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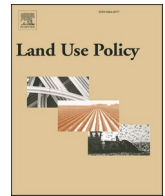
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Assessing the comprehensiveness of the land policy toolbox: An analytical framework

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ABSTRACT

Sustainable and socially just land use requires effective and legitimate land policies. One potential obstacle to the design of such policies is the lack of appropriate land policy instruments. Currently, we have an incomplete system-level understanding of the critical elements in the repertory of land policy instruments available to local governments (i.e., the land policy toolbox) for purposes of furthering their land policy goals. In this article, we develop an analytical framework for assessing the comprehensiveness of the land policy toolbox. We root the framework in theoretical insights from policy design and land policy literatures and propose that the land policy toolbox should enable the formulation of effective land policy responses to diverse conflicts of interest in varying circumstances. The framework consists of three dimensions: the 1) *conflict-solving ability*, 2) *range*, and 3) *applicability of land policy instruments*. Drawing evidence from 30 Finnish municipalities, we apply the framework to the land policy toolbox in the context of housing densification. Our system-level analysis identified several shortcomings, such as a lack of an applicable instrument allowing coordinated development of adjacent sites and areas for development in the densification toolbox in Finland. The framework contributes to understanding of land policy design, and tool-oriented approach in public policy.

1. Introduction

Local governments make interventions in the land market to advance various spatial policy objectives, such as housing affordability and accessibility (Sutela, 2023), the low-carbon energy transition (Amundsen et al., 2018), and biodiversity and ecosystem preservation (Aronson et al., 2017). These interventions in the land market include, for example, planning, land assembly by public authorities and the use of financial incentives and tax credits (e.g. Tiesdell and Adams, 2011; Puustinen et al., 2025). In this paper, we use the term *land policy* to refer to the formulation and implementation of policy interventions that impact the value, use, and distribution of land (Vejchodská et al. 2022).

To advance their policy objectives, local governments have access to a system-level repertory of land policy instruments (Krigsholm et al., 2022) or what we call a *land policy toolbox*. With the term *policy instrument*, we refer to both tools explicitly provided by legislation, including their various applications, and tools relying on more generic

information-steering and development facilitation, not requiring specific legal provisions. Deficiencies in the land policy toolbox can hamper the design of land policies. For example, the toolbox may miss tools for public cost recovery in specific land ownership contexts (e.g., van der Krabben and Jacobs, 2013) or have limitations regarding the facilitation of sustainable land consumption (e.g., Botticini et al., 2022).

However, despite the recognized importance of suitable policy instruments for effective land policymaking, system-level understanding of the comprehensiveness of the land policy toolbox is still far from complete. Policy design literature has produced important insights about the instrument characteristics (e.g., Hood, 1986; Howlett, 2019; Acciai and Capano 2021) and the selection and application of policy instrument mixes (e.g., Flanagan et al., 2011; Rogge and Reichardt, 2016; Howlett, 2018; Capano and Howlett, 2020). Recent studies have furthermore addressed the comprehensiveness of instrument mixes, for example, in the context of energy transition (Rosenow et al., 2017) and flood risk management (Restemeyer et al., 2024). Yet these studies have

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limited relevance to assessing the comprehensiveness of the land policy toolbox as they focus on different policy fields and do not adopt a system-level perspective covering the whole toolbox available.

In the field of land policy, several academic and practical policy assessment frameworks have been developed. However, they primarily focus on evaluating (1) individual projects, such as R8 framework assessing responsible land management practices (e.g., [de Vries and Rudiarto, 2023](#)), (2) specific interventions, such as different frameworks for evaluating land tools developed by the Global Land Tool Network and UN-Habitat (e.g. [UN-Habitat, 2011](#)) or (3) national/wider governance systems from the perspective of a specific aim, such as Land Governance Assessment Framework developed by the World Bank ([The World Bank 2013](#)) and Framework for Effective Land Administration by United Nations Committee of Experts on Global Geospatial Information Management ([UN-GGIM, 2020](#)). Thus, albeit introducing several important thematic areas relating to the formulation and assessment of policies, these existing frameworks do not address the comprehensiveness or internal structure of the land policy toolbox itself.

This article bridges this knowledge gap by developing an analytical framework for assessing the comprehensiveness of the land policy toolbox. Building on theoretical insights from policy design and land policy literature, we propose that the framework consists of three intertwined dimensions. The first dimension, *conflict-solving ability*, considers the capability of instruments in the toolbox to respond to different conflicts of interests innate in land development and, therefore, their ability to advance the spatial policy objectives set. The second dimension, *the range of instruments*, concerns the level of coerciveness and spatial specificity of the instruments available in the toolbox. The third dimension, *the applicability of land policy instruments*, encompasses the design and interplay of the instruments and their fit for different contexts, highlighting the importance of flexibility of the instruments.

This article contributes theoretically to the land policy literature by advancing a system-level understanding of the prerequisites of effective and successful land policy design (e.g., [Hartmann and Spit, 2015](#); [nn 2020](#); [Vejchodská et al. 2022](#)). We claim that such understanding is needed to better address complex issues and societal challenges, including loss of biodiversity, accelerating land take, climate change and residential segregation, through land policy (e.g. [Krigsholm, 2024](#)). The article also contributes to the tool-oriented approach in public policy (e.g. [Lascombes and Le Galès, 2007](#); [Tiesdell and Adams, 2011](#); [Howlett, 2022](#)) and the emerging research on the comprehensiveness of instrument mixes across different fields ([Rosenow et al., 2017](#); [Restemeyer et al., 2024](#)). By allowing the identification of system-level gaps and shortcomings in the land policy toolbox as well as synergies and trade-offs between different instruments, our framework provides an important aid for lawmakers, policy designers, and politicians in designing comprehensive land policy toolboxes.

We illustrate the practical application of the framework with a case study in Finland by examining the comprehensiveness of the Finnish land policy toolbox for housing densification. The empirical part draws on interviews with municipal land policy officials in 30 Finnish municipalities and analysis of legislation. Although our empirical illustration focuses only on the toolbox on advancing one policy objective in one country, the approach can be applied to other country contexts and against other land policy objectives in a similar manner as done in this article, by first identifying available land policy instruments to advance the selected policy objective(s), then assessing the conflict solving ability, range and applicability of the available instruments, and finally identifying gaps and shortcomings in each of these dimensions to allow further development of the toolbox. The approach serves as a starting point for (hopefully) rich literature addressing system-level assessment of land policy toolboxes.

The article is structured as follows. In [Section 2](#), we develop the analytical framework drawing on the policy design and land policy literature, ultimately arguing that the three proposed dimensions are important in conceptualizing the comprehensiveness of a land policy

toolbox. In [Section 3](#), we describe the study design employed in the empirical application of the analytical framework. [Section 4](#) presents the case study findings by mapping the Finnish land policy toolbox for housing densification, discussing it from the perspective of the dimensions of the analytical framework and identifying areas for development within the toolbox. The paper closes with concluding remarks regarding the implications and usability of the framework.

2. Building an analytical framework for assessing the comprehensiveness of the land policy toolbox

This section presents the development of our analytical framework for assessing the comprehensiveness of the land policy toolbox, founded on the literature on policy design and land policy. First, we review insights on the fundamental purposes of land policy to provide foundations for the framework regarding the variety of issues land policy instruments tend to address. This is followed by an elaboration on the characteristics of land policy instruments and their application. From the aforementioned aspects, we derive the three dimensions of our framework: conflict-solving ability, range, and applicability of land policy instruments.

2.1. The purpose of land policy

The primary purpose of land policy is to resolve conflicting interests among diverse stakeholders, including landowners, municipal citizens, builders, developers, and the local government itself, whilst achieving the various spatial policy objectives set ([Puustinen et al., 2022](#)). We argue that, for the land policy toolbox to be comprehensive, it should provide appropriate instruments for responding to varying conflicts of interest related to the use and development of land.

Conflicts of interest in the land policy context relate to the fundamentals of the legitimacy of public policy, including its effectiveness, efficiency, democratic legitimacy, and fairness ([Hartmann and Spit, 2015](#)). These considerations encompass the allocation of land among conflicting uses and the distribution of benefits and burdens of land uses, including new development, as well as the roles of public government and its ability to intervene in the property market by designing and adopting different policies (e.g. [Vejchodská et al. 2022](#)). Based on the work of [Hartmann and Spit \(2015\)](#), [Puustinen et al. \(2022\)](#) conceptualize six conflicts of interest embedded in land policy formulation and implementation: (1) allocative justice conflict, (2) distributive justice conflict, (3) effectiveness conflict, (4) efficiency conflict, (5) procedural justice conflict, and (6) policy outcome conflict. The first four of these can be effectively responded to by using land policy instruments¹ and are, therefore, of relevance here. Below, we briefly outline these conflicts of interest and provide examples of land policy instruments suitable for their resolution.

In land use planning, conflicts of interest fundamentally arise from competing demands for limited resources of land ([Pacione, 2013](#); [Hawkins, 2014](#)). *Allocative justice* conflicts, therefore, concern the allocation of land uses and the distribution of related externalities among stakeholders, including landowners, developers, various organisations, local residents, and other members of the public (e.g. [Jones et al., 2005](#); [Jehling et al., 2020](#); [Vejchodská et al. 2022](#)). Allocative justice conflicts are typically responded to with planning instruments, such as local land use plans or urban growth boundaries ([Ding et al., 1999](#); [Jones et al., 2005](#)).

¹ Issues of equality and transparency in land policy procedures, known as procedural justice, present inherent challenges in many land policy instruments ([Puustinen et al. 2022: 9](#)). This highlights the need for improved practices and requirements related to transparency, public disclosure, and public accountability. However, these process or procedural aspects, along with input and output legitimacy (which are components of democratic legitimacy) and policy outcome conflicts among the policy-setters themselves, fall outside the scope of this paper.

Distributive justice conflicts concern the distribution of financial benefits and costs of land development. They include questions such as who should benefit from the value increase (Alterman, 2012) and whether a stakeholder should be compensated for any value decline resulting from land policy actions (Halleux et al., 2022). Examples of land policy instruments used in responding to distributive justice conflicts include direct and indirect land value capture through taxes, negotiable and non-negotiable developer obligations, and public (or public-private) land assembly and development (Muñoz Gielen et al., 2017).

Effectiveness refers to the degree of achievement of the policy objective (Hartmann and Spit, 2015). Any differences in interest that adversely affect the ability of land policy to achieve its objectives can be regarded as comprising an effectiveness conflict. In land development, these conflicts may be manifested in coordination challenges regarding ownership constraints, such as fragmented land ownership and hold-out problems (e.g. Adams et al., 2002). Land policy can respond to effectiveness conflicts via a range of different policy instruments. In the case of ownership constraints, for example, instruments such as urban land readjustment, compulsory purchase, auction-based mechanisms, public-private partnerships, and land banking can be used in responding to the conflict (e.g. Louw, 2008; Grossman et al., 2019; Tsai and Wang, 2022).

Whereas effectiveness pertains to ‘doing the right things’, *efficiency* refers to the public authority’s ability to transform resources and inputs into outputs, focusing on ‘doing things right’ (Førsund, 2017). It is, however, extremely difficult to establish the immediate role of a specific instrument in the attainment of a land use outcome. Consequently, the efficiency of land policy is often considered in terms of the resources required and risks accepted by the municipality (Valtonen et al., 2017; Needham et al., 2018, 86). For example, the public land development approach in which the municipality acquires, develops, services, and finally sells or leases the serviced, developable building sites to (private) developers, requires considerable initial investment. It also exposes the municipality (and eventually municipal citizens) to the risks related to property market demand (e.g. Hartmann and Spit, 2015; Valtonen et al., 2018). In more private-led development, case-by-case contracting can demand substantial human and time resources while still potentially leading to suboptimal planning outcomes (Fox-Rogers and Murphy, 2015; Wyatt 2017). Furthermore, highly coercive instruments often require significant administrative resources for monitoring and enforcement to remain effective (Gunningham and Sinclair, 1999). The costs and risks that are accepted in connection with a policy instrument are implicitly distributed among the municipal citizens. Thus, as policy formulator and implementor, the municipality must carefully optimise the use of its scarce resources so that it can deliver actions with the highest impact.

2.2. Characteristics of land policy instruments

In general, policy instruments can be used to promote, educate, (dis)incentivise, mandate, or regulate the behaviour of target groups (e.g. Tiesdell and Adams, 2011; Acciai and Capano 2021). The final selection of policy instruments is not merely a technical endeavour but essentially a political choice (Lascoumes and LeGalès, 2007). In the context of land policy, this choice relates closely to the role, opportunities, and strategies of local government in promoting spatial policy objectives in general (e.g. Gerber et al., 2018; Debrunner and Hartmann, 2020; Vejchodská et al. 2022). There is great variation in these respects between and within jurisdictions (e.g. Shahab et al., 2021; Krigsholm et al., 2022). Hence, instruments with varying rationales, logic and reliance on different forms of legitimacy (e.g. Needham et al., 2018; Debrunner and Hartmann, 2020) allow for the creation of locally adapted and nuanced land policy strategies.

One key aspect of land policy instruments is the degree of coerciveness (e.g. Tiesdell and Adams, 2011). Coercive instruments force

implementation in cases where, for example, the landowner is absent or unwilling to sell. Voluntary instruments can be seen as having a lower degree of authority over targeted behaviour. It is important that the toolbox includes instruments with varying degrees of coerciveness as the presence of coercive instruments enables escalation from the least coercive options to more coercive alternatives – as instrument sequencing – if the former fails, ensuring the achievement of the most important policy goals (Gunningham and Sinclair, 1999; Howlett, 2018).

However, the distinction between coercive and voluntary instruments is not always straightforward in the land policy context. For instance, whilst developer obligations are inherently compulsory prerequisites for the development-allowing planning decision, they contain different degrees of negotiability regarding their extent and form (e.g. Alterman, 2012; Muñoz Gielen and van der Krabben, 2019). In addition, land policy instrument mixes can include both coercive and voluntary elements. For example, when the institutional framework provides planning authorities with a wide mandate to use compulsory purchase for land development, it can be leveraged as a threat in negotiations related to negotiable developer obligations (Valtonen, 2019).

Spatiality is another key characteristic of land policy instruments (e.g. Needham et al., 2018). The spatial scales of municipal land policy actions range from individual sites to the whole municipal jurisdiction. Often, there is a need for coordinated development between adjacent sites or larger areas, requiring instruments that enable coordination, prevent hold-out challenges, and ensure the equal treatment of stakeholders (e.g. Louw, 2008; Hartmann and Spit, 2015; Newton et al., 2020). The conflicts of interest that land policy must address also cut across diverse spatial scales, ranging from site-specific concerns to the distribution of externalities at the municipal level and beyond (e.g. Puustinen et al., 2022; Debrunner et al., 2024). This multifaceted operating environment requires a land policy toolbox that can provide responses at different spatial scales (e.g. Gerber et al., 2018).

2.3. Application of land policy instruments

To be effective, policy instruments have to be fit-for-purpose in terms of their design and interactions with other instruments. They also have to be adaptable to different contexts. These aspects form the overall practical applicability affecting the enforceability of the instruments, i. e., the extent to which they can be implemented and complied with in real-world governance settings. This section elaborates the practical applicability and its different aspects in more detail in the context of land policy.

The effectiveness of a policy instrument depends on its design, which must align with its intended purpose. For example, studies have shown that the applicability of urban land readjustment instruments is significantly reduced if no mechanism is included to make participation mandatory for landowners (Holtslag-Broekhof, 2018; van der Krabben and Lenferink, 2018). Thus, the micro-level calibrations of the instruments and the flexibility provided in them are of particular importance in their practical applicability and fit-for-purpose (Cashore and Howlett 2007), but they are often neglected in policy design research (Capano and Howlett, 2024).

The applicability of an instrument cannot be judged by the frequency of its use alone. For example, non-negotiable developer obligations may be rarely used but still have a supporting role as alternatives for the more commonly used negotiable obligations (Hendricks et al., 2021; Muñoz Gielen and Lenferink, 2018). In other words, the non-use of an instrument does not necessarily mean it is meaningless or not applicable. This also exemplifies the interplay between the land policy instruments, and how synergies from instrument mixes can be leveraged in the crafting of policies (e.g. Gunningham and Sinclair, 1999; Lambin et al., 2014).

The applicability of a policy instrument depends on the circumstances under which policy designers select and apply the instrument, i. e., the context (e.g. Bressers and Klok, 1988; Rosenow et al., 2017; Mavrot et al., 2019). Although the national institutional framework has

a major impact on land development circumstances (O'Brien et al., 2020; Zhu, 2004), the local context of land development and the characteristics of individual land development projects also shape them significantly (Krigsholm et al., 2022).

The local context impacting the applicability of different land policy instruments includes land and real estate market conditions, municipal resources, and the local political climate (e.g. van Oosten et al., 2018). In booming real estate markets, policy instruments affecting the availability of buildable land are highly relevant and applicable (Molloy, 2020). Moreover, the scarcity of land and sustainability requirements emphasise the need for more strategic use of land policy instruments and their combinations than reliance on traditional planning and building permits (Gerber et al., 2016). By contrast, in declining market conditions and in many rural areas, there may be no demand at all for buildable land, which reduces the applicability of instruments affecting land supply (Kim et al., 2020). Municipalities also have varying financial and human resources (Christoffersen and Bo Larsen, 2007) and varying ability to accept financial risk (van Oosten et al., 2018), affecting their ability to apply different land policy instruments. Finally, land policy is, in essence, a political activity affected by political ideology and political majorities (Cann, 2018; Debrunner and Hartmann, 2020). Thus, the local political climate affects the de facto applicability of available land policy instruments.

Characteristics of land development projects impact on the applicability of policy instruments, too. Characteristics according to which individual land development projects can be distinguished include the current land use (De Sousa, 2000, 2002; McCarthy, 2002), the land ownership structure (Adams et al., 2001; van der Krabben and Jacobs, 2013), and the scale of the development ranging from neighbourhood-level to incremental densification via subdivisions, extensions and infill development (Dunning et al., 2020; Taşan-Kok, 2010). These factors, providing the context where the land policy instruments are utilised, are closely interrelated. For example, areas of previously developed land tend to have smaller properties with dispersed ownership compared to land that is in its natural or agricultural state (Syms, 1999; Tiesdell and Adams, 2004).

2.4. Defining the key dimensions for assessing the comprehensiveness of the land policy toolbox

Building upon the above, we propose that the three intertwined dimensions allowing a critical assessment of the comprehensiveness of a land policy toolbox are (1) *the conflict-solving ability of the land policy toolbox* (2) *the range of land policy instruments* and (3) *the applicability of land policy instruments* (Fig. 1). First, a comprehensive land policy toolbox needs to be able to solve the interest conflicts innate to land policy implementation (Puustinen et al., 2022). Thus, the land policy instruments in the toolbox have to respond effectively to the distributive, allocative, effectiveness and efficiency conflicts to fulfil the fundamental purpose of land policy. Second, a comprehensive land policy toolbox should contain a wide range of instruments regarding the variation in the level of coerciveness and spatial specificity of different instruments. Third, a comprehensive land policy toolbox requires the land policy instruments to be applicable in practice by their calibrations as well as in relation to other instruments in the toolbox and the local circumstances in which they are implemented. In other words, the third dimension concerns the flexibility and enforceability of the instruments in the toolbox regarding their design, interactions with other instruments and application in varying circumstances.

3. Methodology for the empirical application

To illustrate how our analytical framework can be utilized in practice to assess the comprehensiveness of a land policy, we apply it to analyse the Finnish land policy toolbox related to advancing housing densification. Thus, we demonstrate how the framework allows the

identification of synergies, deficiencies and areas of development in the toolbox.

The analysis focuses on the local level as, in Finland, municipalities have a pronounced role in land and real estate development. They have extensive rights to control development as no significant development can occur without the approval of the municipality (Land Use Act 1999, Section 7).² Land use planning and other land policy³ are administratively separated in Finland, with responses to allocative justice conflicts provided through planning, and responses to other conflicts of interest through land policy. Whereas land use planning includes statutory participatory processes, land policy is formulated by municipal civil servants following guidelines set by the municipal council, with typically no formal processes involving other actors. Land Use Act (1999, Sections 1, 5a) defines that the key purpose of the municipal land policy is to ensure plan implementation. Hence, Finnish municipalities are able to holistically address all conflicts of interest that could hamper the plan implementation even when they do not immediately concern the municipality itself. They do this both directly through cost recovery and land value capture, and more indirectly by modifying the responsibilities and benefits for various actors and accepting various levels of financial costs and risks associated with different policy instruments (Lönnroth et al., 2024). Finnish municipalities also have high political autonomy, which is reflected in the ways they conduct land policy: some municipalities are more open towards statutory interventions in ownership rights, while others lean more towards agreements-based tools (Krigsholm et al., 2022). Thus, in the Finnish context, the applicability of different land policy instruments in the toolbox can also depend on the political inclination of the municipality. Political autonomy is also coupled with high fiscal autonomy (Onofrei et al., 2022).

Our main source of empirical data consists of semi-structured interviews with land policy experts in 30 of the 31 most-populated municipalities in Finland. The interviewees hold managerial roles in land policy formulation and implementation in their respective municipalities. The interviews were conducted between March and August 2020 and covered densification-related objectives, monitoring, instruments, applicability of instruments, and challenges encountered. The interviewees received study information, interview questions, and data protection details in advance, and they approved the data protection form before the interview. The interviews were transcribed and then codified using Atlas.ti software. Qualitative content analysis was used to identify the instruments available and analyse them with our framework. The codebook is presented in Appendix 1. The coding was cross verified by two authors to ensure the validity of our research. The evaluation of the comprehensiveness of the Finnish land policy toolbox in Section 4 presents the interview analysis at an interpretive level that emphasizes patterns, shared themes and differences across municipalities, rather than municipality-specific findings. To ensure the promised anonymity of the interviewees, the municipalities are not identified by name nor are direct quotations used. For purposes of mapping the instruments and their ranges, the interview data was complemented by an analysis of Land Use Act (1999), formerly known as Land Use and Building Act, the main legislation regulating land use planning and policy in Finland, and other relevant legislation related to it.

Our analysis proceeded in three stages. In stage 1, we mapped and listed the available policy instruments comprising the land policy toolbox for advancing housing densification. This information was derived from interviews and complemented by legislative analysis. Because Finnish municipalities have broad leeway over the implementation of land policy (Krigsholm et al., 2022), a detailed examination of policy implementation practices is crucial for gaining a thorough

² Alongside control over land development, municipalities are responsible for providing and maintaining the related municipal infrastructure.

³ From now on, in this paper, we use the term 'land policy' to refer particularly to this 'other land policy'.

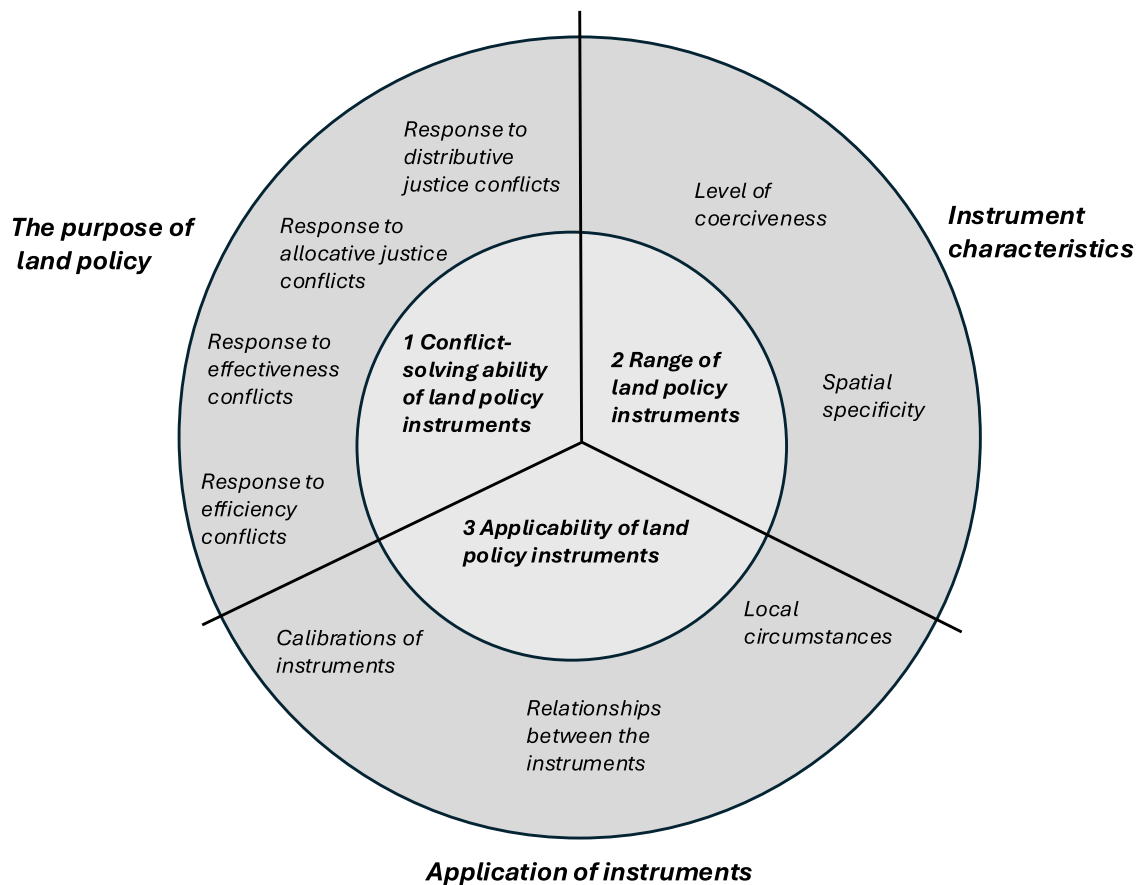


Fig. 1. The conceptualization of the dimensions contributing to the comprehensiveness of a land policy toolbox: the conflict-solving ability, range and applicability of instruments and their critical elements.

understanding of the land policy toolbox available. In Stage 2, we analysed the identified instruments in the toolbox through the lens of the three dimensions of our analytical framework and their respective subcategories (Table 1). The conflicts related to the densification of existing residential neighbourhoods were adopted from Puustinen et al. (2022), who developed housing densification-type specific land policy conflict profiles. Land policy instruments can be used to respond to four of these conflicts: effectiveness, efficiency, and allocative and distributive justice conflicts (see Section 2.1, Appendix 2). Allocative justice conflicts and associated planning instruments, however, were excluded from our empirical analysis, as the expertise of the interviewed professionals did not cover these aspects of land policy due to the administrative separation of planning and other land policy in Finland. The level of coerciveness and spatial specificity comprising the range of the instruments were determined by analysing the legislation defining these. The applicability of the instruments was based on the perceptions and experiences of the interviewees applying the instruments in practice. In stage 3, we assessed the comprehensiveness of the housing densification-related land policy toolbox holistically to identify synergies, deficiencies and areas for development.

4. Evaluation of the comprehensiveness of the Finnish land policy toolbox

4.1. Stages 1 and 2: Instruments in the housing densification-related land policy toolbox

We identified 12 instruments available for promoting densification in the land policy toolbox. Table 1 provides a description of each instrument and a detailed overview of these instruments through the lens

of the three dimensions of our analytical framework: conflict-solving ability, range, and applicability.

4.2. Stage 3: Comprehensiveness of the housing densification-related land policy toolbox

The analysis of the toolbox showed that, in principle, Finnish housing densification-related land policy toolbox provides instruments that can be used to address a multitude of conflicts potentially arising in densification projects. These instruments also have different ranges, i.e. there are instruments with different level of spatial specificity and level of coerciveness. However, there is a substantial variation in the extent to which the instruments provided are utilized. The interviews showed that municipalities apply land policy instruments primarily to address the effectiveness conflict of densification. The instruments used for this purpose tend to have implications also on the distributive justice conflict by changing the financial position of the landowner and the municipality regarding densification, too. Interviews strongly suggested that the primary reason behind the effectiveness-distribution conflict dynamic is the applicability challenges related to other instruments.

Based on the interviews, the land use agreement has a central role in the toolbox. Indeed, the interviews revealed that one of the most influential consequences from the applicability challenges related to several instruments is the dominance of the use of the land use agreement even in the contexts where the interviewees pointed out that the land use agreement has significant shortcomings. The only instrument in the toolbox applied as frequently as the land use agreement is the urban vacant land tax. However, some interviewees noted that it is a rather ineffective instrument due to its dependence on the taxable land value and the inability to vary the tax rate within the municipality. Thus, it

Table 1
Instruments available for promoting densification in the land policy toolbox.

Land policy instrument	Description	The applications of the instrument to promote densification (if applicable)	Instrument range	Conflict-solving ability	Applicability (based on interviews)
Land use agreement	When densification is implemented on privately-owned land, the municipality and the landowner can form a voluntary land use agreement to agree on the conditions of development, including a 'land use fee' paid by the landowner for the new building right created in the local detailed plan. Often, the municipality has an official policy stating what is the standard share of the estimated land value increment that will be captured by the fee agreed in the land use agreement. The share of public value capture varies between 30 % and 60 % in the studied municipalities.	Financial incentives to develop by offering discounts on the usually required land use fee.	Voluntary, spatially specific	Allows landowner to keep higher proportion of the financial gain (Distributive justice conflict). Incentivises the landowner to develop by improving financial viability (Effectiveness conflict). Requires personnel resources (Efficiency conflict).	<i>Widely used.</i> + Contentment over the flexibility the instrument allows for finding solutions + Functions well in areas with high land value and demand. -Does not respond to challenges of fragmented ownership, preservation - Basis for defining the amount of land use fee questionable. - Area-focused campaigns evoke questions of equality, areas with demand may be left out
		Development controlling requirements, such as deadlines to start or finish development.	Voluntary, spatially specific	Mandates starting or finishing the development by specific date (Effectiveness conflict). Requires monitoring (Efficiency conflict).	<i>Rarely used.</i> -Unwillingness to use due to many external factors affecting the commencing time
Development charge	As a secondary instrument to the land use agreement, development charge can be used if the agreement negotiations fail. There is a strict and detailed process to determine the charge which can only be collected if the landowner either applies and gets a building permit or if they sell their land. The charge is based on specific costs and cannot exceed 60 % of the estimated land value increment caused by the local detailed plan.	N/A	Coercive, spatially specific	Guarantees that the municipality gets some financial gain from the development to cover infrastructure costs (Distributive justice conflict). Requires personnel resources (Efficiency conflict).	<i>Not used.</i> + Role perceived important in the toolbox as the statutory backup for land use agreement. -Difficult to use
The development area procedure	A municipality can assign a specific area within the municipality as a development area for 10 years. In these areas there are special measures including the right for the municipality to collect a development fee from a landowner if they have received such a benefit from the development that is unproportional to the costs they have covered. Land readjustment procedures can also be conducted in the area.	N/A	Coercive, spatially specific	Special measures involved include specific development fee capturing unproportional financial gain a landowner receives from the development (Distributive justice conflict) Special measures involved can incentivise the landowner to develop and can adjust the property structure to have better coordinated development (Effectiveness conflict). Requires personnel and administrative resources (Efficiency conflict).	<i>Not used.</i> -Perceived as not applicable.
Property acquisitions and development	Municipalities can acquire land and develop it.	N/A	Voluntary, spatially specific	As the landowner, the municipality controls the development decision (Effectiveness conflict). Requires capital expenditures, personnel resources and entails risks (Efficiency conflict).	<i>Widely used for small-scale sites, but extremely rarely used for larger sites in the densification of existing neighbourhoods.</i>
Compulsory land acquisition	There are several different purposes that the municipality can use compulsory purchase including coordinated development of the municipality or implementation of the approved local detailed plan.	N/A	Coercive, spatially specific	As the landowner, the municipality controls the development decision (Effectiveness conflict). Depending on the purpose of the compulsory purchase, the compensation regulations allow capturing some of the land value increments to the municipality (Distributive justice conflict). Requires capital expenditures, personnel resources and entails risks (Efficiency conflict).	<i>Instrument is defined in the legislation but was not mentioned in the interviews.</i>

(continued on next page)

Table 1 (continued)

Land policy instrument	Description	The applications of the instrument to promote densification (if applicable)	Instrument range	Conflict-solving ability	Applicability (based on interviews)
Compulsory purchase of a missing part of a plot	Municipality (or other landowner) can consolidate a building plot in an approved local detailed plan under fragmented ownership.	N/A	Coercive, spatially specific	Property structure adjusted to create conditions for effective development (Effectiveness conflict). Requires capital expenditures and administrative resources (Efficiency conflict).	<i>Instrument is defined in the legislation but was not mentioned in the interviews.</i>
Reminder to build	Municipality can give reminder to build underbuilt building sites or sites that are in a use conflicting with the plan in a specifically delineated area two years after the plan approval. If the development has not been completed within three years, the municipality can use compulsory purchase to acquire the site.	N/A	Coercive, spatially specific	Disincentivises the landowner from not developing (Effectiveness conflict). Requires monitoring and capital (Efficiency conflict).	<i>Rarely used.</i>
Exemptions from usual policies on building plot allocation on municipal land	When the municipality owns land that has private building plots in the local detailed plan they can sell or lease these plots. Usually, municipalities have standard policies regarding building plot allocations and by deviating from these policies (e.g., not going through usual bidding processes or land leasing only policies) municipalities can incentivise densifying developments.	N/A	Voluntary, spatially specific	Makes densification sites more attractive to acquire for development (Effectiveness conflict).	<i>Sometimes used.</i>
Land lease agreement	Many municipalities own land with long leaseholds. Land lease agreement is a contract between the municipality and the leaseholder.	Lease conditions, such as lease discounts or compensation for the densifying development, can be used to incentivise the leaseholder to allow densification. Lease conditions can include requirements for construction timelines and mandates for infill development.	Voluntary, spatially specific	Financial gains to the land lessee (Distributive justice), Incentivises the land lessee to allow densification (Effectiveness conflict). Requires personnel resources (Efficiency conflict).	<i>Sometimes used.</i> -Incentivizing conditions are not sufficient.
Allocation of human resources	Allocation of human resources for densification to smoothen the processes.	N/A	Voluntary, spatially specific	Mandates densification (Effectiveness conflict), Requires monitoring (Efficiency conflict).	<i>Not known if used.</i> -Maintaining the image of the municipality as a reliable lessor prevents the use of coercive conditions. <i>Varies.</i>
Information-steering	Information dissemination and campaigns via different means available to the municipality to increase landowners' awareness of densification opportunities.	N/A	Voluntary, varies	Time savings due to the smoothened processes reduce development-hampering transaction costs in densification (Effectiveness conflict). Increase the awareness of the densification opportunities among landowners (Effectiveness conflict). Resource-intensiveness varies (Efficiency conflict).	<i>Sometimes used.</i>
Urban vacant land tax	Municipalities in Finland periodically tax property values. An increased tax rate can be applied to building sites that are underdeveloped in terms of the local detailed plan. This urban vacant land tax is available for all municipalities and mandatory to adopt for the municipalities within the most-populated urban agglomeration of Finland, 'Greater Helsinki' area.	N/A	Coercive, spatially generic	Disincentivises keeping the land underdeveloped (Effectiveness conflict).	<i>Widely used.</i> + - Depends on the taxable value of land. -Broad targeting without municipal discretion does not function well in low-demand areas.

was seen to offer at best a relatively limited response to the effectiveness conflict. Thus, although a widely used instrument, urban vacant land tax was regarded to have quite a limited importance in the toolbox in promoting densification.

Zooming into this central land use agreement instrument, many interviewees regarded the land use agreement as a highly applicable densification instrument with the ability to solve development-hindering effectiveness conflicts in the context of an individual site with a landowner that has some initial willingness to develop. This is

because the land use agreement allows finding win-win situations for the landowner and the municipality, especially in areas with high land value appreciation and demand for new housing. Although only a few interviewees explicitly mentioned specific contractual arrangements, it can be inferred from the extensive use of discounts to the 'land use fee' that most win-win situations probably relate to lower-than-usual land use fees in land use agreements. These win-win situations refer to benefits of densification for both the municipality and the landowners/developers in question, such as savings in infrastructure costs to the

municipality (compared to the costs of greenfield development) and the enhanced viability of development for landowners/developers. The win-win situations with the land use agreement directly respond to the distributive justice conflict as the development viability-improving discounts in the land use fees benefit landowners but come at the expense of the municipality and its citizens. This does not cause problems as long as the municipality is willing to accept this response to the distributive justice conflict as a trade-off for responding to the effectiveness conflict. Also, reliance on the land use agreements also involves efficiency conflicts. The interviews indicate that the land use agreement is a time- and labour-intensive instrument for the municipality since each contract must be negotiated individually with the landowner. In many municipalities, the discounts on land use fees are calculated on specific elements, such as demolition or parking costs. This increases the overall workload and further reduces the scalability of these agreements. Additionally, the task of monitoring any deadlines specified in the contract requires further resources and the time spent on the negotiation process may also detract from other priorities.

The found reliance on the land use agreements implicitly reveals another major shortcoming in the toolbox, a lack of a designated value capture instrument. Indeed, the interviews point out a clear discrepancy between the de jure and de facto purpose of the land use agreement. The *Land Use Act (1999, Section 12a, 91b)* clearly states the purpose of land use agreements is to oblige the private landowner to contribute to the costs of public infrastructure provision benefiting their site. Thus, the legal rationale for the use of land use agreements is not land value capture but cost recovery. Most municipalities, however, treat land use agreements more as land value capture instruments, with a land use fee tied to the value of new building right specified in the local detailed plan instead of tying it to public infrastructure provision costs. Hence, it appears that land use agreements have evolved to fill the gap of value capture instruments in the toolbox. Interestingly, some interviewees highlighted the difficulty of communicating the practice for land use fees to 'lay' landowners, which could be a symptom of the mismatch between the de jure and de facto purpose of the land use agreement.

The interviews revealed a major shortcoming in the toolbox regarding the coordinated development of areas with many landowners. This shortcoming is not evident with a descriptive analysis of the instruments made available in the legislation as the development area procedure already available in the toolbox offers an instrument for coordinated development in principle. However, the interviewees either disregarded it completely or considered it too challenging to use revealing applicability issues with the instrument.

According to the interviews, municipalities quite commonly acquire and develop small sites via voluntary acquisition when the landowner is willing to sell. Thus, land acquisitions via voluntary transaction appear applicable in this context. However, if the landowner is not willing to sell, this instrument is not applicable. The interviews suggest the compulsory purchase is not perceived as an applicable instrument in these situations either. Some municipalities own freehold rights to leasehold land with densification potential. The interviews suggested these municipal leasehold sites are particularly challenging from a densification perspective. Land lease agreements were perceived as lacking applicability in advancing densification. The interviewees that mentioned land lease agreements regarded it difficult to include attractive enough incentives for the lessees in these agreements. One interviewee pointed out how the more coercive lease conditions that could be more effective (such as forcing densification on a site possessed by a lessee when the contract is renewed) are avoided to maintain the municipality's image as a reliable lessor.

Overall, the system-level analysis revealed that the instruments form synergies when applied together. For example, the interviews showed that information-steering and the allocation of municipal resources are sometimes used to support the realisation of land use agreements, highlighting the interplay and relationships between the instruments that allow strategic combination and sequencing of instruments. Also,

the mere existence of one instrument may support the applicability of another instrument. For example, the interviews pointed out that, although the coercive development charge or other coercive instruments are typically not used, they still have an essential role in the toolbox as backups to the land use agreement.

To sum, in addition to revealing synergies, our system-level analysis also allowed us to recognise several important issues limiting the comprehensiveness of the Finnish housing densification-related land policy toolbox. First, the toolbox offers limited means for the municipalities to respond to the effectiveness conflict in housing densification when facing landowners not interested in developing and not willing to sell the site to the municipality. Second, if the municipality is not willing to respond to the distributive justice conflict by offering discounts on the default value capture rates or to the efficiency conflict by taking the development risk, the toolbox appears not to offer applicable instruments. Third, there appear not to be any applicable instruments for coordinated densification of larger areas or for densification taking place on municipal leasehold land. Finally, the toolbox could benefit from development of de facto value capture instruments.

5. Concluding remarks

In this paper, we developed an analytical framework to assess the comprehensiveness of a land policy toolbox. Drawing from theoretical insights on land policy and policy design, we argued that the comprehensiveness of a land policy toolbox can be assessed against three dimensions: (1) the capacity to enable the governing authority to respond to the diverse conflicts of interest inherent in land policy formulation, (2) the range of available instruments and (3) their applicability in varying circumstances. This system-level framework contributes to the tool-oriented approach in public policy (e.g., [Howlett, 2022](#)) and to the literature on land policy, which often focuses on individual strategies, instruments, or their mixes (e.g., [Debrunner and Hartmann, 2020](#); [Bouwmeester et al., 2023](#); [Krigsholm et al., 2025](#)). In practice, our conceptualization increases understanding of the prerequisites for tailored and nuanced policy design and helps to identify shortcomings that hamper such design.

We illustrated the use of the analytical framework to study the Finnish housing densification-related land policy toolbox and then holistically assessed the comprehensiveness of the land policy toolbox. The application of the framework demonstrated shortcomings and development needs in the toolbox that would likely have remained hidden if the analysis had focused solely on a classification of instruments by their range, or other taxonomy based on instrument characteristics. The analysis revealed important synergies and interrelationships between different instruments: the opportunities that their combinations can create, and how instrument sequencing can be utilized (e.g. [Gunningham and Sinclair, 1999](#)) in advancing housing densification. The case study also demonstrated how the use or non-use of an instrument does not necessarily correlate with its importance in the toolbox. Moreover, it concretised the trade-offs between different conflicts of interest that local governments must make in advancing their land policy objectives, which is an essential factor in the implementation of land policy ([Hartmann and Spit, 2015](#); [Muñoz Gielen et al., 2017](#); [Bouwmeester et al., 2023](#)). In line with [Restemeyer et al. \(2024\)](#), the case study showed that land policy responses reflect strategic emphases in land policy formulation, such as the preference for voluntary tools and economic incentives over coercive instruments.

Importantly, the framework allows the examination of the toolbox from the perspective of local realities. Literature suggests that even when a broad range of instruments is available in the policy toolbox, municipalities may be reluctant to adopt them if they are considered not feasible regarding technical capacity, time, and financial resources they require from the municipality or have little community acceptance ([Dembski, 2025](#); [Le Bivic et al., 2025](#)). The municipal unwillingness to use certain instruments might be reflected in discrepancy between

national policy aims and municipal-level land policy, such as the research of Le Bivic et al. (2025) indicate regarding national no net land take objectives in France.

The application of the framework demonstrated development needs in the Finnish densification toolbox. In particular, the Finnish toolbox lacks an applicable instrument that would allow coordinated development of adjacent sites. A lack of such instrument may stagnate development or lead to sporadic ad-hoc development of individual sites in a context of fragmented land ownership (e.g. Muñoz Gielen, 2016; Newton et al., 2020). The Finnish toolbox also lacks a value capture instrument that would be explicitly intended for that purpose. Instead, land use agreements, that are cost recovery instruments by legislation, have evolved to fulfil that role. Having a specific value capture instruments in the toolbox could lead to practice of using land use agreements as cost-based instruments better aligned with their de jure rationale, increasing their legitimacy (Hengstermann et al., 2025). This could also tackle, to some extent, the problem raised by a few interviewees from municipalities in declining areas who pointed out the need for instruments with charges or incentives not dependent on the land value.

This paper is the first to attempt conceptualising the comprehensiveness of land policy toolbox. Future research is needed to verify its applicability and observations. For example, we found that most instruments in the Finnish densification toolbox are spatially specific. More research is needed to establish whether this is because of the densification objective in general or a case-specific nuance. Densification is a sensitive issue locally (e.g. Wicki and Kaufmann, 2022), which might have an impact on the land policy toolbox related to it. Toolboxes available for other objectives, such as housing affordability or no net land take, could provide more of a spectrum in terms of spatial scales. Additionally, comparative studies are needed to evaluate the applicability of the framework across different juridical contexts, particularly those where planning and land policy are more integrated or where the planning system is more discretionary. Furthermore, our empirical illustration only covered the perspective of one actor group, the land policy experts of local authorities. To fully assess the applicability of land policy instruments — especially when evaluating legislation — the analysis should be complemented by considering the viewpoints of other stakeholders, such as planners, landowners, and developers.

CRedit authorship contribution statement

Tuulia Puustinen: Writing – original draft, Visualization, Methodology, Investigation, Formal analysis, Conceptualization. **Eero Valtonen:** Writing – original draft, Visualization, Methodology, Formal analysis, Conceptualization. **Pauliina Krigsholm:** Writing – original draft, Methodology, Investigation, Conceptualization. **Heidi Falkenbach:** Writing – original draft, Project administration, Methodology, Funding acquisition, Conceptualization.

Declaration of Competing Interest

The authors declare that they have no competing interests.

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Appendix A. Supporting information

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Data availability

The authors do not have permission to share data.

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