Oliinyk K.D.
Postgraduate Student,
Mariupol State University, Kyiv

DOI: https://doi.org/10.36059/978-966-397-573-3-36

DIGITAL GREEN ECONOMY AND SOCIAL INEQUALITY IN THE CONTEXT OF SUSTAINABLE RESTORATION IN UKRAINE

The concept of a digital green economy is acquiring decisive importance for Ukraine as the country advances through a period of recovery, reconstruction, and long-term transformation [1]. The extensive human, economic, and environmental losses caused by the full-scale invasion created an urgent need for a restoration model that relies on digital technologies, ecological responsibility, and social inclusiveness. Sustainable restoration requires the integration of advanced technological systems with ecological objectives and with policies that protect the population from deepening inequality. For Ukraine, this transition is not an abstract strategic choice but a foundational condition for building a modern, resilient, and competitive state capable of ensuring human security and long-term prosperity.

The digital green economy introduces structural changes that influence every domain of Ukrainian development. These include energy systems, transport networks, agriculture, education, finance, public administration, and territorial management. Digital instruments, including artificial intelligence, data analytics, remote sensing, smart energy systems, and electronic governance, expand the ability of institutions to assess environmental risks, manage resources, and plan recovery in real-time. At the same time, ecological standards guide investment decisions, urban reconstruction, and industrial renewal. Yet this two-dimensional transition also gives rise to new types of inequality that can undermine the inclusive nature of restoration. This challenge is particularly evident in a country where the impact of war has been unevenly distributed between regions and population groups [2].

The first source of inequality arises from uneven access to digital infrastructure. Although Ukraine has made significant progress in digital governance and connectivity, the destruction of networks during military operations created territorial disparities in access to digital services. Regions closest to the frontline and communities that experienced massive displacement often lack stable internet communication, functional educational infrastructure, and reliable electricity. This situation reduces their ability to participate in digital green programs, including energy efficiency projects, environmental monitoring, smart agriculture, and digital public services. As a

result, the benefits of sustainable restoration may accumulate in more secure regions while war-affected territories experience slower development [3].

The second dimension of inequality is linked to institutional capacity. The digital green economy relies on strong regulatory institutions, advanced environmental governance, and effective systems of data management. Ukraine has already developed influential digital state platforms that support transparency and public control. However, not all local communities have equal administrative capacity to implement new standards or to use digital tools for ecological planning. Those with stronger expertise and administrative resources are able to attract green investment, cooperate with international partners, and develop innovative projects. Smaller communities or those with limited personnel may struggle to participate in such processes, which produces an uneven pattern of restoration [3].

Labor market restructuring presents another significant challenge. Digital and ecological modernization generate new opportunities for employment in sectors such as renewable energy, ecological engineering, environmental data analysis, green construction, and digital services. However, workers who lost jobs in traditional industries or in regions heavily damaged by war may not possess the skills required to enter these new sectors. The risk of exclusion is especially high for older workers, displaced persons, and individuals whose qualifications were tied to production systems that will not be restored in their previous form. Without large-scale programs of reskilling and continuous education, the digital green transition in Ukraine may reproduce existing social divides or create new ones.

Corporate transformations also contribute to inequality. Large firms with access to capital and international networks can integrate digital green standards more rapidly. They have the ability to invest in modern equipment, develop internal research capacities, and meet international environmental requirements. Small and medium enterprises often encounter technological and financial barriers that limit their participation in the green economy. This discrepancy may widen during the restoration process, as global partners and donors often impose stringent digital and ecological requirements for project participation. If small enterprises remain excluded, the Ukrainian economy will become increasingly polarized.

Spatial inequality is one of the most visible risks for Ukraine. War has produced a map of destruction in which some regions require the complete restoration of critical infrastructure, while others can focus on development. The digital green economy reinforces these differences if advanced infrastructures are concentrated mainly in large cities. The result would be accelerated growth of metropolitan regions and stagnation of smaller settlements and rural areas. For a country committed to sustainable restoration, the creation of balanced territorial development is essential. Digital green

policies must therefore support the diffusion of technology outside major centers.

Financial inequality also shapes the trajectory of sustainable restoration. Green investment requires access to analytical tools that assess environmental risks and measure ecological performance. Large financial institutions possess such capacities, while regional banks and local authorities often do not. As a consequence, some communities may be labeled as high risk and excluded from affordable financing for restoration projects. This process reinforces existing disparities and slows the recovery of territories that suffered the greatest damage.

Cognitive inequality is becoming increasingly important in the context of the digital green economy. Access to environmental information, digital tools, and scientific knowledge varies among different population groups. Individuals with higher education and better digital skills are more likely to participate actively in environmental decision-making, utilize green services, and take advantage of incentives for sustainable behavior. People with fewer informational resources become passive recipients of policies instead of active contributors to restoration. For Ukraine, this poses a long-term threat to democratic participation and to the legitimacy of environmental reforms.

Addressing these inequalities requires comprehensive public policies that integrate digital development, ecological transition, and social inclusion. Ukraine requires robust mechanisms to ensure equal access to digital infrastructure across its entire territory, including regions affected by ongoing security threats. Public investment must support communities that cannot attract private capital and must ensure that technological progress does not become a source of exclusion. Development banks and central financial institutions should direct resources toward digital and ecological modernization in regions with low investment capacity. Education is a key instrument for reducing inequality in the digital green economy. Programs of digital and ecological literacy must be accessible to people of different ages, professions, and regions.

Inclusive governance is another necessary condition. Ukraine has already demonstrated strong achievements in electronic public administration and open data. These strengths should be integrated into the restoration strategy to ensure that communities are involved in planning, environmental monitoring, and the evaluation of reconstruction projects. Equal access to information and transparent decision-making mechanisms can help reduce institutional and cognitive inequality, fostering trust in the state [4].

Digital green economy represents a unique opportunity for Ukraine to rebuild in a manner that strengthens ecological resilience, technological capacity, and social cohesion. At the same time, it produces new complex forms of inequality that must be understood and addressed through targeted public action. Sustainable restoration requires policies that integrate digital

progress, ecological responsibility, and social justice. Only through coordinated institutional efforts, long-term investment in human capital, and inclusive governance can the digital green transformation become a foundation for a prosperous and fair future for Ukraine.

References:

1. Yatsenko O. Duhinets H. Panchenko V. (2024) Yevrointehratsiini imperatyvy povoiennoho vidnovlennia Ukrainy na zasadakh stalosti u poshukakh dzherel finansuvannia [European integration imperatives of postwar recovery of Ukraine on the principles of sustainability in search of financing sources]. *Herald of Khmelnytskyi National University Economic Sciences*, vol. 334 no. 5 pp. 616–623. DOI: https://doi.org/10.31891/2307-5740-2024-334-93

2. Reznikova N. V., Shlapak A. V., Ivashchenko O. A. (2023) Vid promyslovykh ekosystem do ekosystem tsyfrovoi ekonomiky: novi biznes-modeli i modeli konkurentsii v umovakh didzhytalizatsii mizhnarodnoi torhivli tovaramy i posluhamy [From industrial ecosystems to digital economy ecosystems: new business models and competition models in the context of digitalization of international trade in goods and services]. *Herald of Khmelnytskyi National University. Economic Sciences*, no. 2 (316), pp. 332–340. DOI: https://doi.org/10.31891/2307-5740-2023-316-2-52

3. Reznikova N. V., Bulatova O. V., Shlapak A. V., Ivashchenko O. A. (2023) Innovatsii yak draiver tsyfrovoi transformatsii svitovoi ekonomiky v umovakh tekhnohlobalizmu: vplyv novykh biznes-modelei na rozvytok mizhnarodnoi torhivli tovaramy i posluhamy [Innovation as a driver of the digital transformation of the world economy in the context of technoglobalism: the impact of new business models on the development of international trade in goods and services]. *Investytsii: praktyka ta dosvid – Investments: Practice and Experience*, no. 12, pp. 6–12. DOI: https://doi.org/10.32702/2306-6814.2023.12.5

4. Bulatova O. V., Reznikova N. V., Ivashchenko O. A. (2023) Tsyfrovy rozryv chy tsyfrova nerivnist? Novi vymiry hlobalnykh asymetrii sotsialno-ekonomichnoho rozvytku i mizhnarodnoi torhivli v umovakh tekhnohlobalizmu [Digital divide or digital inequality? New dimensions of global asymmetries of socio-economic development and international trade in the context of technoglobalism]. *Visnyk Mariupolskoho derzhavnoho universytetu. Seriia: Ekonomika – Bulletin of Mariupol State University. Series: Economics*, no. 25, pp. 45–57. DOI: https://doi.org/10.34079/2226-2822-2023-13-25-45-57