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论文

由内而外还是由外而内?

——对城市边缘地区景观管理的反思

Inside Out or Outside In?

—Rethinking Peri-urban Landscape Management

摘要 ……

随着全世界城市经济的发展，以及城市区域的不断扩张，人们正逐渐将城市边缘地区的管理视为一个重要的政策问题。然而，与此同时，由于经济转型或因气候变化有关的自然灾害而从风险区中撤离，城市区域内正渐渐出现新的边界条件。本文对城市边缘地区的景观管理予以了重新思考，将城市内部的边界条件也纳入考量，并就城市边缘地区——这一21世纪城市化的新兴特征——所面临的挑战与机遇进行了审视。本文通过新西兰基督城的案例研究，提出了一种将基于价值的视角，与传统空间战略相结合的方法。采用一种更为清晰明确的、以景观为基础的城市边缘地区管理框架，需要同时发展与之配套的景观尺度合作伙伴关系，从而能够为城市边缘地带提供愿景和政策的长期连续性。

关键词 ……

城市边缘地区景观管理；城市内部边缘；基督城；治理框架

Abstract ...

As urban economies grow worldwide, and cities expand geographically, peri-urban management is being more widely recognized as a significant policy issue. At the same time however, new edge conditions are emerging within urban regions, due to economic re-structuring and retreat from areas at risk due to natural hazards associated with climate change. This paper reframes consideration of peri-urban landscape management to include intra-urban edge conditions, and examines the challenges and opportunities of urban edges as an emerging feature of 21st century urbanization. Drawing upon the case of Christchurch, New Zealand it argues for an approach that combines conventional spatial strategy with a values-based perspective. Adoption of a more explicit landscape based framework of peri-urban management will require a parallel commitment to the development of landscape scale partnerships that can provide long term continuity of vision and policy in urban edge situations.

Key words ...

Peri-urban Landscape Management; Intra-urban edges; Christchurch; Governance Framework

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1 引言

城市边缘地区景观一直是介于乡村与城市之间、自然与人工之间、落后和发展之间。它们发挥着重要的功能，是边缘化活动的发生场所，并提供了投机机遇的空间。这些城市边缘地区以快速变化为特点，随着城市经济的发展以及城市规模和数量的增长，受城市边缘地区变化影响的地区和人口正显著增加。根据道格拉斯·韦伯斯特[1]的估计，2000~2025年，东亚地区40%的人口增长将会出现在城市边缘地区，并认为“城市边缘地区正受到全球化与本土化双重力量的影响”。如何管理纷繁的国际、区域及当地变化对城郊结合地区的影响，是摆在所有发达国家和发展中国家面前的一个问题[2]-[4]，但即使其具有如此的规模和意义，城市边缘地区仍一直被政策所忽视[5]。联合国正在筹划《2015后可持续发展议程》，而且将于2016年召开的联合国人居署第三会议旨在建立一种“新城市议程”。

本文通过重新考量城市边缘地区的条件，并将城市内部的边界纳入进来，旨在完善城市议程的背景。我认为在未来的许多城市地区中，城-乡边缘将不会是城市外缘占主导的边缘环境，而是建成区与开放城市景观之间的边缘地带，以及不同类型的城

1 Introduction

Peri-urban landscapes have always been in-between spaces: in between country and city, in between nature and culture, in between obsolescence and growth. They provide vital functions, accommodate marginalized activities, and offer spaces of speculative opportunity. The peri-urban is characterized by rapidly changing relationships, and as urban economies grow and cities grow in size and number, so the areas and populations affected by peri-urban dynamics expand dramatically. Webster[1] estimated that 40% of population growth in East Asia 2000~ 2025 will be in peri-urban areas, arguing that "peri-urban areas are where the forces of globalization and localization intersect". Management of competing global, regional, and local dynamics at the urban-rural interface is a landscape planning issue faced by all developed and developing countries[2]~[4],but despite its scale and significance the peri-urban has been a neglected policy space[5]. The United Nations is now planning the Post 2015 Sustainable Development Agenda, and the UN-Habitat III Conference in 2016 seeks to develop a "New Urban Agenda".

This paper aims to contribute to urban agenda setting by re-framing consideration of the peri-urban condition to include intra urban edges. I argue that in many future urban regions, the dominant edge condition will not be an outer edge, between urban and rural, but rather an edge between built and open urban landscapes, and between different types of urban related landscape function. I illustrate the challenges this creates by reference to the experience of Christchurch, New Zealand, a city which has a long tradition of active peri-urban management[6][7]. In addition to typical peri-urban dynamics associated with urban growth and changing technologies, a recent series of earthquakes in Christchurch has accelerated the emptying out of significant parts of the city, due to land damage and enhanced flood hazards. This echoes the trajectory of many post-industrial cities, and prefigures the future faced by many coastal and estuarine cities worldwide when faced by rising water levels. Hence while only a modest sized city, the urban edge dynamics of Christchurch may offer insights of wider significance for urban policy.

2 The Nature of Peri-urban: Places In-between

Peri-urban means the outer edge of urban. It is frequently expressed in landscape planning as the urban-rural (or rural-urban) fringe, and scholarly critique has focused upon the interface between urban and rural conditions, functions, dynamics, and values. The peri-urban interface is typically characterized as a gradient of land values, use intensities, and urban influence, and by a dependent relationship between rural and urban functions[5],with the peri-urban serving as a place for urban economies to access food and water, a place to dispose of waste, a place for marginal activities and for activities considered dangerous, unattractive, or undesirable, and most fundamentally, a place in the process of becoming urban. In Christchurch, the peri-urban zone has historically been the location for horticulture and town milk supply; for mental hospitals, prisons, and high impact activities such as quarries and waste dumps; and in common with most cities, it has been the space into which urban growth takes place.

Peri-urban landscapes are also places for urban leisure and recreation, and provide parks, sports fields, and resorts for urban communities. Much depends upon the natural resources available. In Christchurch, the hills to the south of the city provide a major recreational attraction, and the former open farmland is now managed as recreation and conservation areas. To the north of the city Bottle Lake Forest — which was established for waste disposal, production and soil erosion control — now provides another major recreational park.

Peri-urban areas are typified by a lower level of public services than provided within towns and cities, lacking sewerage systems, reticulated power and water, urban quality roads, public transport, or many community services. Indeed, provision or otherwise of basic services such as sewerage and water supply has been a primary mechanism for spatial planning in peri-urban areas, and the growth of Christchurch can be traced through its expanding network of sewers and other infrastructure, installed and managed by public authorities.

市相关景观功能用地之间的地带。我将通过新西兰基督城——这座城市在城市边缘地区积极管理方面拥有长期的经验——案例对这一变化趋势加以说明[6][7]。除了城市发展和日新月异的技术所带来的特有城郊变化之外，近来在基督城发生的多起地震也因为土地毁坏和增加的洪灾隐患而加速了城市中重要部分“清空运动”。基督城与许多后工业城市的发展轨迹相似，并成为了世界各地许多沿海和河口城市在未来面临海平面上升时的先例。因此，尽管基督城不是座大规模的城市，但其市区边缘的动态可在城市政策方面提供更广泛意义的见解。

2 城市边缘地区的本质：介于中间的空间

城市边缘地区是指城市的外缘。这种表述经常出现在城–乡（或乡–城）景观规划中，在城市边缘地区的学术观点集中在城市和农村的条件、功能、动态和价值之间的交界处。这些交界处的典型特征包括土地价值、利用强度及城市影响力的梯度，以及农村和城市功能之间的依赖关系[5]——城市边缘地区具有与输送食物和水相关的城市经济活动；可进行垃圾处理；移民活动，以及一些危险的、无吸引力的、不受人们欢迎的活动常发生在城市边缘地区中；此外，也是最根本的是，这些城市边缘地区在未来将会成为城市的一部分。基督城的半城市化地区长期以来都是园艺生产地和牛奶供应地；精神病院、监狱，以及一些高影响性的活动——如采石场和垃圾填埋场——也设在这些地区；而且与大多数城市相同的一点是，这些地区已经成为了基督城城市扩张空间的一部分。

城市边缘地区的景观也成为了城市休闲游憩的场所，并且城市社区提供了公园、运动场和度假地。这在很大程度上取决于可利用的自然资源。在基督城，城市南部的山地成为了一处重要的休闲景点，原有开阔农田现被作为娱乐和保护区管理。城市北部的瓶湖森林——此森林为了废物处理、生产和土壤侵蚀控制等目的而建——现在也成为了一个主要的休闲公园。

相较于城镇和城市，城市边缘地区所提供的公共服务的水平较低，缺乏排污系统以及网络性的电力和水供给，在城市品质道路、公共交通，及许多社区服务等方面也较薄弱。事实上，提供或其他形式的基本服务——如污水处理和供水——已成为了城市边缘地区空间规划的主要机制。在基督城中，城市扩张可以追溯到其由公共机构实施并管理的下水管网及其他基础设施的扩建。

作为公用事业，交通运输和通信技术在19世纪和20世纪快速发展，城市边缘地区的范围也不断扩大。城市边缘的景观地区已经成为令人向往的宜居

1. 介于之间的空间：基督城中的城市边缘地带。
1. Places in-between: The Christchurch peri-urban zone

As utilities, transport and communication technologies have improved over the nineteenth and twentieth centuries the extent of the peri-urban zone has expanded. Select parts of peri-urban landscapes have long been desirable places to live, providing locations for country homes for urban elites. With the development of public transport, cities expanded along rail and tram routes, and suburbs became and remain a major driver of peri-urban dynamics[8].Private cars have meant that the "open" landscape of the peri-urban in many developed countries has become a continuous belt of high value country residences, or "lifestyle" areas, from which residents can commute to the city. In Christchurch the original colonial plan provided "rural" sections close to the city for purchasers of central city land. These have long been absorbed into the city, but following the relaxation of former planning restrictions based upon preservation of agricultural soilsa wide belt of rural residential properties now largely surrounds the city on its west and northern edges.

Changing technologies also mean the peri-urban is a place of urban transport infrastructure — of motorways and airports — and this in turn brings new functions such as bulk distribution, shopping malls, and business parks, creating the phenomenon described by Garreau[9] as "edge city". At the same time, former functions such as agriculture may no longer be viable due to rising land values or loss of supporting services, thus creating an unstable zone of land use transitions. It is precisely the lack of structure and order that provides much of the dynamism of the peri-urban, as it opens up opportunity for new development. The characteristics and operation of peri-urban land markets are complex, highly dependent on specific planning and property laws, and driven by multiple and intersecting dynamics, including the relationship of land value to distance from urban markets, and the relative scarcity created by planning regulations. They are further complicated because of frequently overlapping or competing administrative institutions. However one common thread is the speculative opportunity created by change and uncertainty. As Scott et al put it[5], the peri-urban is "space waiting for something better to come along" (Fig. 1).

3 Conventional Peri-urban Solutions

The seemingly chaotic mix of peri-urban functions and change drivers led early planning commentators and theorists to characterize the peri-urban areas around modern cities as areas of sprawl, dysfunctional zones that require planning intervention[4]. A range of spatial solutions have been proposed to impose order upon these unruly landscapes, and most notable among these has been the linked concepts of greenbelts and satellite settlement[10]. Green belts epitomize the use of restrictive land use zoning to constrain the outward expansion of the city. Satellite settlements may be designated within or beyond the greenbelt to accommodate, concentrate and service the demands for additional urban space. The Garden City ideal provides one model for green belt settlements seeking to combine the benefits and qualities of town and country. For much of the twentieth century, many developed countries have adopted peri-urban zoning regimes based upon green belts, either as concentric rings or as partial rings, wedges, or sectorsin which land use policy aims to prevent, direct or slow conversion of land into urban functions. London provides a classic example of a concentric green belt, while Toronto has a semi-circular greenbelt. Copenhagen's "finger plan" is an exemplar of a sector model, with alternating growth corridors and reserved open land.

In Christchurch, a green belt was introduced in 1959, with urban expansion contained within a regulatory "urban fence". In the 1970s, growth was directed to satellite settlements[6]. The dominant policy mechanism for the past 50 years has been land use zoning based upon a minimum area required for subdivision of ownership titles, typically between 1hm^2 and 20 hm^2. The other long term policy mechanism in the peri-urban area has been land acquisition, and the city council now owns significant recreational land to the south and north east of the city, while the regional council owns large flood protection and groundwater recharge areas to the north and north-west. A limitation on residential development in aircraft noise contours around the airport in order to protect its 24-hour operation has been another part of the peri-urban policy mosaic (Fig. 2).

The green belt approach is under increasing

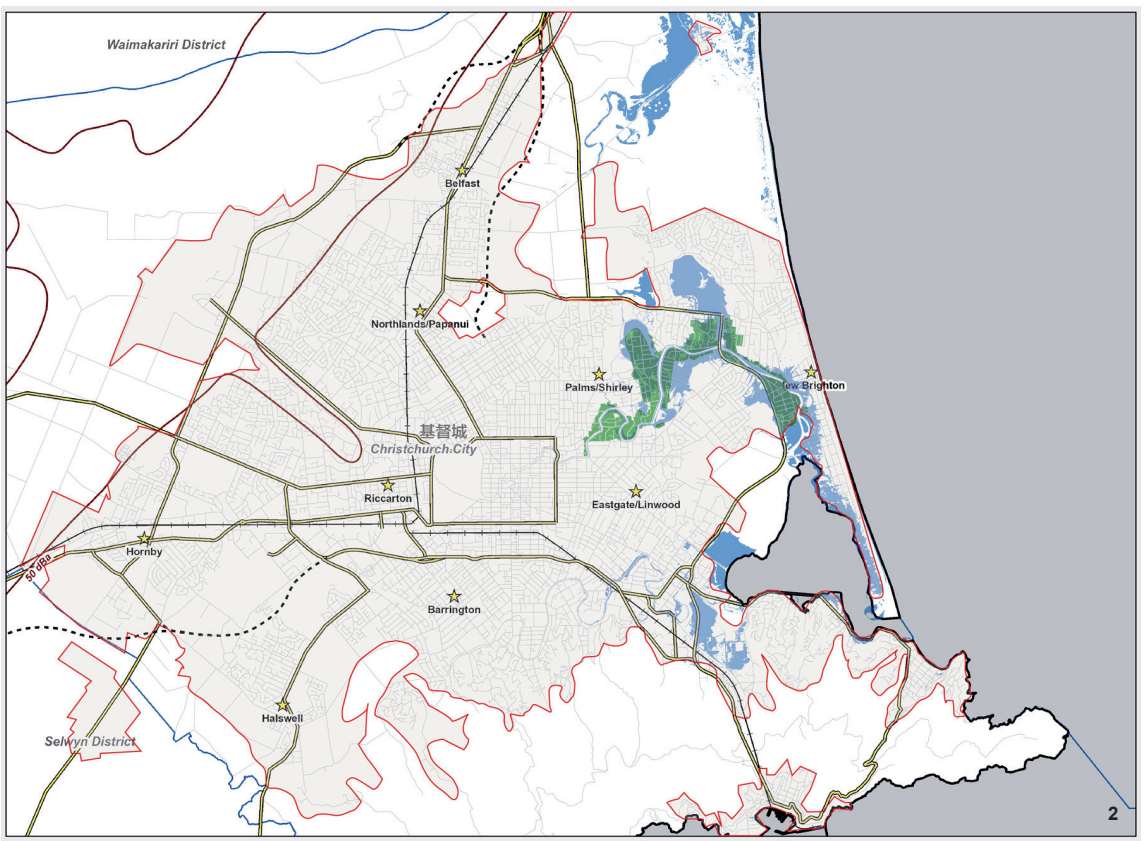
之地，城市精英们在此购置他们的乡村别院。随着公共交通的发展，城市也沿铁路和有轨电车线路不断扩展，郊区成为并一直是城市边缘地区动态变化的主要驱动力[8]。

私家车意味着在许多发达国家的城市边缘地区中，“开放式”的景观已成为高端乡村住宅带，或讲究“生活格调”的地方，居民可通勤于城市。在基督城的原殖民地规划中，划定了“乡村”片区，这些地方靠近城市，居住者大多是城市中心区土地的购买者。这些片区早已被城市吸纳，但随后对于原有规划限制——基于保护耕地——的放宽，目前在基督城的西部和北部边缘出现了一大批的乡村住宅区。

日新月异的技术也意味着城市边缘地区成为了修建高速公路和机场等城市交通基础设施之地，而这又为城市边缘地区带来了新的功能，例如批发业、大型购物商场及商业园区，并出现了如乔尔·加罗[9]所描述的现象——“边缘城市”。同时，由于地价的上涨或支持性服务的流失，城市边缘地带可能会失去其诸如农业等原有功能，从而造成土地利用转变中的不稳定区域的出现。正是由于缺乏结构与秩序，这为城市边缘地区带来了良多活力，也营造了新的发展机遇。城市边缘地带土地市场的特点和运营情况复杂，其高度依赖于特定规划和财产法规，并受多种、交叉动态因素——其中包括地价、距离城市市场的距离等——以及规划法规的相对空白的驱动。而这些会因为那些重重交叠或竞争的行政机构而进一步复杂化。但是，这些影响条件都会因为变化和不确定性为城市边缘地区带来投机机会。斯科特等人指出[5]，城市边缘地区正“等待着它的美好未来”（图1）。

3 传统的城市边缘地区解决方案

城市边缘地区看似混杂的功能与变化因素，导致早期规划评论家和理论家都将现代城市的边缘地区视为城市扩张的蔓延区、需要规划干预的混乱之地[4]。诸多旨在对这些散乱景观加以管治的空间解决方案被纷纷提出，其中最值得一提的是将绿带与卫星城相结合的概念[10]。绿带主张通过严格的土地使用分区来限制城市向外扩张。卫星城或许会散布于这些绿带周边，以满足新增城市空间的需求，并在使这些城市空间集中化的同时，也为之服务。



2. 新兴的城市边界：图中红线为大基督城城市限定区域；图中绿色标识的部分为被包含在“红线范围”的逆城市化地区；图中蓝色标识的部分为海平面上升0.8m后的预测水灾地区。

2. Emerging urban edges: Greater Christchurch Urban Limits shown as a red line; The “Red Zone” of de-urbanized land, shown in green; and the predicted flooded areas with a 0.8 meter sea level rise, shown in blue.

challenge internationally for a range of reasons. Critics in countries with large land areas and laissez faire traditions, such as the USA, assert that containment raises land prices[11] and creates perverse incentives to commute large distances with high travel and environmental costs[10]. Others argue that containment is less relevant in a post-industrial context of shrinking cities[12], with Yokohari and Bolthouse[13] suggesting a need to adjust policies to "life in the slow lane". In settings with long established containment regimes such as the Netherlands it has been suggested that changing political settings with more diverse stakeholders, devolution of power, stronger market orientation, and a shift from administrative to legal determination of conflict is leading to a loss of peri-urban policy vision and coherence[14]. In developing economies critics point to the social inequities associated with strong regulatory regimes, and to a lack of social capacity to deal with complex peri-urban planning issues[15]. Others note an emerging alternative peri-urban discourse linked to indigenous knowledge[16], and Yokohari et al[17] question the relevance of European style containment policies for Asian cities with very different planning and cultural legacies.

4 The Changing Nature of Urban Edges

In addition to these criticisms of conventional peri-urban regimes based on containment, the nature of the peri-urban is also changing. Whilst the peri-urban has arguably been the dominant urban edge condition of the 20th century, and hence urban edges might legitimately be characterized by urban-rural relationships and their hybrids, several contemporary trends suggest the focus on urban–ruralis becoming less of a defining characteristic for the open landscapes that adjoin urban areas.

First, the emergence of a globalized countryside[18] facilitated by open markets and transportation and communication technologies means that the urban-rural interface is no longer a simple continuum from intensive urban to extensive rural uses. Urban-rural and rural-urban relations are being transformed from functional hierarchies shaped by the friction of distance to local markets into non-nested hierarchies in which specific locations are functionally linked to distant cities in an increasingly tele-coupled world[19][20]. Peri-urban land uses may no longer depend upon the adjoining city, but instead are driven by demands from geographically distant urban areas, through global networks and markets.

This shift applies to both production and consumption dynamics. Around Christchurch for example land use intensification and conversion of land to dairy farming is economically and functionally linked more directly to distant Asian markets than to Christchurch. At the same time, recreational facilities such as the Clearwater Golf Resort (Fig. 3) are also part of a globalized countryside of consumption, serving an international elite who arrive and depart through the nearby international airport. This globalized countryside has new types of edge: between intensive agricultural production landscapes and "lifestyle" rural living; between places of production and legacy landscapes; and between development enclaves aimed at high value consumption (recreation, residential, tourism) and lower amenity functions — all of which create new management challenges.

Second, as cities and urban areas expand, they increasingly form polycentric urban networks that have within and around them numerous interstices and remnants of less intensively developed land. The best known international example is the Green Heart of the Randstad in the Netherlands, where open former peatland serves a range of functions for the encircling ring of cities[21].In Christchurch, areas of low lying land to the north, south west and south east of the city remain undeveloped due to physical limitations, now accommodating a variety of edge city functions such as storm water management, but no longer "rural" in any functional or social sense.

Third, and perhaps more fundamentally, the nature of urban growth itself is in transition in many developed economies, as established urban areas are "hollowing out" and creating post urban open green (or grey) space within the former city, and hence new intra urban edge conditions. This may be due to several reasons. Post-industrial urban restructuring is creating large areas of vacant land that is regenerating into urban wilderness

“花园城市”这一理想模式为那些寻求将城市与乡村的优势与品质相结合的绿带式发展提供了一种模型。在20世纪的大部分时期中，许多发达国家都采用绿带式的城市边缘地区发展模式——无论是同心环型、半环型、楔型或扇型这些城市边缘地区的土地利用政策都旨在防止、监管，或减缓这些土地向城市功能转换的过程。伦敦曾出现过一个同心型绿带的经典案例，多伦多也曾出现过一个半圆型的绿带。哥本哈根的“绿指规划”则是扇型式发展的典范，其具有交替扩张的廊道及预留开阔空地。

随着基督城在法规“城市篱笆”的约束之下的不断扩张，绿带于1959年被引入。20世纪70年代，基督城在卫星城理念的指导下发展[6]。在过去50年中一直占主导地位的政策机制是基于细分的土地所有权者的最小土地面积进行土地利用分区——地块面积通常为1 ~ 20hm^2。在城市边缘地区中的另一项长期政策机制是土地征用。目前市政府拥有城市南部及东北部的主要休闲用地的所有权，而区域市政府拥有城市北部及西北部的大型防洪和地下水补给区的所有权。为了保证机场能够全天运营，在机场附近的飞机噪声等值线内的限制性住宅开发，已成为城市边缘地区中的另一项五花八门的政策（图2）。

绿带这种方式正由于各种原因而逐渐受到来自世界各地声音的质疑。那些来自拥有大面积国土与自由放任传统的国家——如美国——的批评者们声称，这种遏制城市扩张的做法将引发地价抬升[11]，并产生不当刺激，增加远距离通勤，从而带来高昂的交通及环境成本[10]。还有一部分人认为，遏制城市扩张的做法不适用于后工业时代的紧缩城市[12]，横张真和杰·博尔豪斯[13]就建议有必要调整政策，以“使生活放慢脚步”。在建立有长期遏制体制的国家——如荷兰——有人指出，不断变化的政治环境（加之更多样化的利益相关者、权力下放、更鲜明的市场定位，以及面对矛盾时从行政管理转向依法处理的转变），都不利于城市边缘地区的政策愿景与融合[14]。来自发展中经济体的批评将矛头指向强硬监管制度所带来的社会不平等问题，并指出其在处理复杂的城市边缘地区规划问题时缺乏应有的社会承载力[15]。还有一些人注意到，一种与本地知识相关另类城市边缘地区语境正在兴起[16]，而且横张真等人[17]也对欧洲式的遏制政策在亚洲城市中的适用性表示质疑，因为亚洲有着与欧洲迥异的规划和文化传承。

4 城市边缘地区的不断变化的本质

除了这些对于传统的城市边缘地区遏制性体制的批评外，城市边缘地区的本质也正在发生变化。虽然城市边缘地区在20世纪的城市边界条件中占主导地位，而且城市的边缘地带也可能随之被赋予城乡关系及城乡混合的特点，然而一些当代的发展趋势表明，城–乡已不再是毗邻市区的开放景观的主要特点。

首先，由开放市场、交通及通信技术的发展所带来的全球化乡村[18]的出现，意味着城乡结合部不再是密集的城市职能与广阔的乡村职能之间的简单衔接体。城–乡关系和乡–城关系正在从由距离当地市场的远近所形成的功能等级，转变为一种非嵌套等级——在这个越来越依赖通信技术的时代，特定地点可以与遥远的城市实现功能上的联通[19][20]。决定城市边缘地区土地用途的可能不再是其相邻的城市，而是那些来自相距甚远的市区的需求——这可通过全球化的网络与市场来实现。

这种转变也同样适用于生产和消费动态。以基督城为例，在经济和功能层面更加直接地影响其城市周边的乳牛养殖用地的土地集约利用和土地转化的，并不是基督城本身，而是遥远的亚洲市场。与此同时，诸如清水高尔夫球场（图3）等娱乐设施也成为全球化乡村消费的一部分，为那些往来于附近国际机场的世界各地的精英们服务。这种全球化的乡村拥有新型的边界，包括集约化农业生产景观和乡野格调生活区之间的边界、生产用地和传统景观之间的边界、高消费型开发飞地（休闲、居住、旅游）和舒适性较低的职能用地之间的边界——所有这些都对管理提出了新挑战。

其次，随着城市和城市化地区的扩张，越来越多的多中心城市网络得以形成，在这些网络的内部和周围，存在着大量的空隙和未被完全开发的土地。其中世界上最著名的例子是荷兰的兰斯塔德“绿心”，该项目将原有的泥炭地转变为可以为周边环型城市区域提供各种服务功能的绿地[21]。基督城北部、西南部和东南部的低洼地区由于环境条件的限制，仍未被开发；现在，这些地区被赋予了各种城市边缘地区的功能——如雨水管理，从任何功能或社会层面来看，它们都不再是“农村”。

第三，也许更根本的是，在许多发达经济体中，随着建成的城市地区的“掏空化”并在原有城市中创造出后城市开放绿色（或灰色）空间，以及由此形成的新的城市内部边界条件，城市扩张的本

or being re-used for a variety of formerly peri-urban functions, such as food production through urban agriculture[22]. Post-industrial cities, such as Detroit in the USA, or Leipzig in Germany[12][23], are characterized by large areas of formerly residential and industrial land that is now abandoned, with aging or obsolescent infrastructure. These unplanned landscapes, terra incognito[24] or terrains vaguest[25] provide opportunities for a range of low intensity urban related functions, and thus create a number of different "edge" conditions within the regional urban mosaic. Significant urban areas are also being deliberately de-urbanized due to increased awareness of natural hazards, or increasing levels of hazard. In Christchurch, this is exemplified by the government designated "red zone" (Fig. 4), where central government has determined that land damage during successive earthquakes has made the areas unsuitable for continuing urban use. The government has purchased titles and is clearing buildings, and now considering new possibilities that are less vulnerable to hazard. Possibilities include flood management, urban agriculture, and biodiversity reserves, as well as a variety of recreational functions.

Open landscapes that adjoin built up urban areas are also attracting attention internationally for their potential contribution to urban resilience[26]. In particular de-urbanized land may in future contribute to climate change adaption[27], which is likely to accelerate and accentuate the hollowing out of waterside cities that now face higher flood and storm risk, both along the sea edge, and in estuaries and river flood plains. This is happening in long established settings such as the Netherlands, where planned retreat and restoration of wetlands is part of urban flood management strategies, and also in newer cities such as Christchurch. As a city located in a coastal setting, much of which was under water only 5,000 ~ 8,000 years ago, East Christchurch is particularly vulnerable to longer term compounding effects of global sea level rise, and urban planning must anticipate and provide for phased retreat from the most vulnerable and hard to protect areas. This will create new types of urban edge condition (Fig. 2), and be repeated in coastal cities worldwide.

Thus cities of the mid to late 21st century may have more urban edges within the overall urban mosaic than there are around the outer limits, and much formerly peri-urban land is becoming intra urban. This "splintering" urbanism[28] creates different layers and networks of infrastructure within a wider urban landscape field[29], but the implications for landscape management of inverting the spatial logic of the peri-urban are little understood.

5 New Spatial and Functional Perspectives

What new landscape planning paradigms are available? A number of authors question the conventional characterization of the peri-urban as a polarity of urban and rural, and argue instead for a "hybrid" perspective. Verje et al.[30] therefore suggest that peri-urban landscapes provide a range of intangible services and should be managed as multifunctional landscapes, rather than an undifferentiated "rural" zone. "Ecosystem Services"[31] has been widely promoted as a multivalent

3. 基督城城市边缘：清水高尔夫球场——全球化的乡村。
3. Christchurch urban edge: ClearwaterGolf Resort — the globalized countryside.

质也在经历着转变过渡。这可能是由于以下几个原因。后工业城市转型产生了大量的闲置土地，它们或沦为城市中的荒野地带，或被赋予多种原城市边缘地区的功能——如通过都市农业进行粮食生产[22]。美国底特律，或德国莱比锡[12] [23]等后工业城市的特征是大面积的原居住或工业用地在现而今遭到废弃，这些地区的基础设施也存在着老化或过时等问题。这些未被规划过的景观、不知名的场所[24]，或在地形上模糊不清的空间[25]，为各种低强度的城市相关职能提供了机会，也因此在区域性城市镶嵌体中创建了多种不同的“边缘”条件。由于自然灾害的意识有所提高，或风险水平的不断加剧，一些重要的城市地区也正在谨慎地逆城市化。这一点在基督城中有所体现：一些土地由政府划定为“红色区域”（图4），因为中央政府认为，在遭受多次地震破坏后，这些地区的土地不再适合继续承担城市职能。政府已购买了地权，并正在清理建筑物；现在他们正在考虑如何提升这些地区抗灾害的可能性，包括洪水管理、都市农业和生物多样性保护，以及各种休闲职能。

邻近建成城市地区的开放景观也因其对城市弹性的潜在裨益而吸引了国际性关注[26]。特别是那些逆城市化的土地，未来可能会在气候变化适应方面有所贡献[27]，而对气候变化的适应很可能也加速并加剧了那些面临着更高洪水与风暴风险的滨水城市的“掏空化”——无论是沿海城市、河口城市，还是河流冲积平原城市。这种现象正在诸如荷兰等拥有悠久建成环境历史的地区发生——荷兰将对湿地的整治和恢复作为城市洪水管理策略的一部分；这种现象也在建成环境历史较短的城市发生，例如基督城。作为一座沿海城市，其中大部分区域脱离水下的历史仅为5 000~8 000年；基督城东部地区将在全球海平面上升较长期的复合效应面前显得异常脆弱，因此城市规划必须对最脆弱和难以保护的地区进行预见并制定阶段性的撤退计划。这将带来新的城市边界条件类型（图2），并在全球范围内的沿海城市中加以推广。

因此，21世纪中后期的城市因为各种镶嵌体位于城市内部——而非城市外围——而可能拥有更多的城市边缘，而且很多原城市边缘地区的土地正在变成城市内部的一部分。这种“碎片式”的城市化在广阔的城市景观区域中创造了基础设施的不同的层级和网络[29]，但人们对这种城市边缘地区反向转变中的空间逻辑的景观管理的影响却知之甚少。

4. 新的城市内部边缘：基督城“红色区域”。
4. New intra-urban edges: Christchurch "Red Zone".

framework for both science and public policy, and offers helpful categorization of a range of types of service provided by ecosystems. However ecosystem service applications typically lack the spatial specificity needed for effective policy along urban edges, which requires values to be attached to particular features and areas. "Landscape Services"[32], in which landscape structures and functions acquire value as services in place, offers a more territorial approach to ecosystem services that is highly relevant to peri-urban management. Landscape features and structure provide for a range of functions, which have value according to where they are located — just as is the situation in peri-urban settings.

Consideration of multiple values and functions provided to an urban region in terms of landscape services aligns with the concept of green infrastructure[33] [34], in which landscape features such as parks and waterways provide systems of services. Allen[35] points out that the value of a peri-urban green infrastructure network is much higher than the sum of its parts, and green corridors and greenways[36] have been long established urban edge strategies in landscape architecture. They are exemplified through projects such as Olmsted's 19th century project known as the Emerald Necklace in Boston, and there is a continuing landscape planning tradition that builds on these early exemplars[37]~[41]. Expressed as landscape infrastructure[42][43], urban ecological infrastructure[44], ecological networks[45], or strategic landscape infrastructure[46]~[48], the recognition of a strategic role for open landscape within an urban mosaic is widely recognized in research, but less often realized in peri-urban planning practice.

Christchurch provides an early example of a values based approach to managing networks of "open" space within and around the city. Developed in the 1990s, the Wetlands and Waterways Strategy (WWS)[49] applied six values to the management of the waterways assets — landscape, recreation, culture, heritage, ecology and drainage. The values were assessed and managed on a catchment and project area basis, and recognition of multiple values strengthened the case for long term investment in waterways restoration and enhancement. A growing network of naturalized waterways and flood retention areas now interweaves across the city.

However the WWS also highlights a key challenge in using landscape infrastructure networks as part of an urban edge planning strategy, which is the need for an enduring institutional and governance vision and framework. The WWS strategy emerged within the city council at a time of creative and enabling political leadership. It was led by a team of dedicated and innovative professionals that were encouraged by elected representatives and senior management to develop new approaches[7][50]. Fifteen years on, however, the organizational culture is very different, for multiple reasons, and the strategic opportunities to build a green infrastructure network across the city region have languished.

First, changes in the style of management within the Christchurch City Council lead to a more directive and centralized culture, in which financial and compliance requirements and organizational structures reduced opportunities to innovate[7]. The WWS team lost its autonomy and became integrated within a more risk-averse corporate framework. In an unrelated move, central government imposed direct control upon the Regional Council (ECan, Environment Canterbury), which has policy responsibility for water resources, by sacking the elected representatives and installing appointed commissioners. Their mandate was to speed up the introduction and implementation of a Regional Water Management Strategy with a particular focus upon water allocation to private landowners for agricultural intensification. Then, the government's response to the 2010 ~ 2011 Canterbury earthquakes shifted power still further away from local communities and their representatives, by creating a new government department with wide ranging powers and a mandate to reconstruct the built infrastructure of the city following extensive damage. Thus just at a time when there was both need and opportunity to recognize the potential role of strategic infrastructure landscapes in supporting a more resilient urban region, the governance framework was progressively centralized and refocused upon an economic development and reconstruction agenda[51].

Consideration of integrative spatial concepts such

5 空间与功能的新视角

在新型景观规划方面有哪些可以参考的范例？许多作者都对人们对于城市边缘地区的传统认知发出了质疑，认为其不是特征截然相反的城与乡的驳接地带，而是这二者的一种“融合”。哈里克·维杰等人认为，城市边缘地区的景观提供了一系列无形的服务，并应该将之作为一种多功能景观加以管理，而不应被视为无差别的“农村”地区[30]。“生态系统服务”[31]作为科学和公共政策的多价框架得到了广泛推广，并对生态系统所能提供的各种服务进行了有实效意义的分类。然而，生态系统服务的应用通常缺乏在城市边界有效政策方面所需的空间特异性，这就要求为特定的方面和地区增加价值。“景观服务”[32]——其中景观的结构和功能因为为当地提供了服务而拥有了价值——为生态系统提供了更多的与城市边缘地区管理密切相关的领土性的途径。景观的特征和结构能够成为多种职能的预备用地，它们具有的价值取决于其所处的位置——这与城市边缘地区的情况相同。

为城市地区提供景观服务方面的多重价值和功能的想法，与绿色基础设施[33][34]的概念相符合，后者中诸如公园和水道等景观特征能够提供多重的服务。阿德里亚娜·艾伦指出，城市边缘地区的绿色基础设施网络的价值要远远高于各个部分的价值总和[35]，而且在景观设计中，绿色走廊和绿道[36]已经是沿用已久的城市边缘策略。其中的典型案例包括奥姆斯特德于19世纪设计的波士顿“翡翠项链”项目，而且这些早期的范例所运用的景观规划传统一直沿用至今[37]-[41]。开放景观——表现形式包括景观基础设施[42][43]、城市生态基础设施[44]、生态网络[45]，或者战略性景观基础设施[46]-[48]——在城市镶嵌体中的战略性意义在研究领域中得到了广泛认可，但在城市边缘地区的规划实践中却未得到应有的重视。

基督城在其城市内部及周边的“开放”空间网络中，采用了一种价值型管理方式——这是该领域中的一个较早案例。于20世纪90年代发展起来的“湿地和水道策略”小组（WWS）[49]从6个方面来考量水道资产的管理，包括：景观价值、游憩价值、文化价值、遗产价值、生态价值和排水价值。在集水区和项目范围区域内对这些价值进行评估和管理，对于多重价值的认可有助于项目在水道恢复与改善方面的长期投资。不断扩大的水道和滞洪区网络现已遍布整个基督城。

然而，WWS也强调了利用景观基础设施网络作为一种城市边缘规划战略所面临的一项关键挑战：如何实现长效的政府制度和管理愿景与框架。在创意时代和赋能型政治领导下，WWS策略小组在基督城市政委员会中应运而生。其由一支由敬业而富有创新精神的专业人才组成的团队率领，并在开发新途径的方面得到了当选代表和高级管理人员的支持[7][50]。然而，15年过去了，由于诸多原因，组织文化上存在很大的不同，而且建设遍布基督城的绿色基础设施网络的战略性机遇也已付之东流。

首先，基督城市政府管理作风上的改变形成了一种更加指令化和集权性的文化，在这样的氛围下金融和合规的要求及其组织结构都不利于创新机会的形成[7]。WWS小组队失去了自主性，并像某些企业一样，变得不再愿意承担风险。在一次不相关的行动中，中央政府通过解雇当选代表与安插其所信任的委员，强加了对于区域委员会（坎特伯雷环境委员会，ECan，水资源属于该委员会的职权管理范围）的直接领导。他们旨在加快“地域性水资源管理策略”的出台和实施，并将重心放在为了农业集约化而向私人土地所有者配置水资源的工作上。随后，政府对于2010~2011坎特伯雷地震的反应，使社区及社区代表离权力更加遥远——政府通过创建一个拥有众多权力的新的政府部门，旨在对遭受严重破坏的建成基础设施进行重建。因此，当时的时局既是一种需求，也是一个机会，它使让人们意识到战略性的、基础设施化的景观在营建一个更加弹性的城市区域上所具有的潜在作用；然而政府框架却逐步将经济发展和重建议程作为其工作重心[51]。

在中央政府及其机构在灾后修复策略中所表现出的对于综合空间概念——例如城市区域尺度的绿色基础设施——的忽视，使得对于综合空间概念的考量显得尤为重要。这其中的原因并不是由于个体及地方性NGO缺乏创新性的提议，而在于管理机构的计划和经济主导型文化。基督城的经验说明，一个赋能的政府管理框架，对于塑造和实施城市边界景观管理的新途径来说至关重要。

6 治理与社会基础设施——新合作关系

城市边界景观的空间策略显然需要适当的制度框架，城市边缘地区景观政策机制的当代途径现在包括各种形式的“软”管理[34]：从监管性空间规划到不同类型的职能性合作伙伴关系[52][53]。

第一种类型的合作伙伴关系是存在于不同政府机构之间的。以英国为例，其在许多城市边缘地

as green infrastructure at a city-regional scale has been conspicuous by its absence from post-earthquake recovery strategies developed and adopted by central government and its agencies. This has not been for lack of innovative proposals being put forward by various individuals and local non-governmental organizations, but reflects the project and economic focused culture of the governance institutions. The Christchurch experience demonstrates that an enabling governance framework is thus a critical factor in shaping and implementing new ways of managing urban edge landscapes.

6 Governance and Social Infrastructure — New Partnerships

Spatial strategies for urban edge landscapes clearly need appropriate institutional frameworks, and the contemporary tool box of peri-urban landscape policy mechanisms now includes various forms of "soft" governance[34], which shift focus from regulatory spatial plans to different types of functional partnership[52][53].

One type of partnership is between different governmental organizations. In the UK, for example, the development of Community Forests in many peri-urban settings has been led by regional partnerships between local authorities and government agencies[3]. In Christchurch, peri-urban land use and transport policy before the recent earthquakes was coordinated through a partnership called the Greater Christchurch Urban Development Strategy (GCUDS) involving city and regional government, the national transport agency, and Ngai Tahu — the tribe of the indigenous culture of New Zealand, Maori (see further below).

A second type of partnership is between public authorities at different levels and corporate private sector developers. There are a range of models internationally, including quasi-governmental agencies for new towns, the establishment of corporate entities by municipal authorities as development vehicles, joint venture developments, and various forms of contractual agreement to provide facilities in exchange for enabling changes to statutory plans. One recent example of a functional partnership in urban edge landscapes is the "red for green" model in The Netherlands which allows development within "green" zones on the

5. 基督城自然化的水道
5. Naturalized waterway, Christchurch.

区建立的“社区森林”是由当地政府与中央政府机构的地域性合作伙伴关系领导的[3]。在基督城近来发生的几次地震之前，城市边缘地区的土地利用与交通政策是由一个名为“大基督城城市发展策略”（GCUDS）的合作伙伴关系领导的，其成员包括城市与地域性政府、新西兰国家交通局与“纳塔胡部落”——一个新西兰毛利文化的本土部落（见下文）。

第二种类型的合作伙伴关系是存在于不同层级的公共机构与企业私营开发商之间的。这在国际上存在众多模型，包括新城镇中的准政府机构；以拉动发展为目的、由市政当局成立的企业；合资企业开发；以及以提供设施作为交换条件，从而达成修改法定图则目的的各种形式的合同协议。荷兰的“为绿而红”项目是在城市边界景观中职能性合作伙伴关系方面的一个新近案例，其允许在“绿色”区域中进行开发，前提是开发者要对绿色基础设施和服务进行特定投资[54]。在新西兰，将新的城市边缘地区开发的法定规划与公共和私人投资相整合，已成为一种常见的非法定的结构规划方法。举例来说，在基督城西南地区规划中，开发商必须提供部分土地，以供市政府来建设雨洪管理基础设施。

第三类，也是日益重要的一类合作伙伴关系，是存在于市政当局与NGO（例如环保团体）之间的。在基督城周边存在一些NGO和信托机构，他们将自身拥有的土地用作休闲开放空间网络的一部分。举例来说，一个名为“路山社”的组织自1948年以来一直为山区的游憩价值奔走呼吁，其现已拥有包括许多步行游道在内的重要的原生森林再生区域[55]。这些NGO与市政府护林部门及保护部门形成了有效的合作伙伴关系，已参与到他们的日常管理工作中。基督城自震后以来，新一代NGO——他们通常是较小的社团——在废弃土地重新利用方面所发挥的作用尤其显著。需要再次强调的是，这并非一种新的现象：欧洲和北美地区的NGO已在该领域做出了很多范例，他们与市政当局和私人土地拥有者达成一定期限内的协议，赋予闲置土地临时功能——从早期的“都市农场”，到大面积且不断增多的都市农业片区[56]。在基督城中，一些NGO提议将受到地震破坏的闲置土地用于粮食生产和提升生物多样性，例如“绿化瓦砾”计划。而且还形成了一些组织联盟，以倡导对大量逆城市化的土地进行战略发展，例如“食物弹性网络”、“埃芬–欧塔卡罗网络”和“东方愿景”等。这些NGO网络基于城市边界土地形成了多种多样的社会联系、倡议和资源网络。

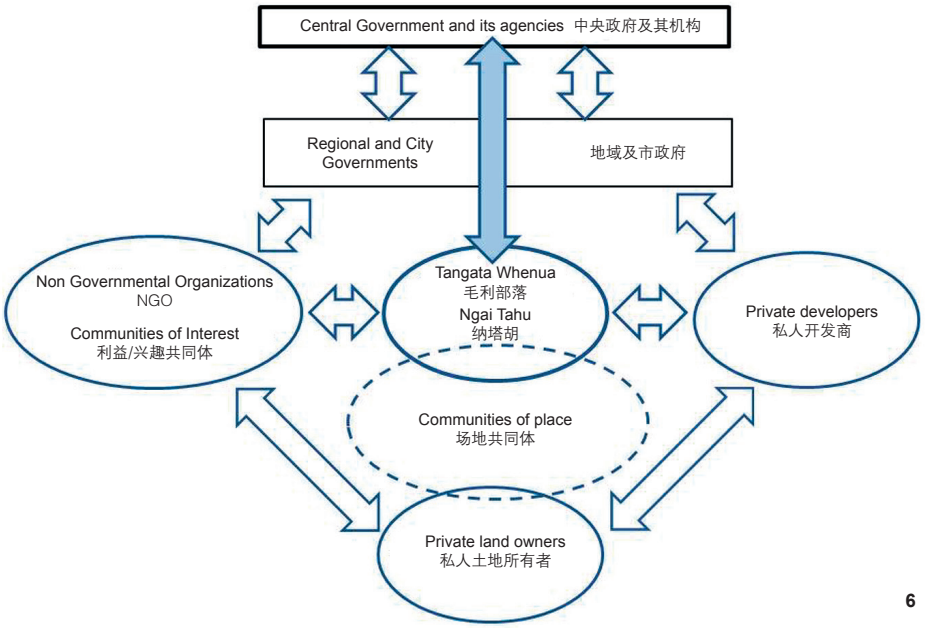
NGO也同私人土地拥有者建立了合作伙伴关系。加利福尼亚州梅林县拥有悠久的NGO历史，以“梅林农业土地信托”组织为例，其主张对城市边缘地区的农田进行限制性开发[57]，以维持家庭农场，及与“开放”景观相关的特色。在其他可能基于教育和访客管理的合作关系中，NGO与土地所有者达成公共使用协议，并承担管理角色。针对基督城的边缘地区，女王伊丽莎白二世国家信托机构主张签订开放空间公约以进行景观保护，部分被保护的区域允许公共前往，而新西兰渔猎部则主张将淡水河向渔民开放，并为之设立引导标识。

新西兰状况的独特之处是土著人在土地和水资源管理方面发挥的作用。尽管没有成文的宪法，但新西兰是建立在由英国（前殖民宗主国）与伊威部落（毛利土著部落）签订的正式条约（《怀唐伊条约》）之上的[58]。纳塔胡部落是与英国签订条约的对话伙伴，其负责管理包括基督城在内的南岛大部分地区，并拥有成熟的治理结构，包括企业支撑。纳塔胡在针对自然资源的重要政策开发中，与地方和中央政府形成了的合作伙伴关系，并在许多特定的开发和保护项目中扮演商业合作者角色。其中大部分合作项目体现出的一大特点是，纳塔胡拥有长远的视野，他们经常以股东，甚至土地所有者的身份参与项目，并在许多城市边缘地区管理决定中提出一种常常被当代所忽视的视角。

城市边界地区治理中最棘手的问题，当属地方社区与管理变革的政府机构之间的关系。就其性质而言，地处城市边缘的社区正在经历转型——城市化或逆城市化的转型，或特质上发生了变化——因而往往缺乏社会承载力和领导力的连续性。在基督城，尽管已经出现了众多NGO支持和关心那些在地震中破坏的社区和毁坏的土地，但由于高度集权，他们仍无法很好地参与到决策制定当中。权力不对等性在城市边界景观中体现得尤为明显[59][60]，而如何维持可行的且公平的治理结构则是城市边界地区管理面临的最大问题。

7 城市边界地区景观的政策与研究挑战

在一种对城市内部与外部边界条件更为包容性的思考下，对城市边缘地区的重新概念化对景观政策和研究提出了重要挑战。我认为主要挑战来自以下三个方面：对景观尺度的治理和承载力建设的需



6

basis that specified investment is undertaken in green infrastructure and services[54]. In New Zealand, non-statutory structure plans have been a common way to integrate public and private investment with statutory plans in new peri-urban development, for example, in the Christchurch south west area plan where developers must provide part of the land that is developed by the Council for stormwater management infrastructure.

A third and increasingly vital partnership is between municipal authorities and non-governmental organisations (NGOs) such as conservation societies. Around Christchurch, there are several NGOs and trusts who own land now used as part of the recreational open space network. One example is the Summit Road Society which has advocated for the recreational value of the hills since 1948, and now owns significant areas of regenerating indigenous forest[55] including many walking tracks. These NGOs have working partnerships for everyday management with the City Council ranger service and with the government Department of Conservation. One particular feature of Christchurch post-earthquake has been the role taken by a new generation of NGOs, often small community organizations, in developing new uses for abandoned land. Again this is not a new phenomenon: there are numerous examples in Europe and North America of NGOs making limited term agreements with both municipal authorities and private land owners for temporary use of vacant land, ranging from early "city farm" initiatives to the extensive and growing urban agriculture sector[56]. In Christchurch a number of NGOs have been focused on food production or biodiversity initiatives on land made vacant as a result of earthquake damage, such as "Greening the Rubble". Alliances of organizations have been formed to advocate for strategic development of large areas of deurbanized land, for example the Food Resilience Network, the Avon-Otakaro Network (AvON), and Eastern Vision. These NGO networks form a rich web of social links, initiatives and resources focused on urban edge land.

NGOs also establish partnerships with private land owners. Merin County in California is the setting for a long established NGO, the Merin Agricultural Land Trust, which negotiates limits on development rights associated with farmland in the peri-urban area[57] in order to maintain features such as family farms and the associated "open" landscape. Other relationships may be based upon education and visitor management, where NGOs negotiate public access agreements with land owners and undertake a management

6. 城市边界政府管理合作伙伴关系
6. Urban edge governance partnerships

要；对复杂的景观历史进行理解与阐释的挑战；以及，在制度改革中采用预警性方式，并加以有效监管的需要。

景观尺度下的治理：景观生态系统服务框架与绿色基础设施价值型方式的整合，可以为城市镶嵌体的适应性管理提供一个在空间上接地的框架，其既可以承担职能，也具有在应对未来变化时的灵活性。然而，地处城市边界处的社区往往支离破碎、充满变动。政府如何能支持和促进边界社区社会承载力的提升？对这些地区应该进行怎样的管理？哪些群体应该参与进来，以及他们该以何种方式参与？如何划分优先等级？在城市边缘地区管理中采用一种更加直观明了的景观框架既需要注重景观的科学方面[61]，也需要发展一种与之平行的、可以被纳入更高一级地域性治理中的景观尺度下的管理制度[62]。

连续性：政策体制可能会由于压力而发生根本性变化[14]，而大多数新的方式通常是在原体制上进行改革，而非完全取代。系统性的、多职能的、多价的管理新模型——例如景观生态系统服务——如何与传统的、已确立的城市边界政策体制的内容和象征意义相融合？马休·魁斯多姆与科尔斯汀·瓦伦丁·卡迪厄[4]认为，城市边缘地区的场所和景观是在复杂的语境下形成的，这些语境需要被认真和严谨地分析和阐释，从而使得新的政策得以建立在过去的成功和社会遗产之上。这就需要尊重和理解景观历史，然而快速更迭的公共政策往往忽视这一点——但对于长远的成功而言，这一点至关重要。

预警性原则：匆忙推行的新型管理模式可能会将几十年来认真细致的政策贯彻成果毁于一旦。基督城在震后面临的住房安置压力，导致中央政府将大量的城市边缘地区用作住宅用地，这可能会影响GCUDS中对于该地域的城市集约化目标。同样，“伙伴关系”这种措辞可以用来粉饰开发商对于土地的惯常争夺。我们如何将各种体制的优势相结合？在瞬息万变的背景中，我们能够使用哪些制约与平衡手段？在规则与评价标准不断变化的环境下，可以运用哪些成果性的指标来形成并监管政策（包括记录、测量、监测、分析）？将景观服务、绿–蓝基础设施，以及适应性管理相结合的创新型机制也许仍将需要较为传统的监管法规和土地收购策略来支撑，以保持策略早期的连贯性，并确保实现一种对社会各方都公平的结果。

8 结语

阿德里亚娜·艾伦[35]认为，城市边界地区体制必须具有战略视角、参与性，并采用渐进性管理模式，才会真正发挥效力。这需要一个概念框架，以使广大的利益相关者意识到这一点，并通过一种公平的、具有适应性的、综合性的过程，为这些景观赋予价值。尽管21世纪的城市边界地区可能在经济、环境、社会–政治的局势与利益方面存在波动，但基督城的震后经验告诉我们，当中央政府介入以解决危机为目的的迅速转变时，策略、包容性和持续性都是可以被牺牲掉的。

由特定的景观系统及与之联系的、位于不断更迭的城市镶嵌体中的基础设施网络所提供的多价服务，可能会成为一种保持最佳的空间和“软性”政策方式的选择。这就需要一种植根于特定景观，但又能够以中立的姿态参与到城市–地域的广泛讨论中来的弹性制度。基督城的震后情况表明，不同层级的政府与中央政府机构以及广大社区之间的紧张关系。相较之下，纳塔胡日益显著的机构性角色与影响力说明场地与社区型组织正在形成有效的、跨部门合作伙伴关系，并且需要指出，较长期的景观复兴可能是城市边界治理的试金石。LAF

致谢

丹·罗伊德为图2进行了数据整理工作，数据来源：坎特伯雷环境委员会、坎特伯雷震区重建管理局、基督城市政管理委员会，并得到了坎特伯雷大学马修·休斯的帮助。

role. In the Christchurch peri-urban area, the Queen Elizabeth II National Trust negotiates open space covenants for landscape conservation, some of which allow public access, and Fish and Game New Zealand have negotiated and signposted access for fisherman to freshwater rivers.

A unique feature of the New Zealand situation is the role of indigenous people in land and water governance. New Zealand has no written constitution but is founded on a formal treaty (The Treaty of Waitangi) between the Crown (formerly the colonial power) and Iwi, tribes of the indigenous people- tangata whenua- known collectively as Maori[58]. Ngai Tahu is the Crown's Treaty partner for much of the South Island including Christchurch, and has a sophisticated governance structure, including a corporate arm. Ngai Tahu is a partner with local and central government in significant policy development for natural resources, and a commercial partner in many specific development and conservation projects. One major feature of most partnership projects is their long time horizon, with Ngai Tahu frequently becoming a shareholder or even land owner, providing an intergenerational vision frequently missing in many peri-urban governance arrangements.

One of the most problematic issues of urban edge governance is the relationship between local communities and the governmental agencies that are managing change. By their nature, edge urban communities are in transition, either urbanizing or de-urbanizing, or changing in character, and thus frequently lack social capacity and continuity of leadership. In Christchurch, despite the range of NGOs that have emerged to support and advocate for communities shattered by earthquakes and associated land damage, access to decision making is still problematic, with power highly centralized. Power asymmetries are particularly evident in edge landscapes[59][60] and the maintenance of viable and equitable governance structures is perhaps the biggest challenge facing urban edge management.

7 Policy and Research Challenges of Urban Edge Landscapes

Re-conceptualizing the peri-urban within a more inclusive consideration of intra and extra urban edge conditions opens up significant challenges for landscape policy and research. I highlight below three issues: the need for landscape scale governance and capacity building, the challenge of interpreting complex landscape histories, and the need for a precautionary approach to regime change, underpinned by effective monitoring.

Landscape scale governance: Integration of landscape ecosystem service frameworks with a values based approach to green infrastructure could provide a spatially grounded framework for adaptive management of urban mosaics that combines functionality with flexibility of potential response. However edge communities are often fragmented and transient. How can government support and encourage the development of social capacity in edge communities? How should such areas be administered? Who should be involved and how represented? How should priorities be set? Adoption of a more explicit landscape based framework of peri-urban management will require both landscape focused science[61], and a parallel commitment to the development of landscape scale governance institutions[62] that can be nested within a higher order of regional government.

Continuity: While policy regimes may change radically in the face of pressure[14], new approaches are most typically overlaid upon rather than completely replacing earlier regimes. How can new models of systematic, multifunctional and multivalent management such as landscape ecosystem services be integrated with the narratives and symbolism of conventional and established urban edge policy regimes? Qvistrom and Cadieux[4] argue that peri-urban places and landscapes are shaped by complex discourses that require careful and critical analysis and interpretation, so that new policy builds upon past success and social legacy. This need to respect and understand landscape histories is often overlooked in rapidly evolving public policy, yet essential to its long term success.

Precautionary principle: New models of management introduced in haste can risk losing the gains of decades of careful policy implementation. In Christchurch, the pressure to provide replacement

housing following the earthquakes led central government to release large areas of peri-urban as housing land, which has potentially undermined the regional goals of urban intensification expressed in the GCUDS. In the same way, the rhetoric of "partnerships" can be used to disguise conventional land grabs by developers. How can we combine the strengths of each type of regime? What checks and balances can be used in a rapidly changing context? What outcome indicators can be used to shape and monitor policy — recording, measuring, monitoring, analysing — in a situation where the rules are being changed? Innovative regimes based upon a combination of landscape services, green-blue infrastructure, and adaptive management may still need to be underpinned by more conventional regulations and land acquisition strategies, in order to maintain the coherence of earlier phases of policy and ensure an equitable outcome for all sectors of communities.

8 Conclusion

Allen[35] argued that to be effective, urban edge regimes must be strategic, participatory, and managed incrementally. This requires a conceptual framework that enables a wide range of stakeholders to recognize and manage values embedded within these landscapes through an equitable, adaptive, and integrated process. However 21st century urban edges are likely to be characterized by volatile economic, environmental and socio-political conditions and interests, and the Christchurch post-earthquake experience suggests that strategy, inclusion and continuity can all be at risk when central government intervenes to deal with rapid crisis-driven change.

A focus upon the multivalent services provided by particular landscape systems and linking infrastructure networks within an evolving urban mosaic may be an option to retain the best of both spatial and "soft" policy approaches. This requires resilient institutions that are grounded in particular landscapes, yet able to engage in a non-partisan way with city-region wide debates. Christchurch in the post-earthquake situation reveals significant tensions between different layers of government and between central government agencies and the wider community. In contrast, the growing institutional role and influence of Ngai Tahu exemplifies how place and community based organizations that are establishing working partnerships across multiple sectors, and may point towards longer term revival of landscape as a touchstone for urban edge governance. LAF

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