THE ROLE OF INFRASTRUCTURE IN THE MODERN WORLD AND FUTURE TRENDS.

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Annotatsiya: Ushbu maqolada "Infratuzilma asoslarini o’rganish" ifodasi infratuzilma sohasining asosiy tamoyillarini, tushunchalarini va qonuniyatlarini o’rganishni anglatadi. Infratuzilma deganda transport, energetika, suv ta'minoti, telekommunikatsiya, qurilish va boshqa muhim sohalar tushuniladi. Bu sohalar jamiyatning ijtimoiy-iqtisodiy rivojlanishi uchun asosiy xizmatlarni ta'minlaydi.Infratuzilma asoslarini o’rganish quyidagi jihatlarni o’z ichiga olishi mumkin: Infratuzilma tushunchasi va turlari: Infratuzilma nima, uning turli turlari (masalan, transport infratuzilmasi, energetika infratuzilmasi, suv xo'jaligi infratuzilmasi) va ularning jamiyat uchun ahamiyati haqida yoritilgan.

Kalit so’zlar : infratuzilma, energetika infratuzilmasi, xususiy sektor , suv xo’jaligi infratuzilmasi , zamonaviy texnologiyalar, loyihalashtirirish, moliya, zamonaviy tendensiyalar

Аннотация: В этой статье раскрывается "изучение основ инфраструктуры " относится к изучению основных принципов, концепций и законов инфраструктурной отрасли. Инфраструктура относится к транспорту, энергетике, водоснабжению, телекоммуникациям, строительству и другим важным отраслям. Эти отрасли предоставляют основные услуги для социально-экономического развития общества.Изучение основ инфраструктуры может включать следующие аспекты: понятие и типы инфраструктуры: освещается, что такое инфраструктура, ее различные типы (например, транспортная инфраструктура, энергетическая инфраструктура, инфраструктура водного хозяйства) и их значение для общества.

Ключевые слова: инфраструктура , энергетическая инфраструктура , частный сектор, инфраструктура водного хозяйства, современные технологии, проектирование, финансы, современные тенденции

Abstract: This article reveals "learning the basics of infrastructure" refers to the study of the basic principles, concepts, and laws of the infrastructure industry. Infrastructure refers to transportation, energy, water supply, telecommunications, construction, and other important industries. These industries provide essential services for the socio-economic development of society.The study of the basics of infrastructure can include the following aspects: the concept and types of infrastructure: it highlights what infrastructure is, its various types (for example, transport infrastructure, energy infrastructure, water infrastructure) and their significance for society.

Keywords: infrastructure, energy infrastructure, private sector, water management infrastructure, modern technologies, design, finance, modern trends

INTRODUCTION

[1]In this article, "Learning the basics of infrastructure" refers to the study of the basic principles, concepts, and laws of the infrastructure industry. Infrastructure refers to transportation, energy, water supply, telecommunications, construction, and other important industries. These industries provide essential services for the socio-economic development of society.The study of the basics of infrastructure may include the following aspects: the concept and types of infrastructure: highlights what infrastructure is, its various types (for example, transport infrastructure, energy infrastructure, water infrastructure) and their importance to society.

Learning the basics of infrastructure is important in various fields, as infrastructure provides the basic structure and services necessary for the successful functioning of any system, organization, or society. The word infrastructure can usually refer to the following areas: roads, bridges, railways, airports, ports, and other facilities that support vehicles.Urban transportation systems such as buses, subways, and bike paths.

Energy infrastructure: power plants, power transmission lines, power systems.Systems for processing and distributing natural gas, oil, and other energy sources.

Water supply and sewerage infrastructure: water supply systems, water treatment plants.Sewage systems and waste treatment facilities.Learning the basics of infrastructure is important in various fields, as infrastructure provides the basic structure and services necessary for the successful functioning of any system, organization, or society. The word infrastructure can usually refer to the following areas: roads, bridges, railways, airports, ports, and other facilities that support vehicles.Urban transportation systems such as buses, subways, and bike lanes.

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Energy infrastructure: power plants, power transmission lines, power systems.Systems for processing and distributing natural gas, oil, and other energy sources.Water supply and sewerage infrastructure: water supply systems, water treatment plants.Sewage systems and waste treatment facilities.Institutional infrastructure. It includes the provision of socially useful non-production services of a scientific, managerial, law enforcement and protective nature at the level of the whole society.

Market infrastructure. The main subjects of market relations are a set of enterprises, institutions and organizations that ensure the most effective interaction between sellers and buyers.

- Important infrastructure. Infrastructure facilities necessary for the life support of society and the functioning of the economy.

DISCUSSION

[2]Infrastructure refers to all similar types of activities, services, and facilities necessary to provide various services in the economy. Simply put, it is a system of support for the economic and social development of the country. Infrastructure is crucial for the economic development of the country. A country's infrastructure is a structure that contributes to its economic and social development. Infrastructure facilities are crucial for the development of agriculture, industry, and now the service sector. Social development also depends on infrastructure development. After India's economic reforms in 1991, the government focused on infrastructure development.

Composition: features of infrastructure, importance of infrastructure, types of infrastructure features of infrastructure the main characteristics of infrastructure are::

The methodology of "learning the basics of infrastructure" is based on the study of knowledge in the field of infrastructure.Study of theoretical foundations and concepts the study of basic concepts, terms and theories in the field of infrastructure

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(for example, types, functions, components of infrastructure).Understanding how infrastructure is related to the economy, the social sphere, and the environment.

The study of historical aspects of infrastructure development and the analysis of current trends.

A systematic approach considers infrastructure as a system, i.e. analyzes the relationship between its various parts (transport, energy, water supply, telecommunications).

[3]Assessment of efficiency, stability and reliability of infrastructure systems. Case studies and examples

Study of practical examples of infrastructure projects and systems (for example, infrastructure systems of countries or cities).

Comparison of successful and unsuccessful projects and analysis of their causes.The study of territorial or regional infrastructure systems

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LITERATURE ANALYSIS AND METHODS

[4]Identify future infrastructure needs and develop strategies to meet them.Practical application and design is the study of the stages of planning, designing and implementing infrastructure projects.Methods of infrastructure project management and monitoring. Interactive teaching and upbringing methods the use of interactive methods in learning the basics of infrastructure (for example, case studies, seminars, practical exercises) Application of modeling and simulation methods in the

[3] Sovacool, B. K., & Brown, M. A. (2010). Energy and American Society: Thirteen Myths. Springer.
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field of infrastructure. The study of infrastructure standards and policies used by international organizations (such as the United Nations, the World Bank, and the OECD). The methodology of studying the basics of infrastructure is aimed at an in-depth and comprehensive study of this area, as well as the development of knowledge and skills to solve practical problems. This methodology is intended for researchers, engineers, economists, and policy makers in the infrastructure field.

Type of infrastructure	Main Features	Examples
Transport infrastructure	Roads, bridges, railways, airports, ports, urban transport systems.	Highways, metro systems, highways, railway stations.
Energy infrastructure	Power plants, power networks, gas and oil pipelines, energy distribution.	Thermal power plants, solar panels, wind turbines.
Water and sewage	Water supply, water treatment facilities, sewage systems, waste treatment.	Water treatment plants, reservoirs, sewage pipes.
Telecommunications	Internet networks, mobile communications, data centers, cable and wireless communication.	5G networks, fiber optic cable systems, data centers.
Construction infrastructure	Buildings, bridges, tunnels, dams, urban infrastructure	Bridges, high-rise buildings, urban squares,
Health	Hospitals, clinics, laboratories, medical equipment.	Hospitals, ambulance stations, medical diagnostic centers.
Educational infrastructure	Schools, universities, libraries, computer classes, online education platforms.	Universities, schools, online courses, virtual laboratories.
Environmental infrastructure	Waste recycling, air purification, water pollution protection.	Waste processing plants, water treatment facilities, air filters.

Conclusions and proposals

The challenges associated with the fundamentals of infrastructure and their solutions are crucial to building efficient and sustainable infrastructure systems. Infrastructure problems are often complex and multifaceted, and their solutions can also cover various areas. The following are the main problems related to the basics of infrastructure and their solutions.:

Lack of finance and investments is a problem: infrastructure projects often require significant financial resources, but insufficient funding from the state budget or private investors creates a problem.

Solutions: development of cooperation between the public and private sectors (PPP - public-private partnership).

Obtaining loans and grants from international financial institutions (the World Bank, the Asian Development Bank) and donor organizations.

Phased implementation of infrastructure projects and prioritization.Technical and technological backwardness is a problem: in rural areas or in developing countries, infrastructure technologies are outdated or do not meet modern requirements.Solutions: the introduction of modern technologies (for example, intelligent networks, the Internet of Things, artificial intelligence). Retraining and advanced training of technical personnel. Application of innovative solutions (for example, solar energy, wind energy).

Environmental issues The problem: Infrastructure projects can pollute nature, damage ecosystems, or lead to overuse of natural resources.Solutions: the application of environmental standards and the conduct of environmental assessments.Development of sustainable infrastructure projects (for example, the use of renewable energy sources).The use of environmentally friendly materials. Uneven infrastructure development

The problem: The CheckData collection and analysis using automated systems.

The use of geographic information systems (GIS) and other modern monitoring tools.Make infrastructure data open and transparent.

Political and managerial issues

The problem: corruption in infrastructure projects, inefficient management and lack of long-term planning. Solutions: strengthening transparent governance and anti-corruption measures.Planning infrastructure projects based on long-term strategies. Development of cooperation between state and non-state organizations.

Population growth and pressure on infrastructure

Problem: as a result of rapid population growth in cities, infrastructure systems (transport, water supply, sewerage) are overloaded.

Solutions: modernization and expansion of urban infrastructure.

Development of programs for the resettlement of the population in rural areas.Implementation of smart city systems (Smart Cities). Natural disasters and climate change.

LIST OF USED LITERATURE

1. 1."O‘zbekiston — 2030" strategiyasi to‘g‘risida 2023-yil 11-sentabrdagi PF-158-sonli farmon mamlakatning uzoq muddatli rivojlanish strategiyasini belgilab, unda infratuzilmani modernizatsiya qilish va barqaror rivojlanish maqsadlari ko‘rsatilgan.

2. "Ekologiya, atrof-muhitni muhofaza qilish va iqlim o‘zgarishi vazirligi faoliyatini samarali tashkil etish chora-tadbirlari to‘g‘risida"

3. 2023-yil 31-maydagi PQ-171-sonli qaror ekologik infratuzilmani rivojlantirish va atrof-muhitni muhofaza qilish tizimini takomillashtirishga qaratilgan.

4. "Respublikada yashillik darajasini yanada oshirish, 'Yashil makon' umummilliy loyihasini izchil amalga oshirish orqali ekologik barqarorlikni ta’minlash chora-tadbirlari to‘g‘risida"

5. Daly, H. E. (1996). Beyond Growth: The Economics of Sustainable Development. Beacon Press.United Nations (2015). Transforming Our World: The 2030 Agenda for Sustainable Development. UN General Assembly.

6. 4.Millennium Ecosystem Assessment (2005). Ecosystems and Human Well-being: 5.Synthesis. Island Press.Stern, N. (2007). The Economics of Climate Change: The Stern Review. Cambridge University Press.

7. 6.Sovacool, B. K., & Brown, M. A. (2010). Energy and American Society: Thirteen Myths. Springer.

8. 7.U.S. Green Building Council (2010). LEED Reference Guide for Building Design and Construction. USGBC.

9. Turobova, Hulkar. "БИОЭКОНОМИКА: ВОЗМОЖНОСТИ РАЦИОНАЛЬНОГО ИСПОЛЬЗОВАНИЯ СЕЛЬСКОХОЗЯЙСТВЕННЫХ ПЛОЩАДЕЙ БУХАРСКОЙ ОБЛАСТИ." ЦЕНТР НАУЧНЫХ ПУБЛИКАЦИЙ (buxdu. uz) 8.8 (2021).

10. Turobova, Hulkar, and Murodjon Eshbekov. "Development of Entrepreneurial Skills of Farmers." Pioneer: Journal of Advanced Research and Scientific Progress 2.4 (2023): 13-17.

11. QM Matyakubovna. THE CONTEMPORARY TRENDS IN THE DIGITALIZATION OF THE AGRICULTURAL SECTOR AND THE SOCIO-ECONOMIC SPHERE. Science and innovation 3 (Special Issue 42), 156-160

12. KM Matyakubovna, SF Kamolovna. O’ZBEKISTONDA YASHIL IQTISODIYOTNI JORIY ETISHNING IMKONIYATLARI VA RIVOJLANTIRISH ISTIQBOLLARI. Scientific Journal of Actuarial Finance and Accounting 4 (07), 214-221

13. Болтаева, Шахноз. "The role of Agrokultural marketing in the development of Uzbekisnan." *ЦЕНТР НАУЧНЫХ ПУБЛИКАЦИЙ (buxdu. uz)* 1.1 (2020).p

14. . 3Boltayeva, Shahnoza Bebudovna, and Miraziz Furkat ugli Mirkhodjayev. "LEGAL REGIME OF SMART CONTRACTS IN FOREIGN ECONOMIC ACTIVITY." *Development and innovations in science* 1.1 (2022): 108-114.

15. Джураева Д. Д. Рол инновационных идей и разработок в развитие услуг //Мировая наука. – 2019. – №. 4. – С. 278-281.

16. Джураева Д. Д. ВЛИЯНИЕ МАССОВОЙ КУЛЬТУРЫ НА ЧЕЛОВЕЧЕСКИЙ ПОТЕНЦИАЛ //ДНИ НАУКИ–2017. – 2017. – С. 33.

17. AO Axmedov. ZAMONAVIY IQTISODIYOTNING YASHIL RIVOJLANISHINI BOSHQARISH TAMOYILLARI VA MEXANIZMLARINI O'RGANISHNING NAZARIY VA USLUBIY ASOSLARI. Inter education & global study, 171-178

18. AO Axmedov. YASHIL IQTISODIYOT FANINI O'QITISH KONTEKSTIDA YASHIL IQTISODIYOTNING ZAMONAVIY AMALIYOTLARI VA TEXNOLOGIYALARINI TAHLIL QILISH. Inter education & global study, 96-104

19. Саидова, Ф. К. (2016). Современное состояние и направления развития аграрного сектора Республики Узбекистан. In *СОВРЕМЕННОЕ ЭКОЛОГИЧЕСКОЕ СОСТОЯНИЕ ПРИРОДНОЙ СРЕДЫ И НАУЧНО-ПРАКТИЧЕСКИЕ АСПЕКТЫ РАЦИОНАЛЬНОГО ПРИРОДОПОЛЬЗОВАНИЯ* (pp. 3673-3675).

20. Khurramov, O. K., Fayzieva, S. A., & Saidova, F. K. (2019). Features of electronic online market in tourism. *Вестник науки и образования*, (24-3), 18-20.