

# Sustainability and Territory: An Approach to Shape Development from the Perspective of the Imaginary

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## 1 Introduction

Processes that lead to territorial and environmental transformations are complex. This implies the acceptance of research efforts with epistemological frames that are diverse and often non-convergent.

Some results and thoughts described here attempt to open new, relevant discussion on how territories are articulated and created in development discourses. We also examine how certain ideas or notions deeply affect the ways territories and identities are created, as well as how to understand social and environmental phenomena articulated within a given territory, particularly from the *social imaginaries* perspective. The imaginary is a concept used in sociology and philosophy (Castoriadis 1987; Habermas 1996; Taylor 2004; Anderson 1991) to refer to an intersubjectively shared notion. In this article, it refers to development: its meaning, aims, and objectives, as well as how it can best be achieved.

This article focuses on the development of Concepción, Chile, which is considered a prototype of a *growth pole* or *development pole* (*polo de crecimiento* o *polo de desarrollo*) (Perroux 1955). This case study will provide a reflexive analysis of the various meanings that *urban sustainability* and *sustainable development* concepts have today.

In this analysis, the initial approach is a geohistorical one. In the later stages of the analysis, this is complemented with elements from urban studies, as well as sociological and anthropological perspectives on cities, development, and discourse. From this, a new point of view and a new interpretation of urban

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development is proposed; this will lead to a discussion of certain concepts previously considered universal. These may, however, yield unexpected outcomes.

## 2 Development Discourse and Its Implications for Territory

Development is one of the most interesting concepts from the second half of the twentieth century. During its evolution, it has become a type of new evangelizing, missionary process of increasing relevance, especially in so-called underdeveloped countries. The elements that deserve attention are the origin of this concept and the narratives it produces. A notable event in post-WWII history was US President Harry Truman's inaugural address in 1949, in which he demanded that "(...) *we must embark on a bold new program for making the benefits of our scientific advances and industrial progress available for the improvement and growth of underdeveloped areas*" (Rist 2007, 130; Truman 1949, n. p.).

In Chile, as in the rest of Latin America, international organizations have advanced strong ideas committed to the articulation and application of development strategies. The Cepalian<sup>1</sup> discussions, which have helped establish several important lines of thought on Latin American development, have played a crucial role.

This can be seen in diverse contributions to the debate, such as those by Faletto (2007), Prebisch (1983, 1984, 1985), Sunkel and Paz (1970), and Furtado (1991, 2008), among others. In this context, the significance that territory has in discourses on and notions of development needs to be reviewed, since a spatial perspective appears to be surprisingly absent from this general body of literature. Nevertheless, spatial notions are present in these discourses – if somewhat disguised. It is in our interest to visualize and interpret how these notions emerged. It is worth mentioning that, in most cases, this spatial point of view is a result of the exploration of comparative advantages, the presence of natural resources, or of a way of organizing regions by production purposes. In general, it relates to economics or to the functionality of a neoclassical economic model, which is strongly committed to providing structure, content, and technical coherence to development from its own perspective, although always in a nuanced way.

Tendencies affecting the Latin American school of development are quite different. Within a period of 50 years, the school underwent a gradual transformation from purely economic ideas to a more interdisciplinary notion of development (Di Filippo 2007), although, in spite of this interdisciplinary feature, spatial notions did not become an explicit subject. This is very relevant, since it implies the concept's systematic absence (Foucault 1971). This reinforces one of the theses proposed here: the existence of development without territory.

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<sup>1</sup>This refers to the influence of CEPAL or the Comisión Económica para América Latina y el Caribe (United Nations Economic Commission for Latin America and the Caribbean, or ECLAC).

Indeed, notions of development produced at different historical moments have been implemented in Chile through several policies, plans, and strategies that, as an indirect consequence, have permanently and noticeably transformed the territory in a way which can only be described *ex post*.

Therefore, development as both discourse and practice has generated paradoxical consequences. In some cases, it has been introduced as the main argument and the solution to overcome social issues, in other cases, it has produced new problems that made the realization of its purpose impossible, made development an obstacle to its purpose; environmental degradation is a prime example here. It is said that, from its very origin, development is considered to have “*a real existence, as something solid, material (. . .)*”, a claim that several disciplines have debated, “*but without questioning its ontological status*” (Escobar 2000, 19). This idea tends to be reinforced when one browses the literature produced in the Francophone (Wackermann 2005; Lacoste 1965) and Anglophone areas (Smith 2008).

The many different approaches of scholars such as Escobar (1996, 2000, 2008), Robbins (2004), Peet et al. (2011), among others, as well as other thoughts on the notion of space and its position and effects on society (Werlen 1993; Harvey 1996; Soja 1989; Di Méo 1998; Di Méo and Buléon 2005) are helpful when questioning development’s ontological status. All these perspectives may also be used to evaluate the way development discourses have affected the formation of contemporary territories. This opens innovative opportunities to draft and redesign strategies for the environmental sustainability of territories from new, less orthodox perspectives.

Different development conceptions respond to different realities constructed over time.<sup>2</sup> Therefore, in each moment of history, one can recognize a proliferation of several different conceptions, which appear simultaneously with broader concepts that provide sense within a certain period of history. These perspectives invite us to approach the issue of development and the environmental evaluation of territory while considering the characteristics of knowledge related to this topic (mainly provided by natural sciences) and how the collective evaluation of these issues is established and evolves within society (Aliste 2011).

It is therefore crucial to also consider the complexity of contemporary societies where partial reality constructions (often generated by a multiplicity of value judgments) confront descriptions of society that may often be discordant – as is the case with several environmental problems (Arnold 2003).

Michel Foucault pioneered the study of reality construction through discourse practices and the way they become articulated and acted upon within different

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<sup>2</sup>Throughout history, development has adopted multiple conceptions, ranging from the ideas of evolution and progress to theoretical conceptualizations, such as modernization theory, dependence theory, market-based development, self-centered development, territorial development, regional development, local development, endogenous development, human development, sustainable development, and eco-development (Escobar 1996; Sachs 1981; Gligo 2006).

dominions.<sup>3</sup> In discourse on development, some publications such as those by Bernard (1989), Coquery-Vidrovitch et al. (1988), Escobar (1996, 2000), Giraut and Antheaume (2005), Kitching (1982), Rist (2007), and Legouté (2001) focus on the circumstances that have historically enabled and structured a discourse on development under the influence of certain strong, central ideas that have led to the construction of economy-centered hegemonies.<sup>4</sup>

From this perspective, the impact of the predominant notion of development – which equates development with economic growth as measured by increases in GDP – on the global geopolitical configuration is twofold. First, countries are categorized, for example, as first world, second world, or third world; the underlying assumption is that the first world is the standard by which the second and third worlds are measured. Social, economic, and environmental variables serve to ‘prove’ the ‘progress’/development, or lack thereof. That is, it is implied that second and third world countries lack something that the first world has and – most importantly – that this something is worth striving for. Such normative claims imply that development’s goal should effectively be a global homogenization of population. In 1951, for instance, the United Nations (UN) published a document that a team of experts elaborated, concluding:

There is a sense in which economic progress is impossible without painful adjustments. Ancestral philosophies must be eradicated; old institutions need to dissolve; the ties of caste, creed and race must be severed; and vast masses of people unable to follow the pace of progress will not satisfy their expectations for a comfortable life. Very few communities are willing to pay for the price of economic progress. (United Nations Department of Social and Economic Affairs 1951, cited in Escobar 1996, 20)

Second, this attempt to homogenize the global population is framed in economic terms. It also gives rise to a new social conceptualization: the categorized hierarchy of rich and poor countries generates a new socio-global order. As a result, this concept of development privileges particular symbolic systems (those of the first world), leading to their becoming hegemonic. That is, the political system that exercises power also configures certain territories and pushes them to resemble each other under a new socio-global model. Certain notions commonly used today in the field of urban studies, such as winner and loser territories (Merchand 2007), are originally based on this. Finally, taking this scenario into consideration, how should one understand the sustainable development concept, or the sustainability of development?

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<sup>3</sup> Foucault (1971) proposes three main systems of exclusion that allow for understanding discourses: the forbidden word, the way of sharing (views about) insanity, and the will of truth. In this sense, every discourse responds to a way of organization around these systems of exclusion. Analytically, the discourse on development terms can also be viewed from this perspective.

<sup>4</sup> Gramsci’s concept of hegemony focuses on the study of the cultural aspects of society as an element from which one could conduct a political action and as a way to create and reproduce it (Anderson 1976).

### 3 The City of Concepción (Chile): Icon and Challenge

Concepción<sup>5</sup> is a metropolitan area that underwent a significant urbanization process in the second half of the twentieth century. Concepción has been selected for this article because it is a prime example to illustrate the notion of growth poles (Perroux 1955; Armstrong 1973). It is also a city that, due to its economic structure, has suffered profound environmental modifications (Sanhueza and Azócar 2000) that bear witness to various phenomena associated with discourse and territorial transformation practices.

Founded in 1550 for military purposes, the city only consolidated its importance in the Chilean cities system around 1830 when it began to experience a process of expansion and economic diversification. However, Concepción only began to consolidate its industrial character after 1930, and especially since 1950, when the Huachipato steel plant was established in the city of Talcahuano. This may be the most important milestone in Concepción's urban history (Hernández 1983) (Fig. 1).

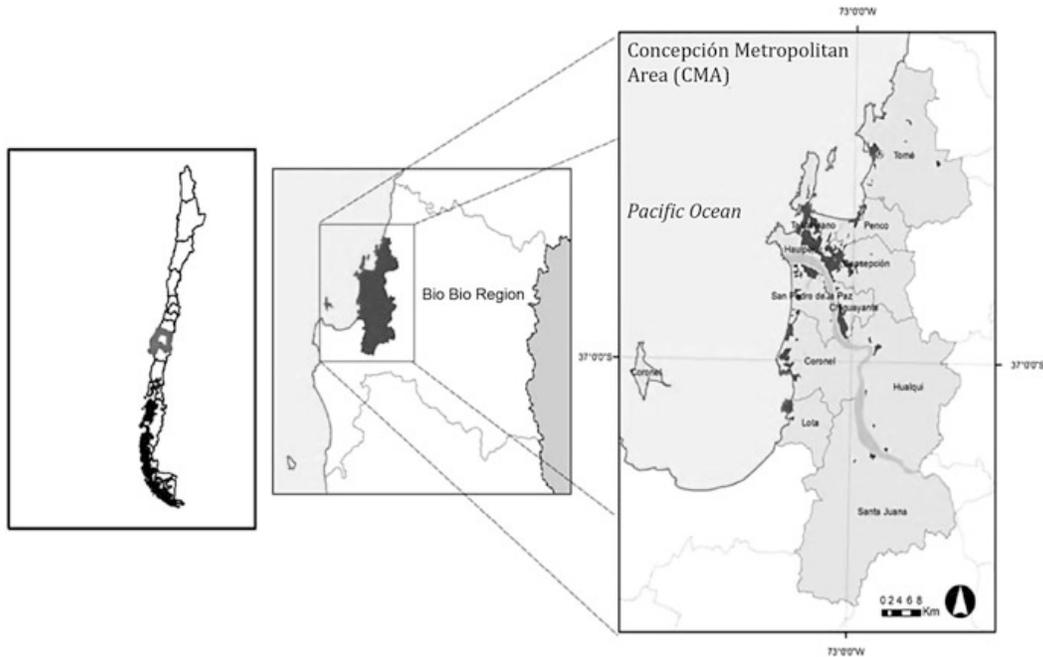
The Huachipato steel plant was commissioned in Talcahuano in 1950 after a national industrialization plan had been drafted. This effort was the materialization of the Chilean state's long-time desire: providing a self-sufficient domestic supply of steel. Until 1945 domestic steel production could satisfy only approximately 20 % of the national demand (Sánchez 1952; Echeñique and Rodríguez 1990). San Vicente Bay was chosen as the location owing to its multiple geographical advantages: its very good connection to a network of roads and railways, the potential for the port to be expanded, the coal mines in the cities of Lota and Coronel (both near Concepción), and the significant possibilities to exploit the hydroelectric resources of the Bio Bío River. These reasons eventually led to the strategic possibility to enhance Concepción as a steel production hub of nationwide relevance (Hernández 1983; Aliste et al. 2012a).

Within approximately 30 years, industrial activity was consolidated in the area. Three indicators verify this: changes in the quantity of industrial establishments, the number of employees in the industrial sector, and the production capacity. For example, there were 201 companies in 1942, a number that had increased by 32 % in 1957. Similarly, between 1957 and 1971, the number of companies in the area grew by 45 %, while between 1942 and 1971 industrial establishments in the Concepción Metropolitan Area (CMA) grew by 63 %, which clearly reflects the aforementioned strategy.<sup>6</sup> Compared to Santiago, and taking a nationwide perspective, what happened

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<sup>5</sup> The city of Concepción refers to the metropolitan area that also includes Talcahuano. Nowadays, the municipalities of Concepción, Talcahuano, Hualpén, Penco, San Pedro de La Paz, and Chiguayante are considered part of this unit, since they define a large, single urban continuum. Other municipalities, such as Coronel, Lota, Tomé, Hualqui, and Santa Juana, are also closely linked to this urban sprawl.

<sup>6</sup> According to the industrial census by the National Institute for Statistics (INE) between 1942 and 1971.



**Fig. 1** Concepción Metropolitan Area (CMA), Bio Bío Region, Chile (Muñoz 2011)

in Concepción provides insight into the industrialization phenomenon, since the growth rates of the number of industrial establishments in the area are considerably higher than the national rates (Aliste and Almendras 2010).

Demographically, census statistics reveal that 1940–1952 was the period with the highest population growth. This can be explained by the area's new economic orientation towards a mainly industrial profile, which is in line with the mid-twentieth century developmentalist discourse (Aliste et al. 2012b). This growth process resulted in a high concentration of population in a territory that is not only quite small, but also geomorphologically complex, which resulted in a particular geography characterized by strong tensions between nature and society.

Several studies that the Centro EULA de Ciencias Ambientales (European-Latin America Environmental Science Center) conducted at the University of Concepción between 1992 and 2000 reveal the environmental condition of the Bio Bío basin during this period, particularly that of Concepción (e.g., Della Croce et al. 1992; De Fraja et al. 1993; Parra et al. 1999).

These studies indicate high air pollution and identify nearly 40 major industries: chemical, petrochemical, steel, metalworking, fishing, food, and services. There are also emissions from raw material and fuel storage, domestic activity (heating), bakeries, etc. One of the most sensitive issues concerning air quality is the presence of foul odors from activities in the fishing, petrochemical, and steel-metallurgy industries. In addition, water pollution has been detected in the Bio Bío River, which receives nearly 40 % of the wastewater of the Talcahuano area in its lower course. Also, most of the Bio Bío basin's wastewater is disposed of in the river, including industrial and oil refinery wastewater, which is carried in the sewage

system. Various monitoring measures and analyses in the bays of Concepción and San Vicente revealed alarming pollution levels, particularly between 1996 and 1998. This coincided with the period when authorities began to take action in this regard. In spite of this, it was reported that the pollution levels were so high that reverting to previous levels was virtually impossible, and that the area was one of the most polluted places in the world (Valenzuela 2002).

But one of the most symbolic and important elements concerning environmental changes in the Concepción area relates to the effects of urban growth on the city's wetlands. Large wetland areas were lost between 1950 and 2010; in the case of the Rocuant-Andalién wetland (also known as Carriel), there was a surface loss of nearly 40 % over this period (Beltrán 2011). The loss of wetlands is associated with a significant deterioration in environmental quality, including a considerable reduction in biodiversity, ecosystem services, and landscape quality (Smith and Romero 2009).

The second focus element of this analysis is how discursive practices exert pressure on environmental issues. Therefore, in the discourse on growth and the consolidation of the development model, the occupation of marshy areas or swamps were the most evident sign of progress and the advance of civilization over barbarism as represented by untamed nature. For half a century, the path was clear and the city's expansion over such surfaces was a testimony of a march or advancement in the right direction: civilization succeeded in gaining space from nature as the absence of progress. Urbanization and industrialization were the most powerful signs that progress was increasing and moving in the politically correct path. What happened thereafter?

The emergence of environmental discourse is a clear indication of the emphasis placed on the 'civilizing' efforts in Chile since the 1990s. While this type of discourse first appeared in the 1970s, after the publication of *The limits to growth* (Meadows et al. 1972), it only became important in Chile in 1994 when the *Ley de Bases Generales del Medio Ambiente* (Law of General Bases for the Environment) was promulgated, which meant that environmental issues had acquired institutional, political, and social importance (Aliste 2010). From a short-term geohistorical perspective,<sup>7</sup> what comes next is the discordance between discourse and spatial practices. Development plans, regional development strategies, intermunicipal regulatory plans, and all general policy instruments that attempt to organize action on space will move in two dimensions that appear to be similar, but turn out to be very different: the imaginary and the tangible.

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<sup>7</sup> While what is meant here is the concept of *geohistory* as proposed by French historian Fernand Braudel (1997), we use it with more subtlety and on a smaller time scale. This enables us to understand a process that, albeit brief (only half a century), has long-term effects on and very significant consequences for the spatial transformations of Latin American economies. These economies were significantly restructured after the shocks experienced in the nineteenth and twentieth centuries. These modifications led to the economy becoming strongly dependent on the exploitation of natural resources. This is why such processes' impacts on transformations and spatial dynamics are so important.

From here, beyond focusing on their effectiveness, the exploration of discourses leads to the questioning of development in the light of its spatial effects on the construction of territories. Likewise, it is possible to question and open a line of interpretation of the meaning and historicity of sustainability in emerging economies.

#### 4 Spatial Practices and Modern Beliefs: Development, Sustainability, and Territory

The use of space is an indicator of how society conceives itself. The ways space is used and how these ways match (or not) political definitions regarding spatial planning, demonstrate the practical difficulties involved in development notions in the construction of public policies in Latin American contexts.

In the case of Concepción, a number of interesting examples illustrate this inconsistency. Nevertheless, instead of perceiving it as a difficulty or a problem, it is convenient to think of such inconsistency as an opportunity for reshaping the relationship between the natural system, the human-made objects/artifacts, the economic system, the social system, and the cultural system. This active symbiosis may be called the socio-environmental system (Fig. 2).

While the socio-environmental system is frequently defined as a complex phenomenon emerging from the environmental sciences (Musters et al. 1998; López-Ridaura et al. 2002), the definition proposed here seeks to reformulate the concept from a geohistorical perspective by considering<sup>8</sup>:

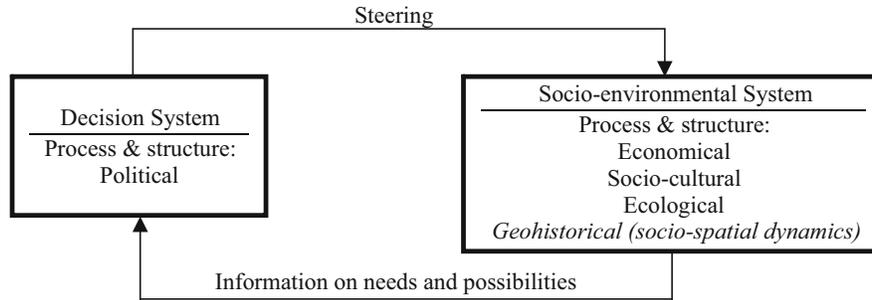
- Difficulties with the definition and description of the environment (from where is it observed? In what socio-historical context?).
- Biases from a biologist approach to environmental problematizations (Macnaghten and Urry 1995).
- Differences in the understanding of space, nature, and society (Di Méo 1991; Claval 2002).

This article will also analyze how dimensions associated with everyday life, human experiences, and living space may lead to a different view of how sustainability is understood in contexts with differing histories and spatial experiences, that are also strongly influenced by their basic geographical conditions, as is the case with Concepción.<sup>9</sup>

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<sup>8</sup> In this case, we are inspired by Werlen's ideas in 'The subjective standpoint' included in *Society, actions and space* (Werlen 1993, 67–68).

<sup>9</sup> Historically, Concepción has been subject to natural hazards, including earthquakes, tsunamis, and floods. This established a condition that somehow defined and impregnated a particular way of living, constantly rebuilding and permanently under tension. During the twentieth and early twenty-first centuries, earthquakes in 1939, 1960, and 2010 led to catastrophic devastation, as did massive floods in 1899, 1951, 1965, and 2006.



**Fig. 2** Steering the socio-environmental system (own diagram, based on Musters et al. 1998, 244)

How do we understand the experience of living in a city intended for development if, in little more than 50 years, the results have been environmental problems? Years of planning and guidelines did not yield the expected results. The urban planning experience is a good example. Planning instruments created in 1963, 1980, and 2003 were unable to effectively steer the city's growth (Fig. 3).

One has to add the different forms of representation of welfare. Here, the production of discourses and images have shaped the articulation of new socio-environmental processes, such as the 'green view' of society and the elaboration of a new concept of welfare. The 'new welfare' is based on the importance of contact with nature, mass-represented by the color green.

The eruption of environmental problems in the area, which are tangible in everyday experience, created disappointment with modernity, particularly in Talcahuano. Environmental deterioration was an unanticipated adverse side effect of (industrial) work, progress, and economic growth.

As technical reports of that period indicated (Valenzuela 2002), air and water quality had reached critically low levels in the 1980s, to the extent that, in the early 1990s, a recovery program had to be created for Talcahuano (Programa de Recuperación Ambiental de Talcahuano, or PRAT) in order to assess the overall environmental conditions in the municipality and to design methods for gradual improvement (Aliste and Almendras 2010). When these plans to clean the air and water were implemented, a new appreciation of the environment began to emerge that was incompatible with the original purpose of urbanization, which was only designed along the lines of industrial production. Industry, which had attracted people to the area, was now viewed as the main cause of environmental problems. But the population is a problem too. Environmental analyses have indicated that the urbanized zones are in inappropriate locations. That is, urbanization has encroached on ecologically significant areas and/or areas subject to natural hazards; all of this has put pressure on the area's ecosystems (Smith and Romero 2009). Therefore, paradoxically, the pursuit of welfare and the actions taken to achieve it have caused problems that make welfare less accessible for the people living in the area. The promise of modernity dissolves as soon as new development discourse practices appear. Once the steps to achieve development appeared to move towards the correct path, ideological adjustment that sought sustainable development changed the course of things again. This caused significant frustration among important

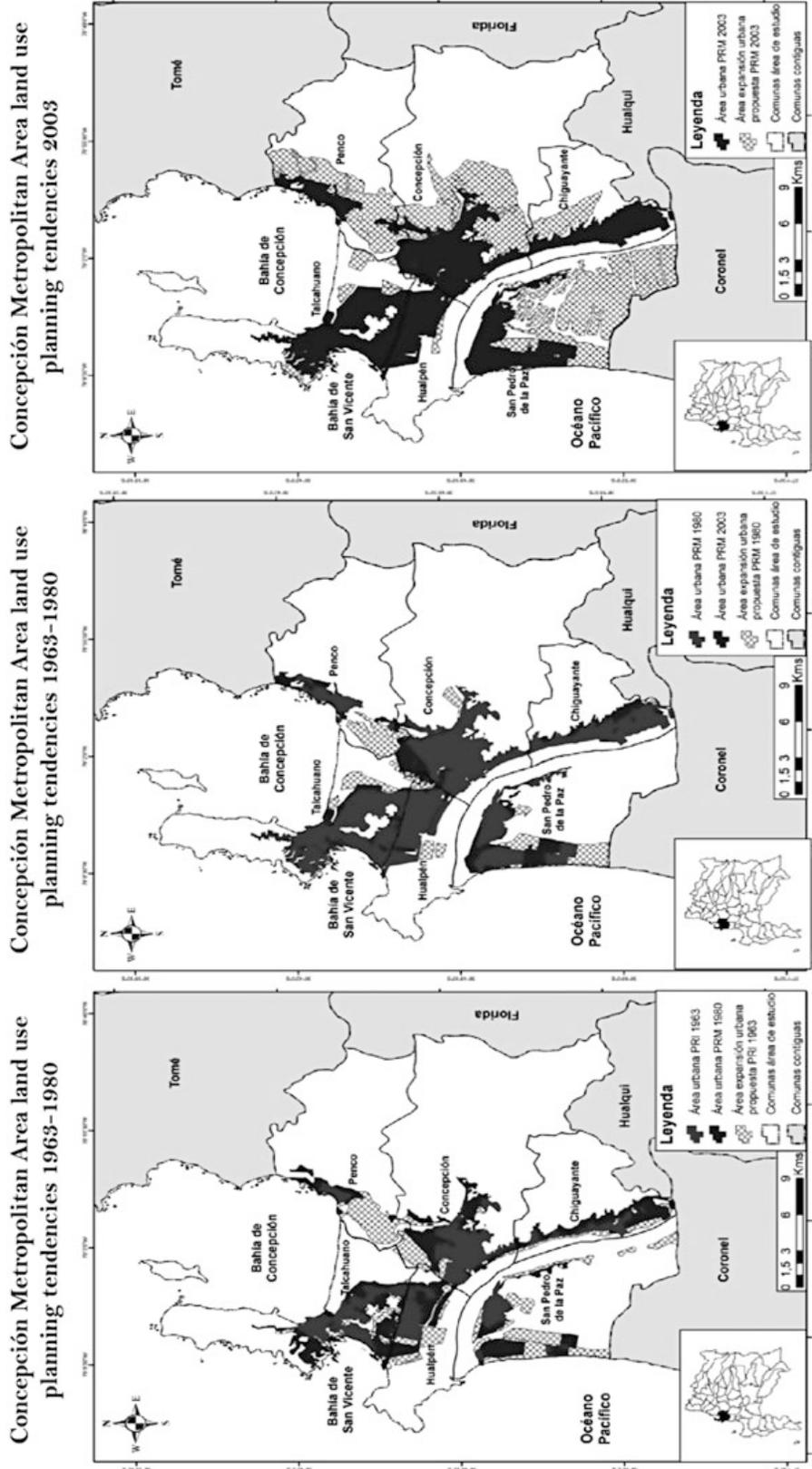
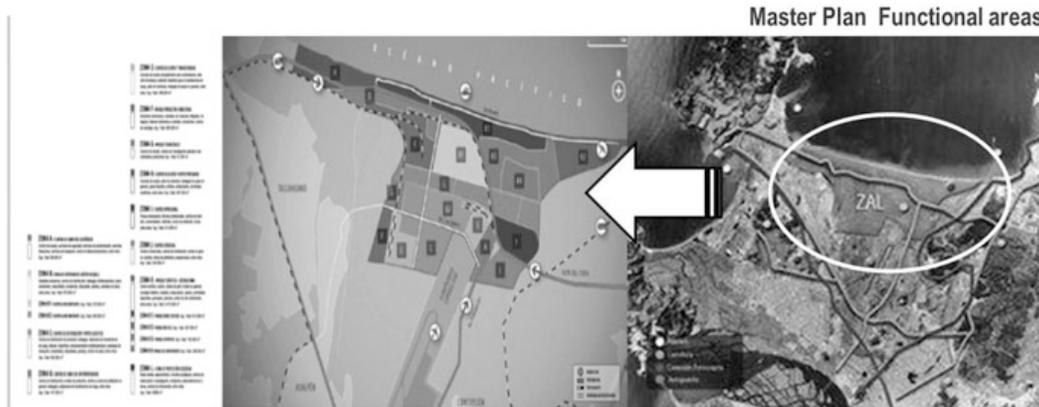


Fig. 3 Comparison between planning areas and actual growth areas in Greater Concepción, 1963–1980 (Muñoz 2011)



**Fig. 4** Location and zoning of the logistics platform project (Bío Bío Plataforma Logística 2004)

sectors of the population, especially those attached to developmentalist discourses (on the left and right of the political spectrum). Therefore, both the old (industrial) and the new paradigm of development (sustainable development) caused frustration. The new scenario is confusing. One of the first tangible results has been the tensions generated between the spatial practices and discourses of sustainable development, which were the result of contradictory actions that often led to inconsistent space usage decisions. Through these tensions, we can again explore the relevance of development imaginaries for the city's development over time. Here, discourse and action merge into what we can call factual development discourse.

A good example is the Plataforma Logística (Logistics Platform) project in Concepción. This large urban infrastructure project, which is intended for port activities, is located in an area that, according to previous studies, is of high ecological importance, which – notably – is used as an argument to justify the project. It is claimed that, with the implementation of this project, “it will be possible to add value to these areas” (Benoit and Pérez 2004, 3). On the other hand, this was one of the places that was hit hardest by the tsunami that affected Chile in February 2010 and flooded almost the entire proposed project area (Figs. 4 and 5).

As this figure shows, the project is located exactly in the areas most severely affected by the tsunami of February 2010. Furthermore, this land is precisely where territorial planning efforts were directed towards the preservation of ecological habitats and/or the restriction of land development for industrial or commercial use.<sup>10</sup> But beyond highlighting these contradictions between what is planned and what has been done, what matters here is the interpretation of the motives for these decisions and, therefore, what the sense is of environmental sustainability efforts.

How do we balance development and sustainability in emerging economies if the notion of development is in crisis?

<sup>10</sup>The regulatory plans and guidelines of the waterfront planning emphasize how significant these areas are for preservation and conservation purposes.



**Fig. 5** Bay of Concepción, affected by the 2010 tsunami and urbanized areas around the wetlands of Rocuant-Andalién (Vallejo 2010)

## 5 Space, Science, and Modernity: Transdisciplinarity and New Geographies

After the case study described here, there may be a possibility to establish a transdisciplinary dialogue. From an analytical perspective, this notion will allow us to make progress regarding how environmental issues should be contextualized and how to propose sustainability strategies for cities in emerging economies.

In a transdisciplinary dialogue, many elements remain questions that need to be subjected to a thorough analysis and debate, because one of its basic aspects is the question: where do we observe from? This clarifies and describes the subject of our observations (Maturana 2009). Such an approach necessarily deals with the difficulty implied in the observations systems and with the validity of such observations.

In the previous section, I alluded to modern beliefs. Most decisions and actions that originated from developmentalism in the 1950s are oriented towards the implementation of measures that are strongly linked to rationality. Technological optimism and economic reasons for development drive government decisions and actions that are anchored in ideas and knowledge strongly committed to science and scientific solutions to socio-environmental problems. Simultaneously, there are some ways of occupying and using space that, in spite of these rationalities, move in

completely different directions. Given these facts, there is no doubt that the arrival of new ideas and concepts that require innovative frameworks from the public sphere – such as the idea of environmental sustainability – will not lack certain conflictive aspects, since meaning or interpretation may vary according to the interests involved and, particularly, according to each area's spatial experience.

This is easily observed in Concepción when it is explored from a geohistorical, transdisciplinary perspective; that is, by converging the analysis of geographic, sociological, anthropological, and ecological perspectives of the use and spatial trajectory of the city.

## 6 Conclusion

Given the above, one can conclude:

- In emerging economies, it is not viable to insist on a single perspective of the features that development models and ecological sustainability should meet, since development models depend on ideological adjustments and adequate timing. Further, such spaces may be very different, making it unviable to impose policies with one notion of sustainability or sustainable development onto very different socio-cultural contexts and geographical areas.
- A space perspective of the quest for environmental sustainability can help define appropriate sustainability criteria for a variety of socio-cultural contexts if it is sensitive to these contexts' historical and geographical specificities and situatednesses.
- Spatial knowledge is always the result of a dialogue that needs to pull together both social and spatial processes. Spatial forms are reflections of the social aspect, and the social aspect can be understood through spatial forms. If this is taken into consideration, the idea of environmental sustainability requires territorial approaches. In addition, geohistorical analysis provides an opportunity to reach these notions through transdisciplinary approaches.
- Such transdisciplinary approaches and analyses require observation criteria and broader interpretive frameworks that enable the processes that influence society when shaping territorial realities to be questioned, especially when these processes seek to pursue environmental sustainability. The perspectives provided by imaginaries of development and of sustainability are an opportunity to question how we observe phenomena and may help us focus on how we elaborate our dialogues and proposals regarding action in terms of territories and the implementation of sustainable development.

In short – based on the case presented in this article – it is argued that we need an active social geography. This social geography should seek to integrate time and space within a dynamic tailored for all territories and which considers the objective dimensions of classical spatial analysis while integrating them with interpretative observations. This social geography may help us analyze territories' hermeneutic

levels and may help us understand the scope and possibilities of emerging discourses of postmodern geography in certain socio-cultural contexts. This opens a discussion about the dimension of sustainability and sustainable development in another perspective, perhaps outside the classical definition (such as the UNEP definition), to propose the need for other sources in different cultural and geohistorical contexts.

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