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Posted Date: 27 February 2026

doi: 10.20944/preprints202602.1485.v1

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Article

Property Rights Reform in Transition and Post Conflict Economies: Institutions, Land Administration, and Inclusive Growth, Evidence and Lessons for Kosovo

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Abstract

Secure and enforceable property rights sit at the center of investment, finance, and social stability, yet reforming them in transition and post conflict settings is rarely a purely legal exercise. Drawing on evidence from institutional economics, development studies, land administration, and post conflict restitution research, this article explains how property rights shape incentives, why reforms often stall, and which institutional complements repeatedly matter in practice. It connects cross country findings on institutions and growth with micro evidence on land tenure security, titling, and gendered barriers to ownership. It then turns to the practical machinery that makes rights real, cadastres, immovable property registers, valuation, and dispute resolution, and reviews modernization approaches such as interoperability standards, 3D cadastral concepts, and secure digital workflows. The final section applies these lessons to Kosovo, where legacies of socially owned property, informal transfers, delayed inheritance, and incomplete records have left many rights difficult to register and even harder to enforce. Across contexts, reforms work best when legal clarity is matched by credible enforcement, accessible services, and transparent information systems that citizens trust and can actually use.

Keywords: property rights; land administration; cadastre; immovable property register; tenure security; informality; restitution; women's property rights; Kosovo

1. Introduction

Property rights are not merely legal titles; they are social and institutional arrangements that determine who may use an asset, for how long, under what conditions, and with which protections against interference. Across the economics of institutions, a consistent lesson is that rights matter because they structure incentives and lower (or raise) the transaction costs of measuring, exchanging, and enforcing claims under imperfect information and potential opportunism. The foundational arguments, from transaction-cost bargaining and the emergence of rights, to institutional constraints and collective-action foundations, frame property rights as an equilibrium supported by credible enforcement and legitimate governance, not simply a statutory declaration [1,6].

Transition and post conflict economies face a distinctive property rights problem. They must transform inherited regimes of socialist, collectivized, or administratively allocated property into frameworks compatible with private exchange, while simultaneously rebuilding institutions of adjudication, enforcement, and record keeping. These tasks are complicated by political uncertainty, weak administrative capacity, fragmented archives, and low trust in state institutions. Even when new property laws are enacted, rights may not become effective, socially recognized and enforceable at reasonable cost, without credible institutions and information infrastructures that can scale.

The development literature has long argued that institutions, especially those protecting property rights, are strongly associated with cross country differences in income levels and long-run growth [7,9]. Yet macro correlations alone do not explain which specific reforms matter, through what mechanisms, or under what conditions reforms fail. In transition settings, the political economy of reform and the risk of “partial reform equilibria,” where beneficiaries of incomplete change block deeper institutionalization, are particularly salient. post conflict settings add additional layers: displaced populations, overlapping legal orders, and restitution systems that must balance speed, fairness, and legitimacy.

This review synthesizes evidence across institutional economics, development, land administration, and post conflict studies to clarify (i) why property rights reforms succeed or stall, (ii) which institutional complements are repeatedly associated with better outcomes, and (iii) how modernization of registries and cadastres interacts with governance. The analysis is broadly comparative, but it concludes by drawing applied lessons for Kosovo as a post conflict transition setting where restitution, privatization legacies, and administrative coordination remain central policy challenges.

2. Materials and Methods

This study adopts a description review approach in order to integrate bodies of evidence that are typically examined within separate disciplinary traditions. Research on property rights, land governance, and institutional reform does not exist within a single coherent field. Instead, it is dispersed across institutional economics and political economy, development economics, land administration and geomatics, and post conflict studies. Each of these domains addresses different dimensions of property systems and relies on distinct theoretical assumptions and methodological strategies. As a result, important insights often remain fragmented, even when they speak to related institutional challenges.

The purpose of this review is not to calculate a pooled statistical estimate of the impact of property rights reform. Nor does it aim to conduct a formal meta-analysis. Rather, the objective is analytical integration. The review seeks to identify mechanisms that repeatedly appear across empirical contexts, to clarify the institutional conditions under which property rights reforms succeed or fail, and to highlight complementarities between legal design, enforcement capacity, and administrative systems. By tracing patterns across disciplines, the study aims to move beyond isolated case findings and toward a more coherent understanding of reform sequencing and institutional interaction. The construction of the reference set followed a principled selection strategy. Priority was given to peer reviewed journal articles that provide DOI identifiers and are indexed in major bibliographic databases widely used in the social sciences and geospatial disciplines, including the Web of Science Core Collection. This ensures traceability and academic rigor, while also facilitating interdisciplinary comparability. The selection process emphasized works that have shaped theoretical debates, influenced empirical research agendas, or provided methodologically transparent evidence on property rights and land governance.

Three broad categories of literature were prioritized. The first consists of foundational theoretical contributions that define core concepts such as property rights, transaction costs, credible commitment, institutional persistence, collective action, and reform dynamics. These works establish the analytical foundations necessary to interpret empirical findings. Without a clear conceptual framework, empirical results on titling, registration, or institutional quality risk being interpreted in isolation, detached from the broader logic of institutional change.

The second category includes empirical studies that employ transparent and credible identification strategies. Particular attention was paid to quasi experimental research designs, panel data analyses with fixed effects, structured cross-country comparisons, and detailed case studies with explicit counterfactual reasoning. These studies examine how tenure security affects investment behavior, how institutional quality shapes economic performance, and how reform trajectories influence long term development outcomes. By prioritizing empirical clarity, the review seeks to

distinguish between descriptive association and more credible causal inference, especially in debates surrounding land titling and economic growth.

The third category incorporates applied research in land administration and geomatics. This body of work addresses cadastral systems, immovable property registers, spatial data infrastructures, interoperability standards, three-dimensional representation of property units, participatory mapping, and digital registry architectures. These studies are essential for understanding how legal rights are translated into operational administrative systems. While economic research often focuses on incentives and outcomes, land administration research highlights the institutional infrastructure required to maintain accurate, accessible, and sustainable property records. The review treats these strands as complementary rather than separate, recognizing that legal entitlements have limited practical value unless they are embedded in functioning information systems. To enhance analytical coherence, the literature is interpreted through a set of recurring institutional channels rather than through disciplinary categories. These channels include credible commitment and constraints on expropriation; corruption, discretion, and state capture; finance and collateralization; tenure security and investment incentives; gender differentiated tenure risks; administrative capacity and registry governance; and restitution under post conflict conditions. Organizing the material in this way allows the review to examine how similar mechanisms appear in different empirical contexts, and how the interaction between political structures and administrative systems shapes reform outcomes. Within each channel, attention is given to both convergence and divergence in findings. Where multiple studies report similar effects across diverse institutional settings, the review treats these patterns as evidence of relatively robust mechanisms. Where findings differ, the analysis explores contextual explanations. Such explanations often include differences in enforcement capacity, the strength of customary tenure arrangements, the degree of political competition, record completeness, or the historical legacy of collective ownership regimes. This approach reflects the understanding that property rights are not self-executing legal constructs but institutional arrangements embedded within broader governance systems.

Although the review does not apply a formal scoring rubric or quantitative weighting system, interpretation follows a best available evidence logic. Studies with transparent identification strategies receive greater emphasis when drawing causal inferences about the effects of titling, registration, or institutional reform. Quasi experimental designs, natural experiments, and carefully specified panel models are treated as especially informative where the goal is to assess behavioral responses to changes in tenure security. At the same time, certain topics central to this review, including restitution governance, registry institutional reform, and legal pluralism in post conflict environments, do not lend themselves easily to experimental or quasi experimental methods. In such domains, evidence is often case based, historically grounded, and context specific. For these areas, the review relies on cross case comparison and triangulation across disciplines. Where similar institutional dynamics emerge across different post conflict settings, these recurring patterns are interpreted as suggestive of broader structural mechanisms rather than isolated anomalies. This blended interpretive strategy is intended to balance methodological rigor with institutional sensitivity. Property rights systems operate within complex political and administrative environments. Purely quantitative synthesis may obscure institutional nuance, while purely qualitative interpretation may risk overgeneralization. By combining attention to identification strategies with cross case pattern recognition, the review seeks to extract policy relevant insights without detaching them from contextual realities.

Two limitations warrant explicit acknowledgment. First, the literature spans diverse methodological traditions, measurement strategies, and conceptual frameworks. Indicators of tenure security, corruption, enforcement quality, and registry reliability vary significantly across studies. As a result, findings are not always directly comparable. Interpretation therefore requires careful consideration of institutional context and measurement assumptions. Second, the review does not aim to provide exhaustive coverage of all countries, regions, or technological innovations in land administration. Instead, it prioritizes studies that are methodologically influential, widely cited, or

directly relevant to transition and post conflict reform sequencing. Emerging technologies or localized institutional experiments may therefore receive more limited discussion.

These limitations suggest directions for future research. There remains a need for more comparable micro level data on enforcement quality, dispute resolution outcomes, transaction costs, and the long-term fiscal and administrative burdens associated with maintaining registries after initial formalization. Greater integration between cadastral data, legal records, and household or firm level outcomes would strengthen the empirical basis for evaluating reform sustainability. Expanding interdisciplinary collaboration between economists, legal scholars, and geomatics specialists would also enhance the ability to assess how legal reforms interact with administrative capacity in practice. By clarifying the evidentiary logic and integrating findings across disciplines, this methodological approach lays the foundation for the analysis that follows. The subsequent section synthesizes results across the identified institutional channels, tracing how legal design, political incentives, and cadastral infrastructure jointly shape the performance of property rights systems in transition and post conflict settings, with particular attention to the case of Kosovo.

3. Results

The reviewed evidence converges on a practical proposition: property rights reforms improve investment and welfare when they reduce transaction costs and uncertainty for typical users, not only by changing formal law, but by improving enforcement, dispute resolution, and the information systems that make rights legible to third parties. This section summarizes results by channel, moving from theory to cross country evidence, then to land-specific micro-evidence and, finally, to the “production function” of property rights in land administration and post conflict restitution.

3.1. Conceptual Foundations: What “Property Rights” Mean in Practice

A key insight in institutional economics is that clearly defined and enforceable rights reduce bargaining and enforcement costs in exchange, investment, and dispute resolution. In Coase’s framework, if contracting and enforcement were costless, initial allocations would not affect efficiency because parties could bargain to the highest-valued use; in the real world of positive transaction costs, the allocation and enforceability of rights becomes economically consequential [1]. Demsetz further argues that property rights tend to evolve when the gains from internalizing externalities exceed the costs of defining and enforcing rights, implying that changes in technology, scarcity, or market integration can trigger demand for clearer rights [2]. North emphasizes that such rules are “institutions” that structure incentives and shape the feasible set of exchanges [3], while Williamson situates rights and contracting within governance structures chosen to economize on transaction costs under bounded rationality and opportunism [4]. Property rights also change incentives by shaping expected returns. If investors fear expropriation, by the state, elites, or even relatives, the expected payoff to long-term investment falls. This effect is not limited to overt confiscation; it includes insecure boundaries, unclear inheritance, costly registration, informal payments, and discretionary administrative decisions that can reverse or delay transactions. Formal laws may exist, but if they are not enforced predictably, or if enforcement is captured, effective rights remain weak.

Property rights are embedded in political and legal institutions that must be credible over time. The ability of governments to commit to protecting rights, rather than opportunistically changing rules after investments are sunk, is a core problem [6]. Credible commitment typically relies on constraints on executive discretion, effective courts, and enforcement agencies that are not easily politicized. Collective acceptance of rights, especially in land and housing, often depends on perceived fairness, recognition of customary or local norms, and accessible dispute resolution [5]. When property arrangements are seen as imposed, corrupt, or biased, disputes multiply and compliance falls, raising enforcement costs and undermining the benefits of formalization. Property rights are not only “top-down” legal constructs. They often depend on collective action, communities, professional networks, and norms that reduce monitoring costs and support compliance [5]. In fragile

and post conflict environments (discussed in Section 3.8), local dispute resolution and social legitimacy may provide interim functionality, but legal pluralism can also complicate formal restitution and registration. For policy design, this implies that effective property rights reform must bridge legal rules and social practice. The goal is not simply to pass a property law, but to create a system where claims are legible to third parties, enforceable at reasonable cost, and resilient to political manipulation.

3.2. Property Rights, Growth, and Governance: Evidence on Key Channels

A substantial body of empirical research links institutional quality, especially constraints on expropriation and protections for property, to cross country differences in income and productivity. Landmark work argues that institutional differences rooted in historical patterns of colonization and governance help explain persistent disparities in development [7]. Related research highlights that output per worker differs dramatically across countries and that “social infrastructure”, including enforcement institutions, accounts for much of this gap [8]. Syntheses of the evidence emphasize that institutions tend to dominate geography and trade integration as predictors of long-run outcomes [9]. These findings support a broad claim: economies with more secure property rights and stronger rule-of-law constraints tend to have better development outcomes. But for reformers, the operational question is: through what mechanisms do property rights institutions translate into growth, and what complementary institutions are required? Two mechanisms repeatedly emphasized in the literature are finance (collateral and contract enforcement) and governance (corruption, capture, and the predictability of administrative action). Property rights affect financial development by shaping collateral value, contract enforceability, and creditor protections. A widely cited legal-origin perspective argues that differences in legal frameworks, especially investor protections, shape financial development and ownership structures [10]. Courts and procedural complexity also matter: where courts are slow, costly, or unpredictable, enforcement is weaker and contracting becomes more expensive [11]. Comparative evidence indicates that legal origin and institutional design are associated with systematic differences in financial development and the functioning of credit markets [12]. Even where laws exist, corruption and state capture can undermine property rights by increasing effective transaction costs and creating uncertainty. cross country evidence links institutional quality to economic performance [13] and suggests that corruption is associated with lower growth [14]. Polarization and inequality may weaken property and contract rights by making policy shifts more likely and reducing the credibility of long-term commitments [15]. At the firm level, evidence shows that corruption and taxation can be harmful to growth, and the effect operates partly through how these burdens distort investment and production decisions [16].

In transition economies, insecurity may take the form of predation by public officials and politically connected private actors. The contrast between an “invisible hand” state that supports markets and a “grabbing hand” state that extracts rents remains a powerful framework for understanding divergent outcomes [17]. Where partial reforms create concentrated beneficiaries, these winners can resist institutionalization that would reduce their discretionary power [18]. Therefore, the quality of property rights enforcement is inseparable from political economy: who benefits from ambiguity, and who gains from predictable rules?

Table 1. Channels linking property rights reform to development outcomes and typical institutional complements.

Channel	Reform lever	Complement required	Selected evidence
Credible commitment	Constitutional/administrative constraints on expropriation	Independent courts; checks on executive discretion	Sections 3.1.2 and 3.2.1
Finance & collateral	Clear, transferable titles; enforceable contracts	Efficient courts; creditor protections; registry updating	Section 3.2.2

Corruption & capture	Rules that limit discretion in valuation, licensing, registration	Transparency; audit trails; competitive neutrality	Section 3.2.3
Tenure security	Systematic registration; boundary clarity; defensible claims	Accessible dispute resolution; low transaction costs	Section 3.4
Gender inclusion	Joint titling; explicit inheritance and marital protections	Social recognition; enforcement within households/communities	Section 3.5
Information infrastructure	Interoperable cadastre/registry data; standardized models	Institutional coordination; data governance; maintenance funding	Section 3.7
Post-conflict restitution	Claim adjudication; evidentiary rules; remedies	Safeguards against capture; legitimacy; flexible verification	Sections 3.8 and 4.1

3.3. Property Rights in Transition Economies: Why Sequencing and Politics Matter

Transition from planned to market economies involves large-scale reallocation of assets, creation of new private rights, and redesign of enforcement institutions. The political economy literature emphasizes that reforms are rarely purely technocratic; they reshape rents, coalitions, and distributional outcomes [18,21]. Stiglitz argues that focusing narrowly on privatization and liberalization without building the institutional foundations of markets can undermine reform performance, especially when legal and regulatory capacity is weak [19]. In many cases, partial reform generates winners who can block further change, locking countries into equilibria with weak enforcement, selective application of the law, and persistent informality [18]. These dynamics help explain why some transition countries achieved relatively rapid institutional consolidation while others experienced prolonged stagnation, corruption, and contested privatizations. The diversity of trajectories across transition countries also highlights that “policy choices matter,” but they operate within constraints of history, capacity, and political legitimacy [21]. A key debate in early transition policy was whether rapid privatization would create constituencies for the rule of law. Evidence and theory caution that privatization does not automatically produce lawful enforcement; when institutions are weak, privatization can generate concentrated ownership and incentives to maintain discretionary rather than predictable enforcement [22]. This is consistent with the broader warning that the rule of law is not simply a byproduct of marketization; it requires deliberate institution-building and constraints on predatory behavior. A large empirical literature on privatization shows heterogeneous effects across contexts and methods, underscoring that outcome depend on governance quality, competition, and enforcement [23]. For property rights reform, the implication is that sequencing matters: the institutional environment in which assets are transferred shapes whether new property rights become productive or contested. Firm-level evidence in post-communist contexts reinforces the centrality of property rights security. Stronger rights increase reinvestment and support expansion, even when formal credit is available [24]. Meanwhile, reviews of enterprise restructuring find that outcomes vary widely and are strongly shaped by institutional environment, competition, and governance structures [25]. These findings suggest that property rights are necessary but not sufficient; they must be embedded in a system where enforcement is credible and the rules of market competition are not undermined by capture. Even when national reforms are well designed, implementation is often local. Land registries, municipal permitting, cadastral surveys, and local courts determine the day-to-day reality of property rights. This is why transition reforms frequently produce a gap between “law on the books” and “law in action.” Addressing this gap requires administrative modernization, transparent procedures, and dispute-resolution mechanisms that can handle high volumes of claims. These themes become most visible in land and housing.

3.4. Land Tenure Security and Investment: What the Evidence Shows

Land and housing are typically the largest assets for households and a key input for agriculture and urban development. In transition and post conflict contexts, land is also where history, identity, displacement, and political power collide. This subsection reviews evidence on how tenure security affects investment, productivity, labor supply, and welfare. A foundational policy-oriented synthesis argues that land tenure and property rights shape incentives to invest, transfer land, and use land as collateral, and that the effects depend on the security and enforceability of rights as well as the costs of transacting [26].

Empirical evidence supports the investment channel. In Ghana, stronger property rights are associated with greater investment incentives, consistent with the logic that security reduces the risk of losing returns to long-term improvements [27]. Related work shows that power relations and intra-community dynamics can shape land rights and investment: where rights depend on political or social power, investment incentives may be distorted and returns may be appropriated [28]. Property rights reforms can affect household behavior beyond land investment. Evidence from Peru indicates that formalization of urban property rights can increase labor supply by reducing the need for households to guard property and by improving security in ways that reallocate time toward market work [29]. This highlights an often-underappreciated channel: tenure security can change household time allocation, risk management, and participation in labor markets. Evidence from large-scale titling programs suggests that property rights can improve welfare for the poor, though effects vary. Research on land titling finds impacts on investment and household outcomes, but also emphasizes that program design and context determine who benefits and whether markets function equitably [30]. These mixed results are consistent with broader lessons from institutional economics: formalization works best when enforcement is credible, procedures are transparent, and transaction costs are reduced rather than merely shifted. The evolution of land policy thinking has increasingly emphasized governance, transparency, and inclusion. A major review of land policy development highlights principles and challenges of land reform, including the need to address distributional conflict and the institutional prerequisites for functioning land markets [31]. This perspective is particularly relevant for transition economies where restitution, privatization, and new land markets must operate amid contested claims and administrative constraints. Rwanda's land tenure regularization provides detailed evidence on how systematic registration affects tenure security, investment, and gender outcomes. Empirical evaluation finds environmental and gender impacts of tenure regularization, including changes in investment incentives and recording of rights [32]. A related study emphasizes that sustainability is not automatic: land registries require ongoing maintenance, registration of subsequent transactions, and institutional incentives to prevent reversion to informality [33]. These findings generalize to many transitions and post conflict contexts: a land registry is a living system, not a one-time project.

3.5. Gender, Inclusion, and the Intra-Household Dimension of Property Rights

Property rights are often analyzed at the level of states, firms, or households. Yet within households, rights can be unequal, contested, and conditional on marital status, inheritance norms, or community enforcement. Gendered inequalities in property rights can affect bargaining power, welfare, and vulnerability, especially after conflict or displacement. Evidence from Nepal suggests that women's land ownership is associated with greater decision-making power and improved child health outcomes, consistent with theories linking assets to bargaining power and household resource allocation [34]. This supports an inclusive policy logic: strengthening women's rights may generate broader welfare gains beyond the immediate asset-holding individual. A systematic review emphasizes multiple pathways through which women's land rights could reduce poverty, via bargaining power, investment, access to services, and resilience, while also highlighting gaps in rigorous causal evidence and measurement challenges [35]. The review's core implication is practical: reforms should incorporate monitoring and evaluation designs that capture gender-differentiated outcomes, not just aggregate registration counts. Cross country evidence on perceived tenure security

shows that women's insecurity often stems from internal threats within families or communities (e.g., divorce or spousal death), while men more often cite external threats such as state expropriation [36]. This finding is crucial for policy design: formal documentation may protect against some external risks, but it may not be sufficient to address intra-household or community-level denial of women's rights. Evidence from Ethiopia indicates that joint land certification programs can strengthen women's empowerment, supporting the idea that administrative design (e.g., whose names appear on certificates) affects real bargaining positions and social recognition [37]. For transition and post conflict settings, this suggests that "gender-neutral" reforms can still reproduce inequality unless explicit inclusion mechanisms are built into registration and dispute-resolution processes.

3.6. Land Fragmentation, Land Markets, and the Transition Challenge in Europe

In post socialist Europe, land reform often produced fragmented holdings through restitution, privatization, and inheritance. Fragmentation can reduce agricultural productivity and raise transaction costs for consolidation and investment. A regional analysis of Central and Eastern Europe emphasizes that land reform and fragmentation remain major constraints and that policy responses, such as land consolidation, require institutional capacity, valuation systems, and trustworthy procedures [38]. For countries seeking EU integration or alignment with European administrative norms, these challenges intersect with broader governance reforms: transparent valuation, credible dispute resolution, and interoperable land information systems.

3.7. Building the Plumbing of Property Rights: Land Administration and Information Infrastructures

Property rights only function at scale when they are supported by administrative systems that record, update, and publicize claims in ways that third parties can trust. In practice, this means cadastres, registries, mapping standards, identity verification, and transaction workflows that prevent fraud and reduce costs. Sustainable land administration requires integrated land information systems that coordinate legal and spatial data, reduce duplication, and enable efficient updating. A key contribution emphasizes the organizational challenge: land information must support land markets, planning, taxation, and dispute resolution simultaneously, not as isolated silos [39]. This matters for transition and post conflict settings where institutions are often fragmented across ministries, municipalities, and donor-supported projects. One response to fragmentation is the development of standardized conceptual models for land administration. Work on the Land Administration Domain Model (LADM) highlights how formal data models can support interoperability between legal, spatial, and administrative components of land systems, enabling integration across agencies and technologies [40]. For reformers, the significance is strategic: interoperability reduces long-run costs, makes updates easier, and supports transparency by enabling consistent data sharing. Urbanization and infrastructure development increasingly require representation of property rights in three dimensions, condominiums, underground utilities, tunnels, and layered rights. Research on extending building information modeling (BIM) to support 3D cadastres illustrates both technical and legal challenges, including how to define boundaries, encode rights, and ensure legal admissibility of spatial representations [41]. Broader work on 3D land administration emphasizes that 3D systems are not just visualization tools; they reshape how rights are defined and transacted for complex land uses [42]. For post conflict cities with dense informal construction or damaged records, the challenge is particularly acute: representing reality accurately while maintaining legal clarity.

In many low-capacity settings, conventional surveying is expensive and slow. Participatory mapping and volunteered geographic information (VGI) offer alternatives, but they raise questions of accuracy, legitimacy, and integration with formal systems. A conceptual framework for using VGI in land administration highlights how citizen-generated data could complement official records, while emphasizing governance safeguards [43]. Evidence from Kenya shows both the potential and the institutional barriers to adopting VGI in formal land administration, including concerns about standards, validation, and authority [44]. The broader concept of "citizens as sensors" underscores

how digital platforms can expand data production, but also how data quality and accountability become central governance issues [45]. For transition and post conflict states, VGI approaches may be useful in dispute mapping, informal settlement enumeration, and rapid post-war reconstruction contexts. However, they cannot substitute for legally recognized adjudication and authoritative registry updates. The policy challenge is designing hybrid systems where participatory data improves coverage and transparency without undermining legal certainty.

Blockchain-oriented approaches are often proposed as solutions to corruption, record tampering, and lack of transparency in land registries. A framework analysis argues that blockchain could enhance transparency across land administration functions by improving traceability and reducing discretionary control over records, under specific institutional conditions [46]. Yet case-oriented research on adapting blockchain for land administration services emphasizes practical constraints: governance design, stakeholder coordination, standardization, scalability, and the need for institutional trust even in “trustless” technological architectures [47]. The key lesson is that technology cannot bypass political economy. If the inputs to a registry are disputed, corrupt, or selectively enforced, an immutable ledger can permanently encode injustice. Therefore, blockchain and digitization should be treated as complements to (not substitutes for) adjudication capacity, clear procedures, and accountability mechanisms.

3.8. Post Conflict Property Rights and Restitution: Legitimacy, Speed, and Durable Solutions

post conflict property systems must address overlapping claims from displacement, wartime transactions, destruction of records, and legal pluralism. Restitution programs face a fundamental dilemma: they must be fast enough to support return and recovery, yet fair and legitimate enough to avoid reigniting conflict. They also must function despite weak courts, damaged archives, and political contestation. A land-use-policy perspective on restitution emphasizes that restitution landscapes are shaped by evidence constraints and strategic behavior, and it documents “pre-emptive” and “advance” restitution techniques used to secure claims when formal institutions are slow or absent [48]. These dynamics suggest that reformers must anticipate strategic occupation, informal transfers, and documentation manipulation, designing systems that reduce incentives for fraud while providing accessible remedies. In rural areas, especially where customary tenure dominates, restitution is even more complex. Long-term displacement can erode local memory of boundaries, shift social authority structures, and undermine the capacity of customary systems to reconstitute prior rights. Evidence on rural restitution under customary law emphasizes that time and violence-induced displacement can destabilize both customary and public legal-administrative structures, making return and restitution deeply contentious [49]. Complementing this, recent work argues that international restitution guidelines often misalign with the realities of customary tenure systems, and it identifies post conflict trajectories of erosion, adaptation, and replacement of customary tenure [50]. For policy design, these findings imply that restitution cannot rely solely on documentary evidence or pre-war arrangements. It must incorporate flexible evidentiary standards, community-based verification mechanisms, and transitional arrangements that can evolve toward more stable systems over time. The promise of rule-of-law interventions in post conflict environments is often high, but empirical assessments are sobering. A review of post conflict rule-of-law experiences synthesizes evidence on what has worked and what has not, emphasizing that building effective legal institutions is slow and vulnerable to political manipulation [51]. A related analysis warns that rule-of-law frameworks can be “hijacked” in post conflict environments, where legal institutions become tools of political control rather than impartial enforcement [52]. For property rights, this suggests that restitution bodies, courts, and registries must be designed with safeguards against capture, including transparency, appeal mechanisms, and oversight.

3.9. Measuring and Sustaining Property Rights: From Registration to Routine Updating

A recurring weakness of property rights reforms is that success is measured by first-time registration outputs (parcels mapped, certificates issued) rather than by the long-run performance of

the system. From an institutional perspective, rights are secure when they remain defensible after disputes and when third parties can rely on records to transact. This implies performance metrics that track (i) the time and cost to register subsequent transactions, (ii) the backlog and resolution time of disputes, (iii) error rates and correction processes, and (iv) the share of transactions that occur informally despite the existence of formal channels. The sustainability evidence from systematic registration programs underscores this point: registries can decay if updating is expensive, if incentives favor informality, or if institutional coordination is weak [33]. Court performance and procedural complexity also matter because land disputes and collateral enforcement ultimately rely on adjudication capacity [11]. Therefore, maintaining a registry requires predictable workflows, service standards, and financing models that cover routine maintenance, not only donor-supported modernization. Measurement and sustainability concerns are also intertwined with transparency and anti-corruption strategies. Discretionary control over valuation, document acceptance, and queue management can recreate insecurity even after legal formalization. This suggests that reforms should incorporate auditability (including digital logs), published service standards, and interoperable data structures that reduce opportunities for “informal fees” and administrative delay [13,18,39,40].

4. Discussion: Lessons for Kosovo and Reform Sequencing

Kosovo illustrates many of the hardest property rights challenges simultaneously: legacies of socialist property forms and contested privatizations, damaged or missing records, displacement-linked claims, and the need to build legitimate institutions under intense political constraints. The comparative evidence reviewed above suggests that Kosovo’s progress will depend less on any single legal amendment and more on sustained alignment between (i) adjudication and dispute resolution capacity, (ii) registry and cadastre interoperability and maintenance, (iii) safeguards against capture, and (iv) inclusive practices that make formal rights socially credible.

4.1. Property Rights and the Cadastral System in Kosovo

In Kosovo, the distance between formal law and everyday practice is visible in how land and housing are recorded, transferred, and defended. A cadastral parcel may exist on paper, yet the chain of title can be broken by delayed inheritance, informal transactions, or missing archival records. When this happens, households still use land and buildings, but they cannot reliably mortgage them, sell them through formal channels, or defend them efficiently in court. The result is not only legal uncertainty. It is also a drag on municipal planning, taxation, and investment decisions, because market actors cannot easily verify who holds which rights.

Kosovo’s land administration has to work across three linked functions. First, cadastre and mapping, which define parcels and their spatial boundaries. Second, the immovable property rights register, which records ownership and other real rights and provides notice to third parties. Third, adjudication and enforcement, which settle disputes and ensure that registered rights have meaning on the ground. Breakdowns in any one of these functions spill over into the others. For example, if rights remain registered in the name of deceased owners, a registry clerk may refuse a transfer, a bank may refuse collateral, and a court case may become slower because basic facts about the parties are unclear. Several Kosovo specific bottlenecks repeatedly show up in practice. One is the legacy of socialist era property forms, especially where buildings were privately owned but the underlying urban construction land was treated differently. Another is the use of long lease arrangements for formerly socially owned agricultural land, which can be perceived as less secure by local investors even when the lease term is long. A third is informality, including verbal sales agreements, unrecorded contracts, and transactions that were never registered. Finally, record gaps and competing archives can create uncertainty about which documents should prevail when registering or correcting a right.

These issues matter for inclusion. Women are often affected through inheritance pathways. When inheritance procedures are delayed or handled informally within families, women’s lawful shares can be quietly reduced or waived, and the cadastre then reproduces the imbalance. Displaced

persons and non majority communities face a different risk. If they cannot easily receive notice, participate in proceedings, or verify the status of their parcels, they are more likely to lose control in practice even when the law recognizes their claims. From a reform perspective, the most effective step is often not a single new platform or a one off project, but the creation of predictable service chains that citizens can complete end to end. This means simpler inheritance formalization, low cost registration workflows at municipal cadastral offices, transparent access to cadastral information, and dispute resolution that feeds back into the registry so that decisions become public notice. Technology can help, but only when it is paired with clear legal bases, staff training, and accountability for consistent registration practice across municipalities.

4.2. Restitution and Legal-Policy Dilemmas

One central challenge in Kosovo has been aligning restitution mechanisms with broader institutional consolidation, balancing legal correctness, administrative feasibility, and political legitimacy. Detailed analysis of Kosovo's post conflict restitution experience highlights core policy dilemmas: defining eligible claims, establishing evidence standards, and creating mechanisms that are both effective and socially accepted [53]. Comparative post conflict lessons suggest that Kosovo's experience is not unique: restitution programs are often forced to operate with incomplete records and contested authority, and they must prevent strategic manipulation while providing remedies fast enough to matter [48,52]. Privatization in Kosovo occurred within a post conflict governance structure where international administration, local politics, and legal pluralism interacted. Research on privatization and property rights in Kosovo emphasizes how property reforms become arenas of political contestation and how legal institutions can be shaped by the broader politics of state-building [54]. This resonates with transition economy theory: partial reforms can create winners who benefit from ambiguity, and weak rule-of-law institutions can transform property reforms into reallocation mechanisms rather than engines of productive investment [18,20,22,23]. Legal pluralism and competing legal orders complicate property reform in Kosovo, particularly when rules inherited from prior regimes conflict with new legislation or with external administrative decisions. Analysis of property law reform in Kosovo frames these tensions as clashes of legal orders that can produce uncertainty, litigation, and delays, raising transaction costs and undermining investment [55]. Institutional economics would predict such outcomes: when rules are uncertain and enforcement is inconsistent, parties invest less, transact less, and rely more on informal mechanisms [1,3,6]. An often-underemphasized dimension is the everyday bureaucratic experience of claimants. Anthropological analysis of property rights restitution in Kosovo highlights how bureaucratization shapes outcomes and how rights claims are framed in moral and human-rights terms, not just legal ones [56]. This matters for durable reform: if citizens perceive institutions as inaccessible or biased, compliance falls and informal systems persist. These legitimacy dynamics interact with evidence on perceived tenure security, especially where threats to rights are "internal" within families or communities and not fully addressed by formal documents alone [36].

Drawing together the comparative evidence, five sequencing implications follow for Kosovo and for similar post conflict transition settings. They are phrased as implementation priorities rather than abstract principles:

- Treat registries as living institutions, not one-time projects. Evidence on registry sustainability shows that initial registration gains can erode if subsequent transactions are not routinely recorded and if incentives favor informality [33].
- Design for legitimacy and inclusion from the start. Women's land rights research demonstrates that documentation design and joint titling can affect empowerment, while perceived tenure insecurity can remain gendered even when formal rules are neutral [34,37].
- Invest in dispute resolution capacity and evidentiary pluralism. post conflict restitution research shows that strict documentary standards may fail where records are incomplete; flexible verification and credible appeals are essential [48,50,53].

- Coordinate land administration across functions. Effective property rights depend on interoperable systems that link legal and spatial data, support valuation and planning, and reduce fragmentation across agencies [39,40].
- Use technology as a complement to governance, not a shortcut. Digital approaches (3D cadastres, VGI, blockchain) can improve transparency and efficiency, but only when adjudication and institutional safeguards are strong enough to ensure that the data being institutionalized is accurate and fair [41,47,51,52].

These priorities imply a reform logic that is explicitly sequential: clarify and adjudicate claims; record them in interoperable systems that are easy to update; and then broaden market functionality (transactions, collateral, valuation, and taxation) as credibility accumulates. The Kosovo case also highlights research gaps that recur across transition and post conflict settings. First, many reforms are evaluated through output measures (e.g., number of parcels registered) rather than through outcome measures that capture enforceability, dispute prevalence, time-to-resolution, or the cost of subsequent transactions. Second, systematic data on the political economy of enforcement, how discretionary power is exercised within registry workflows, valuation, and municipal permitting, remains limited, despite its centrality to the “grabbing hand” mechanism discussed above. Third, the evidence base on technology-enabled land administration would benefit from more quasi-experimental evaluation of costs, error rates, and dispute outcomes when moving from paper-based to fully digital processes, especially in legally plural contexts.

5. Conclusions

Property rights reform is often framed as a technical or legal drafting exercise. The prevailing assumption is that improvement requires better statutes, clearer definitions of ownership, formal titles, and digital registries. While these elements are important, the evidence reviewed in this article suggests a far more demanding institutional reality. Property rights do not function simply because they are written into law or encoded in databases. They operate as part of a political and institutional equilibrium sustained by credible enforcement, legitimate dispute resolution, administrative competence, and public trust. Across transition economies, the empirical record demonstrates that partial reforms can generate unintended consequences. Where privatization or titling occurs in the absence of strong rule of law institutions, property rights may become instruments of rent extraction rather than foundations for productive investment [18,22]. In such environments, legal ownership may exist formally while enforcement remains selective or politically mediated. This weakens incentives for long term investment and may entrench economic concentration or corruption. Reform sequencing therefore matters. Legal change must be accompanied by institutional constraints that limit discretionary authority and protect rights against both state and private predation. In post conflict settings, the challenge is even more complex. Restitution and return processes introduce high stakes legitimacy dilemmas, particularly where records are incomplete, populations have been displaced, and competing narratives of ownership coexist. Institutions must operate under severe evidentiary constraints while maintaining credibility across divided communities. Rigid proceduralism can undermine fairness, yet excessive flexibility can weaken legal certainty. The literature indicates that successful restitution frameworks balance procedural integrity with pragmatic accommodation of context specific realities [48,53]. This balance requires administrative capacity, transparency, and mechanisms of appeal that are accessible and trusted. The analysis also highlights that property rights are not only legal constructs but administrative achievements. Secure tenure depends on cadastral systems and immovable property registers that are accurate, interoperable, and continuously updated. Digitalization can enhance transparency and efficiency, but technology alone does not guarantee credibility. Registry infrastructures must be embedded within governance systems that provide oversight, accountability, and sustained maintenance. Without such foundations, digitization risks replicating or even amplifying existing institutional weaknesses.

For Kosovo, these insights carry practical implications. Progress in strengthening property rights depends on sustained coordination between cadastral authorities, registry institutions, courts, and municipal administrations. Inclusive registration practices remain essential, particularly in relation to inheritance, gender equality, and communities affected by displacement. Dispute resolution mechanisms must be accessible and capable of addressing both boundary inconsistencies and complex co ownership structures. Technological modernization should support, rather than substitute for, improvements in institutional capacity and public trust [53,56]. Ultimately, the most reliable path toward secure and economically meaningful property rights is not a single reform initiative, nor a purely technical upgrade. It is the gradual construction of an integrated system in which law, institutions, administrative practice, and information infrastructure operate coherently. Predictability, transparency, and inclusiveness are not secondary attributes but core conditions of effectiveness. Where these elements align, property rights can serve as a foundation for investment, financial development, and social stability. Where they remain fragmented, even well drafted laws and modern digital tools are unlikely to produce durable institutional outcomes.

Author Contributions: Conceptualization, Y.K. and B.A.; methodology, Y.K.; formal analysis, P.A. and B.A.; investigation, P.A.; resources, B.A.; writing, original draft preparation, Y.K. and P.A.; writing, review and editing, Y.K., P.A. and B.A.; visualization, P.A.; supervision, B.A.; project administration, Y.K. All authors have read and agreed to the published version of the manuscript.

Funding: This research received no external funding.

Data Availability Statement: No new datasets were created for this review. Any data discussed are available in the cited literature and public sources.

Acknowledgments: The authors thank colleagues at the University of Prishtina for constructive discussions on land administration practice in Kosovo.

Conflicts of Interest: The authors declare no conflicts of interest.

Abbreviations

BIM: Building Information Modeling; EU: European Union; LADM: Land Administration Domain Model; VGI: Volunteered Geographic Information.

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