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ADDRESSING CHALLENGES AND OPPORTUNITIES IN ACHIEVING SUSTAINABLE DEVELOPMENT IN KAZAKH HIGHER EDUCATION

Abstract: Achieving Sustainable Development Goal 4 requires significant changes and improvements in the education system of every nation. Providing quality education for sustainable development is vital in equipping everyone with the necessary knowledge, skills, and values to live with dignity, unlock their potential, and contribute responsibly to society. This study aims to tackle the challenges of achieving SDG 4 on the quality of Kazakh higher education. To explore the complexity of raising higher education quality, we conducted a qualitative study.

Keywords: Education for Sustainable Development, Higher Education, Quality Education, Teaching and Learning.

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ҚАЗАҚСТАНДЫҚ ЖОҒАРЫ БІЛІМ БЕРУДІҢ ТҰРАҚТЫ ДАМУЫНА ҚОЛ ЖЕТКІЗУДЕГІ ПРОБЛЕМАЛАР МЕН МҮМКІНДІКТЕРДІ ШЕШУ

Түйін: Тұрақты даму саласындағы 4-мақсатқа қол жеткізу әрбір елдің білім беру жүйесінде елеулі өзгерістер мен жетілдірулерді талап етеді. Тұрақты даму мүддесі үшін сапалы білім беру әркімді лайықты өмір сүруге, өз әлеуетін ашуға және қоғамға жауапкершілікпен үлес қосуға мүмкіндік беретін қажетті біліммен, дағдылармен және құндылықтармен қамтамасыз ету үшін өте маңызды. Біздің негізгі мақсатымыз Қазақстандағы жоғары білім сапасына қатысты ТДМ 4-ке қол жеткізу жөніндегі міндеттерді шешу болып табылады. Жоғары білім сапасын арттырудың күрделілігін зерттеу үшін біз сапалы зерттеу жүргіздік.

Тірек сөздер: тұрақты даму мүддесі үшін білім беру, жоғары білім, сапалы білім беру, оқыту және білімді меңгеру.

Introduction

Higher education worldwide positions itself as a leader in vision and wisdom, with its core values pointing to its potential role in shaping society. Education for Sustainable Development (ESD) is at the heart of the 2030 sustainable development (SD) agenda. It is widely recognised as a critical enabler of all 17 Sustainable Development Goals (SDGs), including SDG4, which focuses on Quality Education for All [1]. Acquiring essential competencies of the 21st century, such as sustainable lifestyle, work, and habitat, is crucial for shaping a sustainable future. Sustainable education is a renewable resource that allows individuals to acquire the necessary knowledge, skills, attitudes, and values to achieve this goal. Participatory teaching and learning methods motivate learners to act for SD, promoting critical thinking, imagining future scenarios and collaboratively making decisions as reflected in the Agenda 2030 [2, p.21]. The Agenda 2030 global goals aim to combine education and sustainability worldwide. It includes targets and objectives designed to empower education systems and agents of change to fight against poor-quality higher education. It also seeks to transform the world by orienting higher education towards SD, reviewing curricula, and improving the quality of education to achieve this goal. With the adoption of the UN SDGs, issues of ESD have become a top priority on the global agenda. The UN SDG 4.7 proposes that ESD should be included at all levels of education to improve the quality of education [3, p.7].

As part of its efforts to promote capacity building and experimentation, Kazakhstan (KZ) has joined other countries in raising awareness and implementing good practices [4-7]. Kazakhstan's educational institutions are required to adopt new teaching methodologies to increase global momentum in utilising educational resources for delivering sustainable education and learning, leading to a more sustainable future [4, p.17]. Higher education (HE) is considered a critical factor in implementing and achieving a sustainable future due to its intellectual capacity and role in knowledge generation in society. To meet this challenge,

Kazakh HE is searching for radical institutional innovations for the “greening” of higher education that involve agencies, internal organisational structures, operations or systems, and cultures of interaction with other social players beyond academia [5, p.183].

In KZ, despite the widespread implementation of ESD, challenges still need to be addressed in achieving SDG 4. The main challenge in improving quality, sustainability, and development in HE is more guidance and strategies [6]. It is not just a matter of technical policy transfer; it requires addressing the structural, cultural, and agency-related issues constraining the quick-fix approach to HE system reforms [7]. The study explores specific targets within UN SDG4 on quality HE from structural, cultural, and agency perspectives. We aim to delve into the intricacies of achieving the ESD.

Literature review

ESD is essential for empowering individuals and societies to tackle challenges related to environmental, social, and economic sustainability [6-7, 9-12]. In this context, developing a stronger connection and sense of responsibility towards the natural world can aid in promoting sustainable behaviours and efforts towards environmental conservation [9]. Shi and Guo state that individuals must change their behaviour, engage with society, and tackle its problems to overcome challenges and achieve long-term growth (10, p.9). ESD has become increasingly significant due to this factor.

Within the global ESD framework context, KZ is also committed to SD, as evidenced by including the UN SDGs in its national development strategy [4, p.7; 8, p.171; 13, p.74]. It has taken several initiatives to implement ESD and address sustainability issues to create a secure, fair, and prosperous shared future. The country embraces new regulations and technologies to improve well-being, promote employment growth, enhance education competitiveness, and provide adequate healthcare services [8; 13-14]. Although notable accomplishments exist, there is still significant room for development and enhancement, and several challenges must be addressed to enhance the contribution of Kazakh education in creating a fair and sustainable world. One major challenge that requires attention is the need for more understanding and knowledge about ESD among various groups, including policymakers, educators, students, and the general public [4, p.17]. The COVID-19 pandemic, which caused schools to shut down around the globe, made this issue even more pressing [13, p. 12]. Furthermore, the current curriculum in Kazakh education fails to focus more on sustainability issues and emphasises the development of critical thinking and problem-solving skills necessary to achieve SD. There are concerns among ESD experts that progress toward sustainability could be faster and more robust despite promising terrain [14, p.189]. For instance, Khajieva and Aida claim that a complete shift in the overall paradigm of education and society is necessary for sustainability. According to experts, education is often a part of the problem, as it can reinforce individualism, unsustainable lifestyles, and consumption patterns [11, p.171]. In addition, advancing social modernisation entails adjusting the economic and social components to meet the demands and expectations of contemporary society [13, p.14].

ESD is an all-encompassing approach to education that focuses on various aspects, such as learning outcomes, pedagogy, and the learning environment [16-17]. It goes beyond incorporating topics like climate change, poverty, and sustainable consumption into the curriculum. ESD fosters interactive, learner-centred teaching and learning environments [17, p.349]. ESD requires shifting from teaching to learning, promoting action-oriented, transformative pedagogy that supports self-directed learning, collaboration, problem-solving, interdisciplinarity, and integrating formal and informal education. These pedagogical approaches are essential in developing competencies for promoting SD [18, p.21]. Experts claim teachers can effectively contribute to ESD initiatives, empower students to become responsible global citizens, and foster a culture of sustainability in education [6-7; 12-14; 16-18]. Experts also believe that involving students in activities that aim to improve the world has a lasting influence on their students' future views and personalities. Shi and Guo define teachers as the most significant factor in the context of learning. SD-focused classroom activities allow students to learn more profoundly when their students are linked to their world and the one they will inherit [12, p.8]. Teachers are always at the forefront of educational changes, introducing student autonomy, group work, project work, case studies, and communicative tasks that teach students to become active doers and thinkers, not passive recipients of knowledge [7, p.91]. Maley argues that the greatest of all pedagogical misconceptions is that people learn what they are studying now. Integrated with educational aims, training in forming sustainable attitudes may be more important than geography or history lessons since these attitudes fundamentally affect their students' future attitudes and personalities [17, p. 348]. He, alongside Jacobs and Dillon [18, p.91], believes that language educators have a significant role in shaping

the mindset of learners and inspiring them to act. Unlike other subjects with specific content to impart, language teaching can incorporate a wide range of topics.

Integrating environmental concerns such as recycling, sustainable energy, and animal welfare into language education, including second language instruction, can raise awareness and encourage participation. In addition, incorporating sustainable practices is essential for creating engaging online learning experiences in higher education institutions. By including activities that promote sustainability, we can make practical scenarios relevant to our current implementation stage [12, p.3].

Kazakhstan's Pathway to ESD

Kazakhstan has made significant strides in promoting SDGs. In the early 2000s, it recognised the importance of SD and began integrating it into its national policies and strategies. Efforts were made to raise awareness about environmental conservation, resource management, and social responsibility [3-4; 15; 19]. In 2002, KZ ratified the Johannesburg Plan of Implementation, reaffirming its commitment to SD and highlighting the role of education in promoting sustainability. 2003-2012 was recognised as the period for implementing the ESD in Education Policies. In 2003, KZ adopted the United Nations Millennium Development Goals (MDGs) and committed to achieving the targets by 2015. Education was identified as a crucial component of SD, and steps were taken to align educational practices with the MDGs. The same year, the Kazakh government launched the State Program on Environmental Education to incorporate environmental education into the national curriculum.

KZ actively participated in international initiatives, such as the UN Decade for ESD (2005-2014), to promote ESD and exchange best practices. In 2008, the Ministry of Education and Science issued a directive on integrating environmental education into the education system, highlighting the importance of ESD. Since then, the education community has done much to develop ESD Strategies and Initiatives. Later, KZ introduced the National Education Development Strategy for 2011-2020. The strategy emphasised the importance of education for SD, aiming to develop an environmentally literate and socially responsible society. 2013, the government created the State Program for the Development of Education and Science, emphasising ESD integration into educational policies and practices [19, p.7].

The National Strategy for Sustainable Development 2050, adopted in 2015, recognised the importance of ESD in achieving SDGs and outlined specific actions to promote ESD [4]. KZ participated in the Global Action Program on ESD launched by UNESCO, further demonstrating its commitment to ESD and aligning its efforts with international frameworks. KZ has been a Pathfinder in the region as part of the Digital Public Goods Alliance's (DPGA) efforts to ensure country leadership in discovering and developing digital public goods (DPGs). The objective of the pilot initiative was to engage KZ's innovation ecosystem in creating and implementing DPGs that address national priorities in education and inclusion aligned with international standards. UNICEF KZ works with private and public sector partners and the government to strengthen local capacity to build, maintain, and contribute to DPGs [4].

Further, Kazakhstan prioritised reforming its curriculum and providing teacher training to promote ESD. The country aimed to incorporate the principles of ESD and its content across various subjects and educational levels. The focus was on integrating environmental education, promoting social and economic awareness, and fostering critical thinking skills among students. Kazakhstan recognised the crucial role of teachers in promoting ESD and invested in teacher training and professional development programs, providing teachers with knowledge, pedagogical approaches, and resources to integrate ESD into their teaching practices. As a result, Kazakh schools have successfully integrated ESD into their programs and courses, encouraging sustainability-related disciplines, research, and projects and fostering a culture of sustainability among students and academia.

Additionally, environmental education centres were established across Kazakhstan as platforms for hands-on learning experiences, ecological research, and community engagement. These centres aim to raise awareness, build capacity, and facilitate collaboration among educators, students, and communities. Under the Green Schools Initiative, which focused on creating environmentally friendly and sustainable learning environments, schools were encouraged to implement energy-saving practices, waste management systems, and eco-friendly initiatives. KZ has taken active steps towards strengthening partnerships and community engagement by involving stakeholders such as educational institutions, civil society organisations, businesses, and local communities. They have worked together to create policies, share best practices, and implement the ESD initiatives effectively. To facilitate capacity-building initiatives and knowledge exchange in ESD, KZ collaborates with international organisations such as UNESCO and OSCE. They also

support ESD implementation projects and programs in cooperation with local stakeholders, such as the Green Bridge Partnership Program and the Clean Energy Partnership Program.

The government has launched community-led initiatives and awareness campaigns to promote sustainability practices and engage the general public in ESD activities. KZ organises workshops, conferences, and public events to involve communities and individuals in SD activities. National ESD competitions and awards are organised to recognise and promote outstanding initiatives and practices in ESD. These initiatives encourage innovation, creativity, and engagement in addressing sustainability challenges. They reflect Kazakhstan's commitment to ESD and its efforts to create a sustainable and environmentally responsible society.

The government of KZ is committed to promoting ESD in its education system. They have made efforts such as policy development, curriculum reforms, teacher training, and community engagement to achieve this. They are working towards strengthening the integration of SD principles and values across all levels of education. KZ also aims to promote research and innovation in SD and foster a culture of sustainability among students, teachers, and communities. By aligning its initiatives with international frameworks and participating actively in global ESD programs, KZ has demonstrated its dedication to creating a sustainable and environmentally responsible society.

Challenges and Opportunities in Sustainability Education in Kazakhstan

Significant Challenges in Kazakh Education for Sustainable Development

ESD has been a top priority in Kazakhstan for over a decade. This initiative is actively supported by educational institutions, scholars, and educators working together to find practical ways to raise awareness and act on environmental protection and sustainability issues like climate change, biodiversity, water conservation, poverty alleviation, and sustainable consumption and production. Despite the various initiatives, the education sector and beyond have not seen the necessary changes. This is because governmental entities have not provided timely and complete support. Research indicates that governmental support is crucial for the effective and safe transformation of the produced results into nationwide learning environments. It will also help to build the capacity of educators, empower and mobilise youth, and accelerate local-level actions. Unfortunately, the government has not provided complete support promptly, which has hindered progress in this area.

In order to contribute to the SDGs, it is important to establish a long-term regulatory framework that introduces practical and effective measures. This can empower active citizens, promote sustainable lifestyles, increase capacity in SD, and strengthen partnerships and cooperation. However, education in SD in Kazakhstan faces several serious problems that prevent it from flourishing and being inclusive. To support our research outcomes, we can refer to reports from international and national entities on ESD. [3-4; 15; 19]. For instance, UNICEF KZ and UNICEF Innovation have revealed several challenges in Kazakhstan's efforts to promote inclusive and sustainable education through innovation ecosystems [3]. They noted, firstly, that limited funding opportunities are available locally to assess in-country Digital Public Goods (DPGs) in the early stages of development. Secondly, product developers and policymakers need to gain awareness about DPG standards and the work of the Digital Public Goods Alliance (DPGA). Thirdly, startups need help with maintaining human resources sustainably. Finally, there needs to be a higher level of awareness about the benefits and utilisation of DPG products. Additionally, the German Society for International Cooperation (GIZ) work, incorporated with Kazakhstan, revealed that Kazakhstan needs strategic adaptation planning to improve the adoption and implementation of the SDGs model [13, p.24].

From the national perspective, for example, integrating the ESD component in the content of the Kazakh State Standard of General Education, Standard Secondary School Curricula (grades 1-11) states that the analysis of the content of Standard curricula in school subjects showed that the educational material on most school subjects contains a small number of topics/learning goals that have direct integration with the SDGs [19, p. 15].

So, the literature review and interview results revealed that contextual challenges specific to the Kazakh education system must be addressed to convey sustainability principles effectively. Some of the significant challenges are:

1) The main problem in improving sustainability education practices in Kazakhstan, especially in language teaching, is that people *lack awareness and understanding* of SD initiatives. Research shows a need for comprehensive knowledge about SD among the general public, including parents and community members, especially in rural areas. One of the main reasons for this issue is that the concepts and practices

of ESD need to be more effectively integrated into the national curriculum. The current curriculum is primarily theoretical and does not focus enough on the skills needed for SD, such as critical thinking, problem-solving, and innovation. As a result, students cannot appreciate the interconnectedness of social, economic, and environmental issues and cannot develop sustainable solutions to real-world problems.

2) There are significant *disparities between urban and rural areas* that lead to unequal access to quality education, which is a persistent problem in different regions. Rural and remote areas are particularly affected by these geographical differences. Kazakhstan, being a vast country with a diverse geography, faces challenges in ensuring equal access to quality education. Remote and rural areas often lack the necessary infrastructure, including schools, libraries, and educational resources, making it difficult for students in these regions to receive a quality education. On the other hand, urban areas, which are typically wealthier, have well-equipped schools, qualified teachers, and access to educational materials and technology, resulting in higher-quality education. Unfortunately, this inequality perpetuates socioeconomic disparities, ultimately hindering development and opportunities for students in these regions. Low-income families struggle to afford educational expenses, which include school fees, uniforms, textbooks, and transportation costs. This results in limited educational opportunities for children from economically disadvantaged backgrounds. Ensuring the inclusion of marginalised and underprivileged groups in the educational system is a significant issue in Kazakhstan.

3) Kazakhstan is committed to SD and ESD. However, there are challenges in *integrating ESD into policies, strategies, and programs* while coordinating efforts across various ministries, government agencies, and educational institutions. It is crucial to ensure coherence and alignment between policies, procedures, and programs to foster sustainability-oriented mindsets among students. The sectoral organisational structure and separate policies and priorities of different ministries and government agencies make it challenging to implement ESD agendas in an integrated, comprehensive, transversal, and collaborative manner across education, environment, and social development [19, p. 14].

4) Mainstreaming ESD is a challenging task, and one of the biggest hurdles is adjusting the curriculum. ESD requires an interdisciplinary approach that integrates multiple subjects and addresses sustainability issues throughout the curriculum. However, the traditional subject-based structure of the curriculum in KZ poses challenges in implementing an integrated approach, as some educators are not familiar with SD principles, concepts, and practices and, therefore, resist the change.

4) *Keeping up with the latest technological developments* can be challenging for educators, making it difficult to incorporate them into ESD programs. The availability and accessibility of digital infrastructure, internet connectivity, and digital devices differ from region to region, with rural and remote areas experiencing more significant disparities. This divide negatively affects students' ability to use online learning resources, digital tools, and educational technologies. Moreover, limited digital literacy skills among teachers and students exacerbate the issue. To ensure inclusive and practical education in KZ, it is crucial to address the digital divide by providing adequate technical support and training to educators and students [7].

5) *Funding challenges* pose significant obstacles in meeting Kazakhstan's needs for ESD. Despite the government's efforts, there is a pressing need for increased funding in education, specifically for resources and infrastructure that foster SD. More budget allocation for ESD initiatives is necessary to implement necessary programs and activities. Education budgets may prioritise other areas such as healthcare, infrastructure development, and economic initiatives. Hence, it is crucial to address the issues of adapting SDGs to the national context and promoting and implementing the SDG agenda in Kazakhstan. Moreover, the effective use of online teaching tools relies not only on the methods and procedures implemented by university educators but also on the unique features of technological teaching platforms, which have become increasingly vital during distance learning. Therefore, ESD implementation needs to receive adequate funding to support curriculum adjustment, teacher training, resource development, and infrastructure improvements to meet emergencies.

Relying on external funding sources, such as grants, donations, or implementing sustainable ESD initiatives, has its challenges in terms of financial stability. Although international aid can be helpful, it also brings uncertainty and makes the long-term sustenance of ESD programs difficult. Even official organisations recognise the need for consistency and predictability in external funding, but they still rely on it. To implement ESD effectively, infrastructure improvements such as eco-friendly school buildings, laboratories, and technology for interactive learning are often required. However, these improvements require significant investments.

Opportunities for Addressing the Challenges Revealed

Kazakhstan is a country that boasts abundant natural resources and has made significant economic progress. However, its education system still faces challenges that could hinder its pursuit of SD. Education is a crucial tool that can influence a nation's trajectory towards sustainability by promoting awareness, encouraging innovation, and imparting the skills necessary to address environmental, economic, and social challenges. To address the challenges facing the advancement of ESD in Kazakhstan, a multi-faceted approach is necessary. To overcome these challenges and harness the potential of education in promoting SD, the following potential strategies are proposed:

1. *Curriculum adjustment.* The curriculum is the heart of education, and it is crucial to incorporate the principles and values of ESD as a fundamental component of national education strategies and plans into the national curriculum. It is essential to integrate these principles at all levels of education, from early childhood to higher education, as well as non-formal and informal education. A curriculum that balances theory with practical skills is necessary. An inclusive curriculum that raises awareness, fosters a holistic understanding of the complex interplay between societal, economic, and environmental dimensions, and promotes critical thinking, problem-solving, and life skills is essential. Sustainability education should be interdisciplinary, blending science, economics, and social studies to provide a comprehensive view of SD in cross-cutting themes, such as adopting green infrastructure, reducing energy consumption, promoting waste management, and incorporating sustainable procurement practices.

2. *Emphasis on skill development.* It is crucial to have competent, well-trained, and motivated teachers to deliver quality education to students. Achieving this requires a focus on teacher training and continuous professional development programs. Sustainability competencies, including subject knowledge, pedagogical skills and tools, attitudes, values, motivation, and commitment, should be integrated into these programs. Furthermore, specific ESD competencies should be emphasised to enable teachers to help individuals develop sustainability competencies using innovative teaching and learning methods like case-based, inquiry-based, problem-based, project-based, and collaborative learning. Teachers should adopt active and participatory teaching methodologies to foster creativity, critical thinking, problem-solving, and self-expression abilities in their students. This can be achieved through project-based learning, internships, or community service activities that promote sustainable practices and pedagogical approaches.

3. *Quality education for all.* Access to quality education for all in Kazakhstan can only be achieved through a comprehensive and multi-faceted approach. This includes improving education infrastructure, promoting inclusive education, enhancing teacher quality, developing relevant and inclusive curricula, allocating adequate resources, bridging the urban-rural divide, and addressing other relevant issues. To promote inclusive education practices that accommodate students with disabilities and special educational needs, the government should ensure that schools have appropriate infrastructure and resources. Specialised training should also be provided to teachers to cater to the diverse learning needs of all students effectively.

4. *Increasing education funding.* Financial constraints can hinder the implementation of sustainable education initiatives. To drive meaningful changes, national budgets should prioritise education to guarantee that schools have the necessary funds to provide quality education and maintain a conducive learning environment, including adequate funding for infrastructure development, teacher training, and curriculum enhancement.

5. *Building Partnerships and Stakeholder Engagement.* Sustainable education goes beyond the boundaries of educational institutions. By engaging with various stakeholders, such as government agencies, educational institutions, international organisations, NGOs, the private sector, and community-based organisations, valuable resources and insights can be gathered to implement sustainability education. These partnerships can provide technical expertise, funding, and innovative strategies that contribute significantly to the sustainability agenda. Additionally, encouraging joint initiatives and projects that promote ESD fosters a sense of shared responsibility for SD.

6. *Inter-Ministerial Coordination Mechanisms.* To effectively integrate ESD into policies, strategies, and programs, a collaborative and systematic approach is required. This involves coordinating efforts across various ministries, government agencies, and educational institutions for a holistic approach to ESD. Creating a comprehensive and well-defined national ESD framework is critical. This framework should outline the objectives, principles, and action plans for integrating sustainability into education policies and programs. It is also vital to involve input from multiple stakeholders, including inter-ministerial committees or expert groups specifically focused on ESD and civil society organisations. This ensures coordination,

collaboration, and alignment of efforts across various sectors. To achieve this, inter-ministerial working groups should be formulated, comprising representatives from different ministries and agencies involved in education, environment, and SD. This approach ensures coordination, collaboration, and alignment of efforts across various sectors.

7. *Monitoring and Evaluation Mechanisms*. With proper monitoring and evaluation mechanisms of existing education policies and curricula to assess ESD integration efforts' effectiveness, ESD initiatives' impact can be adequately evaluated. A robust monitoring and evaluation framework should regularly assess the quality of school education, review progress, identify gaps and opportunities, and celebrate successes to maintain momentum and commitment.

To effectively integrate ESD into policies, procedures, and programs and coordinate efforts across various sectors and institutions, it is essential to follow the strategies and foster a culture of collaboration and commitment to SD. By doing so, we can lay the foundation for a more sustainable and resilient future in Kazakhstan.

Conclusion

ESD plays a crucial role in the development strategies of countries worldwide, integrating social, economic, and environmental aspects to build a sustainable society. Kazakhstan, a Central Asian country with ambitious development objectives, aims to align its education system with SD principles and values. However, achieving this goal is challenging, and it requires careful consideration and innovative solutions. This study aims to identify and address the obstacles to ESD in Kazakhstan and provide a roadmap for improvement.

The study has highlighted significant challenges in Kazakhstan's education system that could hinder the country's progress towards SD. However, these challenges can be managed by addressing them through concerted efforts. The proposed solutions focus on improving the curriculum, teacher training, skill development, funding, and strategic partnerships. Implementing these strategies will enable Kazakhstan to advance towards a more sustainable and inclusive education system. It is essential to emphasise the role of education in fostering a sustainable society, leading to a greener and brighter future for Kazakhstan and its citizens. The transformative power of education can be harnessed to nurture a generation equipped with the knowledge, skills, and values necessary to lead the country towards a sustainable future.

Educating for SD involves not just adding sustainability topics to the curriculum. It requires transforming the entire educational system to reflect sustainable practices, from school infrastructure to teaching methods. This approach will help students learn about sustainability and its practical applications while encouraging a culture of sustainability that can contribute to Kazakhstan's development goals. To tackle these challenges effectively, a multifaceted approach is necessary, involving collaborative efforts from various stakeholders, including educators, students, parents, policymakers, and the wider community. By working together, Kazakhstan can become an exemplary model of SD, showcasing how education can foster a more equitable, prosperous, and sustainable society.

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