

Article

# Problematic Issues of Accounting for Biological Assets According to International and National Standards

Axmadaliyeva Zebo Abduxalimovna\*<sup>1</sup>

1. Fergana polytechnic institute, Uzbekistan

\* Correspondence: [z.a.axmadaliyeva@ferpi.uz](mailto:z.a.axmadaliyeva@ferpi.uz)

**Abstract:** Growing economic globalization demands standardized financial reporting which proves especially crucial for the agricultural sector. Companies reporting their finances according to IFRS standards experience better transparency which attracts international capital investment and leads to economic growth. The Uzbek government considers IFRS transition strategic because they support their efforts to implement national policies which establish international accounting compliance. Financial reporting of biological assets comes with specific drawbacks from their natural shifting characteristics and complex valuation processes. Existing research has failed to detail proper methods and organizational procedures when accounting for biological assets during Uzbekistan's implementation of International Financial Reporting Standards. The integration of national standards with international standards requires better comprehensive framework development. This research analyzes the fundamental issues in applying biological asset accounting procedures under international standards besides national requirements by identifying assessment and categorization problems to provide solutions for improved reporting quality. This research reveals multiple identification problems with biological assets alongside difficulties with accurate fair value assessment and inadequate external data availability. A modified accounting standard specifically designed for Uzbekistan's agriculture sector should be developed by the financial authorities. This research initiates a comprehensive methodology to merge national accounting standards with IFRS 41 specifications about agriculture industries. The implementation of these recommended changes would lead to better financial transparency which will support foreign investments while producing higher economic efficiency through optimal biological assets.

**Keywords:** Biological Asset, Biological Transformation, Agricultural Yield, Collection Process, Cost of Sales, Book Value, Fair Value, Government Grants

**Citation:** Abduxalimovna A. Z. Problematic Issues of Accounting for Biological Assets According to International and National Standards. *Academic Journal of Digital Economics and Stability* 2025, 38(1), 372-378.

Received: 14<sup>th</sup> February 2025Revised: 22<sup>nd</sup> February 2025Accepted: 28<sup>th</sup> February 2025Published: 5<sup>th</sup> March 2025

**Copyright:** © 2025 by the authors. Submitted for open access publication under the terms and conditions of the Creative Commons Attribution (CC BY) license (<https://creativecommons.org/licenses/by/4.0/>)

## 1. Introduction

In the age of globalization, when the world is becoming increasingly interconnected, the importance of effective international collaboration and the establishment of unified accounting regulations becomes clear.

Transnational corporations, which emerged as a result of global integration, are companies that have offices in multiple countries. In a market economy, providing accurate information to the management system of agricultural enterprises is crucial.

To ensure that accounting at these enterprises is comprehensible and transparent, it is essential to develop common international standards. These standards are presented in the form of international financial reporting standards. They enable a clear understanding of financial processes across different countries and facilitate investor engagement with potential investment projects, regardless of national accounting systems.

On January 28, 2022, the President of the Republic of Uzbekistan approved the "Development Strategy of New Uzbekistan for 2022-2026" under Presidential Decree No. PF-30. The strategy outlines 100 goals, all aimed at strengthening the national economy, enhancing the country's global reputation, and improving the living standards of the population.

In particular, Goal 26 of the strategy focuses on "further improving the investment climate in the country and increasing its attractiveness, with measures to attract \$120 billion in investments over the next five years, including \$70 billion in foreign investments" [1]. The attraction of foreign investments necessitates deepening reforms in accounting, management, and financial reporting, as aligning the national accounting system with global standards is a fundamental aspect of these reforms.

In this regard, the Resolution of the President of the Republic of Uzbekistan, Sh. Mirziyoyev, "On Additional Measures for Transition to International Financial Reporting Standards" (No. PQ-4611) aims to accelerate the adoption of IFRS. This initiative seeks to provide foreign investors with the necessary information environment, expand access to international financial markets, and improve the training system for specialists in accounting and auditing based on international standards [2].

Implementing the aforementioned resolutions ensures the development of the country's economy along the path of market conversion, the emergence of fundamentally new economic relations, and the improvement of requirements for the formation of accounting and analytical data on long-term assets.

The accurate and objective formation of information on biological assets, along with optimising the accounting system for these assets, creates opportunities to enhance transparency and convenience in providing investors with relevant asset information.

However, it is important to emphasize that the current accounting system does not allow for the collection of information on biological assets in the necessary quantity and format required for making managerial decisions. This highlights the relevance and significance of the chosen research topic.

### **Literature Analysis**

The issues of asset accounting have always been at the center of attention for economists and scholars. Many aspects of this problem have been covered in the works of foreign economists, such as V.P. Astakhov, N.M. Balakireva, J.K. Van Horne, A.A. Dadonov, and L.I. Kulikova [3], [4], [5], [6].

For example, the principles of asset accounting proposed by socialist-era economists like A.A. Dodonov, S.I. Shulman, and Kh.A. Rabinovich were aimed at meeting the needs of state-regulated economies due to the public ownership of property. The strict "administrative system" definition of assets did not align with the international theory and practice of accounting and reporting.

Although socialist-era economists provided many definitions for assets, the concept of biological assets was specifically studied and defined by modern scholars. Contemporary accounting researchers such as S.A. Sergeeva, A.N. Ivanova, M.I. Bakanov, A.D. Sheremet, N.A. Kazakova and A.T. Mikhailovich have addressed long-term asset issues in their works [7],[8]. In particular, Andrey Mikhailovich Terekhov defined biological assets as follows: "Biological assets are animals and plant products used in agricultural activities, additional biological assets, and others that generate economic benefits as a result of processes controlled by the enterprise and subject to quantitative and qualitative changes"[9].

The methodology for valuing biological assets, including the development of accounting in breeding sheep farming, has been significantly contributed to by Ageeva, R.A. Alborov, N.Yu., A.E. Vyruchaeva, G.R. Kontseva, M.A. Korovina, Yu.I. Sigidov, Z.V. Udalova, A.V. Frolov, L.I. Khoruzhiy, M.A. Shadrina [6], and others. However, these

works have not sufficiently addressed the comprehensive development of management accounting for biological assets, nor have they provided organizational and methodological tools for managing and ensuring information support for biological assets in breeding production entities under market economy conditions. The lack of sufficient research on emerging problems and accounting challenges in this area has made this topic a relevant subject of study.

However, these studies have not comprehensively addressed the development of modern management accounting for biological assets. There is a lack of well-developed organizational and methodological tools that enable the accounting and informational support of biological asset management in breeding enterprises under market economy conditions. Additionally, the emerging challenges and the role of accounting in resolving these issues remain insufficiently explored, highlighting the necessity of further research on this topic.

## 2. Materials and Methods

In the course of the research, the problematic issues of accounting for biological assets according to international and national standards were analyzed using analysis and synthesis methods, and the opinions of domestic and foreign scientists were considered using induction and deduction methods. Based on the purpose of the study, the theoretical and methodological foundations of the recognition of biological assets according to international and national standards were studied using scientific abstraction and other methods.

## 3. Results and Discussion

In modern agriculture, integration is actively taking place. This is due to the division of labour and the need for cooperation between agricultural and processing enterprises. This approach allows for the reduction of risks in economic activity through mutually beneficial cooperation.

In these processes, biological assets play a key role. However, in practice, there are difficulties in implementing the valuation of biological assets at fair value.

Among the problems, we can highlight:

1. lack of experience in valuing assets at fair value not only in agriculture, but also in other sectors of the economy.
2. imperfection of external information support for accounting and analytical services.
3. the complexity of methods for determining the fair value of biological assets and their insufficient adaptation to real conditions.

However, considering that the standard is aimed at activities in agriculture, such a definition is not entirely accurate and does not reveal the essence of biological assets and the characteristic distinctive features of this economic category. Both ornamental plantations on the enterprise's territory and guard animals, and even plants on window sills, are living animals or plants. However, they do not fall under the concept of "assets," i.e., resources controlled by the company, arising as a result of past events, from which the company expects economic benefits in the future [10].

The attraction of foreign direct investments into the national economy, the establishment and functioning of free economic zones, and the necessity of organizing accounting in accordance with international financial reporting standards (IFRS) have become pressing issues. Currently, IFRS is increasingly utilized by business entities to prepare accounting information aimed at meeting the needs of external users. This trend is explained by several factors, including improving information quality, reducing capital costs, and facilitating access to capital markets.

However, it is important to emphasize that the transition to IFRS primarily involves adjusting financial statements prepared under Uzbekistan's national accounting standards (BHMS) to align with IFRS requirements. This process ensures that financial reports prepared under BHMS can be recognized as IFRS-compliant after necessary adjustments. [11].

In the national accounting system, the classification, description, valuation, and recording of agricultural fixed assets follow general procedures applicable to all sectors of the economy. However, the unique composition, purpose, and usage of agricultural fixed assets introduce specific accounting characteristics. These distinctions impose additional requirements on the accounting of fixed assets in agricultural enterprises.

Agricultural fixed assets can be classified into the following categories:

Fixed assets used in agricultural production – warehouses, barns, machinery and equipment, agricultural machinery, transport vehicles, perennial plants, working and productive animals, and farm inventory.

Fixed assets not intended for agricultural production – administrative buildings, office furniture and equipment, computers, service vehicles for management, and socio-cultural infrastructure objects [12].

The recognition criteria and reporting requirements for assets differ between IFRS and national accounting standards. These differences are particularly evident in the classification and treatment of agricultural assets, which are governed by International Accounting Standard (IAS) 41 – Agriculture.

IAS 41, developed by the International Financial Reporting Standards Committee, aims to define accounting approaches and disclosure requirements related to agricultural activities. Compliance with this standard is essential when classifying different types of agricultural assets.

IAS 41 defines agricultural activity as the management of the biological transformation and harvesting of biological assets by an entity for sale, or for conversion into agricultural produce or additional biological assets. However, not all living animals and plants automatically fall under the scope of IAS 41.

For example, if a company raises cattle for breeding purposes, these are considered biological assets, and IAS 41 applies. However, if the company raises cattle for its own consumption and reproduction, they are not classified as biological assets, and IAS 41 does not apply. Instead, such livestock should be accounted for under IAS 16 Property, Plant, and Equipment or IAS 2 Inventories, depending on their purpose.

**Table 1.** Application of IFRS 41.

<b>Application of IFRS 41 – "Biological Assets"</b>		
Biological Assets	Agricultural Produce at the Point of Harvest	Government Grants

From Table 1, it is evident that the standard's provisions apply only to agricultural produce during the harvesting process, meaning the harvested products of a biological asset belonging to an agricultural entity. Subsequent processes (such as processing) fall under IFRS 2 "Inventories" or other relevant standards. Applying IFRS 41 to harvesting agricultural products is appropriate for clusters being established in our country. For example, in a seed production cluster, cotton is considered a biological asset as a plant and an agricultural product as raw cotton. After harvesting, subsequent processing, such as producing yarn and clothing, falls under different standards.

Agricultural companies face unique requirements for accounting for their assets, finished products, cost calculation methods, and cost allocation. These requirements differ significantly from those applied in other production sectors.

International Financial Reporting Standards (IFRS), which aim to ensure the universality of accounting rules for companies in various fields of activity, offer a special standard "Agriculture," as outlined in Table 2.

The provisions of this standard do not apply to land used for agricultural activities, which falls under IFRS 16 "Property, Plant, and Equipment" and IFRS 40 "Investment Property," nor to intangible assets related to agricultural activities, which are governed by IFRS 38 "Intangible Assets."

Thus, although processing is a logical and natural continuation of agricultural activity, and the processes involved may share some similarities with biological transformation, they do not fall within the scope of agricultural activities defined by this standard.

**Table 2.** "Agriculture" – Definitions in IFRS 41.

No	Term Name	Given Definition
1	Agricultural Produce	The harvested product of an agricultural entity's biological assets.
2	Biological Asset	A living animal or plant
3	Biological Transformation	Covers the processes of growth, genetic modification, production, and reproduction that cause qualitative and quantitative changes in a biological asset.
4	Group of Biological Assets	A collection of similar living animals or plants.
5	Harvest	The process of separating a product from a biological asset or terminating the life process of a biological asset.
6	Selling Costs	Additional direct costs related to the disposal of an asset, excluding financing costs and income tax.
7	Carrying Amount	The amount recognized in the statement of financial position of an asset.
8	Fair Value	The price that would be received to sell an asset or paid to transfer a liability in an orderly transaction between market participants at the measurement date (as defined in IFRS 13 "Fair Value Measurement").
9	Government Grants	Defined as per IFRS 20 "Accounting for Government Grants and Disclosure of Government Assistance."

Source: Author development

If we refer to national practice, the concept of biological assets is interpreted differently in accounting legislation and national standards. Specifically, in NAS 21 (Guidelines for the Application of the Chart of Accounts for Accounting of the Financial and Economic Activities of Economic Entities, Section 1, Clause 2), they are accounted for under the names:

1. "Working and productive animals"
2. "Perennial plants"
3. "Accounts for animals being raised and fattened"

In the "Working and productive animals" account, working animals used as labor force—such as horses, oxen, camels, mules, and donkeys (including animals used as transport)—as well as animals providing products (offspring, milk, wool, etc.), such as cows, mares, sheep, and goats, are recorded.

The "Perennial plants" account includes greenery, decorative plants, fruit and berry trees, living fences, and similar vegetation [13].

The "Accounts for animals being raised and fattened" summarize information on young animals belonging to the enterprise, adult animals on pasture or under care, poultry, wild animals, rabbits, bee colonies, and livestock received from the population for



sale (excluding those put to fattening). These are accounted for in the following accounts: "Animals being raised" and "Animals being fattened."

Thus, in national accounting standards, the concept of "living animals" is expressed more broadly than "plants" as part of biological assets. Additionally, in crop farming, emphasis is placed on perennial plants, while annual crops such as cotton and wheat, which are classified as agricultural produce, are not included in this category [14].

In NAS 41 "Agriculture," aspects related to biological assets, agricultural produce, and products obtained through processing after harvest are specified, as shown in Table 3.

**Table 3.** The result of processing biological assets after harvest.

<b>Biological Assets</b>	<b>Agricultural Produce</b>	<b>Agricultural Produce</b>
Sheep	Wool Fabric	Wool Fabric
Trees in an Orchard	Cut Trees	Cut Trees
Plants	Cotton	Cotton
	Harvested Reed	Harvested Reed
Livestock	Milk	Milk
Pigs	Meat	Meat
Shrubs	Leaves	Leaves
Shrubs	Leaves	Leaves
Fruit Trees	Harvested Fruits	Harvested Fruits

Source: Author development

Agricultural activities encompass a wide range of operations, such as livestock farming, forestry, the cultivation of annual and perennial crops, orchard and plantation maintenance, floriculture, and aquaculture (including fish farming).

As a result, these activities share certain common characteristics:

1. Ability to change: Living animals or plants possess the ability to undergo biological transformation.
2. Control over transformation: Management facilitates biological transformation by improving or at least stabilizing the necessary conditions (e.g., nutrient levels, humidity, temperature, productivity, and light). This management differentiates agricultural activities from other activities. For example, unmanaged resources such as ocean fishing and deforestation are not considered agricultural activities.
3. Evaluation of transformation: Changes resulting from biological transformation are assessed and monitored as a function of regular management. These include qualitative changes (e.g., genetic traits, density, maturity, fat content, protein content, and fibre strength) and quantitative changes (e.g., reproduction, weight, cubic meters, fiber length or diameter, and the number of buds) or yield [15].

#### **4. Conclusion**

Based on the research conducted on the accounting of biological assets, the following conclusions have been drawn:

In the national accounting system, the valuation of fixed assets related to agricultural activities is carried out in accordance with NAS No. 5 "Fixed Assets" under the generally established procedure.

In accounting legislation and national standards, the concept of biological assets is interpreted differently. In particular, NAS No. 21 (Guidelines for Applying the Chart of Accounts for the Financial and Economic Activities of Business Entities, Section 1, Clause 2) defines them under the accounts "Working and productive animals," "Perennial plants," and "Animals being raised and fattened."

However, annual crops (such as cotton, wheat, etc.), which are part of agricultural production, are not included in this classification.

### Recommendations

We believe that for enterprises engaged in agricultural activities in our country, it is necessary to develop a modified accounting standard based on NAS No. 41 "Agriculture."

This new standard could be called "Accounting for Biological Assets" or a similar designation, ensuring proper classification and financial reporting of biological assets in the agricultural sector. Therefore, the shift to evaluating biological assets and agricultural products at their fair value entails substantial alterations in the accounting framework for this sector. This approach allows for a more precise determination of the outcomes of agricultural operations, a reliable and transparent representation of these results in financial statements, and the facilitation of informed decision-making processes.

### REFERENCES

- [1] President of the Republic of Uzbekistan, "Development Strategy of New Uzbekistan for 2022-2026," PF-30, Jan. 28, 2022.
- [2] President of the Republic of Uzbekistan, "Additional Measures for Transition to International Financial Reporting Standards," Feb. 24, 2020.
- [3] V. P. Astakhov, *Buxgalterskiy uchyot: vneoborotniye aktivi i senniye bumagi* [Accounting: Non-current Assets and Securities], Moscow: Gardarika, Expert Bureau, 1997, p. 400.
- [4] N. M. Balakireva, *Nematerialnbiye aktivi: uchyot, audit, analiz* [Intangible Assets: Accounting, Auditing, and Analysis], Moscow: Eksmo Publishing House, 2005, p. 416.
- [5] J. C. Van Horne and J. M. Wachowicz, *Fundamentals of Financial Management*, Pearson Education, 2005.
- [6] V. M. Vitalyevna, "Razvitiye organizatsionno-metodicheskogo obespecheniya upravlencheskogo ucheta biologicheskix aktivov" [Development of Organizational and Methodological Support for Management Accounting of Biological Assets], Doctoral dissertation, Voronezh, 2022.
- [7] E. S. Rayimovna, "Ways to Improve the Audit of Assets in Business Entities," *Gospodarka i Innovacjie*, vol. 30, pp. 138–147, 2022.
- [8] L. I. Kulikova, "Konsepsiya buxgalterskogo ucheta dolgosrochnyx materialnyx aktivov v kommercheskix organizatsiyax" [The Concept of Accounting for Long-term Tangible Assets in Commercial Organizations], Doctoral dissertation, Kazan, 2001.
- [9] N. Kazakova, *Analiz finansovoy otchetnosti. Konsolidirovanniy biznes. Uchebnik dlya SPO* [Analysis of Financial Statements. Consolidated Business], Litres, 2019.
- [10] A. Z. Abduxalimovna and I. I. Nabiyeovich, "Organization of Long-Term Asset Accounting on the Basis of International Standards," *Central Asian Journal of Innovations on Tourism Management and Finance*, vol. 2, no. 11, pp. 86–92, 2021.
- [11] N. T. Qudbiyev, Z. A. Axmadaliyeva, and D. M. O. G. L. No, "Soliq yukining biznes uchun ahamiyati," *Scientific Progress*, vol. 3, no. 3, pp. 699–708, 2022.
- [12] Z. A. Axmadaliyeva, "MHXS ASOSIDA INVESTITSION MULKLARNI HISOBGA OLISHNING O'ZIGA XOSLIGI," *Oriental Renaissance: Innovative, Educational, Natural and Social Sciences*, vol. 3, no. 5, pp. 801–811, 2023.
- [13] A. Z. Abduxalimovna, "XALQARO VA MILLIY STANDARTLARGA KO'RA BIOLOGIK AKTIVLAR HISOBINING MUAMMOLI MASALALARI," *Raqamli Iqtisodiyot (Цифровая экономика)*, no. 7, pp. 499–506, 2024.
- [14] Z. Axmadaliyeva, *Biologik aktivlar buxgalteriya hisobni milliy va xalqaro standartlarga muvofiq takomillashtirish masalalari*, 2024.
- [15] Q. N. Tohirovich, "International financial accounting standards in Uzbekistan," *Academicia: An International Multidisciplinary Research Journal*, vol. 11, no. 4, pp. 328–333, 2021.