

TOWARDS A SUSTAINABLE POST-WAR RECOVERY: THE ROLE OF UNIVERSITIES IN UKRAINE'S ECONOMIC, ENVIRONMENTAL, AND SOCIAL TRANSFORMATION

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Abstract. The **purpose** of the present paper is to investigate the role and contribution of universities and students in supporting post-war recovery based on the principles of sustainable development. **Methodology.** The research employed a survey method, with students from Ukrainian higher education institutions selected as the primary target group of respondents. A total of 151 students from a variety of academic disciplines participated in the survey, which was conducted electronically via Google Forms. The questionnaire comprised 35 questions with the aim of assessing young people's understanding of the fundamental principles of the Sustainable Development Goals, as well as the roles of universities and students in achieving them. The questionnaire comprised a number of question types, including diagnostic, evaluative, behavioural and motivational questions. The content of the questionnaire encompassed a range of topics, including general principles of sustainable development, economic aspects (innovation, infrastructure, labour, use of natural resources), environmental aspects (ecosystems, water resources, biodiversity, etc.), and social aspects (inequality, gender balance, inclusion). In addition, the questionnaire posed questions related to partnerships and the impact of universities on achieving the SDGs. The methodological framework of the study is based on the Sustainable Development Concept. The article provides substantiating evidence for the hypothesis that this concept can be applied in Ukraine's post-war recovery process. In view of the fact that sustainable development encompasses economic, social, and environmental components, the questionnaire was structured accordingly to reflect each of these dimensions. **Results.** The article presents the results of an analysis of respondents' answers to questions related to the economic component of sustainable development. The study revealed a reasonably accurate understanding among young people of the internal essence of the Sustainable Development Goals. The majority of respondents demonstrated an adequate understanding of the significance of sustainable development in ensuring national economic growth. While acknowledging the pivotal function of academic institutions in fostering sustainable development, students exhibit a moderate degree of self-awareness concerning their individual contributions to the achievement of the SDGs. **Findings.** The author suggests that Ukraine's model of sustainable post-war recovery should be based on the four "R" pillars, including the economy and the higher education system: Relationships, Renovation, Resilience and Revampment. In light of the rapid advancement of digital technologies, the article also suggests integrating digital solutions into the implementation of the Sustainable Development Goals (SDGs) and strengthening security measures in Ukraine during the post-war period.

Keywords: Sustainable Development Concept, Sustainable Development Goals (SDGs), economic, social, and environmental components, university, student.

JEL Classification: I23, I25, Q56

1. Introduction

Over the past decade, sustainable development issues have been the focus of numerous scholars, analysts and practitioners worldwide. The Sustainable Development Goals (SDGs) have been proclaimed by the United Nations, and there has been a

noticeable intensification of efforts by policymakers, authorities, businesses, government institutions, non-governmental organisations, universities, and civil society to improve economic activities so as to enhance their effectiveness and minimise their negative impact on the lives of future generations.

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The consolidation of the capacities and resources of representatives from the public, entrepreneurial, and civil sectors across different countries has been demonstrated to promote global sustainable partnerships. These partnerships are directed towards achieving universal peace, equality, and justice; addressing global environmental challenges; and fostering the innovative modernisation of national economies based on an environmentally-friendly approach.

While recognising the significant contribution of various stakeholder groups to sustainable development, it is nevertheless considered appropriate to emphasise the particular role of young people in achieving the SDGs. Currently, a variety of educational institutions at different levels, ranging from primary schools to universities, are incorporating various sustainability elements into their teaching and educational processes. The objective of this initiative is to cultivate a new generation of citizens who possess a sophisticated environmental consciousness and lifestyle. These individuals are committed to environmental protection and actively advocate for social justice, inclusivity, and equality within society.

Despite the challenges inherent in assessing the global impact of sustainable initiatives targeting youth, opportunities exist to evaluate their effects at the local level.

There is significant academic interest in understanding how young people perceive the essence of the different Sustainable Development Goals (SDGs), and how they recognise their role in advancing sustainable development processes within their countries and regions. The objective was therefore to develop a methodological approach for surveying university students on the SDGs, design a questionnaire based on this methodology and conduct an anonymous survey among young people. This article presents the analysis of the survey results.

2. Literature Review on Sustainable Development and its Components

As Taylor S.J. (2016) stated, sustainable development should be considered as a whole, taking into account its environmental, social and economic components. Consequently, the focus of this study was on these three components. P.I. Mazza's (2021) article describes the main dimensions of sustainable development (economic, social and environmental) in detail and analyses the impact of various factors on their changes.

In her dissertation, Gossling-Goldsmiths (2018) argues that sustainable development aims to achieve economic growth and social progress while ensuring environmental balance. Allen et al. (2018) emphasise

that sustainable development should become a global priority and form the basis of national development strategies. According to these scholars, doing so would help to solve a range of environmental, social and economic problems.

When examining the issue of economic sustainability, Zhai and Chang note that the most equitable and financially sound decisions must be made, taking into account the other components of sustainability (Zhai et al., 2019). Scopelliti et al. (2018) state that investigating aspects of social sustainability should aim to reduce poverty within the existing environmental and economic resource base of society. Saner et al. (2019) highlight the complexity of modelling dynamics within social systems.

In the field of environmental sustainability, Campagnolo et al. have directed their research towards a range of pertinent issues. The conclusions drawn by these scholars indicate that in order to ensure sustainable development, societies must adapt to new environmental realities and consider natural limits to growth (Campagnolo et al., 2018).

International organisations have placed significant emphasis on the imperative of ensuring sustainable development at both the institutional and global levels. In 1972, the United Nations convened the Environmental Summit in Stockholm (United Nations, 1983). The Brundtland Commission (Norway) published its report, entitled *Our Common Future*, in 1987 (Brundtland Commission, 1986). The concept of sustainable development was formally delineated in this report as the provision of necessities for the present generation without compromising the capacity of future generations to meet their own needs (Brundtland Commission, 1987). Furthermore, the report under discussion placed significant emphasis on the correlation between environmental protection, economic development, and social well-being (Brundtland Commission, 1987).

In 1992, the United Nations held the World Conference on Environment and Development in Rio de Janeiro (Brazil) (United Nations, 1993). At this conference, *Agenda 21* was presented, covering all issues within the triangle of "Economy – Society – Environment".

In the European Union, two main strategies aimed at ensuring sustainable development have been adopted – the *Europe 2020 Strategy* and *Agenda 2030*. The *Europe 2020 Strategy* is focused on coordinating social and economic policies based on sustainable growth (European Commission, 2010).

In 2015, at the 70th General Assembly of the United Nations, the resolution *Transforming Our World: The 2030 Agenda for Sustainable Development* was adopted (United Nations, 2015).

Agenda 2030 promotes the integration of social, economic, and environmental dimensions into all sectoral policies. It is within *Agenda 2030* that the 17 Sustainable Development Goals (SDGs) and 169 targets for all countries were declared.

3. Survey Methodology

The research is grounded in the survey method. The author developed a questionnaire consisting of 35 questions corresponding to the theme of the SDGs, which are used as an international framework for assessing progress in various areas of sustainable development. The questionnaire comprises a series of closed-ended questions, catering to students from diverse years of study and specialisations. In constructing the questionnaire, the Likert scale, which is used to measure attitudes, beliefs, and levels of knowledge, was partially applied (Joshi Ankur et al., 2015).

The author's questionnaire includes the following types of questions:

- Diagnostic (assessment of respondents' understanding of key concepts);
- behavioural (aimed at identifying students' attitudes towards activities related to sustainable development);
- evaluative (analysis of students' subjective attitudes towards the importance of certain aspects of sustainable development);

- motivational (determine how students assess the potential contribution of young people to achieving the SDGs).

The questions of the survey can be divided into the following categories:

- 1) General principles of sustainable development;
- 2) the role of education and universities in sustainable development;
- 3) ecology and the use of natural resources (preservation of ecosystems, visible resources, biodiversity);
- 4) social justice (reducing inequality, gender equality, inclusiveness);
- 5) innovation and infrastructure;
- 6) global partnerships and interaction;
- 7) personal participation and the role of youth/students.

When developing the questionnaire, the author was guided by the following principles: compliance with the research goal; clarity of wording; avoidance of bias; voluntariness and anonymity; representativeness; adaptability; and ethics (see Table 1).

4. Findings

A total of 151 people responded to the survey. The majority were women (78.1%), while 21.9% of respondents were men (Fig. 1). The respondents were students at Ukrainian higher education institutions specialising in the following majors: Management,

Table 1
Principles of questionnaire formation

Principles	Components	Description
<i>The principle of relevance to the research objective</i>	Focus on assessing understanding of the SDGs	The question aims to determine students' level of understanding of the essence of Sustainable Development Goals.
	Focus on key aspects of the SDGs	The thematic focus of the questions covers aspects of environmental sustainability, social equality and economic sustainability.
<i>The principle of clarity of wording</i>	Simplicity and clarity	The questions are formulated in such a way as to avoid ambiguous interpretations.
	Avoiding complex terminology	The questions are adapted to different levels of knowledge, curricula and specialisations of students; they do not contain specific terms without explanations.
<i>The principle of neutrality</i>	Avoiding bias	The answer options should be formulated in a balanced manner.
	Emotional neutrality	The questions are formulated in such a way as to avoid putting emotional pressure on respondents.
<i>The principle of voluntariness and anonymity</i>	Voluntary participation	No pressure or coercion to complete the survey.
	Anonymity	Ensuring the confidentiality of responses received.
<i>The principle of representativeness</i>	Diversified target audience	The survey covered students from different majors, courses and universities.
<i>The principle of adaptability</i>	Flexibility	The questionnaire may be available in both electronic and printed form.
	Convenience of filling	The questionnaire is short, clear and easy to fill out.
<i>The principle of consistency</i>	Sequence of questions	The questions in the questionnaire are organised according to the key components of sustainable development.
	Comprehensiveness of coverage	The questionnaire covers important areas of sustainable development, avoiding excessive emphasis on any one aspect.
<i>The principle of ethics</i>	Data protection	Ensuring that the questionnaire complies with ethical standards, including personal data protection.

Source: compiled and systematised by the author

Law, Finance, Banking and Insurance, Public Management and Administration, Marketing, Accounting and Audit, Agronomy, Philosophy, etc. The majority of respondents were in their first (53.6%), third (19.2%) or second (15.9%) year of study (Fig. 2).

As mentioned above, sustainable development encompasses three key areas: the economy, society and the environment. The results of the analysis of respondents' answers to questions relating to the economic component are shown below. The majority of respondents (70.9%) demonstrated a sufficiently balanced understanding of economic sustainability, particularly in terms of achieving balanced growth of the economy without causing harm to the environment. In response to the question regarding the essence of economic sustainability, 23.8% of surveyed students selected the option "the ability of the economy to withstand external challenges and maintain the standard of living". Consequently, the predominant proportion of students evince an awareness of the imperative to align human economic activity and the resultant income with the state of the environment and the quality of life of the population.

In response to the question regarding decent work and its relationship with economic growth, 89.4% of

respondents noted the importance of job creation and ensuring fair wages. The purpose of this question is to assess the attitudes of young people towards Sustainable Development Goal 8, which is entitled "Decent Work and Economic Growth".

In the contemporary era, innovations have been shown to exert a powerful influence on the economic development of any nation, while the state of infrastructure has been demonstrated to directly affect the performance of economic activities. The findings of the study highlighted the significance of infrastructure development for achieving sustainability, with 86.1% of respondents underscoring the importance of providing access to efficient and environmentally friendly infrastructure. A notable proportion, 9.3%, emphasised the necessity of infrastructure development only in economically profitable areas, while a smaller percentage, 4.6%, advocated for the cessation of infrastructure development in favour of nature preservation.

In response to the question regarding the role of innovation in infrastructure development, 86.8% of respondents noted that it involves the application of advanced technologies to improve the lives of citizens. The survey results indicate that young people have a limited understanding of the significance

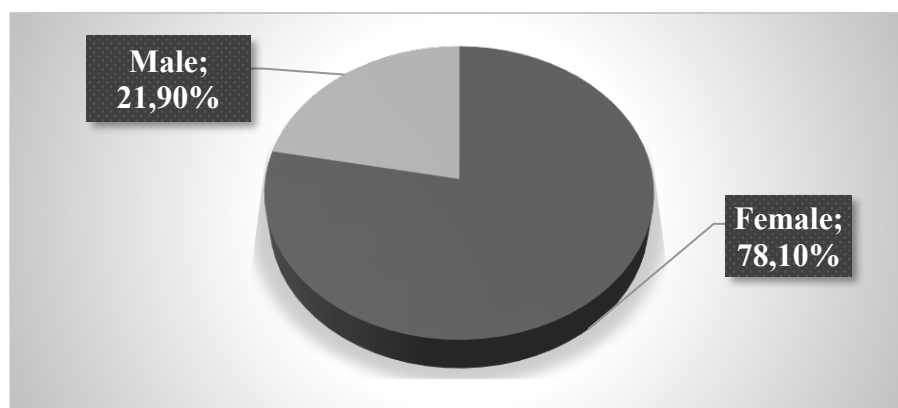


Figure 1. Structure of respondents by gender, %

Source: results of a survey conducted within the framework of the project "Model of the Post-War Recovery of Border Universities of Ukraine in the Digitalization Era under the Sustainable Development Concept"

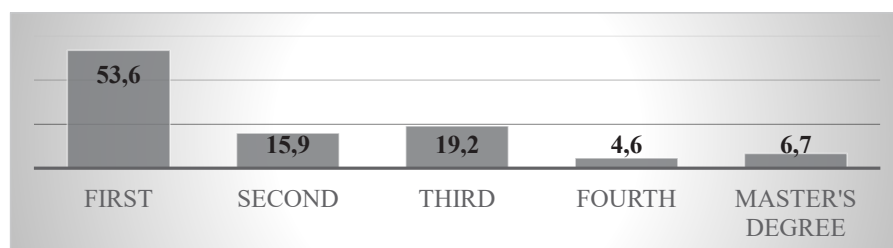


Figure 2. Year of study at university, %

Source: results of a survey conducted within the framework of the project "Model of the Post-War Recovery of Border Universities of Ukraine in the Digitalization Era under the Sustainable Development Concept"

of innovation in the modern economy, both from a business perspective and in terms of its impact on society (Fig. 3).

In response to the question about the reliability and accessibility of products and services in the context of sustainable development, 88.7% of the

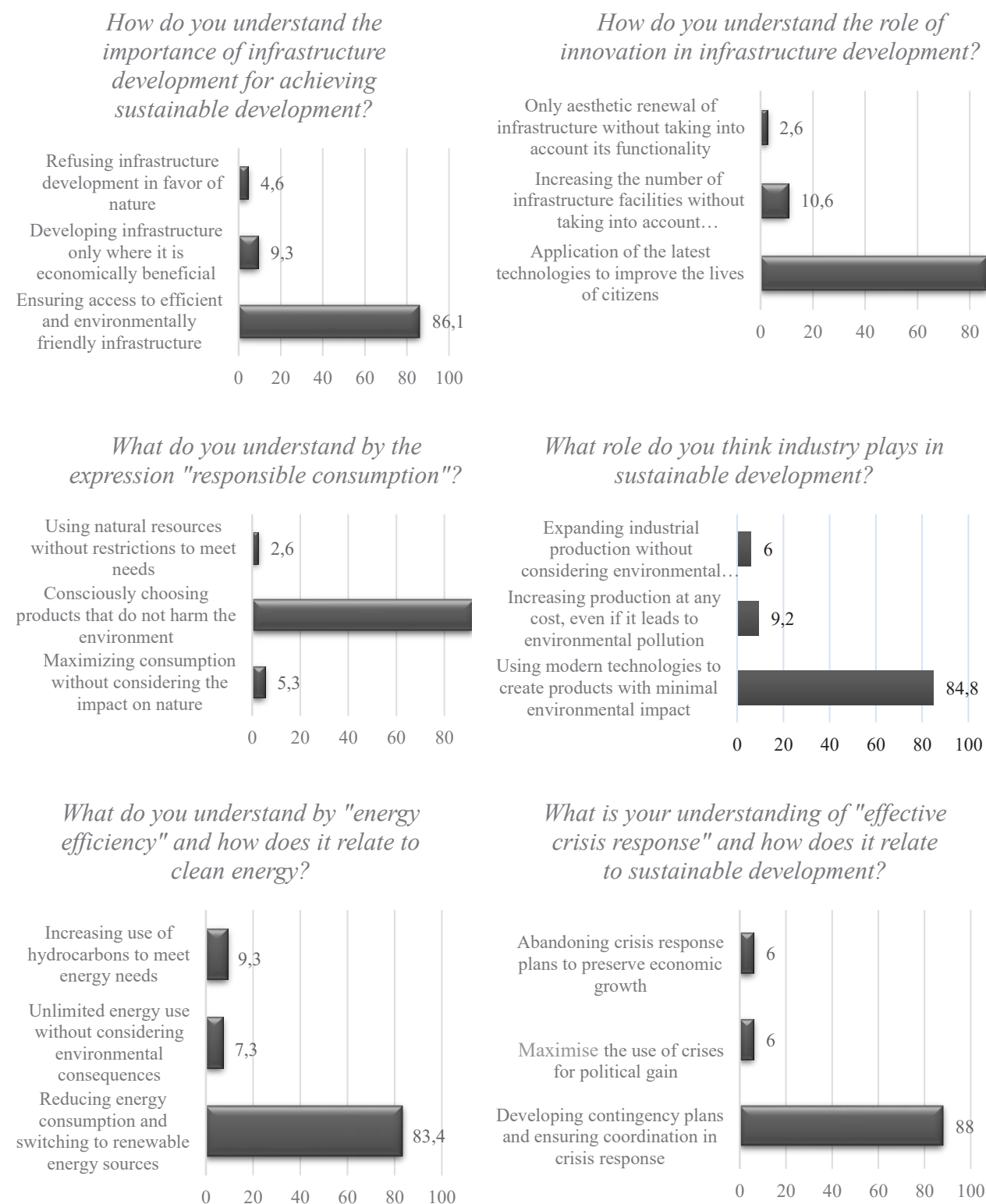


Figure 3. Distribution of respondents' answers to some questions within the economic component of sustainable development, %

Source: results of a survey conducted within the framework of the project "Model of the Post-War Recovery of Border Universities of Ukraine in the Digitalization Era under the Sustainable Development Concept"

students surveyed emphasised the importance of ensuring access to high-quality products and services for everyone; 6.6% said that production should be maximised regardless of product quality and accessibility; and 4.6% said that people should be encouraged to consume a limited number of goods and services.

The subsequent questionnaire item pertaining to the economic component of sustainable development focused on the concept of responsible consumption. The majority of respondents (92.1%) defined this category as the conscious choice of products that do not harm the environment. This understanding of responsible consumption is consistent with the generally accepted concept of the economical use of natural resources to meet only essential needs.

It is imperative to acknowledge the pivotal role of energy efficiency and the utilisation of renewable energy sources within the economic dimension of sustainable development. A significant proportion of the surveyed students emphasised the critical relevance of reducing energy consumption and transitioning to renewable energy sources; 9.3% of respondents indicated an increase in the use of hydrocarbons to address energy issues. It is noteworthy that 84.8% of surveyed students emphasised the necessity of utilising contemporary technologies to produce goods with minimal environmental impact.

In response to the question regarding the vision of an effective response to crises, the majority of respondents (88%) stated that they associate it with the development of emergency plans and ensuring coordination in crisis response. It can be hypothesised that this perception of the respondents is predominantly the consequence of or has been shaped by their experiences during the initial stages of the pandemic and the full-scale war initiated by Russia against Ukraine. These events fundamentally changed people's attitudes towards crisis management, planning, and insurance.

The elevated degree of uncertainty and the absence of a discernible understanding of future development trajectories have precipitated the bankruptcy or cessation of numerous enterprises. The gradual adaptation of entrepreneurs to crisis challenges was accompanied by an intensification of the digitalisation of their activities and the increased relevance of sustainable development principles. The practice of proactively developing emergency plans has become a well-considered and justified approach.

In continuation of the aforementioned analysis, it is important to note that in response to the question about partnership for achieving goals, 85.4% of respondents emphasised the critical importance of deepening collaboration between governments, the public, and the private sector to jointly address issues related to ensuring sustainable development.

Furthermore, 90.1% of respondents, when asked about the significance of proper governance for sustainable development, highlighted the need for effective and transparent governance to meet citizens' needs. A mere 2% of respondents answered the question by advocating for a rejection of governance to ensure the free initiative of citizens. These results are considered valuable in terms of young people's awareness of the role of partnerships and cross-sectoral collaboration in advancing towards the achievement of the SDGs.

In addition to the points previously outlined, it is imperative that students comprehend the potential of their positive impact on the processes of achieving the SDGs. Amongst the total number of respondents, 84.8% indicated that they contribute to sustainable development by participating in environmental and social responsibility projects and initiatives. However, the findings of the survey indicate that 51% of surveyed students are uncertain about how to assess their own contribution to achieving the SDGs, 19% believe that their actions have no impact on achieving the SDGs, and 29.1% understand their contribution and actively participate in sustainable initiatives.

Furthermore, 80.8% of respondents noted that, in their opinion, universities contribute to the achievement of the SDGs by supporting research focused on sustainability issues and enhancing the sustainable component in education and training. Additionally, students emphasise that modern higher education institutions must proactively implement sustainable practices and serve as exemplars in achieving sustainable transformations within the country.

It is the opinion of the present author that ensuring sustainable development is an integral condition for the post-war recovery of Ukraine. It is the contention of the present study that both the national economy in its totality and institutions of higher education should base their recovery on the concept of sustainable development. Achieving the SDGs is only possible through the deepening of partnerships between the government, businesses, universities, and the public. As demonstrated by the survey results, young people are becoming increasingly oriented towards sustainability, both in their education and in their personal activities. This suggests a growing potential for implementing sustainability principles in post-war Ukraine.

It is this author's opinion that higher education institutions hold significant potential for the sustainable development of the national economy and its post-war recovery based on the "build back better" principle. Universities are known to unite progressive youth and leading scholars, and they have a wide network of partners from businesses, government institutions, and NGOs. Among the key vectors of influence that universities can have on the sustainable

development of the country, the following should be highlighted:

- *Research* (the implementation of interdisciplinary scientific initiatives aimed at the comprehensive exploration of diverse dimensions of sustainable development, the advancement of new knowledge in this domain, and the development of digital technologies that facilitate the accelerated attainment of the Sustainable Development Goals).

- *Education* (the systematic integration of sustainability principles into university curricula, the enhancement of student engagement in activities oriented towards the achievement of the SDGs, and the broad dissemination of sustainable knowledge within local communities).

- *Upbringing* (the cultivation of ecological consciousness among the younger generation, the promotion of healthy lifestyle principles, and the fostering of innovative and critical thinking skills).

- *Governance* (the incorporation of sustainability principles into university governance structures, the embedding of the SDGs into institutional practices, and the strengthening of partnerships with stakeholders across various sectors of the economy and civil society).

- *Leadership* (the establishment of universities as exemplars in the pursuit of the SDGs, the encouragement of partner organisations to embrace sustainability-driven development, the commitment to preparing a new generation of agents of sustainable transformation, and the active contribution to the gradual societal shift towards sustainable development).

5. Conclusions

The national economy of Ukraine has been confronted with significant challenges as a result of the ongoing full-scale war. Presently, the necessity to identify conceptual approaches to the nation's post-war recovery is becoming increasingly imperative. The article emphasises that reconstruction should be based on the "build back better" principle. The fundamental concept underpinning recovery is posited to be that of sustainable development, encompassing economic, environmental, and social dimensions.

The authors hypothesised that higher education institutions possess significant potential to ensure

sustainable transformations in the national economy during the post-war period. To test this hypothesis, a survey method was applied to question over 150 students from Ukrainian universities. The objective of the present survey is to assess students' comprehension of the internal content of the Sustainable Development Goals (SDGs) and their contributions, as well as those of universities, to achieving these goals. The survey was conducted anonymously online through the distribution of a Google Form to students.

The present article expounds upon the findings of an analytical investigation into the responses given by survey respondents to a series of questions pertaining to the economic dimension of sustainable development. The results demonstrated an average understanding among students of the essence of sustainable development, as well as an awareness of the significant potential of universities in achieving the SDGs. There was also a willingness to activate their own contribution to the sustainable post-war recovery of Ukraine, higher education, and the national economy in particular. The article under scrutiny herein substantiates the critical importance of partnerships between businesses, higher education institutions, the government, and the public in ensuring Ukraine's sustainable development.

In conclusion, 4"R" pillars of post-war sustainable recovery in Ukraine can be formulated: Relationships (the partnership of government, universities, business, and the public); Revampment (the reconstruction of infrastructure and buildings damaged by Russian attacks); and Resilience (ensuring resilience to exogenous shocks in the medium and long term).

The **potential for further research** lies in the conceptualisation of a model for sustainable post-war recovery in Ukraine based on the 4"R" pillars, with consideration for the potential of modern digital technologies (artificial intelligence, the Internet of Things, blockchain, big data, etc.).

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