capacity has been developed to implement land consolidation projects in the field and to manage the programme (Hartvigsen, 2015, p. 4)

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<sup>1</sup> Proceedings from FAO LANDNET workshops from 2002 and onwards are available at: [https://drive.google.com/drive/folders/1s\\_fzpubhp\\_GtfBBHffxCXft\\_5MTBZo2p](https://drive.google.com/drive/folders/1s_fzpubhp_GtfBBHffxCXft_5MTBZo2p)

<sup>2</sup> [www.fao.org/platforms/green-agriculture/areas-of-work/natural-resources-biodiversity-green-production/land-management-instruments/en](http://www.fao.org/platforms/green-agriculture/areas-of-work/natural-resources-biodiversity-green-production/land-management-instruments/en)



*Pepper harvesting in Egri FAO land consolidation pilot project area, North Macedonia (September 2017).*

This paper aims to document the lessons learned from the introduction of a land consolidation instrument in North Macedonia during the period 2014–2023. It is the hope and expectation that North Macedonia's experiences with land consolidation will be relevant for other countries in Europe and Central Asia and beyond that are in the process of introducing land management instruments such as land consolidation and land banking. The structural problems in agriculture with small average farm sizes, excessive land fragmentation, water scarcity and need for modern irrigation systems and weak agricultural land markets are also present in several countries in North Africa, the Near East and South East Asia. In some of these countries, there is also an increased interest in the introduction of land consolidation instruments.

Based on the experiences so far in North Macedonia, the final section of this paper provides a perspective for continued development towards a multi-purpose land consolidation instrument in the country, which is also relevant for other countries.

## 2. Farm structures, land abandonment and land market development in North Macedonia

Until the independence in 1991, North Macedonia was a federal state in the Socialist Federal Republic of Yugoslavia. Several issues define the need for land consolidation in North Macedonia, such as the farm structures that existed during the Yugoslavia era, the outcome of the land reform carried out after the independence and the current farm structures and activity of the agricultural land markets. Section 2 will provide an overview of these issues in the following sub-sections.

### 2.1 Land reform after the independence in 1991

Land reform in the former Yugoslavia countries, except in Slovenia, began much later than in most other countries in Central and Eastern Europe. The 1990s wars have significantly complicated the land reform process. However, the starting point for land reform also differed from that of most other countries in the region. Throughout the socialist era, the majority of the agricultural land in Yugoslavia was in private ownership as well as use. Thus, small private family farms owned 82 percent of the agricultural land in Yugoslavia before the break up (Hartvigsen, 2013a, p. 28.).

In North Macedonia, the adoption of the Law on Denationalization in 1998 opened up for the restitution of rights to agricultural land that had been nationalized after World War II (WWII) (Hartvigsen, 2013a, pp. 35–36). The restitution law had provisions to protect the state land and avoid to create further land fragmentation. The eligibility criteria were often challenging for the claimants to meet, with the intention to keep the number of approved property restitution claims to a minimum (FAO, 2019b, pp. 12–13). The former owners and their successors had to accept compensation either in the form of government bonds or in state land other than the original boundaries of the parcel that had been lost during the collectivization process if the land for restitution was part of a large field of a minimum of 20 ha. Another option was to restitute the land in the form of co-ownership with the state-owned land. About five percent of the total size of agricultural land in North Macedonia has been restituted. In March 2012, the Government announced the finalization of the restitution process, and 31 000 restitution claims had been considered.

The land reform/land restitution process in North Macedonia during 1998–2012 has not had a significant impact on the farm structures (see Section 2.2). The main reason for this is that only a small part of the agricultural land in the country was part of the restitution process because, as mentioned, most of the agricultural land remained in private ownership and use between 1945 and independence in 1991 and also because the restitution process was designed to avoid land fragmentation.

The most negative impact on the farm structures has been caused by the creation of co-ownership, often between several private owners and the state, for large, former, fully state-owned parcels of agricultural land. About 23 000 state-owned agricultural land parcels covering an estimated total area of 25 000 ha have become co-owned with natural persons mainly as an outcome of the restitution process (FAO, 2019, pp. 12–13). Article 15a of the Law on Agricultural Land prohibits the division of agricultural land parcels smaller than 2 ha. In practice, the co-

ownership between private owners and the state has complicated the management and disposal of such parcels and is often blocking the parcels from entering the land market.

## 2.2 Farm structures in North Macedonia

Small family farms dominate the farm structures in North Macedonia. According to the farm structure survey data, the total number of farms in North Macedonia in 2016 amounted to 178 125 units utilizing in total 320 738 ha of agricultural land. Between 2013 and 2016, the number of farms increased by 4.2 percent (FAO, 2023). The average farm size is around 1.8–1.9 ha, with an average of 5.8 land parcels per farm (see Table 1). The average size of privately owned agricultural land parcels is approximately 0.32 ha. The farm structure in North Macedonia is polarized with a few large corporate farms, where about 0.1 percent of all farms larger than 100 ha are farming about 32 percent of all agricultural land.<sup>3</sup>



*The land parcel structure in the Egri land consolidation project area before land consolidation (2017).*

	Farm Registry 2017	Farm Survey 2016
Total number of farms	161 657	178 125
Total utilized agriculture area of the farms (ha)	308 025 ha	320 738 ha
The average area per farm	<b>1.9 ha</b>	<b>1.8 ha</b>
Total number of agriculture parcels	937 699	n/a
The average number of parcels per farm	<b>5.8 parcels</b>	n/a
Average parcel size (ha)	0.32 ha	n/a

**Table 1. Comparison between the Farm registry data and the Farm structure survey data**

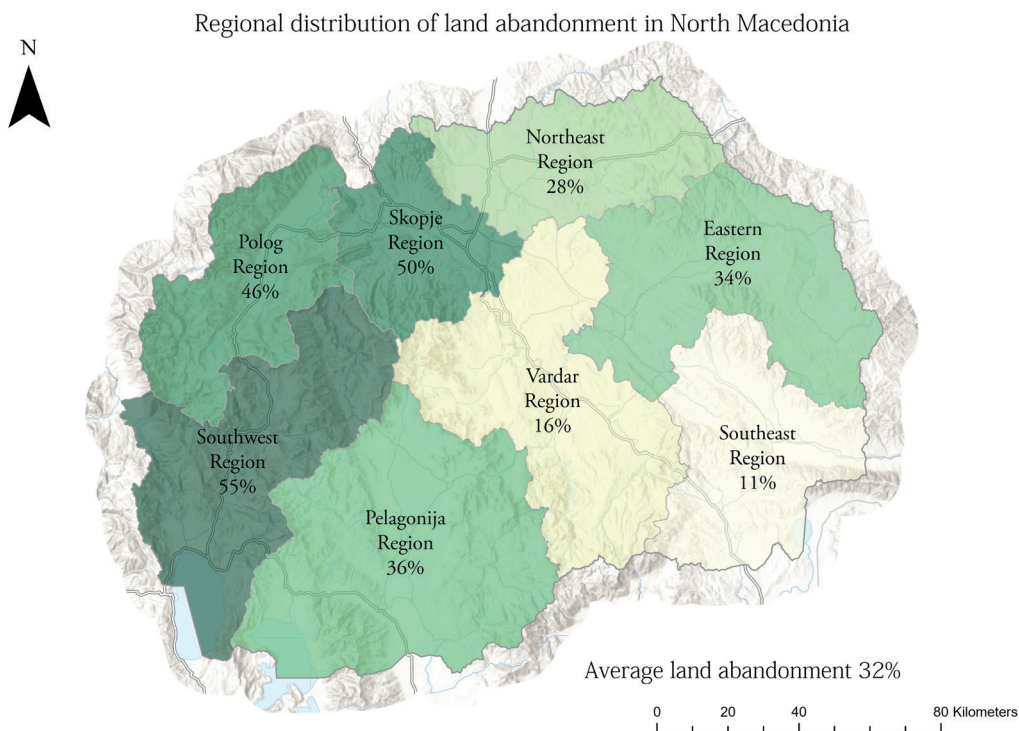
Source: FAO. 2023. *Analysis of land abandonment and development of agricultural land markets in the Republic of North Macedonia – Conclusions and policy recommendations*. Budapest. <https://www.fao.org/3/cc4778en/cc4778en.pdf>

<sup>3</sup> Farm Registry data from 2017.

Excessive fragmentation of both land ownership and land use exists. As previously discussed, this is not so much a result of the land reform process, but rather, it is related to the farm structures prior to WWII, which still exist to a large degree. The average farm size has decreased since independence in 1991.

### 2.3 Land abandonment and its root causes

Abandonment of arable agricultural land is widespread in North Macedonia. During 2022–2023, FAO developed and applied a methodology for the identification and monitoring of abandoned land using different data sources.



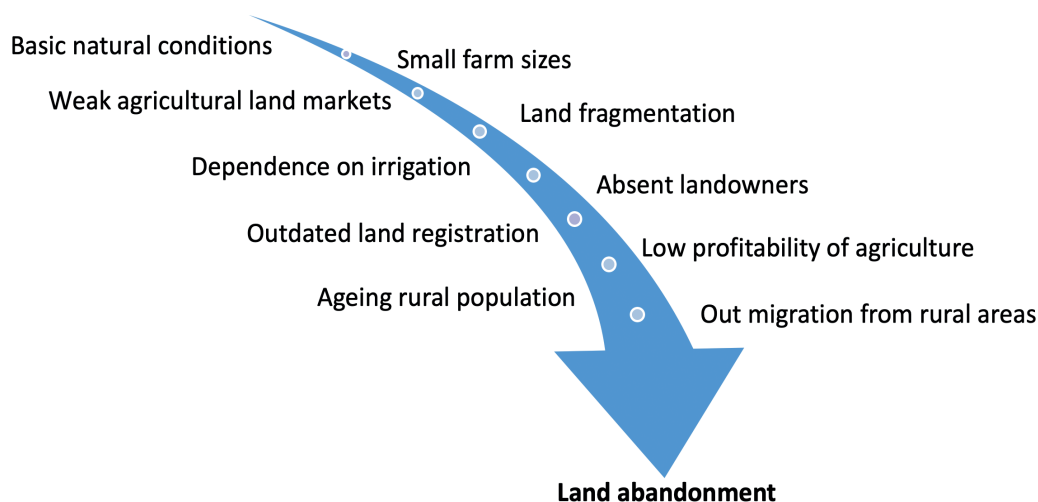
**Figure 1. Regional distribution of land abandonment in North Macedonia (as of 2022)**

Source: FAO. 2023. *Analysis of land abandonment and development of agricultural land markets in the Republic of North Macedonia – Conclusions and policy recommendations*. Budapest. <https://www.fao.org/3/cc4778en/cc4778en.pdf>

The main data source used is the country-wide cadastral map showing land parcels boundaries as well as land registry data for each parcel from the Agency for Real Estate Cadaster (AREC). The second data source represents the boundaries of farms as registered in the Land Parcel Identification System (LPIS) managed by the MAFWE. The third data source used in the analysis is satellite imagery from different time periods with spatial and temporal resolution suitable for the identification of abandoned agricultural land.

The results of the conducted analysis on the level of land abandonment show that the average amount of abandoned agricultural land in the country is 32 percent (including both private and state ownership). The magnitude of land abandonment is higher in the Western part of the country and in mountainous areas and municipalities and unsurprisingly lower in areas with

high soil quality and good potential for agricultural production (see Figure 1). The percentage of land abandonment varies from 55 percent in the South West Region to the lowest percentage in the South East Region of the country, with only 11 percent of the available arable agricultural land abandoned.



**Figure 2. The process of self-reinforcing factors driving land abandonment in North Macedonia**

Source: FAO. 2023. *Analysis of land abandonment and development of agricultural land markets in the Republic of North Macedonia – Conclusions and policy recommendations*. Budapest. <https://www.fao.org/3/cc4778en/cc4778en.pdf>

Land abandonment in North Macedonia, as in other countries in the region, stems from multiple predominant causes and is often the result of a complex multi-dimensional process with interlinked social, economic, and environmental factors resulting in the land finally being unutilized.<sup>4</sup> Several negative trends, such as the inefficient farm structures dominated by very small farms, excessive land fragmentation, low land market turnover, an ageing rural population, out-migration, in particular of young people from rural areas, heavy dependence of agricultural production on water and the availability of irrigation facilities, various problems along the agricultural value chains and increasing problems of land degradation, all become self-reinforcing. Thus, there are multiple root causes for the problem (see Figure 2).

## 2.4 State-owned agricultural land

In 2019, FAO conducted an analysis showing that the State owns 41 percent of all arable agricultural land in North Macedonia (240 000 ha out of 577 000 ha) (FAO, 2019b). The state land is distributed either in large blocs (parcels), usually rented out to large corporate farms on long-term rental agreements (concessions), or in small and scattered parcels that are usually either unutilized or informally used by neighbouring private farmers. The average size of state-owned land parcels is 0.56 ha.

As of 2022, approximately 135 000 ha are leased to 9 500 tenants, of which approximately 56 000 ha are located in large blocks leased to a total of 68 entities, while the rest are small parcels leased mainly to individual farmers or small commercial entities. There is an estimated portion of 105,000 ha of state-owned agricultural land still unleased. Mainly, this is land

<sup>4</sup> Farm Registry data from 2017.

scattered in small parcels, with a certain portion of it abandoned and already in a process of either conversion into nature (e.g. self-planted forest), or in reality, converted to urban land. Thus, even without exact data, it is reasonable to assume that around 150 000 ha of state land, partly leased out and partly unutilized or informally used, is located distributed in small and scattered parcels of arable agricultural land.

The very high amount of state-owned arable agricultural land provides excellent opportunities to pursue an active land policy to improve farm structures (Section 2.2), address land abandonment (Section 2.3) and facilitate land market development (see Section 2.5).

## 2.5 Land market development

By means of their transfer function, agricultural land markets are fundamental for agricultural development, including in addressing the problems of inefficient farm structures, land abandonment, provision of land for public objective projects, provision of access to land to young farmers and small farms to develop into commercial family farms, implementation of redistributive land reforms, and is a precondition for the application of several land management instruments such as land consolidation, land banking and lease facilitation.

The theoretical expectation is that land markets can provide a low-cost means to carry out transactions that would transfer agricultural land to the most productive use (Deininger and Feder, 1998). Thus, the land market can transform land ownership and use patterns by shifting land to more efficient users/uses or from landowners not interested in cultivating land to active farmers interested in the acquisition of more land (Gorgan and Hartvigsen, 2022).

In 2016, AREC started to report on the market transactions of agricultural land, including prices stated in the notarized sales or lease contracts, thus enhancing the transparency of land market information. Table 2 shows key sales market indicators for the period 2016–2020. The so-called land turnover is a key indicator of the level of activity in a sales land market and is measured as the percentage of all (arable) agricultural land in the country changing ownership in a certain year through sale-purchase transactions.

The average annual land turnover of around 0.5 percent looks relatively stable in the reported years. During this period, on average, around 1 700 ha were transferred annually, while the average parcel size traded was around 0.3 ha.

Year	Hectares traded	Average price EUR/ha	Number of transactions	Average ha/transaction	% of total private land (annual land turnover)	% of total private utilized agricultural area
2016	1 881	19 139	5 856	0.32	0.54	0.69
2017	1 537	19 244	5 442	0.28	0.44	0.56
2018	1 969	25 029	6 594	0.30	0.56	0.72
2019	1 612	27 035	5 247	0.31	0.46	0.59
2020*	1 873	23 285	5 480	0.34	0.50	0.70

**Table 2: Agricultural land sales market performance**

\* Data for the whole year extrapolated from the first three quarters.

Source: FAO. 2023. *Analysis of land abandonment and development of agricultural land markets in the Republic of North Macedonia – Conclusions and policy recommendations*. Budapest. <https://www.fao.org/3/cc4778en/cc4778en.pdf>

In comparison, during 1997–2007, Belgium, Italy, France and Finland had between 1 percent and 2 percent of the total utilized agricultural area traded annually, while the same figure for the Kingdom of the Netherlands in the same period varied between 2 percent and 4 percent (Gorgan and Hartvigsen, 2022, p. 5). In Lithuania, the annual land turnover of private owned agricultural land was around 3 percent in the period 2000–2003, while it dramatically increased to 5–7 percent after becoming an EU member country in 2004. In Czechia, on average, the annual turnover of private purchased land amounted to about 0.3 percent of the total agricultural area during the period of 1993–2001. However, from 2002 to 2004, the annual turnover of private land increased to 1.5 percent and 3.3 percent after EU accession in 2005.

Thus, we can conclude that the agricultural land sales market in North Macedonia is functioning but is still weak, with relatively few annual transactions. It is also evident that many of the sales transactions with agricultural land are driven not by agricultural purposes but by expectations that the land use in the future can be converted to non-agricultural purposes, such as urban development. This is also reflected in the high market prices, on average around EUR 22 000/ha, in Table 2.



## 3. Background on land consolidation in North Macedonia

This section provides the background for the recent introduction of a land consolidation instrument in North Macedonia.

### 3.1 Land consolidation during the Yugoslavia era

North Macedonia (formerly the Socialist Republic of Macedonia) was a republic in the Socialist Federal Republic of Yugoslavia until independence in September 1991. During the Yugoslavia era, the Socialist Republics of Croatia, Slovenia, Serbia and Bosnia and Herzegovina had long-standing traditions for the application of land consolidation instruments dating back to the 19th century (Hartvigsen, 2015). From around 1860, land consolidation projects were implemented in Slavonia in Croatia and in Vojvodina in Serbia, then part of the Habsburg monarchy (Milicevic *et al.*, 2013, pp. 16–17). During the Yugoslavia era, land consolidation projects resumed in the 1950s in Slavonia and Vojvodina and also on a small scale in Slovenia. In Serbia, during 1955–1969, an average of about 10 000 ha were consolidated annually. Between 1970 and 1990, on average, 40 000 ha were consolidated annually, peaking in 1979 with almost 120 000 ha (Haldrup, Andersen, and Kallert, 2003, p. 18). In Bosnia and Herzegovina and the central part of Serbia, land consolidation projects started in the 1980s. Often, the objective was to consolidate the socially-owned farms (SOEs), and land consolidation (*komasacija*) was often applied in a top-down procedure in connection with large-scale agricultural development projects. Local (municipal) Land Consolidation Commissions implemented land consolidation projects.

In addition, forced parcel exchanges between SOEs (state land) and private landowners (*arrondacija*) were applied in Yugoslavia, including in the Socialist Republic of Macedonia (Hartvigsen, 2015, p. 42). In this process, bilateral exchange transactions were implemented. Arondacija was often used to consolidate the state farms at the expense of the private family farms, which were often forced into the exchange processes.

With the objective to begin land consolidation projects, the Law on Land Consolidation (*komasacija*) was adopted in 1990 in the Socialist Republic of Macedonia shortly before the break-up of Yugoslavia (Hartvigsen, 2015, p. 67–69). Projects were to follow the same approach and procedures applied in other parts of Yugoslavia. However, at the time, only one project was started in North Macedonia as a pilot project but was not finalized due to the uncertain political situation. In general, land consolidation using the pre-war *komasacija* approach stopped around 1998 in the ex-Yugoslavia countries because of the breakup of Yugoslavia and the wars in the region. Also, the projects' high costs often exceeded the value of the land. The 1990 Land Consolidation Law and the Law on Arondation from 1976 were abolished in North Macedonia in 2008.

### 3.2 Renewed political interest in land consolidation and Dutch supported pilots

In the mid-2000s, land consolidation once again became a political priority in North Macedonia (Hartvigsen and Mitic-Arsova, 2022). The background was the structural problems in agriculture and farm structures 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 (Hartvigsen and Mitic-Arsova, 2022). The DLG and SNV from the Kingdom of the Netherlands provided international technical assistance for land consolidation and rural development through two projects funded by bilateral Dutch development programmes. In the “EMERALD project”, implemented during 2008–2009, voluntary land consolidation pilots were carried out in two pilot areas in Taor and Novaci. In Taor, a re-allotment plan with 17 ha was finalized. However, none of the pilot transactions were implemented on the ground and registered due to problems with unfinished arondacija, land registration problems and the lack of a legal framework to ensure proper land valuation and involvement of state land in the project (Ivanoski, 2013). The second Dutch project, the “STIMERALD project”, was implemented during 2010–2012, with a voluntary land consolidation pilot project in Konce municipality. A re-allotment plan, which included 20 landowners, 23 land parcels and a total of four ha, was finalized, implemented on the ground and officially registered (DLG and SNV, 2012).

### 3.3 The 2012 National strategy on agricultural land consolidation

The MAFWE, with Dutch support through the STIMERALD project, developed a national strategy on agricultural land consolidation for the period of 2012–2020. The Strategy was politically adopted in March 2012 (Ministry of Agriculture, Forestry and Water Economy, 2012). The 2012 Strategy document includes as Part I, a situation analysis of the land structure, relevant policies, legislation and institutions, while Part II contains the strategic framework and the objectives of agricultural land consolidation. According to the strategy document, the strategic objective of agricultural land consolidation in North Macedonia is:

Mitigation and graduate overcoming of the unfavorable structure of the agricultural land as a main resource for the economic activities in the rural areas in order to increase the competitiveness of the Macedonian agricultural production, to improve the living conditions in rural areas and to provide sustainable use of natural resources (Ministry of Agriculture, Forestry and Water Economy, 2012, pp. 36–37).

The Strategy included seven specific objectives:

1. decreased fragmentation of land parcels by their grouping and improvement of the location of the land plots in terms of the agricultural holding set-up;
2. improvement of the irregular shape of land parcels so as to apply modern mechanization and production technologies;
3. increase in the average size of small agricultural holdings;
4. providing access from the parcels to new or refurbished irrigation systems and improved or newly-built road infrastructure;
5. decreased surfaces of unused and abandoned agricultural land;
6. mitigating the negative effects on the optimal land structure during the construction of facilities of public interest (road, social or other kind of infrastructure) or simultaneous spatial reorganization of the existing land parcels in order to improve the existing unfavourable structure; and
7. improved environmental protection and sustainable management of natural resources.

The Strategy recognized the consolidation of agricultural land as an activity of public interest, which again is the basis for the formulation of public policy and the development of a National Land Consolidation Programme.

The 2012 Strategy followed the principle of the *Voluntary Guidelines on the Responsible Governance of Tenure of Land, Fisheries and Forests in the Context of National Food Security* (VGGT) that participants in land consolidation projects must be “at least as well off” after the project compared to before (CFS, 2012). The formulation in the Strategy document is: “The main principle of land consolidation is that the landowner must not be damaged and his/her property must not be of a lesser value compared to the property value before the land consolidation process was implemented” (Ministry of Agriculture, Forestry and Water Economy, 2012, p. 38).

The land consolidation strategy operated with three types of land consolidation: i) individual consolidation, ii) voluntary land consolidation and iii) complex land consolidation (Ministry of Agriculture, Forestry and Water Economy, 2012, pp. 40–42). In the context of the strategy, individual consolidation is understood as normal land market transactions (sale, exchange and lease) between private owners and users or between private owners and users and the state, leading to larger land parcels and holdings. Voluntary land consolidation includes only participants that are in full consent with the re-allotment and is seen as an instrument to address local problems on a relatively small scale. In the Strategy, complex land consolidation is foreseen to be applied to address more complex problems, for example, with many participants (usually in project areas above 100 ha) and in connection with the improvement of the agricultural infrastructure in the project area.

The 2012 Strategy has guided the development of the land consolidation policy and the National Land Consolidation Programme in the country until 2023 (even though it formally expired by the end of 2020). The second EU-funded land consolidation project, “Enhancing land consolidation in North Macedonia”, launched in 2022, includes technical assistance from FAO to support the preparation of a new National Land Consolidation Strategy 2023–2030 with an Action Plan for implementation (see Section 6).

From the beginning of 2013, MAFWE established a Land Consolidation Department responsible for the preparation and operation of a national land consolidation programme. The unit has a total of 12 staff members (2023) but is not only dealing with land consolidation activities.

### 3.4 The 2013 Law on Consolidation of Agricultural Land

In 2013, MAFWE drafted the Law on Consolidation of Agricultural Land based on the principles of the National strategy on agricultural land consolidation for the period 2012–2020. The law was prepared without specific international technical assistance. The Parliament adopted the law in December 2013, and it provided the legal framework for the implementation of land consolidation projects in line with the National strategy on agricultural land consolidation. The provisions of the law were assessed and tested through the initial FAO support to land consolidation provided during 2014–2017 (see Section 4).

According to the law, the main objective of implementing land consolidation is mainly agricultural, for instance, to reduce land fragmentation, improve parcel shapes and increase the size of agricultural holdings (farms), and hence contribute to increased productivity and

competitiveness in the agricultural sector. Additional objectives are to reduce the amount of abandoned agricultural land, improve rural infrastructure and improve environmental protection and sustainable management of natural resources. The law opened for the implementation of land consolidation in two different approaches: majority-based – where the qualified majority of the landowners in the project area adopt the Re-allotment Plan and a voluntary approach.<sup>5</sup>

In continuation of the efforts to embed the land consolidation instrument into the legal framework, MAFWE prepared five by-laws in the first half of 2014 to support the application of the land consolidation law.

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<sup>5</sup> For a detailed description of the two land consolidation approaches see: Versinskas, *et al.*, 2020.

## 4. FAO support to land consolidation pilots during 2014–2017

In 2013, MAFWE requested technical assistance from FAO to support the implementation of the national land consolidation strategy. In response, FAO funded the TCP project “Support to the formulation and implementation of a national land consolidation programme” (TCP/MCD/3502). With a total budget of USD 435 000 and a planned duration of two years, the implementation of this project started in December 2014.

### 4.1 Project objectives

The project’s main objective was to assess and test the newly adopted legal framework for land consolidation in two pilot areas and provide legal and operational recommendations based on pilot experiences before upscaling land consolidation to a fully operational national land consolidation programme (FAO, 2017a). The project had three main outputs:

1. legal basis adapted;
2. land consolidation pilots implemented (one voluntary and one majority-based project); and
3. land consolidation programme operational.

### 4.2 Land consolidation pilots in Egri and Konce

As part of the project activities, two pilot villages, one with a fully voluntary approach and the other with a majority-based land consolidation approach, were selected according to a developed set of 13 selection criteria. The criteria included the existence of farms with the potential for developing commercial farming and a desire to form contiguous parcels and enlarge the farms, a high level of land fragmentation and a relatively clear situation in relation to the registration of land ownership. An initial list of proposed candidate villages was evaluated against the selection criteria, and the two villages with the highest score were selected as the most suitable for the project’s implementation.

However, as the fieldwork, which included awareness-raising, collection of preferences from landowners and farmers, land valuation, and the preparation of draft re-allotment plans progressed, numerous legal and operational bottlenecks were identified that prevented the full implementation of the pilots. Such obstacles included, but were not limited to, unsolved inheritance issues, unclear property titles, unrealistic deadlines envisaged in the legislation, overly complicated administrative procedures, and multiple administrative approvals.

The two selected land consolidation pilot areas were in Egri village in Bitola Municipality in the southwest part of the country and Konce Municipality in the southeast part of the country.

In Egri village, a majority-based land consolidation was initiated and tested. Several draft versions of the land re-allotment plan were crafted by erasing existing boundaries and preparing a new parcel layout, including a new road network, irrigation rehabilitation and a system of drainage canals. The draft plans were prepared through negotiations and in consultation with the landowners and farmers.

In Konce Municipality, a voluntary approach to land consolidation was tested. The existence of many unutilized parcels of state-owned agricultural land was a main driver of the voluntary land consolidation planning as the local farmers were interested in exchanging land with the State.

In both pilot communities, a Community Development Plan was prepared through a participatory process to embed the land consolidation work in a broader local rural development context. A series of community workshops was organized both to raise community awareness about the land consolidation pilot project and to facilitate the community development process. In Egri, the community development planning identified the local needs for the improvement of the local agriculture infrastructure in the project area.

As mentioned, it was not possible to finalize and approve the re-allotment plans for the two pilots during the lifetime of the project. However, both plans were later finalized and approved with support from the MAINLAND project (see Section 5).

### 4.3 Initial legal assessments and recommendations

To mitigate the legal problems identified during the implementation of the pilots, the project conducted a comprehensive screening of the legal and institutional frameworks for land consolidation for compliance with the VGGT (CFS, 2012), and a compliance matrix was prepared. The main conclusion of this exercise was that while the 2013 Law on Consolidation of Agricultural Land provided an initial legal basis for the initiation and implementation of land consolidation projects in the country, the implementation process was not harmonized to ensure smooth and operational implementation.

The prepared compliance matrix and the pilot experiences formed the basis for the preparation of a detailed Legal Assessment Report, which exposed existing legal bottlenecks and constraints, preventing the land consolidation legislation from being operational. Furthermore, it provided a specific set of recommendations on how to address these issues and amend the legal framework to mainstream the implementation of the National Land Consolidation Programme. The recommendations referred to a wide range of topics, including the improvement of the institutional framework, decision-making processes and bodies, the land consolidation approaches, the use of state-owned agricultural land in the land consolidation process, costs/finances/incentives and rights other than ownership in the land consolidation process, including gender mainstreaming to ensure that both men and women benefit, for example, through the registration of land rights after land consolidation in the name of both spouses (FAO, 2017a).

In this direction, detailed recommendations were provided for the regulation of specific issues like the need to include a mandatory feasibility study phase, introduce the category “certified private service providers for land consolidation”, improve the process of registration of re-allotment plans as a single plan, fine-tune administrative and legal remedies for both land consolidation approaches, enhance the process of information sharing and summoning of the participants, introduce mechanisms for temporary representation of inaccessible landowners, regulation, and protection of other real rights and holders of such rights, and so on.



*Participants in the VGGT training seminar organized in Skopje, North Macedonia, January 2016.*

#### **4.4 Initial capacity development and preparation of continued technical assistance**

Based on FAO's experiences with land consolidation pilots in other countries in the region (Hartvigsen, 2019) (Albania, Armenia, Bosnia and Herzegovina, Lithuania and Serbia), a comprehensive training programme was developed. The training's target group was the recruited national consultants working on the pilot activities and the MAFWE Land Consolidation Department staff. The training was conducted in four training seminars and training modules included i) introduction to land consolidation, ii) public awareness-raising on land consolidation, iii) land consolidation feasibility study, iv) land valuation in land consolidation, v) re-allotment planning, vi) community development planning and vii) registration and implementation of the re-allotment plan.

During the implementation of the project, MAFWE proposed to the Delegation of the European Union to North Macedonia to include a second technical assistance project on land consolidation to be funded from the EU IPA 2015 Programme and implemented by FAO through a delegation agreement with the Delegation. The EU Delegation accepted the proposal. Thus, the TCP project formulated in 2016 became the EU-funded MAINLAND project, which was implemented by FAO during 2017–2022 (see Section 5).





## 5. MAINLAND land consolidation project 2017–2022

As mentioned in section 4.4, the MAFWE, in 2016, requested the Delegation of the European Union to North Macedonia to fund continued technical assistance to land consolidation in North Macedonia.

### 5.1 Project objectives, outputs and funding

The project Mainstreaming of the National Land Consolidation Programme (MAINLAND),<sup>6</sup> funded by the European Union and FAO and implemented by FAO, aimed to provide support to the MAFWE in the operational mainstreaming of the National Land Consolidation Programme by developing the expertise and strengthening the capacities for land consolidation in MAFWE, particularly in the Land Consolidation Department, key public agencies, including the Agency for Real Estate Cadastre (AREC), and the private sector. At the same time, the project aims to assist small-scale family farmers and local rural communities to overcome the problems arising from excessive agricultural land fragmentation, small farm sizes and insufficient agricultural infrastructure in order to increase the productivity, competitiveness and efficiency of farms, enhancing the potential of the Macedonian agricultural sector as a whole. The project, with a total budget of EUR 2 860 000<sup>7</sup> and a duration of 68 months (from March 2017 to November 2022), has been a major step forward in the implementation of both the National Land Consolidation Programme and Strategy with the following five project outputs:

#### **Preparation and implementation of land consolidation projects on the ground**

This has been the core component of the MAINLAND project, and it included activities under the three phases of land consolidation projects in line with the FAO Legal Guide on Land Consolidation (Versinskas *et al.*, 2020) – i) Land consolidation feasibility study, ii) Land re-allotment planning and technical design of the improvement of local agricultural infrastructure, and iii) Registration of the newly formed land parcels and construction and rehabilitation of agricultural infrastructure.

#### **Capacity development**

Capacity development has aimed at strengthening the technical and administrative capacities of MAFWE at the central and local level, AREC and other key public agencies, and contracted private geodetic companies to ensure successful management and implementation of the National Land Consolidation Programme.

#### **Procedures and tools for operationalization of the National Land Consolidation Programme**

This output has included technical assistance in the improvement and adjustment of the national legal framework for land consolidation, preparation of detailed technical procedures for the selection of land consolidation projects, preparation of land consolidation feasibility studies, land re-allotment plans and technical design for construction of integrated improvement of the agricultural infrastructure in the project areas. Additionally, support was

<sup>6</sup> More information about the project is available at the project website: <https://www.fao.org/in-action/mainstreaming-national-land-consolidation-programme/en/>

<sup>7</sup> EUR 2.5 million from the EU Instrument for Pre-Accession Assistance with EUR 0.36 million as FAO financial contribution.

provided for the establishment of national financing mechanisms for land consolidation in order to ensure sustainability in the implementation of the National Land Consolidation Programme.

### **Awareness-raising**

Awareness-raising through public campaigns, workshops, local farmer meetings, TV and radio interventions and a broad range of communication tools have been conducted to increase awareness, understanding and interest in land consolidation among agricultural landowners, farmers and other key stakeholders and to communicate how the European Union, FAO and MAFWE work together to support the implementation of land consolidation in North Macedonia.

### **Monitoring and evaluation**

This output has aimed at supporting MAFWE in establishing procedures for monitoring and evaluation of land consolidation projects.

## **5.2 Improving the land consolidation legislation**

The successful consolidation of agricultural land requires a sound legal environment to ensure cost-effective and efficient implementation of land consolidation projects, with full respect for legitimate land tenure rights and in line with the principles of the VGGT (Versinskas *et al.*, 2020). Land consolidation is not a one-size-fits-all instrument and needs to be tailored to specific national and local circumstances. With FAO's assistance and based on international good practices, MAFWE has been systematically improving the national land consolidation legislation, which was first adopted in 2013 (see Section 3.4).

The legal assessment report prepared under TCP/MCD/3702 (see Section 4.3) served as a basis for amendments to the Law on Consolidation of Agricultural Land prepared with the support of the MAINLAND project and adopted by the Parliament of North Macedonia in May 2018. This unblocked the land consolidation process and allowed the field projects (see Section 5.3) to move forward.

The amendments to the legal framework that enabled the implementation of the National Land Consolidation Programme introduced significant improvements in terms of regulation of the process, including: i) an obligatory feasibility study prior to the formal commencement of the land consolidation (re-allotment) process, ii) setting up the administrative bodies within MAFWE and iii) outsourcing the implementation of the field activities to private service providers.

The improved legislation also included several protective mechanisms concerning inaccessible or deceased landowners, the real rights of other right holders (e.g. mortgagees) and the ownership rights of the unregistered spouses as joint owners of the matrimonial property. Provisions guaranteeing a fair and transparent land valuation process and methods for inclusion of the state-owned agricultural land in land consolidation were introduced, as well as provisions to simplify some of the administrative procedures.

The legal work continued with the drafting and amendment of a set of by-laws to operationalize land consolidation related to valuation, the establishment of the register of service providers for land consolidation and the content of the geodetic survey for land consolidation.

Based on Agenda 2030's principle of leaving no one behind, the principles of gender equality and women's empowerment and employing a human rights-based approach, the amended Law on Consolidation of Agricultural Land also enables women's equal access to ownership and control over agricultural land. In reality, this means safeguarding joint ownership over the land acquired during the marital union in the land consolidation process, with the possibility of registering the new property rights over the consolidated land in both spouses' names.

However, due to the national rules for amendment of the legislation, not all recommendations were incorporated in the first round of amendments in 2018.

As a result of the improved legal framework and with the technical support of FAO, MAFWE has successfully implemented the first round of modern land consolidation projects in the country through activities under the MAINLAND project, developing the expertise and strengthening the technical and administrative capacities of the Ministry in the process.

The testing of the legal provisions has been ongoing since 2018, through to the finalization of the first round of land consolidation projects. While it is important to emphasize that no major impediments to the process were identified, the provisions of the Law have been constantly under review by the FAO and MAFWE teams to further simplify and fine-tune certain aspects of the land consolidation process and establish connections with the regulatory framework for privatization of state-owned agricultural land and bringing abandoned land into production. It is expected that a second amendment of the law will be adopted during 2023–24.

### 5.3 Field projects

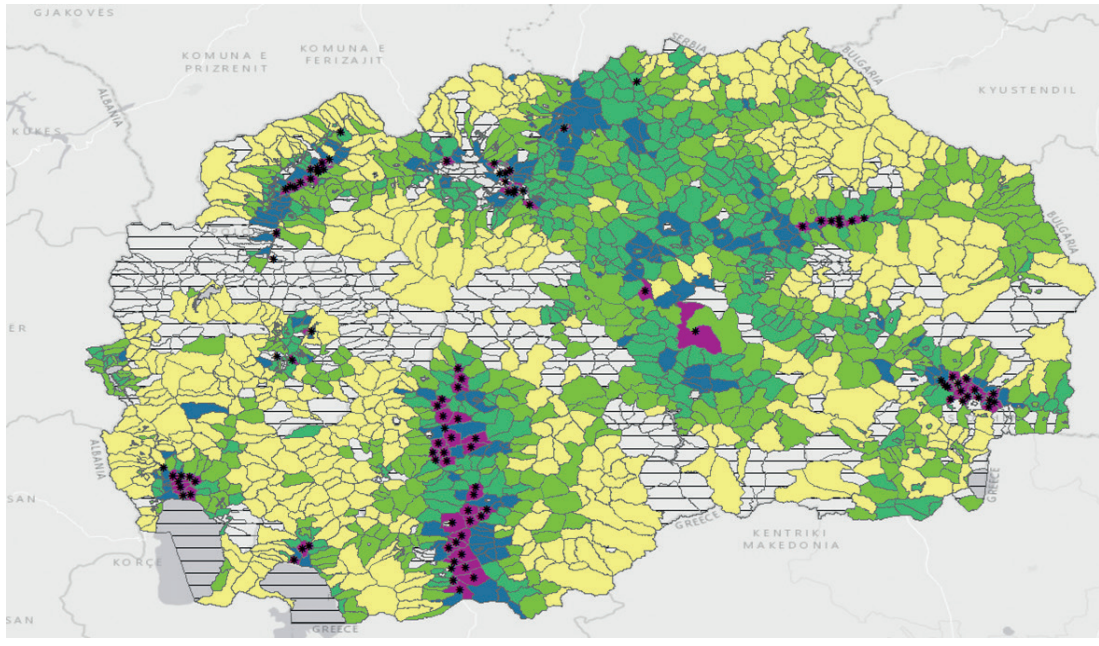
The implementation of land consolidation projects in the field supported by the MAINLAND project has included several activities following the three main land consolidation phases recommended by FAO: i) feasibility phase, ii) re-allotment phase and iii) registration and implementation phase (Versinskas *et al.*, 2020, pp. 20–22).

#### 5.3.1 Country-wide assessment to identify the most feasible land consolidation project areas

As one of the first project activities, a country-wide multi-criteria assessment was conducted in 2017 to identify the most suitable land consolidation areas in North Macedonia (FAO, 2017a). The following criteria were calculated at the level of cadastre municipality (smallest administrative unit in the country): i) the extent of ownership registration (to avoid land conflicts and unclear ownership); ii) the percentage of private agricultural land within the cadastral municipality; iii) the average parcel size of privately owned agricultural land in the municipality; iv) the average parcel size of state-owned agricultural land in the municipality; v) the average number of parcels per owner (to identify the extent of land fragmentation); vi) the average slope of land in the municipality (to avoid mountainous cadastral municipalities); vi) the soil quality (to identify most suitable soil for agricultural production); and vii) the average population density (to identify areas having the highest population density). The map in Figure 3 shows the result of the assessment.

The regions identified as the most suitable for land consolidation were used for planning an awareness-raising campaign before the launch of calls for expression of interest from local communities to identify suitable land consolidation project areas. In November 2018, four

awareness-raising workshops were organized for landowners, farmers and local government in the target regions of the country. The map in Figure 3 has provided a good basis for the identification of suitable project areas. However, it is important to note that one very important criteria could not be included in the multi-criteria assessment, and that is the interest of the landowners and farmers in land consolidation. This is important because land consolidation needs to be demand-driven, and land consolidation cannot be successfully implemented without a strong demand and the interest of the participants.



**Figure 3. Country-wide multi-criteria assessment conducted in 2017 to identify the country's most suitable land consolidation project areas**

Darker colour indicates more feasibility for land consolidation. The multi-criteria assessment did not include any data on the interest in land consolidation among the landowners and farmers. This was tested during the selection of project areas.

*Source:* FAO. 2017b. *Report for Country wide analysis of feasibility for implementation of land consolidation*. Prepared under the MAINLAND project in North Macedonia (GCP/MCD/002/EC – Mainstreaming of the National Land Consolidation Programme), implemented by FAO and funded by the European Union.

### 5.3.2 Land consolidation feasibility studies

Based on the country-wide multi-criteria assessment (Section 5.3.1) and after two rounds of calls for expression of interest among interested project communities, a total of 21 potential project areas were identified as preliminarily suitable for the implementation of land consolidation projects (FAO, 2019a). In the process, a total of 41 communities expressed interest in a land consolidation project and were screened against pre-determined criteria for selection.

Following the selection process, the implementation of the first phase of the land consolidation process – a feasibility study – was conducted in the 14 most promising project areas. The feasibility studies were conducted in two rounds during 2018–2019 prepared for the villages of Logovardi, Opticari, Trn, Zabenji, Sokolarci, Spancevo, Ciflik, Cesinovo, Dabjani, Kozle, Konce, Stojakovo, Lesani and Carev Dvor. Figure 4 displays the project areas where a feasibility study was conducted.



**Figure 4. The 14 Land Consolidation Feasibility Studies conducted under the MAINLAND**

Source: Hartvigsen, M. & Mitic-Arsova, K. 2022. *Note on Lessons Learned from the Introduction of Land Consolidation in North Macedonia during 2014–22*. Background document prepared for the 13th regional LANDNET workshop in Skopje, North Macedonia, in May 2022. [https://www.fao.org/fileadmin/user\\_upload/reu/europe/documents/Events\\_2022/landnet13presentation/LL\\_.pdf](https://www.fao.org/fileadmin/user_upload/reu/europe/documents/Events_2022/landnet13presentation/LL_.pdf)

Private service providers (geodetic companies), strengthened with additional legal, agriculture and community mobilization experts, were contracted through a tendering process to carry out the feasibility studies. First, the formally registered landowners in the potential project areas were identified based on information from the land registry (AREC), and a Land Ownership Map was prepared. Individual interviews were conducted with every formally registered landowner about existing agricultural activities, and in particular about their interest in and specific wishes for land consolidation (e.g. interest to sell, exchange/consolidate or purchase agricultural land). The studies assessed the feasibility and costs of implementing a land consolidation project for each project area by analysing the current level of land fragmentation, the size and shape of agricultural land parcels, the ownership structure, the volume and structure of the ongoing agricultural production, as well as the current state of the existing agriculture infrastructure (field and access roads, irrigation and drainage systems, etc.) It also assessed the budget needed for improvement. The studies assessed the demand for land consolidation through the needs and interest of the landowners within the area and their readiness to actively participate in the process.

Conducting land consolidation feasibility studies was a new activity in North Macedonia, particularly for the contracted geodetic companies (service providers), and it was clear that the first round of studies did not meet the quality expectations. However, the quality of subsequent

studies has significantly improved alongside the increasing capacity of the service providers. A lesson learned here was that the project team needs to be actively engaged in conducting the studies, including in the fieldwork.

An important outcome of the feasibility studies was that they also recommended the most feasible land consolidation approach – majority-based or voluntary. During the preparation of the feasibility studies for each area, the service providers, MAFWE and the FAO MAINLAND team worked jointly and closely with the landowners and farming communities to assess the baseline situation and farmers' support for the project.

Out of the 14 areas where the feasibility of land consolidation had been assessed, 11 areas were deemed feasible, two areas were identified as conditionally feasible, while only one area was considered as not feasible for implementation of land consolidation. The reasons why the areas were considered not feasible include, but are not limited to, a broad number of cases of unsolved legal and property-related issues or ongoing juridical processes, an extensive number of inaccessible or deceased landowners, and the construction of large-scale infrastructure projects that would influence the structure of the agricultural production in the region. In addition, the recommended land consolidation approach for 12 areas was majority-based land consolidation, while voluntary land consolidation was recommended for only two. The land consolidation interventions in the feasibility phase included approximately 4 600 hectares of agricultural land and 6 500 landowners in total.

The land consolidation feasibility studies conducted in the MAINLAND project have proven to be a very useful and efficient tool to assess the feasibility of a land consolidation project in a potential project area. On average, the feasibility studies were conducted over a period of 4.5 months and had an average cost of USD 31 000. When land consolidation in a potential project area is assessed as feasible through the feasibility study, and the study is well-prepared and conducted, then the information collected in this phase can feed directly into the re-allotment planning that follows. This is particularly the case if the re-allotment phase is launched shortly after the finalization of the feasibility phase. What the feasibility study provides is a "snapshot" of the situation in the area, and the longer it takes before the project moves into the second phase, the higher the risk that the information collected will be outdated. The "transition" from feasibility to re-allotment phase is also easier if the same professionals are involved in both phases.

While the starting point for the land consolidation feasibility studies has, as mentioned, been the formal landownership situation, an important outcome of the studies has been the identification of all non-formalized but legitimate tenure rights. In the 14 conducted feasibility studies, the identified non-formalized but legitimate tenure rights mainly have to do with two situations; unresolved inheritance, where the registered landowner is deceased (and has been sometimes for decades), and in cases of informal land transactions. The percentage of such cases varies from 6 to 30 percent of the total number of land parcels included in the feasibility study phase in different areas. The informalities need to be addressed and resolved as part of the land consolidation process.

The success of a land consolidation project largely depends on the interest and willingness of landowners and communities to participate in the project. In this regard, the first round of feasibility studies under the MAINLAND-supported national land consolidation programme has provided important information and insights into the factors that determine the landowners' interest and readiness to participate, as well as apprehensions with respect to

land consolidation. This information is essential for further tailoring and optimizing the land consolidation approach in the country.

Through a thorough project area selection process, it was found that overall, 82 percent of the interviewed landowners (households) have shown interest in land consolidation, with 35 percent being very interested, 34 percent moderately interested and 13 percent slightly interested. The remaining 18 percent of the households indicated no interest in land consolidation.

Using the data from the conducted feasibility studies, Gorgan and Bavorova (2022) investigated the factors affecting landowners' behaviour and readiness to participate in land consolidation activities at both individual and social levels. The main reasons for not being interested in land consolidation include the lack of direct economic interest, for instance, when a landowner's holding is not fragmented and is in a suitable location, the adversarial attitude when landowners are speaking out against land consolidation and refuse participation in interviews, uncertainty, lack of trust in institutions, fear of manipulation, and the belief that the process will be unjust. The policy and project implications of these findings are that not all landowners in the communities will be driven by economic rationality considerations (or their situation will already be optimal, i.e. the holding is not fragmented and already in a good location). Such landowners' decisions can be influenced primarily by cognitive and emotional drivers such as norms, trust, reciprocity, personal beliefs and attitudes.

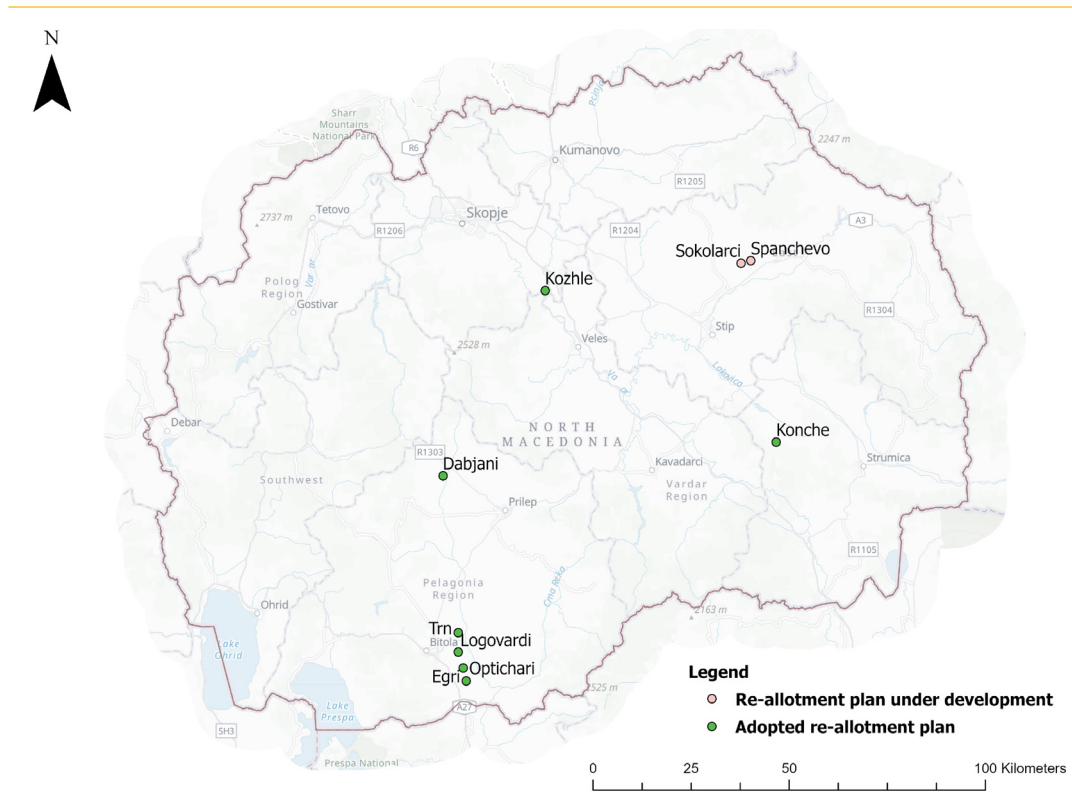
Social capital and trust represent part of the overall environment of a project and can also create an enabling or constraining effect that will directly or indirectly influence individual behaviour. Therefore, in the initial stages of land consolidation, more attention should be paid to the existing power dynamics in the communities, main groups and networks and the overall trust levels as predictors of success or failure. Land consolidation interventions can serve as a source of social capital and can leave communities more united, resilient, trusting and responsive, where individual self-interests also merge with the common good.

At the individual level, the sufficiency of information was found to be directly related to the readiness to participate in land consolidation, underlining the importance of awareness campaigns in the process. Communication campaigns, thoroughly designed and tailored to the community characteristics, play a crucial role in the interventions' success as they inform participants about the "rules of the game" and expected benefits, reduce the uncertainty that landowners face, especially at the beginning of the project, and increase the overall transparency of the process.

The age of landowners and their plans to pass land to their children are significant factors that can affect their willingness to participate in land consolidation projects. Older landowners may require more effort to motivate and incentivize them to participate. Offering project support to carry out inheritance proceedings or offering favourable conditions to alienate land can be an incentive for retired or preparing-to-retire landowners to participate. Additionally, the number of parcels forming a holding is a crucial factor that confirms the participants' primary strategy in the project is to maximize their economic benefits. Therefore, project areas need to be carefully selected to avoid areas where fragmentation is not seen as a problem by the majority of landowners, such as areas where a high percentage of the landowners only own one land parcel in the project area.

### 5.3.3 Re-allotment planning and detailed technical design

As mentioned, the second phase in the land consolidation process is re-allotment planning. This phase includes the land valuation and planning of consolidation of the land parcels, aiming to enlarge them and improve their shape, which is more suitable for agricultural production and with better access to agricultural infrastructure (access roads, irrigation, drainage systems, and others). In North Macedonia, the re-allotment phase of land consolidation was initiated in nine land consolidation project areas under the MAINLAND project and fully finalized in seven project areas at the end of the MAINLAND project in November 2022 (Figure 5). Supported by FAO through TCP/MCD/3802, the completion of the re-allotment planning in the remaining two areas, Sokolarci and Spanchevo, is planned during 2023.



**Figure 5. Projects in the re-allotment phase in North Macedonia (as of November 2022)**

Source: Updated map from Hartvigsen, M. & Mitic-Arsova, K. 2022. *Note on Lessons Learned from the Introduction of Land Consolidation in North Macedonia during 2014–22*. Background document prepared for the 13th regional LANDNET workshop in Skopje, North Macedonia, in May 2022. [https://www.fao.org/fileadmin/user\\_upload/reu/europe/documents/Events\\_2022/landnet13presentation/LL\\_.pdf](https://www.fao.org/fileadmin/user_upload/reu/europe/documents/Events_2022/landnet13presentation/LL_.pdf)

In North Macedonia, the average time to prepare a Re-allotment Plan has varied from 10 to 25 months and mainly depended on the size of the project area, the number of land parcels and the number of participants/landowners.



### Land consolidation in Egri village

The village of Egri, Bitola Municipality, became the first majority-based land consolidation project to be finalized in North Macedonia after the qualified majority of the landowners adopted the Re-allotment Plan in January 2020. The project in Egri is the first land consolidation project where the improvement of the land parcel structure was complemented and integrated with the construction of agricultural infrastructure based on local community needs, including new drainage channels, extension of the existing irrigation network and construction of field roads.



Number of land parcels before and after land consolidation: 874 (before) / 260 (after)

Average parcel size before and after land consolidation: 0.38 ha (before) / 1.30 ha (after)

The improvements in agricultural infrastructure were constructed between June 2021– January 2022 and included the construction of 8.4 km of new drainage channels, a 3 km extension of the existing irrigation network and the construction of 11 km of field (gravel) roads.

The improved irrigation, drainage and access to the land parcels in Egri not only contributes to better agricultural productivity and efficiency but also makes farms more resilient to extreme weather conditions, such as floods and droughts. It is expected that many of the private farmers will invest in further improving their farms on top of the public investments in land consolidation and improved agricultural infrastructure.

#### Box 1. The outcome of land consolidation in Egri village

Source: Hartvigsen, M. 2019. FAO support to land consolidation in Europe and Central Asia during 2002-2018 – Experiences and way forward. *FAO Land Tenure Journal* 1/2019. <http://www.fao.org/3/CA3184EN/ca3184en.pdf>

Licensed geodetic companies, comprising professional teams of land surveyors, valuers, lawyers and construction engineers, were actively engaged in the re-allotment phase. Working in multi-disciplinary teams, they supported specific tasks, including valuation of the land parcels, planning the necessary improvement of the agricultural infrastructure, intensive and guided consultations and negotiations with all participants in the process, preparation of the Re-allotment Plan and supporting its adoption by the landowners. In North Macedonia, the Re-allotment Plan is subject to adoption by the landowners at the Land Consolidation Assembly.

For majority-based land consolidation projects, the Plan must be approved by at least 70 percent of the total number of landowners owning at least 50 percent of the area, while in the voluntary projects, all landowners with land transactions included in the Plan are providing approval in the form of written consent.

Land consolidation is an administrative process, and the Re-allotment Plan (Land Consolidation Plan) adopted by the landowners is further approved through an administrative decision. Accordingly, administrative process rules apply, including the remedies. The land consolidation process is safeguarded by the opportunity to lodge complaints in various phases of the re-allotment planning, including the valuation and draft Re-allotment Plan. After adoption through the administrative procedure, the approved Plan may be subject to judicial review before entering into force.

The majority-based land consolidation project in Egri was the first fully completed land consolidation project in North Macedonia (see Box 1). The landowners adopted the Re-allotment Plan in January 2020, and the construction of improved agriculture infrastructure was completed in January 2022. Through this project, the average parcel size increased by a factor of 3.42.

In the Dabjani project (see Box 2), also implemented in a majority-based approach, the average parcel size increased by a factor of 4.83. This project is also interesting because it is expected to bring around 200 ha of arable agricultural land, unutilized for decades, back into production after the finalization of the project. This provides an excellent example of how land consolidation can also contribute to addressing land abandonment.

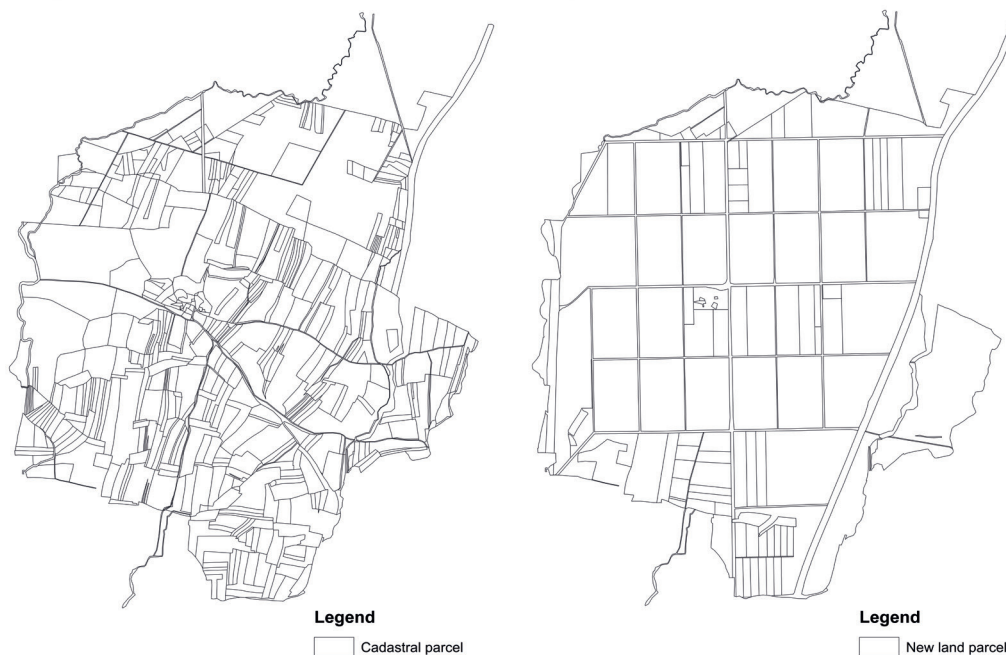
In the majority-based projects in Trn, Logovardi and Opticari, the average parcel size increased by a factor of 2.2–3.2 through the projects.

While re-allotment planning has been successfully completed in five majority-based land consolidation projects, and two more are under finalization (2023), it is fair to say that land consolidation projects with a voluntary approach have not been a great success in North Macedonia so far.

### Addressing land abandonment through land consolidation in Dabjani

Dabjani became the second majority-based land consolidation project to be finalized in North Macedonia under the MAINLAND project after the qualified majority of landowners adopted the Re-allotment Plan in January 2022.

Dabjani land consolidation area - before land consolidation      Dabjani land consolidation area - after land consolidation



Number of land parcels before and after land consolidation: 602 (before)/127 (after)

Average parcel size before and after land consolidation: 1.2 ha (before)/5.8 ha (after)

Dabjani was the largest of the MAINLAND project areas. It includes 742 ha of agricultural land owned by 85 private landowners (435 ha) and by the State (307 ha). In the land re-allotment process, the number of land parcels in Dabjani was reduced by almost five times, and the newly formed parcels are regularly shaped with access to infrastructure and allow for much more efficient farming practices in the future.

Land consolidation brought additional benefits to the rural population in Dabjani. Many land parcels in the land consolidation project area, which were restituted to the private owners as part of the land reform process (denationalization) during the 2000s, were either located in the middle of state-owned agricultural land blocks or land plots in co-ownership with the State. Through the land consolidation process with the support from the MAINLAND project, both the private landowners in Dabjani and the State managed to resolve longstanding and complicated land rights issues, which has negatively affected the utilization of the agricultural land in the whole area. Thus, the implementation of the land consolidation project is expected to bring back into production around 200 ha of abandoned agricultural land that has been unutilized for decades.

#### Box 2. The outcome of land consolidation in the Dabjani area

Source: Hartvigsen, M. & Mitic-Arsova, K. 2022. *Note on Lessons Learned from the Introduction of Land Consolidation in North Macedonia during 2014-22*. Background document prepared for the 13th regional LANDNET workshop in Skopje, North Macedonia, in May 2022. [https://www.fao.org/fileadmin/user\\_upload/reu/europe/documents/Events\\_2022/landnet13presentation/LL\\_.pdf](https://www.fao.org/fileadmin/user_upload/reu/europe/documents/Events_2022/landnet13presentation/LL_.pdf)

The voluntary land consolidation projects in the land consolidation areas of Konche and Kozhle were implemented in a relatively limited area and involved a small number of participants (in total 33.7 ha and 32 participants), although initially, a higher number of landowners and a

larger area were included. Around 16 ha of state land was used as a catalyst for the process. Several reasons contributed to the limited success of the voluntary land consolidation projects in these particular areas, including the excessive number of unresolved property and legal issues related to the land parcels, interpersonal relations between the landowners, negative past experience with single land exchanges with the State, as well as a limited capacity at the national level for voluntary land consolidation. The implementation also revealed areas within the adopted legal framework that need to be adjusted to enhance the implementation of voluntary projects.

Since the 1980s, in most Western European countries with ongoing national land consolidation programmes, land consolidation has developed into a multi-purpose instrument, which allows for the pursuit of different objectives in the same project, for example, agricultural development in one part of the project area and public initiated nature restoration or climate change adaptation in another (Hartvigsen, 2022). North Macedonia had its first practical experiences with multi-purpose land consolidation during the MAINLAND project. In the projects in Logovardi and Optichari, where the re-allotment planning was completed and the Plans adopted with the support of the MAINLAND project, land consolidation with a traditional objective of agricultural development was integrated with the acquisition of privately owned agricultural land for the construction of a highway from Bitola to the Greek border (see Box 3). Multi-purpose land consolidation has great potential in North Macedonia (see Section 8).

#### Multi-purpose land consolidation projects in Logovardi and Optichari



In many countries in the European Union, land consolidation is a well-proven, multi-purpose instrument which facilitates the implementation of projects that, in addition to promoting agricultural development, integrates multiple public objectives, such as nature restoration, large-scale infrastructure construction and measures to tackle climate change. The MAFWE and FAO are piloting multi-purpose land consolidation projects in two villages included in the MAINLAND project: Logovardi and Optichari. This project is the first multi-purpose land consolidation effort in the country. In addition to improving the land structure for agricultural development, the reallocation of land parcels in Logovardi and Optichari also supports the construction of a large infrastructure project – the expressway from the town of Bitola to the Greek border.

The integration of the two project objectives – land consolidation and large infrastructure construction – is considered a ‘win-win’ solution for both the farmers and the Government. Farmers benefit from the improved structure of their parcels and compensation in land instead of monetary compensation. Thus, the land consolidation project mitigated the damage from the expressway construction on the local farm structure, and the Government can smoothly construct the planned infrastructure. Landowners adopted the Re-allotment Plan for Logovardi in April 2022, while the Plan for Optichari was adopted in October 2022.

#### Box 3. Multi-purpose land consolidation projects in Logovardi and Optichari

Source: Hartvigsen, M. & Mitic-Arsova, K. 2022. *Note on Lessons Learned from the Introduction of Land Consolidation in North Macedonia during 2014-22*. Background document prepared for the 13th regional LANDNET workshop in Skopje, North Macedonia, in May 2022. [https://www.fao.org/fileadmin/user\\_upload/reu/europe/documents/Events\\_2022/landnet13presentation/LL\\_.pdf](https://www.fao.org/fileadmin/user_upload/reu/europe/documents/Events_2022/landnet13presentation/LL_.pdf)

### 5.3.4 Registration of new land rights after land consolidation

After the adoption and administrative approval of the Re-allotment Plan, the third and final phase of the implementation of land consolidation projects involve the registration of the new ownership of the land parcels and the construction of the envisaged agricultural infrastructure are considered. In North Macedonia, the Re-allotment Plan is registered as a single Plan with a geodetic survey and a Ministerial Decision of approval of the Plan serves as a basis for registration in the Real Estate Cadastre. In parallel, for majority-based land consolidation projects, staking out the boundaries of the new land parcels is done, and transfer of the property in the field and technical documentation for the construction is prepared in order to initiate the construction of the planned interventions in the irrigation, drainage and road networks after registration.

### 5.3.5 Construction works

The process of planning interventions related to agricultural infrastructure has begun in the feasibility phase with the identification of the existing infrastructure and needs for improvement. Also, during the feasibility phase, the initial proposal for the improvements was prepared and further developed in parallel with the preparation of the re-allotment plan. The planned improvements were then offered for adoption to the participants in the project area in the Landowner's assembly as part of the Re-allotment Plan. After adoption, the necessary detailed technical design was prepared for the construction of the agricultural infrastructure, including the Construction Main Design, Urbanistic Project Environmental Impact Screening and Geo-mechanical report, and required positive opinions of all relevant institutions in accordance with the legal framework. Depending on the type of infrastructure planned, construction permits were granted under the Law on Agricultural Land (for improvements of the drainage and irrigation network and construction of field roads) or under the Law on Construction for other types of infrastructure by the Municipality where the land consolidation area is located. In the Egri land consolidation area, where the MAINLAND project completely finalized the improvements of the agricultural infrastructure, the process of preparation for the detailed design, obtaining of construction permits and construction of the completely new drainage network, the extension of the existing irrigation network and a new network of field and access roads in the area of 336 ha, in approximately 15 months.

The main challenge during the construction works in Egri was to avoid disrupting agricultural production in the field and to balance and synchronize construction per sections of the field with the farmers' needs (irrigation, uninterrupted access, etc.) in relation to the crop production cycles.

## 5.4 Capacity development for public and private sector

Bringing in FAO expertise and strengthening the technical and administrative capacities of the MAFWE (at both central and regional levels), key public agencies and private geodetic companies has been at the heart of the efforts of the MAINLAND project and crucial to ensuring the sustainability of the technical assistance on land consolidation provided to North Macedonia. Experiences of the development of land consolidation projects and programmes in other countries in Europe and Central Asia show that it often takes longer than initially expected to build up the technical and managerial capacity to implement land consolidation in the field and manage a national programme (Hartvigsen, 2019).



*Part of Egri land consolidation area after the implementation and construction of new agriculture infrastructure (December 2022).*

The MAFWE staff has worked hand-in-hand with the MAINLAND team to ensure that the country has built its own capacities to mainstream and scale up the National Land Consolidation Programme country-wide, based on local demand. Training programmes, including on-the-job training for different target groups, have been conducted to help build national capacities to successfully manage and implement the National Land Consolidation Programme as well as project activities in the field.

The MAINLAND project has supported the development of a Staffing Plan to strengthen the capacities of the MAFWE Land Consolidation Department. In a step-by-step approach, MAFWE staff have been gradually taking over responsibility for the different steps in the land consolidation process in the active land consolidation project areas, including the administrative organization of the public hearings and landowner assembly meetings, identification of the landowners, collection of the remarks from the landowners during the hearings and preparation of the administrative documents. The MAFWE also actively participates in the monitoring and supervision of the re-allotment planning processes conducted by the private service providers. However, the Land Consolidation Department of MAFWE still lacks human resources in the areas of legal/regulatory reform, GIS, land surveying, and participatory planning and still needs further capacity building.



*Minister of Agriculture, Forestry and Water Economy, Mr Ljupco Nikolovski (to the right), visiting the Egri project area after finalizing the construction works in January 2022.*

In order to implement the land consolidation procedures, the licensed service providers/ geodetic companies have been requested to strengthen their teams with additional expertise (law, civil engineering, agriculture). However, their technical capacity during the MAINLAND implementation has varied in quality. The service providers have shown strong capacity in surveying works but relatively low performance in the other activities related to the identification of legal and property issues, land valuation, agricultural development and especially in relation to mobilizing the members of the project communities, and in facilitating negotiations with and between landowners to find re-allotment solutions (FAO, 2020).

To increase the capacity of the private sector to execute works related to land consolidation, the MAINLAND team has extended the training curriculum on the introduction to land consolidation and has adjusted it to the needs of the geodetic companies.

With more draft re-allotment plans under finalization, the focus in the last year of the MAINLAND project's implementation is to further strengthen MAFWE's and the private sector's capacities in land consolidation project implementation based on field experiences.





## 6. Second European Union-funded land consolidation project during 2022–2026

Building directly on the outcome of the MAINLAND project, a second EU-funded project began in August 2022. The “Enhancing land consolidation in North Macedonia” project is funded with EUR 1 million from the EU IPA 2019 budget and co-financed with EUR 200 000 from FAO, totalling EUR 1.2 million. The project has a duration of 42 months until the end of January 2026.

### 6.1 Project outputs and activities

The project has four planned outputs:

#### **Output 1: Policy, legal and institutional framework for land consolidation enhanced**

The main expected outcome of the policy output of the project is the development of a new National Land Consolidation Strategy for 2023–2030 with an Action Plan for implementation. As discussed in section 3.3, the first land consolidation strategy, adopted in 2012, expired at the end of 2020. The first step in the update of the strategic documents is to assess the results achieved in the previous strategic period. This includes reviewing the national policy legislation and programmes related to land consolidation and assessing the results achieved in the previous strategic period (2012–2020). The MAINLAND project provided important contributions to the Strategy implementation, which, in particular, established the initial capacity in the MAFWE, supported the implementation of land consolidation projects, and established the operational legal framework and the relevant secondary legislation. In February 2023, the Permanent Advisory Group on Land Consolidation was established and had its first meeting. The purpose of the advisory group is to facilitate discussions on the lessons learned so far from the implementation of land consolidation and policy priorities for the new National Land Consolidation Strategy, and as a mechanism to ensure the long-term sustainability of the land consolidation efforts. The project will prepare a discussion paper on multi-purpose land consolidation in the country as the basis for policy formulation. When the new National Land Consolidation Strategy and Action Plan for 2023–2030 is drafted during 2023, stakeholder consultation workshops will be organized. It is expected that the new land consolidation strategy will be adopted before the end of 2023.

#### **Output 2: The Re-allotment Plan for the Chiflik land consolidation project area prepared, approved and adopted (majority-based land consolidation)**

During 2018–2019, as part of the MAINLAND project, a land consolidation feasibility study was conducted in the Chiflik land consolidation area in Cheshinovo-Obleshevo Municipality (see Section 5.3.2 and Figure 4). The project area has 438 landowners, 1 263 land parcels and the total size of the area is 156 ha. Similar to the project areas in Sokolarci and Spancevo, the Chiflik area is also mainly used for rice production, and the average parcel size of 0.12 ha is very small. Seventy-four land parcels are State-owned (8.9 ha). The conducted feasibility study found that a land consolidation project in the area is feasible. During the individual interviews, more than 77 percent of all registered landowners, representing 82 percent of the project area, expressed interest in and support for the implementation of the land consolidation project. The feasibility study identified the need to construct more field roads, clean the irrigation channels and rehabilitate the existing drainage system. Finally, the Feasibility Study Report recommended to implement land consolidation in the area using a majority-based approach.

Under Output 2, the project will support the preparation, adoption and approval of the Re-Allotment Plan for the Chiflik project area. This includes the initiation of the land consolidation process with the required Government Decision, contracting a service provider (private geodetic company) following a tender process to conduct the re-allotment planning supervised by the MAFWE and the FAO project team, conducting land valuation in two stages before and after the re-allotment planning, and preparing the draft Re-allotment Plan through negotiations and consultations with the local landowners and farmers.

### **Output 3: Infrastructure in Chiflik and Dabjani land consolidation project areas designed and constructed**

Under Output 3 of the project, agricultural infrastructure will be constructed in two land consolidation areas. In Dabjani, a feasibility study was prepared, and the Re-allotment Plan was also drafted and adopted in January 2022 with the support of the MAINLAND project (see Box 2). In Chiflik, both the Re-allotment Plan will be prepared (see Output 2) and the construction of agricultural infrastructure will be done under the project. The project activities follow the procedures prepared during the MAINLAND project and will begin with contracting a licensed service provider in both areas for the preparation of the detailed technical design. The project will then facilitate the process of obtaining the necessary construction permits, preparing tender documents and contracting a service provider for the construction works. The service provider will then build the planned infrastructure. In Chiflik, the launch of Output 3 activities will need to wait for the completion of activities under Output 2.

### **Output 4: Awareness and understanding of land consolidation increased and capacity of relevant stakeholders and beneficiaries strengthened**

Developed at the beginning of the project, the Project Communication and Visibility Plan serves as the basis for all communication efforts in the project. Awareness-raising activities will be conducted around the preparation of the new National Land Consolidation Strategy for 2023–2030. As mentioned, it is expected that the new strategy will broaden the scope of land consolidation in North Macedonia towards a multi-purpose approach. In this context, Output 4 of the project will include developing a training programme for government, academia and civil society organizations on land consolidation, with a focus on multi-purpose land consolidation, and subsequently conducting the planned trainings. In this way, Outputs 1 and 4 are closely related.

## **6.2 Additional land consolidation work to be implemented by the Ministry of Agriculture, Forestry and Water Economy**

Since the beginning of FAO's support in 2014, the MAFWE, and in particular the Land Consolidation Department of the Ministry, has been closely involved in all land consolidation activities in the country (see Section 5.4). This involvement will continue with the project activities of the new project until 2026. However, in addition, the MAFWE will also continue the implementation of activities in land consolidation projects started with the support of the MAINLAND project. This includes, in particular, the construction of the planned improvement of agricultural infrastructure in the Trn, Logovardi, Optichari, Sokolarci and Spancevo project areas. Also, during 2024–2025 the ministry is expected to issue a call for expression of interest of new land consolidation project areas and conduct land consolidation feasibility studies in new areas.



*Launch of the second EU-funded and FAO implemented land consolidation project in November 2022. David Geer, Head of Delegation of the European Union to North Macedonia (left), Ljupco Nikolovski, Minister of Agriculture, Forestry and Water Economy (in the middle) and Nabil Gangi, FAO Deputy Regional Representative for Europe and Central Asia and De facto Head of FAO North Macedonia.*



## 7. Active use of state-owned agricultural land to improve farm structures

As discussed in section 2.4, an analysis conducted by FAO in 2019 showed that the State owns 41 percent of all arable agricultural land in North Macedonia (totalling 240 000 ha out of 577 000 ha) (FAO, 2019b). Around 150 000 ha of state-owned land is partly leased out and partly unutilized or informally used and is located distributed in small (< 1 ha) and scattered parcels of arable agricultural land. These small and scattered state land parcels represent a highly valuable asset and can be the backbone of an active land policy in North Macedonia with the aim to address land abandonment, improve the inefficient farm structures and also play an important role in supporting the implementation of the National Land Consolidation Programme.

### 7.1 Support to improve the management of state-owned agricultural land

FAO began to support the management of state-owned agricultural land in North Macedonia already in 2010 through the TCP project “Support for the management of state-owned land” (TCP/MCD/3301), implemented during 2010–2013. The project’s overall objective was to improve the management of state-owned agricultural land (FAO, 2013). This included support for the creation of a new State Land Management Department in MAFWE and building up its technical capacity. The project reviewed the policy related to state land management and recommended to initiate the privatization of state land and suggested different scenarios for better management and privatization of the state land (Keith, Georgievski and Mitic-Arsova, 2009). One main outcome of the project was the development of the electronic information management system (SUZ), designed to manage lease contracts and record payments. The project was linked with ongoing initiatives, such as the World Bank projects on Real Estate Cadastre Registration and Agriculture Strengthening and Accessions. In 2013, the Law on Sale of State-owned Agricultural Land was adopted, with the objective to begin an active privatization of state land. It was foreseen that annual programmes for privatization would be prepared and implemented.

Since the Law’s adoption, MAFWE undertook two initiatives to sell portions of state-owned agricultural land through the adoption of the first Annual Program for Sale in May 2015 and the Announcement for sale of the agricultural land under glasshouses and other buildings for agricultural use in June 2018. The overall land area offered for sale under the Annual Program for Sale was 197 ha. Although the Program was officially adopted and subject to public consultation, the decision for sale was not enacted. Thus, the actual state-owned land sale transactions were never completed. The reasons behind the unsuccessful attempt to sell state-owned agricultural land are numerous and can be summarized as follows: the determination of the land fund for sale was a long and uncertain process due to the fact that the freehold land had registration problems, the establishment of a professional commission for the sale was constrained due to the fact that the potential members were reluctant to accept the task, the procedures envisaged in the legal framework were very long, overlapping, and in some cases conflicting, the penalties stipulated for the relevant MAFWE employees were draconic, leading to their hesitation to actively participate in the process and so on.

The second attempt for the sale of state land took place, as mentioned, in 2018, but not through the annual programme mechanism. The MAFWE introduced a mechanism of public announcement for the expression of interest for the purchase of state-owned land under privately owned glasshouses and connected buildings. The process was intended as a legal mechanism enabling large-scale state land sale, but rather, it is a solution to the long-term problems with the ownership status of the owners of privatized glasshouses under the legal framework from the 1990s when the privatization of the socially owned enterprises was in full bloom. As a result of this public announcement, MAFWE received 21 expressions of interest for the acquisition of the land under glasshouses, out of which less than a dozen contracts have been approved by the Government and signed by the parties so far. Considering the above, the Law on Sale of State-owned Agricultural Land has not been fully operational since its adoption ten years ago.

During 2018–2019, FAO supported the preparation of amendments to the Law on Sale of State-owned Agricultural Land through the project “Support to privatization of State agricultural land” (TCP/MCD/3701/C1), with the objective of making the law operational and launching a targeted privatization process. The amendment of the law went through public consultation, but it was not adopted at the time because of the change of Government. The recommendations provided through the project to the MAFWE and the Government also included to establish a new Land Agency under MAFWE with the responsibility to manage several areas of connected work such as state land management and privatization, the National Land Consolidation Programme and the regulation of the agricultural land markets.

## 7.2 Policy options for an active use of the state-owned agricultural land in land consolidation projects

During 2022–2023, FAO analysed the current farm structures, the stage of development of the agricultural land markets, the level of land abandonment and its root causes (see Section 2). Based on the analysis, FAO provided policy recommendations to address the situation (FAO, 2023). A key element in the recommendations is an active use of state land, including better management and privatization of the small and scattered state land parcels. This is particularly the case if the privatization of state land is implemented through land consolidation projects. In North Macedonia, the experiences from the land consolidation projects implemented during the MAINLAND project so far have shown that the vast availability of state land in each land consolidation area can substitute the need for a land banking instrument. A good example is the projects in Logovardi and Opchicari (see Box 3 in Section 5.3.3), where there was enough available state land for the construction of the new highway from Bitola to the Greek border through the two project areas. However, to be able to use the full potential of the state land in future land consolidation projects, it is necessary to amend the Law on Sale of State-owned Agricultural Land so it will become fully operational and then use the land consolidation programme to also privatize the existing state land in land consolidation project areas. This will strongly increase the impact of the land consolidation instrument in terms of the facilitation of farm enlargement.

Other countries that do not have the same amount of state land available scattered all over the country in small parcels will need to develop a land banking instrument and apply it together with the land consolidation programme and projects (FAO, 2022). In general, available state land, whether provided from land banking or from the land already owned by the state as in the case of North Macedonia, is, as mentioned, needed to not only facilitate the enlargement

of farm sizes but also to compensate private owners with other land when private land is taken out of production, for instance, for construction of infrastructure or as part of public projects related to nature restoration or climate change adaptation and mitigation implemented through multi-purpose land consolidation.

When additional land is purchased by a farmer and integrated with the land consolidation process, the buyer has a unique opportunity to have the purchased land consolidated with the consolidation of already owned land parcels (in a majority-based land consolidation approach). In this way, the active use of the land consolidation instrument to privatize small and fragmented state land parcels in the land consolidation project areas will strongly contribute to the improvement of the local farm structure, particularly by contributing to the facilitation of the necessary farm enlargement and a political vision to develop strong commercial family farms. A certain level of land mobility is needed in the re-allotment planning. As mentioned, this can come from land already owned by the state, from land banking or land that is being purchased from private owners, for example, because they retire from farming or sell their land parcels as part of the re-allotment planning. In majority-based projects, all the land in the project area is, in principle, “mobile”, while it is very difficult to successfully complete re-allotment planning in a voluntary land consolidation approach if the land mobility is low (Hartvigsen, 2014).





## 8. Regional LANDNET workshops organized in Skopje in 2013, 2018 and 2022

FAO has organized more than 20 regional workshops in Europe and Central Asia on land consolidation, land banking, land market development, and related technical topics since the first workshop, the Munich Symposium on land consolidation, in 2002. Along with the organization of the annual workshops, FAO facilitated the establishment of an informal technical network of land professionals with a specific interest in the earlier-mentioned technical topics. Since 2010, the technical network has been known as LANDNET. In recent years, the LANDNET workshops have had more than a hundred participants from more than 30 countries in Europe and Central Asia, as well as frequent participation from other regions.

The purpose of LANDNET and the series of regional workshops is to disseminate good practices and experiences between the different participating countries, for instance, from countries in Western Europe with a long tradition in land consolidation and land banking to countries in Eastern Europe in the process of introducing the instruments.



*Participants at the regional LANDNET workshop organized in Skopje, North Macedonia, in June 2018.*

Three regional LANDNET workshops have been organized in Skopje, North Macedonia, in 2013, 2018 and 2022. The June 2018 workshop was co-organized with the UNECE Working Party on Land Administration (WPLA) and in cooperation with the Ministry of Agriculture, Forestry and Water Economy and GIZ. The main topics discussed at the workshop were the development of sound land consolidation legislation and experiences from building up operational national land consolidation programmes.

At the regional workshop organized in May 2022, the main focus was on sharing the experiences from the introduction of land consolidation in North Macedonia and the experiences from the MAINLAND project (Hartvigsen and Mitic-Arsova, 2022) while also discussing land banking and land abandonment. The 2022 workshop was organized as a hybrid event and was the first LANDNET workshop since 2019 because of the COVID-19 pandemic. More than 100 participants were physically present in Skopje, while around 80 participated online. The participants came from around 40 different countries.



Participants in the 2022 regional LANDNET workshop in Skopje, North Macedonia, visiting the fully completed land consolidation project in Egri village, Bitola Municipality, North Macedonia.

Since 2016, the participants in the LANDNET workshops have elected a LANDNET Board. The Board is providing input to FAO for the organization of the annual workshop and other activities related to the technical network. The Board for the period 2022–2024 was elected during the 2022 workshop in Skopje.



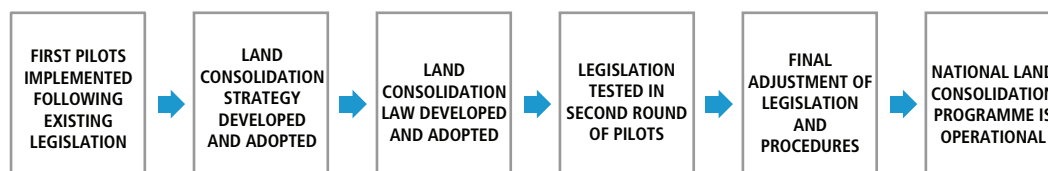
The LANDNET Board elected at the workshop in Skopje for the period 2022–2024. From left to right: Kiril Georgievski (North Macedonia), Alina Sushchyk (Ukraine), Evelin Jürgenson (Estonia), Andrew Cartwright (United Kingdom/Hungary), Jan Spijkerboer, Chair (the Kingdom of the Netherlands), Erik Blaabjerg (Denmark), Gizo Chelidze (Georgia), Fatma Gülsever (Türkiye) and LANDNET Secretary Morten Hartvigsen, FAO.

## 9. Lessons learned and the way forward – towards multi-purpose land consolidation in North Macedonia

As mentioned in the introduction, North Macedonia is currently the flagship country for FAO's support to land consolidation in the Europe and Central Asia region. The experiences and lessons learned in the country are highly relevant and important for other countries following the same path.

### 9.1 Land consolidation integrated into the national land policy

The process towards an operational national land consolidation programme in the country has, in particular, been enhanced through the many activities of the EU-funded MAINLAND project during 2017–2022 (see Section 5). At the end of the project in November 2022, the national land consolidation programme could be considered fully operational. This, however, does not mean there is no room for further improvement of legislation and procedures. The process of introducing land consolidation in North Macedonia has, to a large degree, followed the optimal process for the introduction of land consolidation, as recommended by FAO (see Figure 6).



**Figure 6. The optimal process from the introduction of land consolidation to an operational programme**

Source: Hartvigsen, M. 2019. *FAO support to land consolidation in Europe and Central Asia during 2002-2018 – Experiences and way forward*. FAO Land Tenure Journal 1/2019. <http://www.fao.org/3/CA3184EN/ca3184en.pdf>

During 2008–2012, two Dutch-supported pilots were implemented, resulting in the embedding of the land consolidation instrument into the overall land policy. This was achieved through the adoption of the National Strategy on Agricultural in the Republic of Macedonia for the period 2012–2020 in 2012. Today, land consolidation is fully integrated into the country's National Agricultural and Rural Development Strategy 2021–2027. In 2023, the preparation of the next National Land Consolidation Strategy for 2023–2030 started and is expected to further open the application of the land consolidation instrument in a multi-purpose approach.

The Law on Consolidation of Agricultural Land was adopted in 2013 and tested in two pilots during 2014–2017 through the FAO TCP project (see Section 4). The test of the legislation in the field found that the legal framework was, to a large degree, non-operational, and it was not possible to adopt, register and fully finalize the two re-allotment plans prepared for the pilot areas in Egri and Konce in the pilots' lifetime. This experience shows well, that fully operational legislation is a precondition and a cornerstone of any national land consolidation

programme. The law was finally amended in May 2018 with the support of the MAINLAND project. However, it is still the recommendation that the land consolidation legislation should be amended a second time during 2023–2024 to further streamline and optimize the land consolidation process, especially as it relates to broadening the objectives to better reflect the efforts for the introduction and utilization of land consolidation as a multi-purpose instrument, simplification of the process of approvals, fine-tuning of the voluntary land consolidation procedure and so on.

## 9.2 Lessons learned on the land consolidation process

According to the legislation in North Macedonia, land consolidation is implemented in three overall phases in line with the FAO Legal Guide on Land Consolidation (Versinskas *et al.*, 2020): i) feasibility phase, ii) re-allotment phase, and iii) registration and implementation phase. As part of the MAINLAND project, feasibility studies were conducted in 14 project areas selected based on the expression of interest from the communities (local government and local farmers and landowners). An important lesson learned is that the projects chosen for the feasibility study must be carefully selected and that considerable focus should be given to the assessment of the genuine interest of the landowners in potential land consolidation areas before feasibility studies are conducted. Land consolidation is only feasible when it is demand-driven and if the demand comes from the local community and its members.

The land consolidation project in Dabjani, adopted by the qualified majority of landowners in January 2022 (see Box 2), is an excellent example of how land consolidation can facilitate bringing abandoned arable agricultural land back into production. In future land consolidation projects, it is recommended that more attention be paid to land abandonment and its causes already during the feasibility study. This should ensure that the potential to also address land abandonment in ongoing land consolidation projects is facilitated.

In the re-allotment phase, the drafting of the Re-allotment Plan should ideally build upon the information already collected during the feasibility phase, such as from the individual interviews with all landowners and farmers in the project area. However, this has proven difficult in North Macedonia's projects that have continued from the feasibility to the re-allotment phase. The quality of the feasibility study reports varied from case to case, mainly because the service providers were conducting such studies for the first time and with little supervision capacity available in the country. Ideally, the same team of experts should be involved in both the feasibility study and the re-allotment planning.

In the re-allotment planning phase, the intention has been to focus equally on the reduction of land fragmentation and the enlargement of holding and farm sizes. The land mobility necessary for enlargement can, as discussed in Section 7.2, come from either private landowners that decide, on a fully voluntary basis, to sell their land parcels at the market price in the land consolidation process or from available state land, including either existing state land or state land provided through land banking. In North Macedonia, the State owns around 41 percent of all arable agricultural land, including around 150 000 ha scattered in small (< 1 ha) land parcels (see Section 7). The current government is interested in the privatization of state agricultural land, in particular, these small parcels. However, as discussed, the Law on Sale of State-owned Agricultural Land is not yet fully operational, and so far, it has not been possible to privatize state land in the land consolidation process. Privatization of state land has a very high potential, particularly in facilitating farm enlargement. In this context, there should be an urgent focus to amend the law and open for privatization in land consolidation projects.

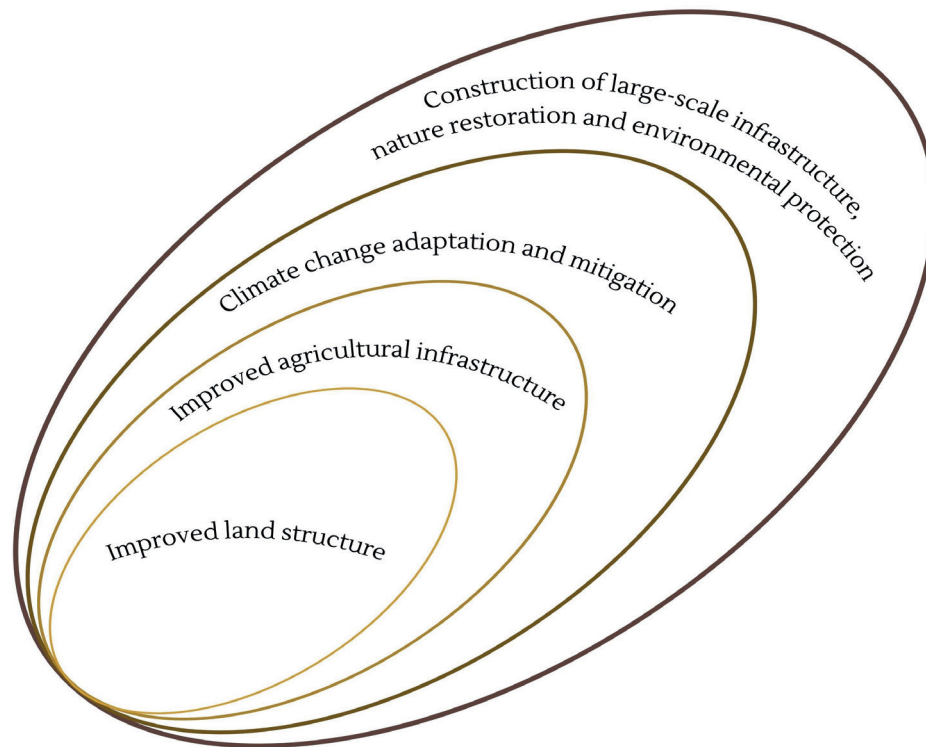
At the same time, motivating private owners to sell land through the land consolidation process has proven difficult, even for those not using their land and often leaving it abandoned, for instance, owners or their heirs living abroad for decades. Thus, it is the experience that the country has not fully utilized the great potential to enlarge farms through land consolidation and that in the future, a strong focus should be given to promote voluntary sales agreements integrated into the land consolidation process. Experiences show it often takes families a long time to take such decisions, and therefore, it is important that the landowner interviews conducted as part of the land consolidation feasibility studies are used to motivate landowners not interested in farming their land to consider to sell it in the process. Furthermore, this is important because, as discussed in section 7.2, land purchased in the land consolidation process, particularly in a majority-based approach, can be fully consolidated together with the consolidation of the land owned before the project. Often, the alternative is that active farmers purchase land after the finalization of the land consolidation process, but that would immediately result in new land fragmentation.

A crucial outcome of the feasibility phase is to assess and decide what is the most feasible approach to land consolidation; voluntary or majority-based. This again depends on several factors, such as the level of support and interest of the landowners and farmers, homogeneous or inhomogeneous soil quality/land value, the percentage of parcels with perennials (e.g. vineyards or orchards), the percentage of landowners with only one parcel in the project area, among others.

As discussed in section 5.3.3, re-allotment planning has been supported in nine project areas (Figure 5) under the MAINLAND project, but seven of the projects, the most successful ones, are with a majority-based approach, and the two projects with a voluntary approach are small. In North Macedonia, it is clear that the voluntary land consolidation approach has not yet reached its potential. There are several reasons for this. Most of the land consolidation areas are in plain areas with good and homogeneous soil quality, the support of the involved landowners has generally been high and the projects include the improvement of local agriculture infrastructure. This obviously points towards a majority-based approach. However, another reason is that there is still a very limited understanding of the potential of voluntary land consolidation in the country. Voluntary land consolidation has great potential in North Macedonia, particularly in areas where only between one-third and two-thirds of the landowners are interested and when combined with the privatization of the small state land parcels in the project areas. This would considerably improve the local farm structures, facilitate farm enlargement, and make the projects relatively fast and cheap.

### 9.3 Towards multi-purpose land consolidation

Another experience from re-allotment planning has been that the concept of integrating land consolidation with the improvement of the agricultural infrastructure in the project area (roads, irrigation and drainage) has been feasible and has strongly motivated landowners to participate in the process.



**Figure 7. Objectives of land consolidation in a multi-purpose land consolidation approach**

Source: Hartvigsen, M. 2022. *The potential of multi-purpose land consolidation in Eastern Europe*. Paper presented at the FIG Congress 2022 in Warsaw. [https://www.fig.net/resources/proceedings/fig\\_proceedings/fig2022/papers/ts08b/TS08B\\_hartvigsen\\_11791.pdf](https://www.fig.net/resources/proceedings/fig_proceedings/fig2022/papers/ts08b/TS08B_hartvigsen_11791.pdf)

From the beginning, the background for the political interest in introducing land consolidation in North Macedonia was mainly driven by a wish to facilitate agricultural development by reducing land fragmentation and enlarging farms. However, with the integration of non-agricultural objectives in the two projects in Logovardi and Optichari (see Box 3 in Section 5), where a second objective of the projects has been to acquire the privately owned land needed for the construction of a new expressway and to compensate the landowners and farmers in other land, and in this way, avoiding the destruction of the local farm structure, North Macedonia already has experiences with multi-purpose land consolidation as it is practised in many Western European countries. With an already fully operational land consolidation instrument, the country is in a very favourable position to further develop multi-purpose land consolidation (Hartvigsen, 2022). Figure 7 illustrates some of the objectives of a multi-purpose land consolidation approach. It is expected that the new National Land Consolidation Strategy for 2023–2030 (see Section 6.1) will include broader multi-purpose objectives for future land consolidation projects when relevant. In the future, this will require much more cross-ministerial cooperation between MAFWE and other line ministries responsible for environment and transportation. The establishment of the Permanent Advisory Group on Land Consolidation in February 2023 is an important step in this direction.

Currently (2023), two large projects are under formulation where it is suggested that the land consolidation instrument be applied and integrated with climate change adaptation through large-scale rehabilitation of the existing poorly functioning irrigation system (currently, around

70 percent of the water is lost before it reaches the fields in some of the irrigation systems), and introduction of climate-smart agricultural practices. The projects are expected to be implemented with available international climate finance instruments.

#### 9.4 Organizational and institutional aspects

As mentioned, the MAFWE is the lead agency for land consolidation in North Macedonia. The FAO projects have contributed to developing the capacities of both the Ministry staff (at the central and regional level) and the private sector, as private geodetic companies have been contracted as service providers to conduct fieldwork supervised by the Ministry and the project teams. The lessons learned are that it takes considerable time to build up the necessary capacity both to conduct fieldwork and manage the national programme. Land consolidation is a very multi-disciplinary instrument and experts with different educational backgrounds and experiences, such as land surveyors, agronomists and lawyers, need to work closely together in small project teams. As expected, the private sector, such as the geodetic companies, has been strong in land surveying and other technical disciplines but, in general, has had very limited experience working with farmers and mobilizing communities.

Reflecting on the role of MAFWE as the lead agency for land consolidation (public sector) and the role of the private sector, it is also clear that, in the future, it will be most efficient to implement the land consolidation programme and its projects in a public-private partnership. The private sector can provide the necessary flexibility to quickly scale up (and down if needed) the programme. It is, however, a basic requirement that the Lead Agency in MAFWE will have all the necessary skills and experience to supervise and monitor all steps of the land consolidation process. This also means that the staff of the MAFWE Land Consolidation Department should implement feasibility studies and re-allotment planning with its own staff from time to time.

In general, project experiences show the need for continued capacity development, both in the form of in-service training for professionals working on projects and through the education of new land consolidation professionals at universities. Initial cooperation has been established with the University Ss. Cyril and Methodius, the Faculty of Civil Engineering, where future land surveyors are educated. This includes discussions on the improvement of the curriculum related to land consolidation.

As discussed in section 7.1, in 2019, FAO recommended to establish a new Land Agency under MAFWE, with the responsibility of managing several areas of connected work, such as the National Land Consolidation Programme, state land management and privatization and regulation of the agricultural land markets. This recommendation is still valid to ensure coordination between the different connected areas of work, and also in light of MAFWE not only dealing with policy and regulation but moving into implementation with the land consolidation programme, privatization of state land, addressing land abandonment and so on.

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Since 2014, North Macedonia has developed into the region's flagship country for FAO support to land consolidation. The first small technical assistance project (TCP) began in 2014. During 2017–2022, support to the national land consolidation programme was scaled up with European Union Instrument for Pre-accession Assistance (EU IPA) funding through the FAO implemented MAINLAND project. In August 2022, a second EU IPA funded and FAO implemented project "Enhancing land consolidation in North Macedonia" was launched and will continue until 2026 in close collaboration with the Ministry of Agriculture, Forestry and Water Economy (MAFWE). From the beginning, the Government of North Macedonia's vision has been to build up and implement a fully operational national land consolidation programme.

In addition to the mentioned core land consolidation activities and projects in North Macedonia in the same period, FAO has supported a number of land policy and land consolidation related areas including the privatization of state-owned agricultural land, addressing land abandonment and supporting the development of agricultural land markets.

This paper aims to document the lessons learned from the introduction of a land consolidation instrument in North Macedonia during the period 2014–2023. It is the hope and expectation that North Macedonia's experiences with land consolidation will be relevant for other countries in Europe and Central Asia and beyond that are in the process of introducing land management instruments such as land consolidation and land banking. The structural problems in agriculture with small average farm sizes, excessive land fragmentation, water scarcity and need for modern irrigation systems and weak agricultural land markets are also present in several countries in North Africa, the Near East and South East Asia. In some of these countries, there is also an increased interest in the introduction of land consolidation instruments.

Based on the experiences so far in North Macedonia, this paper provides a perspective for continued development towards a multi-purpose land consolidation instrument in the country, which is also relevant for other countries.

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