Acta Universitatis Danubius
ŒCONOMICA

Environmental Quality and Citizens' Economic Well-Being - Correlations, Public Policies and Sustainability

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Abstract: Objectives: This paper explores the relationship between environmental quality and perceived economic well-being in the Republic of Moldova, in light of increasing ecological pressures and concerns about sustainability. **Prior Work:** The study builds on established frameworks such as the Environmental Kuznets Curve (EKC) and ecological economics, and continues the authors' earlier research on prosperity perceptions (Economic well-being and citizens' perceptions of prosperity: a comparative analysis in the context of Moldova's EU integration). The research is conducted within the project "Strengthening socio-economic and legal mechanisms to ensure the well-being and security of the citizens" (CONSEJ 01.05.02). These perspectives help clarify the interdependence between environmental integrity and socio-economic resilience. **Approach:** The paper draws on quantitative analysis of a 2024 sociological survey (n = 609), focusing on citizens' perceptions of environmental quality, access to green spaces, and civic engagement. **Results:** Although citizens acknowledge the importance of environmental quality, satisfaction remains low-particularly regarding air quality and green infrastructure. Civic participation is limited. **Implications:** Findings support the need for inclusive, community-based environmental policies. **Value:** The study offers original insights into how environmental factors shape subjective well-being, informing sustainable development strategies.

Keywords: well-being; sustainable development; green spaces; environmental policy

JEL Classification: Q01; Q56; I31

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1. Introduction

Accelerating climate change and the intense rate of natural resource depletion are putting unprecedented pressure on global economies and social structures. Recent studies show that this phenomenon calls into question the sustainability of the current economic model, which is largely based on intensive consumption of natural capital. Extreme weather events, degradation of ecosystems are just some of the clear signals of global ecological imbalance (Wang, Wang & Li, 2024). In parallel, concern for environmental quality is gaining increasing relevance among citizens and policy makers. According to the World Happiness Report, 62% of respondents would prioritise environmental protection even at the expense of economic growth, while over 70% perceive climate change as a serious threat to their future well-being (Helliwell et al., 2023). In light of these challenges, it becomes essential to investigate the relationship between economic development and environmental quality. This article aims to explore this complex relationship and to highlight its implications for public policy and the sustainable development paradigm.

Given the multiple challenges posed by environmental degradation and their impact on the well-being of the population, this study aims to investigate the relationship between environmental quality and the perception of economic well-being among citizens of the Republic of Moldova.

To this end, the research aims to:

- assess citizens' perceptions of the local environment (air, green spaces, green infrastructure);
- identifying the link between environmental satisfaction and economic well-being;
- examining the level of civic involvement in environmental protection.

Based on the theoretical framework provided by the Environmental Kuznets Curve (EKC) and ecological economics, the study proposes to test two hypotheses:

H1: Citizens who perceive low environmental quality report lower levels of economic well-being.

H2: There is a significant difference between the level of environmental awareness and actual civic involvement in environmental protection activities.

Methodology. This study examines in depth how people's perceptions of environmental quality and level of civic engagement in environmental issues influence their perceptions of their own economic well-being. The analysis is based on a sociological survey conducted in 2024 on a sample of 609 respondents in the Republic of Moldova. Key variables include environmental quality assessment (air quality, access to green spaces, quality of local environmental infrastructure), civic

involvement in environmental protection (participation in environmental activities, environmental decision-making and environmental volunteering) and self-assessment of economic well-being. Detailed descriptive results, inferential analyses (including Pearson/Spearman correlations and multiple regression) and comparisons by demographic subgroups are presented below, formulated in a rigorous academic style.

2. Literature Review on the Relationship Between Economic Development and the Environment

One of the most influential theories in the literature on the interaction between economic development and environmental quality is the Environmental Kuznets Curve (EKC), which suggests a relationship between income levels and environmental degradation: in the early stages of economic development, pressures on the environment increase, but after a certain threshold of per capita income is reached, the trend reverses and environmental quality starts to improve (Panayotou, 1993; Stern, 2004). This implies that, in the early stages of economic growth, societies prioritise economic development at the expense of environmental protection, but later, rising incomes generate demand for stricter environmental policies and cleaner technologies (Grossman & Krueger, 1995). Today, EKC is widely used in environmental policy analysis and is integrated into numerous empirical models (Wang, Wang & Li, 2024). However, this theory does not have universal validity. Many authors argue that the observed relationship between income and environmental quality does not necessarily reflect an inevitable trajectory, but historical and institutional differences across states (Stern, 2004). Moreover, environmental improvements in developed economies have often been the result of deliberate public policies - such as the 1970s anti-pollution regulations in the US and Europe - and the technological progress spurred by these regulations (Dasgupta et al., 2002). The literature also indicates significant variability in the applicability of EKCs depending on the environmental indicators analysed. Thus, for local pollutants, such as particulate matter or water pollution, there is stronger evidence of an inverted U-type relationship. However, for global emissions, such as carbon dioxide (CO_2), many developed countries have not yet reached the downward inflection point, maintaining high levels of emissions even at high incomes (Dinda, 2004).

Moreover, the EKC may induce a false sense of security among decision-makers by suggesting that environmental degradation could be automatically remedied through economic growth. Such an interpretation risks delaying the implementation of environmental policies, despite the fact that, in reality, improvements in environmental quality are often the result of conscious interventions rather than a passive process associated with prosperity (Stern, 2004).

An important theoretical alternative is offered by ecological economics, which radically addresses the relationship between the economy and the environment. This school of thought argues that the economy is a closed subsystem within a larger ecological system, governed by biophysical limits that cannot be crossed without irreversible consequences (Daly & Farley, 2011). In contrast to conventional approaches that regard natural capital as substitutable, ecological economics argues that ecological capital has unique functions that cannot be fully replaced by human-produced capital (Costanza et al., 1997).

Among the central concepts promoted by ecological economics are strong sustainability, intergenerational equity and steady-state economics, in which resource consumption is limited to the regenerative capacity of ecosystems (Daly, 1991). This perspective criticises the paradigm of limitless economic growth and proposes a redefinition of well-being, integrating both environmental and quality of life indicators, at the expense of an exclusive focus on gross domestic product (Victor, 2008; Stiglitz et al., 2018).

Thus, the critical literature review reveals that while the EKC provides a useful framework for understanding certain trends, more holistic approaches from ecological economics can provide more solid foundations for sustainable policy formulation, especially in the context of the current climate crises (Nissen et al., 2020).

2.1. Public Health and Economic Productivity

The quality of the environment has a direct impact on the health of the population and thus on the functioning of the economy. A degraded environment contributes to the onset and worsening of chronic diseases, reduces people's labour capacity and increases public spending on health. According to the World Health Organisation (WHO), air pollution is the single greatest environmental risk to human health, responsible for an estimated 7 million premature deaths annually - equivalent to one in eight deaths globally (World Health Organisation, 2014). Among the main diseases associated with exposure to polluted air are cardiovascular disease, stroke, chronic obstructive pulmonary disease and lung cancer, all of which have an increased incidence in densely populated urban areas (World Health Organisation, 2024). This loss of life has a major economic counterpart. In concrete terms, environmental degradation leads to productivity losses through absenteeism, temporary or permanent disability, but also through reduced physical and cognitive performance of affected workers. According to a study conducted by CREA (Centre for Research on Energy and Clean Air), air pollution from fossil fuel combustion generated estimated global economic losses in 2018 estimated at USD 2.9 trillion, equivalent to about 3.3% of global GDP (Vohra et al., 2020). These costs include

not only impacts on population health, but also reduced agricultural yields due to acid rain, crop losses, and damage to infrastructure exposed to particulate matter and corrosives.

On the other hand, a healthy environment helps sustain and even increase economic well-being. Access to safe drinking water, efficient sanitation, clean air and sustainable management of natural resources have direct positive effects on public health, allowing labour productivity to increase. Well conserved ecosystems such as forests, wetlands play a crucial role in sustaining economic sectors such as agriculture, fisheries, tourism and even public health by regulating ecosystem services (Costanza et al., 1997).

Essentially, environmental quality can be understood as a fundamental factor of production, both directly (through the resources it provides) and indirectly (through its effects on human capital). Its degradation not only affects the health of the population, but also undermines the economic basis for long-term development, generating hidden costs reflected in reduced competitiveness, social imbalances and systemic vulnerabilities.

2.2. Life Satisfaction and Subjective Well-Being

Beyond the concrete effects on health and income, the environment significantly influences subjective perceptions of quality of life. Over the past decades, interdisciplinary research - at the intersection of behavioural economics, psychology and environmental sciences - has revealed consistent relationships between environmental indicators and reported levels of life satisfaction. A clean, green, and safe environment is associated with higher levels of happiness and psychological well-being, while air and noise pollution contribute to lower satisfaction and higher incidences of disorders such as anxiety and depression (Helliwell et al., 2023).

Access to urban green spaces, exposure to clean air and well-maintained green infrastructure are positively correlated with self-perceived well-being, especially in congested urban environments. A European study has shown that regional variations in air quality - in particular levels of PM2.5 and PM10 particulate matter - significantly explain differences in life satisfaction between populations, even after controlling for other socio-economic factors (MacKerron et al., 2009). The mechanisms are both direct - environmental aesthetics and perceived comfort - and indirect, through effects on physical and mental health. Moreover, extreme weather events caused by climate change - such as droughts, floods or forest fires - have begun to affect people’s perceptions of quality of life and personal security. Studies show that populations exposed to such events report higher levels of stress and lower life satisfaction (OECD, 2021). In Germany, a recent survey found that 88 per cent of respondents consider environmental protection essential for their well-being

(Helliwell et al., 2023). Thus, the environment is a key determinant of subjective well-being, and its degradation can cancel out the benefits of economic growth in the eyes of citizens.

2.3. Social Equity and Environmental Justice

The effects of environmental degradation are not evenly distributed in society. Some social groups - in particular low-income groups, ethnic minorities or communities in disadvantaged areas - are disproportionately more exposed to environmental risks and less protected by environmental policies. This phenomenon is analysed in the literature under the concept of environmental justice and aims at the equitable distribution of environmental benefits and costs (Schlosberg, 2007).

Numerous empirical studies have shown that polluted urban areas affected by heavy traffic, heavy industry or landfill sites are usually inhabited by socially and economically vulnerable populations. An emblematic example is the water crisis in Flint, Michigan (USA), where a predominantly African-American and impoverished community was exposed for years to lead-contaminated water in a severe manifestation of racial and environmental inequality (Butler et al., 2016).

At the global level, there is another form of inequity: poor countries contribute the least to greenhouse gas emissions but are the most exposed to the consequences of climate change - from rising sea levels in island states to severe droughts in the Sahel region. This asymmetry raises issues of inter-state justice and global morality: the least responsible pay the most (UNEP, 2023). In practice, this “environmental poverty” - the situation where disadvantaged social groups live in unhealthy environments - amplifies economic poverty and perpetuates vicious cycles of social exclusion. Environmental policies must therefore integrate the equity dimension and ensure that the environmental transition is just, inclusive and sensitive to the needs of the most vulnerable (ILO, 2015).

2.4. Empirical Studies and International Comparisons

The relationship between environmental quality and economic well-being has been intensively studied in the literature, using both cross-sectional methods and dynamic time-series and panel analyses. This research points to a generally positive correlation between the level of economic development and indicators of environmental performance, but also to a large variation that can be explained by contextual factors: public policies, the structure of the economy, political will and institutional culture.

A meaningful starting point is provided by composite indices such as the Environmental Performance Index (EPI), which summarises the environmental

performance of countries along several dimensions - air quality, drinking water, biodiversity, climate policies, etc. Comparative analyses show a robust positive relationship between EPI score and GDP per capita (Yale Center for Environmental Law & Policy, 2024). In short, high-income countries tend to have better environmental performance, benefiting from institutional capacity, investment in green infrastructure and citizen pressures for a clean environment. However, this correlation is not perfect: there are outliers such as Costa Rica or Estonia, which perform environmentally above economic expectations, and very wealthy countries (e.g. Qatar, Kuwait) that have modest environmental scores - generally due to specialisation in polluting extractive industries and weak regulation (Yale EPI, 2024).

This variability emphasises that GDP is not a sufficient predictor of environmental performance. Rather, political commitment, quality of governance and public policy priorities become determinants. Middle-income countries with a strategic vision geared towards sustainability - such as Costa Rica, which has invested heavily in reforestation and renewables - demonstrate that environmental progress is not just the preserve of rich economies, but is possible through clear and coherent policy choices. The example of Costa Rica reveals a valuable lesson for Moldova - a country with much lower incomes than Germany or Japan has managed to turn its devastated forests into green havens and produce almost all its energy from renewable sources. For Moldova, this global experience raises crucial questions: how do Moldovans perceive the link between economic progress and the quality of their environment? Do they feel happier when the economy grows, even as the air in Chisinau becomes more polluted? Or do they prioritise a clean environment, even at the cost of slower economic growth?

The theory of the Environmental Kuznets Curve provides an interesting insight: analyses of 147 countries between 1995 and 2018 confirm that there is a point in economic development when pollution starts to fall, even as the economy continues to grow. But this "disconnect" between progress and environmental degradation only happens when governments adopt policies to protect the environment and when citizens become prosperous enough to afford to think about quality of life, not just survival. The challenge for Moldova today, therefore, is not to choose between economic development and environmental protection, but to find a way in which both are mutually supportive for the well-being of its citizens.

Comparative analyses provide valuable insights into the different ways in which nations have managed the tension between economic development and environmental protection. China's experience exemplifies the challenges faced by economies in rapid transition. The accelerated economic expansion of the last three decades has resulted in a dramatic deterioration in environmental quality, manifested in particular in severe urban air pollution. In the early stages of development, per

capita GDP growth was directly proportional to the intensification of pollutant emissions, with the Chinese government intervening only when the public health consequences became clearly visible and politically sensitive (Wang, Li & Zhou, 2019). Concentrations of PM2.5 particulate matter peaked around 2010, and the campaign launched in 2013, known as the "war on pollution," has succeeded in moderately reducing these levels, but China still remains one of the major economies with the highest levels of air pollution.

In contrast, the Norwegian model demonstrates the feasibility of sustainable economic development. Over the last three decades, Norway has managed to maintain steady growth in GDP per capita while reducing local emissions and progressively improving air quality. This outcome reflects the systematic implementation of green fiscal policies, including carbon taxation, substantial investment in electric public transport infrastructure and the development of clean technologies, underpinned by governance characterised by transparency and efficiency (OECD, 2025). The Norwegian experience thus illustrates the possibility of realising a full decoupling of economic expansion from environmental pressures.

Developments in the United States and Western Europe also offer relevant lessons from a historical perspective. In the 1970s, the US faced critical levels of industrial and urban pollution. The adoption of strict environmental legislation, through the Clean Air Act instruments and the establishment of the EPA, facilitated a significant reduction in pollution without compromising economic dynamism. Data indicate that between 1970 and 2000, U.S. GDP nearly doubled, while air pollutant emissions fell by more than 60 per cent (U.S. EPA, 2021). The driving factors in this process have been technological innovation and structural transformations in the economy, manifested in a shift towards the service sector and low environmental impact industries. These trends are also confirmed by the experience of the Nordic countries, where the implementation of green taxes has incentivised the energy transition and ecosystem conservation without negatively affecting economic competitiveness (OECD, 2024; Andersson, 2019).

Empirical data and comparative analyses reveal that the link between economic development and environmental protection, although complex, is not predestined to degradation. Economic development does not inevitably lead to environmental degradation, and the decoupling of these processes becomes achievable through deliberate policy interventions, technological progress and coordinated international co-operation. Reference models, represented by countries such as Norway or Costa Rica, offer concrete paths for the formulation of sustainable policies, while problematic examples, illustrated by the case of China or certain oil-producing countries, highlight the risks of neglecting the environmental dimension in favour of accelerated economic growth.

For the Republic of Moldova, the challenges of integrating the environmental component into economic strategies are distinct. Although the country has formally committed to sustainable development through the adoption of the 2030 Agenda (United Nations, 2015) and the National Development Strategy "Moldova 2030" (Government of the Republic of Moldova, 2018), practical implementation remains fragmented and insufficiently financially supported.

The environmental charging system in the Republic of Moldova exists in principle, but its actual implementation faces considerable challenges, and the institutional mechanisms for collection and monitoring demonstrate low capacities. For example, charges for air pollution or waste management do not yet proportionately reflect the real costs of ecosystem degradation (Ministry of Environment, 2022). The absence of an operational carbon pricing system and the slow pace of the energy transition, in the context of a substantial dependence on conventional energy sources (more than 80 per cent of total consumption derives from fossil fuels), exacerbate these vulnerabilities (Klenert et.al., 2018; World Bank, 2023).

Investment in green projects depends predominantly on external financing, provided through the European Union, the EBRD and the UNDP, while green infrastructure, especially in rural areas, remains underdeveloped. At the same time, citizen participation in environmental policy decision-making is restricted, despite recent efforts by non-governmental organisations and local environmental movements.

However, the Republic of Moldova benefits from remarkable opportunities. The relatively small size of the economy and its simplified structure facilitate the rapid implementation of pilot reforms, such as the introduction of local waste management charges, energy efficiency programmes in public institutions or support schemes for organic farming. In addition, the European integration process provides a clear framework of environmental policies through the Green Deal and the EU environmental acquis (Resources and Waste Advisory Group Limited SCE, 2023), which can guide legislative harmonisation and the channelling of investment to priority sectors.

Beyond technical instruments and economic measures, the active participation of citizens and civil society organisations is a fundamental component for the long-term legitimacy and sustainability of environmental policies. Public involvement in decision-making processes, ensuring transparency and systematic consultation with directly affected communities contribute significantly to increasing social acceptance and improving the effectiveness of implemented environmental measures (UNEP, 2023). In this sense, civic mobilisation can exert a decisive influence on the political agenda, as demonstrated by the climate justice movements in recent years. For the Moldovan context, this participatory dimension is of particular importance. Although citizen participation in environmental decision-making remains limited, recent initiatives by non-governmental organisations and local environmental

movements point to a growing potential for social mobilisation. International experience shows that environmental policies that benefit from the support and involvement of local communities are considerably more likely to be successfully implemented and sustained in the long term.

Thus, for the Republic of Moldova, the development of a participatory culture of environmental protection is not only a democratic requirement, but also a practical necessity for the success of environmental reforms. The country's ability to mobilise citizens in support of sustainable development objectives can be a competitive advantage in the process of European integration and in accessing international funding for green projects.

3. Analysing the Results

Building on the theoretical foundations presented above, which emphasised the complexity of the relationship between environmental quality and citizens' perception of their economic well-being, as well as the importance of civic involvement in environmental processes, our study aims to empirically investigate these interactions in the context of the Republic of Moldova. Thus, we have chosen a quantitative approach, with the main objective of identifying and quantifying the links between people's perceptions of environmental quality, the level of civic involvement and their perceptions of their own economic well-being.

Theoretical analysis has emphasised the key role of environmental factors (air quality, access to green spaces, green infrastructure) and civic participation (environmental activities, participation in community decision-making, volunteering) in shaping the well-being experienced by individuals. In addition, the literature has emphasised that these relationships can be influenced by socio-demographic variables such as age, gender, residence and economic status.

Within this conceptual framework, the quantitative approach focuses on testing the hypotheses formulated based on the theoretical models discussed. Using data collected through a sociological survey conducted in 2024, the statistical analysis will seek to reveal whether and to what extent perceptions of environmental quality and level of civic engagement exert a significant effect on perceptions of economic well-being. Descriptive and inferential methods of analysis, including between-group difference tests, correlation and multiple regression modelling, will be applied to capture the complexity of these relationships and provide a detailed picture of the impact of environmental and civic participation factors on subjective well-being.

Through this transition from conceptual analysis to empirical research, the study aims to validate or disprove the theoretical hypotheses and to contribute to the

substantiation of coherent public policies adapted to the socio-economic context of the Republic of Moldova.

Perceptions of environmental quality vary moderately between the different components analysed. On average, respondents rate the air quality in their area as average to relatively good, with an average score of ~3.1 on a scale from 1 ("very bad") to 5 ("very good"). Perceptions of urban green spaces (parks, green areas) are slightly more positive, with an average of about 3.3. In contrast, green infrastructure (e.g. sanitation services, recycling facilities, waste management) receives the poorest rating, averaging only ~2.7. The distributions show that a significant proportion of respondents rate the environmental infrastructure as inadequate (over 40% gave scores of 1 or 2), while positive perceptions (scores of 4 or 5) are the rarest in this component (less than 20% of respondents). In contrast, about a third of respondents rate green spaces as good or very good, suggesting that green areas are the most satisfactory environmental aspect for the population, while air quality is in between (with about 25-30% positive and ~20% negative ratings, the rest being neutral).

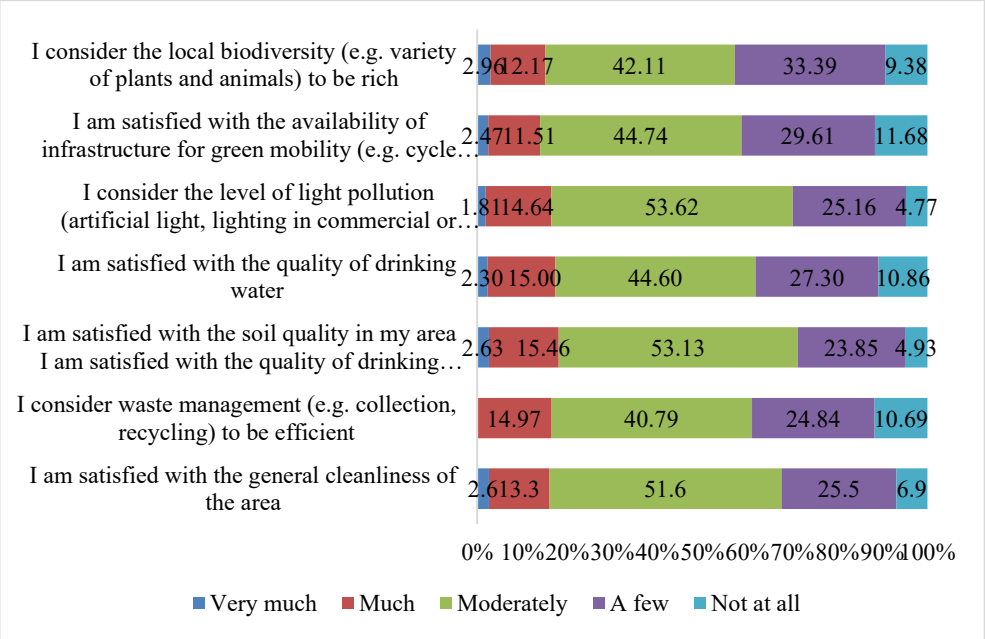

Figure 1. Assessment of environmental quality and ecological infrastructure in the Republic of Moldova (n = 609)

Note: Data are from quantitative analysis conducted by the authors based on the 2024 survey.

In addition, Figure 1 shows the population's assessments of environmental quality aspects – including local biodiversity, ecological infrastructure, light pollution, water and soil quality, waste management and general cleanliness – allowing the

identification of areas where citizens feel the most acute deficiencies or, conversely, the highest levels of satisfaction. This comparative bar chart also highlights priorities for intervention in environmental public policies.

Inferential analysis confirms significant differences between the mean ratings of the three environmental aspects. Statistical tests (e.g. Friedman test for repeated measures or repeated measures ANOVA) indicate that respondents clearly distinguish between these dimensions of environmental quality (adjusted $\chi^2 = 128$, $p < 0.001$). Specifically, green infrastructure is perceived significantly more negatively than both air quality and green spaces (mean differences of ~0.4-0.6 points, post-hoc test $p < 0.001$). Also, green spaces are rated significantly better than air quality (mean difference ~0.2, $p < 0.01$). These results suggest that in the public's view there is a significant deficit in environmental infrastructure (waste collection, sewerage, green facilities), while the availability of green spaces is slightly more highly rated. Differences may reflect objective realities - for example, cities and communities may provide acceptable parks and green spaces, but environmental infrastructure (such as recycling and pollution control systems) remains underdeveloped. Overall, moderate perceptions of air quality and green spaces and relatively negative perceptions of infrastructure emphasise the need to improve environmental conditions in Moldova.

Citizens' level of civic involvement in environmental action is generally low. The majority of respondents say that they have participated very little or not at all in civic environmental activities. For example, on a scale from 1 ("not at all involved") to 5 ("very high involvement"), participation in environmental activities (such as greening campaigns, planting, clean-up actions) averages around 1.8, indicating that on average people are between "not at all" and "rarely" involved. The situation is even more pronounced in the case of participation in environmental decision-making (e.g. attending public consultations or meetings on environmental issues), where the average is only ~1.3, showing that very few people are actively involved in environmental decision-making. Environmental volunteering (voluntary participation in NGOs or environmental projects) is also low, with an average of ~1.5. These values indicate that more than half of the respondents have no involvement (answering 1 on the scale) in volunteering or decision-making at all, and about 40-50% are not involved at all in even occasional environmental activities. Only a relatively small minority - i.e. around 20 per cent of citizens - have participated at least once in a meeting or consultation on environmental issues, which points to a lack of civic engagement in the environmental sphere.

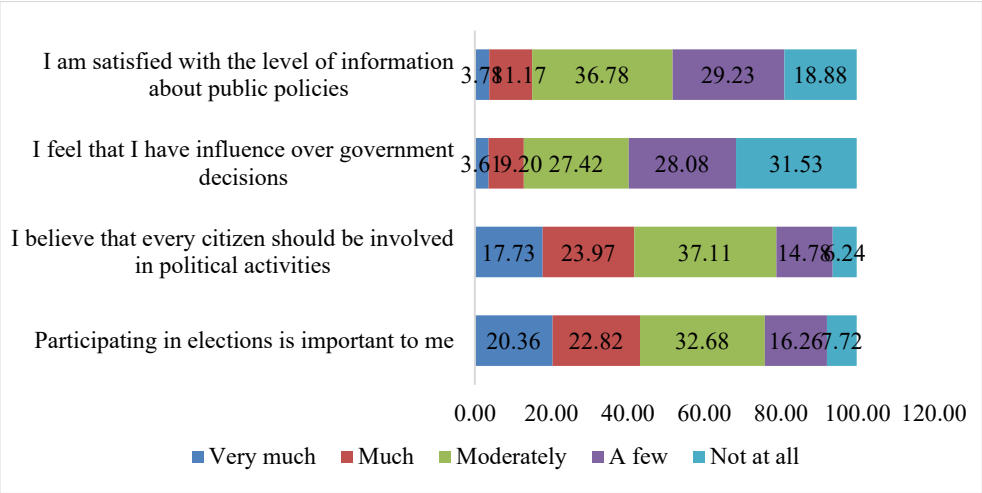

Figure 2. Distribution of perceptions regarding the level of political information and civic participation in the Republic of Moldova (n = 609)

Note: Data comes from quantitative analysis conducted by the authors based on the 2024 survey.

In support of the results presented above, Figure 2 illustrates the distribution of respondents' perceptions of the level of information on public policies, influence on government decisions and the importance of political participation, reflecting significant diversity in the degree of civic engagement and perception of citizens in the Republic of Moldova. This graphical representation highlights the relative proportions of each response level, thus facilitating the analysis of perceived differences between the dimensions of civic attitude.

Comparing the three forms of involvement, the differences are statistically significant. According to non-parametric tests (e.g. Friedman for ranks), participation in environmental decisions is significantly lower than both involvement in environmental activities and volunteering (adjusted $\chi^2 = 220$, $p < 0.001$). The proportion of those with at least minimal involvement is about 50% for environmental activities, but drops to only ~20% for decisions, a very large difference ($p < 0.001$). Also, volunteering has a significantly lower level of involvement than participation in general environmental activities ($p < 0.01$). In other words, informal environmental activism (cleaning actions, planting) is somewhat more widespread among the population than organised volunteering or involvement in decision-making. This may reflect both limited opportunities to participate in environmental decisions or organisations, and a possible lack of information or public confidence that their involvement would make a difference. The significant positive correlations between the three types of involvement (Spearman coefficients ρ ~0.3-0.5 between pairs, $p < 0.001$) also indicate that those who are involved in one way (e.g. volunteering) tend to be involved in the other ways

as well, even if these individuals represent a minority. Overall, the results emphasise the prevailing civic passivity in environmental issues in Moldova, suggesting the need to stimulate public participation and volunteering in this field.

A central objective of the study was to assess whether subjective perceptions of environmental quality and involvement in environmental action are associated with perceptions of personal economic well-being. Economic well-being was measured by respondents' self-assessment of their standard of living/economic situation on a scale from 1 to 10 (higher scores indicating a better perception of one's own material well-being). Correlation analyses revealed significant positive associations between almost all environmental and involvement variables on the one hand and perceived economic well-being on the other. Although the magnitude of these correlations is moderate, they point to a clear pattern: respondents who rate the quality of the environment more highly or who are more civically active tend, on average, to perceive themselves as being in a somewhat better economic situation.

In terms of environmental perceptions, all three components have positive correlation coefficients with the economic well-being score. The strongest relationship is observed for the perception of environmental infrastructure, with a Pearson coefficient ~0.30 ($p < 0.001$). Thus, people who consider the environmental infrastructure in their community (sanitation, water, sewage, etc.) to be of better quality tend to report higher levels of their own economic well-being. The perception of green spaces is also significantly correlated with well-being ($r \sim 0.25$, $p < 0.001$), as is the perception of air quality ($r \sim 0.20$, $p < 0.001$). These results suggest a positive relationship between satisfaction with the environment and self-reported economic well-being. One possible explanation is that a high quality living environment (clean air, green spaces, functional ecological utilities) contributes to overall life satisfaction, including feelings of economic security. Alternatively, the correlations may also reflect common factors - for example, more economically developed areas may both offer better environmental conditions and the population there has higher incomes and thus positively assesses their well-being.

With regard to environmental civic engagement, the correlations with economic well-being, although positive, are somewhat weaker than those with environmental perceptions. However, they are all statistically significant (for $n = 609$, even correlations small in magnitude become significant, $p < 0.001$). The strongest association occurs for participation in environmental decision-making - the Spearman coefficient ρ is ~0.18 ($p < 0.001$), suggesting that individuals involved in community decision-making processes on environmental issues tend to have a better perception of their economic situation. Environmental volunteering also has a positive correlation with well-being ($\rho \sim 0.15$, $p < 0.001$), while participation in general environmental activities has a slightly lower association ($\rho \sim 0.12$, $p = 0.002$, significant). Although these coefficients indicate relatively modest associations

(only ~1-3% of the variance in well-being is explained by each engagement variable individually), the consistent positive direction suggests that more civically engaged individuals have, on average, somewhat higher perceived well-being. Civic engagement may increase social capital and sense of self-efficacy, factors that may improve perceptions of quality of life, including on the economic dimension. At the same time, it cannot be ruled out that the better-off can afford and are more willing to get involved in civic causes, which would explain the observed association - an aspect that is further analysed in the regression analysis below.

Overall, the correlation matrix reveals a consistent picture: favourable environmental perceptions and proactive attitudes towards environmental protection are associated with higher perceived well-being. However, the relatively moderate magnitude of the correlations indicates that economic well-being is determined by a multitude of factors, environmental perceptions being only one of them. To disentangle influences and control for overlapping effects (e.g., objective economic status that could influence both environmental perceptions and well-being), we used a multiple regression analysis, presented in the next section.

A multiple linear regression model was estimated with perceptions of economic well-being (self-rated score 1-10) as the dependent variable and perceptions of environmental quality (three predictors: air quality, green spaces, green infrastructure) and level of environmental civic involvement (three other predictors: environmental activities, participation in decision-making, volunteering) as independent variables. The aim was to determine the extent to which each domain (perceived environment and involvement) contributes uniquely and significantly to explaining variation in perceived economic well-being. The estimated model is statistically significant ($p<0.001$) and explains about 18% of the variance in perceived economic well-being ($R^2 \approx 0.18$, adjusted $R^2 \sim 0.17$). Although the percentage of variance explained is not very high (which was to be expected, given that economic well-being depends predominantly on objective factors such as income, occupation, etc., not included here), the model still shows significant contributions of environmental perception and civic involvement.

Examination of the standardised regression coefficients (β) indicates that, when all predictors are considered simultaneously, perception of environmental quality has a stronger explanatory effect than civic engagement. Among the environmental variables, the most important is still the evaluation of environmental infrastructure: this predictor has a standardised coefficient $\beta \sim 0.22$ ($p < 0.001$), confirming that a better perception of environmental infrastructure is associated with a significantly higher level of perceived economic well-being, even holding the other variables in the model constant. The second predictor in terms of effect size is perception of green spaces, with $\beta \sim 0.15$ ($p = 0.004$, significant). Perceived air quality has a smaller positive coefficient that in this model does not reach the conventional threshold of

statistical significance ($\beta \sim 0.08$, $p = 0.09$). This suggests that, in the presence of the other factors, the assessment of air (which is correlated with the overall environmental assessment) does not add much new information in predicting well-being - presumably because it partially overlaps with perceptions of infrastructure or other socio-economic factors.

In terms of civic engagement, when introduced alongside environmental perceptions, its contributions to welfare variance are more modest but not negligible. Participation in environmental decisions remains a significant positive predictor ($\beta \sim 0.12$, $p = 0.010$), indicating that regardless of how the environment is perceived, those who take part in community environmental decisions tend to be somewhat better off economically. Environmental voluntarism has a very small and statistically insignificant positive effect in the final model ($\beta \sim 0.05$, $p = 0.15$), after controlling for other factors. Similarly, the coefficient for involvement in general environmental activities is almost zero ($\beta \sim 0.02$) and insignificant ($p = 0.65$) when all other predictors are included. These results show that, among the forms of involvement, involvement in decision-making (which may reflect a particular status or broader social involvement) is the only one with a notable independent influence on perceived well-being. Involvement in the form of volunteering or occasional activism, although bivariately correlated with well-being, does not add significant explanatory power when environmental variables and participation in decision making are already accounted for.

In order to estimate the cumulative contribution of each set of factors, a hierarchical block regression was also performed. The environmental perception variables, introduced first, explained approximately 14.8% of the variance in well-being ($R^2 = 0.148$, $p < 0.001$). When the civic engagement variables were introduced in the second block, the R^2 increased to ~18.0%, representing a ~3.2% increase in explained variance, a small but significant increase (ΔR^2 $p = 0.004$). This result confirms that perceptions of environmental quality make a more substantial contribution to explaining differences in perceived economic well-being, but civic engagement also makes a significant additional contribution, albeit smaller in magnitude. In other words, those who enjoy a better environment tend to feel better off economically, and over and above this effect, those who are involved in the community (especially in decision-making processes) also tend to have a slightly higher perception of their own well-being. The final model, although it does not include objective economic variables, manages to highlight relevant links from a sociological perspective: a good quality environment and active citizenship can go hand in hand with greater satisfaction in the economic life of individuals.

4. Conclusions and Recommendations

The present study provides an integrated perspective on the links between the environment, civic participation and the economic well-being experienced by the population in a post-socialist (Republic of Moldova) context in transition. The results emphasise the importance of environmental quality: respondents who perceive cleaner air, adequate green spaces and functional green infrastructure tend to report better economic well-being. Although this effect is partly indirect (being correlated with the level of development of the area and the socio-economic status of the individuals), it emphasises that policies to improve the environment can also have benefits on the perceived quality of life. At the same time, civic involvement - especially participation in environmental decision-making processes - is positively associated with perceived well-being, suggesting that those who are actively involved in the community gain a sense of empowerment and satisfaction that is also reflected in their self-perceived well-being.

Multivariate analysis shows that perceptions of the environment explain a significant proportion of the variance in self-reported economic well-being, even when civic engagement factors are simultaneously considered. In other words, a cleaner and better-kept environment contributes directly and indirectly to citizens' well-being. Civic involvement also adds something, albeit more modestly, indicating that policies incentivising public participation (environmental education, creating opportunities for volunteering and public consultation) can have beneficial effects, including on social cohesion and perceptions of well-being.

For policy-makers, the results signal that investing in environmental quality (reducing pollution, extending water and sanitation infrastructure, providing green spaces) has not only an environmental, but also a social and economic stake - it can improve perceived well-being and reduce satisfaction gaps between citizens. Encouraging civic engagement among young people and disadvantaged groups could also enhance community cohesion and give citizens a greater sense of control over their own lives, with a positive impact on subjective well-being. Last but not least, the study demonstrates the value of a multidimensional approach to wellbeing: the economic wellbeing experienced depends not only on income, but also on factors such as the environment and community life - aspects that deserve to be integrated into sustainable development strategies.

Following this study, we outline some practical recommendations and lines of action to capitalise on the results:

● Create an institutional framework for green impact certification. The implementation of a system of green impact certificates for all urban development projects is a necessity for the integration of sustainability principles into territorial planning processes. This mechanism would assess and quantify each project's

contribution to improving the quality of the local environment, providing fiscal incentives for developers that go beyond minimum sustainability standards and creating a transparent framework for measuring progress in green infrastructure.

● Developing an integrated digital platform for civic participation in the environment. While the Particip.gov.md platform facilitates general public consultations on legislative acts and environmental issues, a specialised platform is to be developed to integrate real-time reporting on environmental issues, voting on green investment priorities and transparent access to information on local environmental quality. This platform would combine tools for civic participation with elements of environmental education and social networking, creating a digital ecosystem that enables citizens to actively contribute to improving the environmental quality of their communities.

● Developing a national green infrastructure strategy as a pillar of competitiveness. The development of a comprehensive national green infrastructure strategy would position the Republic of Moldova as a regional model of sustainable development, where environmental investments are treated as drivers of economic competitiveness. The strategy would integrate urban green corridors with green industrial parks and networks of rural green spaces, creating a coherent framework for attracting European funding and private investment in nature-based solutions.

Coordinated implementation of these recommendations would transform the relationship between citizens, authorities and the environment, helping to build a society in which environmental quality becomes a central factor for well-being and sustainable economic development.

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