

club, contributing to higher education within the multidimensional relationship system “nature conservation – recreation”.

References:

1. Hyshchuk, R., Kretskyi, O. Modern Management of Sports Tourism Development in Chernivtsi Region. Financial Support for the Development of Small and Medium-Sized Businesses in Border Regions: Proceedings of the International Scientific and Practical Online Conference (Chernivtsi, May 14, 2019). Chernivtsi, 2019, pp. 180-182 (in Ukr.).
2. Hyshchuk, R., Kretskyi, O. Local Studies and Tourism in the System of Educational Work with Student Youth (a Case Study of the Activities of the “Plai” Tourism Club of CHITE KNUTE). Proceedings of the International Scientific and Practical Conference “Development of Border Regions in the System of Cross-Border Cooperation” (Chernivtsi, April 27-28). Chernivtsi: CHITE, 2017. pp. 35-38 (in Ukr.)
3. Tourism Club of CHITE SUTE “Plai”. URL: http://chite.edu.ua/sport_plaj/ (in Ukr.).
4. Sustainable Development Goals. URL: http://chite.edu.ua/cili_stal_rozv/ (in Ukr.).

UDC 004.8:551:631:330

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ARTIFICIAL INTELLIGENCE, CLIMATE AND FOOD SECURITY AS CHALLENGES FOR GLOBAL ECONOMIC STABILITY

Global economic trends today are shaped by three interrelated factors that present serious challenges and create opportunities for transformation. First, the climate crisis, the rapid development of artificial intelligence (AI), and growing uncertainty about food security make interdisciplinary research especially relevant. Climate change increases the frequency of extreme events and requires substantial investment in adaptation and decarbonization. Meanwhile, AI accelerates automation and reshapes labor markets and production chains, producing both productivity gains and risks to employment and competitiveness. At the same time, global food security is strained by environmental shocks, geopolitical instability, and structural problems in supply chains and resource allocation, which worsen social inequalities and raise political and economic risks for the international community.

This issue is currently prominent in international discourse. Food security is one of the world’s key challenges, exacerbated by climate change, political instability, and economic fluctuations. While AI has great potential to address these issues, barriers such as privacy risks, high implementation costs, and the need for adequate infrastructure and digital literacy must be overcome for a sustainable future in the food sector [1]. Solving this complex problem requires the adoption of new, innovative approaches in agriculture and the food industry. Artificial intelligence is a powerful tool that can significantly transform these sectors. Thanks to AI, it is possible to

optimize agronomic practices, apply predictive models and precision farming, and better monitor crop health and detect diseases. In addition, these technologies improve supply chain logistics, storage and product quality management, and reduce losses and waste through predictive analytics and smart inventory control [2]. Modern AI-based technologies can substantially improve global food security [3].

At this crossroads of opinions, problems, and challenges, it is necessary first to reassess scientific approaches to investment, economic regulatory mechanisms, and international cooperation to ensure sustainable, inclusive, and technologically adaptive development in the coming decades.

First, it is important to recognize that the global climate crisis is shifting agro-climatic zones, degrading soils, and causing water scarcity and reduced crop yields, which increases supply-chain vulnerability and heightens food-security risks. The negative effects are felt in both developing and developed economies, necessitating substantial financial resources for infrastructure adaptation, economic modernization, and climate-mitigation measures. At the same time, the artificial intelligence revolution creates unprecedented opportunities to boost productivity, optimize supply chains, predict climate phenomena, and disseminate new agricultural technologies. However, like the climate crisis, AI also introduces global risks – to labor markets, social and economic equality, and the cyber-resilience of critical systems. These risks call for stricter regulation, new security standards, investment in workforce retraining, and socio-economic policy changes to ensure broad, inclusive access to advanced digital technologies.

These issues are particularly critical for global food chains. Dependence of agricultural production on climate and transport infrastructure, alongside increasing automation through widespread use of robots and AI, can shift production geography, concentrate markets, and widen the economic gap between large agribusinesses and small farms. Therefore, an innovative adaptation and diversification strategy is needed, including the development of economic mechanisms, strengthening local resilience, investing in climate-resilient and digital agricultural technologies, and implementing support programs for small and medium-sized producers.

The transition to a low carbon, technologically advanced global economy is a major challenge for all countries. Science should help develop new instruments for capital mobilisation – green bonds, public–private partnerships, innovation investment funds, and climate risk insurance – and propose a roadmap to reduce investor uncertainty and stimulate private investment in decarbonization and modernization of the agricultural sector.

The tense geopolitical situation exacerbates these problems: trade restrictions, competition for natural resources, and energy security issues can limit access to critical technologies and raw materials, increase food price volatility, and undermine the resilience of value chains. Therefore, international coordination, strategic reserve building, and diversification of key supply chains are necessary to reduce the global economy’s vulnerability to climate change and to risks associated with the rapid spread of AI.

Strategic responses to global problems and challenges should be comprehensive and synergistic. Combining international climate policy with an AI based innovation

strategy requires new social protection tools, changes in economic and environmental policy, and large scale retraining programs. These measures will mitigate the short term social costs of the energy and digital transitions and ensure inclusive benefit sharing. Practical steps include creating national decarbonization roadmaps with integrated digital solutions for energy and agriculture, providing tax incentives and subsidies for climate resilient investments, and developing standardization and certification mechanisms for the safe use of innovative technologies in critical sectors. In the long term, global success will depend on states, their scientific communities, and the private sector creating an enabling institutional framework for innovation, ensuring market transparency, and supporting international cooperation on trade, technology, and climate. Only a holistic strategy can turn the turbulence of the new innovation wave into an opportunity for sustainable, inclusive, and technologically adaptive economic development in the coming decades.

Reference:

1. Bhairo P., Maharaj R. Harnessing artificial intelligence for food security in a changing climate. *Discover Food*. 2025. 5(342). <https://doi.org/10.1007/s44187-025-00609-x>.
2. Pandey D. K., Mishra R. Towards sustainable agriculture: Harnessing AI for global food security. *Artificial Intelligence in Agriculture*. 2024. 12. P. 72–84. <https://doi.org/10.1016/j.aiaa.2024.04.003>.
3. Sarku R., Clemen U.A., Clemen T. The Application of Artificial Intelligence Models for Food Security: A Review. *Agriculture*. 2023. 13(10). 2037. <https://doi.org/10.3390/agriculture13102037>.

УДК 338.48-1:330.34

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ЦИРКУЛЯРНА ЕКОНОМІКА ТА СТАЛЕ УПРАВЛІННЯ РЕСУРСАМИ В ГОТЕЛЬНО-РЕСТОРАННОМУ БІЗНЕСІ

Однією з особливостей функціонування готельно-ресторанної галузі є інтенсивне споживання ресурсів та значна генерація відходів. Враховуючи ці фактори, а також сучасні тенденції щодо посилення конкуренції, трансформації споживчих вподобань та зростання екологічної відповідальності, концепція циркулярної економіки набуває ключового значення в готельно-ресторанному бізнесі. Вона спрямована на усунення відходів та забезпечення безперервного циклу використання ресурсів, ґрунтуючись на принципах «зменшити, повторно використовувати, переробляти».

Готельно-ресторанний бізнес, як одна з найбільш динамічних та ресурсоемних галузей, є оптимальним об'єктом для впровадження цих принципів [1]. Готелі та ресторани інтенсивно споживають значні обсяги води,