

# PATHWAYS TO SUSTAINABLE DEVELOPMENT IN AN ECONOMY IN TRANSFORMATION

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## ABSTRACT

This study examines pathways toward sustainable development in the context of a transforming economy, focusing on the role of public policies, institutional governance, and social factors. The analysis is based on empirical data collected through a questionnaire and processed using statistical methods, with the aim of assessing the relationships between sustainable development and selected variables. The results indicate that individual and demographic factors have a limited impact, whereas the effective implementation of environmental policies and institutional performance emerge as the main determinants of sustainable development. The study emphasizes that social awareness, although important, is insufficient without strong enforcement and monitoring mechanisms. In this context, sustainable development is defined as a process that requires integrated policies, inter-institutional coordination, and sustained public and private engagement. The findings offer valuable implications for policymakers and contribute to the literature on sustainable development in transition economies.

**Keywords:** Sustainable development; transforming economy; public policy; institutional governance; green economy.

## 1. Introduction

Sustainable development represents a key challenge for transforming economies, which must reconcile economic growth with environmental protection and social inclusion. In this context, public policies, effective governance, and innovation play a crucial role in guiding the transition toward more sustainable development models. The principle of sustainable development aims at a long-term and qualitative future by linking economic growth with social well-being. It emphasizes the development of workforce skills, the enhancement of competitiveness, and the equitable distribution of benefits, with the objective of strengthening equality and social justice (Astuti, 2024). Sustainable development requires the integration of economic growth with environmental protection, social justice, and the efficient use of resources (Wang K. , 2024). The definition of the concept of sustainability remains complex. Sustainability is regarded as a guiding principle that aims to manage resources in such a way as to meet the needs of present generations without compromising the ability of future generations to meet their own needs (Kuci, 2024). In retrospect, the concept of sustainability has served as a mediating mechanism between economic growth and environmental protection, fostering a broader debate on development. As a result, the literature on sustainability has expanded significantly, becoming both extensive and fragmented (Luken, 2009). As pressure on natural resources increases, it becomes essential to understand the interaction between innovation, resource use, and economic development, as sustainable resource

management by businesses is crucial to preventing environmental degradation and avoiding constraints on economic growth. (Wang F. , 2023).

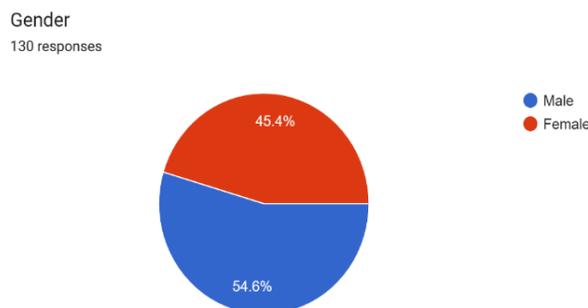
## 2. Literature Review

Sustainability represents a fundamental principle that emphasizes the interdependence among environmental, social, and economic dimensions (Eelager, 2025). Environmental sustainability implies the development of economic and social activities while preserving biodiversity and ecosystem functioning, reducing pollution, and using natural resources responsibly for future generations (Diwakar, 2023).

According to empirical studies, the implementation of an integrated package of environmental policies generates a strong positive effect on the environment (Liu, 2022). Climate change mitigation constitutes another area in which environmental policies have had a significant impact. Agreements such as the Paris Agreement oblige countries to adopt binding targets for emission reductions, which are supported by national policies that limit pollution in key sectors such as energy, transport, and heavy industry (Ioannou, 2025). Researchers argue that green taxes are key instruments for environmental regulation. According to the “double dividend” theory, these taxes can reduce carbon emissions while simultaneously increasing government revenues by replacing other, more distortionary taxes (Shobande, 2025).

## 3. Results

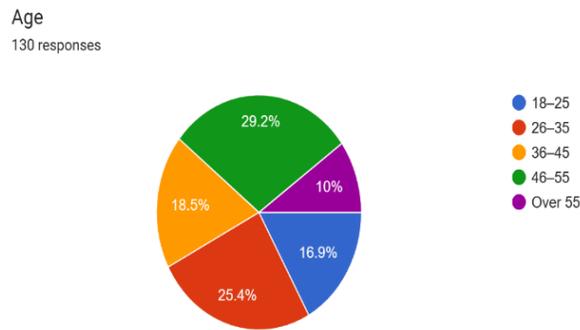
Below we present the main results of the study, based on the processing and analysis of the collected data. The results reflect the trends and relationships among the variables examined, providing an overall overview of the key issues related to sustainable development. The data are presented in a structured and neutral manner, serving as a basis for further analysis and interpretation. The main findings of the study are presented below:



Source: Author, 2025

Figure 1. Gender of the respondents

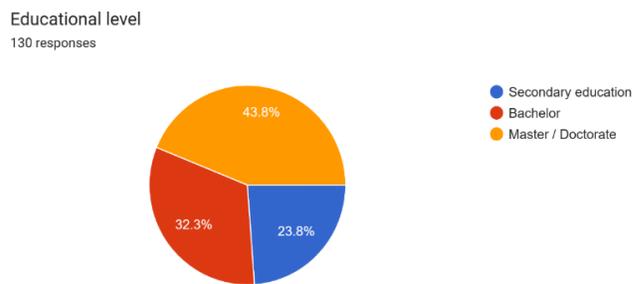
The figure above illustrates the gender distribution of the respondents in the study, based on a sample of 130 participants. The results indicate that 54.6% of the respondents are male, while 45.4% are female.



Source: Author, 2025

Figure 2. Age of the respondents

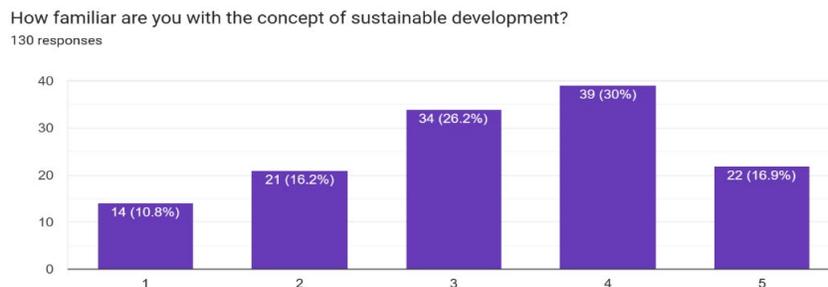
Figure 2 presents the age-group distribution of the 130 respondents included in the study. The results indicate that the 46–55 age group represents the highest proportion of respondents (29.2%), followed by the 26–35 age group (25.4%). The 36–45 age group accounts for 18.5% of the sample, while young respondents aged 18–25 constitute 16.9%. The lowest proportion is observed among respondents over 55 years of age, representing 10% of the total sample.



Source: Author, 2025

Figure 3. Educational level of the respondents

The figure above illustrates the distribution of educational attainment among the 130 respondents. The results indicate that the largest proportion of respondents have completed postgraduate studies (Master’s/Doctoral degrees), accounting for 43.8% of the sample. A total of 32.3% of respondents hold a Bachelor’s degree, while 23.8% have completed secondary education.

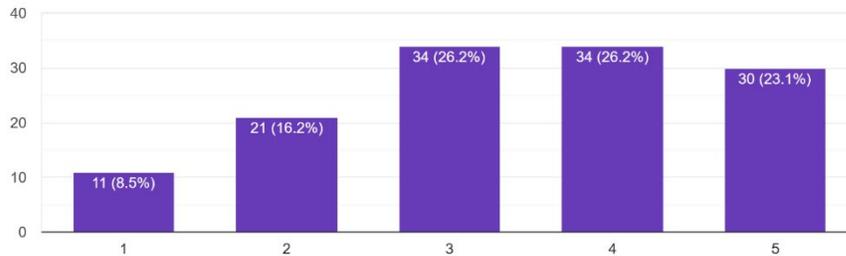


Source: Author, 2025

Figure 4. Awareness of the concept of sustainable development

Figure 4 illustrates the level of respondents' awareness of the concept of sustainable development. The results indicate that the majority of respondents rate their knowledge at medium to high levels. Specifically, 30% of respondents selected rating 4, while 26.2% selected rating 3. A substantial proportion, 16.9%, rated their knowledge at the highest level (5). In contrast, a smaller share of respondents reported low levels of awareness: 16.2% selected rating 2, and only 10.8% selected rating 1.

Economic growth must be accompanied by environmental protection.  
130 responses

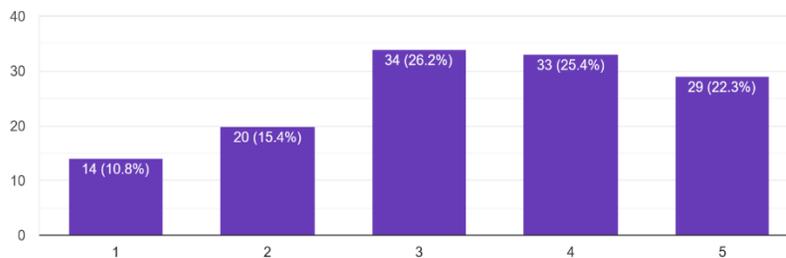


Source: Author, 2025

Figure 5. Economic growth and environmental protection

The figure presents respondents' attitudes toward the statement that economic growth should be accompanied by environmental protection. The results indicate that 26.2% of respondents selected rating 4, while 23.1% chose the highest rating (5), reflecting strong agreement. Additionally, 26.2% of respondents selected rating 3, indicating a neutral or moderate position. Conversely, a smaller proportion expressed disagreement: 16.2% selected rating 2, and 8.5% selected rating 1.

Investments in renewable energy are important for long-term development.  
130 responses

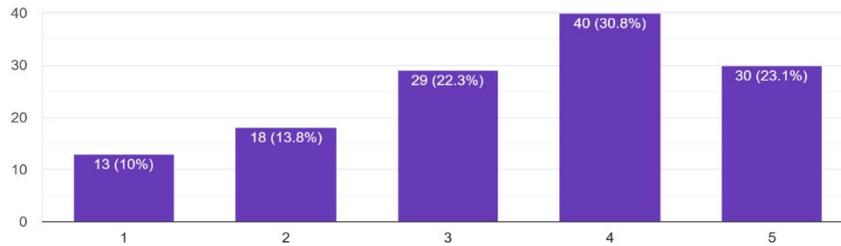


Source: Author, 2025

Figure 6. Investments in renewable energy and long-term development

The figure above presents respondents' perceptions of the importance of investments in renewable energy for long-term development, based on a rating scale from 1 (strongly disagree) to 5 (strongly agree), among 130 respondents. The results indicate a clear tendency toward agreement with this statement. Specifically, 25.4% of respondents selected rating 4, while 22.3% chose the highest rating (5), reflecting strong agreement. A total of 26.2% of respondents selected rating 3, indicating a neutral or moderate stance. A smaller proportion expressed disagreement: 15.4% selected rating 2, and 10.8% selected rating 1.

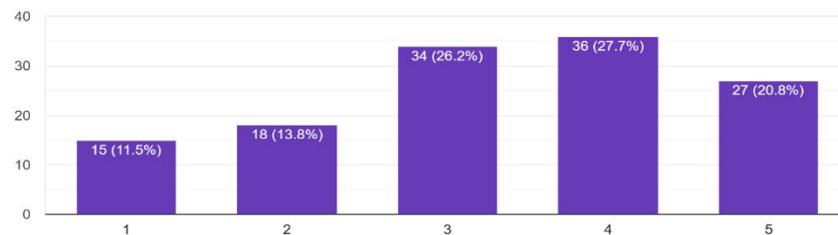
Education and vocational training play a key role in sustainable development.  
130 responses



Source: Author, 2025

**Figure 7. The role of education and vocational training in sustainable development**  
The figure above presents respondents’ attitudes toward the statement that education and vocational training play a key role in sustainable development. The results indicate a very high level of agreement with this statement. Out of 130 respondents, 30.8% selected rating 4, while 23.1% chose the highest rating (5), reflecting strong agreement. A total of 22.3% of respondents selected rating 3, indicating a neutral or moderate position. In contrast, 13.8% selected rating 2, and 10% selected rating 1.

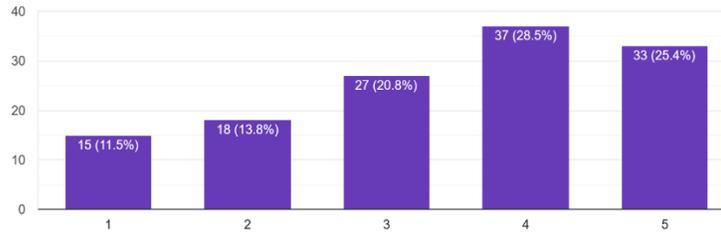
Sustainable development helps reduce social inequalities.  
130 responses



Source: Author, 2025

**Figure 8. Sustainable development and the reduction of social inequalities**  
Figure 8 presents respondents’ attitudes toward the statement that sustainable development helps reduce social inequalities. The results indicate a dominant tendency toward agreement with this statement. Specifically, 27.7% of respondents selected rating 4, while 20.8% chose the highest rating (5), reflecting strong agreement. A total of 26.2% of respondents selected rating 3, indicating a neutral or moderate position. Conversely, a smaller proportion expressed disagreement: 13.8% selected rating 2, and 11.5% selected rating 1.

Environmental pollution constitutes a serious obstacle to economic development.  
130 responses

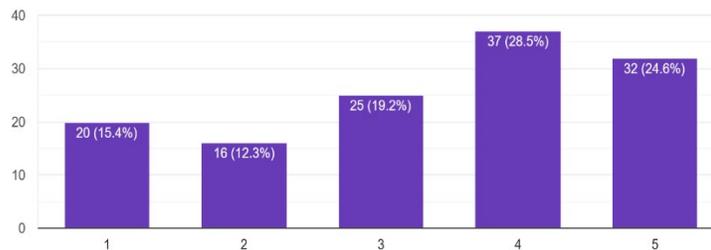


Source: Author, 2025

Figure 9. Environmental pollution as a barrier to economic development

The figure above presents respondents’ attitudes toward the statement that environmental pollution constitutes a serious barrier to economic development. The results indicate a high level of agreement with this statement. Specifically, 28.5% of respondents selected rating 4, while 25.4% chose the highest rating (5), reflecting strong agreement. A total of 20.8% of respondents selected rating 3, indicating a neutral or moderate position. In contrast, 13.8% selected rating 2, expressing disagreement, while 11.5% selected rating 1.

Current environmental policies are implemented effectively  
130 responses

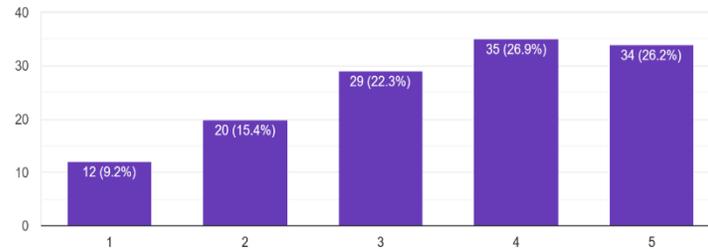


Source: Author, 2025

Figure 10. Implementation of current environmental policies

The figure above presents respondents’ evaluations of the statement that current environmental policies are implemented effectively, based on a rating scale from 1 (strongly disagree) to 5 (strongly agree). The results indicate that 28.5% of respondents selected rating 4, while 24.6% chose the highest rating (5), suggesting a positive perception of the effectiveness of environmental policy implementation. Nevertheless, a considerable share of respondents expressed skepticism: 19.2% selected rating 3, reflecting a neutral stance, while 12.3% and 15.4% selected ratings 2 and 1, respectively, indicating disagreement.

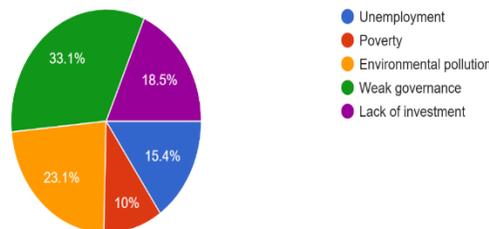
Public institutions and good governance promote sustainable development.  
130 responses



Source: Author, 2025

Figure 11. The role of public institutions and good governance in sustainable development  
The figure above illustrates respondents' attitudes toward the statement that public institutions and good governance promote sustainable development. The results indicate that 26.9% of respondents selected rating 4, while 26.2% chose the highest rating (5), reflecting strong agreement. A total of 22.3% of respondents selected rating 3, indicating a neutral or moderate position. In contrast, a smaller proportion of respondents expressed disagreement with the statement: 15.4% selected rating 2, and 9.2% selected rating 1.

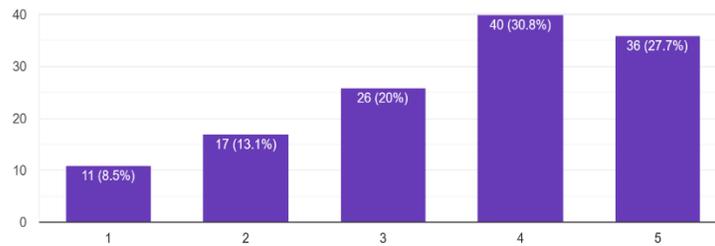
What is the main challenge to sustainable development in a transition economy?  
130 responses



Source: Author, 2025

Figure 12. The main challenge of sustainable development in a transition economy  
The figure above presents respondents' perceptions of the main challenge of sustainable development in a transition economy, based on a sample of 130 respondents. The results indicate that weak governance is perceived as the greatest challenge, reported by 33.1% of respondents. The second most significant challenge is environmental pollution, mentioned by 23.1% of respondents. Lack of investment ranks third at 18.5%, while unemployment accounts for 15.4% of responses. Poverty is identified by only 10% of respondents.

How optimistic are you about the future of sustainable development in the country?  
130 responses



Source: Author, 2025

Figure 13. Optimism about the future of sustainable development in the country

The figure presents the level of respondents’ optimism regarding the future of sustainable development in the country, based on a sample of 130 respondents. Specifically, 30.8% of respondents selected rating 4, while 27.7% chose the highest rating (5), reflecting a high level of optimism. A total of 20% of respondents selected rating 3, indicating a neutral stance or moderate optimism. Additionally, 13.1% selected rating 2, while 8.5% selected rating 1, expressing pessimism about the future of sustainable development in the country.

Tabela 1. Regression linear

SUMMARY OUTPUT					
<i>Regression Statistics</i>					
Multiple R	0.651024539				
R Square	0.42383295				
Adjusted R Square	0.419331645				
Standard Error	0.977384681				
Observations	130				
<i>ANOVA</i>					
	<i>df</i>	<i>SS</i>	<i>MS</i>	<i>F</i>	<i>Significance F</i>
Regression	1	89.94713271	89.94713271	94.1577925	5.06E-17
Residual	128	122.2759442	0.955280814		
Total	129	212.2230769			

	<i>Coefficients</i>	<i>Standard Error</i>	<i>t Stat</i>	<i>P-value</i>
Intercept	1.428114716	0.225677525	6.328121138	3.8283E-09
Current environme	0.605391005	0.062388972	9.703493832	5.0647E-17

Source: Author, 2025

The results of the linear regression indicate a strong and statistically significant relationship between perceptions of the effective implementation of environmental policies and optimism regarding the future of sustainable development. The explanatory variable shows a positive and substantial effect ( $\beta = 0.605$ ,  $p < 0.001$ ), while the model explains approximately 42% of the

variance in the dependent variable ( $R^2 = 0.424$ ). The F-test confirms the overall statistical significance of the model ( $F = 94.16, p < 0.001$ ).

#### **4. Discussion**

The results of the study indicate that the majority of respondents possess a good level of knowledge and hold positive attitudes toward the concept of sustainable development. The responses demonstrate broad support for the idea that economic growth should be accompanied by environmental protection, that investments in renewable energy are essential for long-term development, and that education and vocational training play a key role in promoting sustainability.

However, linear regression analyses reveal that certain demographic and perceptual factors, such as gender and educational level, do not have a statistically significant impact on outcomes related to sustainable development. This suggests that, although there is widespread social awareness, it does not automatically translate into measurable changes in perceptions or assessments of sustainable development. In contrast, the regression linking the effective implementation of environmental policies with sustainable development is highly statistically significant ( $p < 0.001$ ), explaining a substantial share of the variance in the dependent variable. This result indicates that institutional and governance-related factors are decisive in shaping sustainability outcomes, more so than the individual characteristics of respondents.

Furthermore, the identification of weak governance and lack of investment as the main challenges to sustainable development in a transition economy reinforces the empirical findings and underscores the need for structural reforms and the strengthening of institutional capacities.

#### **5. Conclusions**

This study examines the factors influencing sustainable development in a transition economy, focusing on the interaction between public policies, institutions, and social perceptions. The results indicate that there is broad support for the principles of sustainable development; however, such support is insufficient to ensure tangible progress in the absence of effective policy implementation. Empirical analysis confirms that individual and demographic factors play a limited role in explaining sustainability outcomes. In contrast, institutional performance and enforcement mechanisms emerge as decisive elements in achieving sustainable development objectives.

This underscores the importance of effective governance and inter-institutional coordination in the development process. The study suggests that environmental and economic policies should be accompanied by clear monitoring and evaluation frameworks. Moreover, integrating sustainability into long-term economic planning remains a necessity for transition economies. The findings highlight the need for sustainable investments and the enhancement of administrative capacities. From a practical perspective, the results offer valuable guidance for policymakers in directing structural reforms. The study contributes to the existing literature by reinforcing the argument that sustainability is an institutional process rather than merely a social attitude. Nevertheless, future research could deepen the analysis by incorporating additional variables and adopting comparative

cross-country approaches. In conclusion, sustainable development requires sustained political, institutional, and societal commitment to produce measurable and long-term outcomes.

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