

What is spatial planning saying? A conceptual and methodological framework to assess the institutionalization of nature using critical discourse analysis

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Spatial planning policies are fundamental blocks for the implementation of sustainable development goals. Still, despite the growing adoption of environmental proxies, as it is nature-based solutions, the study of their institutionalization in policy and spatial planning is in the early stages. Simultaneously, the use of discursive and interpretative methods to unfold the social structures related to environmental issues is growing, nonetheless, their application is more common to supranational narratives. This article proposes a conceptual and methodological approach to using critical discourse analysis for studying the institutionalization and conceptualization of nature-related issues in policy and spatial planning at national and local levels. This is done by discussing the ontological relations between the discursive institutionalist theory and critical discourse analysis as a methodology. It contains four main stages: clarifying the analytical focus; mapping policy and planning documents; analyzing macro discourse, which includes critical textual analysis, text-type analysis, and intertextuality analysis, and, at last, the fourth phase, interpretation within the institutional context. It provides a tool for researchers less familiar with linguistics but interested in performing discourse analysis to understand the integration of environmental narratives within policy and spatial planning.

Keywords: discourse analysis; spatial planning; public policies; nature-based solutions

Subject classification codes: include these here if the journal requires them

1. Introduction

For decades, spatial planning policies have been widely recognized as having a fundamental role in implementing sustainable development (Buckingham-Hatfield & Evans, 1996; Owens, 1994). Simultaneously, urban settings are facing unprecedented challenges concerning the adaptation and mitigation to climate change (IPCC, 2014). In response to this, a shift can be observed from the use of ‘grey infrastructures’ to ‘green

infrastructures', also called 'nature-based solutions' (European Commission, 2015; Pontee et al., 2016). This shift poses considerable challenges to spatial planning as it demands incorporating new concepts and tools into planning practice. It also calls for special attention to the discursive components of the documents produced in planning processes to understand how nature-based solutions, and the means of their incorporation into policy, are conceptualized by planning and sustainable development narratives (Mendes et al., 2020a; Randrup et al., 2020). These conceptualizations can be portrayed using different terms, and sustainable development is one of the best examples of a disputed meaning in spatial planning and public policies (Gray, 2010; Hüge et al., 2012; Saldert, 2017; Seghezze, 2009). Nowadays, more recent concepts such as ecosystem services, green spaces, or nature-based solutions are constructed similarly, with different and sometimes disputing definitions in practice (Mendes et al., 2020). The various actors use this inherent ambiguity to gain dominance over other versions of the concepts and use it to influence policy (Rydin, 1999). Environmental discourses, especially those related to planning and policy-making, show multiple conceptualizations of nature, often coexisting and struggling (Coscieme et al., 2020; Duvall et al., 2017). In this context, discursive orientated approaches are a way to critically assess how planning authorities are using planning instruments, such as plans, policies, or strategies, to embed nature-related issues in decision-making. Interpretative approaches to analyzing public policies, in which discursive approaches are included, present an alternative ontological and epistemological view to positivist approaches such as cost-benefit, which are highly affiliated with economic views (Yanow, 2007). The constructivist stance places social objects, relations, and actors as being partially constituted by discourse (Keller, 2012). However, perceiving the environmental narratives and their interweaving with spatial planning as socially and discursive

constructed implies a particular emphasis in the study of discourse (Buttel, 1997; M. Hajer & Versteeg, 2005). Although the local consequences of environmental challenges, discourse analysis research have been more applied to global discourses, as is the case for forest policy analysis, and only to a limited extent to sub-national contexts, even though the normative aspect of spatial planning is mainly applied at local levels (Pecurul-Botines et al., 2019).

From the spatial planning point of view, reality is complex and demanding. The planning practice includes multiple institutions from various scientific domains, administrative levels, hierarchical powers, and institutional relations. Planning practice also produces a set of different documents, some of which are mandatory ("i.e." with the force of law) and others strategic ("i.e." whose enforcement value is often difficult to perceive). Considering the example of plans, mandatory plans establish rules with a force of law and must be respected both by private and public entities. One typical example is the municipal master plan which defines the land use within a municipality. On the other hand, strategic plans establish a set of orientations and objectives but not with the same force of law – an example of this is the national land use plans that set objectives that must be followed by public institutions but do not impose rules for privates. For example, many municipalities have as well green or environmental plans that set strategies at the city level but do not impose land use regulations – more associated with the municipal master plans. In practice, the integration of terms such as ecosystem services or nature-based solutions, promoted by institutions like the European Union, challenges the flexibility of formal planning systems to incorporate them (European Commission, 2011, 2013; Haase et al., 2017; IPCC, 2014). The growing concerns over environmental problems in spatial planning, and even more so in urban contexts, frequently require changes at the institutional level (Douglass, 2015;

Head, 2014). These changes, in this case in planning practice, can be achieved through formal or informal structures and thus be more or less "institutionalized". Little is known about how spatial planning addresses nature-related issues, like those related to climate change and sustainability in its discourse. This also applies to how it is using new narratives, "e.g.," as nature-based solutions, and how other types of conceptualizations of nature are being embedded in planning institutions (Mendes et al., 2020). However, there is a lack of frameworks that address planning systems as a whole (instead of specific policy documents) and that focus not only on the strategic components but also on the normative aspects of planning. Moreover, some approaches using discursive analysis are undertaken intuitively, without much consideration of the ontological positions assumed (Lees, 2004). We think there is still room for discursively addressing the normative and legal elements of spatial planning using the mapping of policy documents and analyzing the coherence between formal policy outcomes. Discursive-orientated methods, especially critical analysis, can help to understand how narratives and overall representations of nature conceptualize the environmental and social challenges we face, particularly in urban settings and spatial planning. We aim to help inform policy-makers, especially at regional and local levels, on how different conceptualizations of nature coexist in policy documents. To do so, we focus on the current degree of institutionalization and less on the historical perspective that builds the existing discourse coalitions. By stimulating a critical reflection on the planning documents, it also pushes for considering which documents represent higher degrees of institutionalization. This particular focus is on the discourse perspective of rules, as the ultimate institutionalization degree is a particularity of this methodology.

This article develops a conceptual and methodological approach to using critical discourse analysis to study the institutionalization and conceptualization of nature-

related issues in policy and spatial planning documents. Supported by discursive institutionalism (DI) and focused on the nexus between spatial planning, environmental decision-making, and critical discourse analysis (CDA), the proposed methodology is built to be handled by researchers who are not experts in linguistics

1.1 Discourse theories and discourse analysis

Within environmental discourse traditions, and considering the Hajer approach ((Buttel, 1997; M. A. Hajer, 1995; M. Hajer & Versteeg, 2005), we share the social constructivist stance placing discourse as a fundamental object of analysis to understand institutions and the environmental discourse. Nonetheless, we argue that the current conceptual and methodological approach differentiates from Hajer's perspective in two main points. Firstly, his perspective on environmental discourse is based on the idea of unveiling discourse coalitions and on how power coalitions advance their agendas and pursue hegemonic discourses. This view pushes for explanations within, but also outside the institutional realm implying a view in which the institutionalization of the discourses forms the discourse coalition itself. Even though it addresses institutionalization, it often stresses the importance of historical institutionalism and the paths explaining the hegemony in those specific discourse coalitions, as is the case in the works of Saldert, (2017) and Tahvilzadeh et al., (2017). Secondly, Hajer's approach focuses many times on macro discourses of sustainability and the unsustainable frame of sustainability discourses (Huge et al., 2012). It is less frequent to see uses of Hajer's approach to study specific environmental policy domains, such as nature-based solutions or particular policy instruments as in spatial planning rules.

For this reason, we believe there is space to introduce a methodology that aims to address planning policy using discourse as the building block systemically—especially considering that our purpose is to address both strategic and normative aspects of

policies, from macro discourses to micro discourses on how nature is effectively incorporated in planning strategies and rules. The multitude of terms being introduced in spatial planning, as discussed prior, and their incorporation in planning instruments, regulations, and practices (institutionalizations, in other words) calls for approaches that critically address this issue using discourse.

Considering the Foucault approach to discourse analysis (Foucault, 1980), our approach diverges by identifying more than one "knowledge regime," focusing on cases where more than one discourse is considered and on how these different discourses are related in terms of institutionalization. Following Noam Fairclough, (2013) CDA approach, this methodology is placed between the interpretation (processing analysis in the discursive practice realm), and explanation (social analysis situated in the sociocultural practice). We avoid the description component (linguistic analysis) since we aim to present a practical methodology for researchers less familiar with linguistics. As CDA we place discourse as a dialectical relationship with the social world. This positioning avoids the 'abstract' concept of discourse in Laclau & Mouffe's discourse theory, where discourse is only seen as constitutive, but also the theories of discursive psychology that place discourse as exclusively constituted. Discourse, in CDA, is seen as one circumstance of everyday social practice. In Laclau & Mouffe's theory, institutions are seen as discursive elements, and there is no relation between discourse and other aspects as the social world is only constituted by discourse (Jorgensen & Phillips, 2002).

The article is organized as follows: the next section discusses the definition of institutionalization with a particular emphasis on discursive institutionalism to study institutional change contexts. Section 3 explores the main characteristics of CDA and how well it suits the purposes of studying spatial planning contexts. Section 4 presents

the design of the conceptual and methodological approach and the methods based on a CDA. Finally, section 5 discusses implementation and limitations, and section 6 presents the concluding remarks.

2. Institutionalization and discursive institutionalism

In this section, we present the concepts of institutions and institutionalization, arguing for the central importance of discourse. By doing so, we pretend to explore the importance of using discourse to study institutions and the institutionalization processes mainly focused on spatial planning. We justify using the ontological principles of discursive institutionalism and try to build a bridge for the next section about critical discourse analysis and how it can serve the purposes of studying institutions.

Actors' beliefs and actions are constantly changing due to their experiences. Institutions are ways to 'make sense of that by giving an order to human action and channeling it towards a given end, institutionalizing particular meanings and rules (Tsoukas and Chia ,2002). It is the existence of norms, conventions, procedures, laws, etc., that, by setting the boundaries to people's actions produce institutions in practice (Marsh & Stoker, 2002; Schmidt, 2008). Institutions can be seen as being primarily constructed through the discourse of their members (Mumby and, Clair 1997), or as Phillips, Lawrence, and Hardy (2004) state “*Institutions (...), can be understood as products of the discursive activity that influences actions*” (p.1). This is not to say that institutions are uniquely discursively constructed but that discourse is the fundamental tool to assert meaning in their social reality- a critical realist stance towards organizational studies (Fairclough, 2005). Institutions are, as well, a set of 'norms, laws, conventions, and procedures that both constrain and empower action (Arts & Buizer, 2009). Conceiving institutions like these place the production and distribution of texts as the institutional building block. Actions not expressed in texts are much harder

to read and interpret by multiple actors, becoming more challenging to communicate across different scales of time and space (Taylor & Van Every, 1993). Placing texts as the mediation format between action and discourse allows researchers to address institutional studies more fruitfully.

In the case of spatial planning, planning authorities (the institutions) produce different texts with different legitimacies and enforcement powers. Institutions in spatial planning can vary from central governments and decentralized authorities to regional/provincial governments and municipal authorities. Typically, planning legitimacy relies on some public/governmental entity, and decisions can be more or less top-down. Due to that, planning processes involve multiple agents, from civil society to academia (outside institutions). However, they place agents within the institutions as the central figures, given that it is in them that the power to make choices relies. Those agents can go from politicians to technicians with the planning authority in that institution. In light of this view, actions from agents within planning institutions depend on their institutional power and willingness to convince others.

To address institutionalization, we must address institutional change. Here we define institutionalization as the moment when actors, through linguistic processes, come to accept shared definitions of reality (Berger & Luckmann, 1966). Although this definition privileges the role of discourse in institutionalization processes, discourses are not an object of study that can be directly addressed. Despite that, the use of discourse in organizational studies has received much interest over the last two decades (Grant & Iedema, 2005). In these cases, most often, discourses are examined by the texts that constitute them, either written or in any other format (Fairclough, 1992). Notwithstanding, as Phillips et al. (2004) advocate “certain types of actions are more

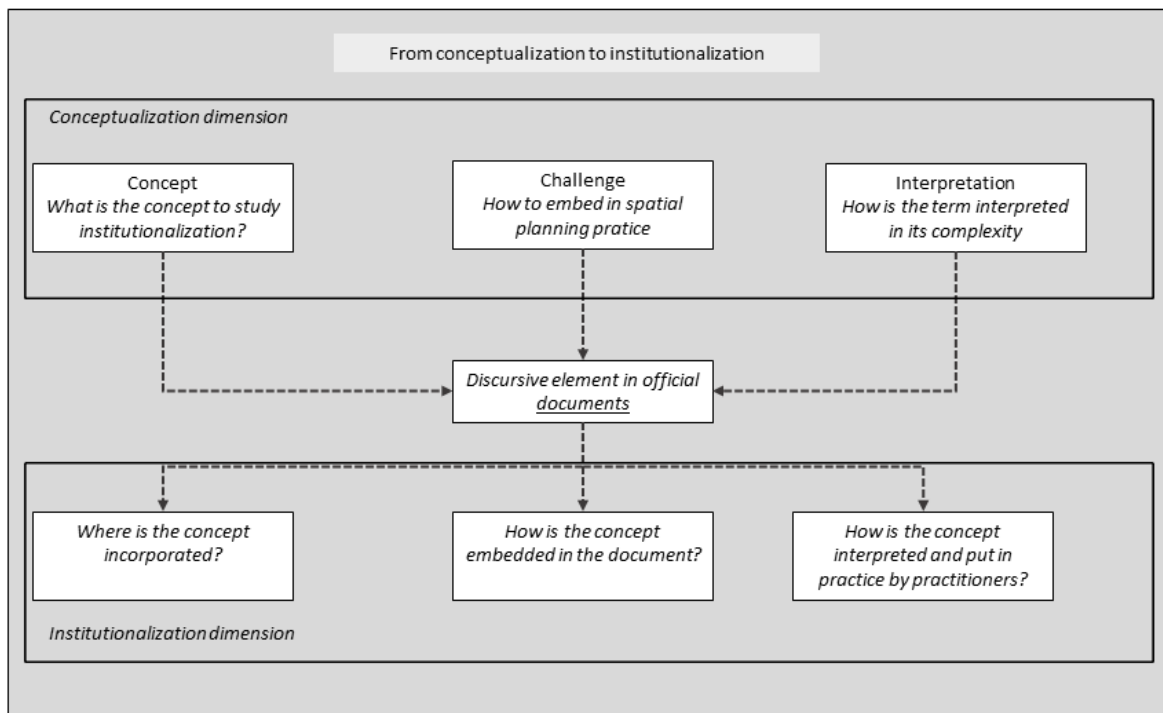
likely to generate texts that are disseminated and consumed more widely(...)"(p.6), and these texts can appear to respond to different stimuli.

Discursive institutionalism (DI) appears as the theoretical background that places discourse as the fundamental object of analysis in institutional studies. This is done by constructing a theoretical framework that understands institutions not only as a source of rules, where agents move and interact but also as internal constructions to each agent who intervenes in them. Each agent thus has the power to intervene to maintain or change institutions by using their "discursive abilities" to communicate (Schmidt, 2008, 2010). The ontological position of DI concerning institutions is shared with other discursive frameworks to study language, such as critical discourse analysis (CDA). DI places institutions as the contextual provider of action for the agents and contingent results of that action. Consequently, we argue that institutions are both internal to the agents and the product of their actions. They serve both as a constraint and a framework for possibility. In DI, institutions work as the background context that provides the place for sentient agents to act and communicate as drivers of change (Schmidt, 2011). Recognizing the formal institutional context is not the same as seeing institutional structures as fixed conditioning. DI acknowledges that simply mapping the power positions within institutions does not tell 'the entire history. In contrast, the discursive field of institutionalism also sees discourse and ideas as sources of power (Schmidt, 2011).

In the theme of public policy, policy success or failure is influenced by the absence of institutions or the lack of strict binding rules (Arts & Buizer, 2009). More specifically, in spatial planning, laws, strategies, and rules expressed in written documents are essential references for the analysis of institutionalization as the struggles mentioned previously, with climate change being one example, often guide

the formation of new rules and sometimes, new institutions. Within spatial planning, we can observe two main types of policy documents: on the one hand, different 'policies, strategies, and plans are formulated to face specific challenges such as climate change adaptation or green infrastructures, among others -a, problem-oriented response, e.g., climate adaptation plans; on the other hand, spatial planning continues to produce the "typical" planning documents, such as municipal master plans, that are the main core blocks of planning.

We thus argue that it is only possible to understand the processes of institutionalization if we understand the process of conceptualization as an expression of institutional sensemaking. Conceptualization is seen as a form of internally and externally constructing a view of a given concept, namely an object, idea, etc (for other definitions of conceptualization and a deeper analysis consult Zhang, Gable, and Rai (2016)). The specific focus on conceptualization allows an understanding of how a particular planning document frames the theme. Using the example of nature, a focus on the conceptualization of the term helps to uncover how nature is seen, 'e.g.,' as an economic asset, a source of solutions, and a source of services, among other possibilities. Studying the conceptualization of terms also helps to understand the processes of institutional change and, therefore, institutionalization. With this methodology, we intend not only to understand if a particular topic is incorporated in spatial planning but also how it is done in the documents and critically assess the conceptualizations presented linking to the processes of institutional change. Figure 1 shows the conceptual nexus between the dimensions of conceptualization and institutionalization. The discursive elements, presented here as the central element of study, establish the bridge between these two dimensions.



By building on the nexus between DI and other forms of institutional analysis we also can draw on what Hajer (1995) refers to, that discursive analysis is not to be set as opposed to any other institutional analysis but rather as a complement. Some examples take institutionalism approaches and discourse to build a conceptual framework and apply it to environmental issues. One novel example is Arts and Buizer (2009) and Arts, Leroy, and van Tatenhove (2006), which combine institutional analysis with discursive analysis into the “Policy Arrangement Approach” to study global forest policy. The Arts approach is based on a previous discursive analysis that unfolds into understanding coalition formations, rules of the game, and power relations. We believe the methodological approach proposed here is more specific to spatial planning dimensions and applies in regional and local planning contexts. It is developed to answer questions that arise concerning the procedures and rules at spatial planning dimensions and reshapes CDA to deal with these analytical objects.

3. Critical Discourse Analysis in spatial planning

Regardless of its accepted definition, discourse is a structural element of any public policy but as Arts and Buizer (2009) point out, “Too often, (...), discourse analysis sticks to the reconstruction of ‘free-floating’ ideas and meanings in texts or societies (on sustainability, ecological justice, gender, equity, and the like)” (p.1).

Critical Discourse Analysis (CDA) tries to address these by placing institutional agents as both the reflection and the producers of discourse and, therefore, actively intervening in the shape of social reality. This position aligns with the principles of discursive institutionalism. The analytical focus of CDA also stands in what we can call a middle ground between the everyday discourse and their associated discursive practices (Jorgensen and Phillips 2002). CDA differs from other discursive approaches precisely because it implies an analytical focus on inequality, power struggles, hegemony, and conflicts (Van Dijk, 1993). Methodological approaches based on CDA can present three levels of analysis, which consider the three-dimensional model of discourse and may or may not be used simultaneously. On a macro level, analyzing if and how the discursive practice shapes the social world by understanding if it reproduces or challenges the order of discourse of the social practice, for example, applications on the hegemonic character of environmental and economic discourses within planning institutions. On a second level, the analysis of discourses and how they articulate in the discursive practice level, meaning the production and interpretation of texts. Furthermore, on a third level, the textual level, the analyses of linguistic structure, which we avoid in this methodology. Some authors argue that it is challenging to apply CDA to policy analysis with clear-cut methods due to their ambiguity and the number of concepts in approaches based on CDA (Wagenaar, 2011). Withal, CDA is not a fixed methodology but rather a framework of analysis that encompasses several principles in researching social problems with a dialectical side (Mulderrig, 2019).

We consider the critical realist stance of Fairclough, (2005) which sees organizational structures as partly constituted through linguistic elements. Thus, CDA places particular concern on studying organizational orders of discourse (within broader social practices) and organizational texts as an expression of organizing (a way to lessen the differences between actors). On the contrary, Tsoukas & Chia, (2002) organizational becoming builds on a difference between discourse and organizational structures as separate elements.

Institutions are understood as structures that reproduce power relations and become hegemonic. However, the social agents acting in them can 'navigate' between contradictions. Institutional structures can be threatened when there is a critical event, be it external or internal, and, in these situations, it is common to observe a set of strategies, sometimes antagonistic, that constitute the instruments of the dispute of social agents to achieve new fixed forms, which need to become hegemonic. In spatial planning cases, planning authorities play the role of hegemonic structures (institutions), and the planning technicians (from planning and other areas that play a role in planning practice) play the role of agents. For spatial planning, the written documents play a crucial part as they set the boundaries for actions by placing the 'rules of the game, in this case, spatial rules and procedures. Like other institutions, planning authorities also respond to stimuli, "e.g.," nature-based solutions for climate change adaptation plans.

In Fairclough's (2005) work the effective incorporation of the emergence of strategies depends on the construction of new imaginary and discourses, an idea that aligns with the previously discussed works of Phillips et al. (2004) and Schmidt (2007, 2008). Particularly, Sumares and Fidélis (2011) point out the potential of CDA-based approaches to improve governance in spatial and environmental policy by clarifying decision-makers' representations regarding these subjects. CDA should start from a pre-

existing problem and, through critical analysis, unfold the relation between the semiotic and linguistic character of that problem and other elements of social reality.

Feindt and Oels (2005) relate discourse with environmental matters by pointing out that social constructions have a fundamental role in understanding environmental problems and that environmental discourses have material and power effects on social reality. As the authors state, "(...)discourse analysis problematizes what conventional policy analysts take for granted: the linguistic, identity and knowledge base of policy-making" (p.4). The meanings around environmental concepts represent the institutional and discursive context in which planning alternatives are disputed. Although environmental and planning arguments often invoke scientific and rational claims, they are relative and suggestive enough to be disputed (Myerson and Rydin 1996). While discourses framed around sustainability have become a domain in which organizations create their identities (Porter, 2005), more recent concepts, such as ecosystem services or nature-based solutions, continue to make their 'conceptual journey,' with their definition disputed. Planning organizations are no exception since sustainability discourse has been gaining dominance over the last decades while their substantial influence has been contested both from national to municipal levels (Saldert, 2017; Tahvilzadeh et al., 2017). In this context, the embedment of nature-related issues in planning documents is often difficult. Despite that, there are multiple financial incentives to push cities towards the incorporation, formal or informal, of these concepts. The study of institutionalization allows us to understand the extent to which a particular issue, as it is an emerging concept that is being pressured both by projects on the ground and economic incentives, is being taken into account in the practice of planning. In other words, to understand if they are being assimilated as 'rules of the game.'

4. From a conceptual framework to a methodological approach

The framing question used to guide the design of the approach is: 'how is nature conceptualized in spatial planning?' This section presents the methodological approach, which includes four main analytical phases, namely, i. clarifying concepts, ii. mapping relevant planning and policy documents, iii. applying macro discourse analysis, and iv. we are analyzing the institutional context. Table 1 represents these analytical phases.

The following paragraphs describe the steps to be developed in each phase.

i. Clarifying concepts: The motto of this phase is to make authors reflect on two types of concepts. First, those related to the study methods, that is, what kind of discursive methodology will be used and what is the author's positioning from the point of view of social reality. The critical question is, what is the role of discourse in constructing social reality? This will help to ontological position those following the methodology. It is equally important to clarify the concepts that emerge from the object of study. In this case, the methodological proposal focuses on the evaluation of the institutionalization of nature. Practical questions are: What does nature mean in the documents being assessed? Should we limit analysis only to the words related to "nature" or have a broader understanding, including other types of words and discourses? The same logic can be applied to other objects of study - from water to sustainability to circularity. The key outcome of this analytical phase is to clearly understand and communicate the limits of the concepts addressed, especially in the environment and politics where multiple expressions appear with overlapping definition.

Phases	Major research questions	Methods and implementing procedures	Example considering NBS
I. Clarifying concepts	What is the topic to study? What are the concepts related to the topic to study and their possible associated variation?	Define what is the main research question to be answered. Define the term(s) to be analyzed and what should be included and excluded from the analysis	<i>“Analysis of how are nature-based solutions institutionalized in a particular set of selected planning documents. To explore how other concepts can be considered to represent ‘nature-based solutions’, as, for instance, green/blue infrastructures, ecological network, etc.”</i>
II. Mapping policy and planning documents	What are the most influential planning and policy documents, in place, likely to influence the spatial planning practice related to the topic to be studied?	Identify the main planning and policy documents, in place, likely to influence spatial planning practice. If needed ask for help in the institutional context under study.	<i>“National, regional and municipal spatial plans; national, regional and local strategies for biodiversity, water or climate change, etc. Relevant legal regimes related to the plans can also be selected. “</i>

Phases		Major research questions	Methods and implementing procedures	Example considering NBS
III. Analyzing macro discourse	IIIa.	How does the document conceptualize the topic in analysis? To what extent is the topic embedded in the text? To what fields is the topic associated? To what extent is the topic embedded in the text?	Interpret the main features of the text that allow to understand the embeddedness of the term and how is associated with other topics. The main purpose is the be able to frame how the concept is mainly addressed in the document(s)	<i>“Nature-based solutions appear associated to economic approaches and to risks and climate change prevention approaches.”</i>
	IIIb.	How can the texts be classified? Is the document normative? What are the most important components of the documents to assess institutionalization?	Classify the texts used in their main typology, e.g. strategies. Understand how the document is divided and if is worth analyzing more deeply one part. Is the incorporation of the subject equally addressed throughout the different components of the document, like, problem show-case, objectives, implementing measures, rules, etc?	<i>“Nature-related terms are more referred in the introduction and problem show-case and to a less extent in objectives and/or rules”.</i>
	IIIc.	To which documents does the text explicitly refer? Are references made in an indirect or a direct format? And	Analyze the references of the document in study. Explore how and where in the document are they mentioned.	<i>Nature based-solutions, when appear related to other documents, appear mainly related to documents produced</i>

Phases	Major research questions	Methods and implementing procedures	Example considering NBS
textuality analysis	where are they placed in the text understudy?		<i>by public institutions and rarely to scientific articles and technical reports. References to nature-based solutions, in spatial plans, are frequently associated with the climate change adaptation plan and water risks. Water and climate change adaptation plans rarely mention nature-based solutions related to spatial plans.</i>
IV. Framing institutional context	How are the practitioners interpreting the embeddedness of the term in practice? Is the current institutional context a barrier or a driver to the institutionalization of this emergent issue? And how?	Interview practitioners or other important staff that are responsible for putting into practice the thematic in study. Analyze how they ‘make sense’ of the term and search for different conceptualizations	<i>Practitioners refer that although nature-related issues are considered in planning, the recommendations of the environment/nature department are far from being fully assumed. There is a constant struggle for the public space and its associated different uses.</i>

ii. Mapping policy and planning documents: This intends to understand which policy and planning documents are relevant for analysis in that case study. The selection of these documents can be best achieved by consulting planning and policy authorities or by assessing the planning system. The phase creates a "network" of documents that can fully characterize the decision-making in that case study. As proposed here, and taking the example of spatial planning, an exercise like this may include spatial plans from different geographical levels, laws, and strategies that present as relevant. The initial step in this phase is to understand the formal planning system of the case study (see, for example, the OECD Report on Planning systems). We should recognize which formal planning documents influence the case study. For example, national land-use strategies, regional/provincial land-use programs, etc. In the second phase, other formal policy documents that may influence planning processes can be considered - for example, the environmental framework law, environmental impact assessment law, national climate change strategies, etc. The documents must then be classified into different typologies - laws, strategies, plans, programs, etc. This step will also provide helpful information for the intertextuality phase (described above), which aims to assess the coherence between policy documents. Questions that can help to address this phase are: What are the most effective planning and policy documents in place, likely to influence the spatial planning practice related to the topic to be studied?

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iii. Analyze macro discourse is divided into three stages: First, critical textual analysis has the main objective of critically addressing the embeddedness of nature-related issues under study. Based on the previously gathered data, the idea is to apply critical discourse analysis to identify how the documents build the narrative around a specific issue and, therefore, what conclusions can be drawn about the degree of institutionalization. Questions that may help to address this stage are: How does the document conceptualize the topic in analysis, is nature a resource, a solution, or an economic asset? Is nature present in the text, and if so, is it a central element? To what extent is the topic embedded in the text? To what fields is the topic associated? To what extent is the topic embedded in the text? Other types of analysis based on quantitative

methods can also be applied to strengthen the analysis –e.g. what is the density of related terms in the document and how is it divided into the different sections? This stage is where most doubts can arise for those who are not linguist experts. We should focus our attention on the general characteristics of the text.

A CDA concept that may help in this phase is the 'order of discourse', a set of discourses that appear within the same institution or, more broadly, in the same social field. Commonly, a CDA approach uses only one order of discourse for the analysis as it tries to uncover the competing discourses and their different origins and consequences in the specific social field. In this case, spatial planning can constitute one meaningful order of discourse. Understanding, then, how the different discourses frame nature-related issues in analysis can constitute the analysis itself. Another possibility is to consider one institution (a planning authority) and use it as the order of discourse, uncovering the discourse within that institution as the unique data source. Nonetheless, as spatial planning involves multiple institutions at different geographical scales, it may be analytically incoherent to use only one institution as the reference. Considering an order of discourse can also help to manage the critical character of any research using CDA, as it serves as a background for comparison. How power is balanced and reproduced in the discourse and hegemonic discourse is in a specific order of discourse are possible starting points for the critical analysis. However, delimiting orders of discourse can become a problem in applying this methodology theoretically and practically. In the public policies field is not always clear how to distinguish different discourses within the same document type. A possible way to address this issue is first to establish what thematic or ideas we pretend to analyze in confrontation, and then consider if and how it is possible to set a boundary where the two discourses can no longer co-exist, or at least when they present meaningful contractions (Jorgensen &

Phillips, 2002). An example for the spatial planning field is the way different environmental discourses articulate, or not, with development discourses, both in a spatial and economic perspective, or how they are disputing the public space. A specific urban problem can serve the order of discourse and apprehend how the different solutions are framed and legitimized.

The third stage, intertextual analysis, is intended to build on the knowledge gathered in the previous analytical phases to generate a network of intertextual references, first among the texts present in the analysis and then with other documents that prove to be important from an analytical point of view. It is also essential to distinguish between types of intertextuality since we can observe different types of references, from full references to texts to scientific references. The elements of intertextuality are also a way to analyze the legitimation constructed through citations. Within the analysis of the referred texts, it should be observed which parts of the text are mentioned and which parts are omitted. For further explanations on intertextuality, see Farrelly (2020). Following these approaches, and considering that this methodological framework is structured to analyze spatial planning-related case studies, the intertextual analysis must also address how the different documents in the network maintain logic throughout the spatial and legal dimensions. In other words, if and how, e.g., the different spatial plans applied to that case follow each other (from municipal to regional and national) and with other documents, such as laws or strategies. Questions that can help define this stage are: To which documents does the text under study explicitly refer? To which documents does the text explicitly refer? Are references made in an indirect or a direct format? Furthermore, where are they placed in the text under study?

iv. Framing institutional context: the objective of this phase is to "operationalize" the knowledge acquired in the previous steps. It intends to understand how the practitioners interpret and put into practice the discourses under study. This means municipalities and their departments or other planning authorities for many case studies. Here, interviews are the primary source of collecting data, but other forms can be considered, like questionnaires. The objective is to assess how the practitioners produce and consume the conceptualizations presented in the planning documents in analysis and what are the possible drivers and barriers to the institutionalization of a nature-related issue in spatial planning. The interview should be the last method to be applied to use the information from the previous stages to enrich the interviewing process. By 'confronting' our findings with the practitioners' views, we can also use the interview as an additional source of information and validation. Additionally, the interviews' data is worth the attention because most of the discourse analysis relies solely on documents as data sources (Leipold 2014). Questions that may help to address this phase are: How are the practitioners interpreting the embeddedness of the term in practice? Is the current institutional context a barrier or a driver to the institutionalization of this emergent issue? And how?

5. Discussion and tips for implementation

This methodological framework aims to provide researchers from different backgrounds with a guideline for using discourse analysis. Doing so contributes to overcoming frequent criticisms that discursive orientated approaches suffer, being one of the most common lack of interdisciplinary (Westman et al., 2022). In our opinion, this adaptation enables critical discourse analysis principles for those who are not linguistic experts still based on a coherent set of theoretical assertions.

This article also contributes to the study of local and regional discourses around spatial planning and environment by proposing a methodology that is directly adapted to these geographical and administrative levels. These discursive representations, made at regional and municipal levels, are especially relevant considering that most spatial planning decisions occur at these levels. Although policies, strategies, and plans intend to establish rules and procedures, they deal with terms and activities that push the boundaries of laws and plans (Gellers, 2015). Simultaneously this methodology can be adaptable to different study objects, for example, working with concepts such as circularity, water, and green and their embeddedness in spatial planning. In the future, non-textual elements of analysis can be added, for example, pictures and maps, which are both formal and informal outcomes of planning processes and constitute important ways of legitimization. These future applications have the potential to add and revise the methodology while continuing to have discourse (through its different formats) as the central object of analysis in planning. We believe this methodology adds value to the literature by stressing the importance of formal planning outcomes. Doing so can inform decision-making at various levels. On one hand, it has the potential to inform how new concepts coming from EU regulations are being embedded in the different planning systems. On the one hand, it has the potential to inform how new concepts coming from EU regulations are being embedded in the different planning systems. On the other hand, it can inform regional and local decision-makers on how current conceptualizations influence concrete planning outcomes. Notwithstanding, we see this methodology as a step in the current knowledge about nature and sustainability in spatial planning and urban studies. It is not transformative, nor does it claim so. It is different from Hajer's approach to be seen as a complement (M. A. Hajer, 1995; M. Hajer & Versteeg, 2005) to organizational studies and spatial planning.

Interpretative policy approaches have natural limitations that must be addressed during the methodological approach to guarantee the validity of the knowledge. One of the important is the reflexivity of the researcher. The absence of an absolute meaning in the object of study and the subsequent active influence of the researcher calls for a reflection of the researcher's position. Making this clear and transparent for the public can only enhance the research as it helps the readers understand how the assumptions are framed and why the researcher interprets and concludes in a specific way. For further information on the researcher's position on interpretative studies, see Yanow (2007). With this methodology, we also seek to address one of the most common criticisms of discursive orientated analysis in urban studies – the lack of relevance of policy change within urban policies (Jacobs, 2006). By orienting towards critical focal points of struggles, such as the conceptualization of nature in spatial planning, the methodological approach enables a better understanding of the institutionalization processes. It informs about the possible barriers and enablers. We divide the limitations into two parts: firstly, the complexity of the case studies can push the researcher to consider an unlimited number of documents relevant to spatial planning. On the opposite, the choosing process of the documents can end up neglecting important document that influences spatial planning. This process can be made in a group with other researchers and/or stakeholders, and it should focus primarily on policy outcomes that influence the most the physical reality- in this case, coming from plans, rules, and legislation to strategies and less imposing policy documents Secondly, the critical step may not always be clear. As mentioned before, the critical stance must be empirically proven as best as the researcher can and is still a place of struggle. Therefore, the researcher should provide all the possible empirical evidence that justifies the analysis and confront his view with other opposing views of the same object of analysis. The

questions provided in table 1 can also help not only to guide the analysis but to increase the validity of the analysis.

6. Concluding remarks

This article intends to build the nexus between spatial planning and environmental decision-making, considering the discursive aspects of it, using discursive institutionalism (DI) as the theoretical departure point and critical discourse analysis (CDA) as the methodological reference to propose a methodology able to be conducted by researchers who are not linguists. Despite the growing adoption of environmental concepts in multiple planning practices at the municipal level, such as nature-based solutions, the study of its institutionalization in policy and spatial planning decision-making is still in the early stages. A vital element of the institutionalization processes is the discourse adopted in policy and planning documents. This embedding in spatial planning should be critically addressed, primarily when it aims to deal with existential crises such as climate change, pollution, or deforestation. Spatial planning is a complex subject where multiple interests arise and the knowledge produced in academia is put on the ground by technicians and other specialists. Our approach helps to overcome two ubiquitous criticisms of discursive orientated studies in urban planning, namely, the lack of scientific and political relevance. It provides a robust tool for those who recognize the potential of discourse analysis to understand further and improve the integration of environmental narratives within policy and spatial planning. It can be applied in separate parts or as a whole by different planning authorities and at geographic levels. Relevant topics of study can be any 'emergent' issue such as ecosystem services, circular economy, or other terms and concepts primarily related to environmental matters. The dissemination of this conceptual and methodological approach contributes to deepening the use of discourse in institutionalization research.

This is seen as a 'brick in the wall' in a CDA approach to urban and institutional studies. Finally, it tries to overcome spatial planning researchers' difficulty in finding concrete and applicable methodology for their case studies considering two elements: discursively oriented and assuming a critical stance. This opens space to use empirical data to suggest recommendations for policymaking. In the future, the methodology can be reshaped to address specific research challenges and further applied to address how cities institutionalize various challenges in spatial planning.

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Table 1. Methodological framework – Analytical phases constituting major research questions, methods and procedures, and an example illustrating implementation considering Nature-based Solutions.

Figure 1. General framework to address discursive elements in the processes of institutionalization