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ORGANIZATIONAL-ECONOMIC CONDITIONS FOR IMPLEMENTING THE ESG APPROACH IN HIGHER EDUCATION INSTITUTIONS: AN ANALYSIS OF THE UZBEK EXPERIENCE

Abstract

Higher education institutions, as large resource consumers and a factor transforming society, play an important role in sustainable development. This article studies the organizational and economic conditions for implementing the ESG (Environmental, Social, Governance) approach in higher education institutions based on foreign scientific experience and analyzes them in the context of Uzbek HEIs. The study, based on a qualitative descriptive-analytical approach, thematically analyzes international scientific sources, regulatory documents, and UI GreenMetric rating data. The results show the contradictory nature of the conditions: while strong state policy and environmental imperatives stimulate the process, financial constraints, weak integration into the curriculum, and low staff awareness slow it down. The example of Bukhara State University proves that even in resource-limited conditions, a step-by-step, management-based approach can achieve results. The study offers practical recommendations for Uzbek HEIs.

Keywords: ESG, higher education, sustainable development, organizational and economic conditions, Uzbekistan, UI GreenMetric.

1. Introduction

Higher education, science and innovation play a crucial role in ensuring social cohesion, economic prosperity and global competitiveness. Universities are not only important players in the regional economy and major employers, but also seen as a force shaping the values of sustainable development [1]. In recent years, this dual role, being simultaneously a large consumer of resources and a factor in changing society, has brought sustainability to the center of the higher education agenda [2].

The ESG (Environmental, Social, Governance) approach emerged in this context. Its scientific foundations go back to the concept of the “Triple Bottom Line” proposed by Elkington [3] and the stakeholder theory developed by Freeman [4]; the framework was formalized in 2004 after the UN Global Compact’s “Who Cares Wins” report [5]. Although initially intended for the corporate sector, ESG is now being successfully adapted to higher education institutions: it combines environmental sustainability, social responsibility and transparent governance in a single system, allowing for a comprehensive assessment of university activities across operational, academic and governance dimensions [6, 7]. Alenezi and Alanazi (2024) describe this through a six-component framework – curriculum integration, research and innovation, campus operations, community engagement, leadership and governance, and evaluation and reporting. However, implementing this approach places many organizational and economic constraints on higher education institutions [8]. Blanco-Portela conceptualizes sustainability as an organizational change process and identifies its key drivers and barriers, which they suggest are similar to those in businesses [9]. Further research identifies barriers as financial constraints such as high implementation costs and uncertain profitability, lack of skilled personnel and awareness, and gaps in governance [10]. Meanwhile, national policies and international ranking systems, such as the UI GreenMetric and Times Higher Education (THE) Impact Rankings serve as incentives for ESG implementation [1, 11].

Modernizing the higher education system in Uzbekistan, expanding the autonomy of institutions, and ensuring sustainable development have become a priority area of state policy. At the same time, the awareness of teachers and students in the region about sustainable development

goals is still limited, and this issue is often not sufficiently reflected in the curriculum [12]. On the other hand, the example of Bukhara State University has practically confirmed that even in resource-limited conditions, ESG principles can be introduced through a step-by-step, management-based approach [2]. Based on the above, it is theoretically and practically relevant to study the organizational and economic conditions for implementing the ESG approach in higher education institutions of Uzbekistan based on foreign scientific experience and analyze them in the national context. This article is aimed at fulfilling this task.

2. Methods

Research design. This study is based on a qualitative descriptive-analytical approach. Since the goal is to theoretically substantiate the organizational and economic conditions for implementing the ESG (Environmental, Social, Governance) approach in higher education institutions and analyze it in the context of Uzbek HEIs, a secondary analysis method based on a systematic study of existing scientific sources and official documents was chosen, rather than collecting primary experimental data.

Data sources. The study used three types of secondary sources. First, articles published in peer-reviewed international scientific journals - including research on ESG and sustainable development education in publications such as *Frontiers in Sustainability*, *Discover Sustainability* (Springer) and *International Journal of Evaluation and Research in Education*. Second, regulatory legal acts of the Republic of Uzbekistan, in particular Presidential Decree No. PF-5847 and the "Concept for the Development of the Higher Education System until 2030". Third, official data from international ranking organizations, mainly the UI GreenMetric World University Rankings results (2019–2025) and official information from the Ministry of Higher Education, Science and Innovation of Uzbekistan.

Source selection criteria. Sources were selected based on the following criteria:

(a) direct relevance to the topic — related to the implementation of ESG, sustainability or sustainable development education in higher education;

(b) relevance — priority was given to works published mainly within the last five years (2020–2026);

(c) reliability — academic publications, government documents and primary sources from recognized ranking organizations were relied on, secondary or unverified online sources were excluded from the analysis;

(d) geographical relevance — special attention was paid to the experience of Uzbekistan and similar countries with transition economies and resource constraints (Central Asia, UAE, Romania, Malaysia).

Analysis method. The collected materials were processed using the thematic (topical) analysis method. Initially, the main organizational and economic conditions and barriers to the implementation of ESG were identified from foreign studies and grouped into recurring themes (financial conditions, governance and policy, human capital and awareness, integration into the curriculum). Then, through a comparative analysis, these conditions were compared with the current situation in Uzbek HEIs, substantiated by national statistical indicators (GreenMetric participation dynamics, results at the institution level). The six-component ESG framework proposed by Alenezi and Alanazi (2024) was taken as a theoretical basis, and the Pentagonal Integral Model (PIM) developed by Jurayev et al. (2026) was taken as a conceptual support. Limitations. Since the study relies on secondary data, the conclusions are limited by the scope and quality of the available sources. Since primary empirical data (questionnaires or interviews on specific HEIs) were not collected, the conditions identified are of a generalized nature. In future studies, quantitative or mixed-method empirical studies based on a larger sample of Uzbek HEIs could deepen the results.

3. Results

The analysis made it possible to group the organizational and economic conditions for the implementation of the ESG approach in higher education institutions into two directions - as

stimulating (enabling) and limiting (impeding) factors. Below, these results are presented in the context of Uzbek HEIs, following the conceptual framework summarized in Figure 1.

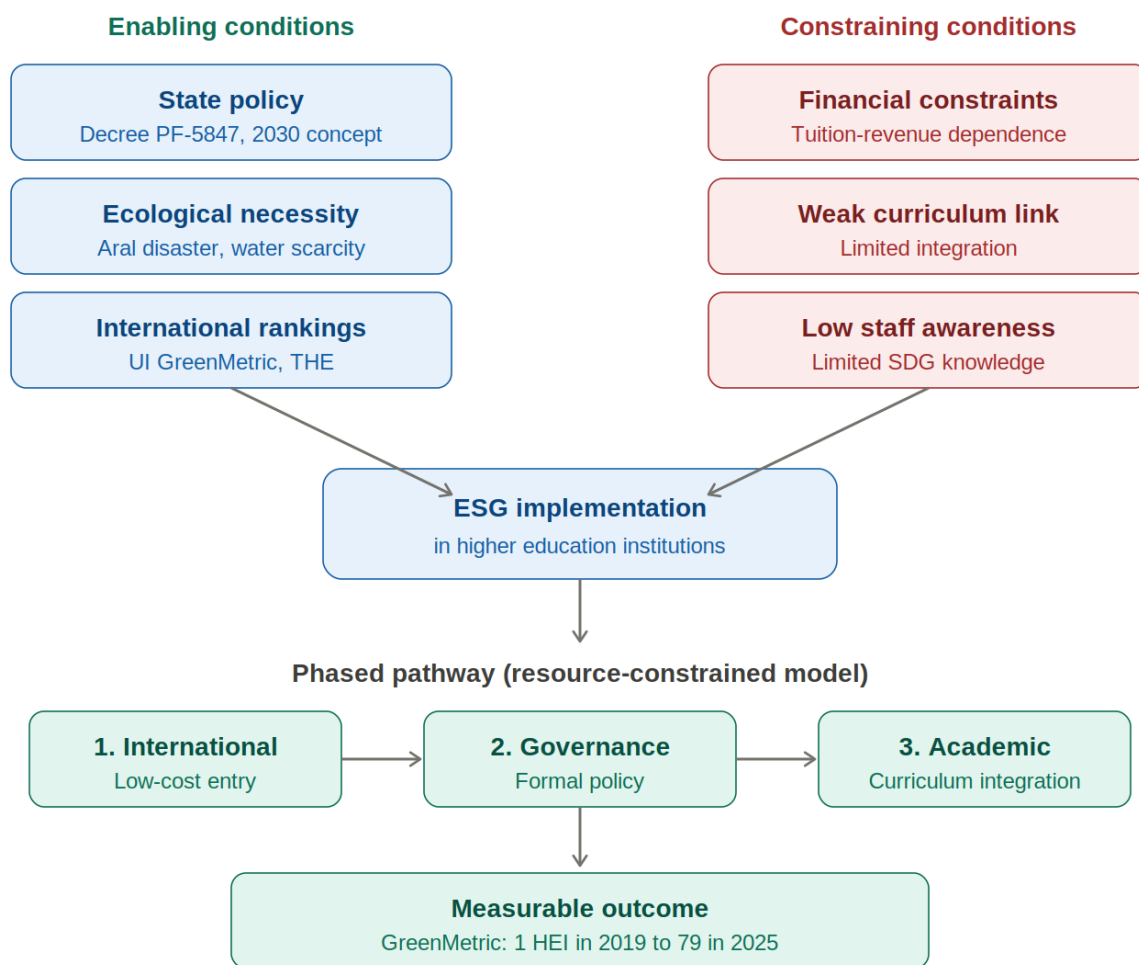


Figure 1. Conceptual framework of the organizational-economic conditions for ESG implementation in Uzbek higher education institutions (developed by the author)

The results at the level of individual institutions also confirm this. Bukhara State University, based on 15 years of continuous participation (2010–2025), scored 72.38% (7237.5 out of 10,000) on the overall sustainability score, ranking 401st out of 1,745 universities; 58% of its energy came from renewable sources, and 28.4% of its graduates found work in “green” sectors, according to the institution’s reported GreenMetric data [2, 17]. These indicators prove that even in resource-limited conditions, significant results can be achieved through a step-by-step, management-based approach.

Political and institutional conditions. The results show that the strongest stimulating factor for the implementation of ESG in Uzbekistan is formed at the level of state policy. The “Concept for the Development of the Higher Education System until 2030”, approved by Presidential Decree No. PF-5847 of October 8, 2019, identified expanding the autonomy of institutions and sustainable socio-economic growth as a priority task. This institutional framework is consistent with the principle of “establishing governance before infrastructure” proposed by Juraev et al. (2026), that is, ESG reforms are implemented in a sequence of formal policy and regulatory frameworks, followed by tangible investments. The declaration of 2025 as the “Year of Environmental Protection and Green Economy” has further accelerated this process.

Economic and financial conditions. The analysis identified the financing structure as the main limiting factor. The source of income for Uzbek state HEIs has shifted over the past decade, mainly from the state budget to contract (tuition) revenues. This situation creates a constraint on financing

the capital-intensive components of ESG – renewable energy, water-saving systems, and “green” infrastructure. In foreign literature, this is noted as a barrier of “high implementation costs and uncertain profitability” [10, 13] and remains relevant in the Uzbek context. At present, some leading institutions – for example, Tashkent State University of Economics - have academic, organizational and financial autonomy, which allows them to independently allocate resources for ESG initiatives. Human capital and awareness conditions. The results showed a second serious constraint - a lack of qualified personnel and awareness. A comparative study in Central Asia found that students have limited knowledge of the Sustainable Development Goals (SDGs), while teachers have relatively high levels of awareness; moreover, students in pedagogical and social-humanitarian fields are less aware than those in engineering and medicine [18]. An important observation is that students receive information about the SDGs more through social media, and the curriculum does not sufficiently reflect this issue. This result confirms the weakness of the “integrated into the curriculum” component, as highlighted by Alenezi and Alanazi [7].

Measurable results and dynamics. The analysis allowed us to assess the practical effectiveness of the ESG implementation process through the dynamics of participation in the UI GreenMetric rating. The picture becomes clearer once the years and the world-versus-national figures are separated. In 2019, a single Uzbek institution took part — Mirzo Ulugbek National University of Uzbekistan, placing 374th out of 780 universities worldwide. By 2024, Uzbek participation had climbed to 52 institutions, 30 of which entered the global top 1,000. In 2025, the ranking worldwide covered 1,745 universities from 105 countries; of these, 79 were Uzbek institutions (up from 52 in 2024), and 38 of them reached the global top 1,000 “greenest” universities. This growth, from one institution in 2019 to 79 in 2025, signals the systematic spread of ESG principles (Figure 2).

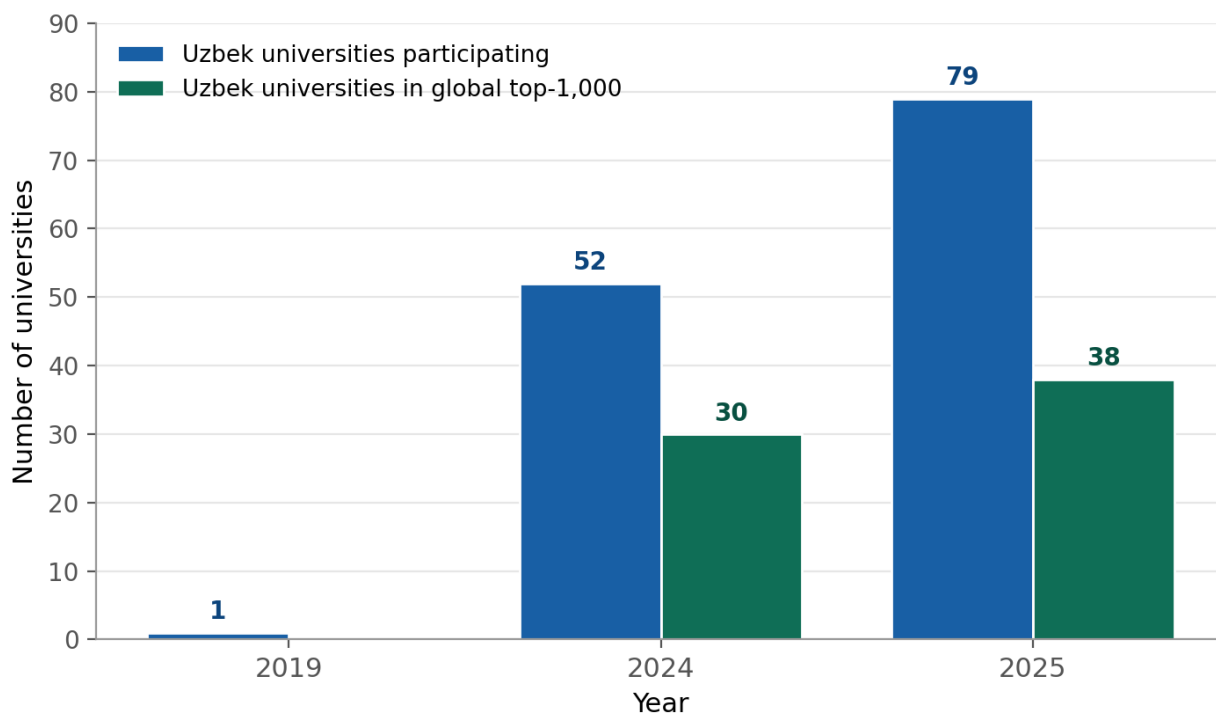


Figure 2. Dynamics of Uzbek universities’ participation in the UI GreenMetric World University Rankings, 2019–2025 (compiled by the author based on UI GreenMetric data)

The results at the level of individual institutions also confirm this. Bukhara State University, based on 15 years of continuous participation (2010–2025), scored 72.38% (7237.5 out of 10,000) on the overall sustainability score, ranking 401st out of 1,745 universities; 58% of its energy came from renewable sources, and 28.4% of its graduates found work in “green” sectors, according to the institution’s reported GreenMetric data [2, 17]. These indicators prove that even in resource-

limited conditions, significant results can be achieved through a step-by-step, management-based approach.

The overall result shows that the organizational and economic conditions for the implementation of ESG in Uzbek universities are contradictory: while strong state policy and environmental imperatives stimulate the process, financial constraints, weak integration into the curriculum, and low staff awareness slow it down.

4. Discussion

This study has shown that the organizational and economic conditions for the implementation of the ESG approach in higher education institutions in Uzbekistan are of a contradictory nature: on the one hand, strong state policy and environmental imperatives stimulate the process, while on the other hand, financial constraints, weak integration into the curriculum, and low staff awareness slow it down. The meaning of these results is discussed below in the context of the international literature. The dual role of state policy. The results of the study show that the strongest driving force for the implementation of ESG in Uzbekistan is the state-level agenda. This situation clearly coincides with the experience of the UAE: there, the national sustainability strategy serves as both a supporting framework and a source of pressure on institutional resources [14]. In other words, a “top-down” approach ensures rapid systemic change, but this can become a pressure if the material capabilities of institutions do not match the goals set by the agenda. The sharp increase in GreenMetric participation in Uzbekistan after 2025 was declared the “Year of Environmental Protection and Green Economy” confirms the power of this top-down mechanism. However, this speed does not guarantee the depth of sustainability – the problem of “separate, inconsistent actions” in the case of Romanian universities remains a potential threat for Uzbekistan as well.

Financial constraints and ways to overcome them. The results identified financial constraints as the main limiting factor, which is fully consistent with the international literature [10]. However, the most important practical conclusion of the study is that results can be achieved even in resource-constrained conditions. The case of Bukhara State University empirically demonstrates this: before investing directly in high-cost infrastructure, a strategy of initiating reform through low-cost “entry points”, membership in international rating networks and adoption of formal governance policies was effective. This provides an important recommendation for Uzbek HEIs: joining ratings such as GreenMetric requires relatively little funding, but creates an external pressure and measurement mechanism that encourages institutional change. Human capital is an overlooked link. The most serious strategic challenge among the research findings is the lack of awareness and integration into the curriculum. The fact that Bepalyy found that students mostly learn about SDGs through social media [18], while the curriculum does not adequately address the issue, suggests that the “integrated into the curriculum” component of Alenezi and Alanazi’s framework is actually working poorly. This provides an important strategic caveat: viewing ESG only at the level of campus operations (solar panels, waste recycling) leaves it at a “formal” level. To achieve sustainable results, ESG needs to be deeply embedded in the academic process, in curricula, faculty development, and research [15]. Otherwise, institutions may rise in rankings, but graduates will not acquire sustainability competencies.

This study confirms the practical relevance of the Pentagonal Integrated Model (PIM) proposed by Juraev et al. in the conditions of Uzbekistan and shows its transferability from the level of a single institution (Bukhara State University) to the level of a national system. The idea of the interconnection between the subsystems of the model “Environmental, Social, Governance, Academic and International”, especially the sequence “International → Governance → Academic”, is appropriate to consider as an organizational-economic strategy that can be generalized for all HEIs in resource-constrained transition economies.

Based on the analysis, several practical directions are proposed: (a) the formation of a coordination unit and a formal sustainability policy for ESG within the institution; (b) the use of international rankings and participation in networks as a low-cost entry point; (c) the systematic integration of sustainability modules into curricula and teacher training; (d) alleviate financial

pressures in partnership with the government, international donors (e.g. the World Bank Academic Innovation Fund) and business.

Limitations and future research. As the study relies on secondary data, the conditions identified are of a generalized nature. Future work is recommended to collect primary empirical data (surveys, interviews) on a larger sample of Uzbek HEIs, and to quantify the impact of ESG implementation on financial performance (student engagement, reputation, graduate employment).

5. Conclusion

This study aimed to study the organizational and economic conditions for implementing the ESG (Environmental, Social, Governance) approach in higher education institutions based on foreign scientific experience and analyze them in the context of Uzbek higher education institutions. The analysis led to the following main conclusions.

Firstly, the ESG framework, originally developed for the corporate sector, is currently being successfully adapted to higher education institutions and allows for a comprehensive assessment of university activities by combining environmental sustainability, social responsibility, and transparent governance in a single system. Foreign studies identify financial capabilities, maturity of the management system, qualified personnel, and integration into the curriculum as the main conditions for implementing ESG.

Secondly, in Uzbek higher education institutions, these conditions are of a contradictory nature. Strong state policy [16] and the environmental imperatives of the region (Aral Sea disaster, water shortage) strongly encourage the implementation of ESG. At the same time, dependence on contract financing, weak integration into the curriculum, and low awareness of the staff about the Sustainable Development Goals limit the process. Third, the most important practical conclusion of the study is that results can be achieved even in resource-limited conditions. This is clearly confirmed by the dynamics of the participation of Uzbek universities in the UI GreenMetric rating (from one institution in 2019 to 79 in 2025) and the results of Bukhara State University at the institution level. A step-by-step approach, starting from low-cost entry points based on the sequence “international cooperation → governance → academic integration”, can serve as an effective strategy for universities in emerging economies.

Fourth, viewing ESG only at the level of campus operations leaves it at a formal level. To achieve sustainable and profound results, the approach needs to be systematically embedded in the academic process - in curricula, faculty qualifications and research areas.

As a general conclusion, it can be said that the necessary institutional and political framework for introducing ESG in the higher education system of Uzbekistan has already been formed; now the main task is to alleviate financial constraints through creative solutions, deepen academic integration and increase human resources capacity. Since the study relies on secondary sources, it is recommended to conduct primary empirical research based on a larger sample of Uzbek HEIs in the future and to quantitatively assess the cost-effectiveness of ESG implementation.

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