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Agriculture and construction in the new security normality – effects of mutual bioeconomic reconstruction: A review of Nina Petrukha's monograph

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As a result of the full-scale war, the Ukrainian economy of the new security reality has entered a state in which recovery can no longer be understood as the linear reproduction of destroyed capacities or a mechanical return to the pre-war sectoral structure. Rather, it concerns a much more complex process: the reconstruction of the very architecture of the national economy, in which construction, infrastructure, agricultural production, energy, the bioresource base and investment mechanisms form a unified space of structural interdependence. It is precisely in this context that the monograph by N. Petrukha (2026) acquires particular scholarly significance, as it makes it possible to view the agricultural enterprise not merely as a production and financial entity, but as a materially embedded element of the spatial reconstruction of Ukraine's economy.

From the standpoint of construction science, the reviewed work is valuable primarily because it transfers the issue of agricultural resilience from the abstract level of economic stability to the plane of material feasibility. An agricultural enterprise under the conditions of the new security reality cannot be viable solely by virtue of land, machinery, working capital or managerial experience. Its functional integrity depends on the quality of production buildings, storage and processing facilities, logistical accessibility, energy nodes, engineering networks, reserve systems, the spatial organisation of production and the capacity of the material environment to withstand prolonged regimes of uncertainty. In this sense, the monograph creates an important bridge between agricultural economics and the economics of construction.

Of particular interest is the fact that the author effectively presents construction as a material condition of the bioeconomic transition. The bioeconomy cannot exist merely as a set of environmental principles, technological intentions or strategic declarations. It requires an appropriate spatial and material form, namely storage facilities, capacities for primary and more advanced processing, energy-efficient production buildings, bioenergy modules, infrastructure for managing by-product streams, laboratory and control zones, transport access routes, engineering connections and a safe working environment. Under this approach, the construction sector appears not as an auxiliary sector, but as one of the fundamental carriers of bioeconomic reconstruction.

The title of the reviewed monograph, Investment Support Reconfiguration and Resilience Formation of Agri-Enterprises within the Bioeconomic Paradigm of the New Security Reality: Methodology, Diagnostics, Modelling, contains the category of reconfiguration, which is important for construction science and, in the context of the study, acquires not only financial and economic but also spatial and structural significance. The reconfiguration of investment support means not simply a change in funding sources or support instruments, but the reordering of the relationships between capital, facilities, technologies, energy, risks and territory. It is precisely here that the deeper meaning of the architecture of bioeconomic reconstruction is revealed, whereby investment should be directed not into an isolated asset, but into a material and infrastructural configuration capable of ensuring production continuity, energy adaptability and the technological complication of value-added chains.

A scientifically productive aspect of the monograph is its consideration of resilience as a property not only of an organisational or financial system, but also of the material structure of economic activity. In a wartime economy,

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the resilience of an agricultural enterprise largely depends on whether its buildings, structures, engineering networks and production and logistics nodes are capable of ensuring the minimum necessary technological regime under conditions of damage, interruptions in energy supply, logistical disruptions and resource shortages. This gives rise to a conclusion of fundamental importance for construction science: structural resilience is formed not after the completion of the construction cycle, but is embedded at the stage of design, the selection of the technological scheme, materials, energy solutions, reserve circuits and the spatial organisation of the facility.

In this respect, the categories of "fragility" and "antifragility", which are developed in the monograph, acquire a distinct engineering and economic meaning. The fragility of an agricultural enterprise is manifested not only in low liquidity, insufficient profitability or limited access to capital, but also in the spatial fragmentation of production processes, the technological incompatibility of facilities, the energy intensity of buildings, the absence of autonomous energy sources, the weakness of logistics nodes and the inability of the material base to function under conditions of prolonged stress. Antifragility, by contrast, means the capacity of a production and construction system not only to preserve functionality during shocks, but also, through modernisation, energy efficiency, modularity, reserve provision and spatial flexibility, to strengthen its long-term viability.

A significant advantage of the study is its focus on a typical sector-average agricultural enterprise as an analytical unit, which makes it possible to test the realism of bioeconomic reconstruction at the micro level. For the economics of construction, this is of particular importance, since it is precisely at the level of such an agricultural enterprise that the gap between the strategic need for modernisation and the actual capacity to implement an investment and construction project becomes most evident. A sector-average agricultural enterprise may objectively need a new processing module, an energy-efficient storage facility, local generation or a logistics node; however, high CAPEX, a long payback period, the risk of asset damage, the cost of project documentation and the shortage of guarantee instruments often make such solutions unattainable without systemic support.

It is through this micro-level verification that the monograph addresses the broader problem of the investment and construction feasibility of bioeconomic projects. Under conditions of uncertainty, it is insufficient to substantiate the economic expediency of a project using standard performance indicators. It is necessary to assess its spatial appropriateness, technical feasibility, energy reliability, operational safety, compliance with the technological regimes of agricultural production, capacity for phased commissioning and resilience to disruptions in the basic conditions of functioning. In this sense, the work by N. Petrukha (2026) is important for the scholarly discourse on construction, as it effectively extends the boundaries of investment analysis to the level of project and infrastructure diagnostics.

The idea of new regularities in the transformation of Ukraine's economy, embedded in the monograph, deserves particular attention. The first regularity is that recovery is acquiring an intersectoral character and requires the simultaneous coordination of agricultural, construction, energy, logistics and institutional solutions. The second is related to the fact that bioeconomic development requires material localisation: without the relevant facilities, networks and spatial nodes, it remains merely a conceptual intention. The third regularity is manifested in the growing role of the construction component in ensuring the energy adaptability of agricultural enterprises. The fourth is that reconstruction should not be the restoration of the previous model, but the formation of a more complex system capable of operating under conditions of risk, resource scarcity and instability in the external environment.

For construction science, it is particularly significant that the monograph provides grounds for considering the agricultural enterprise of the future as a production-and-construction complex of a new type. Its architecture should combine energy efficiency, technological compatibility, adaptability to different operational scenarios, circular use of resources, maintainability, spatial compactness and the capacity for integration into local infrastructure. Such a complex can no longer be designed according to the logic of narrow production expediency. It should be considered as an element of a territorial system that simultaneously ensures agricultural production, processing, energy stability, employment, the community's tax base and the spatial viability of the rural economy.

I am deeply convinced that the monograph by N. Petrukha is a significant scholarly contribution not only to agricultural economic science, but also to the development of construction economics, investment and construction design, the theory of spatial recovery, bioeconomics and state regulation of the economy. Its particular value lies in the fact that the future of agricultural enterprises is conceptualised not only in terms of land, capital, production and the market, but also in terms of construction, architecture, infrastructure, energy and structural resilience. For this reason, the reviewed work has every reason to occupy a prominent place among contemporary studies that shape a new scholarly language of Ukraine's recovery: not as a return to what has been lost, but as the construction of a bioeconomically oriented, spatially viable and infrastructurally resilient economy.

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References

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