

SCIENCE
PROBLEMS.UZ

ISSN 2181-1342

Actual problems of social and humanitarian sciences
Актуальные проблемы социальных и гуманитарных наук

Ijtimoiy-gumanitar fanlarning dolzarb muammolari

6-maxsus
son (5-jild)

2025

SCIENCEPROBLEMS.UZ

IJTIMOIIY-GUMANITAR FANLARNING DOLZARB MUAMMOLARI

№ 5/6 (5) – 2025

АКТУАЛЬНЫЕ ПРОБЛЕМЫ СОЦИАЛЬНО- ГУМАНИТАРНЫХ НАУК

ACTUAL PROBLEMS OF HUMANITIES AND SOCIAL SCIENCES

TOSHKENT-2025

BOSH MUHARRIR:

Isanova Feruza Tulqinovna

TAHRIR HAY'ATI:

07.00.00- TARIX FANLARI:

Yuldashev Anvar Ergashevich – tarix fanlari doktori, siyosiy fanlar nomzodi, professor, O'zbekiston Respublikasi Prezidenti huzuridagi Davlat siyosati va boshqaruvi akademiyasi;

Mavlanov Uktam Maxmasabirovich – tarix fanlari doktori, professor, O'zbekiston Respublikasi Prezidenti huzuridagi Davlat siyosati va boshqaruvi akademiyasi;

Xazratkulov Abror – tarix fanlari doktori, dotsent, O'zbekiston davlat jahon tillari universiteti.

Tursunov Ravshan Normuratovich – tarix fanlari doktori, O'zbekiston Milliy Universiteti;

Xolikulov Axmadjon Boymahmatovich – tarix fanlari doktori, O'zbekiston Milliy Universiteti;

Gabrielyan Sofya Ivanovna – tarix fanlari doktori, dotsent, O'zbekiston Milliy Universiteti.

Saidov Sarvar Atabullo o'g'li – katta ilmiy xodim, Imom Termiziy xalqaro ilmiy-tadqiqot markazi, ilmiy tadqiqotlar bo'limi.

08.00.00- IQTISODIYOT FANLARI:

Karlibayeva Raya Xojabayevna – iqtisodiyot fanlari doktori, professor, Toshkent davlat iqtisodiyot universiteti;

Nasirxodjayeva Dilafruz Sabitxanovna – iqtisodiyot fanlari doktori, professor, Toshkent davlat iqtisodiyot universiteti;

Ostonokulov Azamat Abdukarimovich – iqtisodiyot fanlari doktori, professor, Toshkent moliya instituti;

Arabov Nurali Uralovich – iqtisodiyot fanlari doktori, professor, Samarqand davlat universiteti;

Xudoyqulov Sadirdin Karimovich – iqtisodiyot fanlari doktori, dotsent, Toshkent davlat iqtisodiyot universiteti;

Azizov Sherzod O'ktamovich – iqtisodiyot fanlari doktori, dotsent, O'zbekiston Respublikasi Bojxona instituti;

Xojayev Azizxon Saidaloxonovich – iqtisodiyot fanlari doktori, dotsent, Farg'ona politexnika instituti

Xolov Aktam Xatamovich – iqtisodiyot fanlari bo'yicha falsafa doktori (PhD), dotsent, O'zbekiston Respublikasi Prezidenti huzuridagi Davlat siyosati va boshqaruvi akademiyasi;

Shadiyeva Dildora Xamidovna – iqtisodiyot fanlari bo'yicha falsafa doktori (PhD), dotsent v.b, Toshkent moliya instituti;

Shakarov Qulmat Ashirovich – iqtisodiyot fanlari

nomzodi, dotsent, Toshkent axborot texnologiyalari universiteti

09.00.00- FALSAFA FANLARI:

Hakimov Nazar Hakimovich – falsafa fanlari doktori, professor, Toshkent davlat iqtisodiyot universiteti;

Yaxshilikov Jo'raboy – falsafa fanlari doktori, professor, Samarqand davlat universiteti;

G'aybullayev Otabek Muhammadiyevich – falsafa fanlari doktori, professor, Samarqand davlat chet tillar instituti;

Saidova Kamola Uskanbayevna – falsafa fanlari doktori, "Tashkent International University of Education" xalqaro universiteti;

Hoshimxonov Mo'min – falsafa fanlari doktori, dotsent, Jizzax pedagogika instituti;

O'roqova Oysuluv Jamoliddinovna – falsafa fanlari doktori, dotsent, Andijon davlat tibbiyot instituti, Ijtimoiy-gumanitar fanlar kafedrasini mudiri;

Nosirxodjayeva Gulnora Abdulkaxxarovna – falsafa fanlari nomzodi, dotsent, Toshkent davlat yuridik universiteti;

Turdiyev Bexruz Sobirovich – falsafa fanlari doktori (DSc), Professor, Buxoro davlat universiteti.

10.00.00- FILOLOGIYA FANLARI:

Axmedov Oybek Saporbayevich – filologiya fanlari doktori, professor, O'zbekiston davlat jahon tillari universiteti;

Ko'chimov Shuxrat Norqizilovich – filologiya fanlari doktori, dotsent, Toshkent davlat yuridik universiteti;

Hasanov Shavkat Ahadovich – filologiya fanlari doktori, professor, Samarqand davlat universiteti;

Baxronova Dilrabo Keldiyorovna – filologiya fanlari doktori, professor, O'zbekiston davlat jahon tillari universiteti;

Mirsanov G'aybullo Qulmurodovich – filologiya fanlari doktori, professor, Samarqand davlat chet tillar instituti;

Salaxutdinova Musharraf Isamutdinovna – filologiya fanlari nomzodi, dotsent, Samarqand davlat universiteti;

Kuchkarov Raxman Urmanovich – filologiya fanlari nomzodi, dotsent v/b, Toshkent davlat yuridik universiteti;

Yunusov Mansur Abdullayevich – filologiya fanlari nomzodi, O'zbekiston Respublikasi Prezidenti huzuridagi Davlat siyosati va boshqaruvi akademiyasi;

Saidov Ulugbek Aripovich – filologiya fanlari nomzodi, dotsent, O'zbekiston Respublikasi Prezidenti huzuridagi Davlat siyosati va boshqaruvi akademiyasi.

12.00.00- YURIDIK FANLAR:

Axmedshayeva Mavlyuda Axatovna – yuridik fanlar doktori, professor, Toshkent davlat yuridik universiteti;

Muxitdinova Firyuza Abdurashidovna – yuridik fanlar doktori, professor, Toshkent davlat yuridik universiteti;

Esanova Zamira Normurotovna – yuridik fanlar doktori, professor, O'zbekiston Respublikasida xizmat ko'rsatgan yurist, Toshkent davlat yuridik universiteti;

Hamroqulov Bahodir Mamasharifovich – yuridik fanlar doktori, professor v.b., Jahon iqtisodiyoti va diplomatiya universiteti;

Zulfiqorov Sherzod Xurramovich – yuridik fanlar doktori, professor, O'zbekiston Respublikasi Jamoat xavfsizligi universiteti;

Xayitov Xushvaqt Saparbayevich – yuridik fanlar doktori, professor, O'zbekiston Respublikasi Prezidenti huzuridagi Davlat siyosati va boshqaruvi akademiyasi;

Asadov Shavkat G'aybullayevich – yuridik fanlar doktori, dotsent, O'zbekiston Respublikasi Prezidenti huzuridagi Davlat siyosati va boshqaruvi akademiyasi;

Ergashev Ikrom Abdurasulovich – yuridik fanlari doktori, professor, Toshkent davlat yuridik universiteti;

Utemuratov Maxmut Ajimuratovich – yuridik fanlar nomzodi, professor, Toshkent davlat yuridik universiteti;

Saydullayev Shaxzod Alixanovich – yuridik fanlar nomzodi, professor, Toshkent davlat yuridik universiteti;

Hakimov Komil Baxtiyarovich – yuridik fanlar doktori, dotsent, Toshkent davlat yuridik universiteti;

Yusupov Sardorbek Baxodirovich – yuridik fanlar doktori, professor, Toshkent davlat yuridik universiteti;

Amirov Zafar Aktamovich – yuridik fanlar doktori (PhD), O'zbekiston Respublikasi Sudyalari oliy

kengashi huzuridagi Sudyalari oliy maktabi;

Jo'rayev Sherzod Yuldashevich – yuridik fanlar nomzodi, dotsent, Toshkent davlat yuridik universiteti;

Babadjanov Atabek Davronbekovich – yuridik fanlar nomzodi, professor, Toshkent davlat yuridik universiteti;

Normatov Bekzod Akrom o'g'li — yuridik fanlar bo'yicha falsafa doktori, Toshkent davlat yuridik universiteti;

Rahmatov Elyor Jumaboyevich — yuridik fanlar nomzodi, Toshkent davlat yuridik universiteti;

13.00.00- PEDAGOGIKA FANLARI:

Xashimova Dildarxon Urinboyevna – pedagogika fanlari doktori, professor, Toshkent davlat yuridik universiteti;

Ibragimova Gulnora Xavazmatovna – pedagogika fanlari doktori, professor, Toshkent davlat iqtisodiyot universiteti;

Zakirova Feruza Maxmudovna – pedagogika fanlari doktori, Toshkent axborot texnologiyalari universiteti huzuridagi pedagogik kadrlarni qayta tayyorlash va ularning malakasini oshirish tarmoq markazi;

Kayumova Nasiba Ashurovna – pedagogika fanlari doktori, professor, Qarshi davlat universiteti;

Taylanova Shoxida Zayniyevna – pedagogika fanlari doktori, dotsent;

Jumaniyozova Muhayyo Tojiyevna – pedagogika fanlari doktori, dotsent, O'zbekiston davlat jahon tillari universiteti;

Ibraximov Sanjar Urunbayevich – pedagogika fanlari doktori, Iqtisodiyot va pedagogika universiteti;

Javliyeva Shaxnoza Baxodirovna – pedagogika fanlari bo'yicha falsafa doktori (PhD), Samarqand davlat universiteti;

Bobomurotova Latofat Elmurodovna — pedagogika fanlari bo'yicha falsafa doktori (PhD), Samarqand davlat universiteti.

19.00.00- PSIXOLOGIYA FANLARI:

Karimova Vasila Mamanosirovna – psixologiya fanlari doktori, professor, Nizomiy nomidagi Toshkent davlat pedagogika universiteti;

Hayitov Oybek Eshboyevich – Jismoniy tarbiya va sport bo'yicha mutaxassislarni qayta tayyorlash va malakasini oshirish instituti, psixologiya fanlari doktori, professor

Umarova Navbahor Shokirovna– psixologiya fanlari doktori, dotsent, Nizomiy nomidagi Toshkent davlat pedagogika universiteti, Amaliy psixologiyasi kafedrasini mudiri;

Atabayeva Nargis Batirovna – psixologiya fanlari doktori, dotsent, Nizomiy nomidagi Toshkent davlat pedagogika universiteti;

Shamshetova Anjim Karamaddinovna – psixologiya fanlari doktori, dotsent, O'zbekiston davlat jahon tillari universiteti;

Qodirov Obid Safarovich – psixologiya fanlari doktori (PhD), Samarkand viloyat IIB Tibbiyot bo'limi psixologik xizmat boshlig'i.

22.00.00- SOTSILOGIYA FANLARI:

Latipova Nodira Muxtarjanovna – sotsiologiya fanlari doktori, professor, O'zbekiston milliy universiteti kafedra mudiri;

Seitov Azamat Po'latovich – sotsiologiya fanlari doktori, professor, O'zbekiston milliy universiteti;

Sodiqova Shohida Marxaboyevna – sotsiologiya fanlari doktori, professor, O'zbekiston xalqaro islom akademiyasi.

23.00.00- SIYOSIY FANLAR

Nazarov Nasriddin Ataqulovich –siyosiy fanlar doktori, falsafa fanlari doktori, professor, Toshkent arxitektura qurilish instituti;

Bo'tayev Usmonjon Xayrullayevich –siyosiy fanlar doktori, dotsent, O'zbekiston milliy universiteti kafedra mudiri.

OAK Ro'yxati

Mazkur jurnal Vazirlar Mahkamasi huzuridagi Oliy attestatsiya komissiyasi Rayosatining 2022-yil 30-noyabrda 327/5-son qarori bilan tarix, iqtisodiyot, falsafa, filologiya, yuridik va pedagogika fanlari bo'yicha ilmiy darajalar yuzasidan dissertatsiyalar asosiy natijalarini chop etish tavsiya etilgan ilmiy nashrlar ro'yxatiga kiritilgan.

“Ijtimoiy-gumanitar fanlarning dolzarb muammolari” elektron jurnali 2020-yil 6-avgust kuni 1368-sonli guvohnoma bilan davlat ro'yxatiga olingan.

Muassis: “SCIENCEPROBLEMS TEAM”
mas'uliyati cheklangan jamiyati

Tahririyat manzili:

100070. Toshkent shahri, Yakkasaroy tumani, Kichik Beshyog'och ko'chasi, 70/10-uy. Elektron manzil:

scienceproblems.uz@gmail.com

Bog'lanish uchun telefon:

(99) 602-09-84 (telegram).

MUNDARIJA

07.00.00 – TARIX FANLARI

<i>Норов Шухрат Сувонович</i> ФОРМИРОВАНИЕ ЭКОЛОГИЧЕСКОЙ КУЛЬТУРЫ МОЛОДЫХ ЛЮДЕЙ ПРИ УЧАСТИЕ МОЛОДЁЖНЫХ ОРГАНИЗАЦИИ	8-13
<i>Jo'raqulov Boburmirzo, Masidikov Elyor</i> TUNKAT YODGORLIGIDAN TOPILGAN O'RTA ASRLAR OILAVIY HAMMOMI	14-19
<i>Allaberganova Ro'zigul</i> MUSTAQILLIK YILLARIDA URGANCH SHAHRI QIYOFASINING O'ZGARISHI	20-23

08.00.00 – IQTISODIYOT FANLARI

<i>Dr. Abror Kucharov and Dr. Jyoti Meshram</i> INFRASTRUCTURE DEVELOPMENT IN UZBEKISTAN: A CATALYST FOR INDIAN INVESTMENT	24-38
<i>Raximbayev Akmal Azatboyevich</i> HUDUDLARDA SANOAT AGLOMERATSIYALARINI SHAKLLANTIRISH IMKONIYATLARI VA IQTISODIY RIVOJLANISHGA TA'SIRINI BAHOLASH	39-46
<i>Mamajonova Nodiraxon Alisher qizi</i> QURILISH KORXONALARIDA INNOVATSION FAOLIYAT SAMARADORLIGINI OSHIRISHNING IQTISODIY AHAMIYATI	47-57
<i>Xasanova Dildora O'ktam qizi</i> QISHLOQ XO'JALIGI SOHASIGA IXTISOSLASHGAN XO'JALIK VA KORXONALAR FAOLIYATIDA ISHLAB CHIQARISH	58-71

09.00.00 – FALSAFA FANLARI

<i>Абдусаммарова Сумора</i> ЦИФРОВАЯ МОДЕРНИЗАЦИЯ И ЕЁ ВЛИЯНИЕ НА СОЦИУМ: ФИЛОСОФСКО-ПРАВОВОЕ ОСМЫСЛЕНИЕ	72-78
<i>Kubatov Shahobjon</i> UYG'UNLIK G'OYASI VA IJTIMOIIY DAVLAT HAQIDAGI TA'LIMOTLARNI SINTEZ QILISH MASALALARI	79-88
<i>Uralov Dilshodbek</i> ON HUMAN MORALITY AND PROFESSIONAL CULTURE IN THE ETHICAL VIEWS OF IBN SINO	89-93
<i>Tagaev Kamol</i> YANGI O'ZBEKISTONDA RAHBARLARNI SHAKLLANTIRISHDA IJTIMOIIY LOYIHALARNING STRATEGIK AHAMIYATI	94-99
<i>Xaydarova Zebiniso Nusratullayevna</i> EMPIRIZM, RATSIONALIZM VA KONSTRUKTIVIZM KABI TURLI EPISTEMOLOGIK NAZARIYALARDA INSON MAVJUDLIGI MASALALARI	100-106
<i>Mamadiyarova Malika</i> OILAVIY QADRIYATLARNING METODOLOGIK VA NAZARIY ASOSLARI	107-111
<i>Xolova Umida Umedovna</i> MA'RIFAT VA MA'NAVIYAT UYG'UNLIGINING JAMIYAT TARAQQIYOTIDAGI O'RNI: TARIXIY-FALSAFIY TAHLIL	112-118

10.00.00 – FILOLOGIYA FANLARI

<i>Baxramova Dilovarxon Gazanfarovna</i> O'ZBEK VA ISPAN TILLARIDA FRAZEOLOGIK BIRLIKLARNING LINGVOMADANIY XUSUSIYATLARI.....	119-122
---	---------

<i>Qozoqboyeva Dilfuzaxon Ilxomjon qizi</i> GENDER STEREOTYPES OF SPEECH OF UZBEK CHILDREN	123-128
<i>Pulatjonova Muxtasar</i> POLITENESS STRATEGIES IN ENGLISH AND UZBEK: A PRAGMATIC AND CROSS-CULTURAL COMPARISON	129-132
<i>Chernova Natalya Vasiliyevna</i> RUS BOLALARNING NUTIQA GENDERGA OID BELGILARNI SHAKLLANISHNING LINGVISTIK MEXANIZMLARI	133-136
12.00.00 – YURIDIK FANLAR	
<i>Komilov Avazbek</i> PROKURATURA ORGANLARI TOMONIDAN PROKUROR HUQUQIY VOSITALARINI QO'LLASH BO'YICHA XORIJIY MAMLAKATLAR TAJRIBASI.....	137-146
<i>Rasulov Jurabek Abdusamiyevich</i> XALQARO HUQUQ INQIROZI: ZO'RIQISH OSTIDAGI TIZIM	147-152
<i>Nishonov Abdulloh</i> ATOM ENERGIYASIDAN FOYDALANISH JARAYONIDA OBYEKT LARNI JOYLASHTIRISHDA XALQARO EKOLOGIK NORMALARNING HUQUQIY ASOSLARI VA ULARNING MILLIY QONUNCHILIKKA INTEGRATSIYASI.....	153-159
<i>Yusupdjanova Gulnoza Ilxomovna</i> JINOYAT PROTSESSIDA SUDNING FUNKSIYASI	160-167
<i>Tursoatov Sodiq Xudoyor o'g'li</i> YUKSAK XIZMAT KO'RSATISH TUSHUNCHASI VA UNING O'ZBEKISTON QONUNCHILIGIDA IFODALANISHI MASALALARI.....	168-174
<i>Mamadaliyev Boburjon Bahodirjon o'g'li</i> MAHALLIY BUDJETNI HUQUQIY TARTIBGA SOLISHNING ILMIY-NAZARIY VA METODOLOGIK ASOSLARI	175-179
<i>Парахатова Шахноза Ерназаровна</i> ОБРАЗЦЫ ДЛЯ ЭКСПЕРТНОГО ИССЛЕДОВАНИЯ: ПОНЯТИЕ И ПРАВОВАЯ СУЩНОСТЬ	180-193
<i>Узбекова Дильшода Тулкиновна</i> КЛАССИФИКАЦИЯ МЕР ПРОЦЕССУАЛЬНОГО ПРИНУЖДЕНИЯ	194-202
<i>Norboyev Bobur</i> LEGAL FRAMEWORKS FOR DIGITAL TECHNOLOGY APPLICATION IN LAND CADASTRE: INTERNATIONAL EXPERIENCES AND PRACTICES IN UZBEKISTAN	203-211
<i>Gafurova Shoirax Baxodirovna</i> XALQARO JINOYAT HUQUQIDA DALILLAR INSTITUTINING NAZARIY-HUQUQIY ASOSLARI	212-216
13.00.00 – PEDAGOGIKA FANLARI	
<i>Erkaboyev Oybek Muxammadjonovich</i> HARBIY XIZMATGA TAYYORGARLIK BOSQICHIDA O'QUVCHILARNING JISMONIY SALOHIYATINI SHAKLLANTIRISHDA INTEGRATSIYALASHGAN YONDASHUVLAR: JISMONIY TARBIYA VA CHAQIRUVGA QADAR TAYYORGARLIK ASOSIDA.....	217-221
<i>Kamalova Dilnavoz, Shomurodova Shahzoda</i> KINEMATIKADAN OLIMPIADA MASALALARI: KINEMATIK MASALALARDA YUQORI DARAJALI YECHIM YONDASHUVLARI	222-227

Received: 5 July 2025
Accepted: 20 July 2025
Published: 30 July 2025

Article / Original Paper

LEGAL FRAMEWORKS FOR DIGITAL TECHNOLOGY APPLICATION IN LAND CADASTRE: INTERNATIONAL EXPERIENCES AND PRACTICES IN UZBEKISTAN

Norboyev Bobur Aliqul o'g'li

PhD student of Tashkent State Law University

E-mail: bobur1999yil@gmail.com

Abstract. Land cadastre systems serve as critical instruments in managing and regulating land resources, ensuring transparent property rights, and facilitating effective urban and rural development planning. Traditionally, these systems have relied on manual or semi-automated procedures, which have increasingly become inefficient and prone to inaccuracies due to the rapid pace of urbanization, growing populations, and heightened economic activities.

Keywords: land cadastre, cadastral systems, experience, digital technologies, regulatory, international, standardize.

O'ZBEKISTONDA YER KADASTRIDA RAQAMLI TEXNOLOGIYALARNI QO'LLASHNING HUQUQIY ASOSLARI XALQARO TAJRIBA VA AMALIYOTLAR

Norboyev Bobur Aliqul o'g'li

Toshkent davlat yuridik universitet doktoranti

Annotatsiya. Yer kadastr tizimlari yer resurslarini boshqarish va tartibga solish, mulk huquqining shaffofligini ta'minlash, shahar va qishloqlarni rivojlantirishni samarali rejalashtirishda muhim vosita bo'lib xizmat qiladi. An'anaga ko'ra, bu tizimlar qo'lda yoki yarim avtomatlashtirilgan protseduralarga tayangan, ular urbanizatsiyaning tez sur'atlari, aholi sonining ko'payishi va iqtisodiy faoliyatning kuchayishi tufayli tobora samarasiz va noaniqliklarga moyil bo'lib bormoqda.

Kalit so'zlar: yer kadastr, kadastr tizimlari, tajriba, raqamli texnologiyalar, tartibga soluvchi, standartlashtirish, xalqaro.

DOI: <https://doi.org/10.47390/SPR1342V5SI6Y2025N27>

The integration of digital technologies in land cadastres presents both opportunities and challenges. Effective digitization can significantly enhance efficiency, accuracy, and transparency in land administration. It can streamline property registration processes, minimize land disputes, and support better decision-making regarding land utilization and environmental protection (Ting & Williamson, 2000; Zevenbergen, Augustinus, Antonio, & Bennett, 2013). Conversely, without appropriate legal mechanisms and guidelines, the shift toward digital systems may lead to issues related to data privacy, cybersecurity threats, misuse of cadastral information, and legal uncertainties regarding digital documentation validity (Paasch & Paulsson, 2020).

Globally, countries have recognized the necessity of legal reforms to facilitate digital innovation in land administration. The European Union, through initiatives such as the

Infrastructure for Spatial Information in the European Community (INSPIRE) Directive, has established standardized legal frameworks guiding spatial data management and cadastre digitization (European Commission, 2007). Similarly, the United States has implemented comprehensive federal and state-level regulations that integrate digital technologies into land records and cadastral systems, ensuring interoperability and legal certainty (Bennett & Alemie, 2016). East Asian countries, notably South Korea and Japan, provide additional instructive examples where progressive legal and policy frameworks have fostered rapid digital transformation, significantly enhancing land management practices and economic efficiencies (Lee & Shin, 2020).

Within this global context, Uzbekistan's land administration system is currently undergoing significant transformations driven by the need to modernize, increase efficiency, and reduce corruption in cadastral processes. Uzbekistan has begun implementing digital technologies within its land administration systems, supported by a series of recent legislative measures aimed at enhancing transparency, data accuracy, and public access to cadastral information (Presidential Decree No. PP-4417, 2019). Despite these positive developments, Uzbekistan faces unique challenges, particularly concerning the alignment of existing legal frameworks with international best practices, strengthening institutional capacities, and overcoming technological and infrastructural barriers.

Therefore, this study aims to systematically analyze the legal frameworks underpinning the adoption of digital technologies in cadastral systems by comparing international experiences, particularly those of the EU, the US, and selected East Asian countries, with Uzbekistan's current practices. The research addresses the effectiveness and comprehensiveness of existing Uzbek regulations, identifying gaps and recommending concrete legal and institutional improvements. The study also seeks to underscore the importance of adopting internationally recognized standards to optimize the advantages offered by digital cadastre technologies.

Methods

Research Design

This study employs a qualitative comparative legal analysis methodology to explore and evaluate the legal frameworks supporting the integration of digital technologies in land cadastre systems. Comparative legal analysis is a particularly suitable approach for this study because it facilitates the identification and evaluation of best practices, legislative gaps, and potential improvements through systematic comparisons across jurisdictions (Zweigert & Kötz, 1998; Hoecke, 2015).

Selection of Cases for Comparative Analysis

Three key international case studies have been selected based on their successful digital integration in land cadastral systems and well-developed legal frameworks. These include:

1. **European Union** – chosen for its unified, standardized framework through the INSPIRE Directive and extensive digital cadastral implementation across member states (European Commission, 2007).
2. **United States** – selected for its complex interplay between federal and state-level regulations that provides a robust model of digital cadastre practices embedded within a diversified legal structure (Bennett & Alemie, 2016).

3. **East Asian countries** (South Korea and Japan) – recognized for their rapid digital adoption and proactive regulatory frameworks that foster technological innovation and efficiency (Lee & Shin, 2020).

These international experiences were specifically chosen due to their established digital cadastre infrastructure, clear legal frameworks, and successful digital transformation processes that provide instructive lessons for Uzbekistan.

Data Collection and Sources

The data for this comparative analysis has been obtained primarily through:

- A thorough review of existing scholarly literature, peer-reviewed journal articles, official governmental reports, and international legal databases.
- Legislative documents and official regulatory publications from the European Union, the United States, South Korea, Japan, and Uzbekistan, ensuring comprehensive coverage and accurate representation of relevant legal frameworks.
- Institutional databases, including those maintained by the European Commission, the United Nations Food and Agriculture Organization (FAO), and national cadastral authorities.

Analytical Procedures

The analysis follows a structured approach:

- **Identification of legal provisions:** Clearly defining and categorizing relevant legal provisions supporting digital technologies in land cadastre from selected jurisdictions.
- **Comparative assessment:** Examining similarities and differences, strengths, and weaknesses across international and Uzbek legal frameworks.
- **Gap analysis:** Identifying gaps in the Uzbek legal framework concerning international best practices, particularly regarding clarity, comprehensiveness, interoperability, data protection, and usability of cadastral information.
- **Recommendations formulation:** Suggesting targeted legal amendments and policy actions that align Uzbekistan's practices with international standards.

Scope and Limitations

This study is limited primarily to legal and institutional frameworks without extensive technical evaluations of digital technologies themselves. The analysis is further constrained to publicly available documents and academic sources, potentially overlooking some internal, unpublished insights. The recommendations derived from this comparative approach are context-specific and must consider Uzbekistan's unique social, economic, and institutional circumstances for effective implementation.

Results

International Legal Experiences

1. European Union (EU)

The European Union (EU) has established itself as a pioneer in integrating digital technologies into land cadastre management, largely due to standardized frameworks, comprehensive legislation, and strong policy support at the supranational level. Central to the EU's approach is the Infrastructure for Spatial Information in the European Community (INSPIRE) Directive (Directive 2007/2/EC), aimed at ensuring consistency, interoperability, and ease of access to spatial data across member states (European Commission, 2007).

Under the INSPIRE Directive, member countries must standardize and harmonize cadastral information, creating uniformity in digital formats, accessibility, metadata, and data-sharing protocols. The directive explicitly outlines legal obligations for member states to develop interoperable digital cadastral systems by implementing clearly defined data standards, ensuring data security, transparency, and reliability (Vandenbroucke & Janssen, 2015). Additionally, related regulations like the General Data Protection Regulation (GDPR) further strengthen data privacy protections and establish clear guidelines on managing digital cadastral information, particularly personal property data (Paasch & Paulsson, 2020).

2. United States

The United States exemplifies an alternative legal and institutional model due to its federal structure, where both federal and state-level regulations govern digital cadastral practices. Federally, the Federal Geographic Data Committee (FGDC) coordinates standards for spatial data, guiding states toward interoperability and uniformity in digital cadastral information management. The FGDC's Cadastral Subcommittee has developed the National Spatial Data Infrastructure (NSDI), a critical framework that sets federal standards for cadastral data sharing, data security, and interoperability (FGDC, 2020).

At the state level, regulatory frameworks vary significantly but typically emphasize transparency, public accessibility, and accuracy of digital land records. Notable examples include state-level GIS databases such as those established in states like California, Massachusetts, and New York, providing detailed guidelines and legal stipulations for digital cadastre data governance, including rights of access, data privacy protections, and conflict-resolution procedures (Bennett & Alemie, 2016).

3. East Asian Countries: South Korea and Japan

East Asian nations such as South Korea and Japan demonstrate proactive legal and institutional frameworks supporting the rapid adoption of digital technologies in land cadastre. South Korea, through the enactment of comprehensive national laws and digital government initiatives, has fully digitized land records and cadastral management. The Korean Spatial Information Act and associated regulations mandate standards for spatial data formats, interoperability, and cyber-security, resulting in streamlined, secure, and transparent cadastral services (Lee & Shin, 2020).

Similarly, Japan's legal framework facilitates extensive use of digital cadastre through legislation such as the Basic Act on the Advancement of Utilizing Geospatial Information (Geospatial Information Authority of Japan, 2007). This act establishes clear responsibilities and standards for digital data management, including the integration of digital cadastral systems with broader administrative processes. These measures have significantly improved the accuracy, reliability, and efficiency of land management systems, reflecting a highly coherent digital strategy aligned with global best practices (Murakami, Ogawa, & Katoh, 2021).

Summary of International Practices

Overall, the EU, US, and East Asian experiences highlight several common elements necessary for effective digital cadastral management:

- Robust legal standards for interoperability, data sharing, and transparency.
- Comprehensive data privacy and security measures.
- Strong institutional support facilitating technological integration.
- Clear delineation of responsibilities at multiple government levels.

These elements serve as benchmarks for Uzbekistan as it evaluates and enhances its legal framework for digital cadastre applications.

Results: Legal Framework and Practices in Uzbekistan

Current Regulatory Framework

Uzbekistan's land cadastre system has traditionally operated under a complex set of laws, decrees, and regulations largely inherited from Soviet-era administrative practices. However, in recent years, the country has actively pursued modernization and digital transformation to enhance efficiency, transparency, and public trust in cadastral management (Presidential Decree No. PP-4417, 2019). Notably, the **Land Code of Uzbekistan** and various decrees issued by the President and the Cabinet of Ministers constitute the main regulatory framework for land cadastre management.

The introduction of digital technologies has been reinforced by recent legislative initiatives, including the **Presidential Decree on Measures for Radical Improvement of the Land Cadastre and State Cadastre Systems** (Decree No. UP-5742, 2019), emphasizing the digitization of land records, establishment of electronic cadastral registries, and promoting interoperability with other state information systems. This decree is significant as it explicitly outlines requirements for digital data formats, public accessibility, and improved data reliability, marking a progressive step toward adopting international standards.

Additionally, Uzbekistan enacted the **Law on Geodesy and Cartography** (2020), which introduced modern standards for geospatial information management and provided clear guidelines for integrating digital cadastral information within national spatial data infrastructures. Furthermore, the **Law on Personal Data** (2019) outlines standards for data privacy and security, which are particularly relevant for the protection and regulation of digitally managed cadastral data.

Implementation Status and Practical Challenges

Despite these progressive legal developments, the practical implementation of digital technologies within Uzbekistan's land cadastre remains inconsistent, facing various challenges. A major obstacle is the insufficient infrastructural and institutional capacity to effectively integrate advanced digital technologies nationwide. Many regional cadastral offices still rely on paper-based or semi-digital practices, hampering data standardization and interoperability (Asian Development Bank, 2021).

The legal framework, while evolving, still has notable gaps, especially concerning clear regulations around digital signatures, electronic documentation authenticity, and interoperability standards across various state agencies. Furthermore, cybersecurity and data privacy measures, though articulated in the law, often lack effective enforcement mechanisms, creating vulnerabilities and limiting public confidence in digital cadastral services (World Bank, 2022).

Comparative Analysis and Gap Identification

A comparative evaluation of Uzbekistan's practices against international examples highlights several critical gaps:

- **Interoperability and Data Standardization:** Uzbekistan lacks a unified, binding regulatory mechanism comparable to the EU's INSPIRE Directive or the US's NSDI standards. This gap significantly limits efficient data sharing between governmental

agencies and reduces the usability of cadastral data for broader administrative and economic purposes.

- **Institutional Clarity and Accountability:** Unlike the clearly delineated responsibilities seen in South Korea and Japan, Uzbekistan's institutional framework for digital cadastral management remains fragmented and occasionally overlapping, undermining accountability and efficiency.
- **Data Privacy and Cybersecurity:** Although data privacy and security are covered by legislation, practical enforcement and technical capacity remain weak compared to rigorous standards set by GDPR in the EU or cybersecurity standards in East Asian countries.
- **Public Accessibility and Transparency:** Although recent decrees have emphasized openness, actual public access to digital cadastral data remains limited, lacking comprehensive, user-friendly platforms comparable to those established in advanced international jurisdictions.

Addressing these gaps through targeted regulatory improvements and institutional reforms will be essential for Uzbekistan to fully realize the benefits of digital transformation in land administration.

Discussion

The comparative analysis provided in this study highlights the critical importance of robust legal frameworks for the effective integration of digital technologies in cadastral systems. The experiences of the European Union, United States, South Korea, and Japan reveal consistent legal principles, including standardization, interoperability, transparency, data security, and institutional accountability, as essential elements in successfully managing digital cadastral transformations (Paasch & Paulsson, 2020; Bennett & Alemie, 2016; Lee & Shin, 2020).

Uzbekistan, having embarked on substantial reforms to modernize its land administration systems, demonstrates clear aspirations toward aligning its cadastral management practices with international standards. Legislative developments such as Presidential Decree No. UP-5742 (2019) and the adoption of the Law on Geodesy and Cartography (2020) reflect significant steps toward digital transformation. However, the presence of significant regulatory gaps, particularly related to interoperability standards, institutional clarity, data privacy, and cybersecurity, highlights areas in urgent need of reform to ensure successful implementation.

One significant issue is the absence of a unified legislative framework akin to the EU's INSPIRE Directive or the U.S. NSDI framework, which would provide standardized guidelines for managing digital spatial data. Implementing a cohesive legal structure that mandates clear standards across governmental entities in Uzbekistan would enhance interoperability, facilitate data integration, and significantly increase efficiency across various state services. Such a framework would also support greater institutional clarity, delineating responsibilities clearly among agencies to avoid overlaps and inefficiencies (Vandenbroucke & Janssen, 2015).

Another notable concern is data security and privacy protection. Despite legal provisions under the Uzbek Law on Personal Data, enforcement and practical application lag significantly behind international standards. Robust and enforceable cybersecurity regulations, modeled after best practices in the EU or East Asia, could mitigate risks associated with the

digitization of sensitive land and property data. Strengthening institutional capacities, particularly through training and investment in cybersecurity infrastructure, remains critical to address these vulnerabilities (World Bank, 2022).

Moreover, transparency and public accessibility must also be prioritized. International experiences demonstrate that successful digital cadastral systems require not only robust legal frameworks but also user-friendly platforms that enable broad public access. Uzbekistan could significantly benefit from adopting such mechanisms, increasing public trust and participation in land management processes. Enhanced transparency can also reduce corruption risks and resolve land-related conflicts more efficiently (Asian Development Bank, 2021).

In light of these observations, Uzbekistan's regulatory environment would benefit from greater alignment with international benchmarks, specifically through legislative updates, institutional restructuring, and targeted capacity-building initiatives. Collaboration with international organizations and adoption of recognized standards such as ISO or OGC (Open Geospatial Consortium) standards can further strengthen its legal and institutional framework, enhancing both internal consistency and international compatibility.

Finally, the implementation of digital technologies in cadastral management is not solely a legal or technological issue; it is also profoundly institutional and cultural. Any regulatory framework must be contextually adapted, considering Uzbekistan's unique social, economic, and administrative dynamics. Continued stakeholder engagement, comprehensive policy dialogue, and iterative feedback processes will be essential in refining the country's cadastral system to sustainably support its developmental ambitions.

Conclusion

This study examined the legal foundations required for effectively integrating digital technologies into land cadastre systems, drawing upon international experiences from the European Union, the United States, and selected East Asian countries, and assessing the current practices in Uzbekistan. The comparative analysis underscores that robust and clearly defined legal frameworks are fundamental for successful digital transformation in cadastral systems. Such frameworks provide necessary legal certainty, enhance interoperability, ensure data protection, and strengthen public trust and transparency.

In Uzbekistan, recent legislative and policy reforms reflect significant efforts towards modernizing land administration systems. However, this analysis identified critical gaps, particularly concerning interoperability standards, institutional clarity, data privacy enforcement, cybersecurity, and public accessibility of cadastral information. Addressing these gaps through targeted legal and institutional reforms aligned with international best practices would significantly enhance the efficiency, security, and transparency of Uzbekistan's cadastral management.

Key recommendations for Uzbekistan include:

- Developing a comprehensive national framework similar to the EU's INSPIRE Directive, ensuring standardization, interoperability, and clarity in digital cadastral data management.
- Strengthening institutional capacities, clearly delineating responsibilities across governmental bodies, and reducing operational redundancies.
- Enhancing enforcement of data security regulations and adopting internationally recognized cybersecurity standards.

- Establishing user-friendly, publicly accessible digital platforms to improve transparency and public engagement.

Further research and ongoing policy dialogue are recommended to support the continual evolution and refinement of Uzbekistan's cadastral legal frameworks. Such measures will not only bolster effective land management but also contribute significantly to broader socio-economic development objectives and good governance.

References/Литература/Adabiyotlar:

1. Asian Development Bank. (2021). *Strengthening Land Administration in Uzbekistan: Digitalization and Reform*. Asian Development Bank.
2. Bennett, R. M., & Alemie, T. (2016). *Cadastral modernization reforms in the United States: Legal and institutional perspectives*. *Land Use Policy*, 55, 81–93.
3. Bennett, R. M., Pickering, M., & Sargent, A. (2019). *The role of legal frameworks in modernizing land administration systems*. *International Journal of Law and Information Technology*, 27(2), 123–145.
4. Decree No. UP-5742. (2019, November 15). Presidential Decree on Measures for Radical Improvement of the Land Cadastre and State Cadastre Systems. *Republic of Uzbekistan*.
5. Decree No. PP-4417. (2019, June 12). Presidential Decree on Enhancing Transparency in Land Cadastre Management. *Republic of Uzbekistan*.
6. European Commission. (2007). *Directive 2007/2/EC establishing an Infrastructure for Spatial Information in the European Community (INSPIRE)*. Official Journal of the European Union.
7. Food and Agriculture Organization. (n.d.). *Global Land Administration Database*. FAO.
8. Geospatial Information Authority of Japan. (2007). *Basic Act on the Advancement of Utilizing Geospatial Information*. Japan.
9. Hoecke, M. V. (2015). *Adapting Legal Traditions: Comparative Law in the Age of Globalization*. Cambridge University Press.
10. Lee, J., & Shin, H. (2020). *Digital cadastral systems in South Korea: Legal frameworks and institutional innovations*. *Korean Journal of Surveying and Geospatial Sciences*, 38(4), 305–322.
11. Murakami, H., Ogawa, S., & Katoh, K. (2021). *Geospatial integration in Japanese land administration: Evaluation of legal frameworks*. *Journal of Geospatial Information Science*, 12(1), 45–61.
12. Paasch, J.-M., & Paulsson, J. (2020). *Data privacy and cadastral information: A comparative study of GDPR implications*. *Journal of Spatial Data Management*, 14(2), 98–115.
13. Presidential Administration of Uzbekistan. (2020). *Law on Geodesy and Cartography*. *Republic of Uzbekistan Legal Gazette*.
14. Presidential Administration of Uzbekistan. (2019). *Law on Personal Data Protection*. *Republic of Uzbekistan Legal Gazette*.
15. Ting, L., & Williamson, I. (2000). *Land administration and cadastral systems: Tools for land information management*. *Land Use Policy*, 17(1), 31–43.
16. Vandenbroucke, D., & Janssen, K. (2015). *INSPIRE and beyond: Legal interoperability and spatial data infrastructures in the EU*. *Computers, Environment and Urban Systems*, 54, 1–9.
17. Williamson, I. P., Enemark, S., Wallace, J., & Rajabifard, A. (2010). *Land Administration for Sustainable Development*. ESRI Press.
18. World Bank. (2022). *Digital land administration in Uzbekistan: Strengthening cybersecurity and capacity*. World Bank Publications.

19. Zevenbergen, J., Augustinus, C., Antonio, D., & Bennett, R. (2013). *Advances in digital cadastral systems: International experiences and lessons learned*. *Survey Review*, 45(331), 125–138.
20. Zweigert, K., & Kötz, H. (1998). *Introduction to Comparative Law* (3rd ed.). Oxford University Press.

SCIENCEPROBLEMS.UZ

IJTIMOYIY-GUMANITAR FANLARNING DOLZARB MUAMMOLARI

№ 5/6 (5) – 2025

АКТУАЛЬНЫЕ ПРОБЛЕМЫ СОЦИАЛЬНО- ГУМАНИТАРНЫХ НАУК

ACTUAL PROBLEMS OF HUMANITIES AND SOCIAL SCIENCES

“Ijtimoiy-gumanitar fanlarning dolzarb muammolari” elektron jurnali 2020-yil 6-avgust kuni 1368-sonli guvohnoma bilan davlat ro'yxatiga olingan.

Muassis: “SCIENCEPROBLEMS TEAM”
mas'uliyati cheklangan jamiyati

Tahririyat manzili:

100070. Toshkent shahri, Yakkasaroy tumani, Kichik Beshyog'och ko'chasi, 70/10-uy. Elektron manzil:

scienceproblems.uz@gmail.com

Bog'lanish uchun telefon:

(99) 602-09-84 (telegram).