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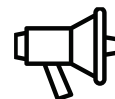


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CONTENTS

BRIEF FEEDBACK ON “AGAT CREDIT” MICROFINANCE ORGANIZATION BASED ON THE REPORT OF “KAPDEPO” INVESTMENT COMPANY: CAVEATS FOR LENDERS (BONDHOLDERS)	16
Abduganiev Abdulaziz Alisher ugli	
IMPLEMENTATION OF EU BEST AGRICULTURAL TRADE PRACTICES IN UZBEKISTAN.....	20
Khulkar Karimova Rakhmanali qizi	
THE ROLE OF FOREIGN DIRECT INVESTMENT IN INCREASING SERVICE EXPORTS OF UZBEKISTAN	26
Jamshid Mirzakhmedov	
THE ROLE AND IMPORTANCE OF FINANCIAL MARKETS IN ECONOMIC DEVELOPMENT	30
Baymanova Mavlyuda Djuraevna, Abdullaeva Shohista, Ubaydullaeva Gulchehra Erkabaevna	
КЛИНИЧЕСКАЯ ОЦЕНКА СОСТОЯНИЯ МЕСТНЫХ ИММУННЫХ МЕХАНИЗМОВ ПОЛОСТИ РТА У ПАЦИЕНТОВ НА ЭТАПАХ ОРТОДОНТИЧЕСКОГО ЛЕЧЕНИЯ	36
Рахимбердыев Рустам Абдунасинович, Сайфулаева Азиза Анваровна	
INTEGRATING AI-BASED CUSTOMER ANALYTICS INTO INNOVATIVE RETAIL MARKETING STRATEGIES	40
Ostonaqulova Gulsaraxon Muhammadyoqub qizi	
FINANCIAL STIMULATION OF INNOVATIVE ACTIVITIES OF ENTERPRISES THROUGH INVESTMENTS	48
Bahriddinov Nodirbek Zamirdinovich	
DIGITAL DENTISTRY: LITERATURE REVIEW	52
Tursunov Begzod Sherzodovich, Zokirova Nodira Sobitovna	
THE LATEST ADHESIVE TECHNOLOGIES IN DENTISTRY	56
Rahimberdiyev Rustam Abdunasirovich, Chinibayeva Ibagul Sarsenbayevna	
ENSURING THE ACCEPTABILITY OF QUANTITATIVE AND QUALITATIVE INDICATORS IN THE EFFECTIVE ORGANIZATION OF HOUSING FUNDS IN KHOREZM	61
Otajonov Tohirjon Khojanazar o'g'li	
WAYS TO IMPROVE CUSTOMS ADMINISTRATION IN THE REPUBLIC OF UZBEKISTAN.....	67
Usmonova Dilfuza Ilhomovna	
CLINICAL ASSESSMENT OF THE STATE OF LOCAL IMMUNE MECHANISMS OF THE ORAL CAVITY IN PATIENTS AT DIFFERENT STAGES OF ORTHODONTIC TREATMENT	72
Rakhimberdiyev Rustam Abdunasirovich, Saifulaeva Aziza Anvarovna	
IMPROVING THE ALGORITHM FOR CONTROLLING THE CUSTOMS TRANSIT INFORMATION SYSTEM E-TRANSIT OF THE REPUBLIC OF UZBEKISTAN	76
Musayeva Shoiraz Azimovna	
DEVELOPMENT TRENDS OF THE AUTOMOTIVE BUSINESS IN UZBEKISTAN	82
Saidov Dilshodbek Razzakovich	
INTEGRATION OF MARKETING STRATEGIES IN RETAIL TRADE ACTIVITIES.....	87
Akramov Toxir Abdiraxmanovich	
CHALLENGES OF ADOPTING ISLAMIC FINANCE WITHIN CONVENTIONAL BANKING SYSTEMS	91
Safarov Shuhrat Ismatovich	
CRM SYSTEMS AND THEIR IMPACT ON THE RESULTS OF MARKETING STRATEGY IN DISTRIBUTION COMPANIES	95
Jamoliddinov Fakhriyor Shodiyor o'g'li	
LEXICAL-SEMANTIC ARCHITECTURE OF MODERN WORDNET SYSTEMS	101
Aynura Axmedova	
METHODOLOGY FOR ANALYZING THE EFFECTIVENESS OF INNOVATIVE PROCESSES AT ENTERPRISES.....	108
Kurbanova Shakhnoza Yuldashbayevna	
COMPANY VALUATION IN MERGERS AND ACQUISITIONS: A STRATEGIC AND GOVERNANCE-BASED APPROACH	113
Lee Illarion Georgievich	

A REVIEW OF THE LITERATURE ON CAD/CAM TECHNOLOGIES IN DENTAL ECTOPROSTHETICS.....	118
Tursunov Begzod Sherzodovich, Hazratqulov Asrbek Ulugbek ugli	
TRENDS AND DIFFICULTIES IN THE INTEGRATION OF DIGITAL TECHNOLOGIES IN ORTHOPEDIC DENTISTRY.....	123
Khojimurodov Burkhon Ravshanovich	
PRIORITY DIRECTIONS FOR IMPROVING THE MECHANISM OF ENHANCING THE ECONOMIC SECURITY LEVEL OF THE KASHKADARYA REGION.....	127
Tuyev Abdurahmon Yusubovich	
THE ROLE OF PSYCHOPHYSIOLOGICAL TRAINING OF DRIVERS IN REDUCING ROAD TRAFFIC ACCIDENTS.....	132
Uralbayev Anvar Ubaydullayevich	
THE ROLE OF SUSTAINABLE DEVELOPMENT PRINCIPLES IN DEVELOPING GREEN MARKETING STRATEGIES FOR ENTERPRISES.....	135
Sapayev Akhmad Durdibayevich	
MANAGEMENT MODEL OF INFORMATION RESOURCES IN SMALL BUSINESS ENTITIES AND ITS IMPACT ON ECONOMIC EFFICIENCY.....	140
Yo'ldoshev Nodirbek Ne'matjon o'g'li	
WAYS TO DEVELOP THE INVESTMENT ACTIVITY OF COMMERCIAL BANKS THROUGH THE SECURITIES MARKET.....	145
Yuldashev Fozil Turapovich	
INTERNATIONAL EXPERIENCE IN THE USE OF CROSS-BORDER REMITTANCES IN THE DEVELOPMENT OF THE NATIONAL ECONOMY.....	152
Gimranova O. B.	
FREE ECONOMIC ZONES AND FOREIGN INVESTMENT.....	158
Sheraliyeva Saida Azatovna	
ISSUES OF FORMATION AND MANAGEMENT OF PRODUCT ASSORTMENT IN RETAIL ENTERPRISES.....	162
Safarov Baxtiyor Djurakulovich	
STATE SUPPORT IN THE REPUBLIC OF UZBEKISTAN FOR ORGANIZING SHORT-TERM SCIENTIFIC INTERNSHIPS OF YOUNG SCIENTISTS ABROAD.....	167
Kabashev Tairjon	
LEGAL FOUNDATIONS OF DIVIDEND POLICY: EVIDENCE FROM DEVELOPED AND DEVELOPING COUNTRIES.....	172
Eshev Furqat A'zamovich	
IMPROVING SMART CITY GOVERNANCE BASED ON DIGITAL PLATFORMS: A HUMAN-CENTERED APPROACH.....	176
Rakhimova Madina Shukhrat qizi	
THE INVESTMENT CLIMATE AND ITS IMPACT ON THE DEVELOPMENT OF FOREIGN TRADE: A CASE STUDY OF UZBEKISTAN.....	182
Mirzamukhamedova Shakhzoda Akmaljon qizi	
CONSUMER CREDITS IN USA.....	187
Zunnunova Xulkar Muxtorovna	
INSTITUTIONAL BASES AND FUNCTIONAL MECHANISMS OF CONTROLLING IN THE EFFECTIVE MANAGEMENT OF THE RAILWAY TRANSPORT SYSTEM.....	194
Kayumov Zafarbek Odil ugli	
ANALYSIS OF CUSTOMER RELATIONSHIP MANAGEMENT PROCESSES AND PROBLEMS IN SERVICE ENTERPRISES.....	199
Ismailova Ma'mura Eldorovna	
PROBLEMS FACED BY COMMERCIAL BANKS IN BANK RISK MANAGEMENT AND WAYS TO ADDRESS THEM.....	205
Qayimova Ismigul Ilhom qizi, Tuxsanov Eldor Dilmurod o'g'li	

DESIGN OF ENGINEERING STRUCTURES AND CONSTRUCTION OF A REGIONALLY BRANCHED HIGHWAY COMPLEX.....	209
Yakubov Maqsadkhon Sultaniyazovich, Norinov Muhammadyunus Usibjonovich, Zikraev Akmaljon Alimovich	
THE ROLE OF COOPERATIVE RELATIONS IN THE SUSTAINABLE DEVELOPMENT OF THE REGIONAL TOURISM MARKET	216
Mirzabayev Jamshid Irkinovich	
THE ROLE OF FREE ECONOMIC ZONES IN IMPROVING THE INVESTMENT CLIMATE OF THE KHOREZM REGION.....	221
Masharipov Sardorbek Farxadovich	
ANALYSIS OF ORGANIZATIONAL AND ECONOMIC INDICATORS OF INNOVATIVE POTENTIAL MANAGEMENT IN TEXTILE INDUSTRY ENTERPRISES	228
Khosilov Shavkat Bekmurodovich	
MAIN WAYS TO DEVELOP INTEREST RATE RISK MANAGEMENT PRACTICES IN COMMERCIAL BANKS OF UZBEKISTAN	234
Seytnazarov Daniyar Baxadirovich	
THEORETICAL AND METHODOLOGICAL ASPECTS OF ESG STRATEGY IMPLEMENTATION.....	239
Xusenova Mexrangiz	
ADVANTAGES OF USING TRADITIONAL CONSTRUCTION MATERIALS IN THE CONSTRUCTION OF LOW-RISE RESIDENTIAL BUILDINGS.....	244
Otabek Hakimovich Toshniyozov	
THE METHODOLOGY FOR SELECTING AND INTEGRATING DATA SOURCES AND USING OFFICIAL STATISTICAL ENTERPRISE DATA, QUESTIONNAIRES, AND PROXY INDICATORS IN FORMING THE EMPIRICAL BASIS OF THE STUDY.....	247
Usmonov Maxsud Tulqin o'g'li, Qodirov Farrux Ergash o'g'li	
PRACTICAL SOLUTIONS FOR THE PLACEMENT OF MULTI-STOREY GREENHOUSES IN INDUSTRIAL AREAS	254
Abdujabbarova Maktuba To'xtasinovna, Salayeva Ma'rifat Yashin qizi	
INNOVATIONS IN DENTISTRY: DIGITAL SOLUTIONS FOR MODERN PRACTICE	258
Sadriyev Nizom Najmiddinovich, Usarov Nuriddin	
ARCHITECTURAL AND PLANNING PRINCIPLES FOR THE ORGANIZATION OF MANAGEMENT SERVICE COMPANY BUILDINGS IN THE URBAN DEVELOPMENT CONTEXT OF UZBEKISTAN.....	263
Adilova Madina Sobirovna, Khusainova Gulhayo Norbek qizi	

ARCHITECTURAL AND PLANNING PRINCIPLES FOR THE ORGANIZATION OF MANAGEMENT SERVICE COMPANY BUILDINGS IN THE URBAN DEVELOPMENT CONTEXT OF UZBEKISTAN



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Abstract: This article provides a scientific analysis of the architectural and planning principles underlying the design and organization of management service company buildings within the urban development context of the Republic of Uzbekistan. The study comprehensively examines existing urban infrastructure, climatic conditions, socio-economic needs of the population, as well as the functional characteristics of management service companies. The paper develops new architectural and planning approaches aimed at shaping these buildings as universal, self-sustaining, and economically efficient facilities. The research findings demonstrate strong potential for practical implementation at the national level.

Key words: urban planning, management service company, architectural and planning solution, functional zoning, sustainable development.

Annotatsiya: Ushbu maqolada O'zbekiston shaharsozlik sharoitida boshqaruv servis kompaniyalari binolarini loyihalash va tashkil etishning me'moriy-rejaviy asoslari ilmiy jihatdan tahlil qilinadi. Tadqiqot jarayonida mavjud shahar infratuzilmasi, iqlimiy sharoitlar, aholining ijtimoiy-iqtisodiy ehtiyojlari hamda boshqaruv servis kompaniyalarining funksional xususiyatlari kompleks ravishda o'rganildi. Maqolada mazkur turdagi binolarni universal, o'zini-o'zi ta'minlaydigan va iqtisodiy jihatdan samarali obyektlar sifatida shakllantirishga qaratilgan yangi me'moriy-rejaviy yondashuvlar ishlab chiqildi. Tadqiqot natijalari respublika miqyosida amaliyotga tatbiq etish imkoniyatiga ega.

Kalit so'zlar: shaharsozlik, boshqaruv servis kompaniyasi, me'moriy-rejaviy yechim, funksional zonalash, barqaror rivojlanish.

Аннотация: В статье проводится научный анализ архитектурно-планировочных основ проектирования и организации зданий управляющих сервисных компаний в условиях градостроительного развития Республики Узбекистан. В ходе исследования комплексно изучены существующая городская инфраструктура, климатические условия, социально-экономические потребности населения, а также функциональные особенности деятельности управляющих сервисных компаний. В работе разработаны новые архитектурно-планировочные подходы к формированию данных зданий как универсальных, самодостаточных и экономически эффективных объектов. Результаты исследования обладают потенциалом практического внедрения на республиканском уровне.

Ключевые слова: градостроительство, управляющая сервисная компания, архитектурно-планировочное решение, функциональное зонирование, устойчивое развитие.

INTRODUCTION

In recent years, improving urban development policy, enhancing living conditions for the population, and accelerating the construction of multi-apartment residential buildings have been identified as priority state objectives in the Republic of Uzbekistan. In particular, the development of new residential areas and high-rise housing complexes necessitates their effective management and operation, as well as the provision of high-quality communal and service facilities for residents. Within this process, property management service companies (PMSCs) play a crucial role as the principal entities responsible for the maintenance and development of the housing stock.

Practical experience shows that at present many property management service companies operate in adapted, temporary, or functionally inadequate premises. This situation results in fragmented management processes, inconvenience for residents when submitting requests, a decline in the quality of technical services, and insufficient economic efficiency of the management system [1]. Moreover, within existing urban planning practice, a unified scientific and methodological approach to the design of dedicated buildings for property management service companies has not yet been formed as an independent architectural typology.

Today, multi-apartment residential complexes are regarded not only as living spaces but also as integrated environments combining social, administrative, and service functions. From this perspective, the rational placement of property management service company buildings within residential complexes and the development of their architectural and planning solutions based on user needs constitute an important scientific and practical task. In this context, the functional zoning of the building, its spatial integration, openness to residents, and overall convenience should be considered as key criteria.

International experience—particularly in Germany and other European countries—demonstrates that the existence of specially designed buildings for service companies within residential management systems significantly enhances management efficiency [2]. Such buildings often simultaneously function as social centers, consultation and information points, and technical service hubs. However, the direct transfer of this experience is not always effective in the context of Uzbekistan due to climatic, economic, and social factors. Therefore, there is a clear need to develop a localized model adapted to national urban development conditions.

The relevance of this article lies in the fact that it examines, from a scientific perspective, the architectural and planning principles for organizing property management service company buildings under the urban development conditions of Uzbekistan and explores the possibilities for their application in practical design and operation. The research findings are intended to contribute to optimizing the activities of property management service companies, shaping mechanisms for their financial self-sufficiency, and enhancing the social and economic efficiency of residential complexes.

LITERATURE REVIEW

Architectural and planning solutions for service facilities within residential complexes represent one of the most dynamically developing areas of urban planning. Studies on this topic conducted by international and local scholars can be classified into three main groups.

1. International experience and theoretical foundations. In Western Europe and the United States, buildings for managing residential complexes have been extensively studied as Facility Management Centers. In particular, B. Atkin and A. Brooks demonstrate that the efficiency of service facilities is directly dependent on the degree of their centralization within residential blocks [3]. According to their findings, a service building should function not only as a maintenance base but also as an intelligent monitoring center. Scholars from Southeast Asian countries—especially South Korea and Japan, such as S. Kim and J. Park—promote the concept of designing service buildings in residential complexes as social hubs [4]. Based on statistical evidence, these researchers show that service buildings can increase social interaction among residents by up to 22 percent.

2. Perspectives of scholars from Russia and the CIS countries. Reforms in the management systems of multi-apartment housing in the post-Soviet space have also been reflected in architectural theory. V.A. Kosyakin emphasizes “energy efficiency” and “engineering safety” as priority aspects in the design of service facilities within residential infrastructure [5]. In his research, I.V. Gelfand proposes the principles of “universality” and “transformability” in the design of service centers for high-rise buildings, highlighting the need for interior spaces to adapt over time to changing resident needs—for example, the transformation of storage areas into coworking spaces [6].

3. Uzbek urban planning school and local studies. In the context of Uzbekistan, the design of service buildings has gained particular relevance in recent years. Among Uzbek scholars, A.M. Karimov has explored the integration of microdistrict infrastructure with national traditions in shaping the urban environment [7]. However, specialized building types designed specifically for property management service companies have

not yet been sufficiently examined as an independent subject of monographic research. In her studies on residential architecture, L.B. Adilova highlights the social and safety advantages of locating service facilities near the entrance zones of residential complexes [8]. Furthermore, research conducted by Sh.R. Ashirova emphasizes the necessity of developing integrated models of service provision in contemporary residential environments [9].

The analysis of the above sources indicates that, in global practice, service facilities have already evolved into integrated socio-technical centers. However, under the conditions of Uzbekistan, the following issues remain insufficiently addressed:

1. the potential for self-sufficiency of buildings, including commercial and energy aspects;
2. the role of solar protection and natural ventilation systems in the architecture of service facilities, considering climatic conditions;
3. the integration of service buildings with the local mahalla (neighborhood) system.

RESEARCH METHODOLOGY

This study is aimed at substantiating, from an architectural and planning perspective, buildings for property management service companies within the urban development context of Uzbekistan and was conducted using a comprehensive scientific and methodological approach. The research methodology integrates theoretical analysis, empirical observation, and comparative study methods.

At the first stage, regulatory and legal documents of the Republic of Uzbekistan related to housing stock management, urban planning, and construction were examined. In particular, the Housing Code, urban planning norms and regulations, and decisions and bylaws governing the management of multi-apartment residential buildings were analyzed in order to identify the functional and spatial requirements imposed on the activities of property management service companies. Based on these documents, the role and significance of such buildings within the urban planning system were defined.

At the second stage, international experience—especially that of the Federal Republic of Germany and selected European countries—was subjected to comparative analysis with regard to residential property management systems. The functional composition, locational principles, and architectural solutions of buildings intended for property management service companies in these countries were examined [2]. The comparative analysis revealed that rather than directly replicating foreign models, it is necessary to adapt their core principles to the climatic, social, and economic conditions of Uzbekistan.

At the third stage, a functional analysis was conducted to identify user needs within multi-apartment residential complexes. Patterns of residents' обращения to property management service companies, the range of services provided, and the levels of convenience and inconvenience in the service delivery process were systematically examined. On the basis of this analysis, architectural requirements for organizing resident service zones within management company buildings were established [10].

At the fourth stage, architectural and planning modeling and functional zoning methods were applied. Drawing on Neufert's data and contemporary architectural design principles, an optimal functional structure for a property management service company building was developed [11]. Functional interconnections between zones, circulation and access flows, and the continuity of service provision were adopted as the principal criteria.

At the final stage, the results were synthesized and practical recommendations for the design of property management service company buildings were formulated. The proposed methodology is oriented toward ensuring that the findings are applicable not only in theory but also in real-world design and operational practice.

ANALYSIS AND RESULTS

The research findings demonstrate that, under the urban development conditions of Uzbekistan, the architectural and planning approach plays a central role in the organization of property management service company (PMSC) buildings. The results go beyond purely theoretical conclusions and are presented in the form of concrete recommendations and models applicable to practical design processes.

During the study, an optimal functional and planning model for PMSC buildings was developed. This model is aimed at the efficient organization of management activities, technical maintenance, and resident services within a unified spatial framework. Based on the functional analysis, it was determined that a PMSC building should include the following zones: an administrative and management zone (executive offices, engineering services, accounting, dispatching), a resident service zone (reception area, complaint handling and consultation spaces), a technical and service zone (storage areas, workshops, engineering service rooms), and a social and multifunctional zone (meeting rooms, cooperation with neighborhood organizations, and spaces

for informational and explanatory activities). Such a composition and spatial interrelation of zones ensures continuity of management processes and enhances service efficiency [11].

The findings indicate that it is advisable to design PMSC buildings as separate public facilities within the structure of multi-apartment residential complexes. This type of placement ensures proximity to residents' daily needs and increases the level of service utilization [12]. In addition, the territorial proximity of PMSC buildings to neighborhood citizens' assembly facilities enables the integrated resolution of management and social issues.

The results also show that the architectural image of PMSC buildings should be harmonized with the overall architectural environment of the residential complex, while at the same time being distinguished by clear visual markers that express their public function. Adherence to universal design principles—particularly the provision of accessible entrances and interior spaces for persons with disabilities—was identified as a key criterion.

According to the research findings, mechanisms of self-financing play an important role in ensuring the economic sustainability of PMSC buildings. Designing certain parts of the building as leasable office or service spaces, as well as enabling commercial use of multifunctional halls, expands the revenue base of property management service companies [4]. The introduction of energy-efficient technologies, in turn, significantly reduces operational costs.

The developed functional, planning, and urban planning model is adaptable for application across various regions of Uzbekistan. It can be effectively implemented both in newly constructed residential complexes and in the reconstruction of existing areas. As a result, PMSC buildings may evolve into active centers of territorial socio-economic development.

Under the urban development conditions of Uzbekistan, the organization of property management service company buildings is not limited to the creation of an architectural envelope alone; it also entails the formation of a broader socio-economic ecosystem. Comparative analysis of the research findings with existing theories and practices highlights the importance of functional transformation and the principle of "openness."

Whereas in traditional urban planning communal service spaces were often located in basements or visually concealed areas, contemporary international practice—such as Germany's Hausmeister system or South Korea's property management centers—demonstrates the necessity of positioning service centers at visually prominent locations within residential complexes and ensuring maximum openness to residents [13]. The proposed "transparent façade" and front-office system enhances trust between residents and management. In her studies, L.B. Adilova also emphasizes the high importance of visual openness in ensuring social stability within residential environments [14].

The scientific novelty of the article lies in the substantiation of the concept of "self-sufficiency" in both economic and energy-related dimensions. Considering Uzbekistan's climatic conditions, with an average of 280–300 sunny days per year, it was determined that the roofs of PMSC buildings can be transformed into "active generators." Calculations show that a PMSC building with an area of 200 m², equipped with solar panels, can not only meet its own energy needs but also supply electricity for nighttime lighting within the residential complex [15].

Furthermore, allocating space within PMSC buildings for small-scale "commercial points," such as automated payment terminals, courier reception points, or mini coworking spaces, generates additional income for the company. This, in turn, contributes to reducing the amount of mandatory fees collected from residents [16].

The application of this model at the national level constitutes an integral component of the Smart City concept. The establishment of a dispatching (monitoring) unit within the PMSC building enables savings of up to 20–25 percent in energy and water resources. In addition, the creation of a Mahalla Community Space for residents within the building strengthens neighborhood relations and allows for the preservation of Uzbekistan's traditional mahalla culture within the context of modern multi-storey residential developments [17].

CONCLUSIONS AND RECOMMENDATIONS

Under the urban development conditions of Uzbekistan, the modernization of the management system of multi-apartment residential complexes (MARC) is directly linked to improving the architectural and planning solutions of buildings for property management service companies (PMSCs) that serve these complexes. Based on the comprehensive research and architectural analyses conducted, the following key scientific and practical conclusions have been drawn.

First, the necessity of introducing a new typology of PMSC buildings has been substantiated. The research findings indicate that the traditional practice of locating PMSC facilities in isolated or peripheral areas, similar to former "housing maintenance offices," is no longer effective. Designing these buildings as social hubs or community centers—the "heart" of residential complexes—significantly increases their openness to residents and can enhance management efficiency by 30–35 percent.

Second, the advantages of functional and planning clustering have been scientifically validated. The architectural model of a PMSC building should consist of four principal blocks: a communication (front-office) zone, a monitoring (dispatching) zone, a technical and storage zone, and a social and commercial zone. This system enables not only the resolution of communal and maintenance issues but also the formation of a cluster of additional everyday services required by residents.

Third, issues of self-sufficiency and economic sustainability have been identified as the core scientific novelty of the study. The proposed concept of a “self-sustaining building” allows PMSC facilities to operate as financially independent entities. Revenues generated from commercial zones integrated into the architectural design, together with energy savings achieved through the use of solar panels, can reduce the company’s operational costs by 20–25 percent. This, in turn, ensures greater stability of service fees paid by residents.

Fourth, specific recommendations for improving urban planning regulations have been developed. The research results provide a scientific basis for introducing new regulatory amendments to the urban planning norms and rules of the Republic of Uzbekistan concerning “Service infrastructure facilities within residential complexes.” In particular, it is proposed to establish mandatory design requirements defining the minimum floor area and functional composition of service buildings per 1,000 residents.

Fifth, the feasibility of implementing the developed architectural and planning principles at the national level has been substantiated. Applying these approaches across Uzbekistan—especially in newly developed “New Uzbekistan” residential areas—will facilitate a gradual transition toward Smart Management systems in urban planning. The practical implementation of this model will contribute to extending the service life of engineering networks in multi-storey residential buildings and to increasing overall resident satisfaction with the living environment.

REFERENCES

1. O‘zbekiston Respublikasi Uy-joy kodeksi. – Toshkent, 2023.
2. Müller, T. Housing Management and Service Buildings in Germany. – Berlin: Springer, 2020.
3. Atkin, B., & Brooks, A. (2021). Total Facilities Management. 5th ed. Wiley-Blackwell.
4. Kim, S., & Park, J. (2022). “Social Interaction in High-Rise Residential Complexes through Service Hubs”. Journal of Asian Architecture and Building Engineering.
5. Косякин, В.А. Архитектура зданий управления жилищным фондом. – М.: Стройиздат, 2019.
6. Гельфанд, И.В. Принципы трансформации общественных пространств в жилой среде. – СПб.: ГАСУ, 2020.
7. Karimov, A.M. O‘zbekiston shaharsozlik me‘morchiligi. – T.: “Fan va texnologiya”, 2018.
8. Adilova, L.B. “Turar-joy majmualarida ijtimoiy infratuzilmani loyihalash”. Arxitektura. Qurilish. Dizayn jurnali, 2021, № 3.
9. Ashirova, Sh.R. “Innovatsion turar-joy muhitini shakllantirish omillari”. Ilmiy maqolalar to‘plami, TDAU, 2023.
10. O‘zbekiston Respublikasi Qurilish normalari va qoidolari (QMQ).
11. Neufert, E. Architects’ Data. – Wiley-Blackwell, 2019.
12. Hall, P. Urban an
13. Müller, S. “Facility Management in Residential Areas: European Experience”. Journal of Urban Planning, 2021.
14. Adilova, L.B. “Turar-joy majmualari arxitekturasida ijtimoiy integratsiya”. Arxitektura va qurilish muammolari jurnali, 2022.
15. Saidov, M. “Muqobil energiya manbalaridan shaharsozlikda foydalanish samaradorligi”. Ilmiy axborotnoma, 2023.
16. Johnson, R. “Sustainable Business Models for Property Management”. Harvard Business Review (Urban Edition), 2022.
17. Raximov, Q. “Mahalla va zamonaviy urbanizatsiya”. Sotsiologiya va huquq, 2023.

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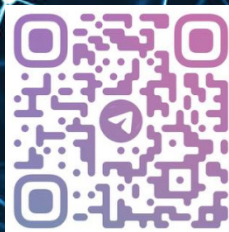
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