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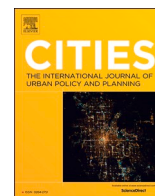
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Understanding variation in municipal land policy strategies: An empirical typology

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ABSTRACT

Land use and development has a pivotal role in building sustainable future societies. Municipalities contribute to this effort by applying a set of land policy instruments to advance their selected policy objectives. The way in which a municipality chooses to activate these instruments is called a land policy strategy. The literature recognizes the diversity of land policy strategies within a single-country context, but as yet there has been no systematic and comprehensive examination of land policy practices to find out to what extent and how the municipalities' approaches to land policy differ from each other. To address this gap, this study examines the diversity of land policy strategies in Finnish municipalities by constructing an empirically grounded typology of municipalities' current strategies. Drawing on an extensive set of data on land policy practices in the 30 most populated Finnish municipalities, we identify five strategy types: land banking based active land policy, growth-oriented active land policy, regional vitality driven land policy, housing policy-oriented land policy and private development focused land policy. The strategy types are characterized by differences along six dimensions, namely land policy objectives, public land acquisition, public-private cooperation, public land allocations, economic incentives, and information steering and facilitation. The typology contributes to a deeper understanding of the variation and commonality in land policy strategies of local government authorities. Our findings support the view that current definitions of land policy strategies are too vague and ambiguous to portray the differences in strategies when the analytical focus is on municipality-level strategies.

1. Introduction

Urbanisation and continuing urban expansion have contributed to a loss of biodiversity, alterations in ecosystems and the carbon storing capabilities of soil (Decoville & Schneider, 2016; European Commission, 2016), as well as intensified many social challenges, such as housing affordability (Granath Hansson, 2019), and residential segregation (Andersson et al., 2018). At the same time, there is intense competition between regions and local governments to attract new developments and so to generate revenue (Kang & Homsy, 2020). Authorities from different spatial scales across the globe are facing the challenging task of designing policies that address and reconcile such issues. The local government authorities (often municipalities) in particular are expected to find ways to facilitate and steer land use and development towards more sustainable future.

One of the ways for municipalities to prioritize and advance their objectives is through land policy. In this study, land policy is understood and defined as the sum of government interventions on the land market that define where and how land is distributed to future development and how this development is incentivised, or sometimes, obliged. Thus, policy instruments that determine the specifics of where, when, and what kind of development takes place (i.e., spatial planning instruments defining e.g., permitted densities or building heights), are excluded from the definition of land policy here.¹ These land policy interventions can come in the form of regulative, economic and informative policy instruments.

It is well understood and widely documented that the level and type of land policy interventions vary greatly from country to country. Some countries show a tendency to strong public intervention, with a public authority specifically assigned to control the land development process

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¹ We acknowledge that it is country and institutional environment specific whether an instrument is considered to be a land policy instrument or a spatial planning instrument. This study has a strong empirical focus and therefore follows a rather narrow definition of land policy to cater for the Finnish case study context.

and to allocate developable building plots. This type of “active land policy” is common in Finland, Sweden, the Netherlands and China, for example (Huang & Du, 2017; Needham, 1997; Valtonen et al., 2018; Van der Krabben & Jabobs, 2013). The need for intervention is often justified with reference to land and property market inefficiencies (e.g., Alexander, 2014) and certain qualitative aspects of land and housing development, such as the controlled provision of affordable housing (e.g., Buitelaar, 2010). At the other end of the spectrum is passive land policy, where land development is initiated and conducted by private enterprises or by individual landowners, with less public intervention (Buitelaar, 2010; Hartmann & Spit, 2015; Needham, 1997; Valtonen et al., 2018).

Land policy types are often compared and discussed at the country level, yet most land market interventions take place on the local government level. Municipalities have access to a specific set of land policy instruments that they can use to advance their policy objectives. Within the given legal framework and the wider institutional and operational context, they make choices about which instruments to apply and how. In recent years, this perspective has been emphasized in a number of studies, making *land policy strategy* a central concept of land policy (Gerber et al., 2018; Meijer & Jonkman, 2020; Shahab et al., 2021). These studies define a land policy strategy as the way in which land policy instruments are activated in order to achieve a certain policy objective. The strategies employed vary from municipality to municipality, and their differences are not captured in sufficient detail by the simple active-passive distinction (Gerber, 2016; Shahab et al., 2021; Van Oosten et al., 2018).

Despite the growing recognition of the plurality of land policy strategies, the variation in approaches to land policy at the local government level has not been examined sufficiently. In particular, there is a lack of depictions of the different land policy strategy types that are constructed using a systematic method and authentically grounded data of the current land policy practices. Furthermore, earlier studies have mainly addressed the variation in the use of (limited) number of land policy instruments to achieve some specific policy objective (e.g., Debrunner & Hartmann, 2020; Meijer & Jonkman, 2020), rather than the variation in the general approach to land policy. We call this general approach to land policy, i.e., what kind of objectives municipalities primarily pursue through land policy, and how they select, combine, and employ different land policy instruments to advance the objectives, a *municipal land policy strategy*. Creating understanding of the variation in municipal land policy strategies, and of the elements that make up a municipal land policy strategy, is an important step towards thinking about the municipal strategies as a combination of context-driven and purposely selected actions rather than just a sum of use of different land policy instruments.

Motivated by the lack of systematic, empirically driven approach to describe and analyse land policy strategies at the local government level, the objective of this paper is to outline a heuristic frame to study how municipalities approach their land policy, and to produce more accurate definitions of municipal land policy strategies. To achieve that, we closely examine the current land policy practices of municipalities. More specifically, the study draws on a set of extensive interviews with municipal land policy officials of the 30 most populated Finnish municipalities to create comprehensive, generalisable knowledge of existing municipal land policy strategies within a specific country context. Even though other actors like locally elected municipal council members contribute to land policy decision making as well, the interviewed municipal land policy officials represent the highest level of expertise in outlining and implementing the land policy strategy for their municipality.

Ultimately, this study explores two main questions. First, to understand how best to describe and analyse differences in general approach to land policy at the local government level, we ask *which elements go to make up a municipal land policy strategy*. Second, to portray the existing diversity in municipal land policy strategies within a single-country

context, we examine *municipal land policy strategies and develop typologies of those strategies*. To identify the variation and commonality in municipal land policy strategies, current practices are classified along specified key dimensions of strategies. Building such classifications or typologies is a well-established tradition in social science research (e.g., Bailey, 1994; Patton, 2002). The approach adopted here is to develop an empirically grounded typology (see e.g., Kluge, 2000) which combines data analysis with theoretical insight. This ensures that the findings are firmly grounded in current-day practices and that the study has the potential to generate practical value for key stakeholders. It should be noted that the present study is restricted to current practices and explores the form and landscape of land policy strategies at the local government level. It does not aim to identify municipal features explaining land policy strategy choices nor to examine or compare the outcomes of land policy strategies or strategy types.

This study contributes to global knowledge creation in two main ways. From a theoretical perspective, the literature on land policy is extended by creating knowledge of *how* to capture and analyse the diversity of land policy strategies at the local government level. As an outcome, the study proposes a heuristic frame, a so-called classification scheme with key dimensions that can be modified to any country context to examine the variation in land policy strategies and to produce more accurate definitions of municipal land policy strategy types. Empirically the study contributes by presenting an approach to scaling and identifying variation in municipal land policy strategies within a single country-context by distinguishing and portraying five distinct municipal land policy strategy types for the Finnish case.

The paper proceeds as follows. First, Section 2 sets up the theoretical and analytical framework for the study by elaborating the concept of land policy strategy. Section 3 describes the research methodology. Next, Section 4 presents a classification scheme that outlines the elements of a municipal land policy strategy in the Finnish case and then proceeds to describe and explain the identified types of land policy strategy. Section 5 discusses the findings and Section 6 concludes the paper.

2. Framing the concept of land policy strategy

Land policy is increasingly seen as a selected strategy rather than a sum of technical processes and procedures. This section frames the concept of land policy strategy by discussing first some general notions related to public policy instruments and their selection, moving then to review how previous studies have approached the choice of a combination of instruments to pursue certain land policy objectives. Furthermore, Section 2.3 presents an analytical framework for studying the diversity of municipal land policy strategies within a single-country context.

2.1. Land policy instruments as public policy tools

This study understands land policy as the sum of government interventions on the land market that define where and how land is distributed to future development and how this development is incentivised or obliged. There is a common understanding that such interventions in the name of spatial development are needed in order to advance the public good (Needham, 2006; Webster, 1998), but the extent and appropriate methods of government interventions remain a matter of political debate (van der Molen, 2015). The intervention to the land market takes place within a web of existing (property) rights and interests (e.g., Gerber et al., 2018). The property rights aspects land policy deals with are often complex and driven by interests of several stakeholders (e.g., municipalities, private landowners, building developers). Therefore, practicing land policy always requires appraisal of power relations and should rest upon a carefully considered strategy combining different policy instruments.

Most land policy interventions take place at local government level.

Municipalities advance their land policy objectives by means of a range of alternative public policy instruments. In every policy field, there are a number of alternative instruments with which to pursue the set policy objectives. The public policy literature has developed several conceptualizations, classifications and lists of these instruments, most of which aim to disentangle the different features of governing actions. One of the most well-known typologies is that presented by Vedung (1998), who makes a distinction between sticks (regulative instruments), carrots (economic instruments) and sermons (informative instruments). These theoretically driven typologies are rarely used in empirical work as they stand but are typically complemented, redesigned and adapted to fit the specific context (Acciai & Capano, 2020).

Existing typologies of land policy instruments are likewise mainly designed to clarify the roles, scopes and operating logics of different instruments. Williamson et al. (2010, p.199) take a practical stance and distinguish the following main types of land policy instruments: land acquisition by agreement, land banking, compulsory purchase, pre-emption rights and financial incentives. Furthermore, they note that there are several other means such as public-private partnerships that fall outside the listed instrument types. More recently, a classification has been proposed that divides land policy instruments into groups based on the type of law (public law, private law) from which they derive (Debrunner & Hartmann, 2020; Gerber et al., 2018). This classification highlights how some methods of interventions do not intervene with private property rights at all, while others may fasten on the use or disposal rights of a property, or even on the formal ownership of a property (Debrunner & Hartmann, 2020; Gerber et al., 2018).

Typologies of land policy instruments are valuable for creating a shared understanding of the differences and similarities in available instruments between countries and institutional environments internationally. They also help to understand the opportunities available for municipalities when designing their land policy within a specific country-context. Such typologies fail, however, to explain the variation between municipalities in their de facto policy designs. To stress that the choice of policy instruments and formulation of land policy strategies at the local government level is not a mere technical task but rather that many underlying issues affect the abilities of municipalities to facilitate and steer urban land use and development, this study adopts the political sociology approach to policy instruments and describes a public policy instrument as a device “that organizes specific social relations between the state and those it is addressed to, according to the representations and meanings it carries” (Lascoumes & Le Galès, 2007). This widely accepted definition portrays public policy instruments as more than just neutral tools or techniques. On the contrary, they are a type of social institution and as such they bear values. Ultimately, all actors perceive and interpret policy instruments from different points of view, making their meaning and appeal inherently non-neutral (Linder & Peters, 1989).

Evidently, a less functionalist approach has gained ground in recent years which considers not only the effectiveness of the policy instrument but also other criteria. Capano and Lippi (2016), for example, have noted that the choice of policy instruments should be connected to the two main pillars of decision-making: the search for effectiveness and the construction of a common acceptance. In a similar vein, Hartmann and Spit (2015) illustrate how land policy interventions, or ultimately the instruments available for executing those interventions, may be reflected in the criteria of effectiveness, efficiency, democratic legitimacy, and fairness, to better understand the underlying notions and values related to different instruments and approaches. However, regardless of whether the driving logic behind instrument selection is more effectiveness-seeking or sense-seeking, the choice is always inherently political (e.g., Peters, 2002).

2.2. From instruments to strategies

Howlett (2019) observes that current studies are increasingly

interested to better describe the nature of bundles or portfolios of instruments and to understand the interactive effects of such bundles. This can also be said to apply in the context of land policy. In what is considered a land policy strategy, planners and other relevant officials employ a *specific set* of land policy instruments to support the implementation of policy objectives (e.g., Meijer & Jonkman, 2020). A distinction is routinely made between two main types of land policy strategies: active and passive. A municipality pursuing an active land policy will strive to support the implementation of its policy objective(s) by taking an active role in the land development process. This means buying land before detailed planning and developing it either independently or, increasingly, in collaboration with private parties. It is commonly argued that the active approach supports the steering of spatial development, cost recovery of public investments in infrastructure, public space etc., as well as capturing the increased value of developed land (see e.g., Buitelaar, 2010; Hartmann & Spit, 2015; Valtonen et al., 2018; Van der Krabben & Jabobs, 2013). In the passive approach, then, private parties have a stronger role. While public bodies are still responsible for planning and regulating land use, it remains for the private parties to put those plans into effect (see e.g., Hartmann & Spit, 2015).

Many scholars have pointed out that there is diversity beyond the active-passive dichotomy: in practice, it is very rarely that municipalities apply a purely active or a purely passive land policy strategy (Shahab et al., 2021; Van der Krabben & Jabobs, 2013; van Oosten et al., 2018). However, most studies into this diversity have limited their focus to specific policy objectives, such as densification (see e.g. Meijer & Jonkman, 2020), provision of affordable housing (Debrunner & Hartmann, 2020) or value capturing (Muñoz Gielen et al., 2017). The diversity of land policy strategies may be partly context-specific, i.e., the (strategic) choices available are determined by the rules, regulations and other formal and informal boundary conditions within that institutional environment. Shahab et al. (2021) also identify a number of cross-country similarities. Based on their empirical findings across three European countries, they present an ideal-typical four-dimensional framework which in addition to the active and passive type includes protective and reactive land policy strategies. Protective land policy is described as a welfare-driven policy that relies predominantly on the use of public-law policy instruments. Reactive land policy, in contrast, is defined as a demand-driven strategy where development contracts and negotiated land use plans play a major role. Albeit the framework presented by Shahab et al. (2021) is an important step towards acknowledging the diversity of land policy strategies at the local government level, the formulated strategy types are theory-driven. As the authors themselves point, there are no clear examples of municipalities that would employ one of the four described types, protective land policy. This underscores how land policy strategies often are hard to define and that the municipal land policy strategies are more nuanced and multi-dimensional in practice.

To summarize, increasing attention is being dedicated to land policy strategies in the literature. Despite this trend, the conceptualisation of local government level land policy strategies remains in its infancy. In particular, there is a limited understanding of ‘the black box’ of municipal land policy practices, i.e., the extent to which municipalities employ the flexibility given to them, particularly by the rules and regulations, in their land policy formulation. To make proper sense of the scale of practices and how they as combined go to make up a municipal land policy strategy, it is necessary to focus on one country-context at a time. Next, we propose a framework to be used to analyse municipal land policy strategies within a single country-context.

2.3. Analytical framework

Fig. 1 visualizes our perspective on the selection and formation of municipal land policy strategy. The uppermost level is that of the institutional environment. Municipalities make land policy decisions

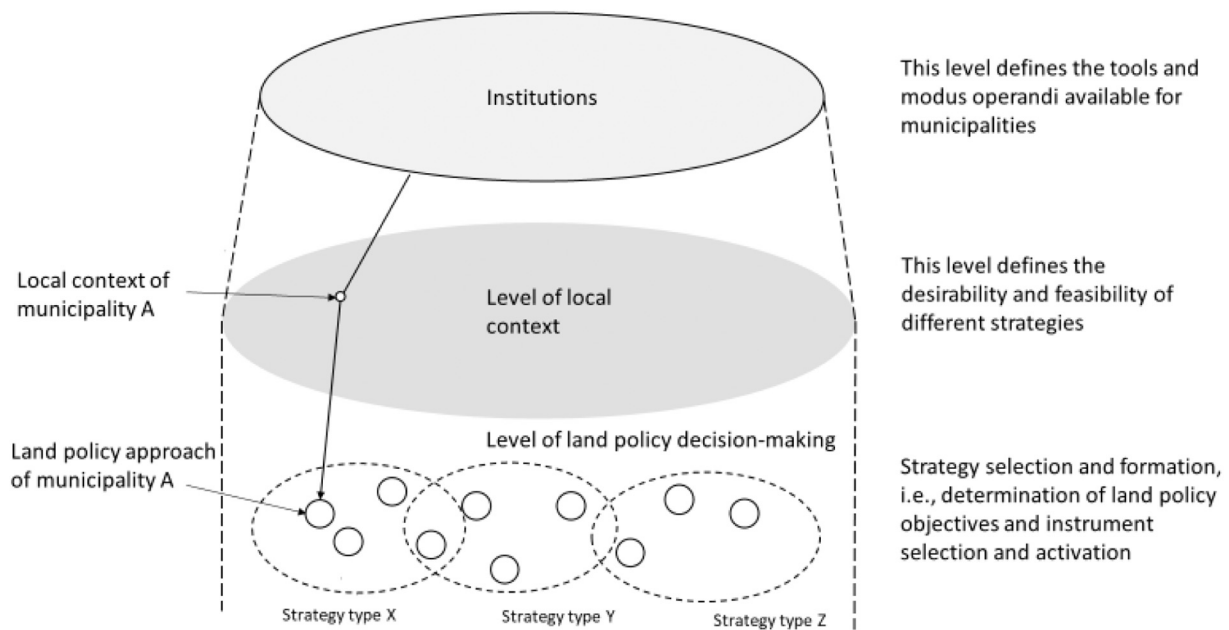


Fig. 1. Analytical framework for studying municipalities' land policy strategies within a given country-context.

within their institutional environments (national planning systems, legislation, cultural norms, etc.), and this level defines the tools (policy instruments) and the modus operandi available to them. While in theory each municipality has access to a similar set of strategy options, the desirability and feasibility of different strategies is affected by each municipality's local context. By local context we refer to the broader context of land policy strategy selection that is formed by a number of demographic, economic, political and other factors. For example, a municipality faced with a declining population trend is bound to emphasize different objectives and policy instruments in its strategy than a municipality with an increasing population trend. Another example concerns the political representation of a municipality. The political power relations and related ideologies might have an effect on practiced land policy for instance through the willingness to employ certain land policy instruments, such as expropriation of private property. Local context is presented as a uniform layer with no clear outer boundary in Fig. 1, and we note that conceptually it is harder to define than the institutional environment because there is no exhaustive definition for the local context, which obviously varies between municipalities. However, it is a major element in the analytical framework and its exclusion could lead to false interpretations about the extent of discretion available to municipalities in their decision-making and strategy selection. Municipal land policy decision-making, i.e., strategy selection and formation, takes place below these two levels. Fig. 1 aims to illustrate that even though each municipality employs its own unique approach to land policy, the municipal strategies are located within a space that is bounded by the institutional environment and pressured by the local context. The small circles in Fig. 1 present municipal land policy strategies. Furthermore, we assume that these strategies share similar features along certain dimensions and even cluster around each other so that sets of rather homogenous types can be identified.

The dash lined ellipses in Fig. 1 represent the focus of this research, generalisable municipal land policy strategy types. This study relies on typology building to identify such strategy types. The purpose is to construct an empirically grounded typology, which means that the classification is derived primarily from data rather than from theory (Winch, 1947). Empirically grounded typologies describe modal rather than extreme characteristics of the unit studied. In general, empirical typologies aim to present internally homogenous groups of cases that are simultaneously distinct from each other (Kluge, 2000). Ayres and Knafle

(2008) explain how typologies are characterized by categorization but not by hierarchical arrangement. In other words, the categories or types should be related to one another, but they are not subsidiary to one another, nor should any category be a dominant one (Nind & Lewthwaite, 2020). The types are not necessarily mutually exclusive either, as Fig. 1 illustrates. A specific challenge related to the development of empirical typologies is recognizing the key dimensions where commonality and/or variation occurs across the cases. In the context of land policy this is particularly important since within each jurisdiction there exists a wide selection of policy instruments that can be employed to advance the specified land policy objectives. The objectives, too, may vary substantially between municipalities.

3. Methodology

The present study explores the observable variation and commonality in municipalities' land policy practices with a view to constructing a typology of strategy types. The process of developing empirically grounded qualitative typologies is often multi-faceted and iterative by nature (e.g., Kluge, 2000). The greatest challenge lies in identifying the combination of elements (henceforth called "classification scheme") that serves as a basis for analysing the patterns and interlinkages between the units studied. To create the classification scheme, this study draws methodologically on a combination of deductive and inductive logics. Prior theoretical knowledge is used to inform data collection and to form the main categories for data analysis, and the coding scheme is further developed inductively based on empirical data. The classification scheme is then used to describe each municipality's approach to land policy in a condensed, numerical form to facilitate the construction of the type. This section describes the institutional context, data collection and the research process in more detail.

3.1. Study unit and data collection

This study examines the land policy strategies of Finnish municipalities. The Finnish planning system is a statutory framework which gives municipalities strong control over spatial development. All legally binding zoning plans that allow building development are created and approved by municipalities (see e.g. Valtonen et al., 2017). Importantly, municipalities decide independently when and where planning

processes are started within their jurisdictions. Finland is one of the few countries where public land development is traditionally the standard approach (van der Krabben et al., 2020). The *Land Use and Building Act (1999)* includes a definition for land policy and lists the conduct of land policy among the responsibilities of municipalities. However, municipalities have a degree of flexibility in the selection and use of land policy instruments: legislation allows for the use of alternative instruments to pursue selected policy objectives.

To elicit tacit knowledge about land policy decision-making and current practices in Finnish municipalities, we conducted interviews with representatives of 30 municipalities in March 2020 – August 2020. The interviews were semi-structured and therefore allowed for some flexibility regarding the discussions (e.g., Robson, 2002). The sample comprises 30 of the 31 most populated municipalities in Finland (31 municipalities were contacted, but one declined the invitation to be interviewed). These municipalities account for 61% of the Finnish population. Hence, the sample is highly representative of land policy practices in large, urban Finnish municipalities² and covers different local contexts. In terms of the Nomenclature of territorial units for statistics (NUTS) classification (Eurostat, 2016), our sample includes municipalities from each NUTS-2 level region in Finland excluding the Åland islands.

The interviewees represent the highest level of land policy expertise in each municipality. In most cases interviews were conducted with one person, often the head of a land surveying and land use unit, a land use expert, or similar, but in six cases two or three persons were interviewed to make sure answers were obtained to all interview questions. The interviews were conducted via remote connection (Zoom, Microsoft Teams) and lasted from 60 to 210 min. They were recorded with the interviewees' permission. The recordings were transcribed as per usual content analysis conventions. Content analysis of one of the interviews had to be limited to field notes because of problems with the recording.

Guided by prior theoretical knowledge, the interviews were designed to cover the regulatory, economic and informative land policy instruments currently available in Finland (see Table 1). The goal was to collect information about *why, how and when* (under what conditions) the different instruments are applied. Current land policy objectives were also discussed. In addition, the interviews covered more general and cross-cutting themes, such as the strategic role of land policy and the effectiveness, efficiency, legitimacy and fairness of current land policy practices. This study uses only part of the material collected.

To complement the interview data, the sample municipalities' land policy agendas were collected. A land policy agenda is a council-approved document that outlines the municipality's principles on different dimensions of land policy. It is considered a document that increases the transparency and fairness of a municipality's land policy. In the Dutch context Woestenburg et al. (2018) have noted that this type of document (they call them land policy memoranda) contains “self-imposed regulation”. The same applies in the case of Finland: the agenda is a document that guides municipal decision-making on land policy matters. However, municipalities have no obligation to prepare and approve a land policy agenda. In this sample agendas were obtained from 27 of the 30 municipalities. Since our focus is on the current state of municipal land policy, only the most recent land policy agendas available were collected. Other relevant material such as land use implementation plans and reports, and supplemental land policy principles were also collected. This secondary material was used mainly to fill knowledge gaps in the interview data and to check and verify parts hard to interpret based on the interview transcripts. We also stress that

Table 1

Land policy instruments covered in the interviews.

Theme	Land policy instrument	Definition
Municipal land ownership	Land banking	Municipality acquires and reserves undeveloped land for development purposes (land seen as an investment).
Land acquisition	Voluntary land acquisition	Municipality acquires land from private landowners by voluntary means.
	Use of pre-emption rights	Municipality exercises its pre-emptive right of purchase.
	Expropriation	Municipality acquires a private property in a compulsory purchase (only if the public interest so requires).
Public control over land use	Allocation and distribution of buildable plots (through zoning)	Municipality allocates buildable plots to municipally and privately owned land in a certain ratio.
Private land development	Land use agreement	Contract signed between municipality and private landowner that determines a land development fee and the terms and conditions of development when privately owned land is (re) developed.
	Compulsory land development fee	A compulsory fee that the municipality can charge when (re)development takes place on privately owned land and when no voluntary agreement is reached. The fee can be up to 60% of the value appreciation.
	Special development areas	The designation of special development area status allows for several special arrangements to be put in place. For instance, the municipality is entitled to collect a development charge that is disproportionate to costs if measures show that a landowner will gain more value from development. Unbuilt areas can be designated as special development areas based on necessary housing policy measures or fragmented ownership or partition.
		The way in which public land allocations are organized – particularly how municipalities select assignees.
Public land allocations	Public land allocation principles	
	Public land sales	Municipality sells land to a private third party at market price.
	Long-term ground leases	Municipality remains landowner while a private third party is granted the right to use the land in exchange for an annual/monthly rent. In Finland ground leases are usually very long-term, even up to 100 years.
Private land supply	Conveyance stipulations	Terms and sanctions imposed by municipality in conveyance agreements.
	(Expropriation based on) reminder to build	Municipality can issue an owner or titleholder of a plot with a reminder to build if less than half of the gross floor area permitted for the plot has been used. If building on the plot has not been completed within 3 years, the municipality is entitled to expropriate the said plot without special permission.
	Vacant urban land tax	Municipality can set a higher property tax rate for unbuilt plots.

(continued on next page)

² We stress that here municipality is a governing body and an administrative unit that may contain both urban and rural type of areas. Our study focuses on the most populated municipalities in Finland that each have at least one substantial urban population cluster. We focus on municipal approaches to land policy within or near to those urban population clusters.

Table 1 (continued)

Theme	Land policy instrument	Definition
Informative instruments	Information sharing and communication with stakeholders	Practices related to information sharing and communication to stakeholders about relevant land policy issues, such as public land sales, potential to (re)develop or densify privately owned plots, or new (updated) land policy principles.

the analysis does not cover all municipal formal decisions, i.e., we did not collect and analyse all individual formal decisions related for instance to public land acquisitions and land sales or land use agreements.

3.2. Process of type construction

The analysis consisted of two main phases (see Fig. 2). The first phase involved developing a classification scheme that made it possible to characterize land policy strategies. The goal was to identify those elements where there is variation in land policy practices. The principal research method was content analysis (e.g., Weber, 1990). The transcripts were first read and coded inductively. The codes were then organized under categories stemming from prior knowledge. Guided by the theoretical knowledge about land policy strategies and public policy instruments, the categories used were: 1) land policy objectives, 2) regulative land policy instruments, 3) economic land policy instruments and 4) informative land policy instruments. This categorization was then finetuned by forming smaller groups of codes related to the same topic in order to discover the attributes that constitute a land policy strategy (see Table 2 for the final list of attributes). To identify variation at the attribute level, the materials were re-read and re-analysed one attribute at a time. A scale (a group of policy options) was then determined for each attribute. Once the attributes had been identified and named, they were grouped again under wider dimensions to improve the clarity and structure of the classification scheme.

In the second phase of analysis, the scheme created was used to assign to each municipality a combination of scores reflecting its land policy strategy. Then, to move from individual observations of land policy strategies to types of land policy strategy, the cases were grouped based on qualitative pattern recognition. Cases showing empirical regularities were clustered together, and groups were then analysed one by

one to better understand the connections between attributes within a strategy. In this case a group consists of a minimum of two municipalities, because the aim is to understand features of strategy types rather than individual strategies. A clustering method (k-means clustering, see e.g. Xu & Wunsch, 2008) was used to test and verify the findings of qualitative pattern recognition. The final step was to write up the strategy type descriptions, which was again done by using content analysis.

As Fig. 2 illustrates, the research process was not a linear but rather an iterative process. Some back-and-forth movement was needed between steps 1–3 in Fig. 2 to ensure that the final version of the classification scheme included all relevant – but no redundant – elements.

4. Results

This section is divided into two parts. The first part describes the classification scheme that outlines the elements of a land policy strategy in the Finnish context. The second part describes the five types of land policy strategy identified.

4.1. Classification scheme: what constitutes a municipal land policy strategy in the Finnish context

During the research process, we identified six dimensions to serve as structuring concepts for the classification scheme and the typology: *land policy objectives*, *public land acquisition*, *public-private cooperation*, *public land allocations*, *economic incentives*, and *information steering and facilitation*. Each dimension consists of one or more attributes. Attributes are the core elements of the scheme and the building blocks for the typology. In line with previous definitions of land policy strategy, the attributes in our scheme cover the spatial development objectives of a municipality and the most important means for achieving those objectives. However, it is important to stress that we do not use the term attribute as a direct equivalent of a land policy instrument in this scheme. Some instruments are merged under one attribute, while others are disaggregated to capture all relevant variation related to the instrument. The scheme does not include instruments that are used rarely, if ever, such as special development areas and compulsory development fees, nor instruments that appear insignificant for the categorization. In all, we recognize 13 attributes that should be considered integral parts of a land policy strategy in the Finnish context. For each attribute, between 4 and 6 strategy options were identified from the data. This range of options is called an attribute scale, and it showcases the variation in practices for

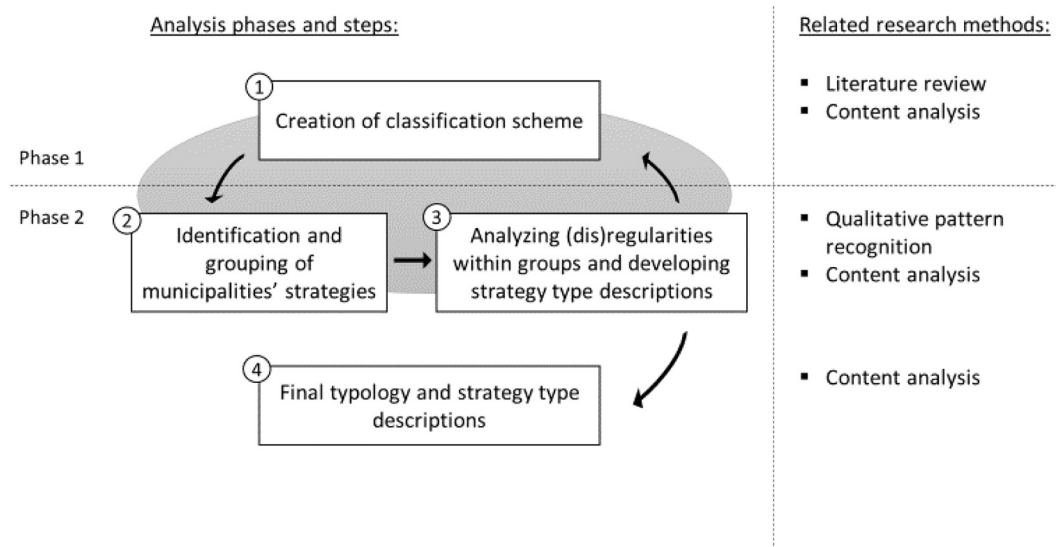


Fig. 2. The research process visualized.

Table 2

The full classification scheme. The scores for the municipalities studied are reported in Supplementary Table 1.

Dimension	Attribute	Attribute scale
Objectives	Main objective of land policy	0: Revenue generation for municipality; 1: Housing development and policy; 2: Optimal land supply; 3: Regional or city vitality; 4: Objective unclear
Public land acquisition	Land acquisition for land banking purposes	0: Land acquisition is not systematic; 1: Historically systematic but the share of greenfield development is declining and the focus is shifting to brownfield sites and infill development; 2: Historically systematic but the focus is shifting to catering for industry needs; 3: Land acquisition activity has fluctuated over the years; 4: Land acquisition is considered highly important and done very actively and systematically
	Use of compulsory instruments	0: Compulsory instruments are not used; 1: Use of compulsory instruments is conceivable but they are used very rarely (if at all); 2: Expropriation of undeveloped land is used fairly regularly; 3: Expropriation based on a reminder to build has been used; 4: Both 2 and 3 apply
Public-private cooperation	Ownership structure of (re)developed land	0: New housing is allocated mainly to privately owned land; 1: New housing is allocated roughly half and half to privately and publicly owned land; 2: New housing is allocated to a great extent to publicly owned land; 3: New housing is allocated almost entirely to publicly owned land
	Ownership structure in greenfield development	0: Greenfield development takes place mainly on privately owned land; 1: Both on privately and publicly owned land but more often on the latter; 2: Occasionally on privately owned land; 3: Only on publicly owned land
	Obligations in land use agreements	0: No specific obligations (on top of planning-imposed obligations); 1: Obligations related to housing type and tenure mix often used; 2: Obligations related to housing size mix often used; 3: Obligations related to both housing type and tenure mix and housing size mix often used; 4: Multiple area-specific obligations, from building quality (e.g. energy efficiency) to tenure and housing mix used; 5: Building schedule is strongly enforced
	Determination of land development fees	0: Fee is determined as a fixed percentage of the value increase, sometimes deductions considered; 1: Fee is determined based on the value increase, but the percentage varies depending on project's infrastructure and servicing costs; 2: Fee is determined on the basis of cost recovery; 3: The method of calculation is selected on a case-by-case basis, but full cost recovery often not a goal
Public land allocations	Principles of public land allocations	0: Varying selection criteria applied to open applications (no fixed price); 1: Fixed price and quality of applications evaluated; 2: Competitive bidding; 3: Continuous applications and/or negotiations
	Conveyance of publicly owned land	0: Selling is the preferred option but ultimately the assignee chooses the method; 1: Renting is the preferred option but ultimately the assignee chooses the method; 2: Renting is the main method but certain sites are sold; 3: Method of conveyance depends on municipality's financial condition or other factors; 4: No preferred method and assignee can freely choose whether to buy or rent
	Steering through public land allocations	0: No steering through land allocations; 1: Some steering but no clear definition of policy; 2: Climate and energy related criteria and terms have been used in land allocations; 3: Particularly housing type and tenure mix as well as housing size mix related criteria and terms used in land allocations; 4: Extensive steering with multiple foci
Economic incentives	Redevelopment incentives	0: No particular incentives; 1: Carefully considered threshold in land development fees (landowners' willingness to develop with the set rate considered); 2: Infill development incentives that apply across the municipality area; 3: Area-targeted development incentives
	Vacant urban land tax	0: Not used; 1: Set to a medium range but not considered an effective land policy instrument; 2: Set to a medium range and considered an effective instrument; 3: Considered an effective instrument and the current rate is set (close) to maximum
Information steering and facilitation	Information sharing and cooperation with stakeholders	0: Regular information sharing through municipality's website (e.g., land policy principles, public land sales); 1: In addition, targeted information to landowners e.g. about infill development options (e.g., through a specific website, personalized letters); 2: In addition, municipality lists information about free private plots on its website; 3: In addition, housing developers are informed about public land sales and other relevant land policy issues; 4: Two or more of options 1–3 apply

each attribute, and in some cases reflects perceptions of the use of a certain instrument. The full classification scheme is presented in Table 2.

The first dimension, **Land policy objectives**, only includes one attribute, i.e., *Main objective of land policy*. Even though municipalities often set multiple objectives that they want to advance through their chosen land policy instruments, the aim in this scheme is to identify the one overriding objective among the wider set of objectives. The second dimension, **Public land acquisition**, features two attributes. The first attribute is called *Land acquisition for land banking purposes* and it aspires to capture how actively and systematically a municipality acquires land from private landowners for land banking purposes. The second attribute is called *Use of compulsory instruments* and it summarizes the municipality's alignments with regard to the use of expropriation as a land acquisition method.

The dimension of **Public-private cooperation** includes four attributes. Two of these attributes relate to the ownership structure of developed land, the other two relate to land use agreements. The attribute called *Ownership structure of (re)developed land* describes the ratio in which new housing is allocated to publicly and privately owned land. This attribute summarizes how the overall volume of new housing is distributed. In some municipalities the majority of new housing is generated through the redevelopment of land (alteration of plans, brownfield development) while in others the share of greenfield development remains high, and therefore the scheme also includes an attribute called *Ownership structure of greenfield development*. Together, these two attributes aim to capture public control over land use. When privately owned land is developed, the terms of development and the distribution of added value gains are laid down in land use agreements. Our classification scheme includes an attribute that describes the extent of steering that takes place through land use agreements (*Obligations in land use agreements*) and an attribute that illustrates the principles applied to the determination of land development fees (*Determination of land development fees*).

Public land allocations constitute the fourth dimension. In this study we highlight three perspectives related to public land allocations: *Principles of public land allocations*, *Conveyance of publicly owned land* and *Steering through public land allocations*. The first attribute of this dimension summarizes how municipalities choose to organize the selection of assignees of the land that the municipality assigns to building development. This is often done in several different ways (e.g., applications, competitive bidding, negotiations) but the aim here is to identify the standard procedure for each municipality. Likewise, most municipalities use multiple different methods of conveyance, depending for instance on the type of plots allocated. Again, our aim is to capture the standard procedures of municipalities. The third attribute of the dimension, *Steering through public land allocations*, describes how intensively municipalities steer and coordinate new housing built on the land they allocate.

The dimension named **Economic incentives** consists of two attributes. The attribute *Redevelopment incentives* depicts what kind of incentives – if any – exist to increase the supply of new housing at locations that can be considered redevelopment sites or areas. The second attribute, *Vacant urban land tax*, describes municipalities' set rates of vacant urban land tax as well as views on the effectiveness of a tax instrument for increasing the supply of private land. The last dimension of **Information steering and facilitation** only includes one attribute, *Information sharing and cooperation*. This attribute aims to summarize how actively municipalities share information about land policy practices, development opportunities, etc. to main stakeholder groups such as landowners and building companies.

4.2. Typology of municipal land policy strategies

Using the classification scheme described in Section 4.1., we identified a land policy strategy for each municipality in the sample (see Supplementary Table 1). Based on an analysis of the (dis)similarities and

(dis)connections between the strategies, we recognize five distinct land policy strategy types for Finnish municipalities: 1) land banking based active land policy, 2) growth-oriented active land policy, 3) regional vitality driven land policy, 4) housing policy-oriented land policy and 5) private development focused land policy. Each strategy type is described in detail below and summarised in Table 3.

4.2.1. Type 1: land banking based active land policy

As its name indicates, this strategy type can be considered the closest variant of the municipality-led active land development approach. Municipalities in this group have strongly assumed the role of land developer, as is evident from the main objective of land policy, which in most cases is to provide an optimal supply of land for different uses (housing, industry, etc.). To achieve that goal, the land policy strategy places heavy emphasis on land acquisition for land banking purposes. Land is acquired very actively and systematically and primarily on a voluntary basis. Compulsory purchases will be considered but in practice are rarely made. Under this strategy there is clear tendency to allocate greenfield development on publicly owned land. However, not all housing is allocated to publicly owned land since the share of redevelopment, brownfield development and/or infill development as a proportion of the total new housing stock is increasing in many municipalities in this group. This is reflected in the use of redevelopment incentives. In particular, land use agreements will often include incentives for infill development, such as discounts on the land development fee when development takes place on a plot owned by a residential housing company. Other incentives can also be observed, such as increasing the permitted building volume without compensation in low-density areas.

Active land banking and strong public control over land use mean that much of the demand for land is met by public land allocations. In this strategy, the main principle tends to be to organize public land sales more or less frequently, with the plots available for sale listed on the municipality's website for a certain period of time so that any interested parties can leave an application. In this model plot prices are usually predetermined and the assignees are selected either by evaluating the quality of applications or by lottery. Renting or selling would often be a preferred method of conveyance, but ultimately it is the assignee who chooses the method. Public land allocations are not used very actively as an instrument to steer construction in a certain direction. Vacant urban land tax is seen as an effective instrument in this strategy and is often set to a medium range or close to the maximum rate. Information sharing does not have a central role, but construction companies are sometimes informed of upcoming public land sales, or information about free private plots is listed on municipality's website.

4.2.2. Type 2: growth-oriented active land policy

This strategy type shares many features in common with the previous one, but there are also clear differences in some attributes. The municipalities in this group explicitly pursue growth through their land policy. Their growth mentality relates either to population growth, revenue from land policy actions, or both. In the same way as land banking based active land policy, this strategy allocates greenfield development predominantly to municipally owned land. Land acquisition is thus in a prominent role, but in this group municipalities often take an even more systematic and scheduled approach to land acquisition. Therefore, they are also bit more likely to use compulsory purchases to secure their land banking needs.

In this strategy, the financial objectives for land policy tend to be concrete and more binding than in other strategy types. This is reflected in public land allocation practices. First, competitive bidding is more common in public land sales in this category. Potential buyers may bid for the highest price, but it seems to be increasingly common to have a valuation professional determine the price of a plot and then to ask potential buyers what level of quality they can deliver at that price. Another characteristic of this type is that the method of conveyance

Table 3

Strategy types summarized based on key dimensions.

Dimension	Type 1: Land banking based active land policy	Type 2: Growth-oriented active land policy	Type 3: Regional vitality driven land policy	Type 4: Housing policy-oriented land policy	Type 5: Private development focused land policy
<i>Land policy objectives</i>	Optimal land supply	Revenue generation for municipality	Regional/city vitality	Housing development and policy	Unclear/Ambiguous
<i>Public land acquisition</i>	Very active and considered a cornerstone of land policy.	Very active and tied to a strict schedule. Compulsory instruments used more often than in other strategy types.	Active and often done to cater for industry needs.	Historically active but a paradigm shift to redevelopment/densification underway.	Inactive and compulsory instruments avoided.
<i>Public-private cooperation</i>	Strong public control over land use.	Strong public control over land use. Some steering through land use agreements.	Strong public control over land use.	Strong public control over land use. Share of public-private cooperation increasing. Many obligations in contracts.	Majority of new housing is allocated to privately owned land. Not many housing quality and type related obligations.
<i>Public land allocations</i>	No competitive bidding. Not much emphasis on steering through public land allocations.	Competitive procedures used fairly often. Steering through public land allocations.	Flexible practices in public land allocations. No steering through public land allocations.	Much emphasis on steering through public land allocations. Competitive procedures applied occasionally.	Not much emphasis since no active land banking.
<i>Economic incentives</i>	Redevelopment incentives used especially in large cities. Vacant urban land tax used actively.	Redevelopment incentives used.	No incentives (few contracts and added land value low and hence hard to incentivize development). Vacant urban land tax not used.	Redevelopment Incentives an important part of the strategy. Tax instruments do not play a major role.	Landowner favourable threshold in land development fees considered the main incentive.
<i>Information steering and facilitation</i>	No particular focus	No particular focus	Information sharing not active	Focus on infill development	Focus on infill development

often depends on the municipality's current financial situation and/or the annual financial objectives set for land policy. In other words, the decision to sell or lease a plot may depend entirely on prevailing financial needs.

Another point of difference between growth-oriented active land policy and land banking based active land policy lies in the steering and coordination of new development. Both public land allocations and land use agreements are used to steer new housing construction in the desired direction. Redevelopment incentives are also used in this strategy. Attitudes towards vacant urban land tax vary somewhat in this group: some municipalities do not consider it an effective instrument while others have set the tax rate at close to maximum.

4.2.3. Type 3: regional vitality driven land policy

This strategy type occurs in municipalities faced with declining population trends, and the main objective of land policy is to support and enhance local and/or regional vitality. From a land policy perspective, the declining population trend means that there is limited demand for land and particularly land for housing. Therefore, instruments aimed at increasing private land supply (vacant urban land tax, a reminder to build) are rarely used in municipalities that fall under this strategy type.

Efforts to revitalize local and/or regional development are reflected most particularly in land acquisition practices and public land allocations. Land banking is also on the agenda in this strategy, but its main purpose is more often than in other strategy types to cater for industry needs. Land acquisition for housing development purposes, in contrast, is deliberately limited or purchases are considered very carefully since existing plot reserves satisfy the foreseeable future demand for housing land. The municipalities in this group tend to have such high reserves of land and plots that virtually all development takes place on municipally owned land. Therefore, land use agreements are rarely used and redevelopment incentives are virtually non-existent. However, there is a favourable attitude towards any kind of development, which in extreme cases can mean that for a private development project, the municipality will only charge part of the actual costs of infrastructure provision. In this strategy type public land allocations are characteristically flexible. Applications are received on an ongoing basis and sometimes the municipality might act in an advisory capacity and help the potential buyer

find a suitable location. Development is quite market-based, i.e., there is no intention to use tight restrictions or obligations in order to steer tenure type or housing sizes, for instance.

4.2.4. Type 4: housing policy-oriented land policy

Housing policy-oriented land policy places strong focus on housing development and housing policy objectives. The objectives and policy targets obviously vary between municipalities, but they can relate to the volume or quality of housing development, the prevention of segregation, the densification of land use or controlling housing prices, for instance. Municipalities in this group are convinced that instruments of land policy are crucial to achieving such objectives, and they have developed several practices to steer and coordinate new housing development. Hence, the main difference compared to other strategy types is the pronounced role of steering and guiding mechanisms in land policy instruments.

As with strategy types 1–3, development largely takes place on municipally owned land. Land acquisition for land banking purposes, however, is facing a paradigm shift since new housing is increasingly allocated to areas within the existing infrastructure. This does not mean to say that there is no land acquisition at all, but rather that it is changing in its nature and scope. In other words, municipalities are acquiring ownership or lease rights in strategically convenient locations with the intention of redeveloping those sites for housing purposes. Despite the shift in land acquisition practices, the share of public-private cooperation is inevitably increasing. Land use agreements in this strategy often include several obligations from tenure type mix and housing size requirements to energy efficiency ratings. Furthermore, it seems there is an above-average interest in this strategy in testing and fine-tuning the redevelopment incentives built into the contracts. Infill development incentives targeted at housing companies are particularly common. This strategy may also involve information steering regarding infill development options.

Public land allocations are considered a particularly important instrument as they provide an effective means for coordinating not only the type and quality of new housing but also the timing of completion. The main principle in this strategy is to organize frequent public land sales where all potential buyers may submit applications, which are then evaluated based on some (varying) criteria. Competitive bidding is used

only for specific locations. Renting is the principal method of conveyance since municipalities are keen to maintain strong land ownership even in developed areas. Public land allocations include many elements of steering. Vacant urban land tax is seen as a good addition to the toolbox of land policy instruments, but it is not considered a pivotal instrument.

4.2.5. Type 5: private development focused land policy

The fifth strategy type represents the most passive approach to land policy. Private land development is viewed in a fundamentally different way in this strategy, and the majority of new housing is allocated to privately owned land. This is obviously reflected in public land acquisition that – compared to all other strategy types – is inactive and not high on the agenda. Land is acquired occasionally through voluntary agreements or received in compensation for development rights allocated to privately owned land, but the stance on the use of compulsory instruments is clearly negative. The central instrument in this strategy is hence the land use agreement. Revenue from land use contracts is the main source for financing the infrastructure costs associated with new development. Much attention is therefore given to determining the land development fee, and to finding a compensation level that is favourable enough (for landowners) to make land development an attractive option while securing cost recovery.

Public land allocations have less importance for municipalities in this group. Land sales are infrequent and do not generate much annual revenue compared to land use agreements. The low volume of land sales also means they are a relatively inefficient instrument for steering the quality and type of housing development. This strategy is also more geared towards achieving a market-oriented outcome regarding the quality and type of development. Therefore, the range of obligations used in land use contracts is noticeably smaller than in the case of policy-driven land policy. However, obligations or sanctions related to the development schedule play a critical role as they provide the principal means for steering the supply of private land. Vacant urban land tax is another tool with which private land supply is managed, and it is considered a fairly important and effective instrument in this strategy. Interestingly, infill development is promoted by focusing on the distribution of information. Infill development incentives, in contrast, are considered a less suitable way of creating interest in infill options.

5. Discussion

5.1. The relevance of studying land policy strategy types

Research interest in the diversity of land policy strategies has continued to grow in recent years, but there still remain many unexplored areas with regard to the variations and commonalities in those strategies. In this study we have outlined a method for characterizing this variation and constructed a typology of land policy strategies in the Finnish context. The choice to focus on a single-country context allowed us to develop a relatively detailed classification scheme of the attributes of municipal land policy strategies and of the variation in the use of different land policy instruments. Based on this classification scheme we constructed a five-category typology, which allows us to show that municipalities do in fact apply very different strategies within one country. Compared to previous studies on variation and locality of land policy strategies (Gerber, 2016; Shahab et al., 2021), our findings provide more insight on the extent to which municipalities employ the flexibility available to them in their land policy formulation.

The distinction between active and passive land policy types is widely recognized and applied in the land policy literature. This study does not question this distinction, but our findings do provide new evidence about the diversity of active land policy strategies. Internationally there has been renewed interest towards active approach to land policy, as it has shown promise for instance to deliver desired housing development in a more effective way (e.g., Gerber et al., 2017; Jonkman

et al., 2022). When discussing about the active land policy strategies, it is important to note that the traditionally high share of public (municipal) land ownership has shaped the way active land policy is framed and understood in the Finnish context. As for instance van der Krabben et al. (2020) note, only a small group of European countries make use of such comprehensive model of public land banking to advance the achievement of broader spatial development goals. The typology shows that like in the Swedish case (see Olsson, 2018), the local authorities in major Finnish cities continue to use public land ownership as means to actively facilitate and control urban land use and development. Our findings show that four of the five strategy types identified emphasize the role of public land acquisition and strong public control over land use. However, the other dimensions, namely *Land policy objectives*, *Public land allocations*, *Economic incentives* and *Information steering and facilitation* show substantial variation between strategy types 1–4. We argue that this gives us a deeper understanding of what active land policy means from a municipality's perspective and what kind of deliberate choices are available, even if it is considered the default that new development is mainly allocated to municipally owned land.

In public land allocation practices, parallels to the Swedish case can again be observed (Caesar, 2016), as our findings point that in Finland public land allocations interact with the planning process and particularly in strategy types 2 and 4 municipalities use them as a tool to steer and coordinate development well into the plan implementation phase. Public land allocations have received relatively little attention in the literature, with main emphasis given to the spatial distribution strategies of public land sales (see e.g., Murakami, 2018). The lack of attention is not surprising considering that the role of public land allocations as part of land policy strategies is indisputable and self-evident only in the few countries that make use of comprehensive model of public land banking. Nevertheless, conveyances of public land can be a major source of funding for municipalities, and they may involve political trade-offs and uneven distributional effects (Artoli, 2021). Our findings show, too, that the way public land allocations are organized and implemented is not a neutral act. Instead, the strategy type descriptions point that the municipalities make (political) choices regarding public land allocations, for instance when selecting whether to rely more on a market coordination or political coordination for the development outcomes.

The analytical frame outlined in Section 2.3 (Fig. 1) stresses that the local context affects the desirability and feasibility of available land policy strategies. Our findings seem to support this argument. Land policy objectives and the selection and use of land policy instruments are closely tied to local context, particularly in strategy types 2 and 3. Although we have not explicitly sought to identify local factors affecting strategy selection in this study, our results indicate that land policy practices are influenced and limited by demographic and economic factors in particular. Earlier studies addressing the locality of municipalities' spatial strategies have made similar observations (Beunen et al., 2020; Gerber, 2016). On the other hand, the typology shows that distinctly different strategies are applied throughout the country, and these differences cannot be explained by demographic trajectories or municipalities' financial conditions only. In particular, the fifth strategy type highlights how, within a country-context known for its active approach to land use and development and strong use of public land banking, it is possible to observe a strategy that relies heavily on private land development. In this strategy, the guiding principle in instrument selection and land policy decision-making is to protect the institution of private property rights. In our case study context, this distinguishable reluctance to resort to compulsory means in land policy implementation seems to be mostly driven by political factors, yet we stress that this study was aimed to identify generalisable municipal strategy types rather than to study correlations and/or causalities between the local context factors and municipal strategies. Future studies should address more rigorously the impact of local context on land policy practices and particularly the connections between municipalities' political representations and the observable strategies.

An examination of municipal land policy strategies instead of individual instruments allows us to make wider observations about the current state of land policy within the selected country context. Here, for example, the strategy definitions draw attention to changes in the use of and weight given to certain land policy instruments due to the changing nature of spatial development. In most municipalities the standard approach to land development has been to buy agricultural land and develop that land into buildable plots. For some time now, however, the literature has highlighted a shift towards more sustainable urban land consumption (e.g. [Meijer & Jonkman, 2020](#)). Our results indicate that the importance of greenfield development is indeed diminishing, while growing emphasis is being given to densification and finding developable sites within the existing infrastructure. The strongest sign is that most strategy types include incentives to infill and/or redevelopment. Also, our findings indicate there has been some informational steering regarding infill development options. The housing policy-oriented strategy even shows signs of a paradigm shift in public land acquisition, with increasing focus given to the acquisition of ownership or lease rights of potential redevelopment sites. We must stress though that most strategy types – and therefore most municipalities – still follow the traditional approach in land acquisition and acquire mainly agricultural and forest land for land banking purposes. Finnish municipalities' land policy strategies still show no signs of wider aspirations or more ambitious goals regarding urban land consumption. Given the European Union's target of reducing net land take to zero by 2050 ([European Commission, 2016](#)), it is clear that changes will also need to be made in land policies, as suggested by [Jehling et al. \(2018\)](#). At least so far, it does not seem that municipalities in Finland are making any major adjustments.

Ecological sustainability is not a prominent concern in municipal land policy objectives in Finland, but we do observe some plurality among those objectives. Previous studies have highlighted the heterogeneity of land policy objectives, but stressed that they are often somehow linked to housing and/or housing development ([Debrunner & Hartmann, 2020](#); [Shahab et al., 2021](#)). According to our typology, however, housing development and housing policy related objectives are the main driver of land policy in only one strategy type. For reasons of analytical simplicity, we made the choice to identify one main objective of land policy in each municipality, but we acknowledge that most municipalities have several policy objectives and pursue them with different combinations of instruments. Nevertheless, our findings indicate that municipalities emphasize dissimilar objectives in their strategies. Furthermore, they hint that municipalities are not always entirely clear about their objectives and how they want to promote those objectives. More research is needed on the plurality of land policy objectives and on how they are put into practice. Especially the reconciliation of municipalities' economic objectives (in this study expressed as revenue generation for municipality) with other policy objectives deserves more attention (see e.g., [Götze & Hartmann, 2021](#)).

5.2. Evaluating the typology

Developing a typology that is both valid and inclusive is a challenging task. Indeed, some scholars have gone so far as to argue that it is essentially impossible to construct a valid and reliable system for purposes of policy classification (e.g. [Steinberger, 1980](#)). [Smith \(2002\)](#) argues that the empirical construction of policy categories (as opposed to conceptual/theoretical construction) might provide a potential solution. We have opted to build our typology primarily on the basis of data rather than theory and note that some compromises must be made in such an approach. First, the concept under study, in this case land policy strategy, must be clearly defined to facilitate rigorous data analysis. Definitions of land policy vary (see e.g., [Adams et al., 2002](#); [Alterman, 1990](#); [European Commission, 2004](#); [Gerber et al., 2018](#)) and the definition adopted in this study excludes many planning instruments from the scope of a land policy strategy. Also, it is important to understand that

the strategy types are not mutually exclusive: the practices applied by municipalities do not necessarily fall under one single strategy type, but rather their strategies will contain features from several strategy types.

In the context of information systems, [Gregor \(2006\)](#) argues that a successful typology has at least the following features: 1) the category/type labels are meaningful, 2) the logic of the dimensions is clear, and 3) the typology demonstrates the ability to completely and exhaustively classify the phenomenon studied. The requirement of exhaustiveness is hardly achievable in the context of land policy strategies, given the variety of land policy practices. For example, the principles of public land allocations are more or less unique for each municipality, yet we have here compressed these principles into four options. However, we had a highly representative sample of Finland's largest municipalities and used multiple sources of data, which should mean we have sufficient data to identify the relevant categories and attributes of land policy strategies. Furthermore, the iterative nature of the research process should enhance the logic of the typology. When we developed our classification scheme, the tactic was to move from general to specific and then, once the scale of variation at the attribute level was better understood, to observe the system again at a more general level in order to exclude any redundant elements from the scheme.

In the process of typology construction, we ended up excluding some land policy instruments from the scheme that we believe might have a more profound role in other institutional contexts. For example, the use of pre-emption rights in land acquisition was dropped because our data indicated that Finnish municipalities very rarely use these rights and that they played only a minor role from the perspective of municipal land banking. The dimensions of the classification scheme should be transferrable more or less seamlessly to other contexts. The attributes can (and should) be modified and tailored to fit the institutional environment under study.

6. Conclusions

Local government authorities around the world are facing the challenge of designing land policies that steer, or at least attempt to steer, land use and development towards competing objectives. The means to advance the selected objectives through land policy vary between municipalities (see e.g., [Meijer & Jonkman, 2020](#); [Van Oosten et al., 2018](#)). For a long time, however, the discussion on land policy strategy types has focused on national or country-level characteristics and the strategies have been labelled under two categories, active and passive land policies. For local government level land policy strategies this is an oversimplified and sometimes even misleading categorization. To create more nuanced understanding of how to capture variation in approaches to land policy at the local government level, and to portray the scale of this variation within a single country-context, this study adopted an empirically driven approach to build a typology of municipal land policy strategies.

This study contributes to the body of knowledge on variation and locality of land policy strategies (e.g., [Gerber, 2016](#); [Shahab et al., 2021](#)). Drawing on an extensive set of data on land policy practices at the local government level, we provide a new more systematic and practical angle to this discussion and develop a heuristic frame to study and analyse local government level land policies. By utilising this frame, we construct a five-category typology of current municipal land policy strategies which demarks the magnitude of the variation in strategies in the Finnish case study context. The empirical findings of the study show noteworthy differences in municipal land policy strategies, and thus underscore the importance to avoid too simplistic assumptions about land policy strategies at the local government level. In particular, our findings expand the understanding of the different variants of active land policy strategy. The analysis showed that even though municipalities may have similar views of the importance of public land acquisition and public control over land use, they make different choices regarding other strategy dimensions such as public land allocations or the use of

economic incentives. Although our findings derive from the Finnish case, we expect that the constructed heuristic frame – the classification scheme based on which the strategy types were identified – can be adopted and modified to study the variation of land policy strategies at the local government level in other country-contexts as well.

Academically the findings of this study have potential to serve many novel openings, such as making comparisons or assessments of the outcomes of different municipal land policy strategy types. We believe our findings have value to practitioners as well, since sensitivity to variation in land policy practices and municipal land policy strategies is important at different levels of governance. Considering that many land policy instruments draw their legitimisation directly from legislation it is important that the national level authorities responsible for designing the legal framework have a solid understanding of the extent to which the local government authorities employ the flexibility given by the non-mandatory legal devices. A typology that presents the scale and sources of variation in municipal land policy strategies provides precisely that type of information. At the local government level, thinking and reflecting systematically and analytically about the options and alternatives of land policy practices is a prerequisite for credible and accountable land policies. The structured perspective provided by the typology can help key actors like municipal land policy officials and the regularly changing pool of locally elected politicians to be more aware of the strategic choice element related to the selection and use of land policy instruments. The locally elected politicians in particular need to be educated about the concept of land policy strategy to ensure that they understand how individual cases and decisions contribute to the bigger picture – and that they understand the profound impact that their decisions have on the broader development of society.

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CRediT authorship contribution statement

Pauliina Krigsholm: Conceptualization, Data curation, Formal analysis, Investigation, Methodology, Validation, Visualization, Writing – original draft, Writing – review & editing. **Tuulia Puustinen:** Conceptualization, Investigation, Validation, Writing – review & editing. **Heidi Falkenbach:** Conceptualization, Funding acquisition, Project administration, Supervision, Validation, Writing – review & editing.

Declaration of competing interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

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References

Acciai, C., & Capano, G. (2020). Policy instruments at work: A meta-analysis of their applications. *Public Administration*, 2020, Article e12673. <https://doi.org/10.1111/padm.12673>

- Adams, D., Disberry, A., Hutchison, N., & Munjoma, T. (2002). Land policy and urban renaissance: The impact of ownership constraints in four British cities. *Planning Theory and Practice*, 3(2), 195–217. <https://doi.org/10.1080/14649350220150044>
- Alexander, E. (2014). Land-property markets and planning: A special case. *Land Use Policy*, 41, 533–540.
- Alterman, R. (1990). *Private supply of public services: Evaluation of real estate exactions, linkage, and alternative policies*. London, New York: New York University Press.
- Andersson, E., Malmberg, B., Costa, R., Sleutjes, B., Stonawski, M. J., & de Valk, H. A. G. (2018). A comparative study of segregation patterns in Belgium, Denmark, the Netherlands and Sweden: Neighbourhood concentration and representation of non-European migrants. *European Journal of Population*, 34, 251–275. <https://doi.org/10.1007/s10680-018-9481-5>
- Artoli, F. (2021). Sale of public land as a financing instrument. The unspoken political choices and distributional effects of land-based solutions. *Land Use Policy*, 104, Article 105199. <https://doi.org/10.1016/j.landusepol.2020.105199>
- Ayres, L., & Knaflle, K. A. (2008). Typological analysis. In L. M. Given (Ed.), *Sage encyclopedia of qualitative research methods*. Thousand Oaks, CA: Sage. <http://srmo.sagepub.com/view/sage-encyc-qualitative-research-methods/n472.xml>
- Bailey, K. D. (1994). *Typologies and taxonomies: An introduction to classification techniques*. Thousand Oaks, CA: Sage.
- Beunen, R., Meijer, M., & de Vries, J. (2020). Planning strategies for dealing with population decline: Experiences from the Netherlands. *Land Use Policy*, 93, Article 104107. <https://doi.org/10.1016/j.landusepol.2019.104107>
- Buitelaar, E. (2010). Window on the Netherlands: Cracks in the myth: Challenges to land policy in the Netherlands. *Tijdschrift voor Economische en Sociale Geografie*, 101(3), 349–356.
- Caesar, C. (2016). *Municipal landownership and housing in Sweden*. Doctoral thesis. Real Estate Planning and Land Law, Department of Real Estate and Construction Management, School of Architecture and the Built Environment, Royal Institute of Technology (KTH) <https://www.diva-portal.org/smash/get/diva2:1044229/FULLTEXT01.pdf>
- Capano, G., & Lippi, A. (2016). How policy instruments are chosen: Patterns of decision makers' choices. *Policy Sciences*. <https://doi.org/10.1007/s11077-016-9267-8>
- Commission, E. (2016). Future brief: No net land take by 2050? *Science for Environment Policy*, 14. <https://doi.org/10.2779/537195>
- Debrunner, G., & Hartmann, T. (2020). Strategic use of land policy instruments for affordable housing—Coping with social challenges under scarce land conditions in Swiss cities. Doctoral thesis *Land Use Policy*, 99. <https://doi.org/10.1016/j.landusepol.2020.104993>
- Decoville, A., & Schneider, M. (2016). Can the 2050 zero land take objective of the EU be reliably monitored? A comparative study. *Journal of Land Use Science*, 11(3), 331–349. <https://doi.org/10.1080/1747423X.2014.994567>
- European Commission. (2004). *EU guidelines to support land policy design and reform process in developing countries, Communication from the Commission to the Council and the European Parliament. COM (2004) 686 final, 19 October 2004*.
- Eurostat. (2016). Glossary: Nomenclature of territorial units for statistics (NUTS). Available [https://ec.europa.eu/eurostat/statistics-explained/index.php?title=Glossary:Nomenclature_of_territorial_units_for_statistics_\(NUTS\)](https://ec.europa.eu/eurostat/statistics-explained/index.php?title=Glossary:Nomenclature_of_territorial_units_for_statistics_(NUTS))
- Gerber, J.-D. (2016). The managerial turn and municipal land-use planning in Switzerland – Evidence from practice. *Planning Theory & Practice*, 17(2), 192–209. <https://doi.org/10.1080/14649357.2016.1161>
- Gerber, J.-D., Nahrath, S., & Hartmann, T. (2017). The strategic use of time-limited property rights in land-use planning: Evidence from Switzerland. *Environment and Planning A: Economy and Space*, 49(7), 1684–1703. <https://doi.org/10.1177/0308518X17701916>
- Gerber, J. D., Hengstermann, A., & Viallon, F. X. (2018). Land policy: How to deal with scarcity of land. In J. D. Gerber, T. Hartmann, & A. Hengstermann (Eds.), *Instruments of land policy: Dealing with scarcity of land* (pp. 8–26). Abingdon: Routledge.
- Götze, V., & Hartmann, T. (2021). Why municipalities grow: The influence of fiscal incentives on municipal land policies in Germany and the Netherlands. *Land Use Policy*, 109, Article 105681. <https://doi.org/10.1016/j.landusepol.2021.105681>
- Granath Hansson, A. (2019). City strategies for affordable housing: The approaches of Berlin, Hamburg, Stockholm, and Gothenburg. *International Journal of Housing Policy*, 19(1), 95–119. <https://doi.org/10.1080/19491247.2017.1278581>
- Gregor, S. (2006). The nature of theory in information systems. *MIS Quarterly*, 30(3), 611–642. <https://doi.org/10.2307/25148742>
- Hartmann, T., & Spit, T. (2015). Dilemmas of involvement in land management: Comparing an active (Dutch) and a passive (German) approach. *Land Use Policy*, 42, 729–737. <https://doi.org/10.1016/j.landusepol.2014.10.004>
- Howlett, M. (2019). Designing public policies. In *Designing public policies* (p. 428 s). Routledge. <https://doi.org/10.4324/9781315232003>
- Huang, Z., & Du, X. (2017). Government intervention and land misallocation: Evidence from China. *Cities*, 60, 323–332. <https://doi.org/10.1016/j.cities.2016.10.006>
- Jehling, M., Hecht, R., & Herold, H. (2018). Assessing urban containment policies within a suburban context – An approach to enable a regional perspective. *Land Use Policy*, 77, 846–858. <https://doi.org/10.1016/j.landusepol.2016.10.031>
- Jonkman, A., Meijer, R., & Hartmann, T. (2022). Land for housing: Quantitative targets and qualitative ambitions in Dutch housing development. *Land Use Policy*, 114, Article 105957. <https://doi.org/10.1016/j.landusepol.2021.105957>
- Kang, K.-E., & Homsy, G. C. (2020). Make me a better offer: Developer threats and regional competition for land development projects. *Economic Development Quarterly*, 34(1), 21–30. <https://doi.org/10.1177/0891242419897124>
- Kluge, S. (2000). Empirically grounded construction of types and typologies in qualitative social research [14 paragraphs]. *Forum Qualitative Sozialforschung/Forum*

- Qualitative Social Research*, 1(1), Article 14. Available at: <http://nbn-resolving.de/urn:nbn:de:0114-fqs0001145>, 23.3.2014.
- Land Use and Building Act. (1999). *132 Parliament of Finland*. amendments up to 1211/2020.
- Lascoumes, L., & Le Galès, P. (2007). Understanding public policy through its instruments – From the nature of instruments to the sociology of public policy instrumentation. *Governance*, 20, 1–21.
- Linder, S. H., & Peters, B. G. (1989). Instruments of government: Perceptions and contexts. *Journal of Public Policy*, 9(1), 35–58.
- Meijer, R., & Jonkman, A. (2020). Land-policy instruments for densification: The Dutch quest for control. *Town Planning Review*, 91(3), 239–258. <https://doi.org/10.3828/tpr.2020.14>
- Muñoz Gielen, D., Maguregui Salas, I., & Burón Cuadrado, J. (2017). International comparison of the changing dynamics of governance approaches to land development and their results for public value capture. *Cities*, 71, 123–134. <https://doi.org/10.1016/j.cities.2017.05.012>
- Murakami, J. (2018). The Government Land Sales programme and developers' willingness to pay for accessibility in Singapore, 1990–2015. *Land Use Policy*, 75, 292–302. <https://doi.org/10.1016/j.landusepol.2018.03.050>
- Needham, B. (1997). Land policy in the Netherlands. *Tijdschrift voor Economische en Sociale Geografie*, 88(3), 291–296.
- Needham, B. (2006). In *Planning, law and economics: The rules we make for using land* (p. 178 s). Abingdon: Routledge.
- Nind, M., & Lewthwaite, S. (2020). A conceptual-empirical typology of social science research methods pedagogy. *Research Papers in Education*, 35(4), 467–487. <https://doi.org/10.1080/02671522.2019.1601756>
- Olsson, L. (2018). The neoliberalization of municipal land policy in Sweden. *International Journal of Urban and Regional Research*, 42(4), 633–650. <https://doi.org/10.1111/1468-2427.12651>
- Patton, M. Q. (2002). *Qualitative research and evaluation methods* (3rd ed.). Thousand Oaks, CA: Sage publishing.
- Peters, G. (2002). The politics of tool choice. In *The new governance and the tools of public action*.
- Robson, C. (2002). *Real world research* (2nd ed.). Malden, USA: Blackwell Publishers Inc.
- Shahab, S., Hartmann, T., & Jonkman, A. (2021). Strategies of municipal land policies: Housing development in Germany, Belgium, and Netherlands. *European Planning Studies*. <https://doi.org/10.1080/09654313.2020.1817867>
- Smith, K. B. (2002). Typologies, taxonomies, and the benefits of policy classification. *Policy Studies Journal*, 30(3), 379–395.
- Steinberger, P. J. (1980). Typologies of public policy: Meaning construction and the policy process. *Social Science Quarterly*, 61(2), 185–197.
- Valtonen, E., Falkenbach, H., & Viitanen, K. (2017). Development-led planning practices in a plan-led planning system: Empirical evidence from Finland. *European Planning Studies*, 25(6), 1053–1075. <https://doi.org/10.1080/09654313.2017.1301885>
- Valtonen, E., Falkenbach, H., & Viitanen, K. (2018). Securing public objectives in largescale urban development: Comparison of public and private land development. *Land Use Policy*, 78, 481–492. <https://doi.org/10.1016/j.landusepol.2018.07.023>
- Van der Krabben, E., & Jabobs, H. M. (2013). Public land development as a strategic tool for redevelopment: Reflections on the Dutch experience. *Land Use Policy*, 30(1), 774–783.
- Van der Krabben, E., Tiwari, P., & Shukla, J. (2020). *Land use management strategies for equitable infrastructure and urban development: Overview of strategies and tools*, ADBI Working Paper Series, No. 1191. Tokyo: Asian Development Bank Institute (ADBI).
- Van der Molen, P. (2015). Property and administration: Comparative observations on property rights and spatial planning with some cases from the Netherlands. *Administration and Society*, 47(2), 171–196.
- Van Oosten, T., Witte, P., & Hartmann, T. (2018). Active land policy in small municipalities in the Netherlands: “We don't do it, unless...”. *Land Use Policy*, 77, 829–836. <https://doi.org/10.1016/j.landusepol.2017.10.029>
- Vedung, E. (1998). Policy instruments: Typologies and theories. In M. L. Bemelmans-Videc, R. C. Rist, & E. Vedung (Eds.), *Carrots, sticks, and sermons: Policy instruments and their evaluation*. London: Transaction Publishers.
- Weber, R. (1990). *Basic content analysis* (2nd ed.). Thousand Oaks, CA: Sage Publishing.
- Webster, C. J. (1998). Public choice, pigouvian and coasian planning theory. *Urban Studies*, 35(1), 53–75. <https://doi.org/10.1080/0042098985078>
- Williamson, I., Enemark, S., Wallace, J., & Rajabifard, A. (2010). In *Land administration for sustainable development* (1st ed., p. 2010). Redlands, CA, USA: ESRI Press.
- Winch, R. F. (1947). Heuristic and empirical typologies: A job for factor analysis. *American Sociological Review*, 12(1), 68–75.
- Woostenburg, A. K., van der Krabben, E., & Spit, T. J. M. (2018). Land policy discretion in times of economic downturn: How local authorities adapt to a new reality. *Land Use Policy*, 77, 801–810.
- Xu, R., & Wunsch, D. C. (2008). *Clustering*. Piscataway, NJ, USA: John Wiley & Sons.