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The impact of higher education on sustainable development and the most important factors for achieving it and its obstacles

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Abstract

The topic of sustainable development is critical, especially at present, because of its importance in preserving and developing human and natural resources, preserving the rights of future generations, and ensuring their well-being and future. The research addressed the concept of sustainable development, its importance, features, and dimensions, as well as the most important key factors to achieve it. The study highlighted the main obstacles to the principles of education for sustainable development, the role of education in supporting sustainable development, and discussed the Malaysian experience in education. One of the primary objectives of the research is to demonstrate the importance of supporting education for sustainable human development and the labor market. The research employed a descriptive and analytical approach. One of the key findings was confirming that the most significant obstacles to achieving sustainable development are poverty, natural disasters, wars, loss of natural resources, population migration, among others.

Keywords: Awareness, Education, Programs, Skills, Students, Training, Universities.

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1. Introduction

The topic of sustainable development has received the attention of researchers and specialists because of its importance in ensuring human well-being, preserving rights, securing the rights of future generations and their development, and striving for their sustainability in various ways and fields, especially in education, health, the environment, and others.

Given the significant challenges faced worldwide due to numerous natural and climatic disasters, as well as internal and external conflicts, it is essential to emphasize the most important factors that contribute to reducing the depletion of human resources and their diversity, and to preserving the environment from pollution to ensure a healthy climate for the population and a prosperous future for upcoming generations. Therefore, there is a growing interest in scientific studies that

help identify effective solutions and develop economic strategies to ensure sustained growth and the production of additional resources to compensate for shortages caused by natural disasters and adverse natural conditions.

Therefore, the research highlighted the concept of sustainable development, its importance, its most significant features, and its primary goals. It also discussed the content of the Aichi–Nagoya Declaration on Education for Sustainable Development, the fundamental principles of education for sustainable development, the role of education in supporting sustainable development, and the most prominent areas of employment. In the same context, the research examined the support of education for sustainable human development and the labor market. Additionally, the research referred to the Malaysian experience in education and its impact on sustainable development and its activation.

1.1. The Research Problem

- 1 - What is the role of education in achieving sustainable development
- 2-What is the sustainability of Education
- 3 - What is the role of education in activating sustainable human development and the labor market
- 3 - What are the main reasons and obstacles that prevent the achievement of the Sustainable Development Goals

1.2. Research Questions

- 1- What is the impact of higher education outcomes on sustainable development?
- 2- What are the most important sustainable development goals and their main obstacles?
- 3- What are the most important recommendations of the Aichi-Nagoya Declaration regarding education for sustainable development?
- 4- What is the importance of education in supporting sustainable human development and the labor market?

1.3. Research Objectives.

The main objectives of the research are the following:

- 1-knowledge of the Sustainable Development Goals and methods of activating them.
- 2-review the content of the Aichi–Nagoya declaration on education for Sustainable Development.
- 3-the role of education in employing and activating sustainable development.

1.4. Importance of Research

The importance of the research lies in shedding light on the concept of sustainable development, how to employ and activate it, its most important goals, and the impact of education on it.

1.5. Research Methodology

The researcher used the descriptive-analytical approach, which is based on collecting data, information, and facts about the phenomenon or subject under study, then analyzing, interpreting, and drawing conclusions from them. The study relied on a sample of 79 lecturers from various Iraqi universities, and their opinions were expressed on the importance of higher education in supporting sustainable development, achieving its goals, and employing its outcomes in the labor market.

1.6. Data Collection Tools

The researcher relied on a set of tools that serve the nature and methodology of research, such as:

- 1-scientific books and references that include the topic of education and sustainable development.
- 2-previous studies and research that included the topic of education and sustainable development.
- 3-websites that included the topic of education and sustainable development.
4. resolution

1.7. Sample Research

The researcher identified the research community and the study sample as the 79 Iraqi university professors, who were selected through a specially prepared questionnaire for this purpose. The samples were collected within a maximum period of four (4) weeks.

1.8. Literature Review

The study Ahmed [1] is a field study aimed at identifying the role of educational technology in achieving sustainable development. The research community was determined to consist of 110 teaching staff at the Faculty of Education for Pure Sciences / Ibn al-Haytham Department of Life Sciences, and an induction sample was selected by a simple random method with a percentage of 36% from the research community. The number of sample members reached 40 teaching staff. A questionnaire containing 22 paragraphs was completed. Their validity and reliability were confirmed [2].

Study Soubbotina [2] the research aims to identify the role of academic and educational institutions in the process of sustainable development, as education is considered the main pillar in building the community workforce in production and how to plan inputs that care for the public interest and keep abreast of developments taking place in our world today through the use of modern technologies in the fields of education and work. There is a close relationship between these elements and their evolution [3].

Study Karim and Al Hussein [4] the research aims to highlight the quality of higher education as one of the key factors that contribute significantly to achieving the Sustainable Development Goals. Higher education not only helps in

knowledge transfer and skills development but also encourages critical thinking and stimulates innovation and scientific research. All these aspects are necessary to achieve sustainable development. By providing higher education with high quality, countries can develop a strong base that supports innovation, technological development, and sustainable economic growth. Additionally, higher education can contribute to promoting equality and social justice through educational opportunities and access to knowledge for all segments of society. Achieving the Sustainable Development Goals also requires focusing on environmental and sustainability issues. Here, higher education can play a vital role in promoting awareness of environmental issues, developing sustainable solutions, and training qualified cadres to work in this field. This is where the research problem arises, as the quality of higher education has not been given the importance it deserves to raise the level of education and achieve the desired goals, thereby obtaining optimal sustainable development [5]. This study is distinguished from previous research as it includes several different elements, including a focus on the role of education in sustainable development and supporting it to achieve its goals and employ its outcomes in the labor market. The study also discusses Malaysia's experience in education and its impact on sustainable development, which provides the research with a practical and realistic dimension. It is an applied study, as its results were generated through a random sample of 79 Iraqi university lecturers across 20 Iraqi governmental universities and educational institutions, utilizing their opinions and insights to activate the role of university education and its impact on sustainable development, as well as identifying the most prominent factors for achieving it and its obstacles. This study aims to analyze the factors that contribute to achieving sustainable development and the obstacles involved, which can aid in developing effective strategies to support education and its role in development. The research also discusses the Aichi-Nagoya Declaration on Education for Sustainable Development, the key components of sustainable education, and the application of education for sustainable development in strategic policies and programs.

2. Theoretical Framework

2.1. The Concept of Sustainable Development

Sustainable development is a dynamic process consisting of a series of balanced social, economic, and environmental actions and changes aimed at developing human potential, land, cities, and trade, and protecting them in a way that secures the needs, welfare, security, safety, and prosperity of society without compromising the ability of future generations to achieve these goals [2]. It is defined as an economic activity that leads to social well-being and demonstrates great care for available natural resources without harming the environment, striving to preserve opportunities for future generations, and emphasizing the need to achieve justice between generations [3].

It should be noted that the concept of sustainable development was documented for the first time in the report of the World Commission on Environment and Development in 1987, and was defined in the report as development that meets the needs and requirements of the present without adversely affecting the ability of future generations to meet all their needs and requirements. Hence, it can be said that sustainable development is concerned with improving life by focusing on environmental conservation [5].

I mentioned several names for sustainable development, including continuous development, supportive development, and sustainable development. However, as a concept, it has its roots in the first mentioned in the report of the multidisciplinary committee commissioned by the United Nations program to formulate a definition of a new concept of development, which was completed at the end of 1994. The World Resources report issued in 1992 defined the concept of sustainable development, and the concept of development is no longer solely integrative but also based on justice and participation [6].

2.2. Dimensions of Sustainable Development

They can be summarized as follows:

Economic dimension: development processes in current societies must be economically feasible so that the burden of these costs does not fall on future generations. The time factor is very important, on the one hand, for achieving sustainable development, and on the other hand, for drawing up plans and schedules that allow meeting needs over long and different periods. The social dimension: this dimension focuses on the human being as the center and the main goal of development [6, 7].

The environmental dimension: This dimension refers to the extent to which the planet can absorb waste left by humans and, in return, provide various needs such as energy and natural resources. The concept of environmental sustainability also requires that humans carry out their activities without depleting natural resources or harming the environment [6, 7].

2.3. Features and Characteristics of Sustainable Development

One of the most important features of sustainable development is the following:

It is a comprehensive, integrated, continuous, fair, and balanced development. Do not reap the benefits for the current generations at the expense of future generations, and emphasize not to waste, misuse, or exploit. Taking into account the environmental dimension in all its projects and maximizing the value of popular participation, or the participation of citizens, in all stages of development work. It works to link the economy, the environment, and society together [8, 9].

The time dimension is fundamental; it involves long-term development that depends on assessing current potential and resources. It is planned for a future period during which expected variables can be predicted. Consideration should be given to meeting upcoming needs in natural resources within the vital sphere [8, 9].

It is concerned with providing the necessary needs of individuals in the first place, such as education, health services, and everything related to improving human life. Taking into account the preservation of the biosphere in the natural environment, both its elements and compounds [8, 9].

It is an integrated development concerned with reducing the disadvantages of using natural resources and methods of investing in them, making them all work harmoniously within the environmental system to maintain desired continuous development, such as applying the philosophy of green marketing [8, 9].

2.4. Importance of Sustainable Development

The importance of sustainable development is centered on the following:

Facilitates the identification of options and the development of policies with a balanced long-term perspective. It is dedicated to the analysis of economic, social, political, and administrative factors from a holistic perspective, avoiding greed when dealing with limited natural resources [10].

Facilitates the unification of the efforts of the government and the private sector towards goals and programs that have a direct impact on all future segments of society. It allows participants to engage in the exchange of experiences and skills by promoting education, training, and awareness that will foster innovation and creativity [10].

2.5. Sustainable Development Goals

Sustainable development aims to improve the quality of human life without compromising the environment. In general, it is a process of rational exploitation of natural resources [11].

Preparing individuals to face life and the ongoing changes around them in a positive and effective manner, assisting them in thinking positively and creatively, and transforming their perspective from superficial to a deeper and more comprehensive understanding of the life that surrounds them [10, 12].

Achieving a better quality of life for the population through planning processes and the implementation of development policies aimed at improving the quality of life in society economically, socially, and psychologically. The focus is on qualitative aspects of growth rather than quantitative, ensuring fairness, acceptability, and democracy [9, 13].

Respect for the natural environment: Sustainable development depends on the relationship between the activities of the population and the environment [9, 13].

Enhancing the population's awareness of existing environmental problems: developing their sense of responsibility towards them and encouraging them to actively participate in the search for appropriate solutions through their participation in the preparation, implementation, monitoring, and evaluation of sustainable development programs and projects [9, 13].

Achieving the rational exploitation of resources: sustainable development addresses natural resources as limited resources, thus avoiding their depletion or destruction and working to use and employ them rationally [9, 13].

Develop strong policy frameworks at the national, regional, and international levels, based on people-centered and pro-poor development strategies, to accelerate investment in poverty eradication measures [14].

2.6. The Most Important Areas of Sustainable Development Employment

There are three main areas that should be taken care of in order to achieve the concept of sustainable development, as follows:

Achieving economic growth and justice by creating a link between the global economic system and the law to ensure responsible and long-term economic growth for all countries and communities of the world without exception or discrimination [15].

In order to protect the environment and natural resources for future generations, in addition to reducing environmental polluting factors, it is also necessary to constantly find solutions to reduce unreasonable and excessive consumption of economic resources [15].

Create jobs, food, education, and health care for all, including social development around the world, including saving water and energy. Between 1972 and 2002, global efforts continued to emphasize the need to lay the foundations for sustainable development at the global level by convening three major international conferences [15].

2.7. Sustainable Development Indicators

The most important indicators of sustainable development are the following:

Development is a process, not a state, and therefore it is continuous and growing, expressing the renewal and increase of society's needs [3].

Development is a process guided by a developmental will, aware of the goals of society and committed to achieving them, and it has the ability to achieve efficient use of social resources, production, and distribution, according to a civilized method that preserves the energies of society.

3-Increase the average productivity of an individual, and this can be expressed through the economic indicator known as the "average annual income per capita," if it is interpreted correctly and if appropriate measurement tools are available Faisal [3].

Increasing the socio-political, economic, and technical capabilities of society in a balanced manner, with the average relative growth compared to other world societies [3].

Development should be linked to its social and political framework through motivation and encouragement, which is represented in the incentive system based on linking effort and reward, in addition to confirming the individual's belonging to their community through the application of the principle of participation in a broad sense [3].

2.8. Obstacles to Achieving Sustainable Development

Achieving sustainable development faced several obstacles, including the following:

The problem of poverty has worsened in most Arab countries, with the aggravation of issues such as illiteracy, population growth, unemployment, debt accumulation, and irrational exploitation of natural resources. Migration from the countryside to cities coincided with the emergence of unplanned construction, which caused pressure on vital balance systems and services within urban areas, leading to waste accumulation and air pollution [10, 16, 17].

Climate change and lack of rainfall, coupled with rising temperatures, have led to increasing desertification and the spread of drought. Misuse of natural resources, especially water, along with the failure to utilize renewable energy sources, exacerbates these issues. The limited capabilities granted to some scientific and research institutions for development have hindered their ability to keep pace with scientific and technological progress in developed countries. The import of expertise from developed countries is not always aligned with social, environmental, and economic conditions [10, 16, 17].

2.9. Aichi-Nagoya Declaration on Education for Sustainable Development

The declaration of November 10-12, 2014, confirmed the urgent need for action to advance education for Sustainable Development, referencing some of the points stated therein.

Expanding its scope to enable current generations to meet their needs while providing for the needs of future generations. Some of its paragraphs emphasize placing education for Sustainable Development higher on the national and international agenda [18].

He also expressed appreciation to the many governments, United Nations bodies, non-governmental organizations, educational institutions, and bodies of all kinds, teachers, students in schools, communities, youth, scientific and academic communities that have committed to and actively participated in the implementation of the United Nations Decade of Education for Sustainable Development. Commending the leading role of UNESCO as a leading agency during this decade [18].

Urging all concerned authorities, especially the ministries of education, all ministries involved with education for Sustainable Development, higher education institutions, scientific knowledge circles, and others [18].

2.10. Principles of Education for Sustainable Development ESD

UNESCO declared the period from 2005 to 2014 the United Nations Decade of Education for Sustainable Development. The main goal of education for sustainable development is to enable people to face current and future global challenges in a constructive and creative way, creating more sustainable and resilient societies. Education for sustainable development allows people to acquire the knowledge, skills, attitudes, and values necessary to shape a sustainable future. This also requires the inclusion of sustainable development issues within teaching and learning processes, such as climate change, crisis risk reduction, biodiversity, poverty reduction, and sustainable consumption. The concept of education for sustainable development aims to highlight that current generations do not consume the resources of future generations (intergenerational equality) and to reduce the North-South gap in the use of resources, which is the gap between the poor and the rich (intergenerational equality) [7].

The global program of action included a number of principles underlying the concept of education for sustainable development, as follows:

Education for sustainable development enables individuals to acquire knowledge, skills, values, and attitudes that allow them to contribute to sustainable development, make informed decisions, and take responsibility for environmental integration, economic sustainability, and societal well-being for current and future generations [7].

Education for sustainable development includes integrating sustainable development issues into teaching and learning processes, which requires innovative and participatory methods that help motivate students and enable them to work towards sustainable development. Education for sustainable development also seeks to enhance their abilities, such as critical thinking, understanding complex and interconnected systems, visualizing future scenarios, and making decisions in a collaborative and participatory manner [7].

Education for Sustainable Development is based on approaches rooted in the right to education, primarily focusing on providing quality education. The principles of the GPA emphasize participatory learning and the ability to work. There are various proposals for educational practices for Sustainable Development made by the Millennium Development Goals, which are officially known as "transforming our world" [7].

Education for sustainability develops students' ability to critique society and identify its positive and negative aspects. It also aims to train graduates in ideological awareness and social decision-making skills. If students understand that sustainability is an important part of their social and moral responsibility, they will develop a sense of responsibility towards the natural world and other creatures and will have the ability to facilitate the process of development and its prosperity, rather than its depletion and demise [7].

2.11. The Use of Education for Sustainable Development in Strategic Policy and Programs

We need appropriate policies to integrate and coordinate sustainable education in all formal and informal educational environments to achieve change. To implement policies that promote education for Sustainable Development, the following considerations must be taken into account:

Ensuring agreement between the policies of the education sector and the sectors of sustainable development. Adapting the Sustainable Development Goals and strategies at the local and national levels with educational policies [3].

Integrate education for sustainable development in a coordinated manner into appropriate sectoral policies. Official government organizations are not the only entities promoting learning for sustainable development [3].

International, national, and local policies should support NGOs in promoting this education by providing the necessary funding. Employing educational technology for sustainable development in curricula and textbooks [3].

2.12. Sustainability of Education

For education to have the transformative power needed to support the new sustainable development agenda, it needs to be elevated to a higher level than it is today, and this means that "business as usual" will not be enough to meet the requirements of sustainable development. Education should elevate thinking to become interactive, integrated, empathetic, progressive, and inclusive. Schools should become ideal places that exude sustainability, and be democratic, inclusive, non-exclusive, healthy, and carbon-free, thus laying the foundation for achieving the Sustainable Development Goals [19].

Taking into account the civilizational and cultural framework; it is true that education is influenced by this framework, and many studies have proven that there are differences in the application and impact of this type of education, and this is due to cultural, social, structural, educational, and teaching factors, and the existence of many commonalities between societies in this form [19].

The need for continuous support from senior management for sustainability integration programs in decision-making. The importance of adopting the philosophy of training and continuing education, as the idea of sustainability is characterized by dynamism and continuous renewal, especially as it addresses problems and crises of a renewable nature [19].

The need to view education for sustainability as a cumulative and constructive process is essential, which is why it is so important that it starts from childhood and continues through university [19].

2.13. The Importance of Education in Achieving the Sustainable Development Goals

Higher education has played a vital role in achieving the Sustainable Development Goals, especially through the transfer of knowledge, as universities have a social responsibility to transfer scientific knowledge to policymakers and society as a whole. The Sustainable Development Goals are based on the need for new knowledge and future changes based on science. To address the complex challenges identified in the SDGs, interdisciplinary collaboration and problem-based teaching are essential. Higher education for Sustainable Development seeks to equip students with the core competencies to achieve sustainability and enable them to propose groundbreaking solutions to global dilemmas. The dissemination of quality-based online knowledge has been associated with better innovation performance, underscoring the importance of improving graduate students' digital skills to achieve sustainable development. By promoting first-class online learning processes and providing effective participation platforms, universities can prepare students to actively contribute to the implementation of the Sustainable Development Goals [20].

The integration of sustainable development into university programs is essential for developing future sustainability leaders who can drive progress at local, regional, and global levels. Higher education institutions have the ability to significantly influence sustainable development through research, educational initiatives, management practices, and leadership projects that align with the principles of the Sustainable Development Goals [20].

The Education for Sustainable Development 2030 framework addresses current challenges according to three axes, which are as follows:

Focusing on the role of education in achieving the seventeen Sustainable Development Goals, with an emphasis on the most significant transformation and leadership roles of member states. Education for sustainable development enhances awareness of the goals, and education for sustainable development increases awareness of all seventeen goals within educational contexts: education for sustainable development improves learners' and the general public's understanding of what the Sustainable Development Goals are and how to relate these goals to their individual and collective lives [21].

Education for Sustainable Development promotes a critical and contextual understanding of the SDGs: Sustainable Development often requires balancing diverse perspectives and priorities. Education for Sustainable Development raises questions about the interconnections and conflicts between the various Sustainable Development Goals and enables students to engage in the necessary balancing process through its comprehensive and transformative curriculum [21].

Education for Sustainable Development promotes action toward the achievement of the Sustainable Development Goals: education for sustainable development activities address issues related to sustainable development, especially the Sustainable Development Goals, and continue to promote actions to integrate sustainable development into educational contexts, especially in local communities, by adopting an education for sustainable development approach at the enterprise level [21].

2.14. Education Support for Sustainable Human Development and the Labor Market

Education is one of the most important pillars of nations and their development, as the countries that have made progress and are interested in human development have relied on the reform of the educational and training system, its plans, and its goals. That is why most of the world's countries have turned to supporting and developing education, proceeding from the fact that education is a wealth and cultural value in itself, as well as a pillar of progress in the wheel of human development, and because it is a means of movement and social change and to face the challenges of the times and globalization. Human resources and their development are no longer a superficial issue for the state. Human capital is the key to economic progress and wealth creation. It is the focus of national development, the development of its institutions, and the title of its development. Individuals have become deeply aware of the value of their human capital and the high

price they receive in a knowledge-based economy because the process of economic development largely depends on the formation of a workforce with the appropriate technical skills for modern industrial production [21].

Education is the process of qualifying future generations, and investing in this type of industry is the best form of investment because educational institutions are working hard to prepare society with successful future leaders in all fields. Additionally, they activate the necessary qualitative mechanisms for labor markets to enable the modernization of economic, technological, and scientific structures. Accordingly, improving the quality of education is a concern shared by the political system, universities, and related societal parties, which has fostered the conviction among states of the need to reform the structure of educational institutions. This involves transforming them into integrated systems by modifying traditional foundations to better respond to human needs through the creation of new and flexible programs that meet the requirements and skills of human resources, aligned with changing economic, social, and labor market conditions. Such developments make education capable of influencing society through the advancement of research, the development of knowledge, and its transfer to serve humanity and citizens [21].

2.15. Education And Its Impact on Sustainable Development: The Malaysian Experience as a Model

The Malaysian experience is one of the best in the field of sustainable development. It is known that Malaysia has faced many political, economic, and social difficulties in its history, especially after its independence in 1957. Ethnic and religious diversity was one of the main reasons for these difficulties, but Malaysia resisted them with strong political will and proposed smart strategies to achieve sustainable development in a short period. One of the areas that was reformed and developed was the education sector. Malaysia also considers this sector a strategic area, as the most prominent indicator of human development. It created a solid educational system with foundations and principles that are suitable for the country. Immediately after independence from Britain, a National Commission issued a report containing the state of the education sector and recommendations for solving problems and developing the sector [21]. The aim was to make Malaysia a developed country in all fields, including the education sector. As part of its development program, Malaysia has succeeded in significantly increasing public spending on education, with the share of public spending on education reaching 5.1% in 1991 and 8% in 2004. This share exceeds the amount of spending devoted to education in the United States. The needs of the country. Its goal is the human development of the country. Many projects have been launched in this sector, and governments have implemented them without stopping or retreating to achieve the desired goal. Perhaps the most prominent educational projects are the following.

Smart Schools project. Malaysian Technology Parks Company. National Innovation Center. National Institute of Industrial Standards and Research [21].

Malaysia's strong commitment to education for sustainable development can be seen in its education policies. One of the latest educational plans in Malaysia is the Malaysian Education Plan, which provides the vision and objectives for the Malaysian education system until 2025, along with a roadmap for policies and initiatives to be adopted to achieve the goals from pre-primary to post-secondary education [20]. In 2013, he introduced the MEB pre-primary education program, which outlines a comprehensive transformation initiative aimed at achieving universal enrollment from pre-primary to secondary education and improving the quality of the national education system in the first third of the world's countries. The program also seeks to reduce gaps in student performance, strengthen national unity, and maximize the return on government investment. Additionally, the program evaluates the accessibility, quality, equality, unity, and efficiency of the current education system [21]. The vision of the program is to produce integrated, entrepreneurial, and balanced graduates with the relevant knowledge, skills, and ethics to meet the needs of the growing Malaysian economy as well as to be competitive at the international level. In 2015, the Malaysian government introduced the Education in Malaysia scheme for the period MEB 2015-2025. The vision of the program is to produce integrated, entrepreneurial, and balanced graduates with the relevant knowledge, skills, and ethics to meet the needs of the growing Malaysian economy as well as to be competitive at the international level. As a result of these successful policies, Malaysia has made tremendous strides in economic development and sustainable development over the past four decades, becoming the first industrial country in the Islamic world, as well as in the field of foreign trade, by creating a developed infrastructure, which was reflected in the diversification of its national income sources from industry, agriculture, minerals, petroleum, and tourism. It has therefore made remarkable progress in solving the problems of poverty, unemployment, and corruption [21].

3. Practical Framework of the Research

3.1. Validity of the Questionnaire

The validity of the questionnaire refers to its ability to measure the research variables for which it was designed. The comprehensiveness of the questionnaire was considered to ensure it encompasses the research variables without redundancy.

3.2. Description of the Research Community and Samples, and Presentation and Analysis of Questionnaire Data and Demographic Characteristics of Participants

The study population comprises university instructors from Iraqi universities. A random sample of 79 instructors was selected from 20 governmental Iraqi universities and educational institutions. Table 1 provides demographic information about the sample of instructors from various universities, classified by several characteristics: gender, educational level, academic title, scientific specialty, and age. Males constitute the majority of the sample (65.8%), with a total of 52 instructors. Females represent 34.2% of the sample, totaling 27 instructors. The vast majority of instructors hold a PhD degree (69.6%), totaling 55. Those with a master's degree account for 29.1% (23 instructors). There is only one instructor

with a qualification other than a PhD or master's degree, making up 1.3%. Professors make up the largest percentage (25.3%), totaling 20 instructors. This is followed by assistant professors at 16.5% (13 instructors). Instructors constitute 15.2% (12 instructors). Additionally, assistant instructors also account for 25.3% (20 instructors). Doctor instructors represent 11.4% (9 instructors). There is only one instructor with the title of Professor Doctor, making up 1.3%. The largest specialization is in humanities and educational sciences, representing 70.9% (56 instructors). There is one instructor in medical and health sciences (1.3%). applied and engineering sciences account for 21.5% (17 instructors). There is one instructor in administrative and economic sciences (1.3%). Four instructors are in other specializations, making up 5.1%. The age groups of instructors range as follows: 25-30 years was 4.9% (4 instructors), followed by 31-40 years at 26.8% (22 instructors), 41-50 years at 31.7% (26 instructors), and over 50 years at 32.9% (27 instructors). Baghdad University appears most frequently in the list, mentioned 35 times. This indicates that Baghdad University may hold special significance in the context of data collection. The Iraqi University and Al-Mustansiriya University follow as the most frequently mentioned institutions. Several universities and educational institutions appear only once, indicating they may be less significant in this specific context. Non-university institutions such as the Ministry of Education, the Ministry of Higher Education, the Nineveh Education Directorate, and the Vocational Education Department are also included in the list, suggesting that the sample may not be limited to universities alone.

Table 1.

Characteristics of faculty members from each university.

Demographic Characteristics	Categories	Count	Percentage
1. Gender	Male	52	65.8%
	Female	27	34.2%
2. Educational Level	PhD	55	69.6%
	Master's	23	29.1%
	Other	1	1.3%
3. Academic Title	Professor	20	25.3%
	Assistant Professor	13	16.5%
	Instructor	12	15.2%
	Assistant Instructor	20	25.3%
	Doctor Instructor	9	11.4%
	Assistant Doctor Professor	3	3.8%
	Doctor Professor	1	1.3%
	Other	1	1.3%
4. Scientific Specialty	Humanities and Educational Sciences	56	70.9%
	Medical and Health Sciences	1	1.3%
	Applied and Engineering Sciences	17	21.5%
	Administrative and Economic Sciences	1	1.3%
	Other	4	5.1%
5. Age	25-30	4	4.9%
	31-40	22	26.8%
	41-50	26	31.7%
	Over 50	27	32.9%
6. Workplace	Baghdad University	35	42%
	Al-Mustansiriya University	7	8%
	Iraqi University	11	13%
	University of Mosul	2	2%
	Wasit University	3	4%
	Diyala University	1	1%
	Basra University	1	1%
	Kufa University	1	1%
	Qasim Green University	1	1%
	Al-Kitab University	1	1%
	Al-Ma'qal University	1	1%
	North Technical University	2	2%
	Imam Al-Kadhim College	2	2%
	Ministry of Education	1	1%
	Ministry of Higher Education	1	1%
	Nineveh Education Directorate	1	1%
	Vocational Education Department	1	1%
	University of Anbar	2	2%
	Technical Institute	1	1%
	Other (Student)	2	2%

3.3. Assessment of the Impact of Higher Education on Promoting Sustainable Development

In Figure 1, there is a clear variation in the opinions of instructors regarding the role of higher education in sustainable development. The majority of instructors tend to evaluate the role of higher education in sustainable development as "average" or "large," indicating their recognition of the importance of this role. 19% of instructors assess the role of higher education as "weak," reflecting concerns about the effectiveness of this role. 13.9% of instructors view the role of higher education as "very large," while only 1.3% consider it "very weak."

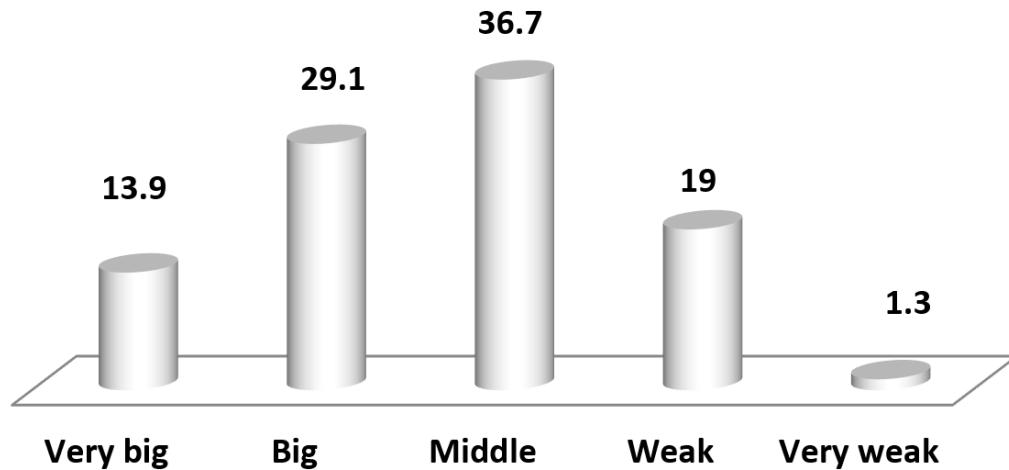


Figure 1.
Teachers' opinions on the role of higher education in sustainable development.

3.4. Areas Where Higher Education Contributed to Sustainable Development

Figure 2 illustrates the areas in which higher education has contributed to sustainable development. Environment (27%): This sector represents the largest share, indicating that higher education has made significant achievements in addressing environmental issues, such as climate change, renewable energy, and natural resource conservation. Technology (23%): This sector highlights the contribution of higher education to the development of sustainable technologies, including clean energy technologies, waste management, and sustainable agriculture. Society (21%): This sector reflects the role of higher education in promoting social justice, equality, and sustainable community development. Economy (19%): This sector points to the contribution of higher education in achieving sustainable economic growth by developing entrepreneurial skills, supporting innovation, and fostering sustainable development in economic sectors. Others (10%): This category includes additional areas where higher education has contributed to sustainable development, such as governance, health, and education.

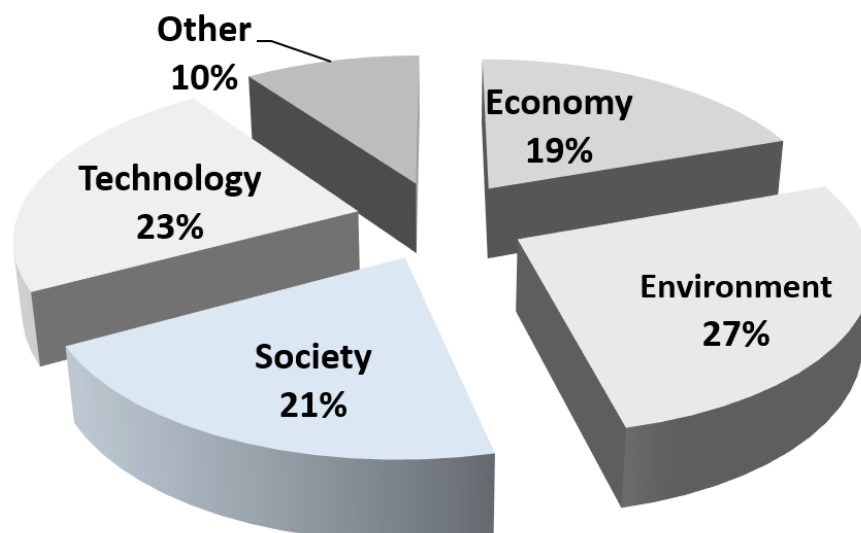


Figure 2.
Areas in which higher education has contributed to sustainable development.

3.5. Programs Supporting Sustainable Development

Figure 3 indicates that the majority of instructors do not believe there are sufficient programs in place. 46.8% of instructors feel that higher education institutions do not offer enough programs to support sustainable development. A significant 32.9% of instructors are uncertain about the existence of adequate programs. Only 20.3% of instructors believe

that higher education institutions provide sufficient programs. This data highlights a growing concern among instructors regarding the inadequacy of programs aimed at supporting sustainable development, pointing to dissatisfaction with the efforts of higher education institutions in this area.

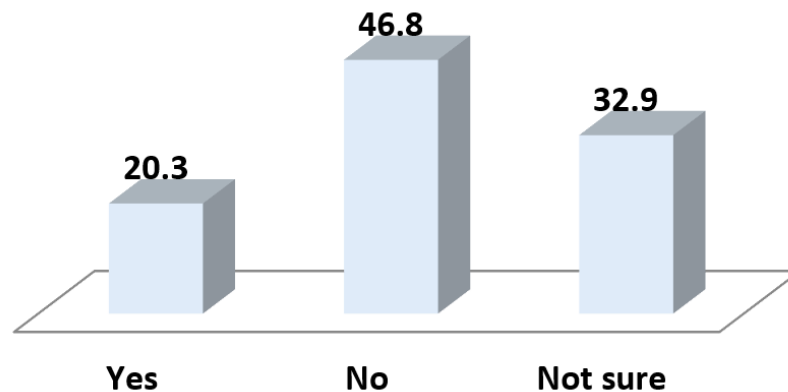


Figure 3.
Sustainable development support programs.

3.6. Factors Contributing to Achieving Sustainable Development through Higher Education

Figure 4 illustrates the factors that help achieve sustainable development through higher education. Modern Curricula (34.3%): A significant portion of instructors believe that modern curricula are the most important factor in achieving sustainable development through higher education. Scientific Research (25%): Scientific research is regarded as the second most important factor, with instructors recognizing its critical role in promoting sustainable development. Environmental Awareness (22.2%): Many instructors (22.2%) believe that environmental awareness significantly contributes to achieving sustainable development. Collaboration with the Private Sector (18.5%): Collaboration with the private sector ranks fourth, indicating its importance in supporting sustainable development initiatives.

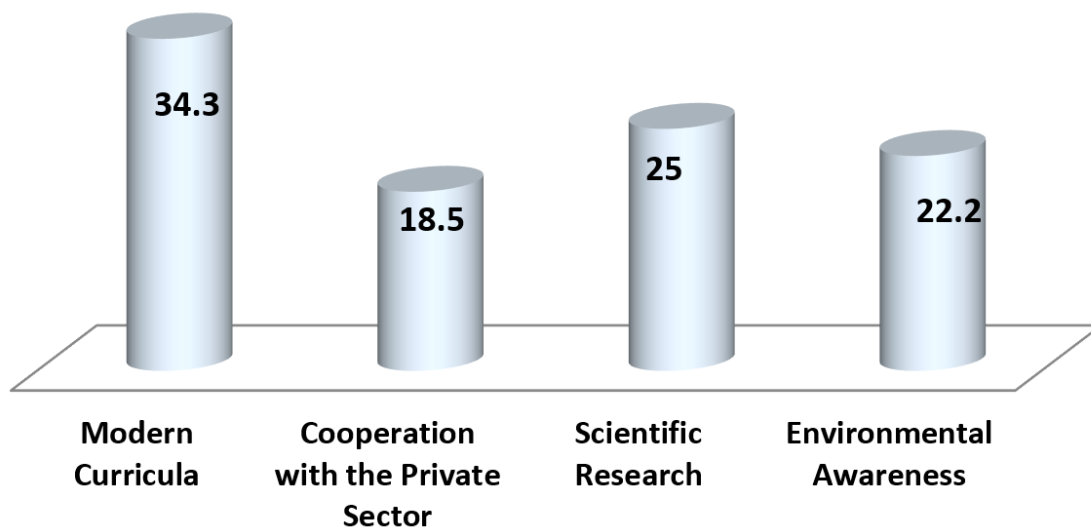


Figure 4.
Factors that help achieve sustainable development through higher education.

3.7. Assessment of the Level of Cooperation between Higher Education Institutions and the Private Sector in Supporting Sustainable Development

The analysis of Figure 5 illustrates instructors' evaluations of the level of cooperation between higher education institutions and the private sector in supporting sustainable development. There is a clear variation in opinions among instructors regarding this cooperation. The majority of instructors assess the level of cooperation as "weak" (30.4%) or "average" (24.2%), indicating a deficiency in this collaboration. There are few positive evaluations, with only 6.3% rating the cooperation as "excellent." These findings suggest a significant need for improvement in the cooperation between higher education institutions and the private sector to enhance efforts toward sustainable development.

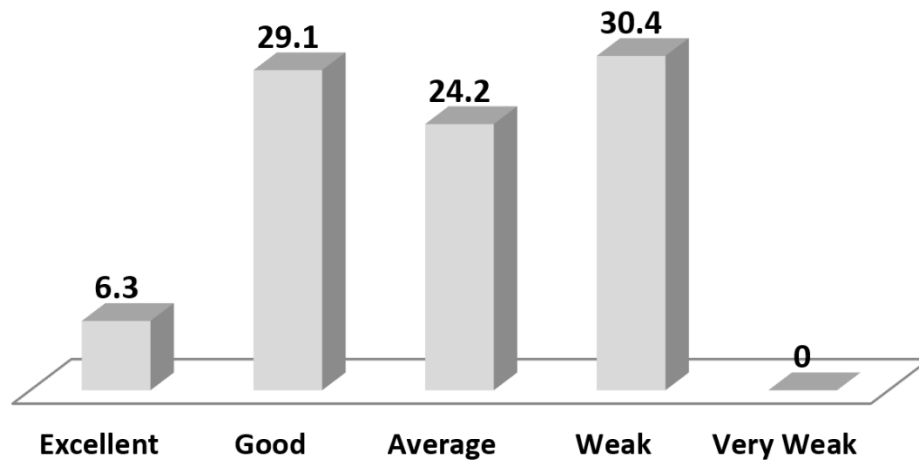


Figure 5.
Evaluation of the level of cooperation between higher education institutions and the private sector in supporting sustainable development.

3.8. Training Programs of Higher Education Institutions in Sustainable Development Areas

The circular chart in Figure 6 illustrates instructors' opinions regarding whether higher education institutions provide adequate training programs for students in sustainable development areas. 58% of instructors believe that higher education institutions do not offer sufficient training programs for students in these fields. 28% of instructors are uncertain about the existence of adequate training programs. only 14% of instructors think that higher education institutions provide enough training programs.

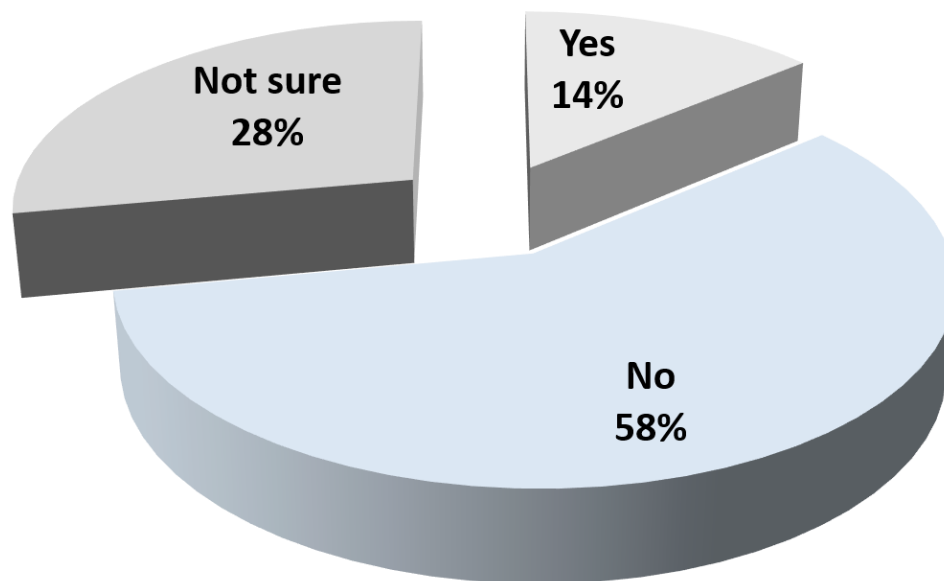


Figure 6.
Higher Education Institution training programs in the fields of sustainable development.

3.9. Barriers Facing Higher Education in Achieving Sustainable Development

Table 2 outlines the barriers that higher education faces in achieving sustainable development. Lack of Funding (35.6%): The largest proportion of instructors identifies insufficient funding as the major obstacle hindering higher education's efforts towards sustainable development. Lack of Training and Capacity Building (31.1%): A significant portion of instructors view the lack of training and qualification as a major barrier. Weak Infrastructure (17.8%): The third most cited barrier is the weakness of infrastructure, as recognized by instructors. Neglect of Scientific Research (15.6%): Finally, a notable group of instructors believes that the lack of attention to scientific research also poses a significant challenge.

Table 2.

Obstacles facing higher education in achieving sustainable development.

Category	Count*	Percentage
Lack of Funding	32	35.6%
Weak Infrastructure	16	17.8%
Lack of Interest in Scientific Research	14	15.6%
Lack of Training and Qualification	28	31.1%

Note: *More than one option was answered.

3.10. Importance of Sustainable Development Awareness among Students

Based on the graph in Figure 7, a significant percentage of faculty members (91.2%) believe that there is a lack of awareness regarding the importance of sustainable development among students. Additionally, a very small percentage of faculty do not see a deficiency in this awareness, while a few faculty members remain uncertain about the existence of this lack of awareness. This clearly indicates the need for action to enhance awareness of sustainable development among students. Possible measures include integrating sustainable development concepts into curricula, organizing workshops and lectures on sustainability, and encouraging student activities that contribute to achieving sustainable development goals.

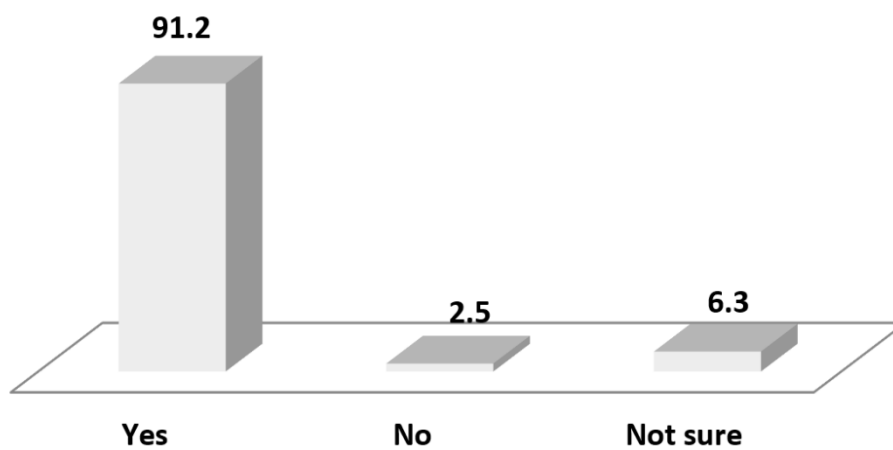


Figure 7.
Importance of sustainable development among students.

3.11. Impact of Government Policies on Higher Education in Supporting Sustainable Development

Figure 8 illustrates the impact of government policies on higher education in supporting sustainable development. A significant majority of instructors (52%) are uncertain about the effect of government policies on higher education's role in sustainable development, indicating a lack of clarity or information on this issue. The percentage of those who perceive a negative impact (33%) is more than double that of those who view the impact as positive (15%). These results suggest criticism or concern regarding the effectiveness of current government policies. Additionally, the low percentage of respondents who see a positive impact highlights the need for improved communication and evaluation of these policies to enhance their effectiveness in supporting sustainable development within higher education.

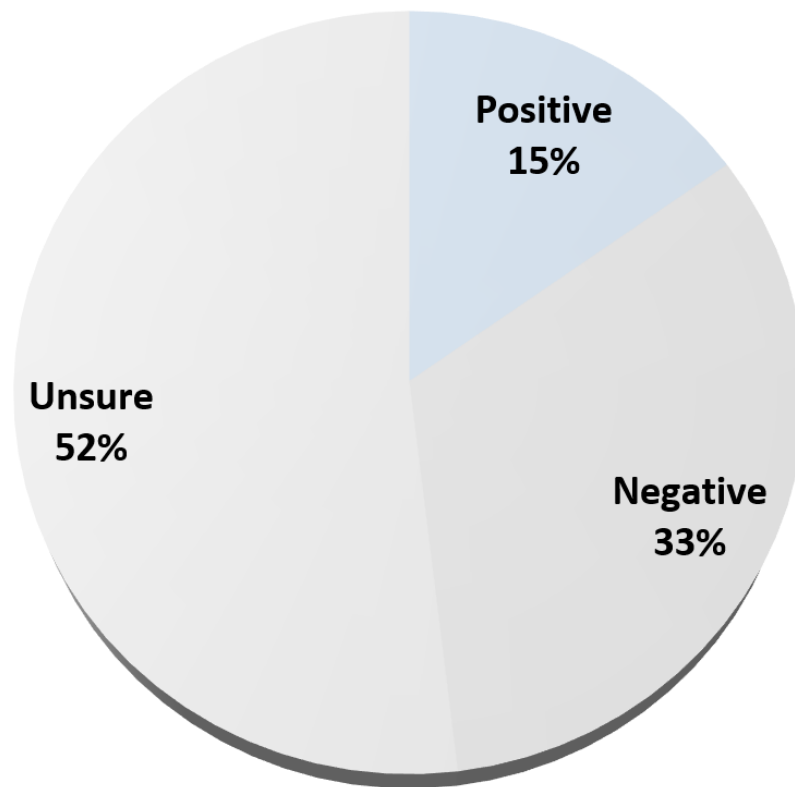


Figure 8.
Impact of government policies on higher education in supporting sustainable development.

3.12. Suggestions for Improving the Role of Higher Education in Sustainable Development

Figure 9 presents proposals for enhancing the role of higher education in sustainable development. The highest percentage (31.3%) indicates that the majority of instructors did not provide specific suggestions. This may reflect a lack of clear opinions or knowledge regarding the importance of the topic. The second highest percentage (19.3%) suggests that organizing workshops, courses, and educational programs on sustainable development is the most common recommendation. A significant portion (18.1%) emphasizes the importance of awareness and education in this field. The remaining percentages, ranging from 4.8% to 8.4%, point to interest in developing curricula, enhancing scientific research, collaborating with the private sector, securing funding, and ensuring government support and community involvement.

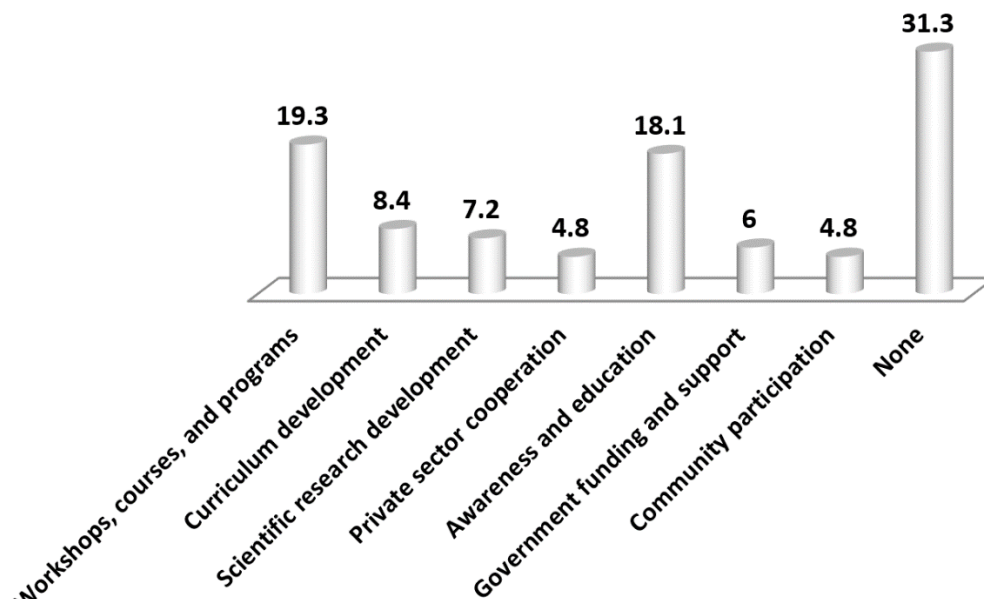


Figure 9.
Proposals to improve the role of higher education in sustainable development.

3.13. Skills Students Should Acquire to Enhance Sustainable Development

Table 3 outlines the essential skills that students need to acquire to promote sustainable development. Engagement in educational and training courses (33.3%). This is the highest percentage, indicating that instructors consider education and training fundamental for acquiring the necessary skills for sustainable development. Awareness and guidance (14.0%). This highlights the importance of spreading awareness and knowledge among students. Technical and technological skills (12.3%). This reflects the significance of utilizing technology to address sustainable development challenges. Behavioral and ethical skills (9.7%). This underscores the importance of values and ethics in supporting sustainable development. Economic and environmental thought development (7.89%). This indicates the need to understand the relationship between the economy and the environment. Intellectual, scientific, and analytical skills (7.0%). This emphasizes the importance of critical and analytical thinking. Learning from other countries' experiences (6.14%) points to the value of gaining insights from international practices. Social and communicative skills (3.5%): This indicates the importance of communication and teamwork. Thinking and innovation skills (2.6%). This highlights the significance of creativity and collaboration. Reading, research, and collaboration with the private sector (1.75%). This reflects the importance of research and cooperation with various sectors.

Table 3.

Students acquired skills to promote sustainable development.

Suggestion	Count	Percentage
Participation in Educational and Training Courses	38	33.33%
Scholarships	7	6.14%
Thinking and Innovation Skills	3	2.63%
Enhancing the Spirit of Cooperation	3	2.63%
Reading and Awareness	2	1.75%
Awareness and Guidance	16	14.04%
Intellectual, Scientific, and Analytical Skills	8	7.02%
Social and Communication Skills	4	3.51%
Technical and Technological Skills	14	12.28%
Behavioral and Ethical Skills	11	9.65%
Developing Economic and Environmental Thinking and Supporting Activities	9	7.89%
Cooperation with the Private Sector	2	1.75%

3.14. Suggestions for Improving Sustainable Development

Figure 10 highlights the key suggestions from instructors for enhancing sustainable development. A significant majority of 80.5% of instructors did not provide specific proposals. This may indicate a lack of clear opinions or awareness regarding the importance of the topic. The low percentages for remaining suggestions imply a variety of opinions on how to improve sustainable development, but no consensus on any particular approach. The most frequently mentioned proposal (6.5%) is to organize awareness workshops and training courses, underscoring the need for increased awareness of the importance of sustainable development. These insights indicate a critical need to enhance awareness and engagement among instructors regarding sustainable development, as a substantial number did not offer specific recommendations.

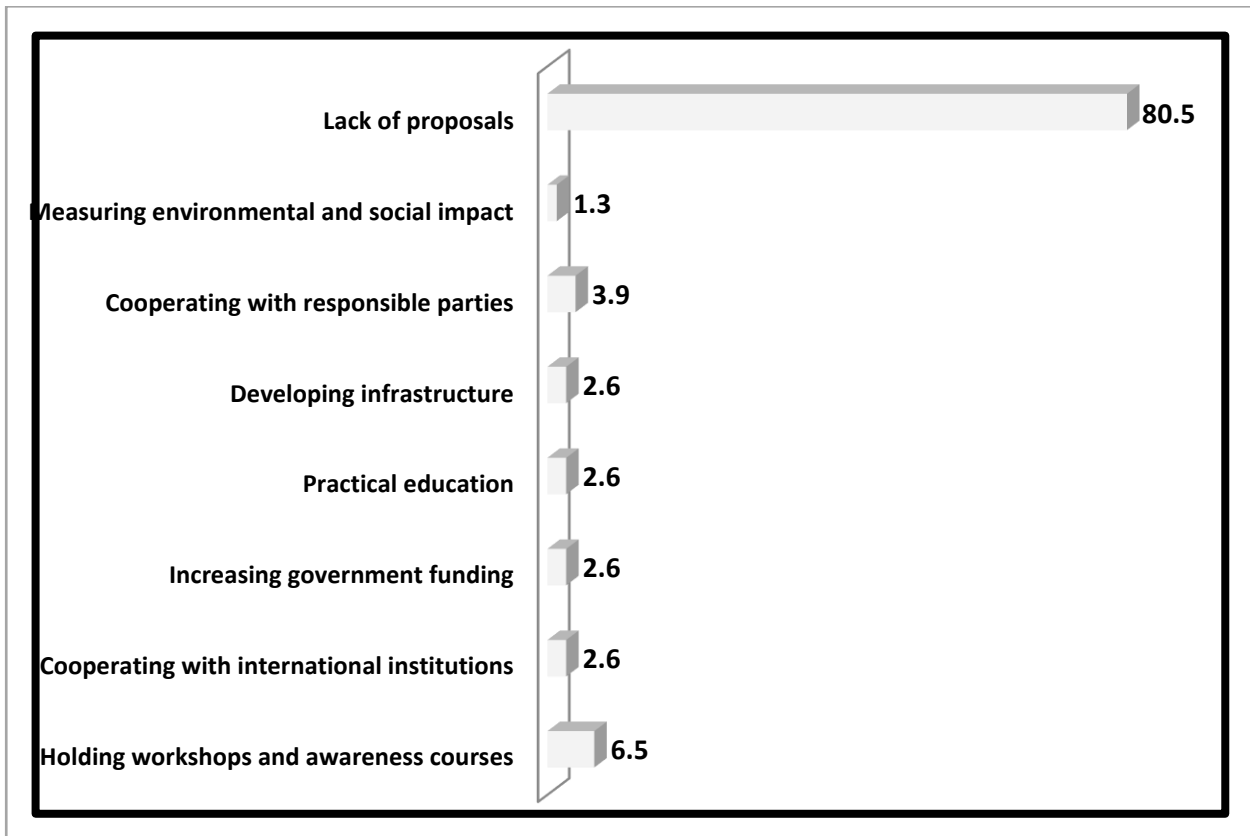


Figure 10.
Suggestions for improving sustainable development.

4. Discussion

This study examined the impact of higher education in supporting sustainable development and its application in educational institutions, particularly universities, to achieve their goals, reduce obstacles, and improve the quality of higher education outcomes for employment in the labor market. The study sheds light on the concept of sustainable development, its goals, characteristics, dimensions, indicators, importance, and major obstacles, as well as the most important areas for employing sustainable development. It also highlighted the key provisions of the Aichi-Nagoya Declaration regarding education for sustainable development. The study further discussed the principles of education for sustainable development, the use of education for sustainable development in strategic policy and programs, and the key components of educational sustainability and development. An important topic addressed was the impact of education on sustainable development, using the Malaysian experience as a model. Malaysia's experience is considered one of the best in the field of sustainable development. It is well known that Malaysia faced many political, economic, and social difficulties in its history, especially after its independence in 1957. Ethnic and religious diversity was among the main reasons for these difficulties. The practical study relied on a sample of seven lecturers from various Iraqi universities who provided their opinions on the necessity of employing higher education to activate the role of sustainable development and achieve its goals.

5. Conclusion

The research has reached a number of important results, which are as follows: There are many names for sustainable development, such as continuous, ongoing, and others, but its concept and goals are the same. The aim is to exploit natural resources in a balanced and fair manner to ensure a good quality of life for future generations.

Sustainable development is a dynamic process consisting of a series of balanced social, economic, and environmental actions and changes. It is an integrated, comprehensive development, the most important dimensions of which are the economic, social, and environmental dimensions.

One of the most important areas of sustainable development employment is achieving economic growth and justice in order to protect the environment and natural resources for future generations, creating jobs, food, education, and healthcare for all.

One of the most important indicators of sustainable development is that it is a process and not a static situation. Development is a process directed by a conscious developmental will, which increases the average productivity of individuals and enhances the social, political, economic, and technical capabilities of society. It links development with its social and political framework through stimulation and encouragement.

The most important benefits of achieving sustainable development are poverty reduction, mitigation of natural disasters, conflict prevention, protection of natural resources, population migration management, and other related benefits.

The Aichi-Nagoya Declaration on Education for Sustainable Development, held from November 10 to 12, 2014, confirmed the urgent need to advance efforts in promoting education for sustainable development.

UNESCO declared the period from 2005 to 2014 the United Nations Decade of Education for Sustainable Development. The main goal of education for sustainable development is to enable people to face current and future global challenges in a constructive and creative way.

One of the most important elements of the sustainability of education is taking into account the civilizational and cultural framework, the need for continuous support from senior management for sustainability integration programs in decision-making, the need to adopt the philosophy of training and continuing education, and looking at education for sustainability.

Integrating sustainable development into university programs is essential for developing future sustainability leaders who can drive progress at local, regional, and global levels.

The Malaysian experience is one of the most significant in employing education to achieve sustainable development, despite the considerable difficulties faced by the state due to its ethnic diversity. One of the latest educational initiatives in Malaysia is the Malaysian Education Plan, which outlines the vision and goals for the country's education system until 2025, along with a roadmap for policies and initiatives to be adopted to achieve these goals from pre-primary to post-secondary levels.

5.1. Recommendations

Attention to the holding of workshops, training courses, and scientific conferences to highlight the importance of activating sustainable development in education. Encouraging graduate students, researchers, and academics to conduct scientific studies on the Sustainable Development Goals to find effective solutions to preserve human and natural heritage. Studying the obstacles to achieving sustainable development and their causes, reducing them, and providing all the requirements for effective employment.

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