

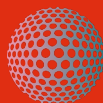
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**Andrea De Toni · Andrea Arcidiacono ·
Silvia Ronchi** *Editors*

Nature-Positive Cities: Adaptive Spatial Planning in Italy for an Ecological Urban Transition



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Foreword

This book offers an opportunity to acknowledge the importance of studies and positions that have addressed problems related to climate change and their accumulation in urban and territorial practices over several decades. The set of contributions not only provides a focused cross-section of ongoing work but also raises questions about how it was initiated, how it is conducted and how its problems are displayed.

More than 50 years have passed since the United Nations Conference on the Human Environment held in Stockholm in 1972. This was the same year that the Club of Rome published research bringing the world's attention to an issue with disturbing implications, presenting it with a blunt title: 'The Limits to Growth'. Acknowledging and preparing for this warning—at a time when the global economy was shaped by ways to obtain the energy necessary for development from fossil fuels and, especially, the idea of human control over nature was well established—proved to be a difficult prospect to accept and process. After many years, the consequences of global warming and its drastic effects on many parts of the world have become clear, it is 'normal' to refer to climate change in weather forecasts and public debate, but policies are struggling. Openly denialist positions have decreased, but they have given way to delaying tactics (moving target dates forward) and/or blind confidence in technological progress, implying the idea that a lot can change, but without affecting the model of development. The extraordinary undertaking that the current revolution entails, suggests that we carefully consider the difficulties being encountered.

One aspect that is worth reflecting on concerns the origin of this angle and the subjects who introduced it, due to the consequences it has had on the general approach.

As at other times in history, research marked the turning point. This research was conducted by a large group of experts from various disciplines that met as a 'club' in Rome in 1968, at the behest of an entrepreneurial economist and an expert in science and technology. The members then made use of computer processing carried out by researchers at the Massachusetts Institute of Technology. The commitment and personal contacts of the club members encouraged dissemination of the resulting knowledge and their convictions, finding a 'sounding board' in international bodies.

By their nature, such bodies initiate action in member countries to promote collaboration in the technical, financial and regulatory fields, relying on individual will and initiative. In the last 50 years, we have witnessed the percolation of issues from international bodies to both governmental institutions and to social practices and public debate along different winding paths in each, loading the issues with interpretations, segmenting and specifying them in different contexts. This leads to an extremely complex decision-making chain, both direct and indirect, that is worth focusing on to understand the way the great objective of reconciling cities with nature—an objective that changes the paradigm and ‘disrupts’ the given order—is translated.

The development of the principles enunciated in research, experimentation and proposals, which have led to a new branch of urban and territorial studies, must be attributed to the push by the European Union, whose bodies, starting with the Directorates-General, have translated the objectives outlined by the United Nations into programmes and projects. This has yielded a series of initiatives aimed mainly at local institutions, those closest to the problems and citizens, featuring incentives for collaboration among participating subjects and the exchange/integration of approaches, knowledge, techniques and tools belonging to different related disciplinary fields. This has led to the confirmation of a method organised around strategy/action pairs and complex procedures, along with the construction of a language superimposed on disciplinary traditions. An approach using the persuasive power of a semantic utopia associated with economic and financial support has produced a new generation of innovative ‘informal’ tools. Impacts with the existing structure have involved both a double track, with new instruments placed alongside institutionalised tools for territorial governance, and introduction and fusion, when similarities and convergences are recognised.

In reading the 12 chapters of this book, I note not only continuous references to the issues of the international apparatus but also believe it is possible to recognise two main ways we can learn from the European ‘lesson’. The first consists in redefining the disciplinary field, broadening and deepening it to include topics compatible with those already present in urban and territorial planning. The second consists of pursuing a lasting status for new instruments. The first includes the adoption of biodiversity, ecological connection and ecosystem services as guiding concepts in pointing landscape and material welfare in a new direction, while the second includes investments in Green Plans and Green and Blue Infrastructures. In my opinion, selecting aspects that can be dealt with in one’s own field, together with reinterpreting and bending those already present, seem to be ways that urban and spatial planning has adopted to meet the challenge of climate change. A holistic approach was subjected to a process of reduction involving a selection of variables, assuming targets for politically significant timeframes, and standardisation.

I believe that all of this helps to explain the centrality of ‘greenery’, which is inextricably linked water and soil, in that they recall and give a complete meaning to the heterogeneous and dynamic set of design solutions defined as ‘nature-based’.

There are now numerous case studies that enable us to build grids to synthesise the multifunctional nature of greenery and its ability to mitigate, rather than just adapt to the effects of climate change. We are used to using the terms ‘adaptation’

and ‘mitigation’ together, but the differences are not trivial. It is not just a question of defending ourselves to reduce the damage to people and property, but rather intervening in dangerous dynamics by understanding them.

Manuals prepared following reports and repertoires of good practices have permeated projects for transforming public spaces and, slowly, even the most difficult ones such as ground-level parking lots, where depaving, rebuilding the humus and planting change the performance and perception of the open space and its surroundings. These are achievements that the pandemic undoubtedly encouraged, albeit in a limited manner and not always professionally, but sufficient nevertheless to be convincing. Trends that are ‘decorative’ (green is evoked to validate any type of planned intervention), fashionable or ideological must not cause us to lose sight of the importance of a serious urban forestry policy, nor must it excessively abuse yet another semantic utopia as ‘biocity’: biocity is just one way to strategically denote urban and territorial regeneration.

Nevertheless, a critical attitude is indispensable in observing, for example, that the distribution of greenery is unequal, whether across parts of a city, across cities or across territories; that greenery also modifies urban values and its distribution must be considered with a view to equity and priority when resources are scarce; that the necessary massive operations call for equally massive private investments; that resistance to extreme events is possible with suitable species of ‘healthy’ (i.e. maintained) plants of the right age planted in appropriate locations; that flora is associated with fauna and that the metabolic dimension should be a cornerstone of the biocity; that urban forestry and densification are not two sides of the same coin; etc.

The European method—strategies/actions/targets/assessment/monitoring—and the introduction of thematic programmes and projects aimed directly at local institutions have encouraged the proliferation of informal tools and the development of new skills, but they have fuelled the idea that this will solve the problem of the inadequacy of traditional forms of territorial governance. A gap has formed, more or less consciously, between the search for other tools and a new form of the plan. However, the primary objective of limiting atmospheric warming by reducing the emission of greenhouse gases affects the economy and social well-being in a web that can only be considered by working with the tools held by the bodies responsible for territorial governance.

This convergence does not seem difficult with regard to municipal urban planning: the forerunners of the current green plans were already settled in the general urban plans. It is more problematic, however, to ‘find a home’ for green and blue infrastructure, which are indispensable for connectivity and biodiversity, as well as potential vehicles for regenerating other infrastructure under and above ground and the Italian landscape in general. They could support and connect the physical structures that allow environmental, economic and social systems to function, the framework of a country whose lithological and geomorphological features underlie serious instabilities. We have many specialised maps and national and regional sectors have accumulated knowledge related to their related fields, but nature knows no bounds

and interdependence dominates. This is perhaps the most difficult issue to tackle: governing green and blue infrastructures.

Urban planners began to deal specifically with the relationship between plan contents and administrative boundaries with the great settlement expansion, but they seem to have grown timid with their unsuccessful experience with territorial districts. Faced with the disappointing results of the Metropolitan cities and the ineffective role of the Provinces in planning, the Regions—whose boundaries roughly align with historical borders and are not entirely detached from geographical areas—may hold decisive importance. Only by fully recovering the territorial dimension in regional strategies and resuming the country-wide experience of ‘territorial projects’ through a critical lens can we obtain any answers. In territorial, regional and interregional projects, urban and spatial planning should include environmental policies among their features. The Nature Restoration Law approved by the European Council in 2024, the first request for national governments to prepare plans expressed in terms of law, could/should offer a more solid foundation for regional initiatives, helping to overcome sector divisions and establish a solid link between landscape plans and territorial strategies.

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Living in Harmony with Nature? Climate, Biodiversity and Planning Futures



Fabiano Lemes de Oliveira 

Keywords Nature · Urban planning · Futures · Biodiversity · Climate change

1 Introduction

The two existential threats to humanity and the planet—the climate and the ecological crises—have generated narratives across a *hopefulness-despair spectrum*. On one end lies the catastrophe discourse, present since the early days of global warming awareness in the 1990s [1]. This narrative seeks to alert humankind to the disastrous consequences of anthropogenic action on the planet. Descriptions of scorched future landscapes, coupled with drastically reduced biodiversity, have populated dystopian imaginaries [2]. These visions portray futures marked by persistent crises and collapsed socio-ecological systems. While such visions warn of the impacts of current decisions, this approach has proven ineffective in causing behaviour change or in guiding transitions towards more desirable futures [3].

On the other end, positive narratives about building better futures for humanity and the planet have emerged as counterpoints. These visions of desirable futures function as instruments of hope intended to catalyse collective action towards common goals [4]. They counter the individual paralysis and disempowerment often induced by fear-driven climate discourses by mobilising collective hope around transformative and positive scenarios. This orientation is evident, for instance, in the UN’s *Pact for the Future*, which explicitly rejects fear as a driver of change and instead affirms that “this is a moment of hope and opportunity” to build a world “in which humanity lives in harmony with nature” [5].

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The future is continually in the making, and its openness invites consideration of possible, probable and preferable futures [6]. The latter are inherently normative: they reflect our values, expectations and desires of what *ought* to be. “Desirable” or “preferable” futures, in this sense, are those that increase the likelihood of effectively addressing the current crises and foster more balanced, synergistic and holistic relationships between humans and the rest of nature. Such visions provide directionality to and coordination of present-day actions, and can serve as powerful drivers of transformative change [7].

In order to build desirable futures, one must first be able to imagine them [8]. Such futures are often envisioned—explicitly or implicitly—in key global reports and policy frameworks. For instance, both the Kunming-Montreal Global Biodiversity Framework (GBF) [9] and the Pact for the Future envisage a future in which humans live “in harmony with nature”, a vision that is also greatly manifested in the IPCC’s Sixth Assessment Report (AR6) [10] through its Shared Socioeconomic Pathway SSP1 Sustainability.

This chapter examines two of these frameworks—the GBF and the IPCC AR6 report—to explore the foundations upon which they build positive futures for humans and nature in urban contexts. These documents have been selected for their global recognition and influence in shaping climate and biodiversity policy and action. The chapter first asks: what are the visions for urban biodiversity articulated in these frameworks? And, what forms of human-nature relationships do they prioritise? It then considers the implications of these visions for urbanism, reflecting how planning and design practices might evolve to operate within, and actively contribute to, nature-positive futures.

2 A Path for “Living in Harmony with Nature”? The Kunming-Montreal Global Biodiversity Framework

The Kunming-Montreal Global Biodiversity Framework, adopted in 2022 as the post-2020 global biodiversity framework, seeks to address the persisting loss of biodiversity driven by human activities. The GBF operates on two interlinked time-frames: a future-oriented medium-term vision for 2050, coupled with short-term actions to be taken by 2030. The overarching vision is for a world “in harmony with nature”, in which biodiversity is “valued, conserved, restored and wisely used”, [9] thereby maintaining and enhancing ecosystem services provision, and sustaining a healthy planet.

The GBF articulates four outcome-oriented goals for 2050. The first includes the maintenance, enhancement or restoration of ecosystem integrity, connectivity, and resilience, leading to a substantial increase in the extent of natural ecosystems. This is to be done in tandem with a halt in human-induced extinction of threatened species and the preservation of genetic diversity. The second goal centres on the sustainable use and management of biodiversity for the benefit of both present and

future generations. The third focuses on the equitable share of genetic resources, while the last refers to the enabling conditions necessary to realise the previous goals, including financial resources, capacity building and international scientific cooperation.

These long-term goals are operationalised through a series of twenty-three action-oriented targets to be achieved by 2030. These include commitments to halt the loss of areas of high biodiversity importance and human-induced extinction of species, and restore at least 30 per cent of degraded terrestrial, freshwater and marine ecosystems. The GBF also calls for a significant reduction in pollution, a transition towards more biodiversity-rich agricultural practices, and the mainstreaming of nature-based solutions and other ecosystem-based approaches to support both people and nature.

Of particular relevance to urban contexts is the emphasis on enhancing the quality, quantity and connectivity of green and blue spaces. Furthermore, biodiversity and the multiple values of nature are to be integrated into planning policies, recognising cities as sites of biological recovery and stewardship. This includes a call for increase financial support to implement biodiversity strategies and plans at multiple scales.

The framework recognises that reversing biodiversity loss requires a multidimensional approach. It places value on the integration of diverse knowledge systems, including traditional and indigenous knowledge, as well as scientific evidence, to guide action. This epistemic inclusivity is accompanied by a normative commitment to intergenerational equity, emphasised by a call for youth engagement in decision-making, thereby aligning concerns for equity with democratic participation and long-term responsibility.

Yet, while the GBF calls for “transformative change”, particularly through education aimed at shifting societal mindsets and behaviour, the precise meaning of “living in harmony with nature” remains somewhat under-defined. The GBF sits within the paradigm of “sustainable development”. This view claims that economic development can be decoupled from environmental degradation and sustained over time, despite the confinements of the planet. The idea of sustainable and sustained development, albeit with ecological and environmental considerations, was codified in the Brundtland Report *Our Common Future* (1987) [11] and is anchored in the assumption of continuous economic growth as both feasible and desirable. This conceptual foundation stands in contrast to earlier critiques of growth-centred paradigms, such as those articulated by the Club of Rome’s *Limits to Growth* (1972) [12], which challenged the viability of infinite growth on a finite planet [13]. Contemporary critiques—including the Planetary Boundaries framework [14] and most sharply the growing body of post-growth and de-growth scholarship [15]—further scrutinise the internal contradictions of the sustainable development model. They argue that the climate and biodiversity crises cannot be effectively addressed without rethinking the global economy’s dependence on extractive and growth-driven logics [16]. Reflecting these concerns, in 2022 the Club of Rome launched a report to mark the 50th anniversary of *Limits to Growth*, in which it reiterates the need to transition from the current extractive economic system towards “wellbeing economies” that foregrounds the health of people and the planet.

In contrast, the GBF seemingly does not do away with the growth paradigm. Instead, it suggests that progress in “sustainable development” and in achieving the Sustainable Development Goals (SDGs) will create the necessary conditions for halting biodiversity loss and ultimately achieve “living in harmony with nature”. The framework thus upholds a vision in which ecological integrity and development are not only reconcilable but mutually reinforcing.

The GBF projects a future in which humanity can better coexist with nature through a reformulated model aligned with the paradigm of sustainable development. Whether this is tenable remains a subject of debate, but the GBF undeniably articulates a global vision in which cities and other human systems are reimaged as active participants in sustaining the planet’s biodiversity.

3 IPCC AR6 and the SSP1 Sustainability Pathway

The Intergovernmental Panel on Climate Change (IPCC) Assessment Reports are significant landmarks in the state-of-the-art of how science can point to the future consequences of actions and non-actions now. The Sixth Assessment Report (AR6) combined the Representative Concentration Pathways (RCPs), inherited from the Fifth Assessment Report (AR5), with Shared Socioeconomic Pathways (SSPs). While RCPs delineate possible greenhouse gas concentration trajectories and their associated radiative forcing levels by 2100—SSPs in turn offer internally consistent storylines of socioeconomic development, enabling a more integrated interplay between societal trends and climate outcomes. The links between climate change and biodiversity loss are presented prominently, with every increment in temperatures further exacerbating species extinction and ecosystems degradation.

The AR6 presented five SSPs across the spectrum of challenges to mitigation and adaptation: Sustainability (SSP1), Middle-of-the-road (SSP2), Regional rivalry (SSP3), Inequality (SSP4) and Fossil fuel-intensive (SSP5). These scenario storylines are long-term “what-if” descriptions of futures which today are deemed plausible [17].

Of the five SSPs outlined, SSP1 stands out as the most optimistic in addressing the twin crises of climate change and biodiversity loss. When paired with the lowest radiative forcing scenarios, SSP1-1.9 and SSP1-2.6, it projects futures where global warming is limited to 1.5 °C or 2 °C, respectively, by the end of the century. Crucially, this pathway is also the one most aligned with biodiversity protection and ecological regeneration.

The SSP1 world is one fundamentally reshaped by sustainability and sustainable development, which had undergone rapid transition to renewable energy sources and carbon-neutral economies [18]. SSP1-1.9 reaches net zero by around 2050, while SSP1-2.6 does so by 2075. Population growth is low, and significant reduction in inequalities and material consumption have been achieved. Cities are walkable, compact and resource-efficient settlements that minimize land-take, while simultaneously enhancing ecological functions. They are green—cities protect and enhance

ecosystems in and around urban areas, further linking urban-peri urban and rural domains. Cities, in this scenario, do not only reduce their environmental footprint but actively contribute to ecological resilience through the integration of nature-based solutions (NBS).

It is a future in which a transformative change in the way humans approach and relate to nature has taken place, one involving synergistic relationships between anthropic and natural systems. Biodiversity conservation and ecosystem restoration are no longer marginal concerns but are positioned at the core of societal organisation, economic development, and climate policy. The co-benefits of addressing climate and ecological challenges together, with the understanding that biodiversity and healthy ecosystems are foundational to resilience, are embedded into policy, strategies and plans. Practices of afforestation and reforestation, for instance, are widely adopted, serving both as carbon sinks and as mechanisms to rebuild habitats and improve ecosystem connectivity.

SSP1 cities are nature-positive and mainstream a range of nature-based solutions across scales, including green corridors, green roofs, wetlands and parks [19]. These interventions are not only multifunctional in delivering ecosystem services such as urban cooling, air quality improvement, stormwater management, and food provisioning, but are also deliberately designed to enhance biodiversity. Besides, the report repeatedly stresses that nature-based strategies in cities must benefit nature, for instance in habitat creation and through ecological corridors. Furthermore, in being a low-warming scenario, SSP1 inherently reduces eventual impacts caused by increased temperatures on ecosystems.

Conclusively, SSP1 provides the most promising outlook for biodiversity. The pathway represents a shift in paradigm that would keep global warming within the limits of the Paris Agreement, benefiting humans and the more-than-human world. Although it does not frame it quite as clearly as the GBF, SSP1 is arguably a world in which a drastic shift in human-nature relationships has taken place—reconfiguring, as a consequence, socio-economic structures for the benefit of both human development and ecological integrity.

4 Planning Paradigms and Nature

Planning has long played a central role in forging human-nature relationships. Nature has consistently featured in planning imaginaries and interventions [20]. Historically, green space planning in industrialising cities responded to deteriorated environmental and health conditions—serving as counterpoints to the overcrowded, “miasmatic” urban environments of the time. They also became beacons for active recreation and sources of well-being. The idea of reconnection to nature has been, too, a key aspect of green space planning in cities. With the growth in urbanisation, access to nature and the countryside dwindled in many urban settings, especially in large agglomerations. In response, the planning of park systems—including for instance

green belts, urban parks and green wedges [21]—became central attempts at re-naturing the urban fabric. The manners in which green space planning models were conceived and green spaces implemented in cities largely followed anthropocentric logics.

With growing concerns over global warming and biodiversity loss, the concept of green infrastructure gained prominence [22, 23]. It aimed to integrate ecosystem-services into planning discourse and practice, broadening the ecological rationale for green spaces. More recently, in the context of the aggravating crises, nature-based solutions [24] have emerged as a unifying framework encompassing a variety of ecosystem-based approaches to climate adaptation, ecosystem restoration and biodiversity support.

Planning has responded with embedding green infrastructure and NBS into its practices [25, 26], as well as broadening its underlying frameworks, as seen for instance in ecological urbanism [27], performance-based planning [28, 29] and biophilic approaches [30]—each seeking to forge more synergistic relationships between urban development and nature. As such, the aim of “living in harmony with nature” has not escaped planning considerations. Today, discussions broadening the recognition of the values of nature [31] have widened the epistemological base in planning [32], opening the spectrum of considerations beyond human-centred utilitarianism towards more inclusive understandings of multispecies urbanism [33] and more-than-human [34] planning.

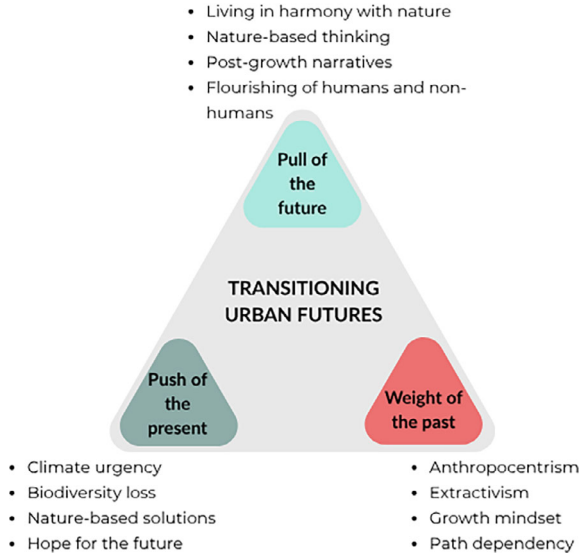
Recently, the term “nature-positive” [35] has emerged, further signalling the need to shift from extractive to regenerative relationships with nature—going beyond protection of, and the principle of “do no harm”, to one that actively enhances biodiversity and ecosystem vitality. Within this framing, nature-positive urbanism can be seen as a transformative approach to urban planning and design that actively enhances biodiversity, supports ecological integrity while enabling the flourishing of both human and non-human life.

Cities, despite their relatively limited geographic footprint globally, play a disproportionately large role in driving ecological overshoot. Yet, they also offer unique opportunities for transformational change. Their density, infrastructure, and flows of capital, life, and materials position them as potent laboratories for reimagining modes of coexistence.

To meet the challenges and opportunities outlined in the GBF and AR6 SSP1 scenario, planning must shift towards nature-based thinking—an approach that prioritises reciprocity, regeneration and long-term ecological health. It ought to be framed as a future-oriented, intergenerational and integrative endeavour, seeking to align urban development with ecological restoration and climate mitigation and adaptation. This shift is central to realising visions of living in harmony with nature—whether by 2050 or 2100—and demands a fundamental rethinking of the paradigms that have long governed urban transformation.

The juxtaposition of inherited paradigms, ambitious global frameworks, and emerging speculative signals reveals a contested space of transition in urban planning. To illustrate this, I adapt the *Futures Triangle* (Fig. 1) to map the current dynamics shaping the pursuit of “living in harmony with nature”.

Fig. 1 A Futures Triangle for urban planning “in harmony with nature”, mapping the tensions between legacy paradigms, present constraints, and emerging anticipations. Adapted from [36]



5 Discussion

The GBF and the AR6 both converge on the recognition of the interdependence of climate stability and biodiversity vitality. They ultimately recognize that a world in which humans flourish cannot be one in which biodiversity declines. In this shared understanding, both reinforce the need for urgent action: the GBF aims to halt and reverse biodiversity loss within this decade, while the AR6 warns that further delays in mitigation and adaptation efforts could foreclose the window of possibility of securing liveable futures.

While both frameworks envision more sustainable futures, they arguably diverge in the assumptions underpinning their respective transition pathways. The GBF frames its vision squarely within the paradigm of growth driven by the sustainable development agenda. It adheres to the assumption that growth can be decoupled from environmental and ecological degradation and biodiversity loss, despite increased claims that limitless economic growth is not possible on a planet with finite resources [37, 38]. The IPCC’s AR6 SSP1 pathway, while also employing the language of sustainable development, opens conceptual space for transformative societal shifts beyond the growth paradigm foregrounding disruptive transitions. It envisions a future which could be potentially shaped by deep, systemic changes in economic structures—and compatible with wellbeing economy models [39] and post-growth thinking—even if these are not explicitly endorsed or articulated. As such, AR6 SSP1 signals toward a more radical reconfiguration of present-day and societal infrastructures.

These different conceptual underpinnings carry implications for the feasibility and meaning of the goal of living “in harmony with nature.” In the GBF, this vision is

set for 2050, with a strong emphasis on immediate action through 2030. While these short-term targets—focused on protection, restoration, and integration of biodiversity into policy—are laudable and aligned with the SDGs, they largely operate within an instrumental logic of managing nature and enhancing natural processes. Although the GBF acknowledges the need for a mindset shift, it falls short of proposing a pathway for systemic transformation in human–nature relations. In addition, the gap between 2030 and 2050 is little explored, with unclear milestones, which undermines the plausibility of the 2050 vision when assessed on the basis of the GBF alone. AR6 SSP1, by contrast, sets its most optimistic sustainability outcomes for 2100 (Fig. 2) and, if realised, would entail cities that are more ecologically integrated and landscapes that are significantly restored and diversified, suggesting a future in which the goal of living in harmony with nature might be more structurally embedded.

The GBF and the AR6 SSP1 pathway carry significant implications for the role of planning in addressing the twin crises of climate change and biodiversity loss. They prompt a critical reflection on how planning can serve as a transformative instrument for achieving the vision of living in harmony with nature. Such a transformation requires change in the deep structures of society. It also demands a reorientation of planning away from extractivism [40] and the pursuit of growth towards being an instrument of wellbeing for both humans and the more-than-human world. Planning needs to further develop integrative and systemic strategies and actions to support synergistic relationships between anthropic and natural systems. Besides, it ought to go further than what suggested in the GBF and the AR6 frameworks in terms of future-oriented thinking. Despite their ambition, these frameworks fall short of escaping the state-of-the-art of how to achieve the visions—largely recycling the promotion of nature-based solutions, green infrastructure and compact urban forms—without advancing exploration of novel spatial strategies, concepts and elements of future worlds that might be anticipated now, such as, for example, climate-resilient multi-species infrastructures and living materials. As such, high-level commitments and indications of desirable pathways have yet to be translated into visionary explorations of what a “living in harmony with nature” and SSP1-driven urban worlds might be like. Although these scenarios are important to the construction of sustainable and desirable futures, reframing current thinking is needed to advance imaginative, alternative and visionary solutions, ideas and strategies to contribute to resolving the current compounded challenges we face.

6 Conclusions

The chapter has examined how the vision of “living in harmony with nature” is articulated in two global frameworks—the Kunming-Montreal Global Biodiversity Framework (GBF) and the IPCC’s Sixth Assessment Report (AR6)—and considered the implications for planning theory and practice. While both frameworks acknowledge the interdependence of limiting global warming and sustaining biodiversity, as

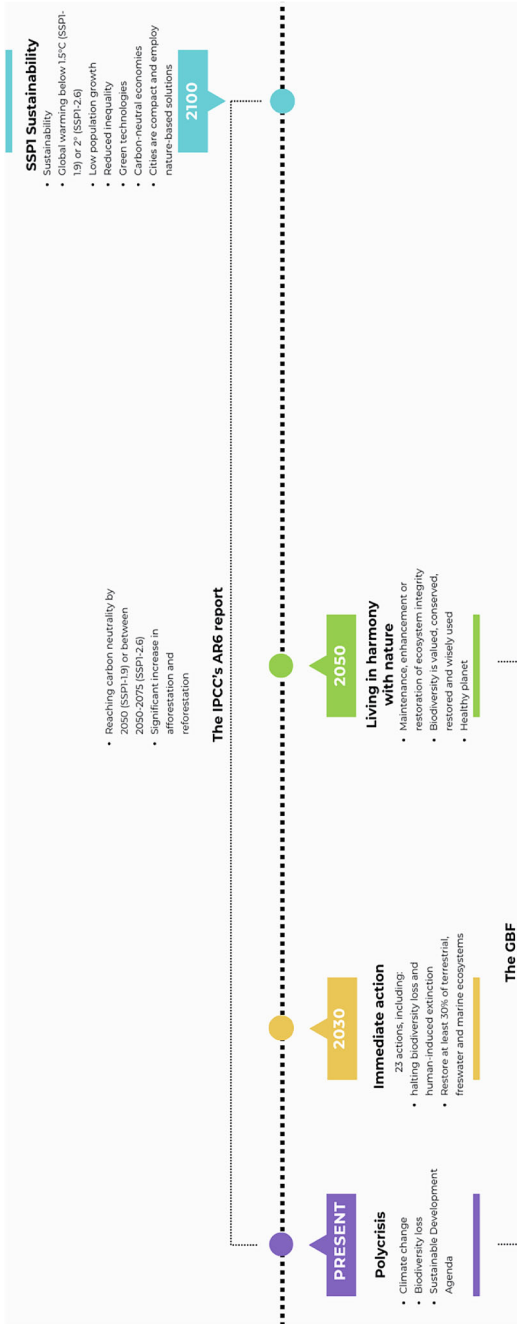


Fig. 2 Timeline of GBF and IPCC's AR6 SSP1 sustainability

well as the need for both a long-term vision and immediate action, they diverge in focus and in assumptions underpinning transformative change.

The GBF centres on halting and reversing biodiversity loss by 2030, and for humanity to live in harmony with nature by mid-century. In cities, it emphasises nature protection, restoration and connectivity. While it presents an actionable agenda aligned with the narrative of sustainable development, it falls short of offering a pathway for structural societal transformation. AR6 SSP1, in contrast, projects a long-term trajectory, envisioning 2100 as the horizon for a deeply decarbonised society and ecologically restored future. Its openness allows for the consideration of disruptive economic and societal transformations.

These carry implications to how achieving such futures are conceptualised and operationalised. While the GBF provides a concrete set of actions that would need to take place now, it lacks clear milestones between 2030 and 2050 casting doubt about how to move from existing development paradigms towards the visionary goal. In turn, the AR6 SSP1 suggests a more profound transformation of how lives are lived and of the cities that accommodate them in 2100. In both cases, the suggested nature-based interventions are capped within the limits of the state-of-the-art, without significant speculative exploration of approaches, strategies and types of solutions for biodiversity that could be anticipated from the future.

Planning must therefore navigate the tension between long-term aspirational goals and operational demands of immediate action. This requires an epistemic broadening of its scope. If planning is to contribute meaningfully to achieving harmony with nature it cannot be limited to embedding biodiversity and climate goals into existing systems. It must assume a more ambitious and anticipatory role—one that embeds nature-based thinking and reimagines human-nature relationships through the lenses of reciprocity, co-existence and multispecies flourishing. One of planning's responsibilities is to imagine these alternative futures, to explore visionary spatial imaginaries not yet fully captured in global frameworks. Another is to devise the mechanisms, strategies and enabling conditions for their realisation.

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