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AGRICULTURAL LAND ADMINISTRATION IN ALBANIA POST-PRIVATIZATION: CHALLENGES AND ISSUES FOR SUSTAINABLE DEVELOPMENT

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Abstract

The purpose of this paper is to analyze the major challenges associated with the administration and use of agricultural land in Albania from the pre-1950 period to 2023. Before 1950, 91.4% of Albania's agricultural land was privately owned. From 1946 to 1968, nationalization policies created 420 agricultural cooperatives managing 75.7% of arable land, with 77 state enterprises controlling 21.4%. This resulted in significant land fragmentation and distribution across small plots. While decentralization aimed to empower farmers, it increased production costs, degraded land, and reduced soil fertility on nearly 30% of the land. Key issues include inefficient administrative changes, fewer than 50% of farmers with land ownership certificates, and informal urban expansion reducing agricultural land. Furthermore, land fragmentation—where 50% of farms are smaller than 1 hectare—has hindered the adoption of modern agricultural technologies and increased operational costs. Additionally, the country's irrigation capacity has fallen by 50-60% compared to 1990 levels. Statistical data on land use, farm size, sectoral reports, policy documents, and national agricultural data are used. While a national land administration system and database have been established, the study highlights the need for better coordination among institutions and increased efforts to advance scientific research on soil protection, in alignment with EU directives. Addressing these challenges is crucial and more efficient and sustainable agricultural sector that can support Albanian long-term economic and environmental goals.

Key words**:** *land administration, governance, privatization, land health, fragmentation*

INTRODUCTION

Agriculture is a key economic activity in Albania, contributing 18-20% to the GDP and providing income for rural areas, where about 47% of the population lives (INSTAT, 2022) [21]. Agriculture is vital for Albania's economy, supporting food needs, agro-processing, and exports. Alexandratos and Bruinsma (2012) [1] project global population growth to 9.15 billion by 2050, which could impact food security in many countries. Albania's agricultural land covers 686,355 hectares, or 23.87% of its total area. The average farm size is 1.2 hectares, with land often divided into more than four plots. This is lower than in many European countries, where agricultural land occupied 30-37% of territory (FAO, 2017) [16]. The purpose of this study is to analyse and reflect on the main issues and findings regarding the administration of agricultural land at all levels of government in Albania, including the roles and responsibilities of institutions and law enforcement agencies, as well as the challenges that have arisen following the privatization reform about ownership, land management, sustainable development, and land use. Since the privatization of land in 1991, the transition years have been marked by a series of challenges in agricultural land administration, highlighting the need for a sustainable administration system that addresses legal aspects, land use, administrative structures, property rights, and land protection technologies and practices. Land administration involves applying rules of land tenure, including registration, use planning, consolidation, management, and taxation (FAO, 2007) [12]. It has evolved due to

political and economic changes at various levels. Agricultural land administration has evolved from centralized planning to market-driven reforms, impacting legislation, property rights, and governance. UNECE [47] defines it as the process of recording and sharing information on land ownership, value, and use to support land markets (Hulls et al., 2005) [19]. Land administration in Albania, like other Eastern European countries, evolved through three major reforms between 1946-1990, starting with land confiscation and redistribution to landless families post-WWII. It has since expanded to include sustainable development and technological advances. Between 1946 and 1968, agricultural collectivization was initiated and completed, resulting in a new land distribution model in which 21% of agricultural land was allocated to state farms, while 79% was managed by agricultural cooperatives. In 1991, with the political system changed in Albania, the agricultural land privatization reform was implemented, leading to the establishment of family farms. Land administration supports sustainable development through efficient land-use planning, GIS, and technology, but it remains a complex legal, social, and political challenge (Williamson et al., 2010) [49]. An effective land administration system promotes resilience, inclusive planning, sustainable resource management, and climate protection (Expert Group on Land Administration and Management, 2019) [10].

Post-privatization of agricultural land, challenges in property rights, land reforms, fragmentation, land use, and management practices have emerged.

In this context, this research examines the functioning of agricultural land administration structures, land use, urban informality, severe land fragmentation, degradation phenomena, fertility decline, and other land management challenges.

MATERIALS AND METHODS

To identify the sources of agricultural land and analyse its dynamics over different periods, statistical data from INSTAT [20, 21, 22, 23], the Ministry of Agriculture and Rural Development [31, 32, 33, 34] — the central institution responsible for agricultural land— and statistical yearbooks published across various periods have been utilized. Additionally, data from the State Cadastre Agency regarding land ownership certification have been considered. This information covers the period from 1950 to 2023.

Land privatization is based on data from the land division reform, implemented under Law No. 7501 “On Land”, which was initiated in 1991 and has shaped the evolution of land ownership (Republic of Albania, 1991).

The study of agricultural land administration issues post-privatization relies on collected information, as well as the authors' contributions to research conducted in municipalities and national institutions.

The main indicators considered in this study include the total area of agricultural land over time, land use categories (such as arable land, pastures, orchards, and vineyards), and the structure of land ownership (state-owned, private, or communal). A fragmentation index measures land fragmentation; the count of issued ownership titles provides knowledge on property formalization. Changes in land cover and land use (LCLU), legal and institutional developments, and socioeconomic variables—such as the number of farm households and average landholding size—were also examined.

Several research methods were employed to support a comprehensive understanding of the topic. Documentary and archival research let one examine legal papers, cadastral records, and historical data sets to track policy changes. Using time-series analysis, land use and ownership pattern trends from 1950 to 2023 were assessed. Geographic information systems (GIS) driven spatial analysis let one see land distribution and use changes across time. Key stakeholders, including landowners and municipal officials, were included in field surveys and semi-structured interviews, which provided qualitative depth to the study. A comparative study was also done to see how land reforms and government models have changed throughout time and area. This mix of indicators and research techniques offers a strong basis for comprehending the

evolution, issues, and present condition of agricultural land management in Albania.

RESULTS AND DISCUSSIONS

1. An overview of agricultural land resources in Albania

The continuous expansion of agricultural land has been a key component of national policies aimed at developing agriculture as a major economic activity, both in rural areas and at the national level. Before 1990, state policies followed the principle of "relying on our own strength," which emphasized self-sufficiency in agricultural production to meet the needs of the population. However, this approach often led to the misallocation of land resources, such as converting forested areas into farmland or draining wetlands in coastal regions.

As a result, approximately 35% of agricultural land was created through wetland reclamation in coastal areas, as well as deforestation and pasture conversion in hilly and mountainous regions.

Land expansion boosted agricultural production but caused environmental issues like biodiversity loss, soil erosion, and degradation. From 1950 to 1985, agricultural land nearly doubled to 713,000 hectares.

The establishment of the domestic chemical fertilizer industry, the expansion of irrigation capacity, and the intensification of agricultural practices further contributed to progress, positioning agriculture as a priority sector.

Table 1. Agricultural land area 1950-2022

Crt. No.	Year	Category of land agriculture (ha)				
		Land agriculture	Arable land	Fruit trees	Olives	Vineyards
1	1950	391,000	374,000	3,000	11,000	4,800
2	1960	457,000	417,000	15,000	17,000	8,000
3	1970	599,000	321,000	30,000	36,000	12,000
4	1980	702,000	585,000	56,000	43,000	18,000
5	1990	703,698	581,600	59,800	45,060	19,757
6	2000	699,000	577,854	12,167	46,000	5,824
7	2010	695,520	570,954	16,300	48,000	9,712
9	2022	686,355	566,372	20,658	53,802	12,002

Source: State Planning Commission 1950-1990, Statistical yearbook,
INSTAT and Ministry of Agriculture 2000-2023 [43, 44, 45, 20, 21, 22, 23, 31, 32, 33, 34].

The highest rate of increase in agricultural land area in Albania was observed between 1950 and 1985, with an expansion of 321,000 hectares—an increase of approximately 98.6%. However, after this period, the potential for further expansion of agricultural land became very limited. Studies conducted by the Ministry of Agriculture and the Soil Science Institute of Albania in the early 1990s indicated that the potential for increasing agricultural land was insufficient to significantly impact agricultural production (Ministry of Agriculture, 1988) [31]. Therefore, given the limited land area per capita, policies have been oriented towards programs and financial support for the full utilization of agricultural land, land conservation, protection against degradation, and rehabilitation through strategic measures at the central, regional, and local government levels. These policies also emphasize the development of essential infrastructure for irrigation and drainage, increased investment, and improved agricultural yield per unit of land. As noted by FAO, "The overall availability of food is also affected by changes in agricultural yields, productivity, as well as changes in the availability of arable land" (FAO, 2011) [13]. Before 1990, cultivation was practiced twice a year on irrigated lands. However, the population's needs for agricultural and livestock products were not fully met according to standard requirements. Based on relief characteristics, Albania's agricultural lands are classified into three main types: plain, hilly, and mountainous lands (Ministry of Agriculture, 1990) [32].

Plain lands, located in the low coastal zone along the Adriatic and Ionian Seas, comprise 43.3% of the total agricultural land area. These

areas are characterized by highly productive soils, slopes of 0–5%, and are equipped with irrigation and drainage systems, making them essential for primary agricultural production. Within this zone, coastal agricultural areas cover approximately 250,000 hectares and are classified as high-quality farmland (Soil Science Institute of Albania, 1995) [42].

Hilly lands, which extend up to 400–600 meters above sea level, account for 34% of the total agricultural area. These lands are characterized by soils with good productive capacity, making them suitable for both field crops and fruit trees. However, they present challenges related to irrigation due to their 5–25% slopes and susceptibility to erosion. While some of these lands are partially supported by irrigation and drainage systems, water management remains a critical issue (FAO, 2006) [11].

Mountainous lands, extending over 600 meters above sea level, account for 22.7% of Albania's agricultural land. These areas have steep slopes and are suitable only for specific agricultural and horticultural crops that can tolerate erosion and landslides. Irrigation capacity in these areas is very low. A significant portion of abandoned and unused land is located in these regions due to population migration. Currently, institutions and experts are engaged in discussions regarding legal initiatives for the protection, utilization, and ownership rights of land in this category (Ministry of Agriculture and Rural Development, 2018) [33]. Land administration in these regions faces challenges related to implementing modern agricultural technologies, requiring stronger agricultural mechanization to address labor shortages and shifts in the agricultural structure. Based on international soil classification, approximately 80% of Albanian soils fall into the Cambisols, Luvisols, Regosols, and Phaeozems categories (Lushaj & Zdruli, 2007) [9]. After 1990, the total area of agricultural land declined, not only due to the exhaustion of new land resources but also due to the conversion of farmland for non-agricultural purposes. Land privatization led to informal urbanization and urban sprawl, particularly in peri-urban areas near major cities, where population migration from rural areas and the establishment of businesses encroached on highly productive farmland (Toto et al., 2019) [46]. Urban expansion gradually shifted the population balance, with the urban population increasing from 35% in 1990 to approximately 53–55% today (INSTAT, 2022) [22]. Around major cities and urban centers, approximately 180 km² of agricultural land has been converted into urban land. To address this issue, the government established the National Legalization Agency to review and legalize unauthorized constructions since 1991, formally converting urbanized agricultural land into urban zones (ALUIZNI, 2015) [2]. The second phenomenon observed during and after land privatization is that approximately 16% of agricultural land, primarily low-fertility land (sandy, stony, saline, and acidic), which was previously maintained through state investments and programs, was refused by farmers and remained state-owned and uncultivated. Land must be preserved and restored where losses occur, or negative environmental impacts should be mitigated (Kucaj, 2024) [24]. The third phenomenon that emerged after privatization, due to demographic shifts from rural to urban areas or migration abroad, was the informal urbanization of agricultural lands, particularly in the coastal region—the most productive agricultural areas of the country. This led to the rapid transformation of peri-urban zones surrounding major cities, shifting land use from predominantly agricultural to urban purposes. Simultaneously, agricultural land in previously inhabited areas was abandoned, leading to degradation and loss of productivity. The loss of agricultural land due to urbanization is also linked to inconsistencies between urban and agricultural land legislation. During the transition years, until 2009, urban planning did not incorporate agricultural land protection. Many local government units with agricultural functions were reclassified into urban areas. Additionally, legal frameworks intended to balance urban and agricultural land development, such as those introduced under Law No. 10119, dated 23.04.2009 [26], On Territorial Planning, focused primarily on

urban development without adequately addressing agricultural land and natural ecosystems (Shutina et al., 2014) [41]. Despite the significant loss of agricultural land due to informal urbanization since 1990, it remains essential to establish a comprehensive and accurate land administration and protection framework. Institutions such as the State Agency for Cadaster, municipalities, and the Ministry of Agriculture and Rural Development must collaborate to verify and update cadastral records at national, local (municipal), and regional (county) levels to reflect actual land use changes.

2. Ownership and privatization reforms of agricultural land

2.1. Changes in Ownership

Land ownership, as a fundamental issue within any social system, and particularly for agricultural land, has undergone dynamic changes in Albania, reflecting shifts in the political and economic system, land reforms, governance, agricultural sector organization, land use patterns, the development of the land market, implemented economic models, the level of national independence, professional human capacity, and the overall development of the country. According to Article 17 of the UN Declaration on the Rights of Peasants and Other People Working in Rural Areas, “Peasants and other people living in rural areas have the right to land, individually and/or collectively, including the right to have access to, sustainably use, and manage land” (European Coordination Via Campesina, 2023) [8]. Before 1912, during the Ottoman period, land was included in the land fund and registered by the Turkish state. After 1912, the land was privately and partly owned. Following World War II, in 1945-1946, Albania implemented its first massive agrarian land reform, expropriating large and foreign landowners, benefitting over 300,000 families who previously owned little or no land. However, the private ownership gained from this reform was short-lived. From 1946 onwards, the state organized cooperatives and state-owned agricultural farms, progressively transitioning land ownership from private to state hands. By 1950, about 91.4% of agricultural land was privately owned, with only 8.6% under state or cooperative ownership. By 1960, this had shifted to 13.5% private ownership and 86.5% state-owned (Statistical Yearbook, 1976) [43]. In 1968, with the completion of the collectivization of agriculture, Albania saw the establishment of 414 agricultural cooperatives by 1983, with an average size from 300 to 5,000 hectares. These cooperatives administered 75.7% of the agricultural land, while 77 state-owned farms, with average size from 300 to 12,000 hectares, managed 21.4% of the land. In 1974, the Albanian Constitution declared land as state property, with 95% of the land being utilized by agricultural cooperatives and farms, while 5% was reserved for state and social institutions. Nationalization of land and top-down planning fostered an environment conducive to investment, with 85% of the land organized into plots averaging 12 hectares in the plains, irrigation systems covering 62.8% of the area, and flood protection measures in place, ensuring 100% cultivation of agricultural land. These measures significantly improved the national economy and land quality. However, policies aimed at meeting the agricultural needs of the country did not adequately ensure the welfare of the rural population. As noted, "Information on land tenure, land use, land value, and land development are known to enable economic opportunities, reduce land-related disputes, and support food security" (Expert Group on Land Administration and Land Management, 2019) [10]. With the implementation of the land division reform in 1991, the agricultural land surface of 686,355 hectares in 2023 is now divided as follows: 80% in private ownership and 20% in state ownership for use by institutions. Romania's Civil Code defines property as "the right to enjoy and dispose of exclusively, within legal limits" (Zaharia, 2003) [53].

3. Privatization of Agricultural Land and the level of administration

3.1. Land privatization

With the implementation of Law No. 7501, dated 19.07.1991 [27], "On Land," the privatization of agricultural land owned by former agricultural cooperatives was carried out over approximately 570,000 hectares.

Additionally, with the approval of Council of Ministers' Decision No. 452, dated 17.10.1992 [4], "On the Restructuring of State-Owned Agricultural Enterprises," land from state-owned agricultural farms (152,000 hectares) was also divided. This reform is considered the largest land reform in the country after collectivization, creating approximately 394,849 small family farms with an average size of 1.26 hectares per farm (2003 Statistical Yearbook). While the land division reform was accepted by all political factors, it failed to achieve effective governance of agricultural land during the transition phase, and many problems related to land fragmentation remain. The division process, which was based on the number of people per family and criteria such as proximity to plains and hills, arable land and orchards, and access to irrigation, resulted in significant fragmentation of land ownership. Family farms were divided into 4.4 plots, with some cases reaching up to 12 plots, with an average size of 1.26 hectares per farm.

According to size, about 53% of farms are up to 1 ha, 36.4% have 1-2 ha, and only 11.2% have a size of over 2 ha. The average size of plots within a property is 0.30 ha, ranging between 0.17-0.48 ha across the 12 regions of the country.

Table 2. Classification of Farms by size in hectares of land

	Farm size ha	% of farms to total
1	0.1-0.5	25
2	0.6-1	27.4
3	1.1-2.0	36.4
4	> 2.1	11.2

Source: INSTAT, 2015 [22].

After privatization, the designed plots, which previously averaged 12 ha and cultivated the same crops using uniform technology, were divided among 15-25 owners on average. Due to fragmentation, land cultivation fell to 70-75% of the total agricultural surface, compared to 100% in 1990 (Statistical Yearbook, 1990; INSTAT, 2015) [45, 20]

Studies on Albanian agricultural land confirm a high degree of fragmentation based on the Simos index, which complicates land management, mechanization, irrigation, and drainage system maintenance. Fragmentation reduces irrigation efficiency by 35%, lowers agricultural production, increases land loss by 3-5%, and raises fuel consumption for fieldwork on fragmented plots by 25-30% compared to a similarly sized unfragmented area (Lushaj, 2003; Lushaj, 2018) [28, 29].

Additionally, farmers tend to abandon agricultural plots located far from their homes. In certain agricultural regions, farmers may travel up to 10-20 km daily to access all their plots, further reducing land use efficiency (Fig 1).

Fig 1. Land Fragmentation in Librazhd District, Albania
Source: Original photo taken by authors.

Land consolidation initiatives, which aim to unify farm property in one place or in as few locations as possible, are still in their initial stages. In 2016, the National Land Consolidation Strategy was developed; however, there is still no specific law on agricultural land consolidation. The existing legal framework, including the Civil Code of the Republic of Albania, allows for further fragmentation of land ownership. Based on land typology and characteristics, land consolidation methods could be applied to approximately 60-65% of the agricultural surface. These methods range from simple approaches, such as plot exchange and coordinated planting of base plots with the same crop, to more structured agreements, cooperative work, agricultural associations, land market promotion, land ri- parcelling, and the implementation of favourable policies to encourage farmers to consolidate land and

expand their farms (Lushaj & Kucaj, 2021) [30].

The problems related to land division, accumulated over the years, remain a limiting factor for land registration, which serves as an indicator of administrative efficiency and the provision of ownership certificates to farmers. Currently, only 55-60% of property titles have been issued, which does not fully guarantee ownership, hindering long-term investments, the development of the land market, and the expansion of agricultural farms. Land registration is essential for promoting land consolidation, facilitating the taxation system, and enabling credit and investment. Commenting on the importance of land markets and regulations, it has been noted that "well-functioning land markets are of utmost importance for economic development, particularly in rural areas" (Deininger & Feder, 2001; European Commission, 2021) [5, 7].

The territory of Albania is divided into more than 3,000 cadastral zones, of which rural cadastral zones account for over 90% of the total (Musta, 2006) [35].

The registration of agricultural land has not progressed as expected, both in terms of quantity and in terms of strategic planning for potential areas. In the first phase, registration efforts focused on peripheral mountainous areas where the land market was nearly nonexistent, whereas priority should have been given to regions with intensive agricultural development, where a functioning land market could emerge. The low level of ownership certification has kept agricultural land transactions (sales and leases) at low levels, limiting farm expansion, land administration, and consolidation while fostering an informal leasing market. In the absence of proper certification, land use has significantly decreased. The initial phases of land division were also accompanied by legal violations and weak governance. During the transition years, the government and responsible institutions failed to regulate population movement from rural to urban areas, which could have prevented the unauthorized conversion of approximately 30,000 hectares of agricultural land into informal urban settlements. This process resulted in about 300,000 informal constructions on agricultural lands between 1991 and 2004 (Musta, 2006) [35].

During and after the division of land from former agricultural cooperatives and state farms, numerous issues arose. Analysis identified border conflicts in 174 villages, mainly in coastal areas, as well as approximately 20,000 hectares of land occupied by individuals without legal documentation, which were not granted ownership titles. Additionally, 5,200 cases involved the issuance of use titles beyond legal deadlines, and illegal land acquisitions occurred through ownership transfers in areas designated as tourism priority zones under VKM No. 88, dated 01.03.1998. In violation of the law, land division commissions engaged in illegal actions by allocating forest land, pasture, and fallow land to residents, despite these categories being excluded under Law No. 7501 [27]. In 80 villages, land distribution exceeded legal limits. Furthermore, during the land reform process, approximately 114,000 hectares of agricultural land were rejected by owners due to poor agricultural productivity (acidic, saline, and sandy soils) and degradation in hilly and mountainous areas (Government Land Commission, 2007) [18].

Many irregularities occurred in land distribution, including multiple allocations to different farmers, mapping errors, discrepancies between maps and actual terrain, and prolonged judicial conflicts stemming from flawed decisions by property title-issuing authorities. The literature emphasizes that "Land administration and management (LAM) systems are a fundamental infrastructure for the proper functioning of land markets. Land markets enable land to flow to those who are willing and able to use land well, thereby facilitating investments and growth, improving land allocation, and developing financial markets. For land markets to work efficiently, they must be underpinned by land administration systems that define property rights, guarantee security of tenure, establish a mechanism for registering these rights within a reasonable time and cost, and generate

information to support property valuation and taxation" (World Bank Group, 2017) [51].

Until 1997, no cadastral zone was registered in the registration offices. In some areas in the north of the country, although land was distributed according to Law No. 7501 and ownership documents were issued, many farmers continued agricultural activities on their pre-agrarian reform properties, which they held illegally. These shortcomings have prolonged the process of issuing ownership certificates, impacting property security and land administration.

In 1994, the system *For the Registration of Immovable Properties* was established, leading to the gradual organization of central and local offices, which are now digitized and equipped with the necessary infrastructure. In 2001, with support from USAID and the Albanian government, the *Initial Project Management Unit for the Registration of Immovable Properties* was launched, introducing a new model for documenting agricultural land ownership. This process included field verification, public posting of ownership data for 90 days to allow for corrections, and submission to registration offices for final processing (USAID, 2001) [48].

Significant progress has been made in Albania's land administration, protection, and use through the adoption of legal and sub-legal acts. To further promote agricultural land certification, the Albanian Parliament passed Law No. 20/2020, which defined final registration procedures (Parliament of Albania, 2020) [37]. This law has led to notable progress in land registration, with annual registrations expected to reach approximately 25,000 family's year. The State Cadastre Agency (ASHK) [2], established in 2019, is the primary public authority responsible for implementing this law, coordinating land registration efforts with central institutions and local government units to streamline the process and complete land documentation (ASHK, 2021) [2].

3.2. Land Administration

The principles of land administration focus on land registration, management, land taxation and valuation, privatization, land use planning, project design, and implementation. "Public land administration includes initial registration, transfers, surveying, and property valuation" (FAO, 2016) [15]. Until 2014, Albania's territory was organized into 60 municipalities (large cities) and 309 communes (rural areas), which operated separately in the process of land administration and use.

With the implementation of Law No. 115/2014 [39], "*On the Administrative-Territorial Division of Local Government Units in the Republic of Albania"*, the country's territory was restructured into 61 municipalities starting in 2015 (Parliament of Albania, 2014) [37]. Previously, municipalities had a strictly urban character, but after the reform, they incorporated rural areas, creating a mix of urban and rural governance. For example, the municipality of Korça expanded from 21.4 km² before 2015 to 793.2 km², a 37-fold increase. The municipality is now organized into eight administrative units, of which seven have a rural character, while one represents the city of Korça (INSTAT, 2015) [22].

At the national level, this administrative restructuring has significantly altered rural-urban relationships within municipalities, leading to shifts in land use and governance due to the expansion of rural areas under municipal administration.

Urban and rural land uses are no longer mutually exclusive or separate in the planning process but coexist in a continuum of interconnected communities. Urban-rural linkages now shape new relationships between areas, influencing territorial policies, land administration, natural resource governance, and control over agricultural land. The territorial division reform under Law No. 115/2014 [39] positively impacted governance and agricultural land administration. Based on this law, municipalities drafted General Local Plans (15-year detailed plans) that integrate planning, administration, and protection of agricultural land from urbanization, aligning stakeholders toward better land and territory management. As a result, the urbanization of agricultural lands has declined to negligible levels (Parliament of Albania, 2014) [39].

In the context of land ownership and administration, strong connections exist between land governance and effective land use. The concept of land governance is not

new; it broadly encompasses ownership rules, reforms, institutions, legislation, administration, and land policies. As highlighted by the FAO (2007) [12], "good governance principles in land administration include land registration, management of state-owned land, property taxation, privatization and restitution, land use planning, professional services, the management of customary land, and the development of projects." While these elements require context-specific solutions, they share common approaches to enhancing governance and land administration.

It is often mentioned in the literature that good governance in land administration does not occur in isolation from other levels of development. As Burns and Dalrymple (2008) [3] state, "Weak governance in land administration is a key contributor to issues of: informal models of service provision, corruption, illiquidity of assets, limited land markets, tenure insecurity, inaccurate and unreliable records, informal settlements, unrealized investment potential in property, land speculation and encroachment, idle and unproductive use of land, inequitable land distribution, social unrest, and inadequate provisions of infrastructure." In this context, agricultural land administration structures in Albania should prioritize governance issues in development policies at all levels of government. The agricultural land administration system in Albania remains an objective to be improved at all levels. Over the last 35 years, agricultural land governance structures have undergone continuous changes and are still not fully consolidated.

The administration of agricultural land in Albania is the responsibility of institutions at national, regional, and local levels. At the national level, the Ministry of Agriculture and Rural Development is the highest state authority responsible for the technical direction of land administration structures, drafting and implementing policies and legislation on agricultural land, and determining the rules for land protection and the creation of a database. The State Inspectorate of Land Protection is responsible for ensuring the enforcement of legal measures in this field. However, land governance institutions have undergone frequent organizational changes since 1990. From 1960 to 1992, the ministry was called the "Ministry of Agriculture," but its name, structure, and competencies have changed four times since then. These frequent institutional changes, especially in a country in transition, have often led to instability and a lack of coordination. As Palmer et al. (2007) [36] highlight, "Reforming the organizations and practices responsible for land administration is one of the most difficult governance challenges in the land sector. Legal or policy reforms... must be operationalized through the system of land administration. Land administration includes the systems for land registration, land use planning, land management and property taxation. Each of these topics has clear governance dimensions."

The Ministry of Justice develops policies on property rights through the institutions responsible for registration, property restitution, and property compensation, in cooperation with other relevant institutions. The State Agency for Cadastre operates under the authority of this ministry and is responsible for real estate registration, legalization, and property transactions. This agency was formed through the merger and restructuring of three key institutions: (i) the real estate registration offices, (ii) the agency for the legalization of unauthorized constructions and urbanized land, and (iii) the property restitution and compensation committee (Republic of Albania, Law No. 111/2018) [40].

At the regional (county) level, Law No. 8752, dated 26.03.2001 [38], "On the Establishment and Functioning of Structures for Land Administration and Protection," established the Directorates of Land Administration and Protection in Albania's 12 regions as a delegated function of the Council of Ministers. In the municipalities, Land Administration and Protection Offices were created with responsibilities related to land administration at the municipality level, the development of geographical and cadastral information, and aspects of land valuation (Republic of Albania, Law No. 8752/2001) [38]. The Land Protection Inspectorate also operates at the regional level. Since 2015, the responsibility for the administration of agricultural land at the local

level has been transferred to municipalities through the Land Management and Protection Office.

This office plays a crucial role in territorial administration, land protection, database management, soil fertility conservation, and land taxation (Republic of Albania, Law No. 115/2014) [39].

3.3 The establishment of the Land information and database in Albania

The United Nations Economic Commission for Europe (UNECE) in 1993 [47] issued the guideline *"On the Establishment of a Land Administration System in the Countries of Eastern and South-Eastern Europe"*, which outlined the necessity for each country to establish a land administration system (UNECE, 1993) [47].

A key component of land administration is the Geographic Information System (GIS), which enables efficient land management and decision-making. In Albania, during 2002-2003, "the *Land Use Policy* project" [6] was implemented, financed by the European Commission and carried out by Agrotec Company of Italy in collaboration with the Soil Science Institute of Albania and the Ministry of Agriculture.

The project utilized GIS to develop a model and methodology for land use planning, sustainable land resource management, and the creation of a land information database to support land administration and management (European Commission, 2003) [6].

The database established within the study area included an inventory of land resources, climate data, geology, land cover, soil characteristics (horizons, type, depth, texture, chemical and physical properties, land assessment and suitability indicators), land use data (current use, types of use, production systems), socio-economic data, ownership records, land use change analysis, agro-ecological and socio-economic studies, and land use planning.

The GIS-based system supported land use planning and administration by facilitating decision-making on land use, guaranteeing ownership rights, enabling land taxation, and promoting the land market.

During the project, the model was implemented in selected municipalities and communes across Albania.

After its completion, Albanian institutions, under the Ministry of Agriculture, continued expanding the system. As of today, GIS-based land management has been implemented across approximately 460,000 hectares, covering 70% of the country's agricultural land.

The database has been digitized and mapped to include land use and land change maps (Fig. 2), soil classification, slope analysis, ecological zoning, agricultural production capacity, and suitability assessments for various crops. Additionally, hazard maps have been developed for risks such as flooding, erosion, irrigation constraints, and soil fertility issues (Ministry of Agriculture and Rural Development of Albania, 2020) [33].

The data used in this system were collected from various sources, including field observations, satellite imagery, orthophotos, cadastral records (land and parcel books, Form 6, ownership documents from registration offices, and land ownership certificates), information from the Soil Science Institute of Albania, regional land administration and protection directorates, and former communes and municipalities.

The fieldwork involved soil profile analysis and land classification, which have been vital for land administration post-privatization, aiding in land management, planning, and productivity.

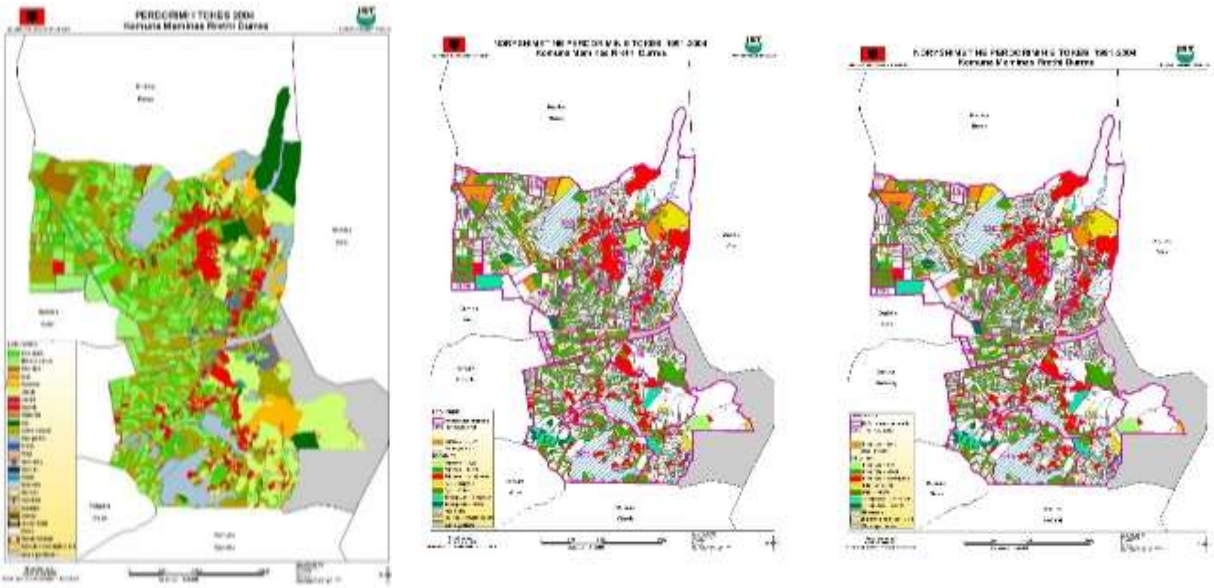

Fig. 2. Change of land use 1991-2004, Maminas
Source: Soil Science Institute [42].

3.4 Land tax

Land tax is a financial instrument that collection from landowners, as outlined in Law 139/2015, as amended. Land tax serves not only as a financial resource but also as an instrument for land protection and management (FAO, 2007). Agricultural lands equipped with ownership documents are subject to taxation. In Albania, land taxation is based on land categories evaluated from class 1 to class 10, where class 1 represents land with the highest production capacity. The tax is calculated in lek per hectare.

The level of land tax is determined and differentiated in four groupings at the territorial level and for each zone in seven levels according to the classes (Law 139/2015) [25] (Fig. 3).

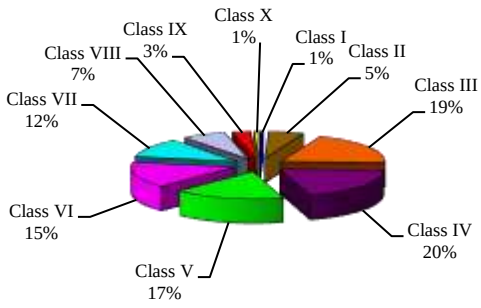

Fig. 3. Distribution of agricultural lands in 10 classes (according to the national classification)
Source: Ministry of Agriculture and Rural Development, 2007 [34].

Land tax collection has not been successful. Local authorities have collected about 30-35% of the annual amount. "In previous centuries, taxes on property formed the most important source of tax revenue for both national and local taxes. More recently, as tax bases have expanded, property taxes have seen a long-term decline in relative importance" (FAO, 2007) [12]. According to the World Bank, "Taxes on land and real property constitute one of the most stable sources of revenues for local government units (Government Land Commission, 2007) [18]. Revenues derived from real property taxes are fully devolved, which should encourage LGUs to make good in the performance of this vital function" (World Bank, 2010) [50]. Although Albanian legislation stipulates that no less than 40% of the annual financial fund created by agricultural land taxes should be used to implement protective measures for agricultural land, this has not yet been implemented by most municipalities in the country. The agricultural land tax should serve as an incentive instrument for bringing land under cultivation. In the assessment of the land tax, improvements need to be made, such as: areas that are grouped together, representing a large area but not reflecting significant land changes within the area, making the value unrealistic. The distribution according to the area and the class categories is more like a social

distribution than based on the characteristics and potential of the land. In each area, there are lands of all categories, but they are simplified to a value, even though there are significant differences. In this context, the division of the zones would be fairer if it were based on grouping lands according to classes in territories with limited surfaces, rather than by geographical boundaries. Additionally, the taxation of the land should be gradually established based on production potential, as is applied in some countries of the region (FAO, 2016) [14].

In the transition period, the irrigation and drainage infrastructure suffered serious damage. The actual irrigation after 1990 is several times lower. In 2023, actual irrigation is 2.2 times lower than in 1990, or 46%.

Table 3. Potential irrigation capacity and irrigated areas (ha)

Potential irrigation capacity in ha	**1960**	**1980**	**1990**	**2000**	**2010**	**2020**	**2023**
Potential irrigation capacity Ha	240,000	435,000	480,000	319,736	331,452	359,542	358,135
Actual potential capacity Ha	135,300	370,800	440,000	203,530	204,544	242,653	242,699
Actually, irrigated area ha	**125,300**	**350,800**	**410,000**	**168,880**	**125,664**	**181,704**	**189,734**

Source: INSTAT, 2023 [23].

The expansion of irrigation with advanced technologies, such as s irrigation in the form of rain, micro-irrigation, and underground systems, is projected to increase to enhance water efficiency and protect the land from drought and climate change (FAO, 2021; World Bank, 2018) [17, 52].

CONCLUSIONS

1.Albania is a mountainous country, with three-quarters of its surface covered by mountains, and it has less than 0.17 ha of agricultural land per inhabitant. Additionally, the country faces several challenges stemming from the privatization of land. The opportunities for expanding agricultural land are limited, making the improvement of the land administration system a key challenge for institutions, landowners, and society. This is essential for the sustainable development of the country, encompassing economic growth, environmental sustainability, and social stability.

2.The municipalities of Albania have developed General Local Plans, in which are included land-related issues into their analysis, strategy, planning, and project development. These plans focus on land protection, irrigation, flood control, drought mitigation, and other vital areas for the country's sustainable development.

3.Albania has made notable progress in establishing a land information system, covering 70% of its agricultural land. This includes the processing and mapping of geospatial data, the creation of a land database, the development of land legislation, and the digitization of registered properties. However, challenges remain in land administration that need to be addressed, including completing the registration process, certifying agricultural land, resolving ownership disputes, managing data effectively, improving land use planning, enhancing land tax collection, upgrading administration technologies, and building management capacities.

4.Land administration, in all its regulatory, legal, technical, social, and implementation aspects, requires the coordination of various stakeholders. This includes central, regional, and local institutions, society, landowners, and the academic and scientific sectors. Their collective efforts are crucial in improving agricultural land administration practices, expanding the use of new administration technologies, and monitoring progress through a coordinated inter-institutional plan at both the regional and national levels.

5.The consolidation of land ownership, which is currently fragmented into an average of 4.4 parcels with an average farm size of 1.26 ha at the national level, remains a significant challenge in land administration. This high

level of fragmentation has led to serious difficulties in implementing agricultural technologies, land loss, decrease production and increase labour costs, reduced production, and other disadvantages. To address these issues, it is crucial to draft a law on land consolidation, as recognized globally, establish consolidation structures at all levels of government, and strengthen land management capacities.

6.After the 1990s, demographic movements saw a shift from rural areas to cities, leading to the abandonment of agricultural land. The rapid transformation of peri-urban agricultural areas into urban zones has heightened the need for decisions regarding uncultivated land, particularly land rejected by owners during the land division reform due to low fertility.

7.Land ownership, especially for agricultural land, is a fundamental issue in any social system. In Albania, it has undergone continuous changes influenced by political shifts, territorial reforms, land reforms (1945-1991), forms of government, the organization of the agricultural sector, the economic model, and the country's overall development. The most recent reform (1991) was developed through broad political consensus but lacked a solid foundation in models that ensure good governance of agricultural land, effective administration, conflict avoidance, and property guarantees. This led to the high fragmentation of agricultural land and a reduction in its effective use. During the land allocation reform, approximately 114 thousand hectares of agricultural land were rejected by owners due to poor agricultural quality, resulting in land degradation and loss of production capacity. While 30 thousand hectares were converted for construction purposes.

Recommendations

The structures and institutions responsible for the governance and administration of agricultural land at the national, regional and local levels should analyze in detail the current state of land administration. This assessment should encourage experts and decision-makers to develop programs and plans for progress in all components of agricultural land administration and unresolved issues from land reform.

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