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Addressing Environmental Challenges in Iraqi Universities: A Focus on Green Education

Asst. lect. Bushra Abd Hassan
Asst. Lect. Saja Abdul Ameer Hadi
Wasit University

Article Informations

Corresponding author :
Name Bushra Abd Hassan
 Wasit University
Email: bushraabd@ouwasit.edu.iq

A B S T R A C T

Iraqi universities have a significant role to play in dealing with the environmental challenges that the nation is currently facing. In light of the pressing broad challenges surrounding by a lack of resources, inadequate academic skills, outdated curriculum, and limited research opportunities. It is crucial for academic institutions to incorporate environmental sustainability into their fundamental objectives. This paper delves into the efforts and initiatives undertaken by Iraqi universities to tackle environmental challenges through green education and sustainable practices..

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Asst. lect. Bushra Abd Hassan
Asst. Lect. Saja Abdul Ameer Hadi
Wasit University, College of Education for Humanities, English Department

1.Introduction

Education is essential for fulfilling individuals' needs and tackling the obstacles they encounter in their present and future lives. Successfully accomplishing the Millennium Development Goals (MDGs hence fore) is crucial. Sustainable development (SD hence fore) encompasses the idea of development that considers the requirements of both present and future generations, as articulated in the Brundtland Report of 1987. Education is most valuable when it is in accordance with the needs of the community and facilitates the attainment of psychological and financial stability for individuals. The ability to develop answers and find innovative approaches for a better future depends greatly on the quality of education in preparing individuals to be competent leaders and conscientious members of society (UNESCO, 2013).

According to Al-Khateeb, Al-Ansari, and Knutsson (2014), universities have the potential to offer high-quality education that can effectively address social, economic, and environmental concerns. This is accomplished by fostering a particular perspective in both the academic faculty and students, typically during their early developmental stages. The recurrence of this situation is persistent because of the lack of a "M.A." The study aims to evaluate the competence of sustainable growth in several areas of a university, such as academic faculty, curriculum, on-site operations, research, and students. The research seeks to determine the characteristics that lead to the creation of a university that can be maintained over time. The university's Sustainable Development Strategy (USDS hence fore) includes the measures taken by the university to encourage sustainable consumption and production, reduce Green House Gas emissions (GHGs hence fore), support social fairness, and improve innovation capabilities. These plans prioritize the linkages between human resources and the three types of sustainable development capitals: natural, human and social, and built capital. Universities worldwide have presented multiple models of (USDS), each highlighting their unique objectives and methods for progress.

2.Environmental Challenges in Iraqi Universities

The constitutions and regulatory laws in most industrialized countries, as well as some developing ones, primarily oversee interactions between individuals and between individuals and society. However, these matters may not be of specific concern to the (USDS). While other institutions may give more importance to their procurement methods, most (USDS) prioritize the university's campus sustainability. In general, the USDS represents the significance of advancing sustainability in social, economic, and environmental domains as required. Iraq is currently classified as a developing country and is

widely acknowledged for its substantial oil reserves. Effectively managing this wealth poses a substantial challenge that requires the implementation of a sustainable development strategy, which would be ineffective without the assistance of '' Education for Sustainable Development''.

This paper seeks to illustrate that the present condition of education in Iraq is insufficient for effectively tackling the obstacles to sustainable development. The present paper introduces the idea of a "sustainable university with a focus on green education" as a model for Iraq. This model aims to address the current deficiencies in equipping people with the required skills for sustainable development, encompassing both human and technological components. It examines the different obstacles that Iraqi universities encounter in the field of green education, especially due to the absence of favorable conditions and surroundings for its advancement. The issues stem from a scarcity of resources, insufficient academic abilities, obsolete curricula, and restricted research prospects. Iraq has been deficient in its endeavors to tackle environmental issues. The existing educational and training curriculum in the country does not effectively promote the growth of green jobs or appropriately equip students for professions in the green economy (Al-Mousawi, 2011).

This research contends that educational and training institutions play a pivotal role in tackling these challenges and engaging young individuals in pertinent matters by fostering the acquisition of green skills. This can be achieved by executing the Green Institutes Initiative and providing educational and training programs. These programs should be organized within an academic framework that prioritizes providing students with specialized expertise in diverse fields, such as:

2.1 Updating the Curriculum:

It is important for Iraqi universities to proactively evaluate and enhance their curriculum by incorporating courses, programs, and research opportunities that focus on environmental studies and green education.

2.2 Enhanced Resources:

It is crucial for the government and other participants to increase funding for the advancement of green education infrastructure, facilities, and teaching materials.

2.3 Promoting Awareness and Conducting Outreach Programs:

It is crucial for universities to take the initiative in organizing awareness campaigns and outreach programs to raise environmental consciousness and emphasize the significance of green education. These programs should be designed to engage students, faculty, and the wider community, lasting anywhere from one to two years. In addition, it would be beneficial to establish a training program that focuses on enhancing practical skills for individuals in different aspects. These programs could range from six months to a year in duration, providing professionals with the necessary expertise.

Therefore, the Ministry of Higher Education and Scientific Research is tasked with the responsibility of identifying financial needs and resources, as well as

designing curricula and training programs that focus on sustainability and green skills. It should also create the required infrastructure and organizational structure, while offering a modern technology-enabled learning and training environment. In addition, it is important for the ministry to establish collaborations with both local and international organizations, businesses, and entrepreneurs. This will help in the development of programs and curricula, as well as in empowering human resources. Furthermore, it will ensure the availability of financial and technical support and consultation. In addition, it is important for the Ministries of Planning and Finance to be actively involved in providing funding for the Green Institutes, creating strategies to ensure their successful implementation, and offering support for investments in these institutions (Al-Wattar, Almagtome, & AL-Shafeay, 2019).

3. Definition and Significance of Green Education

The development and expansion of human capital are intricately linked to higher education within a country. Green higher education emphasizes the development of information, skills, attitudes, and values pertaining to the environment. The establishment of a relationship between green education and the country's economy is of utmost importance because of the interdependency that exists between the environment and the economy (Aithal & Rao, 2016).

3.1 The Role of Green Education in Universities

There is a growing need for eco-friendly employment opportunities in the current industry. Graduates that specialize in sustainability are in great demand in the management and construction industries because of the pressing need for a sustainable future When it comes to distant learning or open learning, the term "green" would be used more extensively. Green projects offer students significant chances to enhance their understanding, abilities, and attitudes towards tackling urgent environmental concerns such as climate change and environmental degradation. University instructors are collectively responsible for staying informed about the newest breakthroughs and disseminating their expertise through innovative and experimental methods that encourage sustainability. To do this, it is crucial to embrace a pedagogical approach focused on learning and integrate hands-on learning opportunities. Therefore, topics such as climatology, green tourism, organic farming, and green medical facilities might be included in this context (Aithal & Rao, 2016).

According to Aithal & Rao (2016) education that prioritizes environmental consciousness also motivates pupils to employ sustainable technology. Information technologies are generally recognized for their environmentally friendly nature in various industrial activities and processes. They effectively contribute to waste reduction and promote a clean working environment. With the progress made in clean technologies, it plays a vital role in driving the growth of green technology. This pertains to nanotechnology products that place a high importance on environmental sustainability. The environmental advantages of nanotechnology are emphasized in the field of green technology, namely in relation to energy preservation, recycling, and the use of environmentally friendly products.

Furthermore, Aithal & Rao (2016) state that conventional education is linked to antiquated instructional and learning approaches, whereas green education embraces contemporary pedagogy. While conventional education may prioritize financial gain, sustainable education places a higher emphasis on the welfare of humans, the environment, and economic benefit. Graduates frequently have difficulties securing work prospects within the job market in the context of conventional education. Green education offers a more advantageous platform for obtaining green jobs. Green education adopts a contemporary approach, prioritizing state-of-the-art technologies above obsolete ones.

3.2 The Concept of Sustainable Development

Sustainable development entails the conscientious utilization of existing resources to fulfill the requirements of both present and future generations. Human desires are limitless, yet the resources at our disposal are limited. There is substantial apprehension regarding a possible scarcity of resources in the future that could have a profound effect on the globe. There is a widespread recognition that environmental sustainability is a necessary condition for achieving sustainable development. Ensuring the congruence between the ecological system and people's lifestyles is essential in order to attain environmental sustainability (Louw, 2013).

Moreover, as students transition into the workforce, the significance of environmentally friendly practices and the promotion of sustainability cannot be overemphasized enough. Adopting sustainable practices in higher education can positively influence how the public perceives the institution and cultivate a sense of loyalty among committed personnel and students who prioritize sustainability. The United Nations' declaration of the decade for green education (2005–2014) has led to a significant change in the advancement of environmental education. The purpose of this initiative was to create a favorable influence on society by advocating for ecological consciousness and long-term viability in the realm of higher education . As per the National Wildlife Federation, a mere 13% of the total 715 colleges offer a course in environmental education. Therefore, it is essential to address all sustainability-related obstacles by collectively engaging in sustainable education, with a specific emphasis on graduates as significant contributors to society (Louw, 2013).

## 3.3 Green Strategies in Higher Education

There are five unique strategies that businesses or individuals may employ. These consist of competitive strategies, frequently referred to as red ocean strategies, and monopoly techniques, typically known as blue ocean strategies This identifies three distinct strategies: Sustainable strategy, a Hybrid Blue and Green strategy, and Unethical strategy. The sustainable strategy is alternatively known as the Green Ocean strategy, whereas the fusion of the Blue and Green strategies is referred to as the Purple Ocean strategy. Conversely, the unethical technique is known as the Black Ocean strategy (Kim, Baik, Kazman, & Han, 2008).

3.4 Incorporation Between Sustainable Principles and Coursework

This technique entails the creation of environmentally friendly courses in several academic fields, employing an interdisciplinary approach. The text exhibits a thorough comprehension of opportunities, values, duties, and awareness regarding sustainable behaviors. Currently, the color green has emerged as an essential element in various industries, such as marketing, finance, operations, and human resources. Interactive web-based syllabi enhance multidisciplinary collaboration among professionals, scholars, and persons with substantial expertise in sustainable business practices. This knowledge can be disseminated to government agencies, professionals, and researchers, promoting collaboration and specialized knowledge. The collaboration would significantly enhance students' comprehension of the present requirements of the education industry. The topic of sustainability centers around the promotion of cleaner manufacturing methods and the use of green building technologies. This field offers promising job opportunities in developing nations (Louw, 2013). See (Figure 1) depicts the key human factors that lead to sustainable development in Iraqi institutions:

a) The Vice Chancellor, also known as the President of the University, and the University Board.
b) academic staff.
c) Administrative personnel.
d) Postgraduate and undergraduate students.

Figure (1): The Adopted Model of Human Elements of an Effective (SD) (Louw, 2013)
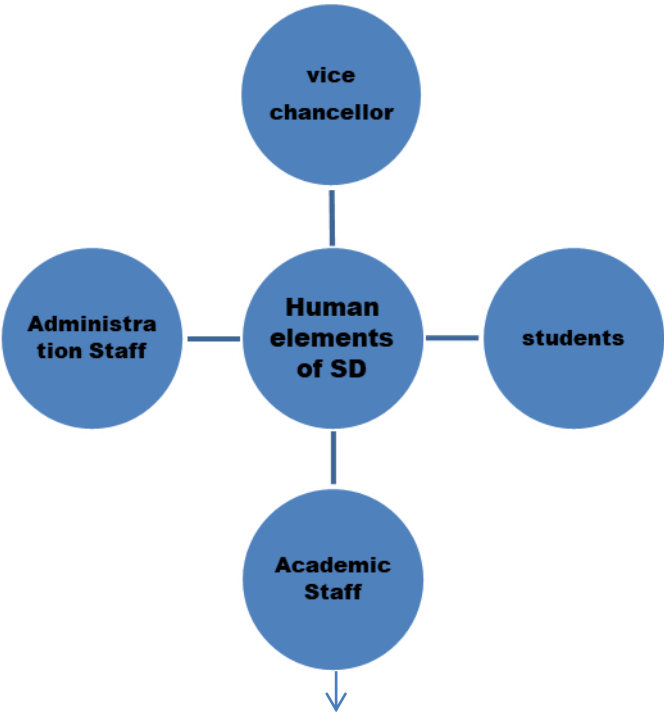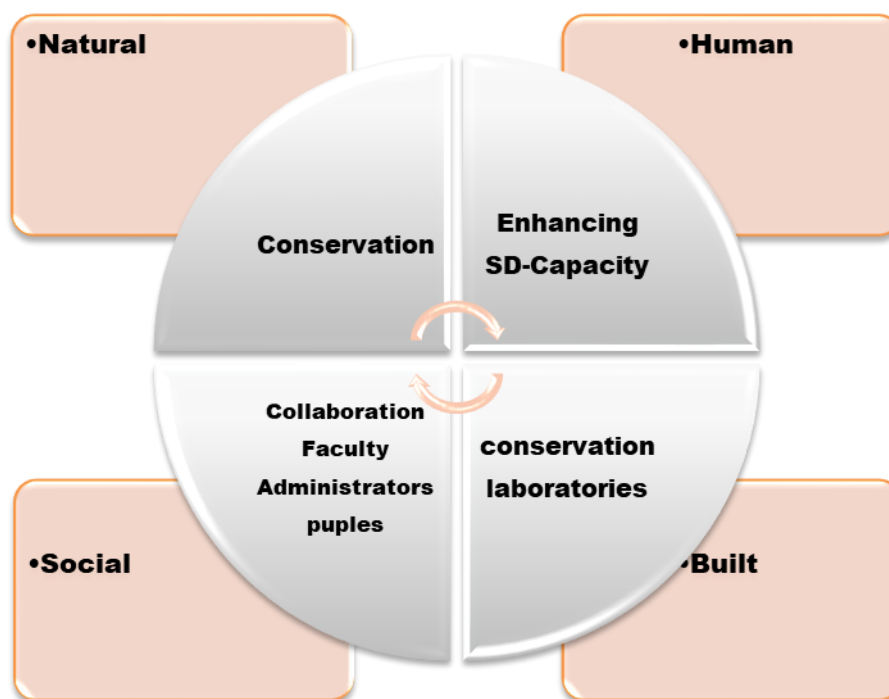
The cooperation among proficient human components in sustainable development is essential for upholding sustainability in diverse domains. The development paths of all Sustainable Development (SD) capitals (natural, human, social, and built) are considered. Consequently, the Strategic Development Section (SDS) of every Iraqi university should develop thorough and precise action plans for each procedure in order to guarantee the safeguarding of all assets. Offering instructions on the essential measures for mitigating or adapting to a situation, the schedule for executing these measures, and continuous monitoring. It is crucial to note that the implementation of this approach should meticulously address all the obstacles. As said before, achieving this objective is a challenging endeavor that requires extensive cooperation between the Ministries of Education and Environment, as well as perhaps other variables. A considerable proportion of the Iraqi populace comprises persons in the age bracket of 15 to 24, including roughly 19.6% of the overall population. This demographic is already favored by a substantial percentage of young individuals (CIA, 2013). Iraq seeks to strengthen the capabilities of its workforce by prioritizing the concepts of sustainable development. Education for Sustainable Development (ESD hence fore), is an educational approach defined by UNESCO as being based on the ideas and values that underpin sustainable development which are stated as following:

a) It is based on the principles and values that underlie sustainable development;
b) It deals with the well-being of all four dimensions of sustainability-environment, society, culture and economy;
c) It uses a variety of pedagogical techniques that promote participatory learning and higher-order thinking skills;
d) It promotes lifelong learning;
e) It is locally relevant and culturally appropriate;

f) It is based on local needs, perceptions and conditions, but acknowledges that fulfilling local needs often has
g) It international effects and consequences;
h) It engages formal, non-formal and informal education;
i) It accommodates the evolving nature of the concept of sustainability;
j) It addresses content, taking into account context, global issues and local priorities;
k) It builds civil capacity for community-based decision-making, social tolerance, environmental stewardship, an adaptable workforce, and a good quality of life; is interdisciplinary.
l) No single discipline can claim ESD for itself; all disciplines can contribute to ESD.

The Iraqi model for a sustainable university seeks to demonstrate the interconnectedness between human resources and the sustainable development capitals at the university. This is accomplished through four "themes": environmental sustainability, working environment, student engagement, and corporate social responsibility. Each subject serves a vital role in the advancement and safeguarding of the "Elements" of SD capital while also forging links between the institution, community, and government. Establishing a robust rapport with the community is a vital component of the university's Social Development Strategy (SDS hence fore). Exhibiting corporate social responsibility entails aggressively engaging the university with non-governmental organizations, advocating for volunteerism to assist the community, and disseminating social and scientific initiatives to the local community. Accomplishing all of these objectives requires meticulous and thoughtful long-term strategic planning. An all-encompassing strategy that takes into account all facets of the university setting, including pre-university education, is crucial for effectively attaining the necessary objectives.

Conclusion

To address environmental concerns in Iraqi institutions, it is essential to adopt a collaborative approach involving students, teachers, administrators, and policymakers. By incorporating environmental education into academic curricula, implementing sustainability projects on campus, and forging collaborative relationships, universities may play a crucial role in creating a more sustainable future for Iraq.

Iraqi universities, including Wasit, Baghdad, and Basra, offer a wide range of curricula and courses that effectively integrate current development objectives. These programs have the objective of providing students with the essential abilities to fulfill global standards, address the objectives of the United Nations, and confront emerging issues.

List of Abbreviations

N.	Abbreviations	
1.	MDGs	Millennium Development Goals
2.	SD	Sustainable Development
3.	ESD	Educational Sustainable Development
4.	USDS	University's Sustainable Development Strategy
5.	GHGs	Green House Gas emissions
6.	SDS	Sustainable Development Strategy
7.	SDS	Social Development Strategy
8.	UNESCO	United Nations Educational, Scientific and Cultural Organization

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