“Effective land management in Ukraine using accounting and analytical support”

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Abstract

Unique nature of land resources determines the specifics of constructing a land management and registration system, which includes accumulation, systematization, processing and analysis of economic information about their quantitative, qualitative, monetary and legal data in the state. The economic, social, and ecological safety of the state and living standards of the population depend on the effective land use. Consequently, there is a need for continuous improvement of the regulatory and legislative framework, development of a methodology for land registration and fixing land accounting operations. The article deals with the current state and problems of the development of synthetic and analytical registration of land resources in Ukraine. The variability of the representation of land relations in the accounting system is also considered. The current system of agricultural land registration in Ukraine does not allow to reflect the full range of characteristics of land plots for external and internal users in order to profit and increase the investment attractiveness of enterprises. It is established that reliable and accurate assessment and registration of land plots have significant influence on the agricultural enterprise position.

Keywords

land resources, land registration, agromanagement, investment attractiveness

JEL Classification

Q15, M41

INTRODUCTION

Traditionally, agrarian sector of the economy is the basic forming area of national output in Ukraine. Agriculture is a priority sector of the Ukrainian economy, which not only determines the level of food security in the country, but also the strategic direction of its further development in the context of the intensive European integration. The powerful production potential of the Ukrainian agrarian sector is recognized, for example, the export capacity of grain is possible at the level of 40 million tons, which fully satisfies domestic needs of the country and will form reserves for sustainable and long-term development. It is impossible to address such problems without solving a key problem, namely the formation of competitive agrarian business entities.

Today, one of the urgent needs of agromangers, landowners, landlords, investors, social groups and other contact audiences is the complete, timely and reliable information support, without the systematic principles of which it is impossible to effectively manage the agro-entities and rural areas development. In this regard, requirements for the system of accounting and analytical support for the land management in the agrarian sector, which should meet operational and strategic needs of agromanagement, are strengthened.
Land management is a complex process, as it concerns the interests of a number of subjects of land relations, which necessitates a systematic approach to managing, using and protecting land resources, harmonizing organizational and technological solutions with possible ecological and economic consequences. Land registration in the context of formation and development of the land market becomes especially relevant in view of the need for users to obtain accurate and reliable information on the status, quality and evaluation of land resources, the effectiveness of their use, etc. Today, due to the moratorium on the sale of agricultural land in Ukraine, there is no market for land resources. However, if it is canceled in the accounts of agricultural enterprises, the land sale will be necessary.

Continuous information exchange is the basis for the processes taking place in the land management system. The current system of agricultural land registration in Ukraine, due to the lack of adequate methodology, does not allow to reflect the entire spectrum of information required for external and internal users. Therefore, it is necessary to analyze the main possible options for displaying agricultural land in the accounting system and assess their adequacy.

1. LITERATURE REVIEW

In the context of land management, there are still many inconsistencies. So, Horlachuk (2006) states that the management throughout almost all of the history of the state developed as an informal sphere of practical activity, hence, empirically, rather intuitively, than methodologically. At the same time, many authors focus on the fact that management should be regarded as the basis of the economic system stability. Kozlovskyi, Khadzhynov, Vlasenko, and Marynychak (2017) are among them. Emphasizing the issues of land management, Horlachuk (2002) and Sokhnyc (2007) note that management is the influence of the control system on the managed one with the view to achieve the goal. Malynovskyi (2003) emphasizes the fact that profits are formed at the level of management, and management is focused on solving the needs of the entire society, including land use. Kremen, Pazynich, and Ponomariov (2007) consider the management as an integral set of planning, organization, motivation and control functions.

Management of any enterprise requires systematic information on the economic processes carried out, their nature and scope, availability of material, labor and financial resources, their use, financial performance. Saftiana, Mukhtaruddin, Putri, and Ferina (2017) consider the problem of reporting distortion and the impact of corporate governance. The current accounting data, which are systematized in the reporting, is the main source of economic information. Such reporting is important, because it is used not only for the economic analysis of the individual enterprise activity in order to obtain data necessary for management, but also for the synthesis of results in the scale of industries and the national economy as a whole. Zhuk (2011) studies the problem of agricultural land registration and reveals the advantages and disadvantages of using the methodological approaches proposed in international standards of financial reporting in Ukraine for the agricultural land estimation and registration. Petrova (2003) and Ostapchuk (2014) try to solve some problems of agricultural land registration. Kireitsev (2007) established a methodological framework for the sectoral registration of agricultural land as a separate type of biological assets. Maliuha and Zamula (2008), Ostapchuk (2016) and others consider the theory and methodology of land property registration. Andriichuk and Sasa (2017), Sablik and Luzan (2011) analyze the issues of effective land tenure and land holding. Karpiak (2009) investigated land resources as an integral part of investment property. Semenda and Semenda (2018) considered the necessity to define and generalize criteria for assessing the ecological and economic efficiency of using agricultural lands.

Nowadays, it is expedient to observe the conceptual directions of the study of agricultural land registration outlined by Zhuk (2011) who states that the three-pronged interpretation of land capital in accounting as an economic asset, national wealth and planetary natural resource is important and fair.
There is a discussion among scientists about the reflection of land resources of agricultural enterprises. Yarmoliuk (2008), Bryndzia (2012) and others assert that it is necessary to allocate additional, the third order sub-accounts to existing accounts. Dodonova and Bunchuk (2009) offer to register agricultural land resources as part of biological assets in the subaccount 167 “Natural biological assets used in agricultural production”, and display the land under construction in the account 101 titled “Land plots”. Ishchenko (2012) argues that land resources should be allocated in the accounting chart as a separate object and should be reflected in the account 15, which should be called “Agricultural lands”. The author proposes to transfer capital investments, which are reflected in the account 15, to the account 14 “Investments”, where both financial and capital investment will be registered.

The experience of highly developed countries such as Germany, Great Britain, Canada, the United States of America, and others in the sphere of land registration is interesting for Ukraine.

Hall (2014) analyzes land resources of agricultural enterprises and agricultural land in Africa. Knight (2010) conducted an important research to analyze the impact of private land ownership on agricultural productivity, income, investment and other indicators. The results indicate a significant productivity and profit from recognizing private land ownership.

Equally important is the study of the experience of land assessment in post-Soviet countries, such as Russia, Belarus, Kazakhstan, and others. Panchenko (2001) and Illarionova (2001) are among the Russian scientists who analyzed the problem of land registration. Sahaidak and Shkalov (2006) paid significant attention to the land lease registration. Karahodin and Sukhanova (2000) investigate land registration at agricultural enterprises. Dauzova (2016) puts an emphasis on land management at agricultural enterprises in Kazakhstan.

The purpose of the article is to substantiate the accounting and analytical support for improving land management in the agrarian sector.

2. RESULTS

The problem of land management and registration in Ukraine is made actual due to formation of the agricultural land market. The low level of land records management today does not provide accurate and reliable information for external and internal users.

The system of accounting and analytical support of the agrarian sector includes a set of information, analytical, consulting, control, and forecasting means, which are focused on the main goal – to increase the effective development of business entities in the agrarian sector.

Complex system of accounting and analytical support leads to the expansion of functional tasks in the following areas: 1) monitoring (constant analysis and assessment of the achieved level of the effective use of agricultural land); 2) development of sectoral programs, projects for the restoration of land, rural areas and assistance in their practical implementation; 3) consulting support for management processes; 4) organizational, regulatory, audit, image and other assistance in attracting investments necessary to increase the efficient land use in the agrarian sector of the economy.

The subsystem of registration (information support) of accounting and analytical support for the land management in the agrarian sector is a key component, the reliability and completeness of which depends on the quality of information flows, on which making managerial decisions is based (Figure 1).

Today, the total agricultural land in Ukraine is 42 million hectares. More than 50% of the total area is at temporary disposal of economic partnerships, private agricultural enterprises, agricultural cooperatives, etc. The level of efficient use of agricultural land by agrarian enterprises shows that in recent years, the agrarian sector has positive growth dynamics by most economic indicators, from the level of productivity of the main crops to the final financial performance of the industry.

In 2017, the level of agrarian enterprises profitability amounted to 31.6%, while the average indicator
for the Ukrainian economy is 7.4%. The share of profitable agricultural enterprises in recent years also turned out to be higher than the average for the country’s economy – 88.4% (Table 1).

The status of accounting in agricultural business entities indicates that land management in farms reduces to the definition and analysis of the dynamics of individual natural indicators of the agricultural land efficient use, in particular: yields of agricultural crops, coefficients of return (payback) of mineral fertilizers and costs for improving quality parameters of agricultural lands. The system of cost indicators, in particular those of value-oriented land management, remains out of sight at the present stage.

Based on the above, one should highlight the main problems that result in significant limitation of the accounting and analytical support towards

![Diagram of Subsystem of information provision of accounting and analytical support for land management]

**Figure 1.** Subsystem of information provision of accounting and analytical support for land management
full information provision of value agromanagement, namely:

- incompleteness of the land reform and the lack of transparent and clear mechanisms for the agricultural land value, which hinders the systematic assessment of the agrarian business value;

- low level of the concepts and tools of value-oriented management among the top management of agro-entities;

- imperfect financial reporting in Ukraine in the context of displaying information about the status, availability and valuation of agricultural lands in the report on financial condition, which leads to a low level of analytical work in agribusinesses, lack of experts in planning, economic and analytical support of agromanagement.

Cost assessment of agricultural land remains the main problem of accounting and analytical support for land management. Establishing a full-fledged land market will promote prosperity through improved wealth status and long-term investment. In addition to the fact that the land market is a prerequisite for investments that contribute to increasing labor productivity and increasing farm incomes, investors’ interest in agricultural land is increasing. According to scientists, land ownership rights increase productivity, consumer spending and land users’ incomes. Most leading agrarian scholars agree that the inclusion of agricultural land in economic activity today is a prerequisite for proper asset valuation.

The basic law, which forms the legal framework in land relations in Ukraine, is the Constitution of Ukraine. Article 14 of the Constitution establishes that the land is the main national wealth, which is under the special protection of the state. Land ownership is guaranteed. Thus, the Constitution of Ukraine enshrines the main constitutional provisions concerning land, which are the basis for sectoral land legislation. The main legal acts regulating land accounting are the Regulations (Standards) of Accounting (R(S)A), which are developed by the Methodological Council for Accounting at the state level.

Accounting as a powerful information system can increase the land management efficiency at the state, region, community, and enterprise level. Solving these problems can only be provided through the recognition of the land as a specific asset and object of accounting, the implementa-
According to regulations (standards) of accounting of Ukraine, the land owned by the enterprise relates to fixed assets. As a part of the fixed assets of Ukrainian enterprises, the land appeared after the entry into force of R(S)A 7 “Fixed assets” and IAS 16 “Fixed assets”, where it was classified into two separate elements: land and capital expenditures for land improvement.

The Ukrainian legislation made a significant emphasis on the legal consolidation of land ownership, however, it did not ensure proper accounting of using agricultural land. This, in turn, has created significant problems for agricultural business. After analyzing the status of the legal regulation of agricultural land accounting in accordance with Ukrainian and international legal norms, the basic normative documents should be distinguished (Figure 2).

Land property is a specific object of the enterprise, since it has many features distinguishing it from other fixed assets. In the accounting system, it is necessary to focus on the generating specified adaptive approaches to the display of land resources.

Investigating the accounting of land resources at agricultural enterprises, it should be concluded on the low level of organization of land registration, which leads to inadequate reflection of economic transactions in accounting. The existing system of agricultural land registration, due to lack of effective accounting practices, does not allow to reflect the entire spectrum of information needed for external and internal users.

Figure 2. Regulatory legal framework for land registration of agricultural enterprises
Depending on the methods of ownership rights and use, land resources in the modern accounting system are considered as:

- the basic features of ownership, which are the assets of the enterprise, for which the ownership, use and disposal are fully exercised;
- intangible asset for the right to use being the subject of accounting, and to which administrative functions are limited;
- object of lease relations, which is reflected on off-balance sheet accounts;
- investment property.

For over 25 years, land relations in Ukraine are under permanent reforms. The withdrawal from the centrally-controlled economy, the transition period and the emergence of a market economy have largely left their mark on various aspects of land ownership and land use, from ownership and redistribution of land resources to attempts to form a free market for agricultural land. However, these attempts fell flat, and once again deputies of the Verkhovna Rada of Ukraine extended the moratorium on the agricultural land sale.

Therefore, contributions of company founders are the main type of proceeds from land to the legal entity ownership. The reason for the land plots registration at agricultural enterprises is its constituent and statutory documents, which also reflect the contributions of founders to the authorized capital, including the land plots value.

The Ukrainian methods of land registration are similar to international ones. Accounting of land resources that belong to agricultural enterprises as a property, permanent use or are obtained on financial leasing terms, is carried out in the fixed assets in the account 10 “Fixed assets” of sub-account 101 “Land”. The debit of this account reflects the receipt of land on the enterprise balance as the contribution of the founders to the authorized capital or obtained free of charge property, which leads to an increase in future economic benefits. And on the loan side, the disposal of land is reflected. Receipts of agricultural land by purchase are not possible, because a moratorium on the sale of agricultural land prohibits land purchase transactions.

Despite positive trends in the investment process in the agroindustrial complex, the economic levers for investment stimulation and regulation of investment activity have not yet been put in place. In particular, measures to regulate land ownership relations and property do not have investment incentive tendencies, the process of creating a stock market does not cover the agrarian sphere, financial and credit institutions are not interested in investing in agriculture, the buffer system does not promote simple reproduction of fixed assets, there is no mechanism for providing and supporting investment in working capital. Therefore, investment property can become one of the significant investment resources.

If an enterprise owns a land plot and uses it for lease in order to receive lease payments, it should be classified as investment property. The investment property includes those land plots owned by the enterprise and held by it not for the production and supply of goods, the provision of services, administrative needs or sales in the ordinary course of business, but for the purpose of obtaining income as rent payments (Dodonova, 2009). According to Karpiak (2009), as examples of land plots as investment real estate would be: 1) land intended to benefit from an increase in its value in the long run, and not for sale in the conditions of ordinary business activities of the enterprise; 2) land whose future destination has not yet been determined (if the company has not decided to use it in the ordinary course of business, it is considered that the land is intended to increase the property value). However, according to the author, if the land is leased, but the company plans to use such a land plot independently, it is impossible to consider it as an investment property object.

Since January 1, 2008, the new accounting standard R(S)A 32 “Investment property” has entered into force, which defines the methodological principles for the formation of data on investment property in accounting and its disclosure in the financial statements. Purchased (created) invest-
ment property is credited to the balance sheet of the enterprise at its original cost, which consists of the following expenses:

- amounts paid to suppliers (sellers) and contractors for construction and installation work (without indirect taxes);
- registration fees, state duty and similar payments made in connection with the acquisition (receipt) of rights to investment property;
- the amount of indirect taxes due to acquisition (creation) of investment property (if they are not reimbursed to the company);
- legal services, commission fees associated with the investment property acquisition;
- other expenses directly related to the acquisition and presentation of investment property objects to a condition in which they are suitable for use with the intended purpose.

Also relevant is the issue of the lawful depreciation on investment property objects in the tax accounting of the enterprise.

Various types of land use rights have become widespread. One of the reasons for this was the restriction of the private property rights of legal entities to agricultural land, which remained an indispensable tool of agrarian production. Therefore, there was a need to reflect these rights among the objects of accounting.

If a land plot is leased, but the company plans to use such a land plot independently, it is not appropriate to identify it as an investment property object.

Agrarian entities use agricultural land as the main means of production for the right of permanent use and rent. According to R(S)A 8 “Intangible assets”, the possibility of obtaining future economic benefits associated with its use and the situation when its value can be reliably determined are the criteria for recognizing the right to lease a land plot in intangible assets.

Zhuk (2012), while analyzing recent changes in legislation, stresses that legal preconditions are created in Ukraine for mass entry of tenants of the rights to use agricultural land on the balances. Accounting for such rights is carried out as an intangible assets registration.

Assessing the practice of accounting for the rights to lease land for agricultural purposes, Ostapchuk (2014) draws attention to the difficulties associated with the valuation and depreciation of such rights value, based on the impact of these processes on the financial performance of the private agricultural enterprises.

It should be noted that in the accounting system, it is expedient to reflect precisely the right to use as an intangible asset, since legally the land plot belongs to another legal entity or individual.

Unlike a lease agreement, under which the lessee can only levy rent and reflect it in the expenses of the enterprise, under the land use agreement, the land user acquires the alienated right to use the land plot that meets the criteria for recognition as part of intangible assets.

The right to lease meets all criteria for the recognition of intangible assets, and the land user, in accordance with clause 5 of R(S)A 8, “Intangible assets”, having received the right to use the land plot under the lease, shall include it in the accounting of intangible assets in the account 12 “Intangible assets” of sub-account 12.2 “Rights to use property”.

The rights to use land plots are the subject of accounting as part of intangible assets, subject to the following criteria:

- the lease is long-term (more than 1 year);
- possibility of alienation of the right to lease;
- reliable estimate.

The right to use the land plot is entered on balance at the original cost. In the case of acquiring such rights, the initial value consists of the purchase price, customs duties, indirect taxes that are not recoverable, and other costs directly related to its acquisition and bringing to a condition in which it is applicable for use as intended. Thus, at the
initial conclusion of the agreement on the right to use with the land owner, the value of the right to use the land plot to be recorded in the account consists of the market value of the acquired rights to the land plot and all costs associated with the contract execution.

According to R(S)A 8 “Intangible assets”, for intangible assets for which a useful life can be determined, depreciation is charged. Intangible assets with indefinite useful lives are not subject to amortization. Consequently, if the contract establishes a term for which land is transferred for use, it can be considered as a useful life for accounting purposes, and, accordingly, such an object may be accounted for depreciation in accordance with the procedure prescribed by R(S)A 8 “Intangible assets”.

Due to the moratorium on the sale of land there is an expansion of the market for its lease. There are practically no agricultural enterprises that would not use leased land. Legal entities may acquire ownership of land plots in case of entering a land plot in the authorized capital of an enterprise, receiving inheritance and for other reasons stipulated by the legislation. If these options are not feasible, then land resources are involved by economic entities in economic activity for the rights to use and ownership rights. Reflection of lease transactions in accounting is regulated by a special standard, R(S)A 14 “Lease”.

In Ukraine, leased land registration is either not conducted at all, or is carried out in a simplified form without disclosing all information on land plots and land use, since individuals who own land parcels (shares) do not keep accounting records, and enterprises have no grounds for inclusion of these plots in the assets, because they are not their property. Thus, a significant part of agricultural land is not reflected in the accounting. Since the leased land remains in the lessor’s ownership, the lease is recognized as an off-balance sheet item as an asset in the temporary use of the enterprise.

The accounting of land resources used for operating lease rights is made to the lessee in accordance with the off-balance sheet accounting requirements without the use of a double entry in the account 01 “Leased non-current assets”.

In order to systematically formulate a comprehensive accounting information necessary for a thorough analysis of the leased land use, it is expedient to open an additional sub-account 01.1 “Rented agricultural land”. Such coordination will strengthen the analytics in the system of agricultural land accounting and will meet additional information requirements of external and internal users.

According to clause 8 of the R(S)A 14 “Lease”, the accounting for leased assets is carried out on the lessor’s balance. The rent amount to be received during the reporting period is included in other operating income of the enterprise. The tenancy of the leased property by the lessee is reflected by the debit of off-balance sheet account 01 “Leased non-current assets”, that is, accounting is carried out on the off-balance sheet account. The amount of the accrued rent will be reflected in the debit of the accounting account of expenses in the reporting period, depending on the purpose of the land usage.

Thus, it can be concluded that in Ukraine, land plots and limited real rights to use them by enterprises are not really taken into account and in most cases are not reflected in the balance sheets, resulting in distorted data on the real property status of enterprises, their investment attractiveness and potential profitability. This situation endangers financial security of Ukrainian agrarian enterprises.

**CONCLUSION**

The Ukrainian legislation has made a significant emphasis on the issue of legal consolidation of land ownership, but the level of land registration in Ukraine is low due to imperfect regulatory framework, which causes inadequate reflection of business operations in accounting and reduces the ability to reflect the entire information required for external and internal users.
Depending on the way of acquiring property rights and the use, it is expedient to consider land resources in the modern accounting system of Ukraine as: 1) the basic asset as a property; 2) the intangible asset for use rights; 3) the object of lease relations; 4) the investment property.

To increase analytic property and information reliability to the synthetic accounts used for land registration, it is expedient to open additional sub-accounts of the second, third and fourth levels.

To increase the investment attractiveness of land resources, it is necessary, firstly, to form the main promising investment objectives that would specify the strategic and tactical actions of owners and land users in attracting investment, and secondly, to build an effective management system at agricultural enterprises. This will facilitate the expansion and prosperity, as well as attracting investors and providing increased opportunities and investment inflows.

Such an approach to the construction of accounting and analytical support for the land management of the agrarian sector of Ukraine would provide a comprehensive assessment of the agricultural performance, form a complete information basis for investors and creditors in the agrarian sector.

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