Chapter 5
Archaeology and Contemporary Dynamics for More Sustainable, Resilient Cities in the Peri-Urban Interface

David Simon and Andrew Adam-Bradford

Abstract Understanding of urban fringes or peri-urban interfaces (PUIs) as zones characterised by rapid transitional change and sprawling urbanisation has increased markedly over recent years. Archaeological evidence also illustrates the pivotal role that peri-urban zones once played in the survivability of ancient urban centres. Over the last three decades, urban growth and associated transitional changes have accelerated in most regions, producing major challenges to the development of resilient cities capable of absorbing climatic, economic and environmental shocks. Globalised processes of industrialisation and market interdependence have remoulded urban fringes, bringing increased environmental impacts, including the loss of natural resources and environmental buffers now recognised as essential for urban resilience. Furthermore, ongoing global environmental change (GEC) and increasing socio-economic inequality are generating new priorities as peri-urban zones consolidate, erode and shift outwards. Given the inadequacies of existing frameworks, we advocate a hybrid approach to PUI planning and design that draws on integrated, agropolitan-type perspectives embedded within a resilient, locally appropriate regional-urban focus within broader socio-spatial and geo-economic systems. Diverse historical and contemporary examples inform the discussion of the PUI planning and design and the identification of policy recommendations for a hybrid planning approach based on adaptive capacity and resilience.

Keywords Hybrid planning • Peri-urban interface • Urban fringe • Urban sustainability • Urban resilience

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5.1 Introduction

> The growth of peri-urban areas around cities, particularly as urban growth outpaces infrastructure development, is one of the most prominent current changes to urban structure. In Asia, this is occurring on a dramatic scale: in Jakarta and Bangkok, some 77 % and 53 % of urban growth by 2025, respectively, is expected to be in peri-urban regions, while in China, some 40 % of urban growth by 2025 is expected to be in peri-urban areas as far as 150–300 km from core cities. In Asian cities, lateral spread is occurring along transport corridors, creating a form of 'regional urbanisation' … The growth of … as well as the development of peri-urban areas – are occurring in Latin America and the Caribbean and in the transitional countries. Peri-urban informal development is a key pattern in sub-Saharan Africa, particularly on customary land (UN-HABITAT 2009: 153).

This chapter is not intended as a review of the vast and diverse literature on the transitional zones on the periphery of larger urban areas known variously as the urban-rural fringe, peri-urban area or interface (PUI), urban edge or periphery. That task has been undertaken elsewhere (e.g. Mbiba and Huchzermeyer 2002; Simon et al. 2004; McGregor et al. 2006; Simon 2008). Our objectives here are fourfold: to draw a few key insights from the state of the art; to develop further the understanding that, empirical diversity notwithstanding, such interface zones occur worldwide across both space and time; to explore the implications of global environmental change (GEC) for PUIs and those dependent upon them for their livelihoods; and to propose a novel, hybrid approach to planning in PUIs appropriate to their characteristic range of activities and dynamic changes in order to promote urban resilience.

The terminology used for these interface zones reflects different urban research and planning paradigms, urban planning and management traditions in different parts of the world, the duration and particular form of urbanisation, theoretical and disciplinary differences, and analytical purpose. For instance, urban planners seeking to delimit the spatial extent of a city or to determine appropriate urban politico-administrative boundaries are interested in finding tangible 'clean breaks' in the built-up area to distinguish what lies within the boundaries from that without. By contrast, systems analysis, national infrastructural or logistical planning, and research on mobility/migration and livelihoods tends to emphasise spheres of influence, functional relationships and movement spaces and associated flows, all of which transcend such boundaries and emphasise continuities and connections across physical, agro-ecological and politico-administrative entities. Simon (2008) has examined these different traditions and emphases, showing that there are common threads around the world despite different combinations and the differing relative importance of various underlying factors and processes.

The traditional notion of a rural-urban dichotomy is now widely recognised to be simplistic and that, for most purposes, a continuum is more appropriate and, indeed, compatible with the highly diverse rural-urban gradients, rates of transition, combinations of factors, and functional or land-use complexities encountered in different regions. Many interfaces are not linear but have diverse and complex spatial forms, including edge cities, urban archipelagos, *desakota*/extended metropolitan regions, and the like. Furthermore, the rapid globalisation of economies, populations and

urban design and governance approaches through corporate endeavour, aid and development programmes, planning/management education and training, and the recent proliferation of city twinning, partnership and network arrangements have substantially reduced some of these traditional differences.

It is now becoming increasingly necessary to transcend the traditional historico-spatial analytical and 'planning ghettos' that, for instance, have largely restricted the flourishing research and increasingly sophisticated understanding of PUI interactions and their livelihood implications to the global South. Economic change, not least the suddenness and depth of the credit crunch and consequent global recession since 2008, together with ecological and environmental concerns for sustainability, local resilience and self-reliance, and increasing vulnerability to the impacts of GEC, strongly suggest that peri-urban dynamics, environmental sustainability, livelihoods and food security are becoming central concerns worldwide. Therefore, many of the traditional concerns of peri-urban 'development' research and planning in the global South can and should provide lessons for (post-) industrial cities in countries of the Organization for Economic Co-operation and Development (OECD) and the transitional economies struggling to adjust to rapidly changing circumstances in the context of rigid or outdated planning legacies on the urban fringe or in the *Zwischenstadt* (e.g. Audirac 1999; Jones 2000; Bunker and Houston 2003; Sieverts 2003; Busck et al. 2006; Gallent et al. 2006; McFarlane 2006; Qviström 2010, 2013; Ravetz et al. 2013). Most existing forms of urbanism are morphologically, functionally and environmentally unsustainable under current conditions. They also face profound challenges in overcoming the obstacles to becoming more resilient cities capable of absorbing climatic, economic, environmental and demographic shocks while also addressing structural inequities and injustices.

There has been renewed recent interest in urban history over the very long durée (e.g. Taylor 2012), deriving at least partly from new archaeological work referred to below and also from a desire to understand urban environmental legacies that might be relevant to current sustainability and resilience concerns, including landmark contributions by Douglas (2013) and Elmqvist et al. (2013a). In this context, it is also noteworthy that such research has to date not generally identified historical analogies with present-day issues at the urban fringe or through peri-urban interfaces or transition zones. That is the first objective of this chapter, as an aid then to transcend the diversity of current institutional and planning settings and processes in order to identify appropriate principles for addressing the dynamic challenges of such zones to promote adaptive and transformative urban sustainability and resilience.

5.2 Historical Perspectives on the PUI

As indicated in preliminary terms a few years ago (Simon 2008), recent archaeological advances, facilitated by new remote sensing and associated technologies, reveal that ancient civilisations in various parts of the world had urban systems with

features consistent with characteristics of present-day PUIs. New evidence continues to emerge and, to date, such published findings relate to the Khmer complex centred on Angkor in present-day Cambodia, Mayan sites in Meso-America and the Upper Xingu region of the Amazon basin in Brazil (Evans et al. 2007; Heckenberger et al. 2008; Mann 2008; Smith 2010, 2012; Fletcher 2012; Isendahl 2012; Barthel and Isendahl 2013; Isendahl and Smith 2013) but there is every reason to anticipate comparable evidence in future relating to complex ancient urban cultures of the Middle East, South Asia (not least Pollonaruwa and Anuradhapura in Sri Lanka), sub-Saharan Africa, Europe and the Mediterranean rim and elsewhere. The greater Angkor area covers some 3,000 km^2, over one third of which was covered by an urban complex of settlements integrated by an extensive hydraulic system (Fig. 5.1). Settlement densities varied within and beyond the boundaries of the known complex, itself centred on several key temples and major reservoirs. The hydraulic networks were quite possibly developed to ensure reliable food production in order to support the increasing concentrations of people living in these growing conurbations in the face of fluctuating rainfall and other environmental conditions (Evans et al. 2007). Indeed, there are speculations in the literature that a failure of food production, perhaps due to lack of maintenance or destruction of key hydraulic facilities during conflicts or natural disasters, may have been implicated in the collapse of these societies, along with the more commonly proffered explanations relating to environmental changes, including in prevailing temperatures and rainfall.

Similarly, recent evidence shows that pre-Hispanic Maya grew a significant proportion of their food within an 'agro-urban landscape' at Xuch (Isendahl 2012: 1123) and elsewhere, which had distinct hallmarks of what we would today recognise as peri-urban:

> The general distributional pattern of architecture at Xuch follows the familiar low-density settlement model and suggests that the settlement may have extended over as much as 20 km^2… despite the civic-ceremonial core being only mid-sized in comparison to other regional centres. At the centre of the agro-urban landscape is a large pre-Hispanic rainwater reservoir, which played an important economic, political and symbolic role in the physical transformation and social construction of landscape (Isendahl 2012: 1117).

In a synthetic paper drawing on their respective previous work, Isendahl and Smith (2013) compare Mayan and Aztec urban forms and are the first archaeologists within this new literature to draw attention explicitly to the distinctive peri-urban nature of many residential areas. Following Smith (2010), they also challenge the 'recentism' of much current urban agriculture literature and argue that these ancient urban forms were highly sustainable over several centuries; indeed Mayan cities collapsed only when their socio-ecological system was reorganised. The authors also specifically posit the importance of learning from such historical lessons for present day urban sustainability initiatives.

The pre-industrial and pre-colonial walled cities of West Africa provide further evidence of integrated indigenous approaches to regional land management and territorial development that supported pre-colonial urban cores through a highly organised and co-ordinated peri-urban interface. The walled cities of Hausaland and

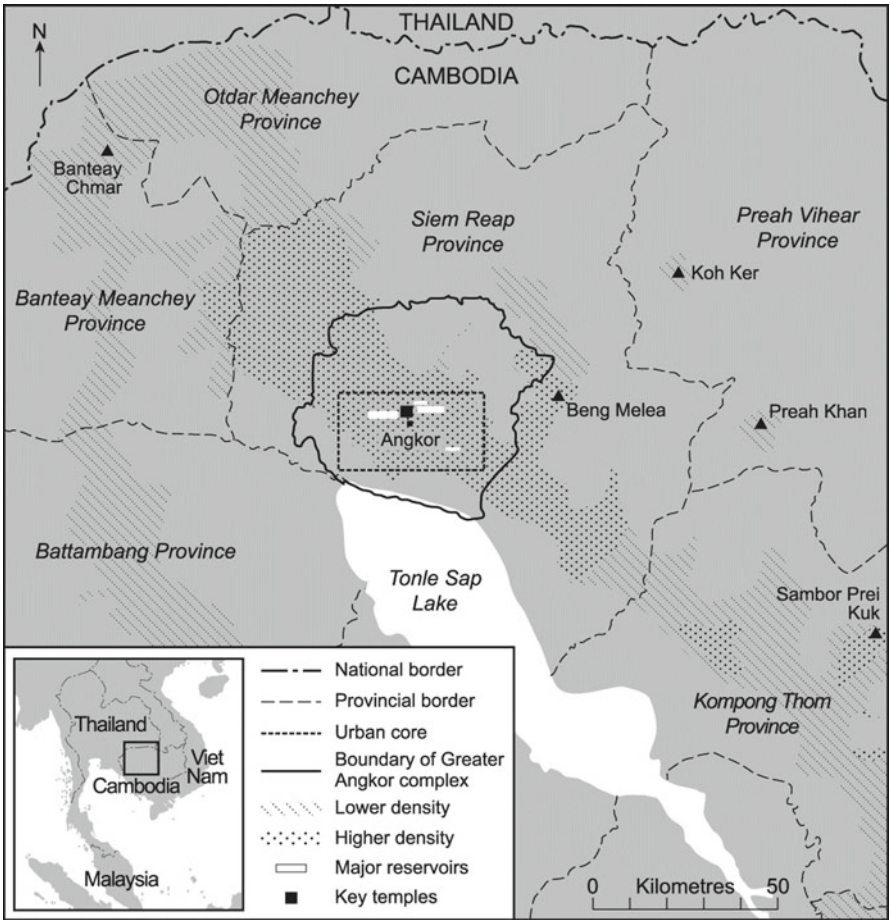

Fig. 5.1 Approximate extent of temple-and-pond-based agricultural settlements of the Angkorian and pre-Angkorian periods on the basis of an analysis of Landsat imagery and the spatial coverage of recent archaeological maps (Source: modified after Evans et al. 2007, Fig. 5.3)

Yorubaland provided the urban inhabitants with a degree of physical defence, particularly as these areas had high populations so that competition for resources and control of trade often resulted in regional conflict. Moreover, labour-intensive urban infrastructures such as city walls necessitated organised communal labour, which in turn was dependent on a meticulously planned and integrated peri-urban interface for food and subsistence. For example, in the Benin City area, much of the extraordinary network of interlocking earthworks allowed demarcation of sufficient land to ensure that each enclosed settlement had land for cultivation and extended fallow, while surrounding 'wild forest' resources were also planned and allocated to different settlements within the urban core (Connah 2000).

The import of this still localised but mounting evidence from different (sub-) tropical regions is threefold: first, it is enhancing our understanding of agro-environmental underpinnings and sustainability of historical urbanisms across space, time and cultural domains. Secondly, it is highlighting that features like a PUI, which have been associated particularly with present-day urbanism driven by mechanised transport and industrial globalisation, have been features of complex and sometimes large-scale urbanism since ancient times in diverse political ecologies, cultural realms, social formations and technological systems. Thirdly, these ancient peri-urban areas may provide valuable lessons for current efforts to develop sustainable, resilient cities with greater security of food supply and livelihoods. In a sense, they represented early examples of how a 'basic-needs strategy' sustained urban populations though a forerunner of a generic 'agropolitan' approach, to borrow a term first utilised in the mid-1970s by John Friedmann and Mike Douglass to describe their anti-growth-pole vision of rural urbanisation, and to which we return below.

5.3 The PUI: A Contemporary Perspective

In North America, Western Europe, Australia and Japan, PUIs are characterised by distinctive urban-rural boundaries with clearly demarcated planning zones that illustrate the conventional urban and rural planning divide (e.g. Audirac 1999; Jones 2000; Bunker and Houston 2003; Busck et al. 2006; McFarlane 2006). In these regions, early urban environmental challenges were met through reactive urban planning strategies that consolidated a superficial urban-rural dichotomy and gave rise to rigid urban planning doctrines based on homogeneous land use zones and were later to be exported through colonial influence and associated bodies of practice such as town and country planning. In the United States of America (USA), far more attention is still devoted to the quintessential post-World War II urban phenomena of suburbanisation and sprawl than peri-urbanisation (Teaford 2006). Hoggart (2005: 5) highlights that in the United Kingdom (UK), 'the land-use planning system keeps vigorous checks on the incursion of 'urban land-uses' into 'the countryside". By contrast, in France, Germany and Spain, Hoggart discerns elements of consistency in socio-cultural and landscape changes near urban fringes, as well as in districts that are more distant from the city, but a town and country planning divide has remained, although there are now examples of more nuanced approaches, and Hoggart calls for new methods to address complexity based on a 'hierarchy of (often urban-centred) 'functional regions" (Hoggart 2005: 6). His is a somewhat different perspective from that of the literal in-betweenness of the *Zwischenstadt* phenomenon and process identified and problematised by Sieverts (2003). Changing demographic structures and economic conditions affect the relative pressures to redevelop urban brownfield sites versus greenfield expansion on urban fringes (Simon 2008), but also highlight the importance of restoring 'working greenspaces' (especially for urban agriculture and woodland management)

within mature, slow-growing or stable cities in Japan and other post-industrial countries as contributions to enhanced urban sustainability (Yokohari and Bolthouse 2011). Qviström (2010, 2013) identifies a legacy of incomplete peri-urban interventions in Western countries (his term) by numerous sectoral and spatial planning agencies, including local authorities, that create a 'crowded policy space' where discursive selectivity obscures other storylines that may be vital for the promotion of landscape integrity, sustainability and resilience. He demonstrates this with a detailed case study of a small Swedish town, whereas Busck et al. (2006) reveal considerable land conversion from agriculture to urban uses in peri-urban Copenhagen over the 1984–2004 period. This also demonstrates a far more dynamic PUI than much of the European literature implies. Modest change towards characteristically mixed peri-urban land-use is evident in various other places, including Vancouver (Fig. 5.2).

Interestingly, a tangible trend is now emerging in Europe for urban fringe research to be framed explicitly in peri-urban terms (e.g. Busck et al. 2006; Rosol and Schweizer 2012; Cabannes and Raposo 2013; Qviström 2013, Ravetz et al. 2013). This might herald a welcome move towards more compatible analytical perspectives worldwide, since they emphasise the dynamics of European PUIs rather than the essentially static picture painted by most previous authors with very few notable exceptions like Sieverts (2003). Of particular note in this context is that

Fig. 5.2 Typical mix of smallholder agriculture and new upper middle class housing in Vancouver's southern peri-urban interface (© David Simon)

Cabannes and Raposo (2013) address urban and peri-urban agriculture (UPA) in a manner hitherto associated largely with the global South, examining the extent to which such practices in allotment gardens and other spaces in Lisbon and London assist in integrating migrants socially and in biodiversity enhancement. Their findings again point to the importance of local contextual specificities, with cohesion maintenance within particular migrant communities outweighing integration with the host population. Interestingly, their paper, and that by Rosol and Schweizer (2012) examining an experimental organic peri-urban co-operative farm as a model of solidarity economics, form part of a collection explicitly examining the extent to which UPA everywhere forms part of a global movement (Atkinson 2013).

In much of the global South, PUIs are characterised by dynamic transformations and rapid urbanisation, largely as a consequence of global processes of colonisation, industrialisation, independence, and a rapidly expanding and globalising market economy which continues to reshape and remould the urban fringe. In India, for example, development and environmental issues impacting along the urban-rural interface predate independence in 1947 and were already firmly on the policy agenda as Gandhi himself researched, practised and advocated cottage industries and rural self-sufficiency in an attempt to stem rural-urban migration and reduce the growth of urban slums that were commonly located in the PUI. After independence, urbanisation accelerated, producing even greater social and environmental impacts. In some early peri-urban research, Saini (1989) highlighted the development and environmental issues in metropolitan Delhi's urban-rural interface and stressed the importance of 'peripheral community development' as urban sprawl consumed vast tracts of arable land and natural resources.

Such work has now been followed by considerable output from multiple peri-urban sites in the Americas, Asia, and Africa, reaching similar conclusions, although the rates of peri-urban landscape change are generally greater and environmental contamination is higher, while slum expansion is now almost ubiquitious. While research conclusions may highlight that the fundamental issues remain the same, the rate and intensity of peri-urban change have gained considerable pace, bringing irreversible environmental changes to the PUI (McGregor, et al. 2006; Simon 2008; see also Fig. 5.3). Such rapid change has resulted in considerable loss of biodiversity and natural resource buffers that once provided important sources of subsistence, fibre and fuel to urban populations, while also providing even greater ecological systems services in relation to regional ecology and local climatic conditions. With the loss of such important ecological functions and protection, urban areas and particularly their PUIs are more vulnerable to natural hazards such as heavy rainstorms, flash flooding and landslides and also to less frequent but equally devastating tsunamis and earthquakes (Elmqvist et al. 2013b).

Much of this vulnerability stems from the expansion of urban areas into marginal lands such as the many urban settlements found on steep slopes or onto flood plains. In both cases, changing land uses and the associated removal of vegetation and increase in areas covered by impermeable construction materials have profound impacts on the local ecology, such as reducing rainwater infiltration, destabilising soils and slopes, and increasing urban runoff. In the context of disaster risk reduc-

Fig. 5.3 Rapid urbanisation of Kumasi's PUI in Ghana (© David Simon)

tion, these very same PUI areas that are characterised by complex and dynamic mixes of socio-economic inequality and social and physical vulnerability are also subject to diverse planning omissions and ambiguities. This situation arose because these intermediate locations often straddle urban and rural administrative boundaries and are thus neglected by both urban and rural planning and governance institutions and political processes because PUIs rarely have specific, appropriate institutions or contain politically powerful interests (McGregor et al. 2006).

5.3.1 Global Environmental Change and the PUI

The bidirectional relationships between urbanisation and global environmental change (GEC) are now attracting increasing research efforts in recognition of the fact that urban areas generate up to 75 % of a country's greenhouse gas emissions and other contributions to GEC. Moreover, since humankind is now predominantly an urban-dwelling species, it is in urban areas that many of the impacts of GEC will be most widely felt (e.g. Sánchez-Rodríguez et al. 2005; Leichenko and Solecki 2006; Parnell et al. 2007; Simon 2007, 2010; Rosenzweig et al. 2011; Simon and Leck 2015a, b). Although the importance of the PUI to urban livelihoods, resource utilisation, leisure activities and ecosystem services has been recognised

(Sánchez-Rodríguez et al. 2005), very little attention has yet been devoted to empirical research on GEC implications for such zones (see Olwig and Gough 2013; Lwasa et al. 2014, 2015).

As explained above, PUIs are undergoing rapid change as cities expand and new areas on or beyond the urban periphery are drawn increasingly into their spheres of activity and influence. Yesterday's adjacent rural area is today's PUI and tomorrow's outer suburb. It is important to ascertain just how the processes of land-use conversion from rural to urban uses and of livelihood changes contribute to GEC and, in turn, render PUIs increasingly vulnerable to its impacts. Given the rapidity of such changes, it is very likely that PUIs represent a focal point for environmental changes contributing to GEC and, in turn, areas where many residents are poor and vulnerable to the impacts of GEC. Loss of farmland and hence food supply, conversion of natural land cover to tarmac and concrete, increasingly intense run-off of surface water after rain, increasing abstraction of groundwater, extraction of resources for construction, infrastructure and other industries are among the more important changes.

Conversely, sea level rise, saltwater intrusion into fresh water aquifers, increasing mean temperatures, damage to housing, commercial and industrial premises and infrastructure are specific risks, most of which are felt particularly acutely in PUIs as a result of the loss of natural barriers that provide protection and underpin resilience. Importantly, the impacts of GEC are already being felt, a trend that will increase in intensity. GEC comprises two distinct but overlapping elements: the increasing intensity and probably also frequency of extreme events, with shorter recovery periods between them, and slow-onset but (semi-)permanent changes, e.g. rising sea levels and changing atmospheric conditions. These intersect in ways that have profound importance for urban areas in both coastal zones and in drought-prone inland areas. There is already sufficient evidence to demonstrate that GEC can no longer be dismissed as being only a long-term phenomenon that will merely become a problem for future generations; some changes are already occurring (e.g. Fall et al. 2005; Adger et al. 2009; Bicknell et al. 2009; Simon 2010, 2014; Rosenzweig et al. 2011; Simon and Leck 2015a, b).

Mitigation can often be achieved relatively quickly through simple restrictions and incentives to accelerate behavioural changes to reduce the impact of current activities and reduce vulnerability to GEC impacts. Adaptation is generally longer term and involves strategic decisions and political will. However, there is no necessary tension between these sets of response; indeed, well targeted measures can contain elements of both mitigation and adaptation simultaneously. Conventional urban planning is rigid and restrictive in nature, unsuited to the rapidity of changing conditions or the flexible and facilitatory orientation required in changing times. Conversely, 'spontaneous' or informal 'popular' planning by low-income communities in shantytowns will also not be able to cope with the magnitude of changes and levels of resourcing required. Coping with GEC impacts and 'climate proofing' cities therefore require innovative, hybrid, flexible and adaptive approaches that are appropriate to the dynamic nature of PUIs. As elaborated below, these should embody some of the appropriate principles underlying the sustainability of ancient agro-urban systems examined above.

5.4 Hybrid Planning and Design for the PUI

5.4.1 From Integration to Hybridity

A common priority in order to address environmental issues on urban fringes worldwide is the facilitation of future strategic/integrated urban planning across the numerous local authority boundaries (including different categories of local authority) (Simon 2008; Rosenzweig et al. 2011). The indigenous urban planning and agricultural design strategies found in the pre-colonial Aztec and Mayan cities of Meso-America, the Angkor complex in present-day Cambodia and walled cities of Hausaland and Yorubaland in present-day Nigeria illustrate the benefits of an integrated and strategic approach at the urban-regional level. In such a context, planning addressed the allocation of resources along the urban-rural continuum, while design was practised through traditional wisdom – comprising an amalgam of indigenous knowledge, religious values and/or customary practice – which provided the techniques used for allocating natural resources in accordance with local land tenure systems. Crucially too, many of these systems were underpinned by an acute appreciation of the importance of water and local hydrological cycles. Elaborate and integrated agro-hydrological systems were developed across the urban and peri-urban zones to store, distribute and safeguard water and to maximise its harvesting and conservation.

In indigenous Nigerian cities, forms of intensive food production such as stall-fed livestock were maintained within the walls, thus providing some security if the city was under siege. Manures were then used outside the walls on intensively maintained vegetable plots. Further away from the city, staple crops would be grown with rainfed dryland agricultural techniques; access to dryland forestry was also available in these locations. Good crop storage facilities within the city enabled the residents to keep food stocks for both human and livestock feed during conflicts and sieges (Connah 2000). Through this system, natural forests were conserved, agricultural land managed with a rotational fallow verging on precision, and even urban organic waste was recycled, thus closing an important peri-urban nutrient recycling loop (Connah 2000). In such a context, planning and design were delivered as an integrated approach and at a strategic level – the urban-rural continuum or the urban-regional area. While it would be impossible and naively nostalgic to attempt to recreate such conditions today, the importance of applying an integrated approach to the urban-rural continuum is paramount, particularly in the light of the rapid changes now being experienced in these transitional zones.

By contrast, today's densely populated and dynamic PUIs in fast-growing urban contexts are usually poorly integrated into their urban systems. They straddle different governance systems as explained above, and experience instability and often uncontrolled resource extraction and waste dumping. Water resources are neglected and often heavily contaminated, with food production in steep decline. Changing this equation – and the underlying short-termist view of local landowners, residents and governance institutions – towards longer-term, more integrated and sustainable

approaches will be complex and challenging but essential for the PUIs and their urban cores. Under such conditions the planning response required is not just integrated but rather a hybrid approach that allows urban planners and municipal authorities to draw on a range of urban and rural land planning and risk reduction methodologies and tools to address specific issues at the urban-regional level but within a global context. Such a planning approach will inevitably move resources from the current national planning focus back to a regional level but should have due regard to global economic markets and environmental processes. In essence, this decentralisation of the planning processes, or 'devolution of power', is aimed at increasing the flexible and facilitatory orientation of planning (and design) at the urban-regional level in a similar manner to that previously proposed in the early conceptions of agropolitan development.

5.4.2 Agropolitan-Type Approaches

A nostalgic return to pre-colonial or pre-industrial urban conditions, when agriculture still frequently featured as an important urban activity, is neither feasible nor desirable. But we do argue that revisiting such models is relevant and appropriate for contemporary urban and peri-urban planning and design, especially in view of current urban sustainability imperatives. In cities subject to political, economic and ecological conditions such as increasing oil prices, erratic seasonal rains in surrounding rural areas, war and conflict, coupled with limited urban sanitation, water shortages and food insecurity, the emphasis on city-regional planning is likely to re-emerge as a strategy to reconnect cities with the natural resources obtained from, and ecosystem services (however valorised or quantified) provided by, peri-urban areas. However, this will need to happen in a manner that maximises the effective and efficient use of natural resources while minimising resource depletion such as tree, vegetation, soil, water and nutrient losses.

Such regional planning strategies – an agropolitan approach – were first articulated by Friedmann and Douglass in a UN Centre for Regional Development symposium in 1975 as a critique of the inequalities being generated by traditional growth pole strategies. Friedmann (2002: 138–9) describes it as a counter-model of rural development:

> Favoring rural townships, the model could as easily have been dubbed "the urbanisation of the countryside." Given prevailing densities in many parts of Asia, which were generally higher than suburban densities in the USA, agropolitan development seemed to us to have reasonable prospects in the densely populated regions of South and East Asia. The problem was twofold: how to bring urban infrastructure, services, and nonfarm jobs to rural areas and how to give local people a more effective voice in the use public funds for local development.

The ideas were disseminated more widely in Friedmann and Weaver's seminal text, *Territory and Function*, in which they advocated 'a basic-needs strategy for territorial development' (1979: 193), labelled an agropolitan approach to develop-

ment. This they defined broadly as a 'self-generated process of dynamic change from within agricultural communities to the larger processes of central guidance by the state', with the strategy involving substantial devolution of power to small territorial units within the overall system of societal guidance (Friedmann 1985: 155). Friedmann and Weaver (1979: 206) highlighted the importance of sound 'political leadership' for such approaches, remarking that 'agropolitan development is thus more likely to evolve in response to particular historical opportunities than as a result of technocratic planning'. This was the case in Cuba during the 1990s, where reactive planning policies were introduced to address sustainable agriculture and food security in an era of oil scarcity (Wright, 2009). Without such political leadership, success was likely to be limited: 'The political choice, then, would seem to be between planning for equality and political self-determination at the lowest levels of territorial governance or planning for inequality and political autocracy' (Friedmann 1985: 155).

Although conceived in the context of spatial and politico-economic inequalities characterising urbanisation in the global South, its tenets have global relevance. In a generic context, if planning for equality and political self-determination has remained elusive, then more nuanced or alternative strategies with specific components addressing inequality are required, and such approaches can be found in disaster risk reduction and integrated watershed management strategies, both of which provide the planner with hybrid options that are highly relevant to the PUI, but most importantly involve a substantial devolution of power to smaller territorial units such as an urban region or a watershed. These are also very relevant to the implementation of mitigation and adaptation in the context of global environmental or climate change, not least the biophysical parameters of adaptive capacity for existing socio-ecological systems.

5.4.3 Disaster Risk Reduction and Integrated Watershed Management

Two distinct but nevertheless related planning approaches gaining increasing attention in academic, policy and practitioner circles are disaster risk reduction (DRR) and integrated watershed management (IWM). DRR uses planning and policy tools to address issues of vulnerability and build capacity and resilience to natural hazards and anthropogenic disasters (Pelling and Wisner 2009). Vulnerability has been defined as the lack of capacity to anticipate, cope with, resist and recover from the impact of a hazard (Wisner et al. 2004; Pelling and Wisner 2009). IWM, which has a longer tradition, has been practised in various guises such as 'comprehensive river basin planning', which dates back to the 1930s and its pioneering model, the Tennessee Valley Authority (TVA). This early planning approach sought to tackle the industrial and urban expansion challenges of the period through watershed linkages and the integrated management of water and land resources (Friedmann and Weaver 1979).

IWM has undergone several transformations, and although DRR is a more recent concept, it too has been moulded to suit specific local conditions at different scales. These evolutionary changes in both fields have sought to develop 'self-generated processes of dynamic change' by a 'substantial devolution of power to smaller territorial units' within an overall system, thus we now see the emergence of community-based disaster risk reduction (Twig 2004) and participatory watershed management (McGregor et al. 2006; Gregersen et al. 2007), both of which can be suitably characterised by using elements of Friedmann and Weaver's (1979) approach. However, the related connection between the two planning approaches is effected through the medium of water: as Gregersen et al. (2007: 2) highlight, 'water flows downstream, ignoring all political boundaries en route' and 'most of the things that people do to their land and water upstream affects the water quantity, timing of flow and quality downstream and, as a consequence, downstream land productivity in its various forms.'

This applies equally in the context of disaster risk reduction as land use changes in the watershed can have profound implications for vulnerability as experienced by others (rural, urban and peri-urban) located downstream. This has clear ramifications in the context of rapid peri-urban change, particularly where marginalised lands are settled, and compounds vulnerability issues stemming from agricultural productivity in surrounding rural areas as well as urban water scarcity and food insecurity. In such scenarios, the watershed approach could be a crucial planning and policy tool for effective and efficient management of natural resources, particularly in regard to reducing disaster risk and maintaining future food security in expanding populous urban cores, where high quality agricultural land is often a primary focus of conversion to other, more urban land uses. The watershed approach is equally important in the tackling of 'wildland' fires in the PUI, as water resources can form effective physical barriers for mitigation and fire breaks, and natural water storage features become water reservoirs for fire fighting operations. Wildfires regularly cause extensive devastation, affecting both poor and rich, in the USA, Australia, Europe (including Portugal, Spain, France, Italy and Greece); and South Africa (Goldammer 2005; Ye 2005). The vulnerability stemming from problems associated with wildland fires is particularly acute when the PUI is characterised by extensive forestry and tree-based systems as opposed to lands predominantly used for agricultural purposes. The demand for, and high value profits from, suburban development set in woodland areas exacerbates these issues which is one reason that wildfires often occur on the fringes of Australian, European and North American cities (Goldammer 2005; Ye 2005), although such risks and vulnerabilities are not unique to high-income countries; for example, wildfires have also devastated many peri-urban areas in Indonesia (Tacconi et al. 2007).

5.4.4 Urban and Peri-urban Natural Resource Management

The ecosystems services approach is another analytical tool suited to urban and peri-urban natural resource management. Four categories of ecosystem services are commonly used: provisioning services (e.g., food/water/minerals/pharmaceuticals/

energy); regulating services (e.g., carbon sequestration/waste decomposition and detoxification/purification of water and air/crop pollination/pest and disease control); habitat services (e.g., nutrient dispersal and cycling/seed dispersal/primary production) and cultural services (e.g., cultural, intellectual and spiritual inspiration/recreational experiences/ecotourism/scientific discovery) (ten Brink 2011; Elmqvist et al. 2013b). Planning and designing at a wider urban ecosystem scale have the potential to bring 'macro' scale benefits, including improved urban sanitation; disaster risk reduction through better urban flood management and slope stabilisation of steep hillsides; protection and rehabilitation of fragile and vulnerable habitats, including riverbanks and wetlands which act as natural sponges and wildlife havens; and reductions in the urban heat island effect.

The ecosystem services approach is used to detail the multiple benefits of appropriate urban and peri-urban natural resource management and conservation, including in part what is now increasingly known as 'greening the city', thus clearly linking urban ecosystem services to climate change mitigation and adaptation as well as promoting urban-regional resilience. Examples from urban case studies already experiencing high climatic variability (Fall et al. 2005; Bicknell et al. 2009; Pelling and Wisner 2009; Simon 2010, 2014; Gotz and Schäffler 2015; Leck and Roberts 2015) illustrate future scenarios and the importance of adopting appropriate urban and peri-urban environmental policies now to foster climate change adaptation and build urban-regional resilience. Dodman et al. (2010) demonstrate the power of community-led adaptive strategies to reduce disaster risk in the face of environmental change. One potentially problematic aspect of the ecosystem services perspective is the temptation to attach monetary values to the various services, linked to the payment for ecosystem services (PES) approach favoured by some international agencies. Although intended to ensure that these biophysical functions are not undervalued, the result is often that only services to which monetary values can be attached are regarded as valuable, and/or that ability to pay becomes the basis of entitlement, thereby introducing potentially serious inequalities of access.

Although distinctive in some ways, urban and peri-urban political 'hot-spots' provide further illustrations and interesting potential scenarios of how climate change-induced events may impact in peri-urban interfaces in future, triggering rapid population displacements and regional food insecurity. Recent examples include Afghanistan, Sudan's Darfur region, occupied Palestinian territories, Somalia and South Sudan, in all of which political conflicts are impacting on agricultural processes or flows in ways which broadly anticipate the negative conditions and consequences that are likely to emerge from climate change. The sustainable agriculture and food security lessons that were learnt in Cuba during the early 1990s' era of oil scarcity provide the classic example of this phenomenon. Following the collapse of the Soviet Union and subsequent cessation of subsidised imports of Soviet oil and oil-based agrochemicals, Cuban farmers could no longer irrigate and fertilise their fields as previously practised during the subsided Soviet era (Wright 2009). The effects of these two agricultural constraints provide a possible foretaste of climatic-induced events, for example the effects of limited irrigation are similar to those of increased rainwater variability (no longer having the right amount of water at the right time on the field). In relation to soil fertility, the effects of a sudden lack of fertilisers are similar to those likely to emerge during warmer climatic

conditions, including increased soil degradation and a higher carbon decomposition rate in soils, ultimately leaving agricultural plots nutrient deficient and prone to erosion.

Sustainable PUI management clearly involves a high degree of integrative planning using an urban-regional approach that draws from a multitude of urban and rural planning approaches to transcend the traditional town and country or urban and rural dichotomies of social construct, political entity and planning paradigm. While this combination of planning methods and design tools lies at the core of a hybrid planning and design approach, it also draws strongly on urban and peri-urban natural resource management, not in the context of a utopian vision of urban self-reliance but rather as a means to promote urban and peri-urban resilience and sustainability through enhanced food security, conservation of natural resources and use of ecological protection to reduce disaster risk in urban and peri-urban areas. An example of how linkages can be made between the conventional disaster management cycle and (peri-)urban agriculture is illustrated in Fig. 5.4. Here, agriculture is being used as the conduit for a range of capacity-building measures, including disaster preparedness and risk reduction through enhancement of community cohesion. This provides the foundation since strong community networks can then be utilised to implement a range of specially related disaster risk reduction measures such as early warning and evacuation response plans which require a high degree of community organisation in order to work effectively. Urban agriculture sites can also be used for zoning vulnerable and fragile areas such as steep slopes and the

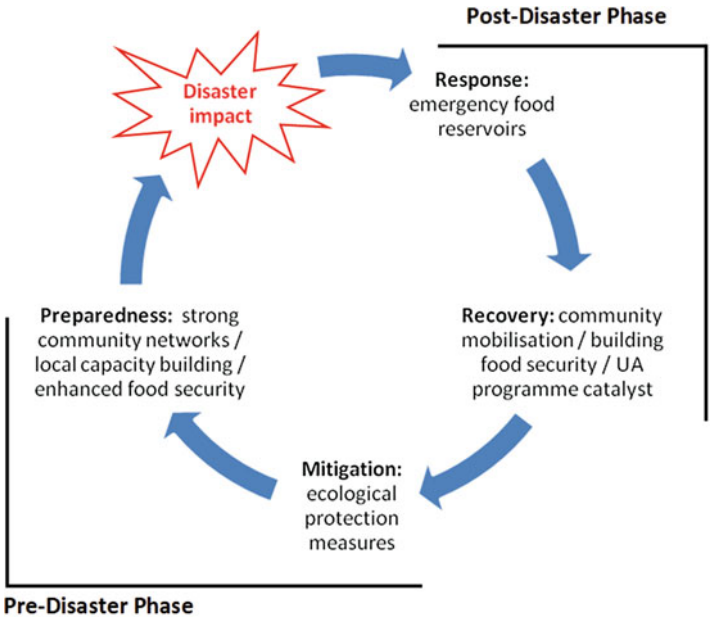

Fig. 5.4 Conventional disaster management cycle with urban agriculture linkages (Source: Adam-Bradford et al. 2009)

sides of urban and peri-urban river systems, while increased food security forms a key component of urban resilience (Adam-Bradford et al. 2009).

The linkage between agriculture and resilience is again central in the concept of 'stabilisation agriculture', a term coined by Phillip Harris at the Centre of Agroecology and Food Security,[1] Coventry University in 2010. Stabilisation agriculture focuses on enhancing the ecological and social resilience of agricultural communities to withstand and respond to adverse conditions in countries affected by natural and human-induced disasters. In the pre-disaster phase, agroecology can, for example, be used as a land management tool in disaster risk reduction programmes, while in the post-disaster phase the aim of stabilisation agriculture is the swift re-establishment of primary food production systems that are more resilient than previous systems. The six main components of stabilisation agriculture include:

(i) Integrating and mainstreaming agroecology through programmes, policies and institutions, for disaster risk reduction (DRR).
(ii) Agroecology for refugee camps and settlements.
(iii) Urban agriculture for dispersed refugees and host communities in urban areas.
(iv) Facilitating transitions: a) food aid to food production; b) refugees to returnees and; c) combatants to farmers.
(v) Sustainable management of abiotic stresses in agriculture, such as drought, salinity, contaminated land and climate change.
(vi) Sustainable management of biotic stresses in agriculture, such as invasive plant species and insect plagues.

Stabilisation agriculture embraces an integrated and participatory approach to the management of agriculture in disasters and emergencies in both rural and urban settings. As a result, programme 'beneficiaries' are transformed into pro-active agents of change, through processes that empower local communities, including refugees, internally displaced persons (IDPs) and host communities. Integration is achieved at the programme, policy and institutional level, thus building capacity for local governments, non-governmental organisations (NGOs) and UN agencies, to support communities to scale-up and facilitate stabilisation agriculture interventions (Adam-Bradford et al. 2009; Sutton and Cheese 2011).

Many of these stabilisation agricultural components are highly relevant in the PUI context, particularly because in post-disaster scenarios, the PUI often experiences acute population influxes, exacerbated land degradation and resource depletion as is currently occurring in peri-urban areas of Somalia, as Tilstone (2011: 2) highlights in her analysis on addressing climatic-induced disasters in pastoral areas,

> It is becoming clear that unless local capacities are built, and underlying vulnerabilities reduced in this increasingly unpredictable environment, the potential of pastoralism to support millions of people – on land suited to little else – will be undermined. Governments and development agencies will be faced with the far more intractable problem of sustaining even larger numbers of unskilled peri-urban dwellers in remote and low potential areas.

[1] Known as the Centre for Agroecology, Water and Resilience since 2014.

Future interventions will require extensive capacity building so that individuals and local authorities can make better-informed decisions which can then be supported through public and donor investment (REGLAP et al. 2011). In drylands, such as the Horn of Africa, integrating the PUI in long-term planning will be crucial for sustainability and resilience. The control and access to land, protecting communal land rights, and the traditional decision-making bodies that should determine development priorities, all require urgent attention if natural resource-based livelihoods are to be protected, and developed, in the PUI (REGLAP et al. 2011). In the context of dryland recovery and development, REGLAP et al. (2011: 47) highlight the requirement for 'building community capacity to determine development priorities, control natural resources and monitor the use of funds', along with appropriate education and investment in pro-poor infrastructures including financial services, market infrastructure, secondary roads, telecommunications and information provision. Such integrated approaches will be critical for the peri-urban spaces in these regions and this will require a determined hybrid planning approach to ensure the PUI functions sustainably rather than becoming the next environmentally degraded informal settlements dependent on external aid.

Even in non-disaster PUI situations, complex, fast-changing and often ambiguous land tenure systems are characteristic (McGregor et al. 2006; Adam 2014), yet relatively secure access to cultivable land without risk to personal safety is a prerequisite for any form of agriculture. Along with coherent and integrative institutional governance, this is frequently unavailable in dynamic PUIs, which merely highlights the contrast between the integrated and sustainable precolonial systems and the harsh realities of most present-day contexts outside of the OECD countries. However, the diversity of conditions belies easy generalisation and even within tropical Africa, for instance, the extent and nature of urban and peri-urban agriculture and forestry (UPAF) vary from negligible to substantial and commercial. A recent meta-study has indicated the conditions – consistent with the analysis above – under which it can not only help to alleviate the poverty of practitioners but also contribute to urban food security and mitigation and adaptation to climate change (Lwasa et al. 2014, 2015) if farmers are themselves able to adapt their practices to changing environmental conditions (Odewumi et al. 2013) (Fig. 5.5).

Integrated approaches are likely to evolve in response to particular historical opportunities rather than as a result of technocratic planning (Friedmann and Weaver 1979: 206). Clear examples are the reactive urban agriculture programmes including the 'Dig for Victory' campaign in Britain during the Second World War, and more recently in 'Operation Feed Yourself' implemented in Ghana during the 1970s, and the 'Special Period in Peace Time' implemented in Cuba during the 1990s. Momen (2009) provides a recent example from Nepal, demonstrating how a municipality has fostered a more integrated approach to rural-urban linkages and micro-enterprise development that has helped reduce exploitative socio-spatial relations. Contemporary examples include two programmes now being implemented in peri-urban areas of Somalia: the Somalia Resilience Program (SomReP) funded by the Danish International Development Agency (DANIDA) and the Building Resilient Communities in Somalia (BRCiS) programme funded by the UK

Fig. 5.5 Peri-urban riverbank agriculture, Ibadan, Nigeria, with flood erosion evident (© David Simon)

Department for International Development (DFID). These programmes each comprise two different consortia of international non-government organisations targeting peri-urban areas with a focus on pastoralism, agro-pastoralism and peri-urban livelihoods. In response to weak local institutions, these projects are adopting a multi-sectoral approach that includes capacity building, community mobilisation and participatory planning, with the aim of building resilience into these rapidly expanding peri-urban areas.

As argued above, successful integrated and locally appropriate planning was once practised in contexts such as the pre-industrial and pre-colonial walled cities of West Africa, and the low-density urban-based complexes of Angkor in Cambodia and the classic Aztec and Mayan cities of Meso-America. While such settlements and urban patterns were embedded within very different global contexts and stable land tenure regimes, the level of integration and the technical sophistication of the planning and design involved clearly offer way markers when considering the challenges facing the sustainable and participatory management of urban and peri-urban areas in an era marked by rapid urbanisation and globalisation, climate change uncertainty, unequal access to energy, increased geo-political tensions in water-scarce regions, and declining agricultural productivity in many rural areas.

Food security, environmental integrity and heritage conservation are widespread challenges across the spectrum of peri-urbanisation processes worldwide. Ayutthaya,

the historic capital of Thailand before its relocation to Bangkok 50 km further south, provides an acute example of globalisation-related pressures in economically dynamic regions of the world-economy. This growing urban region now forms a peri-urban part of the Bangkok Extended Metropolitan Region, which attracts some 90 % of foreign direct investment into Thailand. The rapid expansion of transnational corporate manufacturing, and the infrastructural, housing and population pressures associated with it, have created profound challenges for the conservation of the old ruined capital, which is a UNESCO World Heritage Site, as well as for the maintenance of environmental services and rice production in what is a highly productive and intensely cultivated rice-growing basin of global importance. Current governance and planning institutions are fragmented and grossly inadequate to this task (Maneepong and Webster 2008). Although these authors advocate a strengthening of high-level governance institutions as a result, we suggest that traditional top-down mechanisms alone will not succeed without active community engagement and an integrated approach adopting the holistic principles outlined above. Such integrated and multidimensional approaches also entail practical implications for research and any subsequent intervention in the PUI.

Similar concerns apply in China, where Beijing's substantial expansion since the early 1980s has shifted its PUI progressively outwards. The current PUI is experiencing complex dynamics linked to ongoing marketisation, an increasingly dichotomised land tenure system and the establishment of new middle income communities, often drawn from the ranks of migrants from other regions (the so-called *yi zu* 'ant people' who lack local registration and benefits under what remains of the *hukou* permit system). They face discrimination and often remain on temporary jobs despite being well educated and holding responsible skilled jobs. Perhaps linked to this, novel forms of collective and 'incomplete ownership housing' village organisation are emerging, while – as elsewhere – development management remains fragmented and hence ineffective (Zhao 2012).

Mounting evidence indicates clearly that effective peri-urban management requires high levels of local participation and ownership (McGregor et al. 2006; Dodman et al. 2010). Hence research methodologies are crucial aspects of planning and design and should incorporate a well-informed community focus through participatory action research or co-production. While participatory technology development works best in promoting the interests of the poor and marginalised in the PUI, such interventions must remain affordable and based upon self-help. Community participation and mobilisation are also crucial to promoting sustainability, a prime requirement for PUI work, particularly in regard to environmental sustainability. Conducting such research requires frameworks for each distinct scale of research focus, as different data will be required to inform the way forward at multiple scales, hence interventionist and pro-poor strategies must be carefully researched and executed.

5.5 Concluding Remarks

We have argued that current institutionalised planning paradigms and practices almost invariably fail to address the essential dynamic processes of change that characterise PUIs worldwide. This reflects an abiding dichotomy within all-too-rigid planning systems based on often numerous politico-administrative territorial units which are deemed to be either predominantly urban or rural. Conventional land-use zoning and related standards and regulations also remain outdated and fail to keep pace with ongoing changes. By contrast, recent archaeological evidence from different regions is demonstrating that sophisticated and integrated urban systems comprising extensive areas that we would identify as agricultural PUIs existed over long periods of time. These sustained urban populations and gave them resilience.

In today's complex and rapidly changing world, fragmented urban planning cannot succeed. Instead, strategic or integrated urban planning across local authority categories and boundaries is needed in order to provide coherence and a holistic approach to functional urban areas. Such systems need to remain flexible and more permissive in order to cope with the dynamics of change and unorthodox combinations of activity that characterise PUIs almost everywhere. Most existing systems remain rigid and restrictive in orientation. Hence the hybrid planning approach advocated here requires the integration of multiple approaches and perspectives, including agropolitan development, disaster risk reduction, environmental change mitigation and adaptation, integrated watershed management, ecosystem services and stabilisation agriculture.

Commitment to peri-urban or urban fringe issues by individual local authorities that are either urban or rural in nature or statutory classification is often low because such areas lie on their territorial and often political margins. One rationale for integrated functional-area planning is to overcome this marginality. Equally, the generally inadequate levels of capacity and resourcing for local or metropolitan governance institutions at the urban fringe represent a handicap that must be addressed. In many parts of the world, urban expansion over time means that different land tenure (e.g. forms of communal and individualised) and planning systems may exist within a single urban area, presenting often intractable strategic and practical/routine problems. In the absence of coherent strategies to address this, creeping de facto individualisation of tenure in communally-based areas often widens socio-economic disparities, thus greatly complicating the existing challenges of how to address the conflicting resource needs and demands of rich and poor households, often with diverse cultural and class priorities, within individual localities and across an urban area. As a result, post-structural approaches have been applied to urban planning for some time – arguing the need for flexible, responsive and hybrid planning that blends traditional and modern, indigenous and 'international' architectural styles, technologies and urban idioms in locally appropriate ways. As Acevedo and Carreira (2011: 66) conclude in their analysis of such challenges in Medellín, Colombia,

> It is not a matter of *development* or *stagnation*; rather, it is a process in which traditions and uses modify, re-interpret and re-create those models imposed under the development ideal. When the dynamics between what is *planned* and how this is *used* by real people and local communities are understood as a totality, it would be possible to create more versatile and adequate responses to the challenges of a dynamic society moving towards a global order.

This applies no less directly to the dynamic mixture of people, activities and land uses that comprise the PUI, which is very much part of the urban 'totality'. However, the novelty of what we are proposing here is underscored by the very limited coverage of peri-urban areas in the *Global Report on Human Settlements 2009*, the theme of which was 'Planning Sustainable Cities' (UN-HABITAT 2009). While PUIs are mentioned briefly in a number of places, this comprised mainly general statements about the rapidity and predominant informality of growth and urbanisation there, and the challenges that this presents for coherent urban planning and the installation and upgrading of services and infrastructure. The principal focus of the report remained resolutely urban and although its arguments for substantive changes to rigid, modernist, blueprint-style planning based on outdated norms, regulations and standards were well made, there is little firm planning advice for those concerned with PUIs and they appear somehow still to be conceived of as a separate suite of evolving spaces, in that, for instance, "[n]ew and incremental approaches to service and infrastructure delivery, in partnership with local communities, will have to be found" (p. 203) (see the final summary for some of the policy recommendations this raises). This could equally well be said of unserviced area within cities. Surprisingly, integration of PUIs with the growing cities that spawn them and with which they are increasingly functionally bound up, is not advocated and the planning advice is equally vague and equivocal:

> A further issue is whether the planning of peri-urban areas calls for local or regional planning action, and which level of government is best placed to deal with such areas. A combination of regional and local planning approaches may well be required (UN-HABITAT 2009: 203).

Such issues and dynamic, even contradictory, pressures are not restricted to megaconurbations or even just large cities that interface between local, national, regional and global economies. They apply globally across the urban spectrum in terms of better integrating urban areas into their peri-urban and regional hinterlands. The precise dynamics of change in the PUI of individual urban areas are contingent but planners and city managers are very often reduced to little more than spectators. Conventional wisdoms can be inverted; contradictions and discontinuities abound. For instance, as Klaufus' (2010: 135) comparative study of remittance economies and the growth of Quetzaltenango (Guatemala) and San Miguel (El Salvador) concludes,

> Intermediate Central American cities face rapid urbanisation on the fringes. Whereas uncontrolled urban growth used to be associated with informal self-provision of houses, suburban disorder is now attributed to fully serviced residential projects for a new middle class, built on ecologically vulnerable land. Target groups are remittance-receiving families or other people with access to foreign currency These gated communities are spatially segregated from the rest of the city, sometimes even designed as parallel cities. The construction of private water supply systems causes a reduction in groundwater levels, while deforestation in higher areas where urbanisation projects are developed causes flooding in lower urban areas.

In the very different context of peri-urban Zanzibar island in Tanzania, Myers (2010) illustrates the heterogeneity of 'place making' by individuals and households, often defined in terms of their personal relationships with elements of the state. These in turn have specific historical roots, and the diverse and even conflicting interests militate against efforts at coherence or even alternative, bottom-up and more sustainable planning than what has resulted from the failed modernist legacy. Yet, in peri-urban Maputo, where the state still technically owns all land, fragmentation is also occurring although technically illegal informal markets appear to operate quite efficiently (Kihato et al. 2012).

These few examples attest to the diversity of situations and processes which are remaking peri-urban spaces everywhere through territorial disintegration and urban fragmentation, generally on the basis of wealth and political power through growing marketisation, whatever the formal legal situation. This indicates the strength of the challenges to be overcome if the integrative and holistic approaches we advocate and which we believe to be essential to achieving greater urban and peri-urban sustainability, equitability and resilience are to become practicable in dynamic, fast-growing contexts. Equally, recent literature from various parts of Europe and elsewhere in the OECD suggests that many peri-urban interfaces there are far more dynamic than portrayed in earlier literature and that similar issues and concerns over ambiguities and weaknesses of governance frequently exist. To some extent, at least, the increasing adoption of peri-urban nomenclature and approaches in European literature symbolises an effort to break down intellectual and geopolitical ghettos and open up these dynamic spaces of fragmented place making for mutual learning.

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