

urbanism research across the world: a PhD seminar



*8th International
World Urbanisms Seminar
16-18 June 2021, Leuven*

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KU LEUVEN

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**DEPARTMENT OF
ARCHITECTURE**

urbanism research across Europe: a PhD seminar

***8th International
World Urbanisms Seminar
16-18 June 2021, Leuven***

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New Commons



16.06.2021 NEW COMMONS

DOCTORAL PRESENTATIONS

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CET

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16.30 - 16.50	Sofia Borushkia & Anton Gorodnichev	Layering, Embedding or Ignoring: Interaction of master planning with existing urban planning system in Russia	M. Bricocoli (Politecnico di Milano) A. Puzanov (HSE University)	E. Barbosa (Federal Uni. of Bahia) P. Van den Broeck (KU Leuven)
16.50 - 17.10	Miriam de Oliveira Goncalves	When EU Soft Planning Initiatives Meet the Ground: The implementation of CLLD (Community-Led Local Development) in Portugal	C. Cavaco J. Morais Mourato (Uni. of Lisbon)	L. Esho (TU Kenya) J. Stevens (KU Leuven)

Language and landscape of the river people in the Brahmaputra valley in Assam, India

Swagata Das , KU Leuven (2020-24)

B. De Meulder, K. Shannon (promoters)

abstract: The paper explores a pristine environment, chars (river islands) within the Brahmaputra River Valley in Assam. It focuses on colloquial language and landscape practices prevalent in the Mising tribes of Dhakuakhana. The Misings have a rich repertoire of traditional knowledge, emerging out of their prolonged history of survival and coping mechanisms with recurrent floods, which have evolved in response to the changing socio-ecological conditions. During monsoons, some chars submerge while new ones arise. These cyclic patterns – made more unpredictable and abrupt due to climate change – determine the everyday lives and livelihoods of the agricultural community. The paper seeks to abolish the perception of land and water as two distinct physical entities by looking at how the Misings’ meaning man(mi) of the water(asi) understand the riverine landscape. In the contemporary context, chars have been disassociated from their socio-cultural setting and robbed of their histories. In contrast, interaction between the Misings and the Brahmaputra floodplains has formed a unique social-ecological system. The paper seeks to explore the Misings’ relationship with their landscape and their belonging to the river —not as limiting categories but as a dynamic. Thus, it seeks to provide an alternate history of the region by understanding and making explicit the knowledge of the river people.

keywords: chars, riverine territories, colloquial language, landscape practices, local knowledge

Introduction

The Brahmaputra is a trans-boundary river originating in the Himalayan range and flowing through Tibet (China), India and finally merging with the sea in Bangladesh. The interplay of hydrological processes and human activity has shaped the river landscape into a mosaic of ecosystems. The Brahmaputra River floods every year during the monsoon, flooding the plains and depositing fertile silt, sandy sediments, and digging new channels. River infrastructures are set up to protect human settlements and monitor such dynamics. These boundaries do not simply separate water from land but create water and land on either side of it as entities that can be mapped and commodified and as such coveted, made scarce, and violated. The illegitimacies produced by such artificial boundaries alienate and rob the landscape of their histories by extracting them from their socio-cultural setting. This calls for a renewed approach to consider how an alternate spatial history of the Brahmaputra valley can be developed.

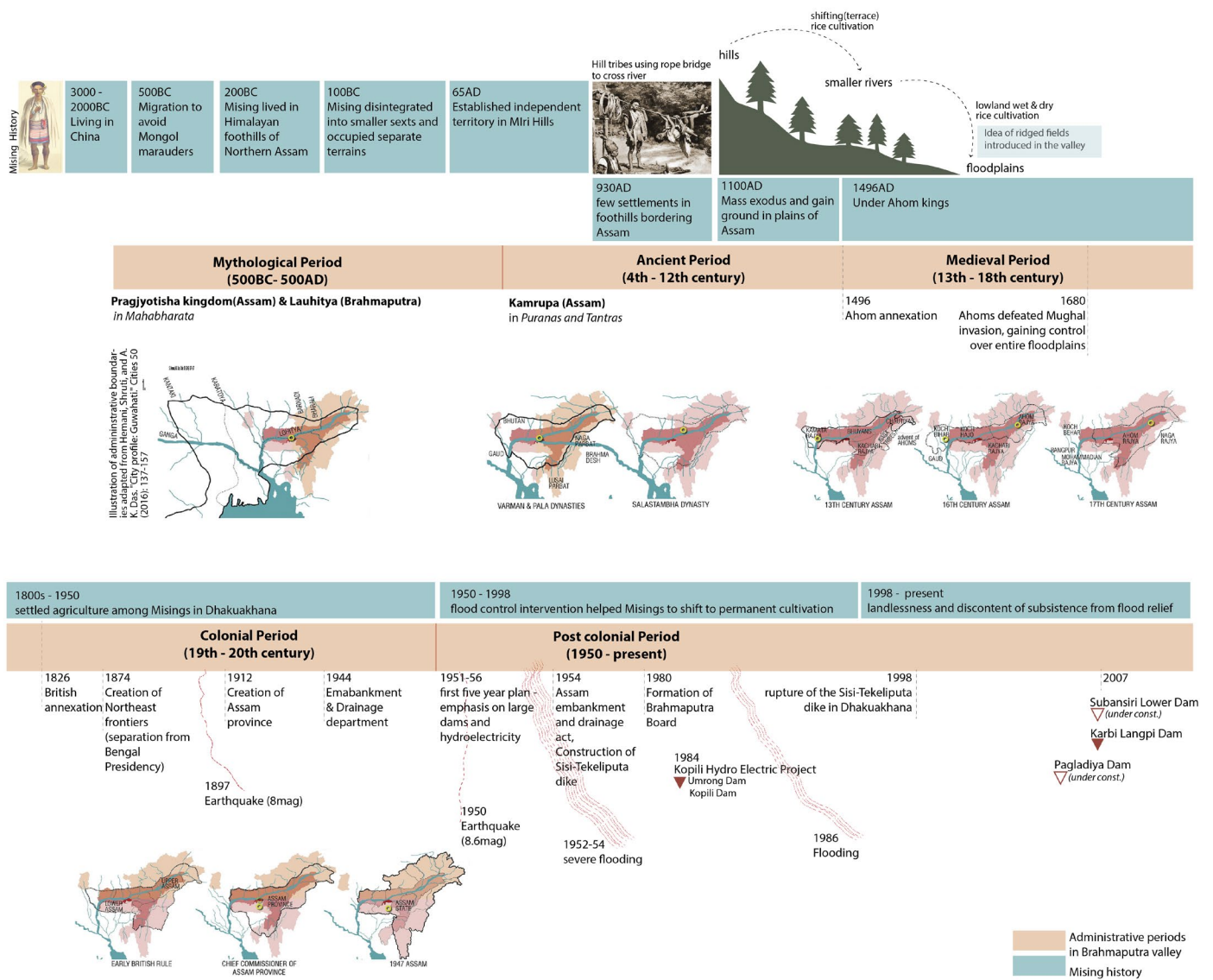
The Brahmaputra river and its floodplain, establish and maintain a living ecosystem through a flooding regime. By focusing on the centrality of the monsoon cycle and how this shapes the flood pulse and flow variability, the river could be grasped as an assemblage critical ecological relationships and interactions between floodplains, wetlands, swamps, and estuarine zones. This research investigates the local interactions of socio-cultural and ecological systems in the state of Assam(India), further influenced by non-local hydro-climatic and hydro-geomorphological threats. Investigating the geographical nomenclature through oral traditions and livelihood adaptation of the Mising villages in Dhakuakhana region of Upper Brahmaputra Valley, reveal a lot about what

Ingold calls the ‘dwelling perspective’ – according to which the landscape is constituted as an enduring record of and is testimony to the lives of past generations who have dealt within it. By looking at how Misings understand their landscape and act on that understanding bring into focus layers of significance with which humans blanket the environment and help the study through knowledge construction to guide development in a different way. These non-conventional ways to settle and modernise offer a possibility to re-invent urbanisation in the 21st century by taking advantage of local assets and dynamism of the landscape.

The Setting

As the Brahmaputra enters India, the sudden flattening of slope and joining of tributaries carrying massive quantities of sediment result in an oscillating braided pattern. This forms a network of channels interspersed with islands known as chars. Even in the dry season, some chars contain land that can only be reached by crossing a river channel, while some are considerably more than just a riverbed island that pops up from time to time. Others become semipermanent or permanent islands. Majuli, the largest inhabited char in the world, is a valid administrative unit – a mohkuma. Seismic events and annual flooding has constantly altered the hydrographic network and geomorphological structures.

There are several colonizing processes that have prompted cartographic construction of this landscape. The changing administrative boundaries over centuries (fig.1) and river management efforts are evidence of the constant attempts to bring the territory under control. Early settlement in the region was away from rivers and scattered in the adjoining hills and highlands. The transition from hills



Note: although flooding and seismic activities are regular occurrences in the Brahmaputra valley, the ones depicted on the timeline had major impact in re-organisation of the territory

fig. 1. A timeline of the colonizing processes that have prompted the cartographic construction of the Brahmaputra river valley (by author).

to floodplains started around the Neolithic period due to gradual disappearance of edible plants, scarcity of food and tribal clashes. This happened over several centuries as tribes stopped near small rivers or rivulets. They brought hill practices like jhum kheti (shifting cultivation) to the floodplains. Over the years, it has played a role in bringing the landscape under human control. By sixth to seventh centuries CE, wet rice cultivation with an irrigation technology of ridge construction was common.

Brahmaputra valley was constantly in clash under various small kingdoms and tribal groups, until entire Assam came under the Ahoms in the thirteenth century. As land close to river could not be cultivated, it was not subjected to property taxes. Eighteenth century Ahom lexicon, don denoted places situated above floodplains. However, as wet rice cultivation contributed considerably to the state revenue, Ahoms expanded agriculture into flood-prone regions by securing the areas through bunds or retaining walls. The peasants were encouraged to cultivate these lands and Ahom officials categorized these lands as faringati. Until then, a plough and hoe tax was issued on

chars, which was continued even by British officials until 1820s. It is interesting to note that Assamese peasants did not distinguish the river islands from sandy river banks and 19th century assamese lexicons described them both as 'chapor'. As cartographic division of this riverine geography began to take place in the legal and revenue parlance of the British officials in Assam, islands came to be recorded as chars while river banks were described as chaporis.

During the colonial period, the administration defined territorial limits and the public and private property rights were managed by tax administration. As village territories were being recorded on cadastral maps, the Assam Land and Revenue Regulation, 1886 forced many mobile communities to settle down. Following the erosion and flooding events of succeeding years, public policies with structural solutions were implemented to protect existing lands. The river was channeled between levees to restrict its movement and contribute to agricultural productivity. These interventions aided the sedentarization of settlements. The rivers of the Brahmaputra valley have

constantly challenged this administrative sedentarization, which encouraged further engineered construction. However, by then there was a major change in how regular floods were perceived and the temporal understanding of the landscape involving degrees of wetness was being gradually erased.

The Dhakuakhana region is bounded by the Brahmaputra and its tributary Subansiri, on both sides (fig. 2). In the 13th century, the territory of the current Dhakuakhana subdivision was named Habung and Khora(royal tax) was levied in this territory, which was known for richness of its resources and occurrence of floods. This territory was referred to as a success story of flood control in Assam in the 1970s. Historically, the river system has been distinguished by unpredictable flows and fluctuating bursts. Fishing, flood-recession agriculture, drawing on diverse resources from surrounding wetlands, and harvesting a large array of aquatic flora and fauna are part of the livelihood strategies of communities relying on the Brahmaputra system. The 1998 breaches in the Sissirkolghor-Tekeliphuta embankment however, caused extensive damage in Dhakuakhana villages and was the beginning of major transformation of the territory.

River People and Landscape practices in the Brahmaputra Valley

According to the Constitution (Scheduled Tribes) Order of 1950, the population in the valley can be broadly divided into Tribal and Non-Tribal groups following Apart from the official distinction, historians have an interesting interpretation. As the riverine territories were transformed into a landscape of pathars (agricultural fields) through cultivated spaces and permanent settlements, groups which remained outside the pathar-based peasant economy came to be recognized as tribes. The Misings, originally a hill tribe, arrived in Assam's plains through the tributaries, settling in the riverine areas of the Brahmaputra and Subansiri. They have undergone a phase of acculturation, with their Assamese-speaking Hindu neighbors' lives and customs heavily affecting their own.

The rationale of incorporating Mising knowledge and worldviews as embedded in their language and practices is only appropriate for a constructivist-based study like this one. The following sections address the findings obtained from the author's experience of living in Assam as well from people that aided in comprehending the river as a socio-cultural entity.

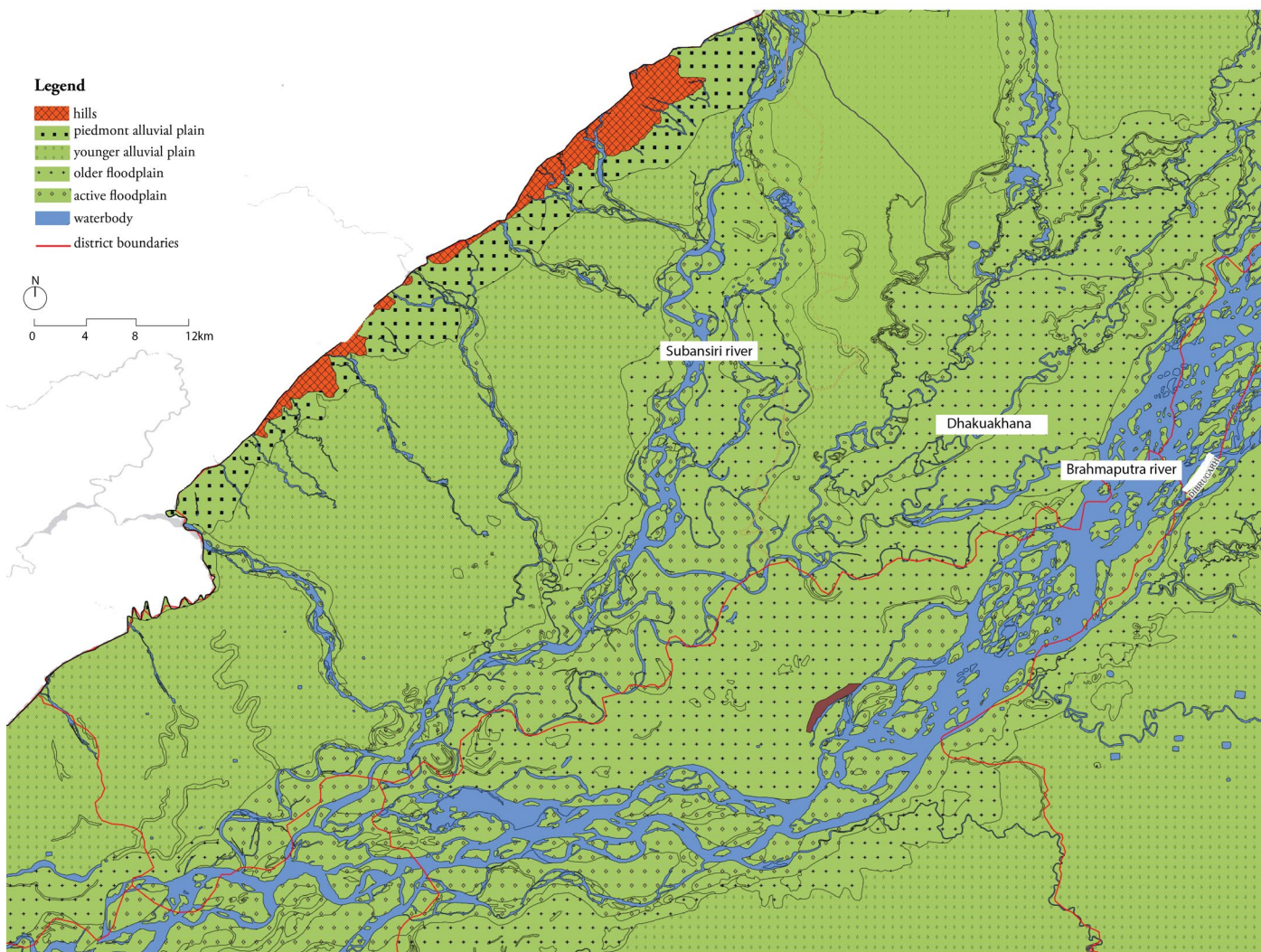


fig. 2. Geomorphological features of study location (by author based on GIS data from Bhuvan and Assam State Disaster Management Authority).

Mising livelihood in tune with the river: habitat and agricultural practices

A fluid landscape means inhabitants had to make intelligent choices to render space as liveable. The inhabitant's material, practical and cultural imaginative vocabularies are imprint of those choices (fig. 3). To comprehend the Mising community's flood adaptation, it is necessary to understand how nature is viewed in the tribe's belief system. Spirits are central to the Mising belief system, which are found in nature and in environmental features like forests, rivers, etc. The approach of coexistence with nature also permeates how they deal with various degrees of wetness.

Settlement patterns

A traditional Dolong (Mising village) is typically found along the alluvial embankment of rivers and wetland, positioned between forest patches and nearby land suitable for paddy cultivation. This strategic positioning makes it easier for them to access forest resources for daily use while still continuing their agricultural routine. Dolongs remain mobile to adapt to the forms of the relief and to hydro-geomorphological hazards.

Built on stilts, family homesteads are known as Kare Okum. Designed on bamboo stilts or wooden poles and rising from one meter to more than two meters above the ground, Kare Okums serve to keep floodwaters and wild animals out (fig. 4). Housing materials such as thatch, bamboo, cane, and reeds such as ikora and khagori grow abundantly in the alluvial soils of the rivers and can be easily assembled

by the community when they move to another site. In addition to that, the presence of Tunggeng (front porch), which is often very broad, aid the Misings in collectively dealing with floods. When houses at lower elevations are flooded, people are given shelter in the Tunggengs of those at higher elevations. Community house known as Murong Okum, also serve to relocate villagers temporarily if their homes are flooded.

Seasonal organisation of land use

Misings had to make optimal use of the riverside ecosystem and have adopted suitable agricultural patterns. Farmers in Dhakuakhana had previously focused on Lai aam (dry rice) farming because it required less water and could be harvested before the floods. Over time, they began Aamdang Arig (wet paddy agriculture).

The cultivation of Ahu (dry rice/upland rice) stems from Mising agricultural practices in the hills. The annual flooding event played an important role in the rice-growing agrarian environment. During monsoons, seasonal floods brought fertile silt to the riverine land, allowing for the cultivation of ahu during the dry season. In the recent years, farmers have tried to adapt their agricultural practices to accommodate the combined impacts of engineered constructions and climate change.

Bao (floating/deep water rice) is one such case, which adapt very well to wetland conditions and can be grown in heavily flooded areas. These give rise to environments

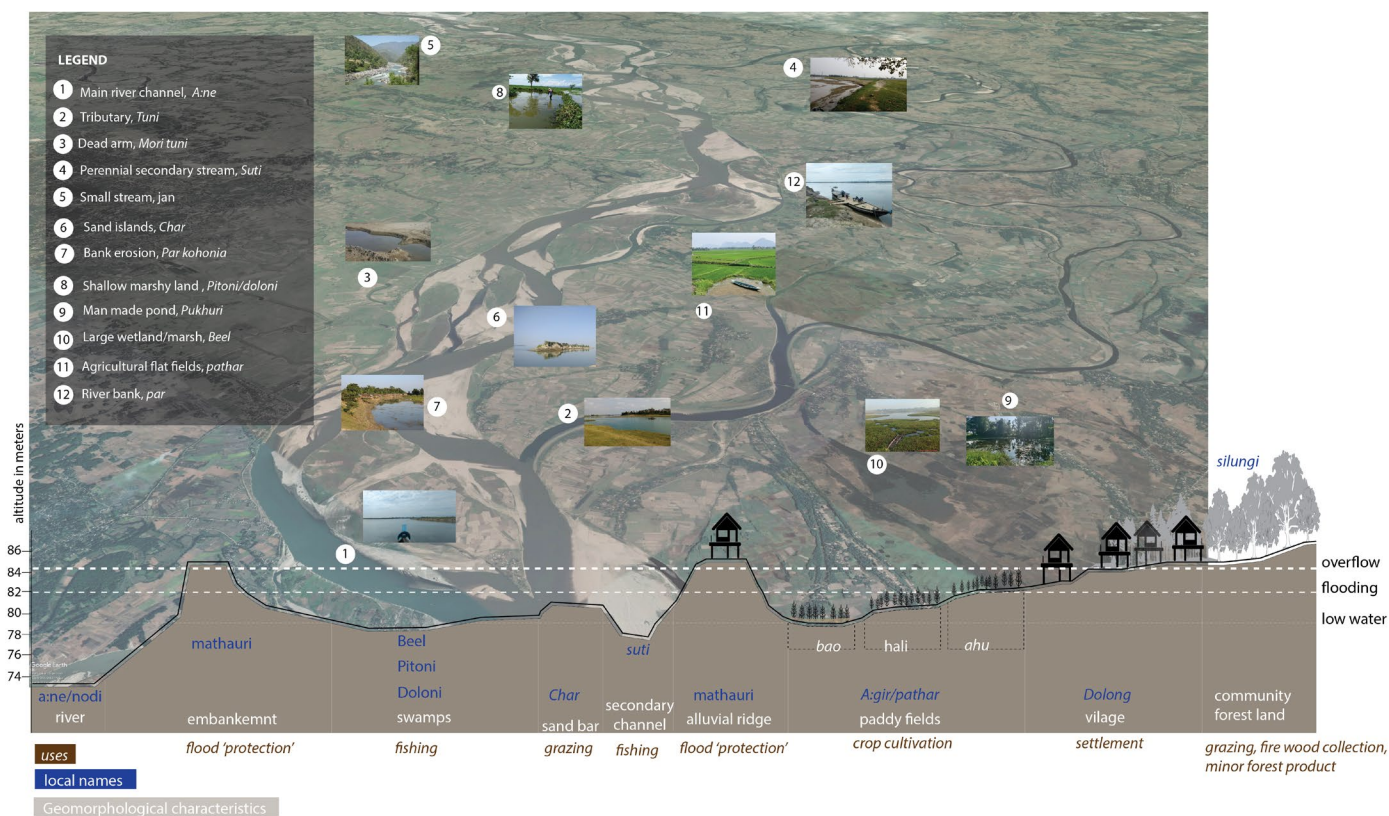


fig. 3. Colloquial landscape terms of river landscape in Dhakuakhana. Transect of the traditional Mising village set up in the floodplains of Dhakuakhana illustrate how villagers utilize the mosaic of ecosystems by planting paddy on low land, raising cattle on grassland, and collecting products for daily needs in forests. (Google earth image annotated by author and data collected from secondary sources and telephonic interviews).

rich in biodiversity, with a variety of wild flora and fauna. In these cultivated swamps, known as beels (fig. 4), rice farmers fish and capture wild birds with nets, which serve as additional income. Apart from this, Mising farmers cultivate hali (flooded/ rainfed lowland rice), planted in nurseries and then transplanted in fields. It depends heavily on bunds or dikes built around the plowed land. Recently, the state has introduced boro or irrigated rice which are dependent on irrigation systems. However due to lack of government funding, interest, and demand from farmers, it is still not widely practiced in the region.

In the face of frequent and unpredictable hydrological hazards, these diverse rice varieties and their seasonal adjustments (fig. 5) provide adaptation capacities to the residents of the floodplains. In Dhakuakhana where bunds and embankments remain the state's primary approach for flood control and river management, farmers have adapted their practices to utilize these structures, often built on alluvial ridges.

Misings as Riverine Historians

Also known as Miri (term used by non-Mising people of Assam), Mishing is an autonym which the tribe use to describe themselves. 'Miri' means 'go between' or 'interpreter' and refers to the fact that the Misings used to serve as interpreters for both hill tribes and plains people. The Misings were crucial to the Ahom system of *posa*, where certain peasant families living in the foothills were assigned to pay their annual taxes to hill tribesmen instead of the state. In exchange, Ahom rulers guaranteed use of some portion of floodplains and submontane tracts to hill dwellers in exchange for political control. Such revenue mechanisms were common in the medieval period and

illustrates how the Ahoms negotiated the inseparable geographies between hills, foothills and the floodplains to their advantage and the role of Misings in such arbitrations.

Fluvial boundaries

The term 'Assam' comes from the Ahom period. Prior to that, the region was called Pragjyotisha and Kamrupa. The variation of the name is indicative of the transformation in geographical boundaries of Assam. Rivers functioned as the border between territories until cadastral maps were made during the colonial period. In contrast to administrative boundaries, Mising territory borders still remains fluid. When the river changed direction or the soil fertility decreased, the villagers abandoned a plot and moved on to more fertile lands. These migratory habits associated with agriculture were viewed as an adaptive technique for dealing with the hazards of the fragile floodplain. Communities like Misings, displaced by the river have maintained their mobile lifestyle in response to hydro-geomorphological hazards by occupying vacant land to create their villages. The eroded Mising territories in the center of the Brahmaputra's channels, gain administrative status of public property. As the concept of a permanent home is ephemeral, these population move from one char to another. These Mising villages of Dhakuakhana highlight specific geographic context in understanding what Scott described as nonstate spaces where resilient and resistant people seek refuge in response to statist consolidation of borders.

Changing meaning of embankments

River water management can be traced to the Varman dynasty, and references of *ksetra ali* (field ridges) and *vrah ali* (bunds) of the eleventh century. While fields needed



fig. 4. A Mising village in Dhakuakhana, adapted to the rhythms of the river (by author).

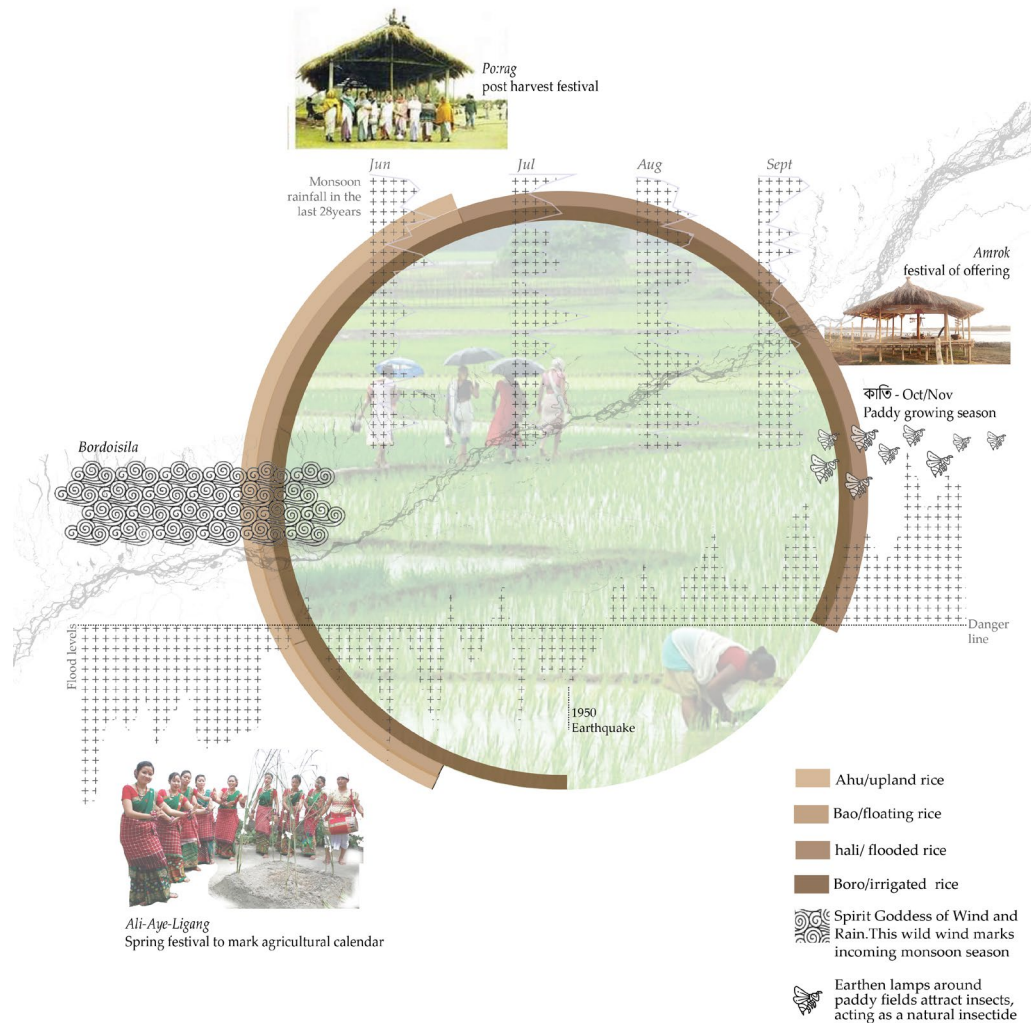


fig. 5. Cartographic imagination of the Mising 'taskscape' in Dhakuakhana. Ingold uses taskscape to illustrate the association between temporality and landscape and defines it as the array of practices that human and non-human beings carry out in the temporal process of inhabiting their environment. This framework is helpful in visualising the site as a socially constructed space, perpetually in process. The seasonal pattern of cultivation in Dhakuakhana is based on most recent conditions in 2020 (by author based on data from Agricultural Department and Assam State Disaster Management Authority, Assam, and telephonic interviews with local residents in Dhakuakhana).

to be protected from regular inundation, retention of water for wet rice cultivation was equally important. These network of alis were later traced and maintained by British officials to serve as guiding lines for modern embankments and storage dams. Ironically, the structure that was built for water retention has been transformed to prevent fertile silts from settling on the soil, thus depriving the alluvial plain of valuable sources of fertilizers and rejuvenation.

1800s to 1950 can be seen as period of settled agriculture amongst the Misings in Dhakuakhana. Post-independence, the region flourished under the flood control interventions of embankments, with agricultural practices being adapted around mathauri (embankment) constructions. However, the long term impacts of these revenue and river control mechanisms as well as climate change have greatly challenged the resilience of the community. During the 1998 floods, the levee that protected Dhakuakhana was broken which abruptly changed environmental conditions on a permanent basis. Large masses of sandy sediments filled the fertile land, preventing peasants from resuming agricultural practices they had put in place over several

decades. Every year, dikes are strengthened, but are breached during the next flood cycle. Although these ideas of river control have been questioned both during colonial and postcolonial periods, local officials consider them as a means of regulating the river and protecting agricultural land and settlements. Nevertheless, the quality of these developments and maintenance remain insufficient, which lead to the potentially foreseeable rupture of dikes, even though their existence gives an illusory sense of security to the populations living inside these protected zones.

From resilient to landlessness

Today, chars are inhabited by some of the poorest populations of the valley. How floods were mapped and reported throughout history plays a major role in it. Assam continued to be seen, from the perspective of the British empire, as a landscape of uncontrollable rivers, floods and destruction. But chars are a product of both history and fluvial regimes. Current condition of Misings are synonymous to many resilient communities who are currently rendered landless. For the Misings, the choice to stay on river banks is influenced by not only their way of

living, but also by the possibility of receiving compensation and sustaining subsistence through flood assistance. Since permanent property ownership is uncommon among the Misings, the majority of their villages are on government land, making their compensation claim invalid. The Mising folksongs Oi-Nitom, lament these conditions:

“Chapori oi chapori,
Chopan sula romdaggam,
Oi ngonyik mikkide
Tolo yipum suyepe.

We may be buried or cremated
apart in islands located in distant land.
But the smoke or the soul would surely unite above, beyond
the reach of the worldly being.”

Conclusion

Set within the larger research objectives, this paper examined the period during which floods were seen as a resource and culturally recognized. As a result, the Brahmaputra's significance to the local people as a socioeconomic-cultural resource becomes clear. The Mising belief system and their folklores and livelihood cannot be separated from the logics of their landscape practices. However, that resilience is at stake now, due to illegitimacy produced by current narrative of river control. Until nineteenth century, regular cycles of flood were not worrisome to local population and the idea of Assam as a waterscape was accepted in the social imagination. Concern regarding floods as a destructive force started to gain acceptance as more permanent cultivation expanded in low-lying areas. In the wake of embankments and storage dams, the government was perceived as a flood controller, and flood relief became part of the electoral agenda. Thus the perception of floods and relationship with riverine landscape has undergone an epistemological change.

The assessment of riverine history through the cultural resilience of Misings allowed for generating other forms of knowing the landscape. The embedded knowledge within this landscape can be reimagined to further question how can this knowledge be harnessed and made part of alternate ways of development - a new kind of policy and design in the context of climate change.

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⁴Tim Ingold, 'The Temporality of the Landscape', *World Archaeology*, 25.2 (1993), 152–74 <<https://doi.org/10.1080/00438243.1993.9980235>>.

⁵Keith H. Basso, *Wisdom Sits in Places: Landscape and Language among the Western Apache* (Albuquerque: University of New Mexico Press, 1996).

⁶Majuli, located in the Jorhat district of Assam, was designated as a district in 2016. At the beginning of the 20th century, it had an extent of 880 square kilometers, but erosion has reduced it to 352 square kilometers as of 2014.

⁷Nayanjot Lahiri, 'The Pre-Ahom Roots of Medieval Assam', *Social Scientist*, 1984, 60–69.

⁸Until an ideal tax module could be implemented on the chars and chaporis, Ahom kings classified them as faringati - reclaimed land, over and above the existing land under taxation, which needs to be documented, certified and be brought under tax regime in future.

⁹Peasants cultivating chars paid taxes according to number of their ploughs and hoes they owned.

¹⁰Arupjyoti Saikia, *The Unquiet River: A Biography of the Brahmaputra* (New Delhi: Oxford University Press, 2020).

¹¹From review of various newspaper articles and Assam Legislative Assembly Debates, 1950–2012.

¹²locally available reeds in the Brahmaputra valley.

¹³Pragjyotishpura is derived from Sanskrit words "Prag", "Jyotisha" and "Pura" meaning 'City of Eastern Light' otherwise 'City of Eastern Astrology' due to the fame of the region being as orthodox seat of astrology and astronomy. First mentions of this kingdom are found in the Ramayana and the Mahabharata. It later came to be associated with the historical Kamarupa region.

¹⁴James C. Scott, *The Art of Not Being Governed: An Anarchist History of Upland Southeast Asia*, Yale Agrarian Studies Series (New Haven London: Yale University Press, 2009).

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Emerging public space and adaptive socio-cultural practice along the edge of Balu River Dhaka

Salma Begum, KU Leuven (2019-23)
B. De Meulder, K. K. Ashraf (promoters)

abstract: Dhaka lies within an interconnected intersected river system that is part of the Bengal delta's hydrology. The intricate river system in which Dhaka is nested is, lush riparian green with seasonal variation being the primary features of monsoon-fed landscape define it as a hydrological city.

Although wetness and monsoons play an essential role in the landscape change and predominant structure of the megacity, water remains surprisingly absent from the present urbanism discourse of Dhaka. However, the current wave of urbanization in the city and subsequent land-grabbing of wetlands that threatens its resiliency, by severely compromising water structures and open space. Moreover, the close historical relationship between its water structures and open space is under immediate threat.

At present, the landscape transformations are largely torn between long-standing social-cultural practices and rising land costs. Dhaka's present urbanism practices forfeit the connection between seasonal variation and the rigid expansion of urban development. Simultaneously, the local community's traditional ecological knowledge (TEK) responds to contemporary and future challenges posed by the climate crisis. The paper will argue that Dhaka needs to rethink the role of hydrology in developing a new type of urbanism and public open space. The paper intends to understand the emerging cultural practice and adaptation of public open space as a geographical product within the hydrological landscape of the Balu River, Dhaka, Bangladesh. Informed by TEK and by fieldwork findings on riverine landscape transformation practices, the paper aims to evaluate the current riparian landscapes of Balu River critically.

keywords: hydrology, landscape, socio-culture practices, public open space, and adaptation

Framing Public Space within the Riparian Landscape

The three-dimensional interface between dry ground and the aquatic environment ranging from water edges, floodplains to vegetation, forms a zone of interaction that defines the riparian zone¹ where rain blurs the threshold line². Extending the concept with the matrix of hydrology creates a palette of green, blue, and muddy enclaves where public space emerges as a by-product within a riparian landscape in a riverine city. Furthermore, the nature of ephemerality of these public spaces is highly associated with seasonal changes. Thus, these public space experiences the confluence of dry and wetness that has impactful episodes shaping the socio-cultural practice of the people inhabiting this landscape. Brimming with water for a few months, part of these spaces inundates and reactivate water channels connected to major fluvial bodies. These embedded fluctuating grounds in the landscapes play a vital role in public living and culture, evidenced in everyday social and economic activities. Due to the changing nature and size of this shifting ground, it appropriates and adapts simultaneously occurred events ranging from every day to seasonal activities, as evident from the emerging socio-cultural practices along the Balu River edge on the East of Dhaka, which is nested within a riparian landscape (fig. 1).

The Balu River is a significant water transport route of

Dhaka that connects the city to the territorial hydrological network. Dhaka is of the southern tip of the Madhupur tract, standing on a high elevation than the eastern fringe, which is composed of Balu Rivers floodplains and remains underwater during the monsoon. Therefore, Balu River riparian landscape experiences wetness for an extended period in the year and undergoes socio-cultural adaptation based on water flux that has historical roots to 'living with water'.

This paper critically explores the landscape character and traditional way of settling with water to public space development based on intensive fieldwork. The fieldwork was done on weekdays and weekends from morning to evening from April to May, during pre-monsoon. A boat was taken for the whole day to map the practices and read the changing flux ground during the dry period in Dhaka. The fieldwork includes observation, aerial photographs by drone, GPS tracking, panoramas by iPhone 12pro, time-lapse images and videos captured by go pro, continuous photos for edges by canon 60d, on-site sketches, interviews. Continuous strips of the aerial photograph from 160m height by drone was taken to cover the ecology of the study area. Simultaneously time-lapse photos of edges and photos by camera was taken to map the elevation and ground cover. Moreover, panoramas of sections of the river and activities are captured by iPhone 12rpo. Data processing is done based on fieldwork 2021, under Geographic Information

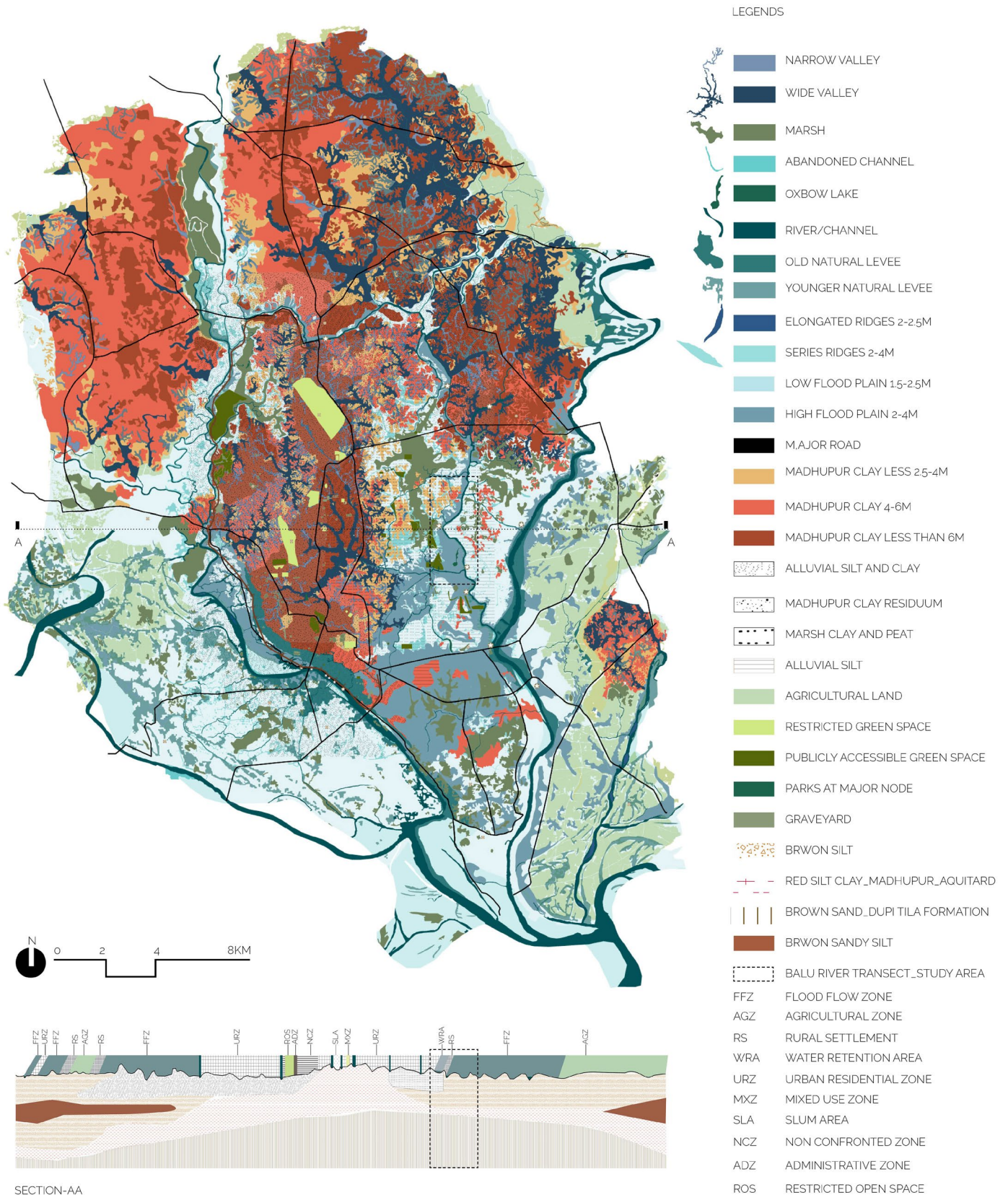


fig. 1. Grounding Balu river transect within Fluvial -Geomorphology of Dhaka, constellation of water and green, formation of aquifer (by author based on Dhaka DAP GIS 2015, Google earth pro-2019, existing open space of Dhaka by Habib, open street map 2018, Geomorphologic Map of Greater Dhaka City, Bangladesh BGR, Schematic geological cross section of Dhaka 2009 by Asian Disaster Preparedness Center and OYO International Corporation).

System (GIS) 2018 data, and google earth pro-2021.

along a certain route, nor is the land fixed and permanent
3??

The language of monsoon landscape

“The problem with deltaic land is its non-permanent nature, as silt is stored by rivers: rivers do not always flow

The impermanent and transient character of the monsoon landscape brings a unique identity to its place and people’s

adaptive use. As well as creates gradients of shades in a landscape of different size, shapes, and depths. Thus, it is hard to draw a line between the ground and shifting ground. The 'monsoon' originated from Arabic 'mawsim' means season, locally known as 'Barsa' in Bangla, refers to a rainy period from 'Asadh to Kartik' (June to October) in Bangladesh. This rainy season steps stealthily with a 'Kal Baishakhi' storm blown by the southwest monsoon winds that bring 70-85% of the annual total rainfall, often lasting for days⁴. Culturally the meaning is entangled with everyday living, emotions, sleep, sound, food habit, and music. The mood and movements of people are captivated by the atmosphere created by the torrential rain⁵. Since monsoon is a season of torrential rain, water is the primary factor that shapes the landscape. As the duration of 'Barsa' varies in different parts of the country, most of the country's floodplain remains inundated except the central part of Bangladesh. As a result, boats become the primary communication medium in rural areas where an improvised boat version- a floating raft locally crafted with Banana trunks known as 'vela' serves as life-saving devices that float across floodplains⁶.

The monsoon landscape constantly transforms with the water interplay between rising and receding, spreading, and shrinking, becoming wet to dry & vice versa. But the irony of monsoon is that it does not play out uniformly across the country. Instead, the rain brings both joy and griefs depending on the local geography, duration of 'Barsa' and proximity to the river of a place. While the timely rain brings happiness to the farmers & fishing community, on the contrary, the despair of losing home takes over the life of people living on the river edge locally known as 'Nodir dhar/par'or coast. Consequently, the continuous negotiation between constructing and deconstructing land is a natural phenomenon in a monsoon context that impacts the physiography of the place. Traditionally, deep ponds are dug to capture water and tackle excessive water in anticipation of the monsoon. So, the monsoon fed landscape combines both the natural and man-made open water bodies that dwell on water type and flux. Monsoon brings different aquatic flora, fauna and edible plants that are essential for the local community. 'Shapla' (lotus) is one of the prominent edible herbs of this season Besides, people living in the southern region await the season to grow and sell 'Guava'-often known as the tropics' apple⁷. Thus, the river becomes the ground of the 'Guava' floating market, which adds another dimension to the Swarupkathi's cultural landscape. Additionally, some aquatic plants like 'Kochuripana' (water-hyacinth) are available throughout the year that reduce pollution.

The riparian landscape of the Balu River (fig. 2) shows the unique combination of natural and artificial open water system together with lush green, wetland vegetation, open field, and floating aquatic plants. The state of the Balu River's riparian landscape is inscribed on ten landscape features: doba (ditch), jolabhumi (marsh), jola (swamps),

Khal (canals), sechkhal (irrigation canal), pukur (ponds), prakritik jolashy (natural depression), sobuj sthan (green space), kholai jaiga (open space), and krishi/dhani jomi (agricultural land) (fig. 3). The river passes through the extensive swamp of Beel Belai and falls at the confluence with Sitalakhshaya near Demra on the south of Dhaka. The peculiar landscape setting of Balu makes it more alluvial by silt deposition—perfect for crop production—evident in the current agricultural practices happening along the riverbeds. Even though monsoon punctuates everyday life, the present urbanization lacks the understanding resulting in unique landscape degradation.

A large part of the area from Nawara up to Fakirkhali had been filled in by sand and still is an ongoing process for future housing proposals by both private and public organizations. Geographically Balu River and the eastern fringe of Dhaka have low topographical elevation ranges from 2m-6m, composed of Madhapur clay, marshy clay and peat, and alluvial deposits. The marshy areas are the deepest part of the floodplain area with 1.3m-2m in height, clay, and peat, and mostly remain underwater. The hydrological infrastructure of the Balu River has been serving as retention basins to the city for more than centuries, and some areas are still to be reserved as retention area in Detail Area Plan (DAP).

Since 2001 the wetlands started to be compartmentalized and took the shape of sporadic and patchy, as shown in the map (fig. 3). From above, the built-up areas look nested within a constellation of pocket open spaces of activities and orchards with inundated vegetation layers. The shade of green accentuates as we move through the paddy fields along the river that sometimes appear as muddy green due to the partial conditioning of area with flood plains partly controlled by the irrigated canal. The soft organic edges change significantly during monsoon with water level difference from 3-6m. During the monsoon months, rice fields submerge entirely, leaving just the paddy's tiny green tips and remaining inundated for a significant time (fig. 3). As a result, ponds and canals habitually overflow. The inundated topographical variations create a gradient of wetness featured by the seasonal interplay among different wet conditions, water level, soil types, vegetation, and other landscape elements.

The River-From flowing line to Spine

The Balu River, a tributary of the Shitalakhshya River, is a living ecological entity with its hydraulic system, extensive swamps, seasonal cycle, and shifting flux ground. The river has existed as an essential geographic presence in the deltaic Dhaka landscape for centuries. The landscape here symbolizes a setting beyond the border where the land-water interface does not have fixed lines. The character is more of a negotiated territory between land and water—a transformative zone. Using the concept Howitt (2001) argues that, such 'liminal spaces' do not comply with lines of separation; instead, the land-water interface is the



fig. 2. Monsoon fed landscape, Physiography, and Public open space of Balu River (by author based on Dhaka DAP GIS 2018 and drone image by author & Huda during fieldwork 2021).

zones of interaction, transformation, transgression, and possibility⁹. Thus these 'liminal space' varies in size, shape, and forms depending on the geographic location and topographical variation. Bengal delta offers such 'liminal spaces' in multiple states where large scale riverbed & bare ground, known as 'maidan[i]', is a profoundly crucial public space with an informal and spontaneous character as defined by Cunha & Mathur¹⁰. In a context of shifting landscape, maidan has much to offer as a public realm, and it supports a broad spectrum of socio-cultural life.

Balu River is one of Dhaka city's significant rivers, connecting multiple sites of greater Dhaka ecologically. Moreover, the river is the spine of an ecological and agricultural lifeline—the only access to some parts of the eastern fringe of present Dhaka city. During pre-monsoon, the typical scenario for the 'liminal space' is choreographed with paddy cropping and husking, which goes under-water during monsoon. Balu River has a shifting landscape character on each transect along the edge with its topographic variations and socio-cultural use. The river seems to behave as a dynamic spine with episodes of varying events like a beaded necklace where each bead presents different kinds of space with activity emerging along the spine. Some pockets of beads are nested with everyday practices, whereas others are filled in with temporal (fig. 4). The pockets have their spatial quality and hosts multiple events from local life that includes a wide variety of ranges. The primary types are

the various kinds of settlements on low and high elevation; the 'Bazaar'[ii] system facilitates everyday life, agricultural production, productive landscape on different height along the edges, and pavilion kind restaurants. Besides, several other landscape character and activities occupy the riparian zones. For example, water collecting, bathing, drying clothes, hosting religious congregation such as Eid prayer, Durga puja fair, grazing cattle's, chat by local people, playing, exchange of goods, fish farming, tiny seasonal boathouses on the water for fishing, proposed housing development, and boat making. The evolving practices are 'place-based', which gives a local identity reflected by¹¹; in his book 'Territories of Difference', the concept of place-based is a 'notion of identity.'

The linear settlements on the west edges are surrounded by orchards and evolved on the natural levee where the southwestern part near the confluence of Balu River and Narai Canal hosts traditional living with mud, corrugated iron sheet and stilt structure. But moving towards the north, few urban dwellings include high rise buildings, creeps into the lowland. In contrast, the upper north part of the river near the Beraid area is situated on the high ground of Madhapur clay (2.6-4m) with a concentrated urbanized settlement.

The Bazaar system is one of the prominent activity hubs found along the Balu River. Bazaar has always been a

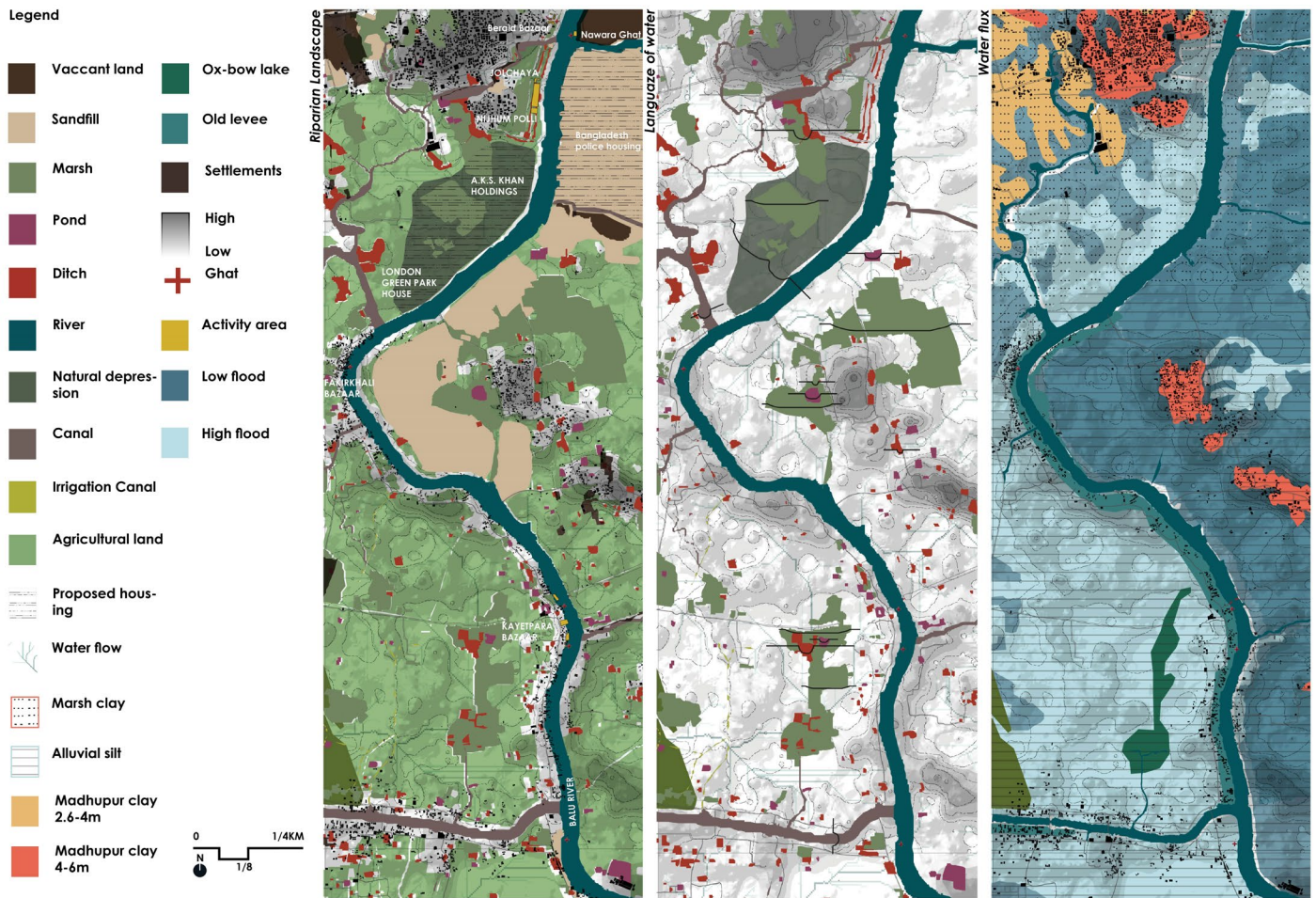


fig. 3. Riparian Landscape, Language of water, & Water flux (by author based on Dhaka DAP GIS 2018, google earth pro-2021, Geomorphologic Map of Greater Dhaka City, Bangladesh, by BGR, and fieldwork 2021).

culturally significant place and eventful trading centre developed on the parallel road to the river in the history of old Dhaka since the Mughal period¹². Therefore, Bazaar is an essential meeting place that holds cultural, religious, and commercial activities. Primarily Bazaar always emerges near the river, often on the floodplains in Dhaka, evident in the Balu River. The river has three mains Bazaar located approximately 2km interval along the edges- Kayetpara Bazaar, Fakirkhali Bazaar, and Beraid Bazaar. These Bazaars have different characters and timing. The Kayetpara Bazaar has some fixed shops of pucca^[iii] and semi-pucca^[iv] building. The open space hosts a weekly market roost on Saturday from morning to evening with a temporary tent structure locally known as 'Haat'^[v]. In mid-July, during monsoon on Thursday, the north part of the Kayetpara bazaar hosts a boat market. The Fakirkhali Bazaar is small & intimate in scale, nested between wetland and settlements along the river. Every day during the early morning from 8.30 am to 9.30 am, a temporary bazaar line up in the street for an hour; the same place also holds another night market from evening to night. During Eid, the congregations take place in the Eidgah field. The Beraid Bazaar is the third 'Ghat'^[vi]-Bazaar system in this spine that is more urbanized. Several small shops near the Beraid Ghat are open till 10 pm, creating vibrant public life. Seasonal vegetables and other products reach to Beraid from Rupganj through Nawara boat Ghat during pre-monsoon. During monsoon, the channel next to Nawra

boat Ghat activates and becomes the primary connection to the Sityalakhya River and transport the goods and foods through this channel. Apart from the economic activity, this place performs as a recreational area for the public as a picnic spot, boating, and fishing. During the Hindu festival, Durga puja, the site hosts fair. The Beraid Ghat is the only social—economic and cultural place within 4km proximity of this part of the city.

The Enculturation of the spaces In-between

According to Low (2003) 'Social and economic relations produces space'¹³. These spaces evolved as a geographical by-product as a part of a monsoon fed landscape in the riverine context of Bengal. Dhaka's peripheral riparian landscape on the Balu River seems to develop such areas in the different topographical elevation based on water flux. Since monsoon is about wetness, the interface between land and water is varied and fickle. In south-east Asia, the land-water interface carries cultural meaning. In the Gangetic plains, mainly four elements appropriate the land-water interface: landscape symbolism, social functions, religious rituals, and architectural response¹⁴. The most profound land-water interface, a dominant landscape feature, is the Ghat that provides access to varying water level. In India, Ghats manifests symbolic and religious significance¹⁵, inviting people to expand their public life¹⁶. The Ghat is often a constellation of steps, 'pavilions'^[vii], arcades, open terraces, and 'chattris'^[viii] that hosts episodes of dynamic

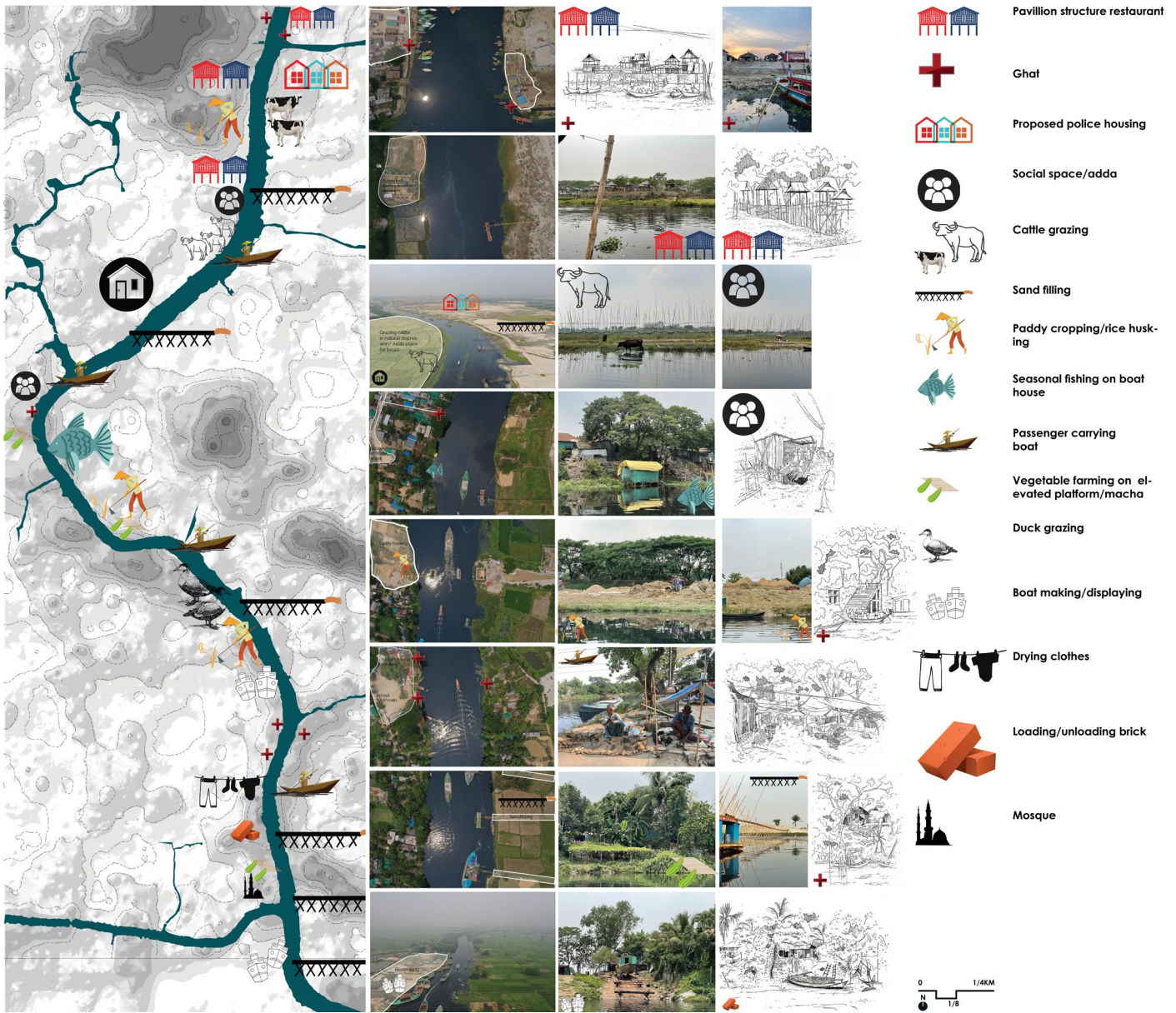


fig. 4. Emerging practices along Balu River (by author based on DAP GIS 2018, google earth pro-2021, fieldwork 2021, and workshop 2021).

activities found across different parts of India.

Ashraf (2014) argues about the Ghat, dig-and-mound, and 'elevated macha'^[ix], as assorted spatial typologies, turned into practice and method to dwell in delta within a linked system but mainly as an isolated phenomenon¹⁷. So, in East Bengal, the concept and evolution of Ghat are not fully manifested by the religious attributes instead a tool of the geo-climatic factor with a different impression carrying the similar essence of the public realm. The Ghats in this part of Bengal exist in varying forms and scales, from small scale domestic pond to large scale river hubs. Besides, they evolve spontaneously on a different scale based on the emerging activity and settlement rather than stretching more than a kilometre linearly.

Balu River's existing settlement still follows the water logic and exploits the land-water interface with different social and ecological practices. The most archetypal scenario for the tie between traditional households and water found in

the eastern belt of Balu is the Ghat. A bamboo platform or bridge in a low elevation is often considered as one of the Ghat forms. Besides, in a higher slope gradient, the houses are accessed through the muddy slope stabilized with sandbags portrays a varied form of Ghat evident in the present river edge. However, while the residential connection to water shows a more traditional way, the commercial Ghats depict a different character. These are steps made of concrete like Indian Ghats and hosts multiple economic and social activity as prevails in The Kayetpara Bazaar Ghat, Beraid Ghat, and Nawara Ghat. Thus, Ghat and Bazaar have an intricate relationship that is completely guided by hydrological infrastructure. The river is the basis of the development of the Bazaar and Haat, which eventually forms the Ghat in both forms formally and informally. The Ghat then starts to appropriate human activity and acts as a point of departure for the passenger.

The transient spaces between land and water also termed a 'riparian buffer'¹⁸ zone with an own system of interactions



fig. 5. Stilt shop house with wooden deck —a medium of land water interface as social engagement, pavillion like restaurants on stilt -traditional way of settling with water, and Boat house for fishing-profound interface between land & water used for temporary living (by author based on fieldwork 2021).

within the wetland vegetation systems. The vegetation system consists of local water hyacinth, shrubs, grasses, trees, and productive farming. The vegetation system consists of local water hyacinth, shrubs, grasses, trees, and productive farming. For example, in the Fakirkhali Bazaar of the Balu River, the shops are built within the buffer area on stilt over the wetland vegetation. Interestingly the shop and mainland are connected through an open-air bamboo deck which becomes shaded once the shop door is open. This intimate scale space in between is the place for regular conversation or ‘adda’^[x] (fig. 5).

The locals build stilt structures to house different functions, as evident in the Jolchaya restaurants (fig. 5) and the Nawara Ghat restaurant based on traditional ecological knowledge and resilient practices embedded within the culture and climate, as mentioned by Watson¹⁹. Besides, a small fisherman boathouse on low height stilt is a prominent practice. Thus, fishing culture and boat houses (fig. 5) becomes a cultural landscape phenomenon during monsoon. In addition, seasonal changes often initiate the cultural practice—the buffer areas between land and water used for constructing boats in the dry season transform into a water ground and display boats in the local fair during wetness.

Conclusion

Emerging practices along the Balu River still resonates with the hydrology on which future urbanism can reflect. Contemplating that the design of new settlements and public space can integrate the following elements based on fluctuating hydrology: making platforms in the form of Ghat, elevated platform in the form of a floating bamboo deck, pavilion on stilts, adjustable platform, and raised mounds. A matrix of Ghat of different form, size and shape based on functional need can be adopted in developing a new type of public space following the water logic that

supports varied social, economic activities from sacred to profane. An elevated system is another way of settling with water. Thus, settlements and the public realm can emerge on a raised platform that allows unimpeded water to flow through the porous ground and an adjustable platform that moves with the water level. Besides, for future urbanism and public space design, fragmented raising mounds based on archipelagic concept responding to different water level might create a different dialect between the land and water. The current practice of productive landscape on a ‘macha’[xi] system with orchards on a floating unit can play a crucial role in the new settlement pattern. In addition, a combination of a water container system in the form of a deep pond and a surface well can be an efficient strategy to tackle water flux during the monsoon. Since fishing culture is a deep-rooted cultural landscape for monsoon city, fishing points can be an essential element in public space design. By identifying the essential practices, this paper tried to understand the socio-cultural conditions embedded within the landscape to create a cohesive narrative of co-existence. Additionally, it intended to recapture the essence of traditional practices to find a new expression for future urbanism based on hydrological dynamics. Besides, the study identified the in-between spaces that do not have a fixed function rather spontaneously appropriated by the locals based on seasonal changes. The wet ground becomes an extended dry ground from time to time and holds multidimensional activities inscribed within the shifting landscape. This paper highlighted the current social and cultural practices that still integrate water logic into their everyday system by understanding the transformative land-water dynamics.

Notes

^[i]Maidan-A maidan is commonly described as a “large plain,” an “open field,” or a “vast ground.” Maidan exemplifies a bare ground appropriated for multiple uses such as games, fairs,

picnics, rallies, markets, planting, cattle grazing, etc., some of which occur on it simultaneously. Thus, is often a riverbed or a tank bed that has a changing nature.

^[iii]Pucca-A pucca house is consisted of fixed wall (Burnt brick, stones, cement concrete, timber, etc) and roof (tiles, Galvanised Corrugated Iron, asbestos cement sheet, Reinforced Brick Concrete, Reinforced Cement Concrete, and timber, etc.) sheets with solid material.

^[iv]Semi-pucca- A house that has fixed walls made up of pucca material, but roof is made up of the bamboo, Corrugated Iron sheet, etc.

^[v]Haat -It is an open-air periodic market, a trading venue, for exchanging goods and services roost once in a week depending on the locality. Sometimes haats are specifically dedicated for single use purpose, such as gorur haat (Cow market) especially seen during Eid ul adha. Sometimes for special clothing such as saree-traditional wear of Bengal, Jamndani haat (Jamndani-a kind muslin saree).

^[vi]Ghat-It is a form of land-water interface. The word 'Ghat' is originated from sanskrit word 'Ghatta', meaning a landing place or steps to the river. The Ghat is linear in shape, runs parallel to the river, and allow access to water at any height. Sometimes act as retaining structure and protect the settlement from getting wiped out during high tide. But in East Bengal besides linear steps traditionally the Ghat is built by curving out mud, with bamboo, and wood known as Ghatla, that serves multiple purposes ranging from access to a place, household course to economic hub. Many forms of Ghat exist now, which is more urban in terms of materiality.

^[vii]Pavilion-A shaded structure that allows air to flow but protects from rain and support several activities such as social interaction, resting, performing religious ceremony, practicing raga, etc.

^[viii]Chattri-means 'canopy' or 'umbrella'. It is a small dome roofed pavilion, an Indo-Islamic architectural element originating as a canopy above tombs.

^[ix]Elevated macha-Improvised platform on bamboo stilts.

^[x]Adda- is a traditional term in Bengal refers to conversation among members from the same socio-economic strata.

^[xi]Macha- A bamboo trellis locally crafted used for producing vegetables.

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The Terraces of Saida (Lebanon) and the Stewardship of the Earth

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B. De Meulder, M. Loopmans (promoters)

abstract: Lebanon is going through a devastating crisis and there is a general fear of the start of famine. Meanwhile, with the liberalization of the economy over the past century, green and productive landscapes have fallen into disrepair. Encouraged by laissez-faire policies, people have come to look at their terraced landscapes, orchards and forests as mere real-estates awaiting construction.

In the aim of informing the current work of urban and environmental activists, this paper will look at the times when the terraces were in better shape. The paper scans throughout the history of greater Saida, with its variety of landscapes, to understand, practically speaking, what were the economic, social and political systems that encouraged the maintenance of the terraces and the thriving of vegetation in the past. The paper as well discusses the flaws of such systems.

keywords: productive landscapes, commons, pre-modern, land-management, soil

Introduction

Lebanon is going through a devastating crisis; many are fearing the beginning of famine¹. With the liberalization of the economy over the past century, green and productive landscapes have fallen into disrepair. Encouraged by laissez-faire policies, people have come to look at their terraced landscapes, orchards and forests as mere real-estates awaiting construction. And while the land has always been generous in assuring their subsistence in the past, they have long forgotten its abundance and have turned to the political patrons begging for favors.

While those tragic times are unfolding, the agricultural terraces of Lebanon are in a state of desolation. Such terraces are a symbol of a past when a lot of sweat was poured by ancestors to tame the earth. So extensive was their work, that it made Adon, the god of fertility and renewal, bleed through the rivers that carry the sediments of the deforested mountains and the tilled earth².

Many wise people have warned against neglecting the terraces; their deterioration would indicate an accelerated depletion of the soil³, which, in its turn, has been well documented to be in direct link with the end of civilizations⁴. Civilization for this part of the world is long gone.

However, since the end of an era is the beginning of a new one, this paper is trying to learn from the better times to draw lessons for the future. In the aim of informing the current work of urban and environmental activists, this paper will look at the times when the terraces were in better shape. Times when the local people were actively playing the role of stewards of the earth; building a good relation to the soil which in return assured their health⁵.

This paper will focus on the greater Saida region with its variety of landscapes and different land management systems and regimes of cooperation around commons. It will try to understand what were the economic, social and political systems that encouraged the maintenance of the terraces and the thriving of vegetation? But as well, what were the flaws of such systems? What encouraged people to till the slopes that are at risk of erosion? What were the moments and circumstances that made people more in control of their land resources and independent from the greed of patrons and landlords? (fig. 1)

In other words, for the sake of a more sustainable future, this research aims to draw inspiration from pre-modern and pre-neoliberal land related practices and jurisprudence, in search of practices which provided land owners relative autonomy from the state and emphasized the control of communities over their land resources.

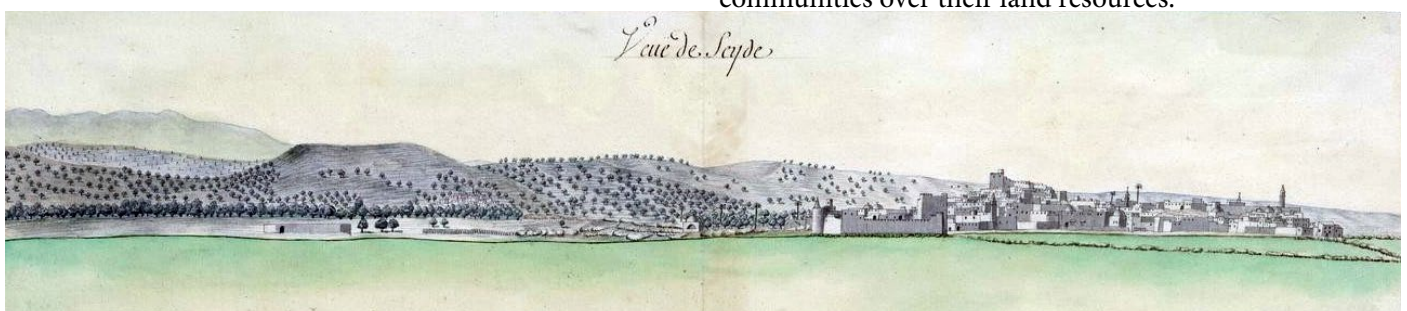


fig. 1. View on Saida, 1685, by Etienne Gravier (the Marquis d'Ortieres) (Bibliothèque nationale de France, <https://gallica.bnf.fr/ark:/12148/btv1b55000304m>).

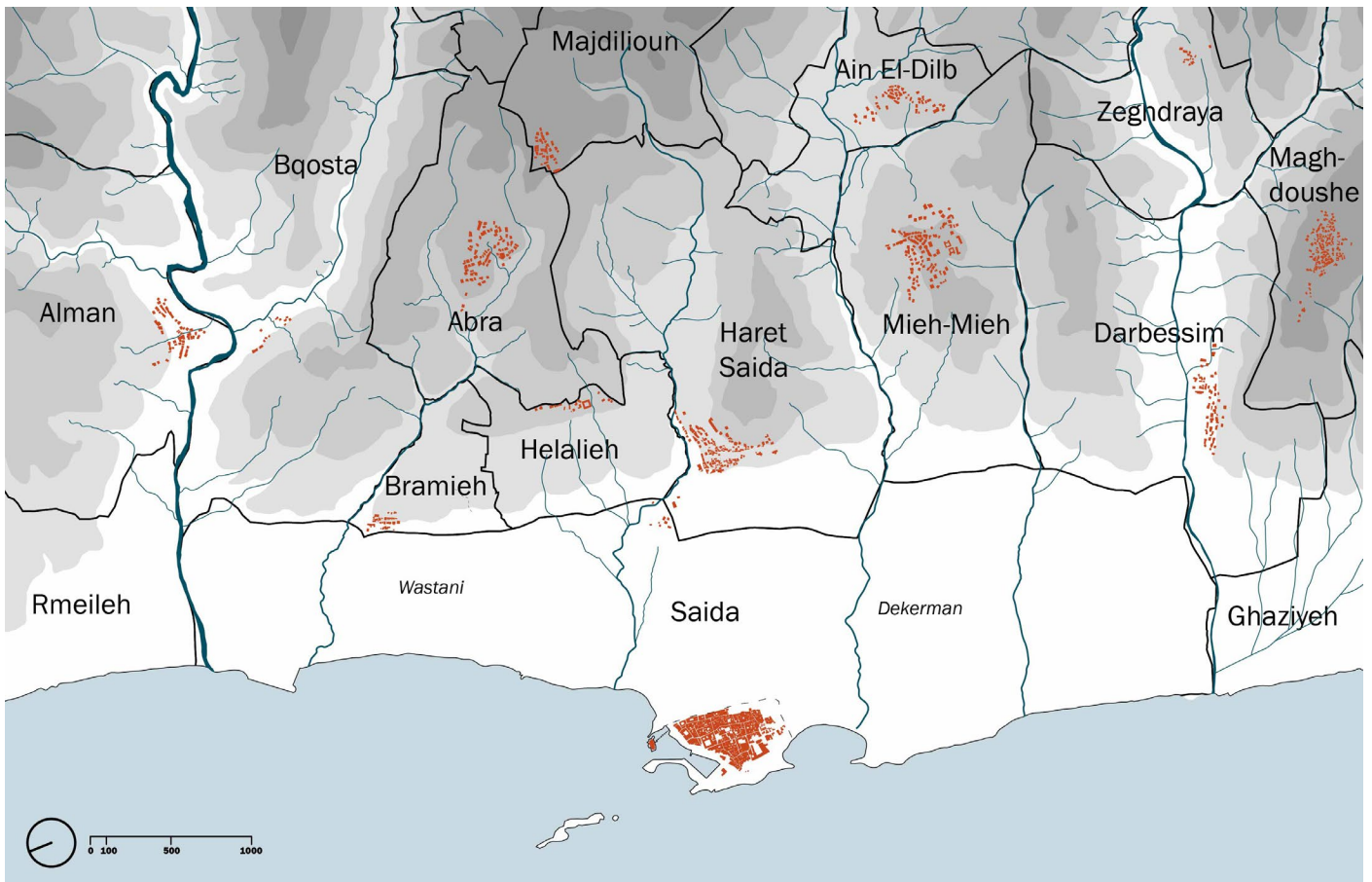


fig. 2. Map of municipalities in Greater Saida region with the location of the pre-modern villages and towns (Lyne Jabri, 'Dis/Re-Secting Saida the City of the Eternal Spring : An Urbanistic Investigation on the Counter Figure of Saida' (Masters thesis, KULeuven, 2012)).

A- Bird's Eye View of Saida

Saida is a city that sits between the slopes of Mount Lebanon and the Mediterranean. The first line of hills of the mountain retrieve by an approximate 1.5 km, leaving behind a very rich coastal plain where irrigated orchards have been flourishing since historic times. This space of the orchards in addition to the old town of Saida, that constitutes a continuous history of more than 5,000 years, came to form in the 19th century the municipality of Saida. A bird's eye view on Saida today would reveal one continuous sprawl on the hills. In reality, the hills of Saida, where mainly non-irrigated agriculture flourished, including olive trees, belonged to different villages, and to different people that came to settle in those hills, mainly, at the beginning of the 18th century. Those people were brought either by feudal landlords or directly by the Ottoman state in order to attend/care the earth and make it productive⁶. As a matter of fact, those hills constitute today separate municipalities. (fig. 2)

Therefore, even if greater Saida is one continuous sprawl today, a clear line can be discerned between the coastal plain and the hills. Interestingly, this line is at the foothill where lies the ancient Sidon Aqueduct that has been irrigating the coastal plain since at least the Roman and Hellenistic times⁷. This line is the clear delimitation between the hills and the coast; between the irrigated and

the non-irrigated fields. And therefore, the delimitation between two different systems of tending to the earth and that one can learn from in a comparative manner.(fig. 3)

B- The Beginnings of Agriculture and Human Greed

There is no extensive research on how the land was historically managed in the whereabouts of Saida, however it is safe to draw a picture of the area from the general historical descriptions and mythologies of the bigger regional context. In a more general sense, the region of Saida belongs to what is today renowned as the Fertile Crescent. A region where in the times of the mid-Holocene: "Men lived in cities and cultivated the land. Where irrigation could not reach, the farmland gave way to rougher country in which shepherds grazed their flocks, ever on the look-out for wolves and lions. And further off still was the 'wild' (...) Several months' journey across this wilderness, over many ranges of mountains, there was a sacred Forest of Cedar (...) It was guarded for the gods by a fearsome ogre, the terrible Humbaba⁸. 'Humbaba, his voice is the Deluge, his speech is fire, and his breath is death!⁹. Such were the characteristics of the protector of the sacred Forest of Cedar before he was slayed by Gilgamesh; the Sumerian king of Uruk.

The Epic of Gilgamesh from around the second millennium BCE is perhaps a clear indication of the beginning of

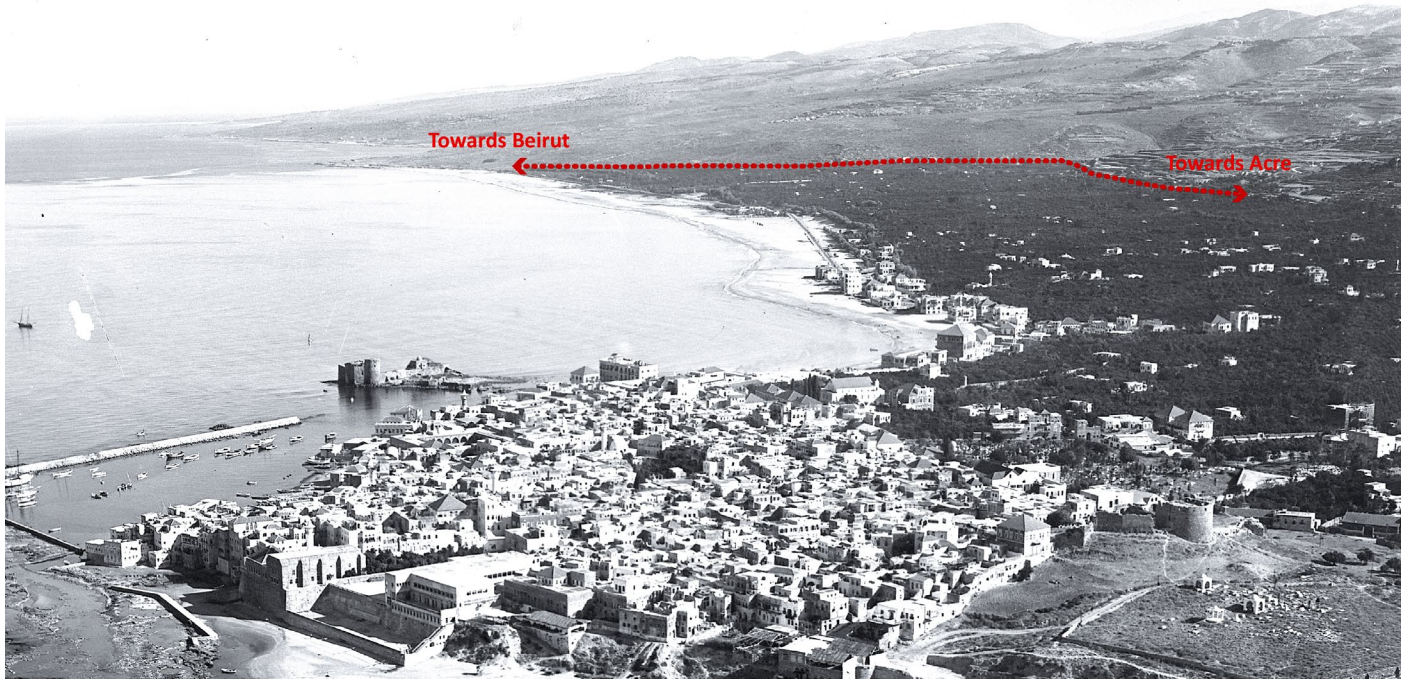


fig. 3. An aerial view of the Saida from 1938; a clear line can be discerned between the coast and the hills (Aerial view provided by the Lebanese Armed Forces': Directorate of Geographic Affairs).

human exploitation of mount Lebanon. Such exploitation perhaps gave way to yet another mythical story from the Phoenician times, that of the killing of Adonis.

Adonis is 'a young fertility god, (...) and represents death and rebirth in an oriental vegetation cult. He is also known as the agricultural divinity named Eshmun'¹⁰. In his Eshmun version, he is as well a God of healing and has a temple dedicated to his reverence on the Awali River to the north of Saida. 'The story goes that while out hunting, Adonis was killed by a wild boar'¹¹. For the Phoenicians, the red colored rivers, that were tinted by the sediments with the yearly melting of snow of the tilled mountains, symbolized the bleeding of Adonis; a phenomenon that was worth the tears of women, who during a festivity in July dedicated to Adonis would abstain from eating anything that has been 'ground in a mill'¹².

In a recent article, Rami Zurayk describes beautifully this relation between the Phoenician mythology and the actual state of the Lebanese mountains: 'The early settlers of the Lebanon mountain must have quickly understood that letting the land bleed into the river will eventually kill it. Yet, they needed to clear some of the protective forest in order to plow, plant, produce food, build houses, heat themselves, and survive. To control erosion, they crafted the slopes with thousands of terraces (...) On these gigantic staircases, they cultivated the Mediterranean Triad: wheat, olive, and grape. Where slopes were too steep to terrace, they protected the natural vegetation of oak and terebinth. These slopes became their gazing grounds. They kept goats, which are hardened climbers and picky browsers. Using an elaborate system of crop rotation and rangeland protection, they must have come close to achieving an agroecological balance'.

In his article, Zurayk refers to a scientific research conducted on pollen data around the Mediterranean¹³. This study reveals that despite the climatic aridity during the mid-Holocene, and unlike trends in other parts of the Mediterranean, the Levant witnessed an increased 'tree cover' that was due to human activity mainly the cultivation of olive tree that was especially chosen for its ability to withstand drought¹⁴.

During the Hellenistic and Persian periods, the Phoenician city states (such as the ancient city of Sidon) were well established on the coast. The Sidon Aqueduct that dates back to that era¹⁵ is a clear signal of the flourishing of an irrigated agriculture on the coastal plain. On the other hand, there are strong indications that the now inhabited mountains of Humbaba, which had reached a state of 'agroecological balance'¹⁶, were the site of royal preserve¹⁷. This continued during the Roman era. In fact, in the second century A.D., after a personal tour of the mountains, Emperor Hadrian decided to designate what remains of forests in Mount Lebanon as his personal imperial domain. He ordered 'Latin inscriptions to be cut into the exposed rock surfaces (...) along the limits of the forest'¹⁸. Such inscription would read in English as follows: 'Boundary of the Forests of the Emperor Hadrian Augustus; Four Species of Trees The Remainder are Private'¹⁹.

The reserve imposed on the Forests of Lebanon were not for the 'purpose of ecological protection'; 'Hadrian's motivation was far more pragmatic and expedient'²⁰. It was probably that he wanted to reserve the designated trees of cedar, oak, juniper and spruce for the sole exploitation of his imperial army, while keeping the farmlands and vegetation in the hands of 'private' owners as the plate clearly indicates. In

fact, another study on pollen in the region indicates a trend of heavy deforestation during the Roman era²¹.

Actually, 'the decline of the Roman Empire is a story of deforestation, soil exhaustion and erosion. From Spain to Palestine there are no forests left on the Mediterranean littoral; the region is pronouncedly arid instead of having the humid character of forest clad-land, and most of its former bounteously rich top-soil is lying at the bottom of the sea'²².

It can be assumed that Mount Lebanon 'private' estates (indicated in Emperor Hadrian's inscriptions), like many other parts of Byzantium, and as was the case during the Roman Empire, belonged to aristocratic families who by then lived in Constantinople²³ who managed their lands from a distance utilizing local paid labor or slave labor²⁴. Wrench describes the greed of such elite, who had left their ancestral way of tending the earth in their small family farms in Latium, and have turned their attention to the luxuries and pleasures of life in the cities. Leaving the task of food provision to the slaves and the paid labor in their distant estates²⁵. In fact, when the early Muslims conquered the Levant, the Romans and their successors from Constantinople had left Lebanon in a state of desolation.

C- The Islamic Conquest and the Revival of Barren Lands

The early Muslims divided conquered land in two categories, those taken by ways of treaty (*şulhan*) and those taken by force ('*anwatan*)²⁶. While what could be considered as *şulhan* and '*anwatan* is a matter of debate²⁷, practically speaking, in the Levant, the early Muslim conquerors kept the same traditions of land management in place. At the very beginning of Islamic rule, there was minimal disruption in the agricultural country side²⁸. In fact, at the very beginning, Umar ibn al-Khaţţab, the companion of the Islamic prophet Mohamad and the second Caliph, 'instructed his commanders to settle the *muqatila* ([the army members]) in the towns and not to allow them to go to villages (...) The conquerors were discouraged, sometimes forbidden to engage in agriculture'. There was a 'simplification of the Byzantine tax system'. And, in several cases, taxes were even levied. It was only after Yazid and the beginning of the Umayyad rule that the land tax of *kharaj* was imposed²⁹.

From the perspective of ownership, it was clear that lands that were not abandoned were left to their old proprietors, including common lands³⁰. On the other hand, lands whose original owners fled, and who in the case of the Levant belonged to the Byzantines elites, as well as lands that were never appropriated or cultivated (such as the deserts, and probably steep slopes), were now the domain of the Muslim Community (the *Umma*), represented by the Caliph³¹.

In what is today the greater Saida region, the differentiation between the two types of lands is very clear by what until

today in the land registries reads as *mulk* lands (or private ownership) and what reads as *miri* lands (or what belongs to the prince). Interestingly, the *mulk* lands coincides with the irrigated coastal lands, whereas the *miri* lands are found in on the adjacent hills³². This differentiation between the coast and the hills, may be an indication that the lands of the adjacent hills were left without custodians with the Muslim conquest and therefore were turned to the Caliph. In the case of the conquered '*anwatan* lands in the Levant, there was a need to protect them from potential Byzantine threat and on the other hand there was a need to make them productive in order to draw taxes for state treasury (*beyt el-mal*). This was when the Ummayyads brought in tribes from Arabia³³ and started giving them pieces of '*anwatan* lands as *qati'a* [a section of land]³⁴. It was the birth of the Islamic *Iqta'* system. It is interesting to note that some of the Arabian *Iqta'* tribes from that era that are mentioned by Lebanese historian, Fawaz Traboulsi, are still playing the role of patrons in today's clientelistic system.

While today such tribal families are full-fledged owners of their estates, in those early days of the Islamic era, their domains were granted to them on the principle of *ihya' el ard* which would translate to reviving the earth³⁵. It was per the command of Islamic prophet Mohamad that 'If anyone makes a barren land productive, then it belongs to him'. And vice versa, if granted land is not made productive, after a delay of three years, it is granted to someone else³⁶. What is quite interesting about this early *Iqta'* system is that it placed the landlords of *iqta'* at the center of their granted *qati'a*. Unlike the Romans and the Byzantines, those landlords lived on their lands overlooking all its affairs.

D- The *Iqta'* and the landlords of the hills

Overlooking the orchards of Saida, two palaces stand on the hills; those belonging to the famous Druze family of Jumblat. They attest to a time when those hills were governed by prominent Druze landlords. It was the tormented times of the early 19th century when Mount Lebanon was still governed by an *iqta'* system. (fig. 4)

According to Traboulsi³⁷: 'The Emirate of Mount Lebanon under Ottoman rule was run according to the *iqta'* system, or *iltizam*, which allotted tax-farming rights in mountainous or desert areas to ethnic or tribal chiefs under the control of the Ottoman *walis*. The holders of the *iqta'*, the *muqata'ji* families, enjoyed varying degrees of autonomy in running the affairs of their *iqta'*s as long as they provided the High Porte with the fixed amount of purses, supplied armed men to the authorities when in need and generally kept order in the regions under their control.'

It is said that Christian Maronite and Melkite Catholics families were brought to settle on the hills of Saida in the early 18th century³⁸ to work the land and act as a buffer between the Druzes and the Shi'ts who were warring each other after the Shi'ts were pushed away from the area³⁹.



fig. 4. An aerial view of the Saida from 1938; a clear line can be discerned between the coast and the hills (Picture taken by Ismael Sheikh Hassan, 2012).

In fact, the history of Mount Lebanon is described by the Marxist historian, Fawaz Traboulsi, as being that of a constant conflict on different levels⁴⁰. Not only between the different communities that were classified according to a millet system that divided them according their religious belonging. But as well between the muqata'ji families and the Ottoman Governors and amongst the muqata'ji families themselves over the control of land. Conflict was as well common between the muqata'ji families and the 'amma (or the commoners) who were mostly peasants with frequent revolts erupting; whereas commoners from different sectarian backgrounds would come together to contest the power of certain muqata'ji families⁴¹. Such revolts that are locally called 'ammyeh became quite frequent in the 19th century, which to many is an indication of the ruthless and greedy character of the muqata'ji class⁴².

The dreadful face of the iqta' is often mentioned by authors⁴³. It is important to mention the other face of the coin that was put forth by Hariq. Hariq draws the line between the iqta' system of Lebanon and other feudal systems which he describes as being 'a pluralist system in which political subordination among lords is conjoined with political supremacy within the lord's particular domain, which was lacking in the Ottoman governmental system'⁴⁴.

In Mount Lebanon, the rigid political hierarchies that are often imagined to exist in feudal systems⁴⁵ are in reality often contested by the constant state of conflict that is so

well recounted in Traboulsi's first four chapters of his book *The A History of Modern Lebanon*⁴⁶.

Hariq describes a system in Ottoman Mount Lebanon, that is 'neither an aristocratic type of government nor a tribal one, but that had some points in common with both'⁴⁷. Prior to the different reforms of the 19th century, this system comprised of the Sultan governing from his distant place in Istanbul, his appointed Walis of Saida and Tripoli who were overlooking the state of affairs in the different parts of Mount Lebanon that fell under their responsibility. There was the muqata'ji families, or the mana'eb [of appointed ranks], who came together to appoint an al-Amir al-Hakim [the governing prince] from amongst their ranks and who's investiture would be acknowledged and granted by the Walis (on behalf of the Sultan) on a yearly basis⁴⁸.

Hariq describes a social order that had as a 'major legitimizing principle or source of authority' 'social norms' which 'included veneration for the ways of the elders, respect for each person's place and station in the social order, and avoidance of breaking the rules appertaining to each class and title'⁴⁹.

Within this social order, however, one cannot overlook the power struggle that existed between the muqata'ji. The election of al-Amir al-Hakim opened up the possibility of power struggle between the mana'ib (or muqata'ji) who

had to seek alliance from amongst their ranks, but as well sought Ottoman alliance, and even foreign alliance to strengthen their position.

More importantly, a muqata'ji needed the constant help and loyalty of those under his protection that he would refer to as 'nasuna' (our people), who did not necessarily belong to the same sectarian belonging as himself. Which stands in contrast with today's clientelistic system. 'The fact that his riches and power (...) depended upon the work and support of his subjects restrained the muqata'ji from acting despotically toward them'⁵⁰.

In general terms, the Ottoman High Porte required a 'fixed amount of purses' in return for granting an iqta' to a certain person from a ranking order⁵¹. From his side the muqata'ji could charge the peasants leasing the land as much as he wanted. Which could amount in some cases to quarter, third or half the produce depending on the muzara' leasing contract⁵².

It should be noted that the common farming contracts in Mount Lebanon, like was the case in other areas under Islamic ruling in pre-modern times, and at least theoretically speaking, followed the Islamic tradition of avoiding riba [usury]⁵³. Whereas for two parties to engage in a business transaction, and to avoid the forbidden riba, both parties had to be susceptible to gain or loss. If there is gain from the business deal, both parties win, and if there is loss, both parties lose⁵⁴. Of course, in Mount Lebanon things were not as ideal. Actually, land tax was often placed by the muqata'jis on the sole shoulders of the peasants to pay⁵⁵.

Nevertheless, this note on avoidance of riba is quite important, because it meant that for the muqata'ji families to make profit, they had to make sure that the peasant family leasing the land maintained it for it to be productive. Of course, this was not the time of modern agricultural methods and machinery, and people had to rely on ancient, less intrusive, methods of taking care of the land and making it fertile.

In fact, till today what remains of the Jumblat domain testifies of that past when the landlords of the hills were the stewards of the earth that befell under their rein. Together with their 'nasuna'; their peasant partners are the authors of terraced slopes and planted them with olive trees for those places that were not irrigated. And wherever a plateau and water were available, citrus trees were a possibility. Guérin, a French orientalist traveller, testifies to this reality. While passing through the domain of the Jumblats witnesses 'plantations of fig, pomegranate and citrus trees' and 'a plateau with a very fertile soil'⁵⁶.

E- The Modernisation and the Dreadful Face of Iqta'

The synergy that existed between the muqata'jis and their

people (nasuna), would soon change during the course of 19th century, which is indicated by the amount of ammiyas (peasant revolts) and inter-sectarian rifts. Other than European interference into Lebanese affairs, there are strong indication that the modernizing land-reforms introduced by the Ottomans were as much to blame⁵⁷.

One thing is clear, after the iqta' class had gained so much power, the Tanzimat Reform Edict in 1839 century was trying to recentralize it in the hands of the Porte. It aimed at weakening the multazims who act as middlemen between the people and the Porte and who were represented by the muqata'ji class in the mountains. And, transformed their position into a mere bureaucratic one of tax collectors that would become directly bound to centralized State decisions⁵⁸.

A land registry was put in place in the mid-19th century. And, whereas miri lands so far acted as commons that belonged only to those who 'revive barren lands', they started becoming private real estates of those in power who are able to pay the most for iltizam.

The 19th century was an era of major changes, whereas the elite families of Lebanon turned into a class of oppressors of peasants. And while Tanzimat paved the way for private ownership, the peasants were always reluctant to register their land in order to avoid taxation⁵⁹. Their lands in many cases ended up falling in the hands of the old aristocracy of the mountains or alternatively in the hands of the new class of money lenders⁶⁰.

F- Delicious Gardens Resisting Feudalism

While the mountains were boiling in conflicts. Interestingly the coast of Saida saw relative peace and vegetations that Guérin described as such: 'Vast and delicious gardens' (...) 'surround Saida and incircle it with a fresh a verdant oasis.' A bountiful coastal plain with 'a lot of fruit trees and many leguminous plants(...)' The fruits harvested there are considered to be the best in Syria⁶¹.

In fact, such gardens described by Guérin, to very few exceptions, never fell under the rule of the muqata'ji families. As described earlier, those lands since the early Islamic Conquests, remained in the hand of their original people, since they were probably considered as sulhan land. And this is probably the main reason why Saida's prominent historian, Talal Majzoub considered that Saida was able to resist the proliferation of feudalism during Ottoman times⁶².

Furthermore, and while in the hills large estates were being consolidated as private property in the hands of powerful previous muqata'ji families, the coastal plain saw a reversed trend, that of the fragmentation of estates into small pieces. More and more bostanji (farmer) families of Saida became owners of their bostans (orchards).



fig. 5. Map of historic boundaries of the orchards to the north of Saida superimposed on the current cadastral map (Map Produced by Lil-Madina Initiative, <https://lilmadinainitiative.wordpress.com/#jp-carousel-252>).

This reality was mainly the result of land distribution practices known as *mugharasa*, which were another form of contract between landowners and farm laborers. Through such contracts, laborers planting trees and tending the land were entitled to be paid not only through a percentage of the harvest. But also, through obtaining, upon the termination of their contracts, a specific percentage of the land itself in which they worked (sometimes up to 50%)⁶³. (fig. 5)

The French Mandate and the birth of modern Lebanon saw the end of the *iltizam* system. Lands that were *miri*, were equated with *mulk* lands. The introduction of the modern liberal system saw the end of an era when a piece of land was worth its fertility, and the beginning of the perception that land is a real estate, worth how much it could be constructed.

Interestingly, the very first project of land subdivision came at the hand of the *Jumblats* of *Bramieh* in the 1950s⁶⁴. On the other hand, the coastal orchards continued to resist such trends of subdivision and construction until the 1980s and the forced re-allotment projects and street opening of that time.

While many reasons could explain the resistance of the coastal orchards to modern market trends. But one thing is clear, is that *bostanji* families held on to their small *mulks* and continued to revive the earth.

Conclusion

Embedded in the history of pre-modern and pre-capitalist Saida, exists a variety of land practices that provide a critique to neoliberalism and important values that can structure a more equitable society that is liberated from its confines.

After this historical overview of Saida, it becomes clear that there are two main aspects of pre-modern land-management that one can retain. On one hand there are aspects that are related to the categorization of land. It becomes clear that, while large estates that theoretically belonged to the State, that were in the form of *miri* lands, were often a source of conflict between proprietors and farm labor. On such lands the condition of the soil and the terraces depended on the state of political affairs and the good will of those in power.

On the other hand, smaller *mulk* lands that remained in the hands of their *bostanji* [farmer] owners were able to resist any despotism, and even liberalization and market trends, and continued to be well maintained regardless of state affairs.

Another aspect of pre-modern land practices that one can learn from for a more equitable future, and that perhaps need more in-depth attention, is Islamic jurisprudence

and traditions relating to agricultural land management. What is fascinating about such traditions is the fact they disapproved of two ideas that today are primary tools of neoliberal economies and neoliberal urban development practices.

The first is the forbidding of *riba* [usury], or what might be called today interest, as it represents an opposition to the accumulation of wealth (including private property in the form of land) without taking risk⁶⁵. The second practice relates to the frowning on land accumulation without making it productive, which rendered land speculation minimal⁶⁶. These two ideas encouraged agricultural contracts such as *muzara'* and *mugharasa* contracts. Such traditions, enables land owners to acquire new lands through making them productive through collaborating (and sharing the risk) with farm laborers who ultimately, especially with the *muzara'* contracts, also become land owners themselves.

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created and used narratives of sectarianism as foils to their own visions of modernity and to their own projects of colonial, imperial, and national development. Makdisi's book is important to our understanding of Lebanese society today, but it also makes a significant contribution to the discussion of the importance of religious discourse in the formation and dissolution of social and national identities in the modern world."ISBN":978-0-520-92279-2"language":en"number-of-pages":284"publisher":University of California Press"source":Google Books"title":The Culture of Sectarianism: Community, History, and Violence in Nineteenth-Century Ottoman Lebanon"title-short":The Culture of Sectarianism"author":{"family":Makdisi"given":Ussama}}"issued":{"date-parts":[[2000,7,19]]}"locator":166"prefix":See:"}schema":https://github.com/citation-style-language/schema/raw/master/csl-citation.json}

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A Genealogy of Industry, An Analysis of Historical Industrialization Waves Adapted To Kortrijk Noord And Leuven Haasrode.

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abstract: Increasing globalization of our productive environment makes circular transitions progressively complex to achieve. Applied to the industrial context of Flanders, subsequent development phases have grown from a spatial locally bound logic towards a more economic regional incentive. This paper examines two things through a historical analysis. Applied to the cases of Kortrijk Noord and Leuven Haasrode, it first investigates how these consecutive waves impacted the location characteristics of the industry zones. Secondly it examines the historical consequences for circularity by applying the R-cascading principle. The paper conducts this description based on the origin and spatial impact of three consecutive industrial waves. Each chapter covers one industrial phase while describing its consequences on the aforementioned topics. In the conclusion, this data is contained in a synthesizing timeline that provides an overview of the site-specific and circular knowledge of both sites throughout the past decades.

keywords: historical succession, industry parks, anthropogenic environment, circularity, regional economy

Objective: a historical analysis focusing on circularity and location characteristics within the industrial ecology

In recent years, various authors formulated many definitions on “circular economy”. The wide variety of meanings makes it increasingly difficult to grasp the tangibility of its concept. Definitions often focus on an economic and industrial ecology in which no finite raw material stocks are exhausted - or where residual materials are completely reused within well-defined cycles¹. This industrial ecology has various layers and dimensions that can be analyzed to understand the effects of circularity on an area of interest. The paper’s objective aims to understand the production environment, by exposing the historical genealogy and the different dimensions that go with it. The definition of “genealogy” states that a tracing is made of the different historical lines of descent. This historical view makes it noticeable that the reuse of waste has always been an important matter within an industrial ecology². However, the way in which production deals with cycles and feedback loops often changed through history. Cities and their surroundings are conceived as continuously evolving organisms with new demands and urgency’s.

The different historical lines dealing with industrial ecology are translated into two main research questions.

A first research question wants to investigate the role of circularity in the past and present, adapted on two specific cases. The focus within this question lays on the analysis of how these processes influence today’s industrial ecology. In order to answer this question, the paper uses the theoretical framework of Lansink’s Ladder. Through the “R cascading principle” it tries to demonstrate how every historical wave within the production history of specific cases are related to circularity. This scheme is specifically constructed from the following strategies, here listed in an

increasing level of ambition. The lowest aspiration consists of (4) the re-use of raw resources by recycling deconstructed materials. One step higher we find (3) the re-use of adapted materials and new occupations for buildings. A next level consists of (2) the reduction of resource consumption (by not constructing new buildings and infrastructures). Ultimately, we find at the highest level how (1) reclamation and regeneration of soil and natural structures could protect undeveloped areas as productive natural resources¹³. These four levels will be used throughout the text as a guideline to sketch an image of the different ambition levels that were historically adapted in function of circularity.

The second research question aims to determine how consecutive development waves -influenced through circularity- impacted the location characteristics of the industry zones , and vice versa. Through this analysis, the paper wants to gain grip on the relationship between industry and its necessary resources.

An additional element could be found in the established networks which exist between different businesses. This aspect also influences circularity and its location determination. The paper makes - in analogy with Markussen³ -, a punctual reference in the conclusion towards (A) production areas that consist of small locally owned firms (Marshallian industrial district); (B) business structures which are dominated by one or several large firms surrounded by suppliers. (Hub-and spoke districts) -and (C) business structures which are dominated by large externally owned and headquartered firms. (Satellite platform districts). This framework is only briefly mentioned in the paper, considering it is embedded within its own theoretical background. Within the broader notion of circularity however, this aspect should also be considered, in order to fully grasp the complexities surrounding industrial ecologies.

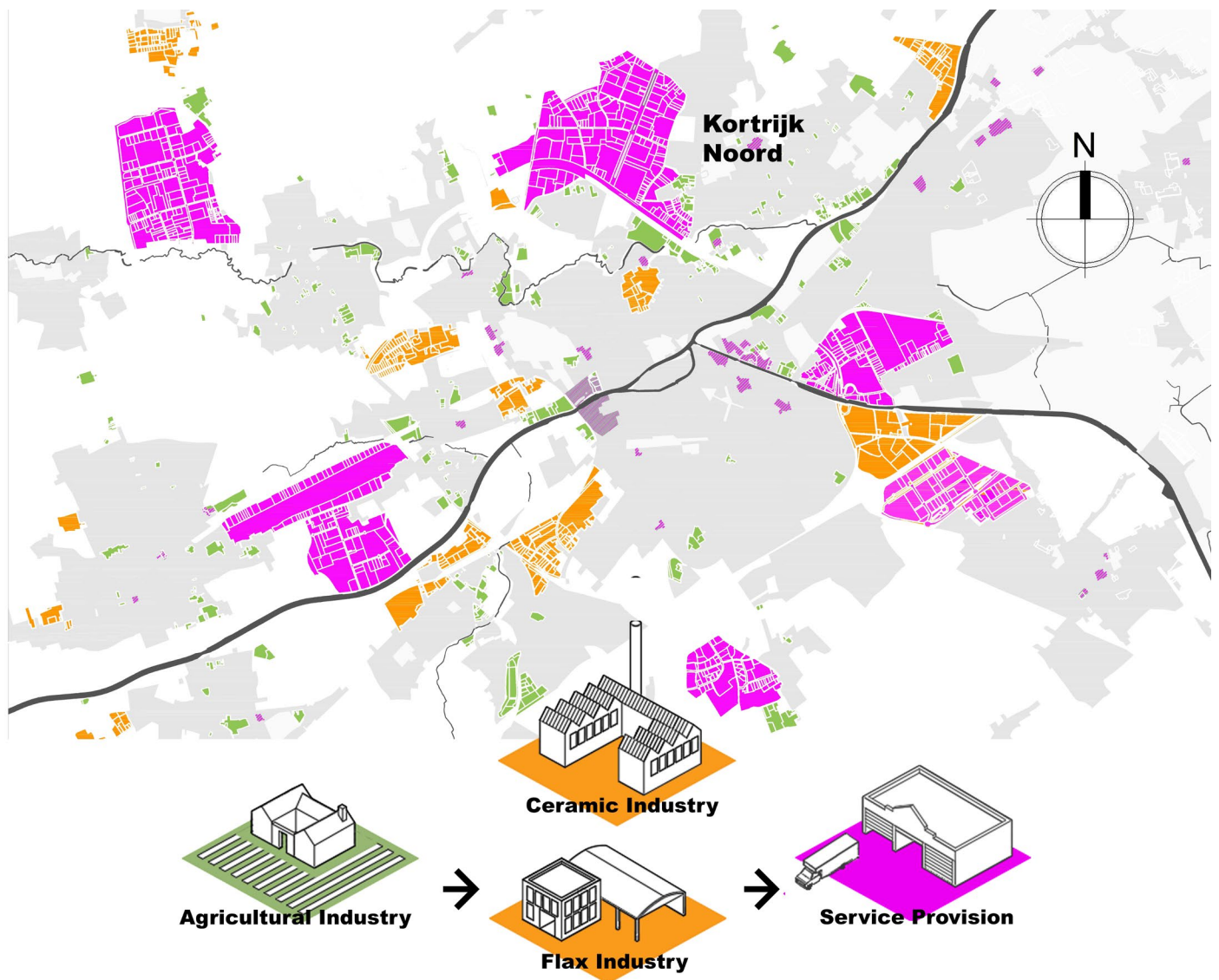


fig. 1. Typology of industrial environments in the context of Kortrijk map (by author).

Methodology: the impact of successive industrial waves adapted on two specific cases

The methodological approach is based on a historical narrative applied on two specific cases in Flanders, namely Kortrijk (with particular attention to the Kortrijk Noord industrial park) and Leuven (with focus on the Leuven Haasrode industrial park). Both industrial zones seem similar in appearance, however, - they have a distinctly different character and history. Business sites are not a blank slate, they are an accumulation of traces from the past. André Corboz describes in “Land as a palimpsest”¹¹; how the natural - and build environment is formed through many historical factors and influences. Many of these nuances are not immediately visible. By mapping the genealogy, exposed through a lens of circularity, these differences can be clarified within both cases. Kortrijk as an environment with a strongly locally embedded character; and Leuven, built through a strong relationship with the university.

The paper analyzes the sites through three sequential waves. Each wave is illustrated through two exemplary industrial sectors. A first wave takes place in the period from 800 to

1750; and is strongly linked with the primary sector - more specifically the agricultural industry and the viticulture and hop industry. Mechanization becomes more important in the second wave (1750-1950), creating a partial decoupling between resources and the end product. Within the paper, this wave is focusing on the flax and clay industry in Kortrijk. In the last wave (going from 1950 onwards); the attention shifts to the service industry. In Leuven this is strongly influenced by the existing knowledge industry of the KULeuven - while Kortrijk concentrates on derivatives of earlier waves.

A phased reading of the two sites creates a systematic image of the specific characteristics. The reading is first built at the scale of the (urban) region. In the final concluding chapter, it zooms on the industrial zones themselves.

First wave: major reclamations and the importance of the cultivation of land

A locally bound logic defined through agriculture

The economy of both Leuven and Kortrijk originated through agriculture. This justifies the historical analysis from this incentive. During the Middle Ages, the surrounding Abbeys hugely influenced the area around

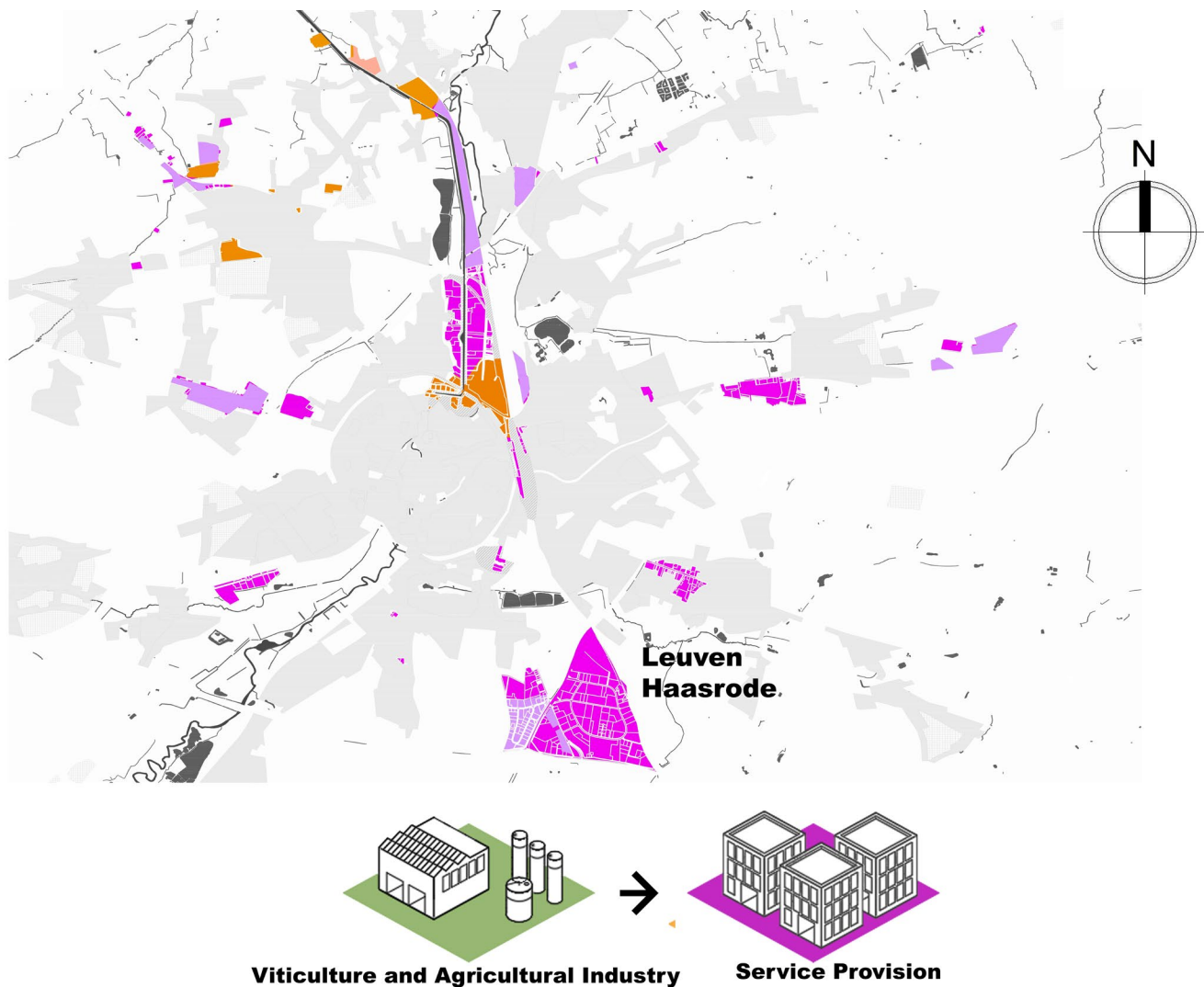


fig. 2. Typology of industrial environments in the context of Leuven (by author).

Leuven (and by extension large parts of Flanders). This was done through the production and cultivation of wastelands. Due to this, basin soils were dewatered by the construction of small canals.

Adapted on the first research question regarding circularity, we can state that an early form of water management made huge areas available as hay land for economic consumption. In Leuven Haasrode, the “Abdij Van Park” initially redeveloped the grounds of the current industrial area.⁶ For the case of Leuven, this early water management also included several interventions on the Dijle and the Molenbeek. In Kortrijk, adjustments were made on the Leie, the Heulebeek and the reconstruction of the Vaarnewijkbeek. These interventions were mainly of interest for empowering the landscape as ground for production. When applying Lansink’s ladder we can say that a form of (1) regeneration occurs, since the land is made available in function of its fertility. A second aspect to which circularity can be linked relates to the “Three-field system”. This strategy was used in both cases to maintain the soil in a healthy condition. This three-yearly succession divided the arable land or “coulters” into three parts, with each harvest (winter corn, summer corn, fallow) creating a successive sowing⁷. Cattle could graze

on the fallow part, which resulted in natural fertilization, allowing the agricultural land to maintain its fertility. From a circular perspective, (1) regeneration occurred, the soil was nourished by natural fertilizers and various biotopes were maintained through deliberate management of the nearby waterways⁸.

Regarding the location characteristics, it is obvious that the agricultural sector had a distinctly local character. As stated earlier, the environments close to water sources and abbeys were often primarily cultivated. In both Kortrijk and Leuven, the broad area consisted of very fertile loam and clay soils. Especially the hills of the Hageland (on which the Haasrode case will later be established) exist of very arable soil, mainly used to harvest grains. During this period, the city and its surroundings functioned as an organic local (circular) whole, spatially supported through the physical infrastructure of the area.

Viticulture in Leuven as a step towards more global markets
 During the early Middle Ages, both Leuven and Kortrijk were producing for its own consumption. While there was very little export of general agricultural products; export in Leuven in the 14th and 15th centuries developed seamlessly to several niches such as viticulture⁶. This particular example

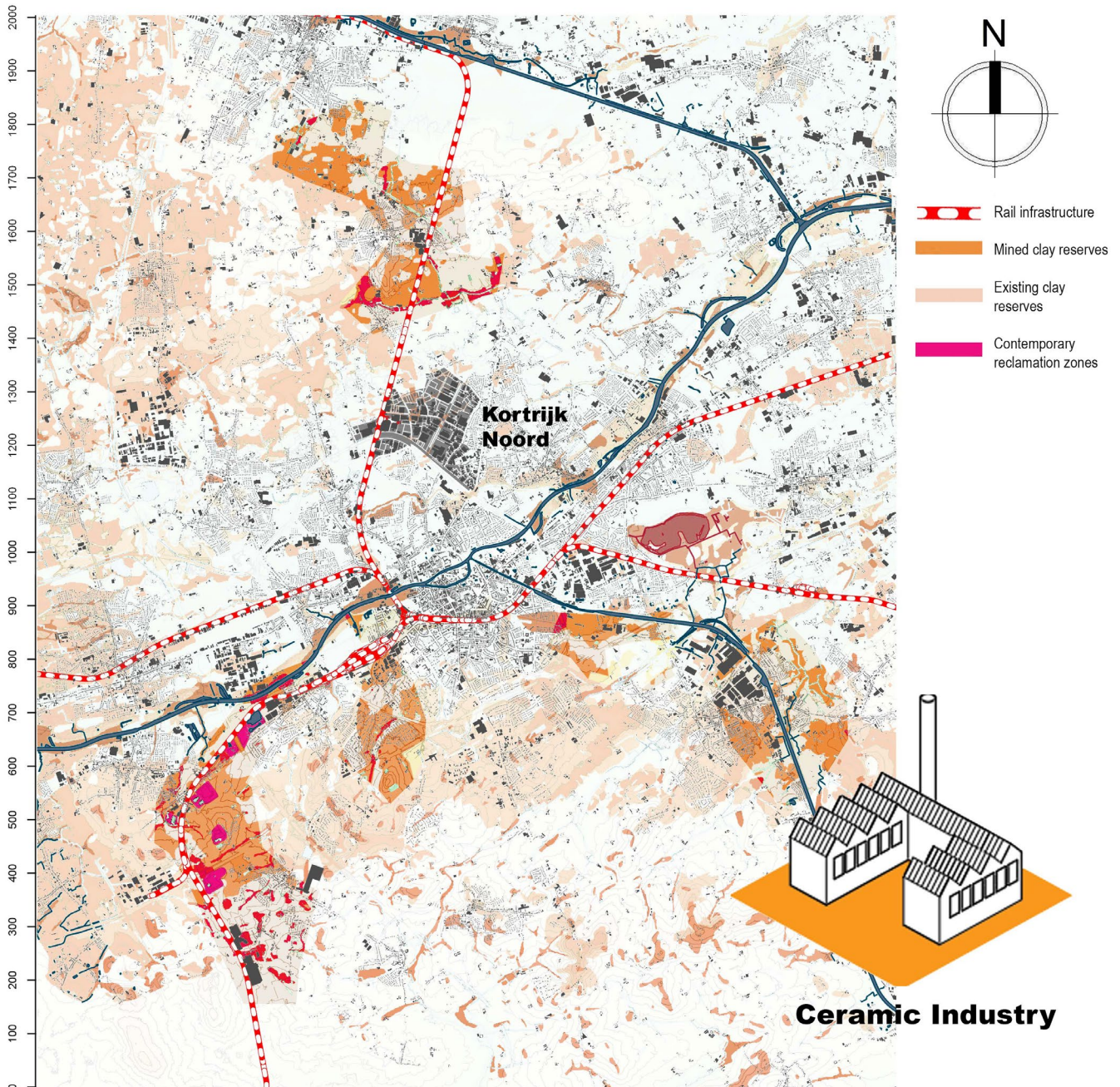


fig. 3. Ceramic industry and clay extraction in the vicinity of Kortrijk (by author).

only had a short existence and was quickly replaced by the cultivation of hop. By the 15th century Leuven became one of the first to develop a dominant brewing industry within the Southern Netherlands.

Seen from the perspective of circularity, it is relevant to name the various spin-off industries that resulted from the hop and viticulture industry. An example could be found in the wood from the nearby Heverlee forest, which was used by various cooper companies in the area to produce casks in which the beer could mature⁶. This wood, reused consistently for successive crops, could be linked in a circular manner to the (4) reuse of raw resources materials within the environment. Additionally, the logging of wood was also used in attempt to control the water quality of the Dijle to the south of Leuven. Regenerating purposes (1) also played a significant role in this.

Regarding location characteristics, we'll notice that Hop

was mainly growing on the Brabantse plateaus in the west of Leuven, replacing the existing vineyards. However, there were also several hop fields around the location of the current business park of Haasrode. Viewed from a broader perspective, however, several movements occurred both in Leuven and Kortrijk, industrial expansion and a doubling of the population fueled further fragmentation of the landscape.

The primary sector co-fueled change and spatial dispersion

Different drivers led to various spatial changes. The rise of out-doorers (rural people with city rights) led to a new movement were (from the 15th century onwards)¹⁰ farmers were able to withdraw from feudal structures that existed within the city. This resulted in a further spread of agricultural businesses. From the 19th century onwards, the urban / rural relationship faded further, with cities expanding extra muros after the demolition of the city walls. Various parts of these walls were initially re-used

in Leuven as storage places for local industry. This meant that from a circular perspective new uses were sought for disused buildings (3). However, the demolished materials of the walls were also used in both Leuven and Kortrijk to build new constructions, often applied in storage areas. (1) When urban patent rights were abolished in 1860¹⁰, the privileged and dominant position of the city largely disappeared for both cases. The emerging rail connections and not the city became the location factor for new industry.

Second wave: the different scales of accelerating industrialization

Flax industry and family businesses in Kortrijk

The second wave (1750-1950) is largely determined by a form of mechanization in which extensive processing of materials became increasingly important. In the 19th and early 20th century flax industry in Kortrijk continued to expand under the support of new techniques. The sector has largely disappeared today, but lay the foundation for locally oriented activities within the region. Flax companies were often family businesses; a fact that is still translated into the individuality of Kortrijk's business landscape. The Leie - nicknamed The Golden River¹⁰ - functioned as a lifeline for the flax industry. The river was often adapted or widened where necessary when conflicts arose with shipping, hindered by the retting decks. However, by straightening



fig. 4. Flax industry (Metamorfosen: Een Ruimtelijke Biografie Van De Regio Kortrijk).

and cultivating the Leie, the surrounding wetlands also became usable as fertile agricultural ground and land for the development of small flax companies. Considered from the circular perspective, these natural interventions had a (1) regenerating effect on the environment.

The location characteristics indicated an occurrence along the water (preferably the Leie). At that time flax was rooted in almost all municipalities along the river. From 1930 onwards, retting in warm water within concrete 'rotten' pits was preferred, by which the proximity to the Leie was no longer needed. Industrialization linked to the flax industry was now - comparable to general farming

before - able to spread itself into the wider hinterland of Kortrijk (fig. 4). This could be illustrated through the two flax rotterries which used to be located on the site of the current industrial park of Kortrijk Noord.

Clay industry and large scaled manufacturers in Kortrijk

A second example relates to the ceramic industry. This sector occurred around the 19th century and created a major boost on the economy of Kortrijk. Clay and loam were already extracted before the industrial revolution, however mechanization made it possible to exploit the sector towards new heights and scales. Aalbeke clay was used for roof tiles, Moen clay for bricks¹⁰.

The location characteristics make it obvious that clay factories were always located in the vicinity of mining wells (this is also mapped on fig. 3). The first clay mining factory, Pottelberg (1905), was built west of the city. Subsequently, more and more factories such as Briqueteries Modernes (1910), Litoral factory (1923) and La Lys (1923) were added along the Kortrijk-Mouscron railway line¹⁰. The location of these infrastructures were partly determined through the location of mining sites. An example of this could be projected on the construction of the Bruges Kortrijk railway line (line 66). This railway would later also provide a reason to plan the Kortrijk Noord industrial estate along this line.

Obviously, the production process from raw material to finished products took place on the same location. Due to this aspect, a form of circularity working through the use and re-use of local materials (4) could be determined. The clay industry thus influenced the way in which industry occurred through different ways. Not only during production, but also afterwards. Clay pits and craters were often receiving a new destination as an industrial estate or landfill. The large scale of clay processing companies (in contrast to the small family-based flax and textile industry) also left a different mark on the environment due to the larger industrial entities which became visible in the area.

Reorganizations, and the decline of locally manufactured products

Halfway through the 20th century, the flax industry declined rapidly due to the rise of synthetic fiber. Many family businesses were forced to switch on other industrial forms. This resulted in an industrial reconversion, which is still noticeable in the industrial park of Kortrijk Noord (see the reference to the service sector and derivatives of the textile industry in the next chapter). The infrastructures of the small family business were often re-used; (2). Several of these workshops located near the city center were given a new function, often in the form of spin-off industries. The clay industry was not spared either. When a severe construction crisis arose in 1980, many companies had to stop their production. Today, the Marckefabriek is the only original brickyard which is still in existing. The Wienerberggroep decided to place all its activities on one

location, namely the 'Sterreberg pannebakkerij'. Other pan or brickwork factories disappeared or were re-organised. However, there are still a lot of spin-off construction companies present on the Kortrijk Noord business park which were related to this industry (Modde NV, PPG, ...).

Third wave: industrial parks in response to the emerging service sector

The local service sector as a consequence of precedent sectors in Kortrijk

Due to the decline of specific industrial fields in the mid-20th century (ceramic, textile and flax in Kortrijk- textile and certain university spinoffs in Leuven), innovation seemed imperative in both Leuven and Kortrijk (but also in Flanders in general). Based on the British model, interregional policy was pursuing answers for specific "depressed areas"¹². This marked the beginning of the conversion towards derived production sectors, established on rigidly planned business sites. The case of Kortrijk Noord sets a clear example of this rationale. Based on the location characteristics, there were in the proximity of Kortrijk initially three sites selected suitable for the establishment of business parks. The site in Zwevegem was developed along the Kortrijk Bossuit Canal (110ha), which formed an extension of an existing company in which steel wire producer Bekaert initially experienced significant expansion. This business park had a strong link with the previous secondary industrial wave, and (2) reused a lot of equipment and even buildings. Shortly afterwards, both the Gullegem Moorseele site (36ha) and the Kortrijk Noord site (140ha) were built. 10 The Kortrijk Noord industrial park formed a completely new site along the Kortrijk ring road and railway line. Its location originated by means of a study of Vanneste and Declercq¹⁴. In this regional study an axis was determined that could connect Kortrijk with Bruges to provide the Westhoek of Flanders with new job opportunities. However, this idea was never fully realized, as there were not enough foreign investments to develop this corridor. The business park in Kortrijk is one of the few areas that fitted within this concept.

In the 1960's studies also showed that Kortrijk was too one-sidedly focused on the textile sector¹². Today however, it appears that there is a great diversity in production processes on the Kortrijk Noord site. Many of today's sectors are an indirect result of previous industrial waves which have been active in the area. In this case, circularity is therefore more likely to arise from the reuse of present, and local knowledge. Textile had a certain link with the flax industry, the techniques for bleaching, printing, and finishing of textile products were derived from the procedures which were used earlier. The flax industry itself also supported a large number of other present sectors on the business park of Kortrijk Noord. The fiberboard industry sets an example, as a result of the remains of flax which were used to make boxes during WWII.¹⁰ The many pet food companies respond to the typical livestock industry in the region, which are also a result of the processing of waste from the

same flax industry. Of course, many other examples could be named.

The influence of university spin-off companies in Leuven

The location characteristic of The Leuven Haasrode industrial zone is similar to the case of Kortrijk Noord. It also forms a typical product of the 1962 law on urban development, where the car accessibility along the E40 formed a central argument in the choice for its location. However, the local ties are somewhat more ambiguous. By looking at its history, it is noticeable how various industries ran in parallel to the founding of the KU Leuven in 1425. However, several waves of focus and prosperity also emerged (including a sharp decline in the centuries that followed its origin). Recovery mainly started in the 18th century fueled by industrial development⁶. From then on, this relationship considering the University as a knowledge generator by means of a highly trained workforce came to terms.

The aspect of circularity occurs less in function of materials, but rather in knowledge (similar but more extensive than in Kortrijk). Since 1972, 142 spin-off companies which have been set up. Together they employ more than 7,000 people. A considerable number of these are also located on the Leuven Haasrode site. These present spin-off companies on the site, vary from medical software purposes (Materialise), test modeling (LMS International) to automated systems (Soundtalks). The samplelist – which is of course much more extensive – shows that these technology companies have little or no relationship with previous waves of industry. Textile-, hop-, wood and the construction industry are not or barely present on the Leuven Haasrode site.

The historically determined differences between Kortrijk Noord and Leuven Haasrode

The paper described the impact on circularity of the production sectors and its location characteristics throughout three consecutive waves. The first research question, investigating the role which circularity played in the past, is schematically summarized in the timeline of fig. 5. The "R cascading" principle has been applied to each described sector, and a distinction is made between the type of resource which is or isn't effectively used in a circular manner.

In the first wave, it is noticeable that circularity between Kortrijk Noord and Leuven Haasrode has been adapted in a fairly similar way. This mainly applies to natural and unprocessed resources such as managing water, fertilizing the subsoil and regulating wood use. Most concepts in this wave are primarily at the (4) regenerative level. Exemplary are The Molenbeek which was purified along Haasrode, or the fertilization of the grounds around Kortrijk Noord. In the second wave, a larger decoupling occurs (in both Leuven and Kortrijk) between resources and its processing. Circularity itself is focusing much less on coveting the

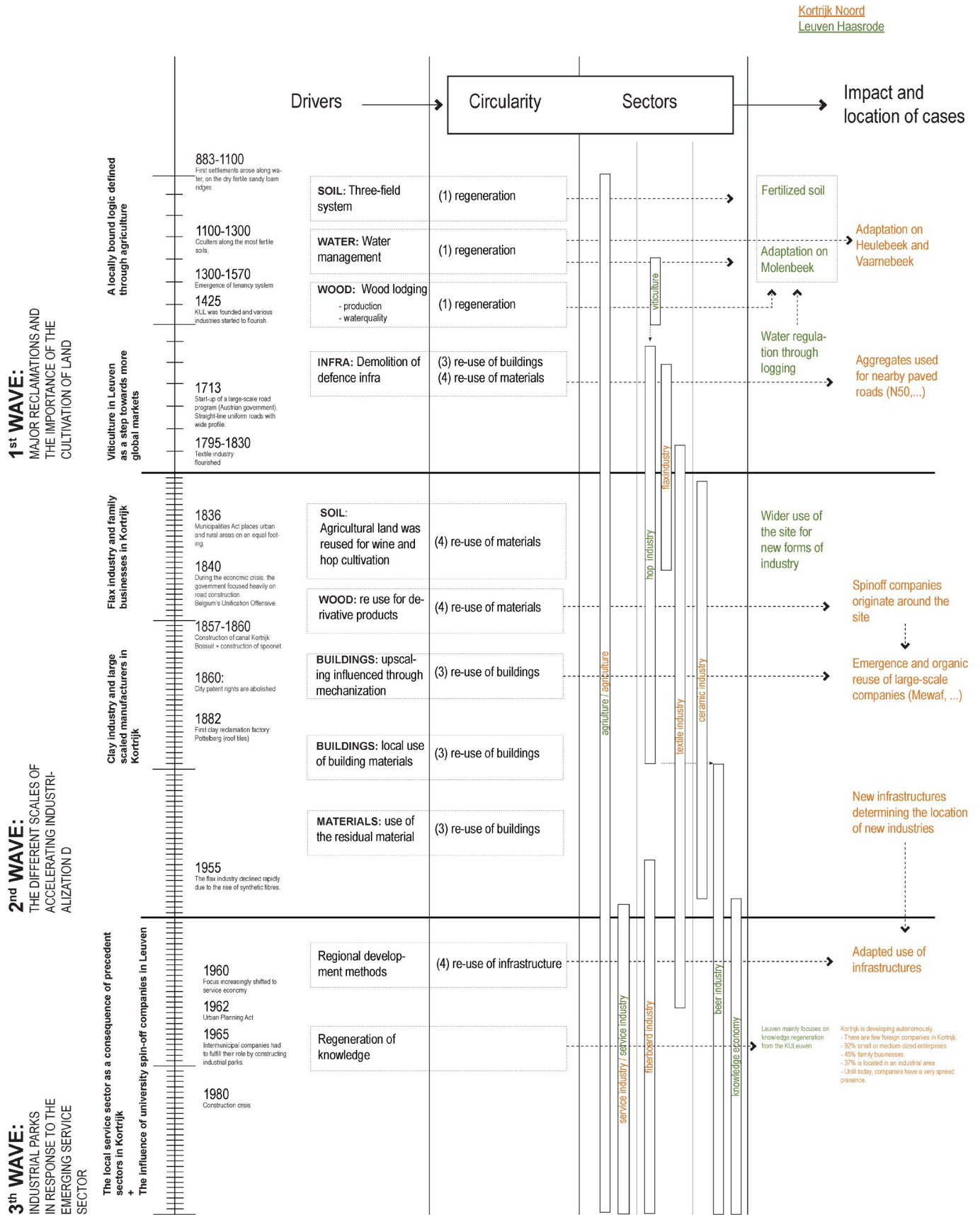


fig. 5. Timeline (by author).

natural properties in the environment. In Kortrijk in particular, it becomes noticeable how existing and disused infrastructures (eg ramparts) and residual materials are used. As a result, the ambition level on the “R cascading” is often noticeably lower (mainly steps 3 and 4). Circularity still occurs, but plays a diminishing role in the examples of ceramic- and flax industry in Kortrijk. The impact on the

sites of Kortrijk Noord and Leuven Haasrode are also rather limited, they only take place in function of the construction of specific infrastructures which are constructed from materials fallen into disuse. (eg the N50 constructed with recycled material in Kortrijk). In the third wave - focused on service economy, a very different approach to circularity is noticeable. This industrial ecology concentrates more on

the reproduction of local knowledge and expertise; and less on (re)using material resources in the landscape. This is shown in the case of Kortrijk through derivatives of local sectors; while in Leuven it is mainly about a short induction through the transfer of knowledge from the university. In general, it can be stated that circularity plays a decreasing role over time in both cases.

In order to make a thorough distinction between the two cases, it seems relevant to get an impression of how both industrial districts are functioning. As suggested in the introduction, it can help to get a grip on the aspect of networks by means of the theory of Markusen. Based on this model - which makes a hypothesis of the specific features of new industrial types in business districts and ecologies, we notice that Kortrijk Noord is comparable to an (A) "Marshallian industrial district". The industrial park is dominated by small locally owned firms; while the investments and decisions are also mainly determined locally. These factors ensure a unique identity, with an embedded scale of economy based on family businesses. Applied to Leuven, a different model occurs. Due to the influence of the university (and some external players), the business structure is dominated by only a few specific actors. The core companies are locally based, although many competitors are located outside the district. As a result, the scale of the economy is also rather high. In this model, however, there is a high degree of cooperation between the local players, which also strengthens the options for focusing on circular processes. According to the Markusen, this model can be compared to a "Hub and Spoke District"³

For the second research question which aims to determine how consecutive development waves are influenced through circularity, impacted the location characteristics of the industry zones, I would like to refer to the maps in attachment (fig. 1 for the surroundings of Kortrijk and fig. 2 for those of Leuven)

The mappings of both cases show how the small-scaled agricultural family businesses created a basis for local and intra-urban manufacturing industry during the first wave. The map of Kortrijk (fig. 1) shows, how these companies are mainly located along the various waterways. The context of the Heulebeek is particularly dominant here. However, several of these local farms were often transformed into different types of fabrics. Initially, there were also several farms and "vierkantshoeves" on the location of the Kortrijk Noord business park. This also partly determined the routes of the N50 and the Izegemsestraat. In the second wave, the ceramic industry in Kortrijk initiated a spread of industrialization wherein raw materials and the built product remained strongly bound. These zones were considerably larger in scale and were often situated along newly constructed infrastructures such as the Kortrijk Bossuit Canal and various railway lines. Railway 66 along the current site of Kortrijk Noord formed part of an

infrastructure which connected various mining zones.

The planned business zones of the third wave are both Leuven and Kortrijk were much less tied to local resources and much more planned from an economic point of view. Both Leuven Haasrode and Kortrijk are located along major traffic axes. An important difference here is that the axes running along Kortrijk Noord are much more anchored in the history of the environment. This aspect is exemplary of the differences between the two zones. While the industry park of Kortrijk Noord is also planned from a completely new tabula rasa incentive, the companies that established in it still have a link with previous industrial waves. A local relationship therefore remains visible within this case. The small number of foreign companies seems striking, especially in contrast to Leuven. 45% of the businesses in the Kortrijk area consist of family businesses¹⁰.

To this day, the Kortrijk region is emblematic for a succession grafted on agriculture within a strong local bond. In the case of Leuven, however, we consider a different spatial development. A development which expanded fast – within an emphasis on innovative technology and globalized industrial actors. In this case knowledge could be drawn from originally distinct spatially planned systems, with limited local ties. Due to these differences circularity have been dealt with in different manners.

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Layering, Embedding or Ignoring: Interaction of Master Planning With Existing Urban Planning System In Russia

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abstract: This paper discusses the recent introduction of master planning tool in the Russian system of urban planning. Public authorities claim that under obsolescence and rigidity of the existing system of spatial planning master plans should become an effective solution for urban growth and development. Despite all the attention, published master plans have an unclear legal status and their introduction often results in some degree of overlap and blurring with existing spatial development institutions.

The research critically examines i) how master plans are (not?) being incorporated in existing urban planning institutes ii) the reasons of master planning practice emergence. Going beyond transitional frameworks, the study discusses institutional change in urban planning in a post-socialist city.

keywords: Russia, urban planning, post-socialist cities, urban governance

Introduction

“For developing cities a general plan becomes an obstacle... a master plan is needed: a spatial vision of the city’s development, not as detailed as required by the current legislation” – commented Khusnullin, Deputy Mayor of Moscow at that time and present Deputy Prime Minister of Russia for Construction and Regional Development¹. Claiming the obsolescence of the current urban planning system and the necessity to create a new tool for spatial development became mainstream after the presidential instructions to “propose approach for the shift from the general plan towards a document defining the strategic directions of spatial development”².

We consider the changes in Russian urban planning system from new institutionalism framework that provides a tool for exploring the evolution of the institutions, their adaptation to changing external conditions, and actors’ interventions³. Particularly significant institutional changes in urban governance and planning systems have taken place in the former socialist cities of Central and Eastern Europe⁴.

The system of spatial planning after the transition period of the 1990s is a mixture of traditional socialist institutions and imported Western ones that “coexist and conflict with each other”⁵. Contemporary spatial planning system in Russia has developed in the mid-2000s as a part of a wider process of reforms and resulted in a new urban planning code adoption in 2004. Urban planning system is now regulated by federal legislation, while the power to develop, approve and implement two main documents – general plans and zoning codes – was transferred to the local governments.

At the same time, a process of deliberate weakening of municipal power – the so-called municipal counter-reform – has begun, when city governments were incorporated into so-called ‘vertical of power’ subordinated to governors appointed by the president⁶. The culmination of this practice were changes in the federal law on local self-government, allowing regions to take away the powers of cities in urban planning⁷.

The existing territorial planning tools do not satisfy regional governments that are actually in charge of urban development. At the same period, urban development was introduced into the federal agenda through city-centric growth narratives and the ‘metropolitan turn’, resulting in the adoption of the so-called National Projects, including among other things housing, urban environment, smart cities, public transport, etc⁸. The unit of spatial planning is agglomeration, not the separate city; major part of National and Federal projects are to be planned and implemented on agglomeration level. The regional governments are now in charge of urban development, while city mayors remain on the sidelines; however, no new tools for planning and managing urban spatial development have been created to help regional authorities achieve development goals. Discussion of urbanized territories management tools has intensified in the public discourse.

Therefore, the interest to alternative urban planning tool, without the disadvantages of a post-transit general plan has emerged⁹. Master plans are used as a city- or agglomeration-level spatial development plans, establishing future vision of urban development. Although the implementation of master plan can go only through traditional planning

documents, the public authorities now have an instrument for analysis and solutions development both at the city and agglomeration level. In this sense, masterplan is a response to the limitations of the established spatial planning system. We conceptualize master plans in Russian urban planning practice as a city-level strategic document that allows public regional and local authorities to work under limitations of the existing urban planning system. This research seeks to develop under-researched empirical topic of urban planning institutions change after the end of the transition period. As we intend to avoid looking for specifically post-socialist expressions of urbanism as exceptional cases, this research contributes to the understanding of contemporary post-socialist city while “splintering the post-socialist urban world”¹⁰.

To sketch out the main contours of master planning practice in contemporary Russia we employ a legal and institutional analysis surrounding the incorporation of master planning approach. Case analysis of several published master plans gives additional evidence and helps to achieve a comprehensive picture of changing urban planning practice. The paper is structured as follows. Section 2 seeks to investigate the nature master planning practice emergence. In particular, Section 2.1 starts with a discussion of the place of master plans in the Russian urban planning system. Section 2.2 sets up the cases in order to define the key goals, approaches of the created master plans. Section 3 seeks to hypothesise the reasons of this new planning instrument introduction.

Towards roll-out of the master-plan

Incorporation of master plans in existing urban planning institutions

The term ‘master plan’ in contemporary Russian urban planning practice is usually referred to two types of projects: master plan of the territory or master plan of the city¹¹. While the first refers to a conceptual plan of new development or redevelopment of a part of the city, usually financed by a private developer, the latter represents a strategic document for the spatial development of the whole city that can be developed on request of city administration, NGOs, private developers and other actors. This article focuses only on city-level master plans that complement and compete with existing urban planning tools.

The position of the master plan in the modern system of urban planning institutions can be characterized as layering – creation of new policy without the elimination of old one¹². Although during the 2010s, master plan was viewed as an institution that would replace the general plan, now it rather complements the existing urban planning system and meets its specific objectives. The benchmark for such objectives can be found in the first Russian master plan of the city of Perm (fig. 2), that “disseminated principles formed in other countries through decades” among local professionals, for whom “this way of reflection and discussion on urban development was relatively new”¹³.

In sum, this document was to transmit international best practices and to form a basis for general plan and zoning code; while these ambitious objectives did not have any legal significance, thus they had problems with implementation¹⁴. Contemporary master plans share the same problems and limitations.

The emergence of an institutional ‘niche’ that the master plan is now filling can be explained through limitations that the major official spatial planning instrument – general plan – has in result of reforming urban planning reforms. First, general plan lacks the goal-setting for urban development; second - implementation plan with relevant timing and stages. Master plan fills in those two gaps.

The spatial development of Russian cities is regulated by several institutions, determined by the main federal laws on urban planning, local self-government, and strategic planning. The key local level document is the Long-term socio-economic development strategy. Long-term document of spatial planning is developed on its basis and is titled ‘general plan’. Urban land use is regulated through indefinite zoning code. General plan, zoning code and strategies are developed for one municipality and approved by the same municipality.

As a result of the metropolitan turn of the 2010s, that gave rise to city-centric economic growth priority, the framework of urban policy became more focused on urban agglomerations giving them priority in the federal planning documents, while the law on agglomerations was never adopted. Some of the examined master plans relate to agglomeration spatial development, although the object of planning itself is not formally defined. Regional spatial development strategies and state programs are too general and cannot directly influence land use and development. Master plan seeks to solve this institutional conundrum.

Today the master plan occupies a peculiar place in the spatial planning system (fig. 1). Legally, this document does not exist while the law on strategic planning in theory leaves the door open to spatial strategies: master plan is a legal, but informal urban planning practice. Since there are no formal mechanisms for its implementation, master plan is being implemented informally with the help of power relations - the real beneficiaries (federal, regional and local authorities), while the official customers can be GONGOs (government-organized non-governmental organizations), developers, development institutions or even a local park. At the extreme, an official or real beneficiary might even not be known.

Although modern Russian legislation does not recognize a master plan as a planning document unlike general plans, zoning codes, urban design standards, socio-economic development strategies and even city budgets, in the last decade master plans have found their niche in the urban planning process. Master plan is considered as

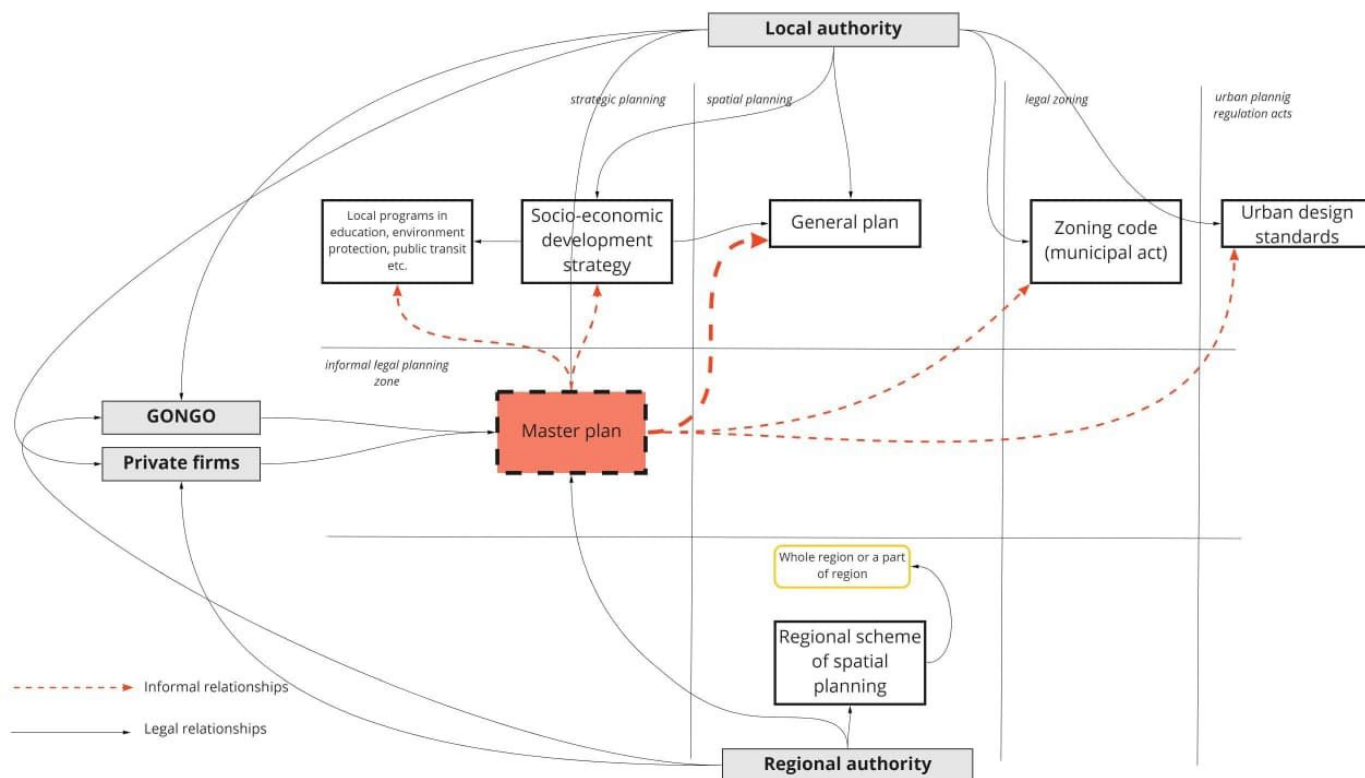


fig. 1. Urban planning system in Russia. Developed (by author).

a tool for planning and goal-setting, that forms a basis for further development of general plan and socio-economic development strategy. With a master plan, regional and urban governments seek to produce mid-term 10-year plan. Thus, master plan precedes the development of official planning tools, combining strategic and spatial dimensions.

Case studies

This section provides an overview of the 16 case study master plans. Fifteen case studies represent the master planning practice established in the 2014-2020 years; however, the clear majority of documents were prepared in the last 3 years when this approach to spatial development became widespread. The only stand-alone case from 2010 is the first Russian master plan of Perm that, despite of its implementation failure, lack of support in architectural and development community and public rejection of the city authorities to use the master plan in 2013, “is still being promoted as a pioneer and a role model for other Russian cities”¹⁵. Two cases from the Republic of Crimea were also examined as they in fact represent the recent master-planning practice under Russian conditions, law and institutions, while recognized as Ukrainian by the United Nations¹⁶. The selection does not include the projects developed for the competition for the development of the Moscow agglomeration in 2012, as the statements of the Moscow Mayor’s Office on the upcoming development of the Moscow Master Plan never took place and the project has stopped at the concept stage. The sample of cases covers all open-access city-level master plans, developed since

2010, found by the authors, although it should be noted that, based on press releases, some of the master plans were never published or only design solutions were made public.

Our selection of master plans represents almost every Federal district (grouping of the federal subjects) and cover both central and remote settlements, with different characters/features and history, population dynamics, with population from 10,000 to 1,000,000+ people. The diversity of cases is intended to discuss how the master planning tool in Russia adapts to different origins and tasks. A summary table of the cases is shown in fig. 2; the following paragraphs discuss the key actors involved in the master planning practice, commonalities and distinctions of the cases.

Overall structure and content of the documents reveal no common understanding of the idea of master planning. A typical master plan represents a lengthy document of several hundred pages, with a large amount of both visual and text information. Almost all published documents include a section explaining a master planning concept and the content of this section varies greatly: while some present the document as a collection of ideas from the specialists, architects and activists, others see the master plan as the implementation of national projects or wider strategic goals of the state. Some plans are based on official statistical forecasts, adjusting the urban environment to the expected figures, others develop their own quantitative benchmarks or even ignore the quantitative approach in general. While almost all master plans aim to create a vision

Nº	City, population (2020), year of master planning	Status, Population	Federal Subject	Vision	Approach	Impetus and justification
1	Vladivostok 601,000 ▲ (2017-2018)	Adm. center of the region	Primorsky Krai Far East	Regional center with focus on education, innovative economy and tourism with environment preservation	Stage 1. Opportunities and challenges → Vision and concept → Strategies → Strategic events → International experience Stage 2. Strategic zones	External: initiative of Agency for Home Mortgage Lending (AHML)
2	Yekaterinburg 1,495,000 ▲ (2019)	Adm. center of the region	Sverdlovsk Oblast Far East	City that creates opportunities.	Vision → Principles → Strategic lines → Projects → Implementation Tools	Internal: initiative of the City Government
3	Kislovodsk 129,000 ▶ (2020)	Adm. center of the district	Stavropol Krai North Caucasus	International level multisectoral tourist center, attractive for Russian and foreign tourists and athletes, comfortable and safe for residents and guests	Vision → Directions → Objectives → Components of a successful resort city + Cost estimation, Implementation mechanisms, Roadmap	External: initiative of DOM.RF
4	Magadan 92,000 ▼ (2020)	Adm. center of the region	Magadan Oblast Far East	Mission: ensuring the effective development of the Far Eastern Arctic and national security in the northeastern flank of Russia	Mission → Forecasts → Goals → Vision → Directions → Objectives → Projects → Implementation plan	External: initiative of DOM.RF and regional Government, based on the strategic location at the North.
5	Omsk 1,155,000 ▶ (2016-2017)	Adm. center of the region	Omsk Oblast Siberia	City of choice	Assumptions → Values → Development principles → Goals → Directions → Interventions	Internal: proposals and projects of local urban planners, architects, specialists and residents
6	Perm 1,055,000 ▲ (2010)	Adm. center of the region	Perm Krai Volga	Not expressed explicitly; the strategy is based on a compact city concept	Context → Quality Objectives → Framework for Quality → Specific Strategies → Projects	Internal: initiative of the City Government
7	Svobodny 54,000 ▼ (2017-2018)	Adm. center of the district	Amur Oblast Far East	Svobodny is a city of presidential attention The most comfortable city in the Far East	Forecast (economic development → population → new development) → Goals → Vision → Strategies → Examples/Projects	Federal: status of the city of presidential attention, the need for the development of the Far East
8	Sergiyev Posad 100,000 ▼ (2019)	Adm. center of the district	Moscow Oblast Central	National Spiritual Center	Prerequisites → Vision → Objectives → Interventions → Implementation Tools and Priority Action Plan	External (federal): the need to create a national spiritual center and place its infrastructure
9	Suzdal 10,000 ▼ (2020)	Adm. center of the district	Vladimir Oblast Central	City that proves itself worthy its heritage. Tourist city and reserve of international level, comfortable for life	Assumptions → Vision → Strategic lines → Interventions → Schedule	External (Federal/regional): presidential decree on preparations for the celebration of the 1000th anniversary
10	Feodosia 68,000 ▼ (2020)	Adm. center of the district	Rep. of Crimea South	Important local and international tourist center, in longer term - the center of world tourism, with a unique and cultural heritage	Development in the settlement system → Mission → Objectives → Major and additional lines of development → Recommendations	External (federal): the need for integration into the Russian spatial model
11	Derbent 126,000 ▲ (2019)	City of federal significance	Rep. of Dagestan North Caucasus	Slogan: Derbent - Crossroads of Cultures. The strategy is based on a resilient city concept (initially set in the terms of reference of the competition)	Comprehensive capacity assessment → Development concept → Scenarios → Activities and results → Implementation mechanisms	Internal (local/private): the emergence of a stakeholder willing to invest in the development of the city
12	Norilsk 182,000 ▲ (2018-2019)	City of regional subordination	Krasnoyarsk Krai Siberia	World-class Russian metallurgical center and a competence center for knowledge and research in the Arctic.	Assessment → Hypothesis of spatial development → Priority areas → State support → Appearance	Internal (local/private): initiative of the Norilsk Development Agency (municipality and enterprise)
13	Sevastopol 449,000 ▲ (2015)	Federal city	Rep. of Crimea South	Not expressed explicitly; the core of the whole proposal is economic development of the city.	Analysis → Economic forecast → Concept of spatial development → Interventions → Consolidated scheme of proposals → Projects	External (federal): the need for integration into the Russian spatial model
14	Yuzhno-Sakhalinsk 201,000 ▲ (2018)	Adm. center of the region	Sakhalin Oblast Far East	Not expressed explicitly	Analysis and forecast → Concept of spatial development → Scenarios and selection of the optimal scenario → Proposals by directions + Master plan	Internal: initiative of the City Government
15	Irkutsk 624,000 ▲ (2016)	Adm. center of the region	Irkutsk Oblast Siberia	Well-balanced center of one of the most important agglomerations of Siberia Slogan - pragmatic ambitions	Macroscale, megaprojects → The optimal scenario → Forecast → Growth points → Strategies	Internal: initiative of the City Government
16	Naro-Fominsk 65,000 ▶ (2014)	Adm. center of the district	Moscow Oblast Central	Livable City	Principles → Growth points → Strategies → Preliminary indicators	External (regional): program "New look of the cities of the Moscow region"

fig. 2. Cases overview. Developed (by author).

for the long-term development of the city, this vision is not always explicit in the text, while the long-term is usually limited to ten years.

In almost 2/3 of the cases the initiative and control over the creation of the master plan was external, in most cases with the participation of the DOM.RF, federal housing development institution operating in fields of housing, creating a civilized rental market, and improving the urban environment. Creation of master plans under DOM.RF usually means special attention to the city by the federal authorities due to its strategic location, important objects or population size. Other semi-external customers of master plans are private companies operating in a single-industry towns, giving master plan as a certain 'present' to the citizens or GONGOs, usually named as 'Fund for the Urban Development of the City'¹⁷. At the same time, even in master plans with an external incentive for development, a 'beneficiary' name sometimes appears near the 'customer' name - implying that further work on the master plan implementation will be carried out by the city authorities. In more rare cases, the customers for the development of the master plan are the local government, sometimes also legally covered by another organization - for example, a local park.

The main developer of the master plans is Strelka KB, Moscow-based urban consultancy, however some other Russian companies, mostly located in Moscow or St. Petersburg, also act as contractors for such projects. Most recent master planning projects often involve international

architectural bureaus as collaborators, but despite this local advisors and architects generally develop most part of the project. Despite the fragmented inclusion of international bureaus and consultants in master plan development, most documents include references to the best international practices, and this approach is usually directly enshrined in the terms of reference for the project. The geography of such references is extensive and largely depends on the type of city under strategizing (resort, port, regional capital, northern city, etc.), however, most of the best practices cited refer to Europe (mostly Nordic countries, the Netherlands, Germany, UK) and selected high-tech Asian countries or cities, such as South Korea, Japan, Hong Kong or Singapore.

Unclear status of the document is often referred as an advantage in master plans, allowing more vivid and realistic picture of the future that dry and rigid institutions resist. "Umbrella branding" of master planning is well described in Omsk master plan: "We decided to call it master plan, thereby emphasizing the free choice in the structure, content and methods, since Russian legislation does not contain any requirements for it"¹⁸. Customers of master plans use non-binding nature of master plans as an easy way out of limiting official urban planning procedures, however some master-plans propose future use of the document in general plans or zoning codes. Other common features of the content of the master plans, including growth- and project-orientation, top-down strategizing and emphasis on beautification are described in the fig. 3.

Growth as the main objective	Although ¼ of the cases examined relate to depopulating cities, master plans encourage/support/ population growth and significant new construction, including residential, assuming that the initiatives will attract new citizens. However pro-growth orientation is not unique among post-socialist cities (Haase et al. 2014), in several surveyed cities shrinkage is a reality and manifestation of growth makes optimistic strategic urban planning documents just 'papers' (Batunova and Gunko 2018). Most master plans for cities with stable or even growing population are also oriented on growth, however some clearly state distinction between 'old' urban planning approach with 'value = quantity' and 'new' with "value = attitude, context, quality" (MLA+ 2017), at the same time proposing ambitious development. Financial rationale and funding sources for activities aimed at growth are not always indicated.
Relationship with existing urban planning tools	Master plans demonstrate three types of relationships with existing urban planning structure: embedding (proposing changes to the general plan and zoning code of the city); conflict (storytelling about outdated approach and barriers) or ignoring (the official spatial planning system is kept out of the equation). In some cases master plans assume even more responsibility intervening into inter-municipal coordination, proposing a change in the boundaries of municipalities
Top-down strategizing	Despite the common claim about the quality of life and attractiveness of the urban environment, regional and even state interests are easily recognized both in the content of documents and in the history of their creation. The national priorities for the development of the Far East and the Far North in cases of Svobodny and Magadan, creation of the All-Russian Spiritual Center in case of Sergiyev Posad has little to do with the mundane reality of locals, while being the core of the master plans. Master plans are even used to spread current ideological and political agenda to the country's contested frontiers in case of Crimean cities, however in such specific conditions the creation of master plans goes to the Russian architectural bureaus: the involvement of foreign consultants and architects is limited by sanctions.
Project-oriented approach	Almost every master plan presents a number of core projects; however their type and approach vary greatly. Mega projects, especially clusters, are common, especially of 'international', 'national' or 'regional' level, from example, development of a scientific and educational campus, industrial park or an airport. Another common type of project is the development of existing or the creation of new public spaces, usually located in the central area. Urban design solutions are usually presented in detail for these areas, sometimes including cost estimates. Less common are long-term strategic projects such as the improvement of existing housing, engineering infrastructure or library network.
Emphasis on beautification	The widely promoted 'comfortable urban environment' concept has taken root in most of the master plans: visualization of public spaces, proposed building architecture and even small architectural forms usually take significant part in the document. The most telling example is Yuzhno-Sakhalinsk spatial development concept where the section titled 'master plan' takes last few pages and contains branding and design solution. This approach was partially established in the first Russian master plan that stated "Unlike a general plan, a master plan more focused on creating an attractive urban environment" (KCAP Architects&Planners 2010). Being an example of re-centralisation and de-institutionalisation (Zupan 2019), 'comfortable urban environment' incorporation into master planning practice allows to achieve key performance indicators set by the federal authorities in the national project or at least show the intention.

fig. 3. Commonalities in master plans (by author).

Discussion of hypotheses

In the following section, we discuss the reasons of the emergence of this particular tool of spatial development. If a niche for its uprising was prepared by changing power and responsibility balance between state, regions and local government in relation to urban development, the path of its origin can be traced in four accompanying processes: competition for federal attention and funding, shift from framework towards direct interventions, reaction to inadequate urban planning system and 'best practices' approach.

First, in the context of decreasing power and financial autonomy of municipalities, local authorities seek to attract federal attention and funding through overly ambitious megaprojects. Master plans necessarily include a spectacular component, citing one of the investigated document "vision of urban development, better if in pictures"¹⁹. With limited power and finance at city level, mega projects are considered not as catalysts of activity and growth, but as instrument of attracting attention from the federal government. Most often, the volume of construction and the target indicators of such projects are significantly overestimated, but a demonstrative approach is a necessary condition in the face of competition for attention. Even the terms of reference for master plans development usually include the requirement to attract not only private, but federal and regional finance.

Mega-projects in Russia are generally implemented through direct government intervention while official planning procedures are often cut or neglected, while the visual effect is the core for the "allure of the authoritarian

state"²⁰. The mentioned above top-down strategizing, project-oriented approach and growth-oriented planning give additional evidence to this hypothesis. Mega-projects "demonstrate the capacity of an authoritarian state to implement ambitious projects" and thus the power of urban governance under authoritarian urbanism in general²¹.

The second notion involves the shift from framework toward direct interventions in urban development process. After the transition, post-socialist cities started to operate with mostly indirect planning tools creating a framework rather than intervening. These as framework type regulations include maximum density or functional limitation as well as sophisticated taxation²². The emergency of master planning indicates the turn to opposite direction: direct management, distrust of the market mechanism and entrepreneurship in city development. Dissemination of the centrally produced idea with partial neglect to legal basis was illustratively demonstrated on the case of housing renovation program spread from Moscow to the whole country²³. Although the Moscow master plan was never created, the states' interest drives the creation of most of the master plans, as shown in the section 2.2

Speed at which the idea of the master plan reached the elites and is even promoted by them indicates survivability of the socialist approach to urban planning, "still-socialist" characters of urban governance in a post-socialist city²⁴. Master planning reveals mutual penetration of socialist practices and authoritarian urbanism.

Third, master plans are developed as a reaction to weakened urban planning system. The end of the transition process

does not mean the end of the institutional change of urban planning. However since the end of the 2000s structure of the Russian economy resembles capitalists ones and the post-socialist import of institutions is finished, the role of public authorities in the urban governance and development is higher than in other post-socialist countries²⁵. The institute of master planning can be viewed as a reaction to the substitutes of spatial planning (that is, inefficient and weakened institutions), caused by the adaptation of imported practices to Russian reality²⁶. Masterplan is an 'intermediate' institution that tries to replace non-functioning ones. The pretext for its appearance is described by Golubchikov: although general plans existed under socialism, the system of urban planning did not have a legislative status: only reforms of 1900s-2000s have institutionalized the general plan giving it a power to limit and regulate the actions of public authorities and land owners²⁷.

Local public authorities and private businesses have successfully overcome the restrictions imposed by new or strengthened old urban planning institutions: the imported institutions were partly substituted, partly rolled back to the pre-reform situation²⁸. The Federal Law "On Strategic Planning in the Russian Federation" of 2014 in a sense has streamlined the existing urban planning structure and as well has created a legal opportunity for master planning under the guise of municipal spatial strategies.

Finally, master plans illustrate the wide spreading approach of 'best practices'. 'Best international practices' were introduced to public administration system in 2010s through rational principles of public administration²⁹. 'Best practices' approach has influenced Russian system of urban planning and spatial management in general. Orientation on 'best practices' can be attributed to neoliberal forms of city governance³⁰.

The growing popularity of master planning is also explained by perception of master plans as international best practices, unlike the dusty and outdated general plans. Another advantage of the master plan is the "presentation" nature of the document, as it is consciously developed for visual perception. While general plans as well possess some cartographic materials, they look unfriendly to non-specialists and attract primarily professional attention.

Conclusion and discussion

This paper examined changing urban planning practice under the introduction of master planning practice using the conceptual framework of neoinstitutionalism in a post-socialist city. At the first step, we conceptualized master plans in Russia through its role in current legal system and relationship with the existing system of urban planning. However, the new institution of master plan rather complement and layer traditional spatial planning than cancels them, it equips local and regional authorities with new tools for flexible planning, analysis and forecasting.

At the same time, development and implementation of master plans is delivered through legal, but informal power practices. Our case study analysis demonstrated a significant distinction between master plans and traditional institutions. Despite the lack of common understanding and unclear legal status, the developers of these documents benefit from free format and absence of formal requirements. Despite significant differences in content most published documents share top-down and project-oriented approach, focus on visual component and embeddedness in the federal state priorities.

At the second step we develop reasoning for the master planning practice introduction. Our hypothesis suggests several interrelated explanations: the need to create a bright image of the future (megaproject) in order to attract finance and attention from higher levels of government system; fatigue from fine tuning of urban planning frameworks and drift towards direct interventions; Reaction to inadequate urban planning system and allure of 'best practices'. The implementation of new spatial development projects, in particular megaprojects, requires the participation of regional authorities as supervisors, while regions do not have formal tools and institutions for intervention. Master plans become a very attractive way out of this trap: regional authorities control the planning process and are do not formally take any responsibility of the outcomes. Our research shows that the existing spatial planning system is partly inadequate to the challenges faced by Russian cities.

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When EU Soft planning initiatives meet the ground - The Implementation of CLLD (Community-Led Local Development) in Portugal

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abstract: In the 2014-2020 community programming cycle, the European Commission set in motion a multi-fund, place-based policy initiative named Community-Led Local Development (CLLD). CLLDs aim to promote the empowerment, capacity-building and participation of local communities and territorial stakeholders in local development strategies. Embodying a strong LEADER-programme heritage, CLLDs convey bottom-up, area-based, integrated approaches building on a greater mobilization and empowerment of local action groups.

In Portugal, CLLDs are still an under-researched and under-assessed policy initiative. In this light, spatially focusing on Lisbon Metropolitan Area, this research envisages to critically review the make-up and impact of these place-based community-led initiatives on local governance practices, by checking: i) the distortions such soft policy approaches face when meeting domestic frameworks of implementation; ii) their potential to introduce innovative governance solutions. As a first step, we focus on preliminary reflections on the impact of a Local Action Group (LAG) activities in Lisbon Metropolitan Area.

keywords: territorial governance, participation, integrated place-based approaches, european cohesion policy, co-creation

Introduction

We intend to provide a preliminary reflection on the implantation of the CLLD instrument and employment of respective structural fund in Portuguese territory. However, in order to do so, beforehand we present a framework of the contemporary debates related to paradigm shifts in territorial planning, namely Soft Planning and Soft Spaces in Europe, their possible relationship with neo-liberalism approaches of planning and finally the comeback of the entrepreneurial city and the emphasis on the city competitiveness.

The aforementioned concepts aim to provide a better understanding of the challenges faced by the CLLD instrument when encountering the domestic framework of member states. Having outlined these main concepts, we will focus on the CLLD, in the perspective of being an instrument of soft planning and its implementation in Lisbon Metropolitan Area through the analysis of the activities of a LAG.

Soft Planning and Soft Spaces in Europe

For the establishment of a theoretical framework for the specific policy of the CLLD, in the light of the latest developments of spatial planning in Europe, we provide, first of all, a preliminary understanding of the concepts of soft spaces and soft planning.

The first time the term soft space was mentioned in the territorial planning literature was in reference to the regeneration project of the Thames Gateway in the UK¹. Due to the fact that the intervention area spread over two tiers of government – three regions and sixteen local

districts – the project required a diversity of plans and strategic documents ranging from spatial and economic development, housing, regeneration, and transport. The only way to address this multitude of issues was to rely on the involvement of governmental and non-governmental organizations as well as private stakeholders working on a territory that was beyond and above the official boundaries and included in the decision-making process actors and institutions not commonly involved in traditional regeneration projects.

The virtual area of this intervention was then named a form of soft space with fuzzy boundaries². Nevertheless, even if not defined as soft spaces, similar projects and interventions prior to the Thames Gateway have approached territorial planning issues employing the same resourceful approach – spatial rescaling and a constellation of actors beyond the usual official institutions. And even though the term soft planning is not used by the original developers of the term soft spaces – Allmendinger and Haughton – the concept soft planning has been frequently present in the recent literature.

Theoretically this paradigm shift of spatial planning would expedite and facilitate processes, achieving results in a way and time frame not possible before. According to Haughton and Allmendinger³, the softer side of planning complements its harder side by “providing a form of lubrication to the development process, acting outside some of the frictions of formalised processes, engrained expectations, and institutional and professional histories”. Arguably, soft spaces would reflect the restrictions and potentialities of a geographic area in a more accurate

way than the “hard” administrative existing boundaries⁴. Therefore, soft spaces can be recognized as functional units and relational geographies, facing common challenges. Arguably, the plural set of institutions and geographies involved in a soft space are better suited to address the specificities of a certain urban problem or opportunity.

Nevertheless, challenges with respect to the democratic legitimacy of the soft planning processes have been raised by scholars, given that the implementation of these intervention projects might depend on policymaking, strategies and decision-making functions that are not officially granted to this new set of actors. Therefore, these newly established soft spaces might lack political legitimation⁵. On the one hand, given their de-politicised nature⁶, political tensions can be avoided⁷. On the other hand, it can be argued that these new areas of intervention might act “between or alongside formal processes and institutions”⁸.

The intention itself of bringing flexibility to the processes, in comparison to the previous stiffness of statutory planning and “hard spaces” – clearly defined territorially, legally, and institutionally – might bring a shortcut through administrative and jurisdictional boundaries. However, it might create a lack of accountability of politicians and institutions⁹. Hard spaces and hard planning, as opposed to soft spaces and soft planning, are at least “formal visible arenas and processes, often statutory and open to democratic processes and local political influence”¹⁰.

It seems irreversible that spatial planning will increasingly contemplated both hard and soft spaces¹¹ and that more hybrid forms of practices including both planning approaches will be seen in the near future¹², including instruments of community participation and co-creation, among them.

The European Union has had its share of responsibility in this paradigm shift in planning approaches by bringing into the scene rhetoric discursive material, initiatives, and policies with regards to a range of policy issues, including economic, environment, social development as well as safety aspects. As a metaphor, these initiatives or inducements being driven by EU come in the form of “carrots” and “sticks”¹³ – initiatives and disincentives – that can even influence beyond the EU borders in a way of seducing new states with regulatory requirements for accession to the EU. Naturally, the “Europeanization” has had it stronger effect inside the EU borders, promoting territorial planning approaches that clearly induce the establishment of soft spaces and fuzzy boundaries inside and beyond the member states.

Are Soft Planning and soft spaces being co-opted by neoliberalism?

“We find ourselves faced with an extraordinary, little-noticed phenomenon: the explosion of spaces. Neither

capitalism nor the state can maintain the chaotic, contradictory space they have produced...”¹⁴.

The nature of soft spaces and soft planning is to provide an approach to break away from rigidities of the existing political and administrative boundaries and, presumably, be more assertive and pragmatic in regard to specific problems and potentialities of a specific area of intervention, especially if this area spreads above and beyond statutory boundaries and related traditional institutions.

However, soft planning and soft spaces, can also be perceived as a form of bypassing formal procedures and reducing democratic accountability¹⁵. With the intention of creating more appropriate approaches to a specific area of intervention, soft planning creates a redistribution/rescaling of powers upwards and downwards which, on the one hand, can be seen as a very positive aspect of this paradigm shift in territorial planning as highlighted by McCann¹⁶:

“...the process in which policies and politics that formerly took place at one scale are shifted to others in ways that reshape the practices themselves, redefine the scales to and from which they are shifted, and reorganise interactions between scales.”

On the other hand, soft spaces and soft planning when employed under a neoliberal political climate can be co-opted into vehicles for neoliberal transformations in strategic spatial planning which might lack of democratic procedures and political accountability¹⁷. This dual aspect of the emergence of soft spaces and soft planning has been criticized:

“On the one hand, this trend can be considered to represent a more place-based approach to planning — responding to the specificities of particular places. On the other hand, it can be seen as a form of neo-liberalism — trying to shortcut democratic processes.”¹⁸

Statutory approach to planning may be slow or bureaucratic¹⁹, but at least, is usually dealt according to the democratic procedures in place by the statutory system provided in every scale of government. Therefore, some scholars have argued that this evolution of planning approach of addressing the territory and rescaling of powers can provoke a ‘hollowing out’ of the state²⁰, while others emphasize that the state remains dominant in promoting economic development and policy making by allowing the creation of these new and more flexible areas and scales of intervention²¹. These reflections are very opportune to draw attention to the relevance of considering the power dynamics embedded within the social construction of soft spaces and the challenges and potentialities empowered by a given scale.

“It is dangerous to make any assumption about any

scale. Scales are not independent entities with pre-given characteristics. Instead, they are socially constructed strategies to achieve particular ends. Therefore, any scale or scalar strategy can result in any outcome.... All depends on the agenda of those empowered by a given scalar strategy”²².

Arguably, the challenge is keeping the flexibility of processes, the constellation of actors and institutions and the multitude of scales without jeopardizing the democratic and legal processes. It is natural that in a context of globalized competition between cities, soft spaces and soft planning approaches are a very useful approach for strategic planning, once they provide the necessary funding for the urban interventions. These financial resources might come as a form of a private stakeholder, national institution located on a higher or lower scale of even as a supranational institution as the EU or a global international bank or institution.

“Soft space approaches can be a useful part of the strategic planning repertoire in terms of facilitating development and creating competitive advantage, in part, through minimizing regulations or short-circuiting and partnering developments through formal processes. The danger though is that they might be used to sidestep wider responsibilities, not least those relating to the social justice and environmental aspects of sustainable development”²³. Therefore, arguably, there is a need of further research in order to fill this gap of knowledge related to the risks and challenges brought in soft spaces and soft planning strategies. Maintaining a critical stance concerning the shady aspects of the processes and negotiations will be fundamental for the betterment of processes, creating the possibility of organizing strategies and public policies to ensure social justice and accountability in the interventions, still bringing innovation to territorial planning processes.

The emergence of neoliberal thinking and urban entrepreneurship

During the 1960s, western European states focused on establishing a relatively uniform, standardized administrative framework throughout their territories and organise redistributive spatial policies intentioned to alleviate intra-national territorial inequalities. Part of this strategy was to extend urban industrial growth into underdeveloped, peripheral regions. This project of spatial Keynesianism continued into the 1970s, but was widely abandoned during the subsequent decade, as policymakers became increasingly preoccupied with the challenges of urban industrial decline, welfare state retrenchment, European integration, and economic globalization²⁴.

Nonetheless, according to Harvey²⁵, the trigger that caused the neoliberal paradigm shift was the recession that followed the 1973 oil crisis which caused deindustrialization, unemployment, fiscal austerity at both national and local levels, a tendency to neoconservatism, in addition to a

strong appeal to market rationality and privatization. The neoliberal process is configured as a landmark for urban planning, as it directly affects the role of the Estate in the construction of urban space, through its political economy. In the United Kingdom, Thatcherism proposed reducing, cutting spending, and redefining the state, transforming it from a regulator/distributor into a facilitating state. A minimum Estate, without capacity, which manages and articulates is maintained, while the private sector undertakes and executes²⁶. It is no longer an Estate that plans, organizes, makes development and growing plans, which is the basis of planning. Thus, the Estate begins to work with large urbanized, internationalized, financialized projects that try to capture global capital.

The shift to entrepreneurship in urban governance has as its ground zero the seminar in Orleans, in 1985, which brought together “academics, entrepreneurs and policy makers from eight large cities in seven advanced capitalist countries”²⁷ whose final consensus was that in the face of the recession, governments had to be much more innovative. According to Harvey²⁸, the shift to entrepreneurship in urban governance had its ground zero at the seminar in Orleans, in 1985, which brought together ‘academics, entrepreneurs and policy makers from eight large cities in seven advanced capitalist countries’²⁹ whose consensus was that in the face of the recession, governments had to be much more innovative. There was then a global proliferation of prestige project and urban mega-project developments that were intended both as a tool of local economic development and as a means of securing the physical regeneration of declining urban areas³⁰.

However, while the history of entrepreneurial cities is still being written and marked both by many ‘successes and failures, and yet there is controversy regarding what constitutes ‘success’ and from whose point of view. The fact is that, instead of leading to the development of cities towards the distribution of income and improvement of the general quality of life of the inhabitants, what was seen in many cases, was an impoverishment and loss of purchasing power for the working class, processes of “gentrification” and growth of the informal productive sector, or ‘precariousness’ of the workforce, especially women.

Arguably, the governance mechanisms and streamlining of urban planning processes used to leverage private interests from a neoliberal perspective are at the heart of the concept of ‘entrepreneurial city’ and the dual aspect of soft planning processes, which seeks, on the one hand, agility in the implementation of projects by making the planning process more flexible, and on the other hand, the possible co-option by real estate market actors and the political scenario.

If cities are known to generate the bulk of the income of countries, and where in some circumstances they can

even individually equal the income of a country, one can understand the power and importance of cities. The importance of associating good practices and of generating mechanisms through which these spaces can develop in an adequate manner, is fundamental.

“To talk about cities, is, therefore, to talk about the way in which the elements and the values mentioned above, interact with each other. And to talk about urban management means understanding how it is possible and desirable to intervene in this complex system of relationships”³¹.

The Community Local-Led Development (CLLD)

Alongside spatial planning paradigm shifts — turn to strategic spatial planning³²; rise of the governance paradigm³³; shift from government to governance³⁴; convergence between spatial planning and regional development approaches³⁵; emergence of soft spaces and soft planning³⁶ — the participation, empowerment and capacity-building of local communities have gained increasing relevance worldwide³⁷.

Transnational agendas such as the UN’s Agenda 2030 (SDG 10, 11 and 17)³⁸ and New Urban Agenda³⁹, the EU’s Urban Agenda⁴⁰, New Leipzig Charter⁴¹ and Territorial Agenda 2030⁴², make a point on this. Growing emphasis has been placed on people-centered and place-based policies, tailored to the specificities of each territory and context⁴³. Successful delivery requires the involvement of socio-economic stakeholders and the civil society, as well as new forms of participation and co-creation⁴⁴.

With this in mind, the EU has been fostering soft planning initiatives, namely by means of the Cohesion Policy, to encourage innovative local governance practices. These enabled member states with specific instruments to empower and capacitate communities as they can take decisive part in decision-making processes. The Community-Led Local Development (CLLD) — a novelty of the current EU programming cycle 2014–2020, evolved from the LEADER initiative and expanded to urban areas - is an example. Considered as a driver for soft planning and governance rescaling⁴⁵. CLLDs are “carried out through integrated and multi-sectoral area-based local development strategies, designed taking into consideration local needs and potential, (...) networking and, where appropriate, co-operation”⁴⁶.

Nonetheless, they are not free of risks and constraints. On the one hand, criticisms have been raised on participatory practices⁴⁷, while the risk of capture by elites⁴⁸ and top-down control⁴⁹ has been admitted as well. On the other hand, soft planning has been often acknowledged as a pathway to hamper democratic representativeness and planning legitimacy⁵⁰, especially when linked to neoliberal agendas⁵¹. Notwithstanding their virtuosity, CLLDs also run the risk of being co-opted and controlled or even geared towards less noble interests, especially when meeting the

ground and encountering domestic frameworks⁵².

Despite late research⁵³, literature exploring the implementation of CLLDs in Europe is scarce, especially in Portugal. Deeper knowledge is needed to scan the effects of such policies on local governance and planning practices. We argue that, notwithstanding the potentialities of community-based and -driven approaches to strengthen local territorial resilience and therefore mitigate the harmful effects of soft planning, attention shall be paid to uncover possible hijackings or even other more benevolent forms of distortion. Careful assessment of existing projects is key to improve territorial good governance and soft planning approaches and open up space for innovative governance solutions.

The deepening of this theme represents an important contribution in view of both the success of the forthcoming Community Programming cycle - Portugal 2030 and the implementation of UN’s sustainable development goals, especially in a post-pandemic scenario when community resilience is vital to overcome the crisis impact.

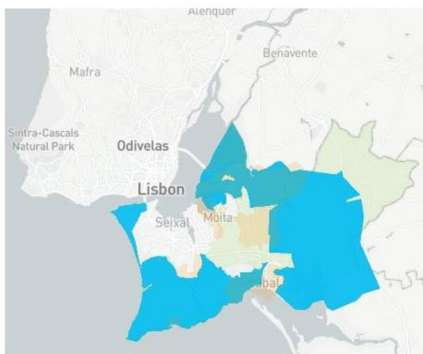
CLLDs at Lisbon Metropolitan Area – the case study of LAG Adrepes

For the purpose of this preliminary research, the case study of a local action group (LAG) ADREPES acting at Lisbon Metropolitan Area (LMA) has been selected. This choice is related to the nature of the addressed territory, a peri urban setting located in the South part of the metropolitan area of Lisbon. This territory encompasses nine municipalities, with approximately 782,044 inhabitants in a territory of 1,421 km².⁵⁴

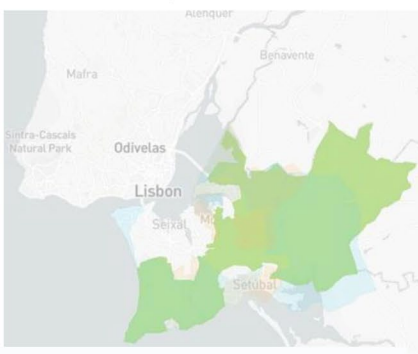
Due to the fact that the CLLDs is an instrument inherited from the LEADER policy, the LAG Adrepes was already well established and had a strong presence in this territory. The transition to the urban dimension of this policy happened almost as a natural development, being, however still in an embryonic stage. This can be easily perceived when analysing the information on the urban investment compared to rural and coastal investments. (fig. 1)

According to the institutional framework provided by the local government, in order to have access to the structural fund related to the CLLD instrument, LAG Adrepes had to present a submission which included a Local Development Strategy (LDS) for Setubal Peninsula for the cycle 2014-2020. The strategy design process started in February 2014, with a public presentation at the library of one of the municipalities which received the attendance of about a hundred participants, representing several public and private entities, including institutes, autarchies, private companies and the representants from the tertiary sector. At this session, a proposal for the methodology of the LDS was presented, including stages of the process, venues and dates foreseen for the future initiatives.

Coastal Territory



Rural Territory



Urban Territory

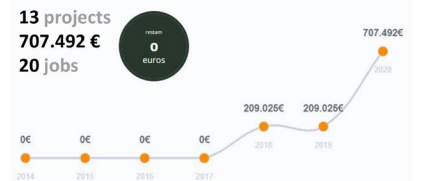
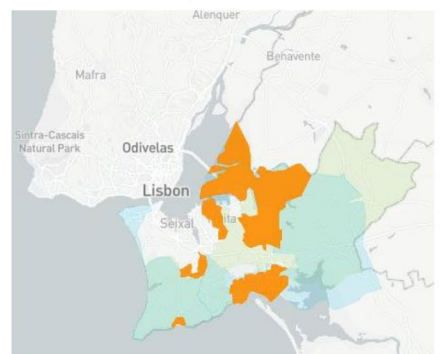


fig. 1. Projects and Investment in Setubal Peninsula provided through LAG Adrepes (www.adrepes.pt/).

During the following months, LAG Adrepes organised a series of diagnostic workshops held in partnership with each host municipality in a decentralized manner. According to the organisers, the criteria for the selection of participants on the workshops was their activity relevance in the sector to be diagnosed at that specific workshop. The chosen regional entities represented economic, environmental, social, and cultural interests, with emphasis on local authorities, public institutes, cooperatives, companies, and associations. In May 2014, a major workshop was held with all local actors of the previous workshops and other relevant representants in order to collect final contributions to the consolidation of the LDS. (fig. 2)

Between April and December of the same year, interviews were conducted with key actors, in order to enrich the diagnosis and collect proposals for strategic actions. Meanwhile meetings were held with the mayors of the nine municipalities to present the draft of the partnership proposal including the definition of the intervention territory and a preliminary version of the LDS. The work realised during the whole year culminated in a public seminar with a presentation of the LDS strategic objectives and was attended by almost 300 participants. At that time, a major strategic objective was defined:

“Contribute to rural, coastal and social development, based on a local intervention participated and managed by the community, according to LEADER principles, in a peri-urban territory, with social asymmetries, of great landscape, diversity and cultural wealth”⁵⁵.

Following this seminar, between December 2014 and January 2015, meetings were held with all relevant entities in order to present the final LDS and invite them to join the CLLD partnership by signing a Cooperation and Partnership Protocol. As a result of these meetings, GAL Adrepes Rural, Coastal and Urban partnerships were

officially established in February 2015, and by May 2015, their respective representants were elected for the 2015-2017 triennium. In July 2015, the LDS is submitted to the 2nd phase - Selection of Local Development Strategies (LDS) and recognition of Local Action Groups (LAG).

Implemented projects by LAG Adrepes at Setubal Peninsula

During the cycle of 2014-2020 LAG Adrepes has distributed structural funds for a total of 208 projects — 46 projects in coastal territory, 149 projects in rural territory and 13 projects in urban territory — totalising 12.307.492 €, half of this amount coming from central government. Arguably the nature of the subsidised projects is quite pedestrian, reflecting at a first glance, some of the immediate necessities of a local community, a social institution or a small local company or retailer. The interesting aspect of the projects, however, relies on the fact that they do embrace the diversity of the territory, the potentialities of the territory, in this case a peri-urban setting whose economy is heavily structured in tourism, agriculture, fishery activities and



fig. 2. Workshop organised by LAG Adrepe (www.adrepes.pt/estrategia-14-20/).

related provision of urban services to support these industries.

Among the 149 projects, there is the remodelling of a listed building, investment on the construction of units for local tourism accommodation, construction of a shop for a vineyard, implantation of a fitness external area dedicated to an elderly social institution. All these examples are almost invisible interventions; however, they represent their share of contribution to the support of the local economy, creation of jobs and rapid improvement in the daily life of the community. (fig. 3)



fig. 3. Example of a CLLD project through LAG Adrepes (www.adrepes.pt/projectos/).

Preliminary reflections on CLLD in Lisbon Metropolitan Area

A preliminary analysis of the European Commission CLLD official report⁵⁶, shows there is a strong presence of mixed CLLDs implemented by member states reflecting the relevance and synergies between urban, rural, and coastal CLLDs. Being an instrument inherited from the LEADER policy, which was specially dedicated to rural and coastal projects, the LAG Adrepes presence in the territory of study was already established.

In a post pandemic scenario, urban, coastal, and rural territories are extremely interconnected, if not physically in terms of physical accessibility, at least virtually which relevance has increased immensely due to the physical restriction brought by the pandemic. Therefore, boundaries become increasingly blurred, as virtually life itself is happening not only in the actual territories, but everywhere. The idea of urban-rural or rural-urban compartmentalization has to be challenged⁵⁷ and probably mixed CLLDs will become the standard format for the instrument, at least the trend seems to point in this direction.

Have the municipalities co-opted the process and acted by proxy through LAG Adrepes? By analysing the nature of the interventions in Setubal Peninsula it is not very evident that is the case. Would it be possible that instead of the spectre

of neoliberalism haunting this soft planning strategy, the real issue was the 'neo' centralism guiding the actions of this LAG? Could that have happened either via the local authorities dominating explicitly or surreptitiously the so-called community dynamics, or via networks of local agents controlled by the central administration? Who actually controls these mechanisms/agendas? In this alternative politics reside exactly the core of this discussion. They are supposed to be an innovation in territorial governance. The central question is whether they really are.

This research will carry on providing answers to these questions: (i) what are the main effects of CLLDs in the territory, apart from the generation of jobs? (ii) what is their role in the training and empowerment of local communities? (iii) are LAGs been co-opted by local authorities, elites, or other actors? What are the surreptitious forms of capture or co-option? (iv) do the rural and coastal CLLDs have a beneficial contribution to the urban areas?

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⁴Garri Raagmaa and Dominic Stead, *Impacts of European Territorial Policies in the Baltic States, 2015*. urban and regional planning institutions and organizational cultures in the Baltic States have only changed rather incrementally, despite various national and European pressures for reform. As a consequence, the effects of European cohesion and structural policy measures have been quite modest, and the ability of the planning systems in the Baltic states to manage contemporary trends in urban and regional development has become increasingly limited. This book focuses on these issues and tensions of spatial planning and development in the Baltic States and their distinctiveness compared to other European countries. It provides an overview of the historical and cultural context of spatial development, a discussion of the processes of Europeanization of spatial planning in the specific context of the Baltic States, and an analysis of whether these processes may be leading to policy convergence in the region. This book was published as a special issue of *European Planning Studies*.
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¹⁴(Lefebvre, 1979, p. 290)

¹⁵Stead, ‘European Integration and Spatial Rescaling in the Baltic Region: Soft Spaces, Soft Planning and Soft Security’.

¹⁶(McCann, 2003, p. 162) natural, and immutable levels upon which social life occurs. Rather, it regards scale as a fluid context for and product of power relations in society. The article argues that urban politics is frequently characterized by political strategies that frame reality in terms of scale. Agents of the state, capital, and civil society all engage in the politics around competing scalar framings. As a result, the politics of scale has important but contingent material consequences. The article illustrates these points through a case study of the politics

that surrounded the development of a new neighborhood planning initiative in Austin, Texas in the late 1990s. Based on this case study, the article also argues that while geographers studying the politics of scale tend to explain it solely in terms of spatial scale, scalar politics in the urban context frequently combines framings of spatial and temporal scale. This simultaneous framing of space and time in the city has important, if sometimes unpredictable, implications for policy and politics.”;¹⁷author”:{“dropping-particle”:,“family”:¹⁸McCann,“given”:¹⁹Eugene J.,“non-dropping-particle”:,“parse-names”:²⁰false,“suffix”:,“container-title”:²¹Journal of Urban Affairs,“id”:²²ITEM-1,“issued”:{“date-parts”:[²³“2003”]};“title”:²⁴Framing space and time in the city: Urban policy and the politics of spatial and temporal scale,“type”:²⁵article-journal},“uris”:[²⁶http://www.mendeley.com/documents/?uuid=463018ef-5545-4560-ae9c-0e98ab13056d”]};“mendeley”:{“formattedCitation”:²⁷Eugene J. McCann, ‘Framing Space and Time in the City: Urban Policy and the Politics of Spatial and Temporal Scale’, <i>Journal of Urban Affairs</i>, 2003 <<https://doi.org/10.1111/1467-9906.t01-1-00004>>.”;²⁸manualFormatting”:²⁹(McCann, 2003, p. 162

¹⁷Kristian Olesen, ‘Soft Spaces as Vehicles for Neoliberal Transformations of Strategic Spatial Planning?’, *Environment and Planning C: Government and Policy*, 2012 <<https://doi.org/10.1068/c11241>>.

¹⁸(Stead, 2014a, p. 682)

¹⁹Phil Allmendinger and Graham Haughton, ‘Soft Spaces, Fuzzy Boundaries, and Metagovernance: The New Spatial Planning in the Thames Gateway’, *Environment and Planning A: Economy and Space*, 41.3 (2009), 617–33 <<https://doi.org/10.1068/a40208>>.

²⁰Bob Jessop, “‘The Entrepreneurial City: Re-Imaging Localities, Re-Designing Economic Governance, or Restructuring Capital?’”, *Realising Cities: New Spatial Divisions and Social Transformation*, January, 1997, 28–41.

²¹Neil Brenner, *New State Spaces* (Oxford University Press, 2004) <<https://doi.org/10.1093/acprof:oso/9780199270057.001.0001>>.

²²(Purcell, 2006, p. 1921-1922)

²³(Haughton et al., 2010, p. 241)

²⁴Brenner, *New State Spaces*.

²⁵David Harvey, *A Brief History of Neoliberalism* (Oxford University Press, USA, 2005).

²⁶Louise Dalingwater, ‘Civil Service Reform and the Legacy of Thatcherism’, *Observatoire de La Société Britannique*, 17, 2015, 61–78 <<https://doi.org/10.4000/osb.1765>>.

²⁷(Harvey, 2005, p. 166)

²⁸David Harvey, 'From Managerialism to Entrepreneurialism: The Transformation in Urban Governance in Late Capitalism', *Geografiska Annaler. Series B, Human Geography*, 71.1 (1989), 3 <<https://doi.org/10.2307/490503>>.

²⁹(Harvey, 2005, p. 166)

³⁰Harvey, 'From Managerialism to Entrepreneurialism: The Transformation in Urban Governance in Late Capitalism.'

³¹(Ferrão, 2003, p. 223)

³²Louis Albrechts, Peter Schmitt, and Rainer Danielzyk, 'Strategic (Spatial) Planning Reexamined', *Environment and Planning B: Planning and Design*, 54.5 (2004), 743–58 <<https://doi.org/10.1068/b3065>>. It is being assumed that the solutions to complex problems depend on the ability to combine the creation of strategic visions with short-term actions. The creation of strategic visions implies the design of shared futures, and the development and promotion of common assets. Moreover, all of this requires accountability within a time and budgetary framework and the creation of awareness for the systems of power. Delivering on these new demands implies the development of an adapted strategic planning capacity and a shift in planning style in which the stakeholders are becoming more actively involved in the planning process on the basis of a joint definition of the action situation and of the sharing of interests, aims, and relevant knowledge. In this paper I aim to provide building blocks for such an 'alternative' strategic (spatial

³³Bob Jessop, 'The Narrative of Enterprise and the Enterprise of Narrative: Place Marketing and the Entrepreneurial City', *The Entrepreneurial City: Geographies of Politics, Regime and Representation*, 1998, 77–99 <<http://bobjessop.org/2013/12/03/the-narrative-of-enterprise-and-the-enterprise-of-narrative-place-marketing-and-the-entrepreneurial-city/>>.

³⁴Erik Swyngedouw, 'Governance Innovation and the Citizen: The Janus Face of Governance-beyond-the-State', *Urban Studies*, 42.11 (2005) <<https://doi.org/10.1080/00420980500279869>>. Innovative governance arrangements are increasingly recognised as potentially significant terrains for fostering inclusive development processes. International organisations like the EU and the World Bank, as well as leading grass-roots movements, have pioneered new and more participatory governance arrangements as a pathway towards greater inclusiveness. Indeed, over the past two decades or so, a range of new and often innovative institutional arrangements has emerged, at a variety of geographical scales. These new institutional 'fixes' have begun to challenge traditional state-centred forms of policy-making and have generated new forms of governance-beyond-the-state. Drawing

on Foucault's notion of governmentality, the paper argues that the emerging innovative horizontal and networked arrangements of governance-beyond-the-state are decidedly Janus-faced. While enabling new forms of participation and articulating the state-civil society relationships in potentially democratising ways, there is also a flip side to the process. To the extent that new governance arrangements rearticulate the state-civil society relationship, they also redefine and reposition the meaning of (political

³⁵N Adams, J Alden, and N Harris, *Regional Development and Spatial Planning in an Enlarged European Union, Urban and Regional Planning and Development* (Ashgate, 2006) <<https://books.google.cg/books?id=qV1PAAAMAAJ>>.

³⁶Simonetta Armondi and Sonia De Gregorio Hurtado, *Foregrounding Urban Agendas*, ed. by Simonetta Armondi and Sonia De Gregorio Hurtado, *The Urban Book Series* (Cham: Springer International Publishing, 2020) <<https://doi.org/10.1007/978-3-030-29073-3>>.

³⁷Fabrizio Barca, Philip Mccann, and Andrés Rodríguez-Pose, 'The Case for Regional Development Intervention: Place-Based versus Place-Neutral Approaches', *Journal of Regional Science*, 52.1 (2012), 134–52 <<https://doi.org/10.1111/j.1467-9787.2011.00756.x>>.

³⁸United Nations, 'Transforming Our World: The 2030 Agenda for Sustainable Development', 2015.

³⁹United Nations, 'The New Urban Agenda', in *Habitat III. The United Nations Conference on Housing and Sustainable Urban Development.*, 2016.

⁴⁰European Commission, *Urban Agenda for the EU - Pact of Amsterdam* (Brussels: Commission of the European Communities, 2016).

⁴¹European Commission, *The New Leipzig Charter* (Brussels: Commission of the European Communities, 2020).

⁴²European Commission, *Territorial Agenda 2030. A Future for All Places* (Brussels: Commission of the European Communities, 2020).

⁴³Fabrizio Barca, *An Agenda for a Reformed Cohesion Policy. A Place-Based Approach to Meeting European Union Challenges and Expectations* (Brussels: Commission of the European Communities, 2009).

⁴⁴European Commission, 'Territorial Agenda 2030. A Future for All Places', December, 2020.

⁴⁵Cristina Cavaco and João Pedro Costa, 'Administrative Organisation and Spatial Planning in Portugal: A Push towards Soft Planning Spaces in Europe?', in *Shaping*

Regional Futures: Designing and Visioning in Governance Rescaling, 2019 <https://doi.org/10.1007/978-3-030-23573-4_7>.

⁴⁶European Commission, *Guidance on Community-Led Local Development (CLLD) for Local Actors* (Brussels: Commission of the European Communities, 2014).

⁴⁷Giles Mohan, 'Beyond Participation: Strategies for Deeper Empowerment', in *Participation: The New Tyranny?* (London: Zed Books, 2014), pp. 153–167.

⁴⁸Ghazala Mansuri and Vijayendra Rao, 'Community-Based and -Driven Development: A Critical Review', *World Bank Research Observer*, 2004 <<https://doi.org/10.1093/wbro/lkh012>>.with the World Bank's portfolio alone approximating \$7 billion. A review of their conceptual foundations and evidence on their effectiveness shows that projects that rely on community participation have not been particularly effective at targeting the poor. There is some evidence that such projects create effective community infrastructure, but not a single study establishes a causal relationship between any outcome and participatory elements of a community-based development project. Most such projects are dominated by elites, and both targeting and project quality tend to be markedly worse in more unequal communities. A distinction between potentially "benevolent" forms of elite domination and more pernicious types of capture is likely to be important for understanding project dynamics and outcomes. Several qualitative studies indicate that the sustainability of community-based initiatives depends crucially on an enabling institutional environment, which requires government commitment, and on accountability of leaders to their community to avoid "supply-driven demand-driven" development. External agents strongly influence project success, but facilitators are often poorly trained, particularly in rapidly scaled-up programs. The naive application of complex contextual concepts like participation, social capital, and empowerment is endemic among project implementers and contributes to poor design and implementation. The evidence suggests that community-based and -driven development projects are best undertaken in a context-specific manner, with a long time horizon and with careful and well-designed monitoring and evaluation systems. © The International Bank for Reconstruction and Development / THE WORLD BANK 2004; all rights reserved.,"author":[{"dropping-particle":"","family":"Mansuri","given":"Ghazala","non-dropping-particle":"","parse-names":false,"suffix":""}],{"dropping-particle":"","family":"Rao","given":"Vijayendra","non-dropping-particle":"","parse-names":false,"suffix":""}],container-title":"World Bank Research Observer","id":"ITEM-1","issue":"1","issued":{"date-parts":["2004"]},"title":"Community-based and -driven development: A critical review","type":"article","volume":"19"},"uris":["http://www.mendeley.com/documents/?uuiid=3ded46c8-1c4e-3d47-a517-80573b1b2648"]],"mendeley":{"formattedCitation":

"Ghazala Mansuri and Vijayendra Rao, 'Community-Based and -Driven Development: A Critical Review', <i>World Bank Research Observer</i>, 2004 <<https://doi.org/10.1093/wbro/lkh012>>."},"plainTextFormattedCitation": "Ghazala Mansuri and Vijayendra Rao, 'Community-Based and -Driven Development: A Critical Review', *World Bank Research Observer*, 2004 .","previouslyFormattedCitation": "Ghazala Mansuri and Vijayendra Rao, 'Community-Based and -Driven Development: A Critical Review', <i>World Bank Research Observer</i>, 2004 <<https://doi.org/10.1093/wbro/lkh012>>."},"properties":{"noteIndex":48},"schema":"https://github.com/citation-style-language/schema/raw/master/csl-citation.json"}

⁴⁹Kim Pollermann, Petra Raue, and Gitta Schnaut, 'Multi-Level Governance in Rural Development: Analysing Experiences from LEADER for a Community-Led Local Development (CLLD)', 54th Congress of the European Regional Science Association: 'Regional Development & Globalisation: Best Practices', 26-29 August 2014, St. Petersburg, Russia (Louvain-la-Neuve: European Regional Science Association (ERSA), 2014) <<http://hdl.handle.net/10419/104063>>.and, at least in Germany, it is already evident that this gain will continue: for the 2014-2020 funding period there around 300 LAGs expected in comparison to 244 LAGs in the last period. For the new funding period new regulations envisages a Common Strategic Framework (CSF

⁵⁰Dominic Stead, 'European Integration and Spatial Rescaling in the Baltic Region: Soft Spaces, Soft Planning and Soft Security', *European Planning Studies*, 2014 <<https://doi.org/10.1080/09654313.2013.772731>>.

⁵¹Olesen, 'Soft Spaces as Vehicles for Neoliberal Transformations of Strategic Spatial Planning?'

⁵²Eva Purkarthofer, 'When Soft Planning and Hard Planning Meet: Conceptualising the Encounter of European, National and Sub-National Planning', *European Journal of Spatial Development*, 61.61 (2016), 1–20.

⁵³Roberta Sisto, Antonio Lopolito, and Mathijs van Vliet, 'Stakeholder Participation in Planning Rural Development Strategies: Using Backcasting to Support Local Action Groups in Complying with CLLD Requirements', *Land Use Policy*, 70 (2018) <<https://doi.org/10.1016/j.landusepol.2017.11.022>>.rural areas are a complex web of social, political and historical factors. In addition, several kinds of uncertainties are usually present. As a consequence, frequent mismatches arise in practise between measures and rural development goals and priorities. To overcome this pitfall, a key factor is represented by the acquisition of relevant knowledge from local stakeholders. In line with this idea, the European Commission encourages the Community-Led Local Development approach delivered by Local Action Groups. The aim of the study is to show the

suitability of a participatory approach, namely backcasting, to the outline of the Local Action Plan of a specific LAG. Within this framework, a participative backcasting experience was carried out with the stakeholders of the LAG 'Daunia Rurale' in order to detect their needs and the strategic actions to carry out. The study provided stakeholders and policy makers with a rational approach and an operational tool to recognise the needs and design the actions for the specific endogenous potential of the investigated area. The proposed method proved to be rather innovative in CLLD contexts for the detection of expressed needs of local stakeholders and the definition of the LAP. We submitted some questionnaires to stakeholders and looking at their results (either at the ones on the niceness of the workshop or at the strategy-validation ones

⁵⁴Source: <https://aiset.pt/peninsula-de-setubal/>

⁵⁵Source: <https://www.adrepes.pt/estrategia-14-20/>)

⁵⁶Darinka Czischke and Simona Pascariu, *The Participatory Approach To Sustainable Urban Development in the Cohesion Policy Period 2014-2020: Making CLLD in Urban Areas Work* (Brussels: Commission of the European Communities, 2015) <http://urbact.eu/sites/default/files/clld_thematic_report.pdf>.

⁵⁷Neil Brenner, 'The Urban Question as a Scale Question: Reflections on Henri Lefebvre, Urban Theory and the Politics of Scale', *International Journal of Urban and Regional Research*, 24.2 (2000) <<https://doi.org/10.1111/1468-2427.00234>>.

New Territories



17.06.2021 NEW TERRITORIES

DOCTORAL PRESENTATIONS

11.45 - 13.45 BLOCK 02 Inhabited Parks and Rewilding

CET

			Supervisor(s)	Respondents
12.45 - 13.05	Wei Lei	Water-based Urbanism in Yangtze River Delta Region: From an art of survival towards future integrated development	K. Shannon B. De Meulder (KU Leuven)	C. Nolf (Xi'an Jiaotong-Liverpool Uni.) T. Mai Anh (UAH)
13.05 - 13.25	Zaozao Wang	Towards Flood Resilient Deltas: Learning from adaptive urban forms in Jiangnan area	C. Nolf Y. Dong N. Macdonald (Xi'an Jiaotong-Liverpool Uni.)	T. Mai Anh (UAH) J. Marin (KU Leuven)
13.25 - 13.45	Sheeba Amir	Appropriated Ecologies: Water and society in peri-urban Gurgoan, India	K. Shannon (KU Leuven)	L. Esho (TU Kenya) R. De Lestrang (UCLouvain)

14.45 - 16.30 BLOCK 03 Co-creative Landscapes & the Reclamation of Space

14.45 - 15.05	Ellen Verbiest	Radical Responses Require Situated Knowledge: Constructing situated knowledge for the circular reconversion of industry parks	B. De Meulder J. Marin A. Vande Moere (KU Leuven)	J. Gosseye (TU Delft) L. Hansen (WITS Johannesburg)
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Water-based urbanism in Yangtze River Delta region: from an art of survival towards future integrated development

Wei Lei, KU Leuven (2021-24)

K. Shannon, B. De Meulder (promoters)

abstract: The urbanism in the Yangtze River Delta region was inextricably linked to crises of wars and the rise and decline of water-based industries. The notion of landscape as infrastructure in the Chinese context was introduced as the Art of Survival by the Beijing-based landscape architect Kongjian Yu in 2006. However, it was mainly limited to the wisdom of traditional strategies towards nature dealing with basic living and agriculture. This demands an update of the more than a simple 'art of survival' which can be extended and further elaborated through a focus on the delta's regional identity. The paper builds on the studies on the traditional green-blue infrastructure and the history of urbanism in YRD with a particular emphasis on relevant theories. This lays the foundation for the future potential protection, re-articulation and re-development of the indigenous wisdom to inform and integrate regional development of YRD region.

keywords: urban crisis, indigenous landscape, YRD megalopolises, YRD integration

Introduction

The Yangtze River Delta (YRD) is a general concept referring to a geographically alluvial plain and one of the most developed megalopolises in China and around the globe. The urbanism in YRD has always been closely related to its various water environment, within which crisis is one of the logics. The relics of human settlement of the Liangzhu culture (BCE 3400-2250) have been proved as evidence that the early civilization in YRD started to use dams¹. Despite those early civilizations of limited population, the vast urbanization in YRD started from the Six Dynasties (CE 222-589) when Nanjing became the capital city. On December 1, 2019 the Central Committee of the CPC and the State Council of the PRC issued the plan to boost the integrated development of YRD, which was a big advance after November 2018 when China's President Jinping Xi declared the development of YRD as part of a "national strategy". Emphasizing the YRD as a spatial concept based on the formerly non-integrated administrative territories, the 'integration' itself demonstrate innovative urbanism, landscape and planning practices. It indicates changes made by the strong Chinese leadership to certain problems that are hard to tackle through common urbanism strategies. This requires certain updates of urbanism itself. Drawing up the crisis-related urbanism in the YRD through indigenous practices and theories provides a possible narrative to be elaborated regionally.

Crisis and urbanism in YRD

Looking back upon the history to understand the ancient urbanism in YRD, the crisis of war is a key agent for the water-based urbanism in YRD. The region is namely a hydraulic society in Karl A. Wittfogel's terms reflecting a typical oriental governmental centralization and agromanageerial despotism. Under that relatively simple social context, different stages of urbanism in YRD from the regional scale can be easily distinguished with the vicissitude of

dynasties. The urbanism of four central cities in different dynasties in YRD can reflect the key motivations of urbanism in different stages (table.1 and fig.1)³. According to that, the vast migration and the ruins of the formerly well-developed sites are generally the starting points to move on to the next stages. Different stages differs in places of development and the way of development. Among the differences, the strategic functions of water in this region, mainly the Yangtze River, the Grand Canal, the Qiantang River and the Tai Lake, can be regard as different during different times. Despite the obvious relationship between crisis of war and the main water bodies, the water system are cross-regional throughout and even beyond the YRD, similar to wars and migrations linking to the regional scale to national scale narratives.

Apart from migrations of the capital directly leading to the vast urbanization, there is crisis of climate variation which enhanced the process of constant further development of the region. The YRD is not naturally suitable for vast human settlement and agriculture, the large number of immigrants escaping from the crisis of war had to deal with crises of flooding, sea water encroachment and shortage of farmland in this growing delta region. There is evidence showing why the urbanism in YRD at that agrarian society was not on the wane due to the migration of the capital back to the North far away. According to Bozhong Li in his study of the several rises and declines in China's population, crop failure due to climate variations can directly lead to population declines. During the cold years, the single-cropping rice cultivation cannot even been carried out within the Yellow river basin, while during the hot years the double-cropping rice⁶ can go North along the Yangtze River (fig. 2). Based on a disputable belief that the advanced agricultural techniques were introduced from Zhongyuan to Jiangnan⁷ following the migration of the capital, the political factor as a precondition for the development in

Dynasties	Central cities	Main reason for prosperity	Reason for decline
Six Dynasties	Jiankang (Nanjing), capital city	Relocation of the capital from the North (Chang'an) to the South (Jiankang) after war. The Yangtze River and the many surrounding mountains in Jiangkang were considered as natural barriers.	The coming Sui Dynasty relocated the capital to the North in Chang'an (Xi'an).
Sui and Tang Dynasties	Yangzhou, non-capital city	Sui excavated the Grand Canal connecting its capital to Jiangnan. Located at the intersect of the Yangtze River and the Canal, Yangzhou became a centre of finance and culture.	Yangzhou was destroyed by war at the end of Tang Dynasty.
Song Dynasty	Lin'an (Hangzhou), capital city	Southern Song Dynasty escaped from the North to the South and finally set Lin'an as capital city to get away from Yangtze River with the concern of wars.	Destroyed by war, the coming Yuan Dynasty relocated the capital back to the North (Beijing).
Ming and Qing Dynasties	Suzhou, non-capital city	With the cultivation of mulberry and cotton became popular, Suzhou became the centre of manufacturing taking the advantage of raw materials and waterways.	Suzhou was destroyed by the end of Qing Dynasty.

table. 1. Five stages of urbanism of YRD reflected by five central cities

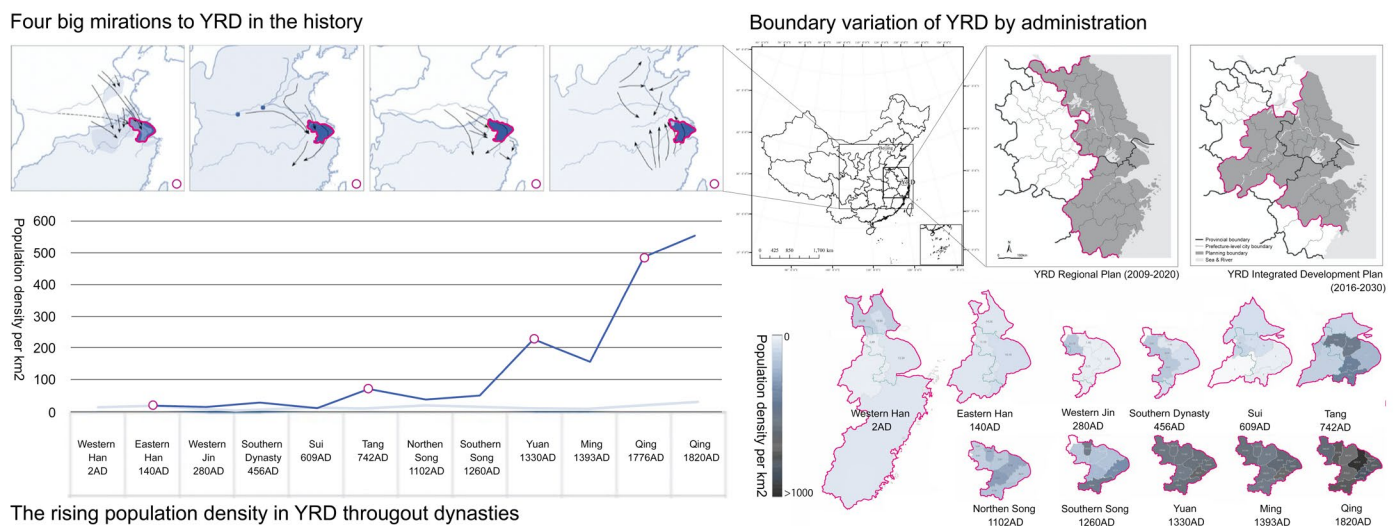


fig. 1. Mapping of migrations and the variation of administration borders of YRD (by author with reference to retrieved figures^{4,5}).

the YRD lead to the development of more performant agriculture that in return catalysed further urbanisation.

Crisis and urbanism in YRD are different during different stages, single research often clearly sets its boundary between the past and contemporary or only focuses on a single aspect chronologically. On the one hand, the studies of urbanism in ancient YRD are usually linked with the perspective of the environmental history and historical geography that mainly study the interaction among humans, society and the rest of nature in the past by means of interdisciplinary methods¹¹. Obviously, the feudal society as a fundamental background is no longer part of the urbanism of YRD nowadays. On the other hand, contemporary studies globally, the delta urbanism from Han Meyer and Steffen Nijhuis for example, are based on the well-practiced layers approach improved with the

concept of a complex system for both design research and research by design. Under such a combination, the approach itself determines that the analysis of complex urban regions is limited to be time-specific and site-specific. It seems unapplicable to clearly layer complex systems of either a region throughout the long history or comparative case studies. Concerning the abundant history and current national policies of YRD, the paper suggests the gap among the studies is important and can be further elaborated based on three points: a) the emphasis on YRD as a (cross-)regional concept in various urbanism contexts; b) the constant review and advocacy of the so-called ancient wisdom believing in harmony between man and nature; c) the expected comprehensive narrative of the origin of landscape as urbanism in China.

Critique on the art of survival regarding water-

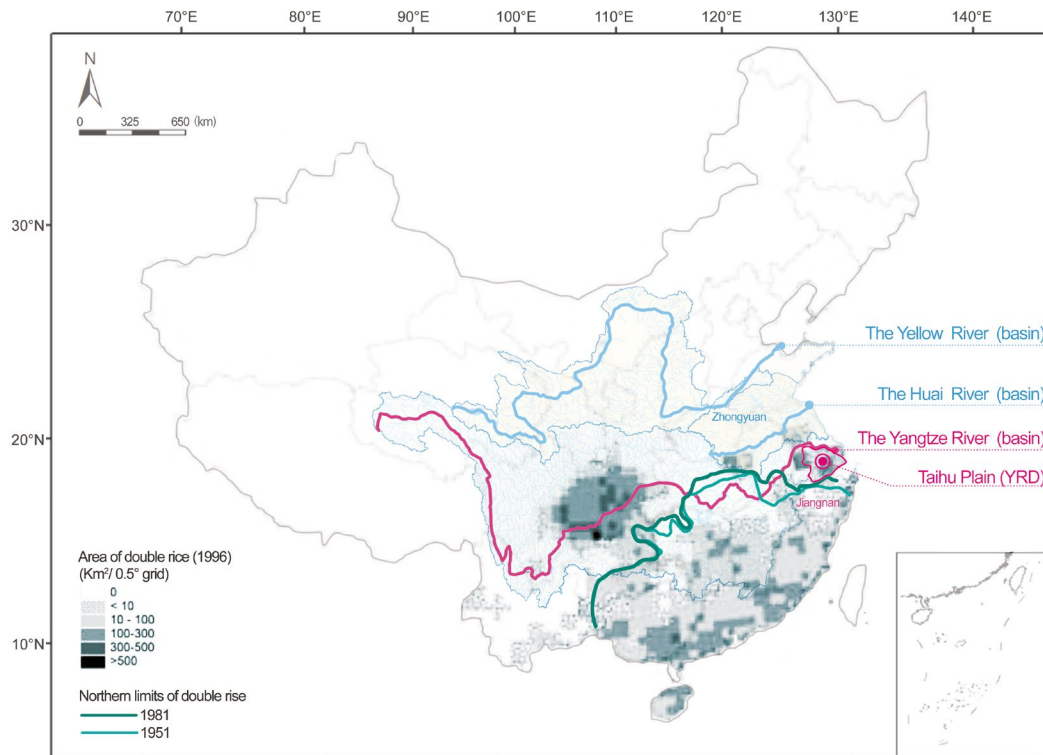


fig. 2. Mapping of the changing distribution of double-cropping⁸ (by author with reference to the retrieved figures^{9,10}).

based urbanism

To reflect both the aforementioned studies and methods towards the past and the present more specifically, the critique is made on a referable Chinese theory (notion). The domestically and internationally active Beijing-based landscape architect and scholar Kongjian Yu introduced the wisdom of indigenous Chinese landscape practice as the ‘art of survival’ first in his keynote speech at the 2006 IFLA congress and has been keeping enriching the concept. To briefly sum up, the proposed art of survival set the origin of indigenous Chinese landscape to be the wisdom of following the rules of nature and dealing with natural disaster, sustainable agriculture and harmonious living. In order to position the art of survival in Yu’s theory as a whole, this paper introduces two poles (fig.3). One is in line with the environment history and historical geography studies that rooted in Chinese cultural context. The other is in line with the Western planning analysis and landscape ecology based on objective computation and layering.

Although the two orientations for research and practices obviously stand for different epistemologies, the two

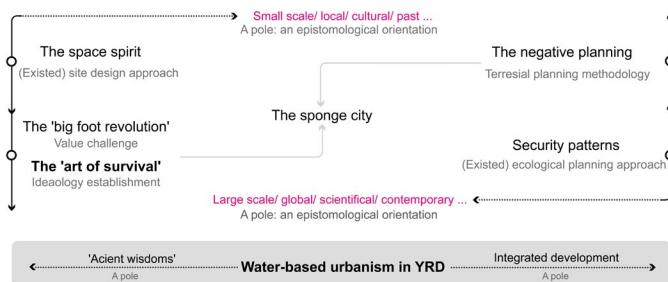


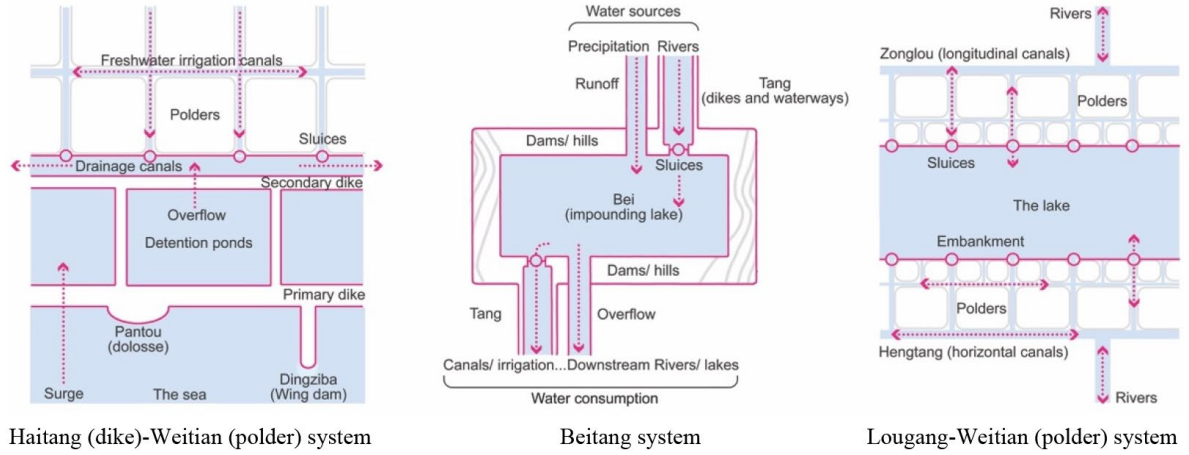
fig. 3. Mapping of Yu’s knowledge development and the positioning of water-based urbanism in YRD (by author with reference to the publications from Kongjian Yu).

poles are not necessarily placed as dichotomy. For one thing, the medium part between them, the sponge city, is connected with the scales within which landscape architects and urban planners deal with project-based problems. The content from the two poles, though seemingly too abstract and excessive for projects, is often mentioned and well-organized in the same narrative in practice in both design concept and planning analysis. For another, opposite concepts are constantly challenged philosophically and re-articulated theoretically. Taking the philosophic understanding of globalization (the global-of-modernization) not as everything similar but goodness of local (the local-to-be-modernized) can be applied globally from Bruno Latour for example, the two poles have the potency to be in the same line with the art of survival positioned as a concept in the middle of this framework.

There have already been certain studies of the “ancient wisdom” in YRD’s water environment in line with Yu’s art of survival. Despite the fact it is hard to depict all the water-based strategies in this short chapter concerning the different scales and changes through times in individual cases, this chapter uses the Taihu plain¹² to depict the general strategies regarding crisis and water-based urbanism (table.2 and 3). Different strategies were not limited to a specific period but spatially waxed and waned and technically evolved due to wars and constant exploitation. It was not until Han dynasty that the different water-based strategies started to form mature interactive and inter-connected relationships. And not until the Ming and Qing Dynasties did the hydraulic engineering in the Taihu plain became a rather complete spatial system¹³. Admitted by Yu, the art of survival from the ancient wisdom is mainly referred to the landscape related to agriculture.

Strategies	Dike ¹⁵	Beitang ¹⁶	Lougang ¹⁷	Polder	Canal
Related crises	i) Tidal intrusion ii) Coastline variation	i) Flooding ii) Drought	i) Flooding ii) Drought	i) Farmland shortage ii) Food shortage	i) War ii) Food shortage
Main functions	i) Prevent salt-water tidal intrusion into the farmland ii) Coastline protection	i) Irrigation ii) Flood control iii) Maintain canals' water level	i) Flood control ii) Maintain canals' water level	Agriculture	i) Irrigation ii) Troop delivery iii) Transportation and logistics
Water type	Lakes and the sea	Precipitation and rivers	Lakes and rivers	All	Lakes and rivers

Diagram of prototypical plan structure



Source: by author with reference to the retrieved figures^{18,19,20}

table. 2. A general overview of traditional water-based strategies in Taihu basin (Information categorized and adapted by author referring to quotations in the text)

Immigration and growing population naturally relied on the local agriculture where the strategies dealing with the water environment were always linked with survival. There is no problem for Yu to introduce Taohuayuan¹⁴ as an image of ideal living fantasy simply looking at the function of the strategies and their crises behind. It also seems acceptable to extend the concept from village clusters to cities surrounded by beautiful farms, rivers, lakes and mountains that interlink Chinese Fengshui (geomancy) culture and contemporary environment studies.

However, to look at the water-based strategies together with the process of regional urbanism, the application of the strategies and their further influences are so far beyond agriculture and human settlements that the art of survival is not sufficient to explain the evolution of the ancient water-based urbanism. Firstly, the crisis of agricultural production of YRD only appears at the initial stages of vast migration. With the population growth in both China and YRD (table.1), the crisis existed but changed from the regional adaptive agriculture to the nationwide food security (fig.1). The constant exploitation was not for local villages or cities but strategically for the vast area beyond YRD. Secondly, important and fundamental as agriculture was, the key of urbanism that highlighted YRD on the imperial map was either initiated nor led by the agriculture (table.1 and 3). It was the war and the later on vast commerce and mass production relying on the geographical advantage and well-developed agriculture and transportation infrastructure that constantly kept the region prosperous (table.1). Thirdly, the percentage of the hydraulic engineering for agriculture was stable but rather

low, while the engineering for water regulation constantly increased (table.3). These has been the trend of the water-based strategies even till nowadays. The defined art of survival is not enough to cover the core logic of urbanism in the ancient YRD regionally.

In addition, except for the failure in reflecting the process of the urbanism in ancient times, the art of survival has certain aspects of incongruity with contemporary theories and practices as well. Theoretically in large-scale analysis, the ecological spaces have been separated from agricultural spaces and urban spaces under certain amount of related subjects. In China's terrestrial planning, the planning and controlling 'three lines'²⁶ issued in 2018 followed that idea²⁷. Even though such categorizations do not intervene in any discussion on the ecological function of agriculture and settlements on specific project scale, when encountering topics like climate change, ecology, resilience from the regional scale and beyond, it may not be proper to extend the art of survival if its logic was mainly rooted in agriculture. The art of survival needs re-articulation that better bridges contemporary theories and practices under Yu's rather all-sided framework.

Discussion: extension on the art of survival towards integrity

Since the urbanism, not only in YRD, has been involved with crisis for thousands of years, once the future urbanism still sets the crisis as its main logic, then the "art of survival" can well apply and would better be extended. The so-called 'ancient China' behind the 'Chinese ancient wisdom' is such a broad concept in time and space that changes of

Time	Dynasties	Qin and Han (BCE 221-CE220)	Six Dynasties (CE 221-581)	Sui and Tang (CE 581-907)	Song and Yuan (CE 960-1368)	Ming (CE 1368-1644)	Qing (1644-1911)
Crises of common occurrence	Wars	○	○	-	○	-	-
	Food shortage ²¹	○	○	-	-	-	-
	Farmland shortage	○	○	○	○	○	○
	Coastal variation	○	○	○	○	-	-
	Numbers of recorded tidal intrusion	<p>Source: adjusted by author with reference to the retrieved figure²²</p>					
	Numbers of recorded inland flooding and drought	<p>Source: adjusted by author with reference to the retrieved data²³</p>					
Water-based strategies	Dike	Low	Low	Medium	Medium	Medium	High
	Beitang	Low	Low	Medium	High	Medium	Medium
	Lougang	Low	Low	High	Low	Medium	Medium
	Polder	Medium	High	High	Low	Medium	Medium
	Canal	Medium	Medium	High	High	Low	Low
	Percentage of different hydrologic engineering	<p>Source: The statistical chart and the categories are referred to the retrieved figure²⁴. The according percentages are based on the totally amount at Qing dynasty as 100%.</p>					
	The water conservancy system in different periods	<p>Source: adjusted by author with the retrieved figures²⁵</p>					

table. 3. Mappings of crises and the application of water-based strategies in Taihu basin (Information categorized and adapted by author referring quotations in the text)

dynasties, ruins and rebuilding of infrastructures cannot always stand on the seemingly same value and culture. Therefore, this paper suggests that rather than explaining the art of survival as a cultural root reflecting Chinese fantasy of a utopia agrarian society, the crisis had better to be its central logic origin to keep a possible theoretical narrative consistent (fig.4). Such consistency also works for urbanism studies worldwide concerning comparative case study as a common method but cannot escape from the barriers among distinct cultural backgrounds (fig.4). Crises can form complex systems of interconnected layers but with less disruption concerning the process and the culture. In other words, to borrow the notion Making Kin from Dnna J. Haraway, common crises form a kin network that bears certain differences but in some consequential

way to belong in the same category with each other in such a way that has consequences.

Although what crises to be systematically categorized in YRD and how exactly the kin will be made chronologically and globally remain hypothetically unclear, there are two reasons to highlight the crisis-based art of survival. For one thing, this is in line with the Western landscape urbanism. Charles Waldheim, a leading promotor, set the origin of American landscape urbanism in crisis. The disappeared and dying indigenous landscape from ancient times mixed with the various problems emerging from contemporary mega cities share a lot in common. For another, various local crises are closely linked with global crises when proposed under new policies indicating hyper-scale

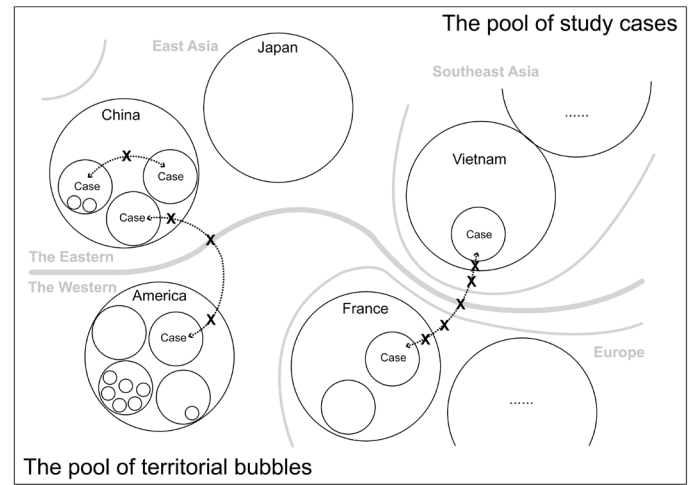
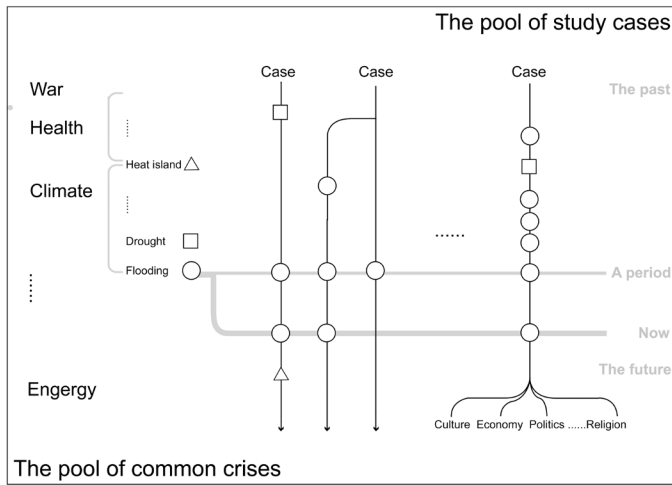


fig. 4. Comparison among the two narratives (by author).

urbanism. As a kind of reform on urbanism methodology, the concept of YRD Regional Integrated Development is among the other four national strategies²⁸. The integration is clearly targeting the challenges of unbalanced resources, development conflicts, administrative barriers, etc. The crises are more adaptive to a possible common ground for cross-disciplinary exchanges, new subjects, new scales, etc in studies of urbanism as a rather old subject. The regional studies both practically and theoretically are in urgent need against the background of the policies and the newly reformed terrestrial planning.

Conclusion

The paper interprets the evolution of the water-based urbanism in the YRD as a historic, crisis-driven interplay of, on the one hand, a local indigenous tradition in line with Yu's art of survival, and, on the other hand, the influence of large-scale, political, top-down, scientifically-driven, prescriptive impositions. By positioning the art of survival from Yu's framework, the limitation of its original interpretation based on pastoral agriculture is identified while its potency of extension to offer an alternative approach to highlight more specific, locally-informed spatial dimensions of water-based urbanism in YRD is also identified. The key of extension is not to limit the understanding of the art of survival as the rough cultural and historical background for contemporary practices and researches but to break the barrier to focus on crises. Admittedly, grounded study of both the sites and crises throughout the history haven't been done yet and thus not depicted in this paper. It remains a hypothesis that the updated art of survival can be applied as an alternative (better) theoretical framework to fabulate the water-based urbanism in YRD.

Acknowledgement

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⁵Chenwei Zheng. 'A Research to Morphological Changes of the Ancient Capital Cities in Jiangnan Region with a Perspective of Chinese Urban Historical Mapping' PhD dissertation (Southeastern University, 2019), p.23-26.

⁶The double cropping refers to the original rice species ('late season rice') and the Champa rice ('early season rice') introduced later from Vietnam in the late 10th century. The nowadays' widely planted single-cropping Japonica rice in Northeast China only appeared within the recent century.

⁷Zhongyuan and Jiangnan are two general geographical concepts in Chinese without standard definitions. Zhongyuan is a vast Northern region mainly referring to the middle and lower reaches of the Yellow River basin. Jiangnan is a vast Southern region mainly referring to the YRD (fig.2).

⁸The data (mapping) of the distribution of rice cropping in the ancient time has not been found yet. Since the temperature is rising and the new rice species are becoming more adaptive to extreme temperature, the area of double cropping in the ancient time is supposed to be a bit further south and much smaller compared with the mapping in fig.2 based on data in 20th century.

⁹Steven Frolking et al., 'Combining Remote Sensing and Ground Census Data to Develop New Maps of the Distribution of Rice Agriculture in China' *Global Biogeochemical Cycles* (2002),16 (4):38-1-38-10 (38-7).

redline and urban growth boundary redline.

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¹¹Maohong Bao, 'Environmental History in China' *Environment and History* (2004), 475-499 (476).

¹²Taihu plain is part of the YRD, involved with the partial administration area of Shanghai, Jiangsu Province and Zhengjiang Province. In many studies, Jiangnan refers to Taihu plain. Even though, the boundary of YRD integration is beyond that of the Taihu Plain, the pilot zone of the integration policy is fully within the Taihu plain (fig.1).

¹³Yuan Man, 'The Study and Practices of Traditional Water Conservancy Landscape System of Taihu Plain' Master thesis (Beijing Forestry University, 2019), p.27.

¹⁴Taohuayuan is a non-existed village described by a Chinese poet Tao Yuanming in his fable work the Peach Blossom Spring in 421 CE, describing an ethereal utopia accidentally found by a fisherman.

¹⁵The dike mainly refers to the Haitang (seawall) and Tangpu (lake embankment).

¹⁶Beitang is a Chinese word for a combination of water storage and delivery system. 'Bei' refers to the on-site water collection through topography. 'Tang' refers to the dikes and waterways.

¹⁷Lougang is a Chinese word for an irrigation and drainage system unique to Taihu plain. 'Lou' means the dense small creeks connected to the lake, 'Gang' means the small rivers connected with big rivers and lakes.

¹⁸X. Wang, p.131.

¹⁹Man, p.59.

²⁰Xu Liu, 'Exploration of Traditional Dike Landscape in Zhejiang Province from the Perspective of Landscape Architecture' Master thesis (Zhejiang University, 2019), p.17.

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²⁴C. Zheng, p.29.

²⁵Man, pp.9-27.

²⁶Three Lines: ecological redline, permanent basic farmland

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Towards Flood Resilient Deltas: Learning from Adaptive Urban forms in Jiangnan Area

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abstract: Nowadays, most deltas around the world are highly exposed to flood risks due to a combination of their own inherent vulnerability and rapid urbanisation. Therefore, it is important to learn how to make cities and flood risks coexist by increasing the resilience of urban systems. Taking the Jiangnan area of China as study area, this research explores the resilience of successive generations of urban forms from 14th C-21st C. Methodologically, this research combines a synchronic analysis of territorial characteristics of urban forms across different scales with a diachronic study on the evolution process of these urban forms. The systematic collection and analysis of flood records and historical maps is used to firstly explore the distribution of floods and their influence on urban forms at the regional level. Then, based on the key attributes of urban resilience, two representative cases of Wujiang and Baoshan with distinct spatial features were further analysed to explain how the urban form has transformed and adapted to flood risks historically. The purpose is to draw lessons from the adaption process of urban form, and explore how the design principles can potentially inform contemporary resilient urban design strategies.

keywords: urban resilience, urban form, flood, Jiangnan area, Yangtze River Delta

Introduction

As the core area of Yangtze River Delta (YRD), Jiangnan area is one of the most populated and developed regions in the PRC. Moreover, population growth, investment concentration, expanded impermeable surfaces due to urbanization and now climate change have increased significant risks of exposure and vulnerability. China Climate Bulletin (2020)¹ notes that flood and rainstorm inflicted more serious harm than other disasters in 2020, and the worst flood disaster since 1998 had occurred in the south of Yangtze River. In the face of increasing flood risks, traditional flood-resistance engineering approaches based on hydrological studies usually manifest risks of residual structural failure, ecological damage and other long-term risks². Given that YRD's urbanisation rate is expected to reach 70% in 2025, if there are no more effective flood risk management strategies are adopted in urban planning, flooding will represent a major segment of future urban disasters, bringing incalculable human and economic losses. Given that the existing engineering-based flood control approached cannot be coupled with urban systems with uncertainty, the concept of urban resilience is introduced to discuss how to improve the survivability and adaptability of urban systems in the face of uncertain flood disturbance in the future. Floods are transient events, so resilience is generated by the continuous update of urban form in response to successive flood disturbances. Therefore, acknowledging that floods are probably the critical driving forces behind urban resilience, a review was made of the historic temporal and spatial distribution of floods and the flood response measures that evolved in Jiangnan area. Two comparable cases of Baoshan and Wujiang were used to analyse the formation and adaption process of urban forms in both ancient period and modern

period; finally, the challenges and opportunities of resilient urban form in the context of rapid urbanisation are discussed.

Floods in Jiangnan area

Jiangnan area includes the range of seven prefectures during the Ming and Qing Dynasties (the 14th-19th C.), in which there has for centuries been a convergence of geography, administration and culture. The natural boundary basically matches the present Taihu Basin. It faces the coast of the Yangtze River on the east, north and south, and Mao and Tianmu Mountains on the west, presenting a butterfly-shaped landform with high surroundings and low in the middle. Special geographical features affect the types of floods that occur in each region: highlands outside the shore of the eastern region are mainly invaded and harassed by storm surges; lowland plains in the central region are exposed to the flooding of rivers and lakes caused by concentrated precipitation; and mountain torrents and mudslides frequently occur in the low-hill areas of the western region.

Using historical local gazetteers (record of the 14th-20th C.), statistical yearbook (record of the 21st C.), the Chinese Meteorological Disasters Pandect³ and other secondary data, a statistical analysis was made for flood disasters in 59 districts and counties in Jiangnan area from the Ming Dynasty to the present (1368-2020). Over this period, flood disasters in Jiangnan area have been frequent, and shown significant continuity and periodicity. During these centuries, a total of 2,167 floods that at least 3 counties were stricken every year; 36 floods lasted more than two years, especially in the period of 1450-1500, 1650-1700, and 1950-2000, continuously large floods were the

most prominent; regional floods (affected counties ≥ 20) happened approximately once every 20-30 years, e.g., catastrophic floods of the entire Taihu Basin in the past 100 years occurred in 1931, 1954, 1998, and 2020, respectively. From a geo-spatial perspective, the most frequent flooded regions were the lowlands on the east, the south sides of Taihu Lake and the highlands on the outer edge of the shore (fig. 1). However, due to the different types of floods, the distribution characteristics of floods in these two regions are quite dissimilar. Low areas like Nanxun, Changxing, and Wujiang had frequent floods in the 14th-16th C., when the large-scale reclamation in the east of Taihu Lake after the Yuan Dynasty (early 14th C.) led to siltation of rivers and lakes, and prevented low-lying topography from draining. Meanwhile, increased flooding in highlands areas like Baoshan and Pudong District after the 18th C. was mainly attributable to siltation of sea canals and frequent storm surges caused by climate change.

Attributes of urban resilience to flood risks

The urban system embodies the coupling of multiple systems such as nature, economy, and ecology, whereas different life cycles and evolution speeds of each system lead to different features of the urban development in different periods. The development of the urban form in Jiangnan area can be divided into three periods: the establishment and slow change period mainly affected by natural substrata (the 14th-20th C.), the modern transformation period under the influence of the social infrastructure system (1950-1980s), the rapid change period which reflects the equilibrium of the economic system and the ecosystem (since 1980s). Jiangnan area has been disturbed by flood disasters for the long time, but it does not mean that the urban system was failure to the risks. Conversely, although some components collapsed transiently, the key structure and functions of urban system always maintained, given

most cities that have experienced disasters in history still exist or even become more prosperous⁴. Especially, it is reflected vividly in that the cities in Jiangnan area have maintained their leading economic and cultural status since the 14th C. The resilience to floods shown in urban adaptation is worth exploring and drawing lessons from.

Although disaster research tends to focus on an ecological system's ability to absorb disasters and return to its original state, it is difficult for a dynamic urban system to do this. In such ungovernable system, a disaster often reveals inherent weaknesses, and returning to the pre-disaster state only leads to disaster recurring^{5, 6}. Therefore, for the urban system, resilience is not the ability to back to original state, but represented by the ability of the entire system to adapt to disturbance. Put differently, it is the urban system's ability to recover from chaos and adjust its internal structure to meet changing needs and threats while still maintaining its "fundamental characteristics". Although some scholars have attempted to attribute resilience to morphology, as a way of establishing formal proxies for urban resilience, there is currently no systematic methodology to measure resilience from morphology perspective^{7, 8, 9}. However, if we use the three parameters of persistence, transition and transformation, the four most relevant attributes of urban form would be: redundancy, diversity, adaptivity and connectivity. These can be used to assess the flood resilience that has emerged due to the long-term transformation process of urban form in Jiangnan region (table. 1).

Resilience in traditional construction: slow change period of urban forms

During the 14th-20th Century, Jiangnan area was in a relatively stable agricultural economy period, when the production, transportation and settlement construction were significantly affected by the natural environment.

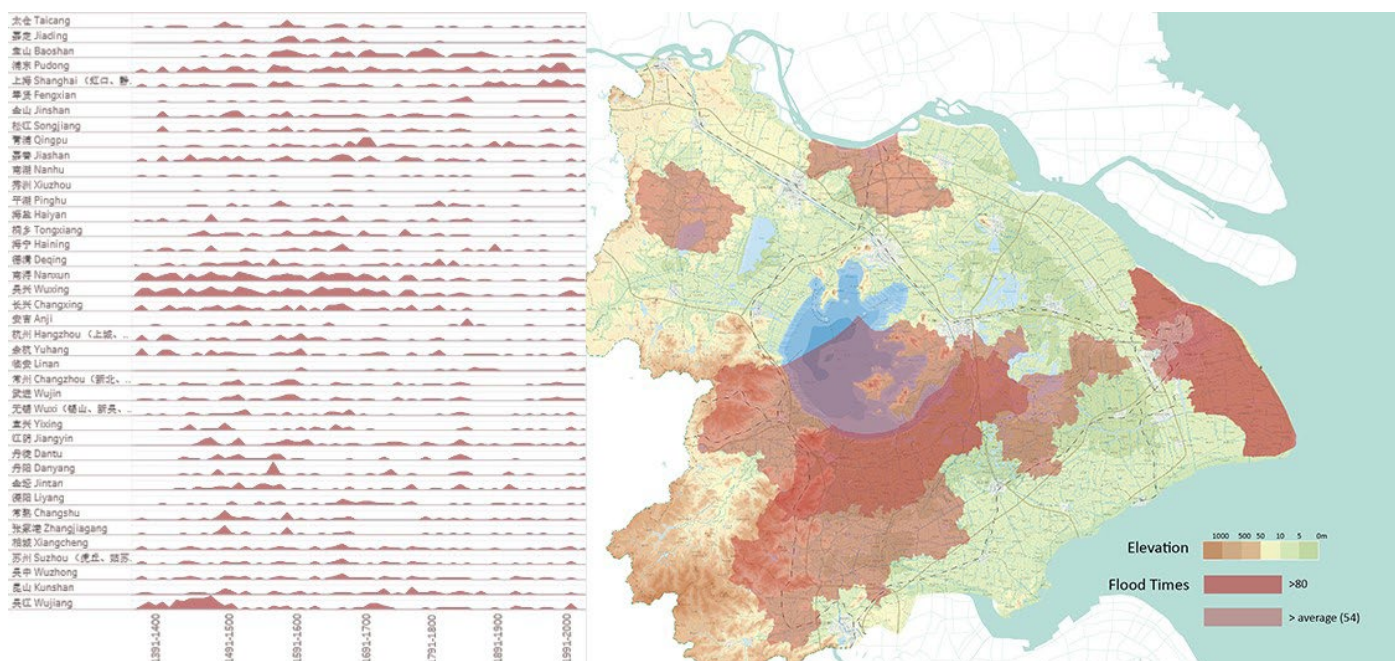


fig. 1. The temporal and spatial distribution of floods in Jiangnan area (1368-2020) (by author with reference to the retrieved figures^{9,10}).

Attributes	Definition	Specific meaning for flood risk
Redundancy	Multiple spare components as alternatives to maintain connectivity, in case a component crashes and leads to failure of the whole system.	The replication of similar flood control methods (strategies) in different scales and different systems ensures that they can be replaced with each other during floods and avoid destructive losses.
Diversity	Multiple components with different functions help defend against various threats and create new opportunities. Urban zoning makes places have the ability to carry diversity that even if some parts are disturbed and changed, the whole can still survive.	Each level of urban form needs to contain a variety of different components that can cope with floods to ensure that there are multiple response methods for different types and degrees of floods, while not causing waste of resources.
Adaptivity	The system is able to take uncertain disturbances as opportunities for learning and correction.	Due to the unpredictability of floods, each flood may cause different consequences and impacts, as to which the system of urban form will be reconstructed and adjusted based on previous experience after it is damaged or even collapsed.
Connectivity	Components within and between systems need to be interconnected and supported. Although low connectivity may prevent the spread of disturbance, it also means that the recovery speed after interference is limited.	For urban resilience, it is more important to improve reorganisation efficiency of the post-disaster system than to improve resistance capability. Therefore, the urban form system's internally cross-scale and hierarchical connection, as well as its connection with substratum, network and occupation systems, enable it to efficiently adjust and adapt during and after disasters.

table. 1. Attributes of resilient urban form to flood risks

Consequently, different environmental characteristics of coastal high land areas and lakeside low land areas contributed to their unique urban adaption characteristics. Baoshan and Wujiang counties represent two most flooded areas, respectively. Thus, they were selected as cases to discuss the manifestations of five attributes in urban forms of various scales.

From a regional perspective, water conservancy construction in both high and low land areas reflects the redundancy and diversity of systems, that is, there are multiple components at different levels to cope with floods. However, their representations in settlement morphology might differ due to the differences in natural substratum.

The water network in low land areas was dense with high risk of waterlogging. Thus, the construction of settlements and water conservancy was inseparable. From the end of

the 8th C. to the beginning of the 9th C., the shortage of farmlands increased due to the southward migration, so the prefecture government organised the establishment of embankments on the southern and eastern edges of Taihu Lake. It offered an opportunity for low land development: the embankments were used not only as water-retaining barriers, but also as a base for the construction of traffic routes and buildings. Alongside this intertwining of settlement and traffic flow, an organic, continuous water network was formed by excavating canals that connected with the existing rivers and lakes, which was also split into the basic unit of agricultural operations and housing: polder. Each polder could be regarded as a resilient system containing various subsystems: the water level of rivers and lakes in lowland areas was often higher than the farmland, so the surrounding embankments played the critical containment role; ditches inside polders were connected to the external water network via water gates, to

strategically control and store water. Floods could also be quickly diverted because the polders were connected by the larger water network; the overall polder system structure would not be destroyed, even if individual polders were flooded. Relying on the construction of embankments, settlements in Wujiang area were distributed linearly along the river bank to avoid flooding due to their elevation. The emergence and development of urban areas in more elevated areas occurred later than in low land areas due to changes in the coastline. Over the next 400 years, the eastern coastline stretched out for more than 30 miles, promoted by the construction of seawalls that shielded gradually developing settlements. Since the land formation in these elevated areas was late, it was necessary to excavate and dredge east-west canals to guide water from the interior into the sea. As a consequence, the water network in Baoshan area became a relatively regular grid; flood resistance mainly depended on regional seawalls, which restricted and guided the growth of coastal settlements, which mostly grew outwards with rivers as the central axis in spread way.

From the county level, cities in Jiangnan area mostly use city walls and moats to protect the urban area from being submerged. Although they occupy different water environments, Baoshan City was a regular square (more in line with the construction paradigm of ancient Chinese cities), while Wujiang City had a circular configuration, responding to the direction of the river; the system of walls and moats was not merely a means of engineering flood control but implies resilience. First, the moats widen and extend the natural river course, reducing waterlogging and increasing the diversity of the system by enhancing the water storage area; secondly, moats connect the drainage system within the city and the water system outside the city, making the urban water system a subsystem connected to the regional water system; moreover, the inner edges of city walls, especially the corners, are often farmlands instead of residence, which forms a natural buffer, an example of the redundancy of urban form mitigating flood risks. The spatial configuration of water and land inside the city also affords resilience to flood risks. In addition to the backbone channel located on the central axis, Baoshan County is surrounded by river channels connected to the moat, which buffer tides that flows back into the city. In Wujiang County, there are mostly lakes and ponds. Due to frequent floods, residents no longer rely on agriculture, but fish for their livelihoods in places with dense rivers and lakes. Natural fishing takes place along the bank of Taihu Lake, while aquaculture is made possible via artificial excavation of shallow lakes near the Grand Canal¹⁰. These diverse drainage systems not only shape the landscape pattern and the functional zoning within the city, but also provide replaceable components to prevent urban waterlogging. This resilient urban structure is the result of a long-term process of adapting to floods from 14th C. Baoshan for example, was originally built in 1368, with no moats and other facilities. During the following 150 years,

it encountered continuous flooding, including six regional catastrophes that killed more than 10,000. Therefore, in 1537, Baoshan City moved one mile inland, and built a moat, water gates and other protective facilities while reducing the city's size, forming an urban layout that would last for the next 400 years.

In short, the urban form of Jiangnan area is a concentrated expression of the adaptive interplay of nature and human in the land and water system. Despite significant regional variations, the evolution of the urban form's resilience was an implicit part of traditional construction knowledge in the development of the urban settlement¹¹. In fact, urban form in Jiangnan area has been evolving constantly over the past 500 years. Nonetheless, it has always followed the same paradigm, that is, both the ecological environment and engineering construction are incorporated into the built environment in a way that anticipates and accommodates flooding, and the diversity and interaction of subsystems contributes to the adaptivity of the whole. However, the town and villages formed based on the polder in this period were not included in the top-down "Province-Prefecture-County" administrative hierarchy, but rely on the autonomy of local clans and squires. Therefore, although the polder units, which rooted in the agricultural economy, provided urban system with resilience to adapt to floods, their ability to adapt to economic transformation is relatively fragile, and the equilibrium was quickly broken by industrialization. (fig. 2)

Resilience under the impact of urbanisation: before and after 1980s

Compared to the relatively slow evolution of urban form in previous centuries, the recent rapid economic development in China (especially since the 1980s) has accelerated large-scale infrastructure construction and rapid urbanisation in Jiangnan area. By 2030, three urban agglomerations (including YRD) that account for only 2.8% of the country's total area are expected to generate 36% of China's GDP. It is expected this will be reflected in population migration to the periphery of large cities, and accelerated urbanization of semi-urbanised areas^{12, 13}. This tendency towards rapid transformation of urban areas, and the associated increase in vulnerability to various risks, brings both challenges and opportunities for the development of resilient urban form.

The urban development process before and after the 1980s were dominated by different factors: the adaptation of urban forms during the 1950s-1980s was mainly based on a rapid and large-scale transformation of the infrastructure system led by the government; and the adaptation of urban forms after the 1980s was in a contradiction between economic and ecological development. As a result, the affected attributes of urban resilience vary depending on the situation.

The infrastructure construction from 1950s completely changed the traditional water-land configuration, either

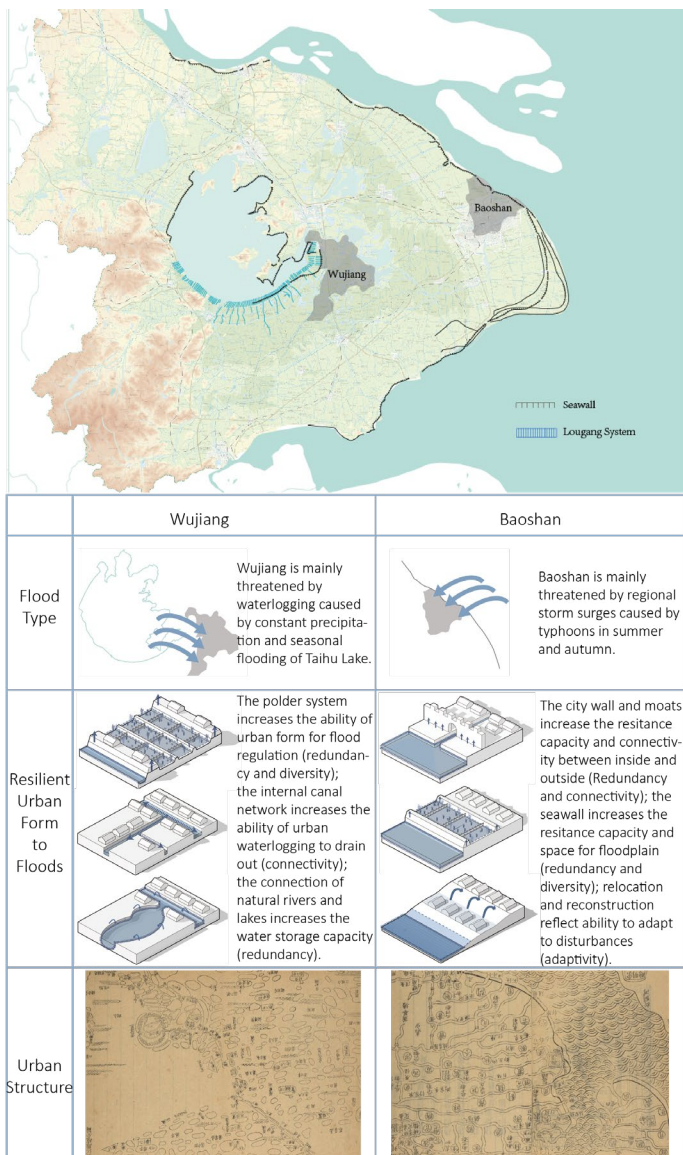


fig. 2. The comparable analysis of Wujiang and Baoshan (14-19 C.)

destroying or reducing the redundancy and connectivity of subsystems. The Forty Articles of National Program of Agriculture Development formulated in 1956 required to increase production through the construction of water conservancy, reclamation of wasteland and so forth, specifically, it was expected to increase the paddy field from 3.9 mu to 900 million mu (1 mu≈666m²) in the next 12 years. Hence, South China represented by YRD started large-scale agricultural modernization activities. The lake area in Taihu Lake Basin was about 3,884.9km² in 1950s, but 528.5km² was occupied via reclamation during the subsequent 30 years, directly leading to the destruction of hundreds of lakes¹⁴. In Wujiang for example, Taihu Lake and its coastal water networks were divided and enclosed for planting and fishery in the 1950s and 1980s. This not only reduced storage components and redundancy, but also impaired the connectivity of the water network, making it difficult for individual polders to be incorporated into the regional water system for system-wide regulation and storage. Additionally, the large-scale railways and road construction to serve urbanisation and industrialisation after the 1950s replaced the embedded inland navigation

infrastructures. Embankments along with adjacent polders were often transformed to main roads, on one hand increasing the vulnerability of substratum to floods, on the other, changing the inner urban form. Industries, commercial facilities and even residential buildings gradually gathered along these new roads and railways and the city's historic river-spine lost its primary circulation function. Settlement in Wujiang District has changed from a scattered linear distribution along the river to a functional group distribution, especially along the north-south national highway which has promoted the rise of industries next to it. And in Baoshan District, numerous large water networks have been buried or cut off by the construction of regional industrial zones.

After the 1980s, economic development was the internal driving force of urban construction. Therefore, when economic development and ecological protection conflicted, local governments basically gave priority to economic development, which is also reflected in the reduction of urban resilience to natural disasters. Although Minutes of National Urban Planning Work¹⁵ in the 1980s was intended “to control the scale of large cities and not allow medium-sized cities to develop into new large cities”, the relaxation of the household registration system and the driving force of the economy still led to a massive migration from rural areas to cities, and from underdeveloped areas to the Jiangnan region. This spontaneous migration made the cities skip the stage of urban formation in which development responds and adapts to the context, and instead to grow rapidly, in a sprawling fashion, creating unordered and immoderate industrial and urban layouts. Another consequence of this kind of growth is the “village in the city”, which not only challenges the longstanding centripetal spatial distribution of village-water town-county, but results in the disconnection of the ecological and infrastructure systems, thereby increasing the urban system's vulnerability to risks. Furthermore, inappropriate ecological strategies are unable to enhance the redundancy and diversity of urban systems, but liable to lead to a decrease of economic or social resilience. From the National Landscape Garden City in the 1990s to the Ecological City in the 2000s, many ecological construction attempts have been made, but the effect has not been obvious so far. It due to the uniform evaluation indexes do not apply to different local conditions. For example, indexes of National Ecological Garden City in 2016 require that the green space rate of the built area is ≥38%, and the per capita public green space is ≥12m². Wujiang is surrounded by villages, and the population density of it is only 1/4 of that of Baoshan. However, it needs more green space because of the concentration of building urban areas, which makes it difficult to improve the redundancy at regional levels. In contrast, Baoshan has a dense population and high economic value of land, converting built area to green area may damage the resilience of the social-economic system. Additionally, a majority of the residual flood control projects in this region no longer have the capacity to withstand

natural and socio-economic fluctuations. Resilience is often equated to the ability of the system to maintain a steady state in the face of disturbances in the engineering field¹⁶, but long-term environmental fluctuations are inherently difficult to predict, especially today. A series of precautionary water conservancy projects in Taihu Lake built after 1991 to prevent floods and reduce disasters turned out to not only accelerate sedimentation, but also reduce the amount of exchangeable water. In addition, due to ground subsidence, expansion of impermeable surfaces, non-compliance of existing projects and so forth, the flood control functions of these projects has gradually declined, preventing them from reaching the anticipated standard of 50-year flood defense. Furthermore, enclosure infrastructures, by limiting drainage and increasing internal waterlogging, reduce the regional flood capacity, resulting in the city's risk of flooding being transferred to surrounding areas rather than eliminated. This shows that it is unrealistic to rely solely on increasing the strength and stability of particular urban components to improve resilience without considering the connectedness to a larger territory, as well as adaptability to unforeseen environmental changes. (fig. 3)

These challenges do not mean there are no opportunity to achieve resilience to flood risks by shaping the urban

form in the contemporary context. Drawing lessons from past, some design principles could be used in shaping the urban environment. Firstly, restricting urban expansion to ensure sufficient natural components for flood regulation is conceivable, though controlling the size of a city could reduce its economic and social resilience. Thus, it is necessary to increase redundancy from changing the urban forms at different levels. For example, polder embankments at the county and village level can supplement the regional embankment system; the sponge system formed by recessing the concentrated green space in the city can increase the water storage capacity of the regional river and lake system.

In respect to diversity of urban resilience, the historical strategy of creating a suitable urban form based on zoning characteristics should be followed. Although little restriction is currently applied to the geomorphology of construction, the combination of local micro-topography and planned functional zoning could, with appropriate policies, be very effective for flood control. In the east and south of Baoshan District, there are platforms formed by embankment building in the 1960s, while the central area is relatively low-lying. However, because the elevation difference is less than 1 meter, and the east and south face the risk of flooding and tide erosion of Huangpu River,


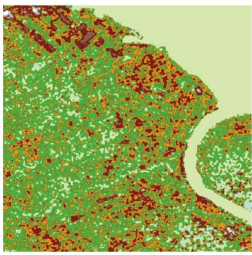

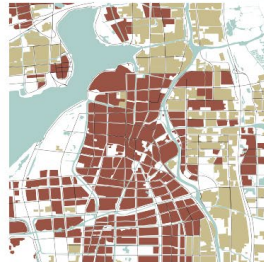






	Wujiang		Baoshan	
Terrain	 The elevation of the northeast part is 4 meters, the middle part is 3.7 meters, and the southwest part is 3.5 meters. The fields along the Taihu Lake are 2.5 meters high and are below the water level of rivers.		 The average elevation is 3.68 meters, the estuary sandbar and the interior of the city are relatively low, with an average of about 2.8 meters, and the areas nearby the embankment is relatively high.	
Area	1176.68 km ²	1176.68 km ²	443.64 km ²	365.3 km ²
Population	657.4k	1311.2 k	463.9k	2044.3 k
Density	559/km ²	1114/km ²	1046/km ²	5596/km ²
Urban Structure				
Perspective				

fig. 3. The comparable analysis of Wujiang and Baoshan (1970 and 2019)

the central area is unusually at lower risk. The landform of Wujiang District slopes down slowly from northeast to southwest, and the height difference between north and south is about 2.0 meters. Therefore, Instead of Wujiang, the strategy of floodplain would increase the flood risk to the lower area in Baoshan District.

Connectivity and adaptivity mainly rely on the restoration of dynamic water and land interaction. Projects such as cut-off works of rivers actually negate the dynamic changes in waterway's development progress, trying to maintain it in a steady state, which is not in line with the dynamics of natural processes and rhythms. In view of this, the core of establishing connectivity and adaptivity is to re-endow water networks with the ability of conservation and transformation. By re-establishing the connection between water networks with different scales, the connection between water networks and urban systems, instead of antagonising each system, can the environment flexible to flood risks be built.

Discussion and Conclusion

Although the attempt of combining the concept of resilience and morphology realm has just begun recently, it is able to derive the urban design principles living with water from the historical urban forms in Jiangnan area, which is the metaphor of resilience thinking. Based on the analysis of the entire region and the two cases of Wujiang and Baoshan, the traditional Jiangnan urban form system, as a complex artificial-ecosystem, possesses the connectivity and synergy between components and systems at different scales, and the capacity of self-organisation and adaptivity as a whole to cope with flood risks. Nevertheless, rapid urbanisation has aggravated the uncertainty of the natural and social environment, whilst the adaptability of urban forms to disturbances has been limited to a predetermined constant range. Therefore, the cities have been more vulnerable to flood risks. Actually, no longer treating the flood as a threat, and re-acknowledging it as a dynamic impetus in Jiangnan area is the premise of catalyse the transformation from resistance to resilience. This does not mean repeating or restoring to the urban forms hundreds of years ago, but rebuilding the dynamic equilibrium of urban forms by enhancing the redundancy, diversity, adaptivity and connectivity of urban systems.

It is worth noting that resilience is not only an attribute of urban systems, but also the process of exploitation, conservation, release, and re-organisation of a complex system¹⁷. Therefore, in addition to applying the design principles of resilience, implementing an effective long-term management and policy structure that itself incorporates feedback loops is also critical to ensuring that an urban form maintains its adaptability in the renewal cycle. It must use resilience cautiously in urban planning practices, avoiding the chance of it to be discontinued due to political failure. Additionally, it is necessary to realise that the adaptations of urban form system always arise from

the interaction among economic, ecological, social systems. It is difficult to achieve the efficiency of urban forms for all stakeholders in all systems through a certain design principle, given the enhancement of resilience in one aspect may increase the vulnerability of another system. Therefore, as many related fields of stakeholders as possible need to be introduced into the process of establishing the resilience mechanism, for the sake of establishing an acceptable resilient system to various risks.

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Appropriated Ecologies – Water and Society in Peri-Urban Gurgaon, India

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K. Shannon (promoter)

abstract: Peri-urban areas are complex territories, susceptible to multidimensional transformations attributed to their proximity and interdependency on urban areas. As terrain for capitalist urbanisation, peripheries of ‘megacities’ like New Delhi are undergoing dramatic socio-economic and environmental alterations. Gurgaon, located at the periphery of New Delhi, has urbanised tremendously to become part of an urban agglomeration. Along with its unprecedented urban growth, the semi-arid water-stressed region is undergoing a fundamental reconfiguration of its ecologies, visible in its disconnected hydrological network, fragmented landscape, reappropriated forests and agricultural land. The layers of socio-economic and ecological imaginaries of its new inhabitants are remaking the traditional landscape. This study reflects on the evolving interaction of water and society within this ‘emerging’ urban system by interrogating the region’s urban ecology and hydrosocial system. The aim is to draw attention to the ecological and environmental challenges the region is facing and deepen the understanding of the green-blue morphology of the region.

keywords: urban ecology, nature and society, traditional ecological knowledge, water harvesting, arid landscape

Introduction

Delhi and its surrounding areas are part of a large urban agglomeration shaped by neo-liberal planning policies, economic growth and complex institutional arrangements. To moderate the continuous urban growth of Delhi, the National Capital Region (NCR) was created in 1985¹ as an ‘innovative framework’² to distribute the industrial, commercial and housing development in peripheral states. The NCR comprises the capital city Delhi and parts of the bordering states of Haryana, Uttar Pradesh and Rajasthan. Located at the southwest periphery of New Delhi (fig. 1), Gurgaon, a small peripheral town, became part of the Central National Capital Region (CNCR)³. The urbanisation process of Gurgaon comprises the transformation of peripheries into new generic centres and the creation of further new peripheries.

Gurgaon (now Gurugram),⁴ a composition of nebular villages and agro-pastoral landscape, has transformed into a ‘millennium city’ with glass façade commercial enclaves and grid aligned residential sectors in a few decades. This urbanisation is accredited to an ambiguous institutional environment, planning policy manipulation and the capitalist nature of neo-liberal cities⁵. The urban ‘development’ of Gurgaon is witnessed through high land values, continuous industrialisation and growing GDP; between 2004-05 to 2009-10 Gurgaon’s GDP was highest in the entire NCR region after Delhi (NCR Planning Board, 2015). The urbanisation came at the cost of large-scale acquisition of agricultural land and ecologically crucial landscape. As per the census of India 2011, the number of villages in Gurgaon has decreased from 762 in 2001 to 242 in 2011, a decrease of 68.2%, at the same time number of industrial units increased by approximately 500%. A shift from rural-agrarian to urban-industrial is fundamentally altering the traditional settlement pattern, indigenous

landscape and ecological system. The morphology of the new development defined by the creation of buildable land through appropriating spatial resources is completely uninformed of the regional landscape and its geomorphology. The new urban enclaves were created based on ease of land acquisition by private developers in patches and parcels, ignoring land suitability for various purposes, ecological values and even masterplan phasing guidelines.

The complex and multi-layered interactions in this emerging system impact the resilience and sustainability of peri-urban. The peri-urban in this study is considered as a geographical territory defined by its location at the edge of the city in relation to the resource flows. The transforming settlement patterns lead to growing contestation around natural resources like water and land⁶. The overlapping of socio-ecological functions of the city and its peri-urban region, the flow of energy, people and services between them emphasises the need to study the relationship between territories that are ordinarily separated. The contemporary research overwhelmed by the socio-spatial complexities of the urbanisation process in Gurgaon maintains the usual urban bias, keeping the primary focus on the city⁷. Only a few studies indulge in understanding the transformation process of the non-urban – the rural and the indigenous landscape.

A detailed analysis of events and decisions which lead to the formation of the present city of Gurgaon is beyond the scope of this study to keep the focus on the transformation of the non-city/rural/nature. Water is seen as a socio-ecological element, a resource in flow, transitioning through the territories that share a distinct relationship with it. Theoretical lens of hydrosocial territories is applied to explore hydraulic technologies/infrastructure, human

practices and socio-political institutions in the composition of a waterscape⁸. The aim is to understand the transforming relationship of water and society in urbanising territories. This analysis is diachronic and synchronic and through the lens of urban morphologies, resource management practices and socio-spatial structures. The study combines primary and secondary data in the form of an exploratory fieldwork, interviews with experts, archival documents and other published studies. An ongoing cartographic exploration further supports the analysis. The data analysis is based on district level statistics obtained from various state departments. Mapping exercises for this study are focused on a site of 30X30 km, covering Gurgaon city at the top and Aravalli hills at the other end (fig. 1). In its larger ongoing vision, the study aims to further the contemporary discourse on the 'city and region' and develop alternative ways to conceptualise future territories for their socio-ecological resilience.

Semi-arid geographies and indigenous landscape of Gurgaon

The first step towards reading the territory is through its physiography, geology and hydrology. Gurgaon has a semi-

arid landscape, with primarily sandy loamy soil with low fertility and scarce water resources. The region is dominated by Aravalli hills, which are the oldest fold mountains in the world (fig 1). The hills are located at the north-eastern and southern edge of the district, with north-south aligned ridges. Gurgaon has the northernmost and lowest part of the hill range (275-325m from MSL). Aravalli hills are a crucial geological feature in India's northwest terrain and contribute significantly to define the climatic conditions of the region. The range acts as a constraint in checking the spread of the Thar desert towards Indo-Gangetic plains and facilitates monsoon currents. The hills enable ground water recharge through faults, lineaments and fractures. There are no perennial rivers, only small seasonal streams which get activated during the monsoon. The rain runoff during the monsoon from these streams recharges the aquifers through the regional hydrological network in the watershed region. These networks of the streams also fill the large depressions in the topography like Najafgarh lake (fig. 1). Badshahpur channel, the primary drainage channel, originates from the hills in the east and drains a significant part of the region in the Najafgarh lake in the west, and the lake continues to drain further in the river

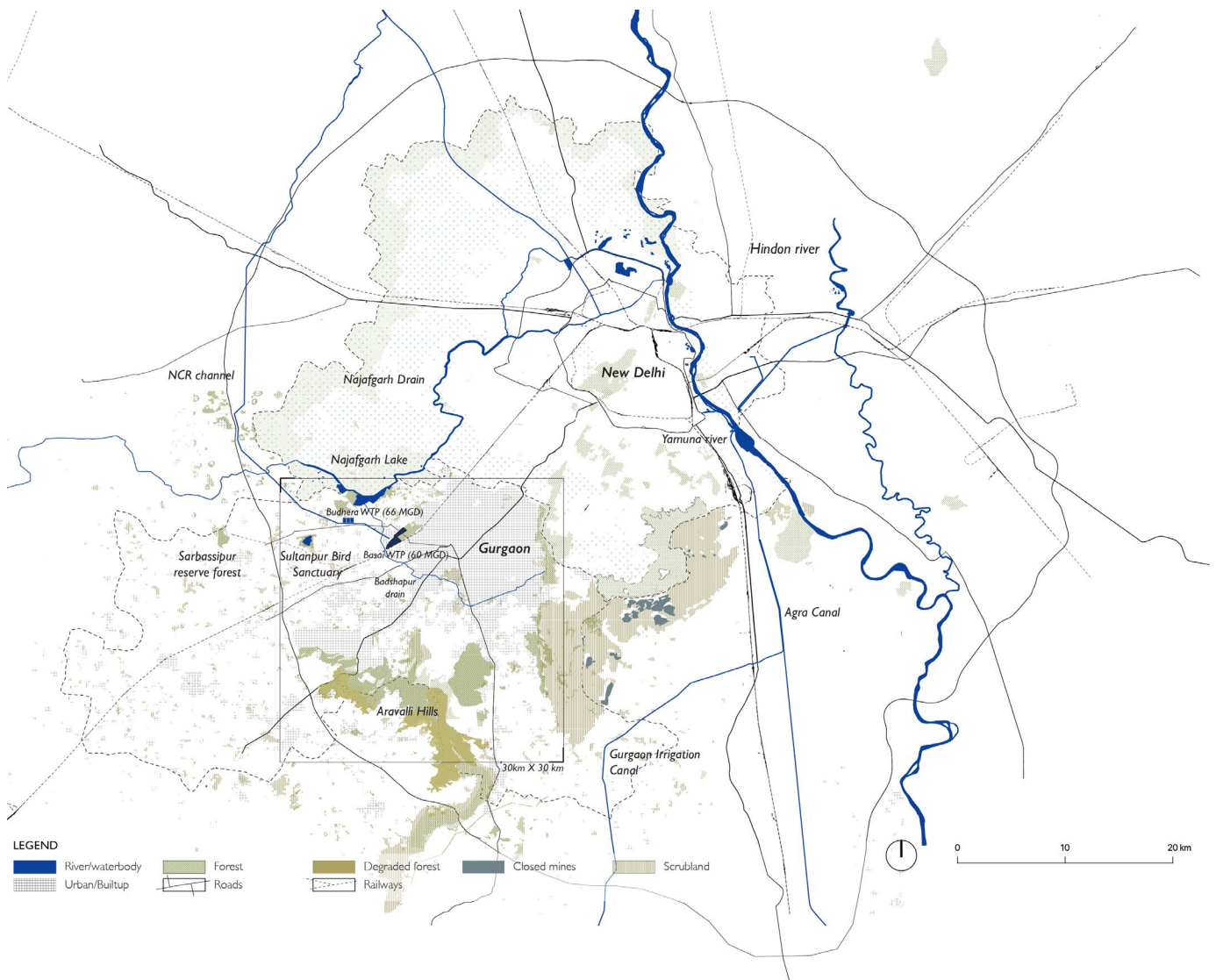


fig. 1. Positioning Gurgaon in regional hydrological network with reference to National Capital Territory Delhi (by author).

Yamuna (fig. 1).

Traditionally runoff farming system was practised by catching the seasonal water from rocky highlands in the lower floors by very long earthen Bandh (embankments). The Bandh holds the water in the lower lands called 'Khadin' and spread it evenly in the surrounding agriculture fields (fig. 2). The water subsequently recedes with percolation and evaporation, and the water-saturated land is then cultivated.

The crop pattern was carefully planned around water availability. Water intensive staple grains were grown in the monsoon season and crops with less water demand in the winter. The general scarcity of water and moisture-holding capacity of soil define crop variety in the region. Millets, barley and oilseeds constitute the staple crops.

Bandh was further constructed to harvest runoff water in more flatter areas at the community level in the form of lakes/ percolation ponds called 'Johad' (fig. 2). Johad is built by excavating the land and raising the edges using the excavated soil. Trees were planted on the raised edges to avoid soil erosion. Pond water itself was a habitat for crucial flora and fauna. Johad constitutes an ecological system crucial for maintaining biodiversity and harvest water. Johad/Khadin system helped in maintaining the soil quality and fertility. The system has a cumulative effect on the larger area and replenishment of ground aquifers. Ground water in many areas of Gurgaon suffers from salinity issues, further emphasising the importance of rainwater collection. Villages have percolation ponds at the edge of the settlements, integrated with temples/mosques and other religious/social institutions to encourage maintenance. The region depended on careful hydraulic modification by meticulously managing natural

resources and enhancing them with man-made structures. The drainage pattern of the region is rather uneven, making hydraulic negotiations more complicated. A deep understanding of the landscape over generations thus constitutes the local community knowledge.

These community infrastructures were crucial for the year-round availability of water. Harvesting the monsoon water through water commons is an age-old tradition in India, with methods developed based on specific geomorphology and practised through regional socio-cultural activities. Moreover, commons have been crucial for performing critical ecological functions like maintaining local biodiversity, carbon sequestration, maintaining hydrology, soil quality etc.

These ecological infrastructures had collective ownership by the community and represent common pool/property resources – commons. The governance of the natural resources through a social system of sharing, repairing and conservation contributed towards their sustainable management and resilience of the communities. Water as a natural element in this system is combined with cultural ideologies, social institutions and technological knowledge to produce 'hydrosocial territories' ⁹.

Emerging landscape and socio-natural assemblages

When the regional plan for the capital was initially drafted in 1962¹⁰, Gurgaon (then a part of Punjab state), due to its water scarcity, absence of irrigation infrastructure and low agricultural fertility, was unimaginable as the new urban frontier. Post creation of Haryana as a state in 1966¹¹, as Gururani posits, a 'flexible planning' approach from the state favoured private sector driven development led to an intensive social and spatial transformation of Gurgaon ¹².



fig. 2. A Johad with temples in the background in Malpura village (inset image) and Khadin system with the Bandh on the left edge of the image followed by agriculture fields, Tauru Town, Gurgaon (by author).



fig. 3. Satellite view between 2002 and 2020, Development of Industrial Model Town Manesar by conversion of 80% agricultural land of 10 villages (Google Earth).

Along with its unprecedented urban growth (fig. 3), the region is witnessing a reconfiguration of its ecological system and regional landscape character. These changes are visible in the disappearing water bodies, ground water resources, forests and agricultural land. As per a leading newspaper report, Gurgaon lost 389 water bodies in the last 60 years; between 1996 and 2002, 14% of built-up area was gained by loss of 14% agricultural land¹³.

The present settlement dynamics of capital accumulation have entirely disregarded the relationship between urbanity and landscape by following the logics of land acquisition and land speculation for maximum financial gain. The new occupation patterns ignore the contextual engagement of cultural and natural ecologies exhibited by traditional settlements.

These development trends incite immense ecological concerns. Fragmented landscape and disconnected water system lead to the drying up of community ponds and lakes. The embankments (Bandh) are rendered unfunctional, encroached or converted to roads. Natural streams are turned into concrete channels, restricted to narrow paths and covered to create more land. These transformations impact the availability of surface and ground water resources.

The new land-use patterns in domestic and industrial use are creating exhaustive demand for water. In the absence of surface water, subsurface water is being exploited, resulting in a constantly declining water table (fig 4). The region's groundwater resource is officially categorised as 'overexploited', which means net annual ground water extraction exceeds net annual ground water recharge¹⁴. In the absence of irrigation canals and any other facility, tube wells are the primary source of irrigation in the Gurgaon district. The landscape of Gurgaon today is dotted with innumerable tube wells extracting ground water for irrigation. A shift from traditional farming practices (runoff irrigation, use of organic fertilisers and agroforestry) after the green revolution¹⁵ has led to a skewed relationship of the agriculture system with the landscape. As per a 2019 report by Central Ground Water Board, Agriculture accounts for 66.3% of ground water consumption in Gurgaon. Excessive power consumption due to subsidies on electricity and overconsumption of water from tube wells for irrigation are growing concerns in many northwestern states of India. In the absence of dedicated irrigation canals, 98.7% of irrigation demands are met by tube wells, leading to a continuous increase in the number of tube wells in the state (fig. 4). However, the share of agriculture in ground water consumption is slightly less as compared to the rest of the state, due to low fertility and overall water scarcity (as per an estimate by the Indian Council of Food and Agriculture for the year 2016, approximately 80% of water demand in Haryana was credited to agriculture).

New water infrastructure has been developed to meet the demand of the expanding city. The Gurgaon water supply canal and NCR water channel¹⁶ were constructed to provide water to the population of Gurgaon. However, the city's formal water network does not cover all its inhabitants' water needs, leading to the parallel existence of an informal system like illegal water extraction through borewells. There is no account of how much ground water is extracted through borewells for domestic use, construction industry and growing small and medium scale industries. 'Water mining' by the RO¹⁷ industry for potable water is a growing concern in many Indian cities, including Gurgaon.

In this scenario of growing 'water stress', Gurgaon experiences annual urban flooding. Flooding is a natural phenomenon experienced regularly by the semi-arid landscapes of this region. However, the encroachment of water networks, especially the Badshahpur channel, over the years has left no room for water, leading to increased damage by floods. Over the years, the channel has been encroached, concretised and covered to make way for urban expansion. The urban flooding of 2016 was highly disastrous. The water carrying capacity of the already narrow concrete channel was further reduced to approximately one third due to siltation and solid waste dumping. The runoff from heavy rainfall caused flooding around the drainage channel and city centre. Other areas

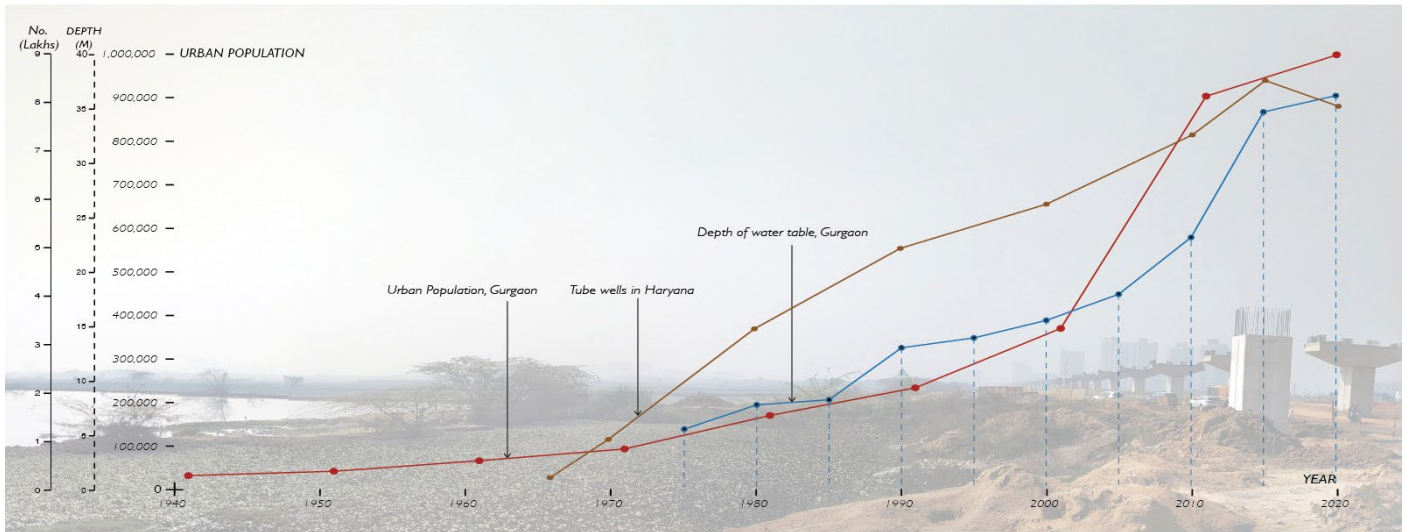


fig. 4. Water consumption patterns in relation to growing urban population of Gurgaon
Adapted from Department Of Economic and Statistical Analysis, Haryana, Irrigation and Water Resource Department, Gurugram and Census of India (by author).

of the region are also under similar risk due to increased built-up area and restricted water movement.

In the contemporary scenario, the reorganisation of “hydrosocial territories” disconnects the local water user (society) from the water source (nature) through the new invisible water infrastructure, consequently placing the social nature of water at stake. The commercialisation of water through formal water networks and informal extraction mechanisms from private lands is redefining the socio-spatial dynamics of the settlements.

Evolving discourse of water availability, Institutions and infrastructure

The peri-urban is witnessing formalisation of local resources through state policies and controls¹⁸, while at the same time, market-oriented forces¹⁹ also extend their footprints in the local domain. The local community/ local user responds to this appropriation through contextual resistance²⁰ to demand more equitable access.

Growing urban population, industrial activities, and intensifying agriculture put extensive pressure on natural resources like water and its continuous negotiation to gain more power and control. To satisfy the need for urban, more and more resources are diverted from the periphery to the city. The landscape, once rendered with visuals of green-blue community infrastructure like Bandh and johad, is replaced by technological networks like irrigation canals and water supply pipelines representing one-way resource flow.

The enormous occupational scale of new settlement typologies and their spatial nonalignment to the landscape have further contributed towards the water (un) accessibility narrative. Vernacular settlements of India have survived the difficult arid climates for thousands of years by managing common natural resources through social institutions, traditional knowledge and collective

community practices. Traditional users practised the policy of restrain in consumption and contribution in maintenance. The close-knit social-natural system was able to function independently, in a larger dispersed pattern. Villages as a smaller unit in a decentralised system sustained independently by collective risk-sharing, minimising the vulnerability arising from failure of a centralised system. The extension of state control over the commons led to the loss of accountability and ownership by the local community, while, at the same time state is also unable to maintain them without community involvement.

The ‘transitional’ nature of the peri-urban gives rise to new community institutions and new actors. The elite inhabitants of the new urban fragments in the form of citizen organisations constitute the new institutions. The ‘civil society activism’ by these actors is making a new landscape beyond depleting resources and a degraded environment. The efforts from citizen organisations as in the development of historical natural infrastructure like ‘Badshahpur Forest Corridor (fig. 5) ‘Wazirabad-Chakkarpur Bundh’ and ‘re-wilding’ of ‘Aravalli biodiversity park’ is indeed commendable. However, this environmentalism is driven by a narrative of the clean-green city, environmental aesthetics and urban beautification²¹. Aspirations for a ‘world-class city’ by the elite middle class, real estate organisations and politicians mobilise state administration and legal system favouring a specific class rather than larger society²².

The politics of accessibility and infrastructure in contemporary Gurgaon is contested in the urban and rural institutions. As observed by Chatterjee, the efforts of urban community organisations to influence the power dynamics through elite politicians and state bureaucracy are comparable to the efforts of the rural population through direct electoral politics²³.

The awareness of water stress in the region is increasing,



fig. 5. Badshahpur Corridor Project. A 2 km stretch of the channel (left) (the quint) was converted into a linear park by Gurgaon Forest Department and citizen's organisation (by author).

leading to water conservation initiatives by the central and state government and non-government organisation. However, environmental actions by the formal and informal multidisciplinary organisations need to be coordinated towards regional level collective actions.

Conclusion

The peri-urban landscape represents hybridity in terms of spatial characteristics, actors and institutions. The transformation of peri-urban Gurgaon and its evolving hydrosocial system reflects the altered relationship between water and society. The availability of water and infrastructure to access it is continuously renegotiated through evolving socio-political institutions. The transitional nature of peri-urban gives rise to new actors and activities extending their claim on natural resources. In the current state of the dwindling resource base, the discussion revolves around who has the power to access more resource catchment and the ability to convert nature into 'artefacts'²⁴.

With the continuously extending edges of the city, the rural repeatedly becomes peri-urban and peri-urban ecologies are increasingly appropriated for capitalistic gains. The peri-urban landscape needs re-conceptualisation beyond its role as a facilitator and negotiator and a territory transitioning to become urbanised. There is a need to rearticulate the planning discourse of Gurgaon from 'millennium city' and 'global city' to resilient territories.

The peri-urban landscape of Gurgaon hosts critical ecological spaces like Aravalli hills-forests, johad, lakes and wetlands, crucial for human as well as non-human entities. These collective ecologies play a multifaceted role in providing ecosystem services, infrastructure and livelihood source vital to the resilience of the region. In a rapidly urbanising territory, these green-blue infrastructures are at risk due to the absence of a recognition and conservation policy. A multidisciplinary and region-oriented approach is required to restore and manage the unique socio-ecological system. The regional plans need to acknowledge the natural conditions of the territory and traditional practices of the local community to manage natural resources. The traditional techniques of resource management, which

have been practised and perfected for centuries by local communities, offer valuable knowledge towards building socio-ecological identities. A synthesis of local knowledge and scientific expertise may be applied while drafting spatial plans. At the same time, planning authorities need to be more attentive and responsible towards the sensitive ecosystem²⁵.

To restore the broken network between user and resource, we must allow more water to pass through our cities to reinstate its role in our society and make way for nature to play its dynamics. More importantly, we need to break the cycle of ecological gentrification and ensure social and environmental equity for all inhabitants. As Aggarwal and Narayan posit, 'Ecological restoration is about deepening democracy'²⁶. An equal representation of social groups and effective communication could further encourage collective efforts to cultivate the socio-ecological resilience of the territory.

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- ¹⁵Green revolution between 1950-60 has increased agriculture production attributed to use of fertilizers, pesticides and high yield crop varieties.
- ¹⁶GWC was first constructed for capacity of 135 cusecs later increased to 200 cusecs
- ¹⁷RO – Reverse osmosis is a water purification method widely used in Indian cities to treat ground/ municipal supply water for potable purposes
- ¹⁸The Punjab Common land act of 1961 brought Governance of common resources under state, Haryana Special Economic Zone (SEZ) Act of 2005 further made common land as first preference for SEZ development
- ¹⁹Commercialization of agriculture, mining activities in water catchment, RO plants for drinking water, conversion of water commons into land by real estate industries
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Radical responses require situated knowledge. Constructing situated knowledge for the circular reconversion of industry parks.

Ellen Verbiest, KU Leuven (2020-24)
B. De Meulder, J. Marin, A. V. Moere (promoters)

abstract: This work-in-progress article explores ways to collect, visualize and ultimately integrate divergent visions, projections and agendas within the context of circular reconversion of the built environment of two Flemish industry parks. Although knowledge on circular reconversion of the built environment is rapidly growing, a disconnect between ambitious generic visions and complex real-time local dynamics often prevent implementation.

Visualization is used as a means to co-construct situated knowledge. Two industry parks in Flanders, Kortrijk and Haasrode, were identified as case studies. Through socio-spatial visual research, interpretative mapping and semi-structured interviews with stakeholders, scale levels were graphically integrated.

By providing insight in the potential for future circular reconversion based on situated knowledge, the socio-material visualizations portray an important role socio-spatial research can play in the shift from a techno-centric circular economy to a more holistic circular society.

keywords: circular built environment reconversion, socio-material research, visualization, circular society

Introduction: Circular reconversion of Flemish industry parks

Flemish Industry parks, mostly dating from the 1960s and 1970s are in need of spatial and infrastructural modernization. Traditional urbanism and building practices and their depletion of resources are increasing the pressure on global ecosystems. Today, construction and demolition waste accounts for more than a third of all waste generated in the European Union¹. Circular reconversion of the built environment could reverse this logic and turn the negative impact of extraction and construction processes on local ecosystems into a positive and regenerative action. Whether the circular transition of the built environment offers the transformative solution it is presented as, depends largely on the extent to which certain socio-cultural lock-ins can be overcome. An integrated and systemic approach is at issue, a thorough engagement with the spatial and social context is necessary². As Kampelmann puts it, one of the most prevalent challenges for design-based research on circular reconversion is to find a formal language and efficient means of expression, which we can use to engage with both spatial elements and socio-political elements³.

This work-in-progress paper explores, detects and attempts to visualize seeds for the application of circularity strategies for the built environment, specifically looking at the socio-spatial dynamics on two industrial sites in Flanders (Haasrode and Kortrijk-Noord) by combining analysis of policy documents and ongoing studies with semi-structured interviews, ethnographic fieldwork and analysis of company information.

Towards a circular society

Previous research indicated that local socio-cultural barriers were amongst the most prevalent challenges for the implementation of circular strategies⁴. The current installed market logics are based on individualisms and short-termism, inhibiting investment in circular initiatives which typically operate on a longer time span and require a collective effort. For the local industries that are the subject of this study especially, the embedded economic nature of the “linear mindset” largely prohibits thinking and acting in a circular manner⁵.

Circularity requires a ‘paradigm shift’ towards systems thinking, involving multiple stakeholders⁶. Research on major sustainability challenges like the circular reconversion of the built environment should support actors as diverse as national authorities, organizations from the civil society, private businesses and local inhabitants, to advance transformations towards sustainability⁷. The literature on circular economy still offers an extremely rudimentary understanding of stakeholder agency, with an absence of “the social and the historical”⁸. It is key to move towards a more holistic approach and look at methods for stakeholder involvement in order to achieve broader societal participation that goes beyond the purely economic in “circular economy”. This article is imagining a transition towards a broader “circular society”. It therefore attempts to visualize site-specific potential for circular reconversion of two Flemish industrial sites, including political agendas, collective memory, business logics, local socio-economic and socio-spatial dynamics⁹.

On the regional scale, spatially, both industry parks appear

similar, planned in the second part of the 20th century as locations for hazardous industry. Looking closer, it becomes clear that over the years, the industry parks of Haasrode and Kortrijk-Noord have developed differently according to the specific economic strengths and profiles of both adjacent cities, Leuven (Haasrode) and Kortrijk (Kortrijk-Noord). Haasrode, being focused on knowledge economy, relying on the proximity of the university of Leuven. Kortrijk, part of the region of West-Flanders, historically known for its textile industry, industry park Kortrijk-Noord is now characterized by manufacturing industry 10. When we zoom in, the complex socio-spatial conditions of both sites come into play: for example fragmented ownership structures, political interests, business logics, vacancy, heritage questions, energy consumption, spatial and landscape preconditions...

The hypothesis is that including a diversity of points of views, interests and actors is a precondition for a widely supported result, to move towards a systemic transition that recognizes complexity. The aim of the paper is to start visualizing and exploring the complex preconditions for the design and participatory process for the circular reconversion of two Flemish industry parks.

Supralocal ambitions and real-time local dynamics

Circularity transition of industry parks is increasingly subject of policy innovations, urban strategies, and research and development agendas. As it is stated by Elmar Willems, working for the Flemish waste agency (OVAM), in an interview in the latest issue of Ruimte magazine dedicated to circularity: ‘We are sitting on top of a historically grown mountain of ambition notes, design research and probing practices.’¹¹

At European, regional, provincial and municipal level several projects explicitly pursue circularity of the built

environment: multiple Green Deals ¹², CIRCULER ¹³, ROLECS ¹⁴, Locus Focus ¹⁵, BISEPS ¹⁶, Bedrijventerrein voor de Toekomst ¹⁷, to name a few. These ambitious projects often end up deploying generic toolbox strategies regarding circularity (such as material recovery, urban mining, bio-based building, life extension, circular supply chains, industrial symbiosis, sharing platforms and product-service combinations) and fail to take the site specific circularity potential into account. ‘In the very much needed focus on the forest, not only the picture of the individual trees are lost, but also major divisions of the forest and fire pathways.’ ¹⁸

To navigate the obstacles and opportunities for the circular reconversion of two industry parks a thorough knowledge of the local circularity mindset is needed for the identification of existing collaboration networks and to move beyond the generic towards situated knowledge¹⁹. The article thus tries to make space for diverse multiscale narratives and visions and to juxtapose them in a way that can transform understandings an lay bare local potential for circularity of the built environment as well as supralocal agenda’s²⁰.

Visualizing seeds for circularity

As Latour puts it, making backstories transparent in a visualization, and in particular, ensuring that many perspectives are represented, is not an easy task ²¹. Consequently, the process involved making (subjective) decisions about how to edit the complexity of circularity agendas to make them more articulate, obvious, engaging or clear ²².

For this article, I make use of De Meulder and Marin’s ²³ reinterpretation of Lansink’s well-known circularity ladder tailored to products (refuse / reduce / re-use / re-cycle) to structure the detected agendas, visions and potentials per group of circularity strategies for the built environment

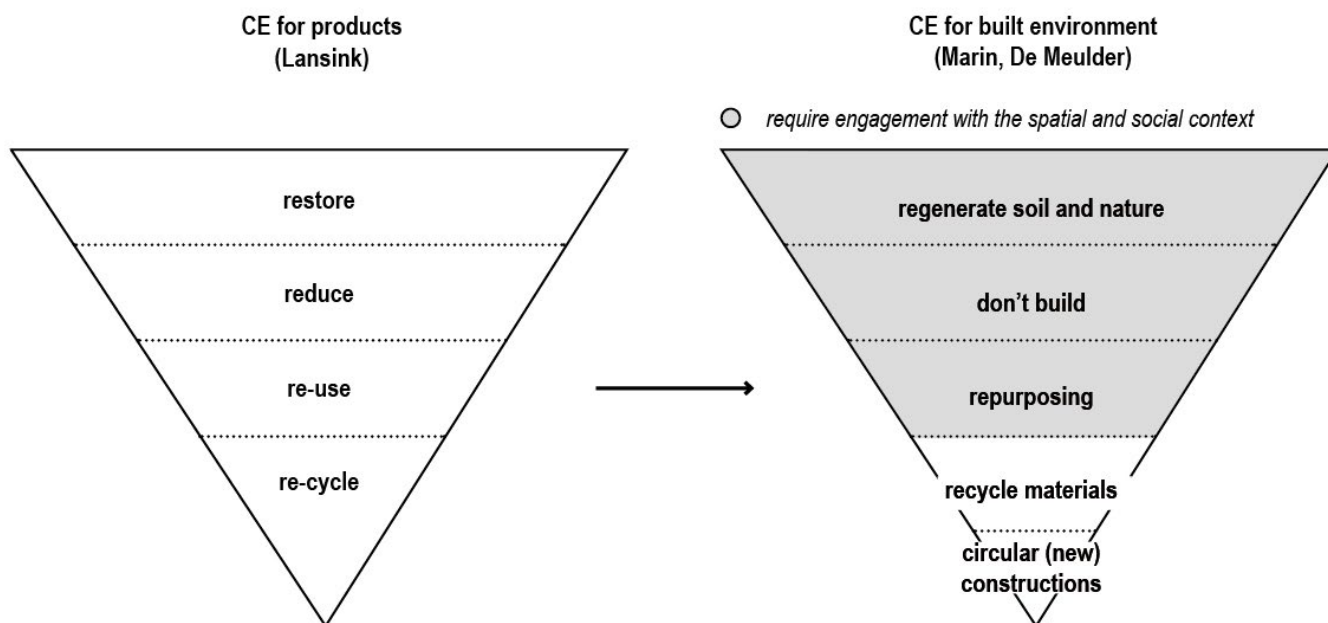


fig. 1. From CE for products to CE for the built environment. The most ambitious circular strategies require a thorough engagement with the socio-spatial context (by author adapted from Marin and De Meulder).

into multiscale visualizations. The first group (Recirculate materials, circular (new) construction) are at the bottom of the ladder and are met with fewer barriers to realization while (regenerate nature, don't build, repurpose) require a shift in paradigm and a thorough engagement with the socio-spatial context. Per group, prevailing circularity projects and agendas distilled from policy documents are mirrored with a subjective interpretation of local seeds based on situated knowledge. (fig. 1)

Case study 1: Bedrijventerrein Kortrijk-Noord
Circular (new) construction, recirculate materials (fig. 2)
Building towards spatial efficiency

The visualizations show various supralocal initiatives that aim to experiment with circular new construction on site. Industry parks in West Flanders are completely built up. The demand for industrial space in Kortrijk-Noord exceeds the supply. Replacing spatially inefficient and old industrial buildings with (circular) new construction is seen as the main solution to gain the necessary square meters.

The European Green Deal, which is supported and executed by the Flemish government is one example that projects this explicit circularity agenda on Flemish industry parks. The Achilles' heel of this Green Deal, specifically in the context of Kortrijk-Noord, is the fact that the project starts from the willingness of companies to take the initiative to transition towards circular construction (using material passports and life cycle assessment) and to recirculate construction waste. The response to this project from multinationals is promising, but the limited participation of small and medium-sized companies, as can be found mainly on the Kortrijk-Noord site, is a bottleneck. Being locally embedded, with close collaborations between companies, local knowledge is internalized by the companies and parkmanagement, numerical data (mobility, energy, employment) is therefore not at hand. This causes additional difficulties in the assessments of circularity projects.

Intermunicipal company Leiedal is planning a new circular and energy neutral office building in a nearby business park. Both Leiedal and the province of West-Flanders (POM West-Vlaanderen) are envisioning stacked industrial buildings and parking buildings to gain spatial efficiency. The majority of the investment has to be carried out by the local companies.

Although the idea of demolition and new circular construction within the plot lines is not widely supported by the local industries, There is an explicit need for renovation, at least for a modernization of the road infrastructure and the general grey appearance of the business park, this seems to be a shared ambition.

Intrinsic circularity in family business typology

The need for individual renovation is hardly urgent, as most companies are active in the manufacturing industry,

only heating their production halls up to sixteen, seventeen degrees Celsius, avoiding a high energy bill, with would provide an important incentive for renovation. Explicit circularity agendas of local industries are therefore hard to detect on site. Making an existing industrial hall more sustainable often seems to be driven by certain municipal regulations or obligatory energy scans. These regulations merely result in renovation operations like the insulation of a cavity wall or the replacement of windows.

The visualization portrays the complex spatial situation on most plots. The majority of the companies in Kortrijk-Noord are incrementally grown family businesses. On some plots, this seems to complicate the logistic functioning of certain industries, but in interviews this was not adopted as a possible incentive for demolition and rebuilding. Being very close to residential fabric, a thorough renovation of buildings would mean complying with new and much stricter rules on parking regulations, depaving and logistic access. Despite the possible gains in spatial efficiency, the initial investment and uncertainty about later expansion

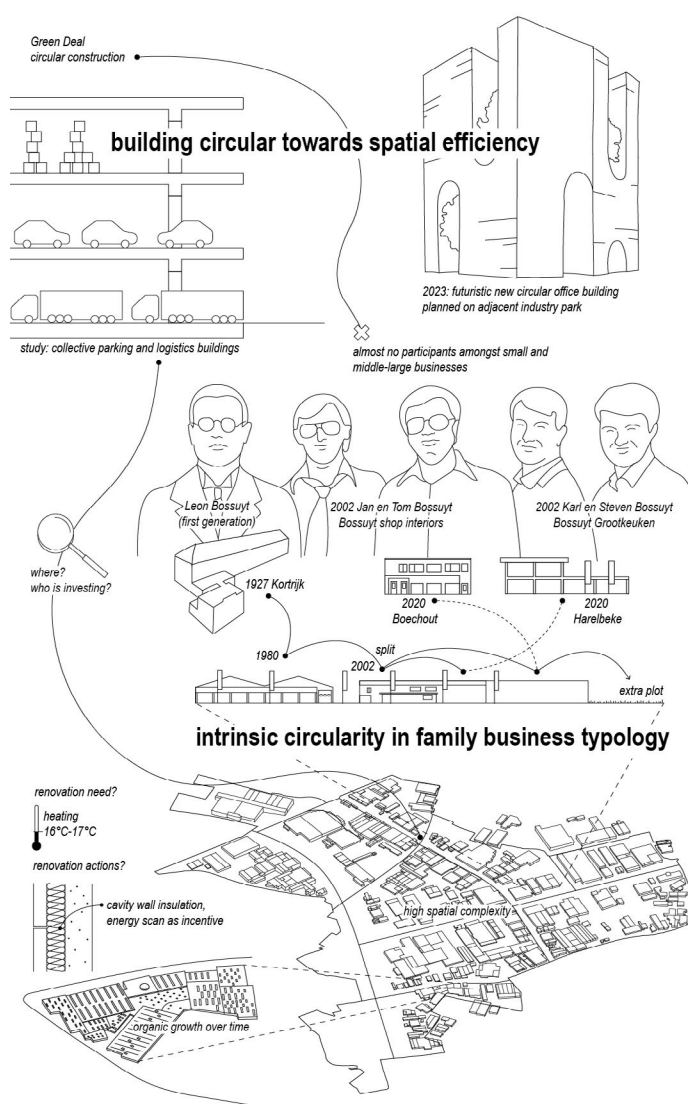


fig. 2. Situated knowledge Kortrijk-Noord. Potential for circular reconversion of the built environment: circular (new) construction and recirculate materials (by author).

options make the option of demolition and building anew in a circular way economically unattractive.

That being said, circular new construction is the least ambitious thread on the circularity ladder. New construction should be avoided, even if it is circular. It could therefore be interesting to look at the specific adaptive development typologies and business cycle of family businesses in Kortrijk-Noord and to perceive these companies and their way of building as intrinsically circular. Most of these family businesses moved to the industry park in the sixties and seventies of the last century. Being a family owned business, building and governing is about appreciating and taking care of what your elder build and building onto it for the next generations. Thus, these companies are now close to having “paid back” their building resources according to the logics of circular building. The time a resource needs to be grown and manufactured is the minimum time a resource should be used inside a building. As the Marin and De Meulder put it ‘Time is Life’²³.

Business owners know each other, the socio-economic network is very strong in Kortrijk-Noord. Monthly events and trips organized by the park manager strengthen these bonds. When interviewed, the park manager gave accounts of exchange of goods, materials, people and even plots of land on the site of Kortrijk-Noord. This established local collaboration, trust and exchange of materials is promising for pilot projects regarding circularity of the built environment. One big company can convince many others, as we have seen in Kortrijk-Noord, with a solar panels experiment called BISEPS.

Regenerate nature, don't build, repurpose (fig. 3)

How to regenerate a green field development?

To regenerate nature means to stop suppressing natural dynamics: to give room for rivers to flood and to provide the flooded soil with nutrients, to give time for forests to grow and to maintain biodiversity. The European Green Deal biodiversity focusses on elevating biodiversity on industry parks. This project specifically aims at the regeneration of nature on industry parks. Similar to the other, catered to circular construction, this Green Deal was not adopted by any of the businesses on the industry park of Kortrijk-Noord.

At the edge of the old industry park, a new and “nature inclusive” development was planned by Leiedal. The additional industrial plots come with strict guidelines like a collective parking strip, rules for maximum paved surfaces and the sealing of the soil, to give way to extra biodiversity on this new part of the industry park. This part of the industry park even becomes part of the recreation network around Kortrijk. Although the development of new green fields is to be avoided, the new and greener part of the industry parks, with visible gains in liveability, poses as a pilot project for the rest of the, highly paved, industry park.

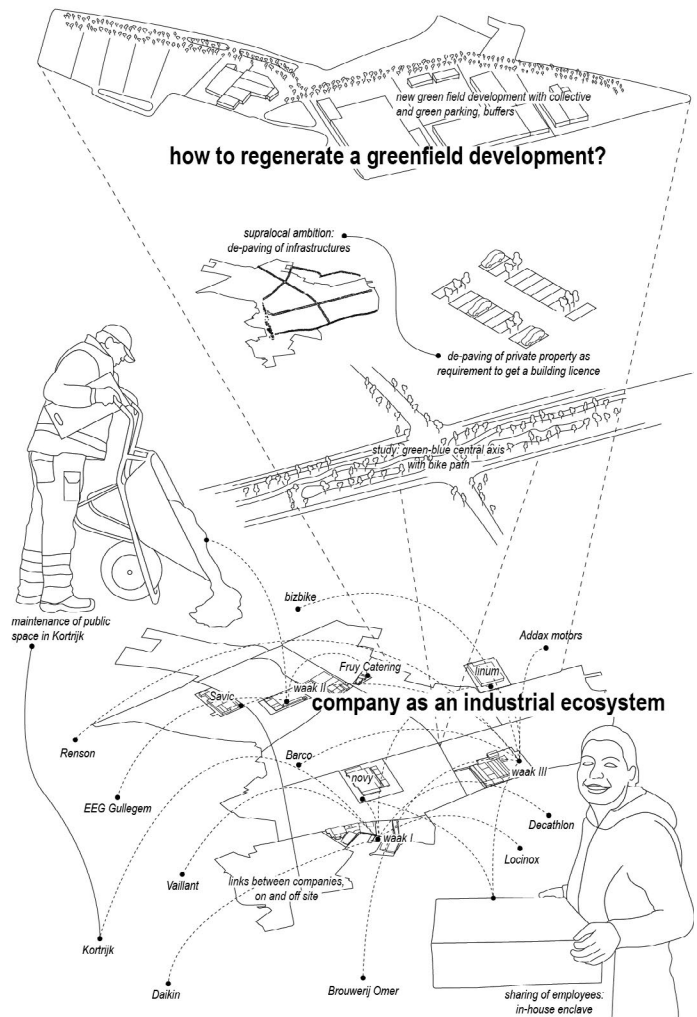


fig. 3. Situated knowledge Kortrijk-Noord. Potential for circular reconversion of the built environment: Regenerate nature, don't build, repurpose (by author).

Depaving initiatives by companies today unfortunately only occur when an instrument such as a new building license requires a percentage of the plot to remain unbuilt and to execute additional parking spots in permeable material. That being said, companies respond positive and appreciative to the new redevelopment. According to Leiedal, some local employees even return in the weekends to come for a walk or a run.

The province of West-Flanders introduces “transition tracks” for the industry park of the future (Transitiepaden voor het Bedrijventerrein van de toekomst). This project recognizes the potential of a central green and blue axis to re-introduce biodiversity and to provide a safe cycle path. Although the municipalities of Kortrijk and Kurne, adjacent to the industry park, support this development, negotiations with the Flemish government, the owner of the road, remains difficult.

Company as an industrial ecosystem

The old part of the industry park is almost completely paved and built up, the possibilities to expand further are limited. There are almost no vacancies. Some companies

have foreseen this land scarcity and have bought adjacent land to their property to keep the option for growth open. Most companies, over the generations, have established collaboration with other industries on the industry park. One account even sends teams of employees to work as an in-house working enclave to other companies with diminishing employee numbers due to automation processes. This is interesting, because as this particular company is expanding, it is not consuming extra space. This logic challenges the use of industrial space in a systemic way and adheres to the circularity ambition of “do not build”.

Case study 2: Haasrode

Recirculate materials, circular (new) construction (fig. 4)

Big circular projects (?)

In Haasrode, many big projects are on the horizon for the redevelopment of the industry park. There are municipal and regional plans for a soccer stadium, the expansion of the event hall Brabantal, a new skating rink and a train station. At the moment, no explicit circularity ambitions for these projects were formulated. But the hopes are up, since the municipality of Leuven, together with intercommunal organization Interleuven and other stakeholders invest a lot in researching the potential for circular redevelopment of the industry park. The toolbox CIRCULER, a new sustainable masterplan for Haasrode and a strategic project on sustainability on the site are three projects that illustrate these high circularity ambitions.

CIRCULER to name one example, offers a toolbox with a myriad of circularity projects ranging from sharing communal space over collective energy projects to material banks and collective waste management facilities. Although these projects are envisioned specifically on the industry park of Haasrode, the projects remain somewhat generic and possible locations and key stakeholders are not specified.

(Non-) adaptive spatial configurations

Local ties to Leuven are mostly limited to the fact that many research and development (R&D) companies on site are spin-offs of the university of Leuven. The industry park of Haasrode presents itself as an industrial island amidst agricultural fields. The evolution of this industry park of Haasrode differs from the organic growth, described in Kortrijk.

During fieldwork, it became clear that the monofunctional planning of this industry park has reached its limits. A kindergarten was added a few years ago, a sandwich bar has been opened. Around the office buildings, small smoker cabinets and picnic tables are positioned on derelict parking areas.

The particular omnidirectional spatial configuration of some of the office buildings do not easily allow for organic expansion or adaptation to current company

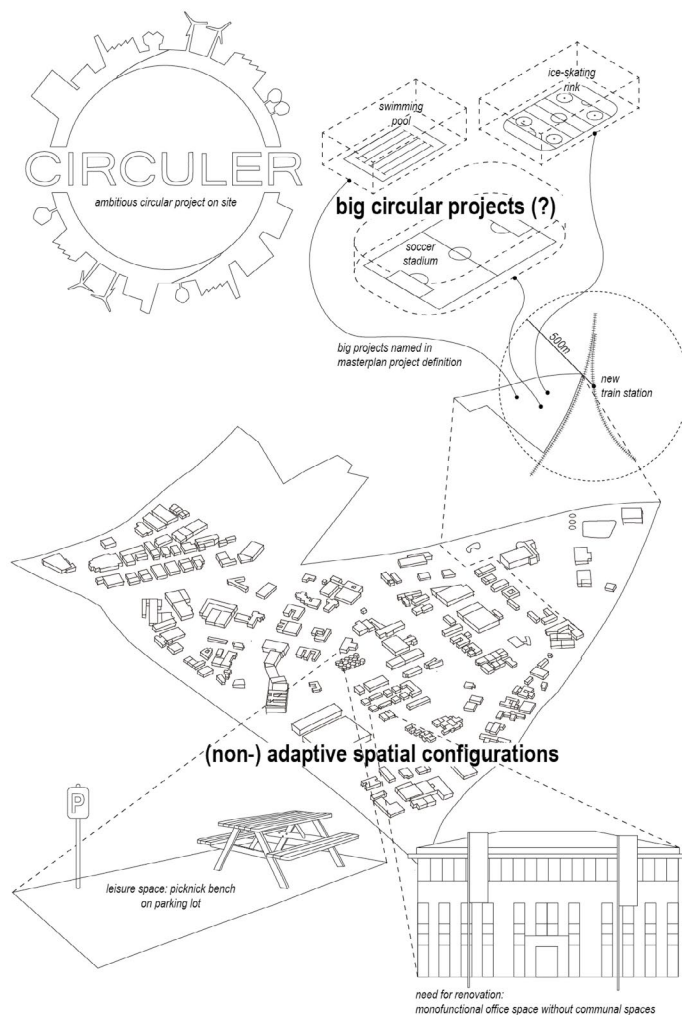


fig. 4. Situated knowledge Haasrode. Potential for circular reconversion of the built environment: circular (new) construction and recirculate materials (by author).

needs. Sometimes it is the particular spatial demands of international companies, requiring a free standing office building that prohibit the transition towards a more spatially efficient industry park.

Regenerate nature, don't build, repurpose (fig. 5)

War for talent as a motor for regeneration

The “war for talent” is very much alive on this site. In interviews, it is stated that making the business park more attractive for employees is a priority. This could be an important incentive to move towards the regeneration of the industry park. The structure of ownership on the other hand poses a barrier and is complex. On this site, there are a lot of (international) R&D companies renting their offices, without strong local anchoring in Leuven. Looking at CIRCULER, it was stated that larger companies have sustainability managers following the participation processes on circular reconversion, but they have limited mandate to make structural changes.

Although it was stated that the social network on the industry park of Haasrode is underdeveloped, some local companies, following supralocal initiatives like ROLECS, are currently researching the possibility to share energy and production waste flows. These specialized R&D

companies have the necessary know-how but encounter supralocal legal barriers, typical to the realization of the sharing economy. These “early adopters” also encounter issues to engage other companies to participate, especially in the research phase, when economic benefits are not guaranteed.

In the coming two years a sustainable masterplan for the entire industrial park, commissioned by the city of Leuven will be drawn up in which circularity of the built environment is explicitly set as a goal. The project definition for this masterplan is very ambitious, biodiversity and circular reconversion are specifically named as spearheads. Big multidisciplinary design teams will cooperate on this masterplan.

Beyond industry: possible alliances for circularity

Besides the economic function, the industry park of Haasrode, is a specific destination to learn how to drive and get a drivers license, several vocational schools are located here and the largest event space in Leuven, the Brabantal, is situated on the site. To go beyond the economic motives of the ‘what’s in it for me?’ posed by the companies, this larger public could also provides seeds for the circular reconversion of the industry park.

Regeneration of natural resources, evidently does not end or start at the boundaries of the industry park. Looking beyond the plot line, the activists of Parkveld Leeft are protesting the expansion of the industrial site and the build of a new residential neighbourhood on plots now used for nature and agriculture. Adhering closely to a regional project proposing agriculture as a bio-productive landscape, could this activist group be an ally for the realisation of circular regenerative ambitions?

Co-creation process for the circular reconversion of two industry parks

This work-in-progress paper and visualizations are perceiving two Flemish industry parks and their multiscale contexts as dialectical¹⁸, not portraying supralocal ambitions and local dynamics as opposites, but rather recognizing tensions and looking for promising coalitions. This article is a modest first attempt to research and recognize the (hidden) potential for circularity of the built environment using situated knowledge²⁴. As Throgmorton puts it ‘One cannot make a “place” more sustainable without having some sense of what “place” means, and it turns out that, place may seem quite simple until you start noticing things’²⁰.

The analysis shows that small scale local dynamics as well as supralocal policy and agendas provide seeds for different circularity operations on and around the two case study areas. Additionally, the approach used in this article helps to broaden the understanding of what a circular project for the built environment could entail, one that goes beyond the generic and often used “toolbox” approach and seeks

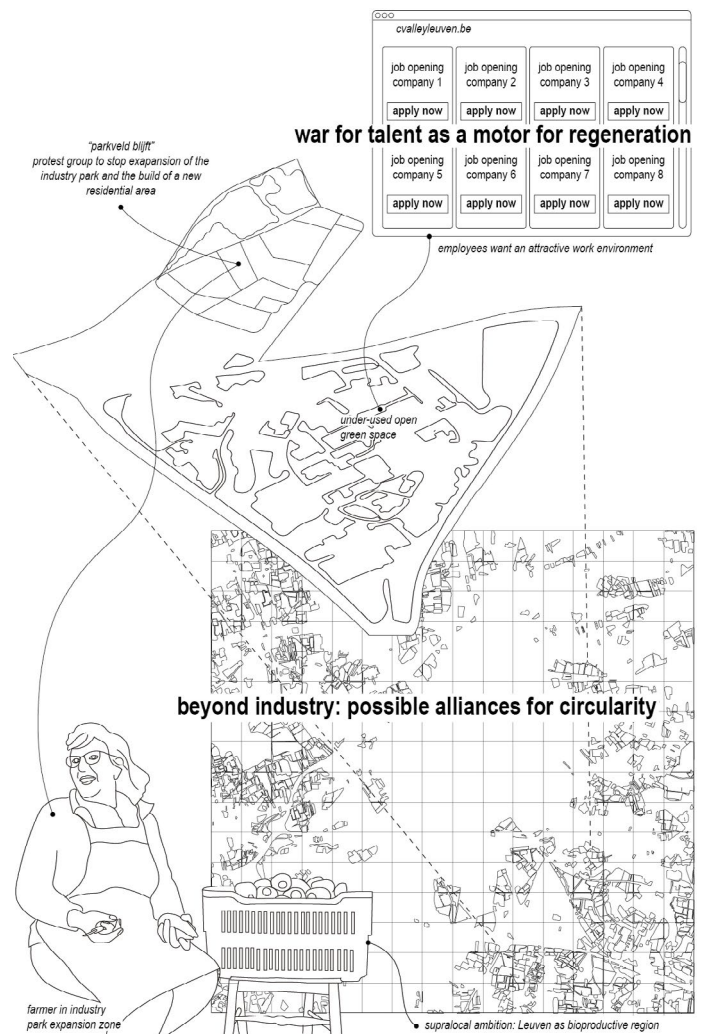


fig. 5. Situated knowledge Haasrode. Potential for circular reconversion of the built environment: Regenerate nature, don't build, repurpose (by author).

for seeds in the tabula scripta. This exercise portrays socio-economic as well as spatial dynamics and form a base for the future participation and design process, a simplification of reality, which at the same time opens the door to multiple meanings and possibilities²⁵. Further research will be focussed on how to make these narratives and visualisations interactive, creating a dynamic instrument for inquiry and circular design scenario testing.

These visualizations do not offer a clear-cut solution for the assessment of circularity projects for the built environment. They may even raise more questions to the reader than they can answer. This exercise is only the starting point for a thorough mapping of the sites and their potential for circularity. What lies on the table today is an explorative socio-spatial baseline measurement of the two industrial site. These baseline drawings will be used in the participation process as a conversation starter. The dialectical drawings contain the necessary space for discussion and re-interpretation. One can recognize one's role against the bigger picture, or measure the bigger picture against the small-scale circularity operations, incentives and barriers.

Notes:

This research is part of REFLIP: Regenerating Flemish Industry parks. REFLIP focuses on Flemish industry parks, mostly dating from the 1960s - and requiring major spatial and infrastructural updates. As construction and demolition waste constitutes about one fourth of all waste, integrated circularity transition of these built environments is key. The REFLIP research project addresses the need to develop multi- and transdisciplinary methods to realize an integrated circular economy transition of the built environment. It examines how built environment transition processes can become (more) circular as a multidimensional 'wicked' problem. It mobilizes iterative design, life cycle environmental impact assessment, social impact analysis, operations research, and scenario thinking to bridge complementary disciplines and currently largely disconnected data-levels.

The visualizations included as figures in this paper are cutouts of larger and richer visualizations.

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**New
Settlements**



18.06.2021 NEW SETTLEMENTS

DOCTORAL PRESENTATIONS

12.40 - 14.30 BLOCK 01 New Settlements / Morphologies

CET

			Supervisor(s)	Respondents
12.40 - 13.00	Ward Verbakel	Designing a Density Discourse for Urbanizing Villages in Flanders	B. De Meulder (KU Leuven)	A. Fisher (ULBruxelles) G. Geenen (KU Leuven)
13.00 - 13.20	Vu Thi Phuong Linh	Kampong Luong Floating Morpho-typology: 'Living with water' in the Tonle Sap	K. Shannon B. De Meulder (KU Leuven)	C. Nolf (Xi'an Jiaotong-Liverpool Uni.) A. Fisher (ULBruxelles)
13.20 - 13.40	Minh Quang Nguyen	Landscape as Resistance in A Luoi Mountains, Thua Thien Hue	K. Shannon B. De Meulder (KU Leuven)	L. Hansen (WITS Johannesburg) M. Tattara (KU Leuven)

16.45 - 18.15 BLOCK 03 Urban Regeneration / Spatial Justice

16.45 - 17.05	Claire Bosmans	Finxing (with) Traces: Rethinking social housing repair	V. d'Auria (KU Leuven)	J. Gosseye (TU Delft) M. Tattara (KU Leuven)
17.05 - 17.25	Shiyuan He	Temporary Urbanism: A strategy to re-activate everyday heritage	M. Short P. Sendra (UCLondon)	T. Mai Anh (UAH) J. Stevens (KU Leuven)

18.30 - 21.00 BLOCK 04 Crisis & Settlement

18.50 - 19.10	Dina Dahood	An Evolving Definition of Refugee Camp and Hosting City (Marka Camp, Jordan): Employing mental mapping to dissect the conceived, lived and perceived space of Marka	B. De Meulder C. Kesteloot (KU Leuven)	L. Hansen (WITS Johannesburg) J. Stevens (KU Leuven)
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Designing A Density Discourse for Urbanizing Villages in Flanders

Ward Verbakel, KU Leuven (2020-23)

B. De Meulder (promoter)

abstract: Flanders needs to rethink its' consumption of open space, horizontal spreading and housing ideal. In order to transition towards a more sustainable mobility and settlement pattern, to mitigate climate change and adapt to water and other resource scarcity, a radical shift away from the horizontal urbanism is needed. This applies to the urban, but might have an even greater impact on how Flanders' villages will transform. Looking at urbanizing villages in the Gete valley where the actual densification is in conflict with the intention to no longer accommodate for population growth, the agenda here is to use controlled transformation processes for building up spatial qualities: creating stronger and more resilient landscapes, another mobility context in which high level bike infrastructure as being planned can supplement the larger scale public transport infrastructure, a more networked system of amenities and another building culture that contributes to the quality of the village in itself.

keywords: transitional urbanism , villages, countryside, housing, mitigation

Flanders needs to rethink its' consumption of open space, horizontal spreading and housing ideal. In order to transition towards a more sustainable mobility and settlement pattern, to mitigate climate change and adapt to water and other resource scarcity, a radical shift is needed. This applies to the urban, but might have an even greater impact on how Flanders villages will transform. In order to counterbalance a reductionist debate on village development based on real estate profit driven densification, this paper looks at the methods used to open the debate on urbanizing villages and the role density plays as one of the parameters. I will try to frame the production of density in urbanizing villages in Flanders in those areas where the actual housing construction is in conflict with the intention to no longer accommodate for population growth. The data is collected from local administrators and the provincial policy makers, while the strategies originate in the design research conducted by Plusoffice Architects in 2019-2020 in villages located in the Gete river valley.

Population in Flanders is growing and is expected to do so over the coming decades. Between 2017 and 2060, Statistics Flanders¹ projects a growth both in terms of overall population (+13,38%) and in terms of households (+20%). Within that context of growth at the level of the territory as a whole, one of the main assignments of spatial policy and planning for the next decades is guiding this growth to those places that can accommodate higher and more compact urbanization^[1]. Flanders unfortunately is rather full, profoundly dispersed and determined by low density land use. It consists out of only a few metropolitan fragments, many small towns, villages of different size and eras, continuous ribbon development and numerous late twentieth century allotments: a phantom metropole that lacks the density and congestion that typify a real metropolis². Such a horizontal (phantom) metropole allows us to embrace the dispersed nature of the territory

as a potential asset, not only as a problem³. Villages in all of their forms (authentic, compact, planned, agricultural, sub-urban...), offer specific qualities and latent structures within this horizontal urbanization model, and deserve a closer look at the role they play in absorbing Flanders population growth.

Since 2016 efforts are ongoing to translate the general development goals of the Beleidsplan Ruimte Vlaanderen (BRV) [Spatial Policy Plan Flanders] to the provincial and local level. It includes a shift from a horizontal growth model towards a more vertical growth of redevelopment of existing contexts based on principals of transit-oriented development, protection of open space, redevelopment of twentieth century periphery around major cities. This tendency fits in a broader evolution in European urbanism to move away from a focus on urban expansion towards an understanding of the territory as a whole that includes the vertical dimension and landscape strategies, also described as the deepening of the territory⁴. The implication for semi-rural areas and their villages is an important one to unpack. For this I will introduce the Gete river valley as a case study since it is representative of an area in Flanders that is struggling with the redistribution of growth towards well equipped locations (in terms of employment, amenities and public transport) on the one hand and the reality of building permits for high density projects in small villages on the other. (fig.1, 2)

Urbanizing villages in the Gete river valley

Located between two secondary growing cities, Tienen and Sint-Truiden, the Gete river valley represents an important condition in Flanders. The area encompasses six municipalities (Geetbets, Hoegaarden, Landen, Linter, Tienen, Zoutleeuw) with over thirty villages and three towns. It houses just under 80.000 people, resulting in a population density that is half of the average for Flanders



fig. 1. When leaving the village of Oplinter the Neerlintersesteenweg follows the Gete river valley and passes through one of the last open landscapes between the villages. Elsewhere they mostly grew into a linear urbanized ribbon as if the road has petrified into urban form, laying the foundation for the next wave of densification (image by Pluk Van Brempt, 2020).



fig. 2. In Oplinter one can see how the first signs of multifamily housing is being inscribed in the vocabulary of road side gable roofed housing, only recognizable because of its somewhat out of scale dimensions and brickwork that hasn't weathered yet. (image by Pluk Van Brempt and Samuel Klein, 2020).

(487 inh/km²)^[iii]. The lack of major infrastructure (highways and rail) in combination with a fertile loam soil, the associated agricultural economy and wide flood prone

river system has prevented this area to follow the major urbanization waves that characterizes the late twentieth century in Flanders. A few towns aside, the majority of the villages located in the Gete river valley vary between 500 and 1500 inhabitants. Understanding the importance of open space protection, flood scapes, CO₂ storage, local food production... the Province of Vlaams-Brabant is formulating the intention to limit population growth in the Gete area to the major towns that can sustain enough amenities, sustainable transport modes and employment opportunities (Provincie Vlaams-Brabant 2020)^[iii]. This however is met by local politicians and land owners with resistance for multiple reasons. One of them is the perceived right to develop any parcel regardless of its location, as long as it is zoned as a 'housing' area. The reality is that it has been possible in the last two decades - even in this relatively remote area - to profoundly redevelop parts of these villages. Where once single-family houses and farms stood, multi-family housing projects with apartments appear. The consequent increase in density is problematic, as I will try to argue onward, but not perceived as a problem by most actors involved (owners selling their land, investors developing the apartments, local politicians, residents of these projects...). First, we will look at the densities produced.

Looking at a sample of projects from the region, submitted for building permits and selected by local administrators as examples of higher densities that tend to produce lower housing quality, we can understand a few things. The first observation is the proposed densities between 45-180 dwellings per hectare, measured at the parcel level^[iv]. This might seem far from the standing practice of limiting housing densities in rural areas to maximum fifteen units per ha, however that is a figure used in territorial planning in Flanders and includes infrastructure, open and public space. Comparing the results to existing densities measured at the building block - smallest statistical cell size available - the image becomes more nuanced since it excludes infrastructure and most public space, but does include large inner block gardens or agricultural fragments in villages. We detected in the seventeen smallest villages studied that one will find existing densities to vary from five to fifteen units per hectare, with some exceptions up to thirty-five where villages were taking up more important roles in the network: providing important employment such as the breweries did in Hoegaarden; providing civic services to multiple nearby villages as one finds in Geetbets that hosts the municipal services, school, sports hall and church; as well as where previously densification operations had been completed for example by building social housing compounds. (fig. 3)

At the same time, the study looked at the statistical data used by the Province as a background for their spatial policy plan. When one splits the projected growth for all of the villages in spontaneous and strategic growth, the numbers become less abstract. Spontaneous growth is

calculated following the assumption that available parcels that legally can be built upon within the village contours represent one potential housing unit each. What is left can be seen as a strategic supply that municipalities can use to steer specific development in strategic areas where other goals can be achieved: renewing municipal infrastructure such as sports facilities, school or social infrastructure in exchange for higher densities, keeping specific lands unbuilt for water retention or ecological reasons, refurbishing important buildings and heritage locations, ... 5. This exercise demonstrates that both types represent small amounts of actual housing units (between ten to fifty) which is easily and quickly surpassed by the number of housing the municipalities allow in their building permit. This is indicative of how the spatial planning discourse at

the territorial level is far from the actual evolution on the terrain where the projected growth by 2035 is already met by the permits given out in a few years' time.

The conclusion from this quantitative and qualitative density research delivers an important insight. While there is a clear spatial goal at the provincial and Flemish level, shared by multiple professional stakeholders, the actual evolution of housing production in the Gete valley villages presents another contradictory reality. This paper uses the term urbanizing villages, since the densification process is ongoing and prequels the planned growth by tenfold. Moreover, the architectural projects that are producing this densification are in most of the cases studied unable to offer the same level of quality that single-family houses

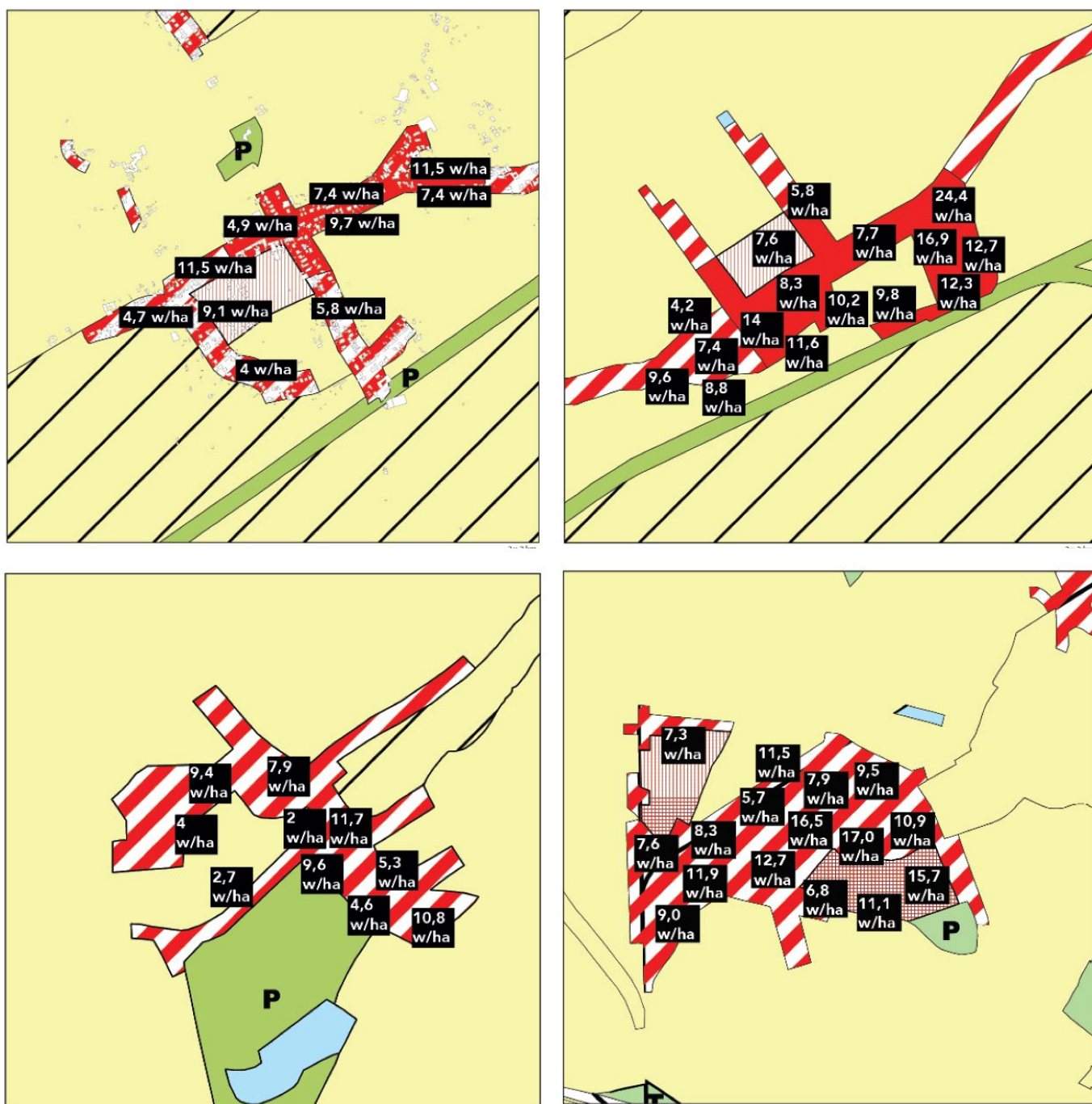


fig. 3. When looking at existing housing densities at the building block scale these villages somewhat remote form major towns and underserved in terms of mobility infrastructure, reveal the low population densities of the urban fabric. (by Plusoffice Architects, Leefbare Dorpen Getestreek, 2020).

in the village offer, while the village lacks the multitude of amenities that urban areas can provide when private housing is reduced in size and quality. Transplanting the real estate and densification logics of urban areas to these villages turns out to be unable to produce significant quality of life, while at the same time threatening many existing qualities of the context as found.

As a justification for this densification process, the argument put forth by small town majors and rural advocacy organizations such as the Boerenbond and the Landelijke Gilde, is that existing financial regulation on how tax money is distributed amongst cities and municipalities, puts large pressure on small town budgets. Whether this is true is up for discussion, but the argument is the dominant one amongst small town majors, as recorded during the working sessions between provincial spatial planners and the design team in the course of the study. They claim to be facing ever larger responsibilities, soaring pension costs for former staff and increasing expenses to deal with phenomena such as declining agriculture economy, climate change adaptation, poverty mitigation and infrastructure maintenance. Their answer to the financial sustainability of their municipality is development, based on the probable yet not always proven assumption that extra dwellings attract new families and thus additional tax incomes. Together with the income from property tax the neo-liberal Anglo-Saxon model is complete and forces all municipalities regardless of their local dynamics to enter into mutual competition, the prototype of unsustainable neoliberal policy. Again, the quality of such produced housing is not being debated, while recent pandemic safety measurements have made it more apparent how low-quality housing makes it harder for people to sustain healthy life styles.

Much higher densities are being proposed, following the argument that we need to strengthen village cores and balance out low returns of investments, often due to undesirable real estate being produced (sub-standard quality, bad locations...). The result is a rapid and haphazard densification of village parcels regardless of their context, heritage value or market potential and far from the classification of villages in preparation by the Province according to varying degrees of dynamics. In order to address this, we need to build a more qualitative debate on the protection and transformation of villages that includes density amongst other parameters. This also raises the question and can be the topic of continued research, whether new housing produces actual new inhabitants or leads to a shift away from substandard houses.

From densifying to strengthening villages

During the design-research conducted by Plusoffice Architects within the framework of the study 'Leefbare Dorpen Getestreek' [Livable Villages Gete Region] we started to test if we can steer the discussion away from the numbers and densities as abstract and presumed

neutral indicators, towards an actual discussion on the spatial context and the qualities produced, both for the context (the villagers, the villages and their surrounding landscapes) as within the project itself (the architecture, the collective dimension of living closely together and the housing conditions produced).

Moving away from village densification as a problem and the negative vocabulary used in the context of the sprawled territory, village strengthening better describes the positive attitude applied in this study, following the approach as described in the design research for All City All Land6. Densification becomes one of the strategies used aside from more qualitative spatial goals, such as climate and energy transitions. Strategic use of higher densities can be a way forward in preparing villages for a more resilient relationship with their water systems (keeping space open), introduce a collective dimension (commons, shared energy production...) and integrate more sustainable mobility behaviors (including bicycle use and shared car ownership). In order to do this, the study explored three strategies to be tested within the context of the Gete river valley villages and their stakeholders.

Thematic agenda setting

The development question for these villages is broadened, away from the densification phenomenon through an inventory exercise where the spatial analysis of the village is translated in to specific objectives organized in four themes. These themes follow the methodology resulting from the research by design study7. The first theme Mobility addresses questions on how to relate better to the bicycle highway that runs through the valley and links many of these locations to major cities within thirty-minute bike ride, reduce traffic speed in order to allow for shared use of existing infrastructure and how alternative networks can reinforce walking and bike riding to reach major places within the village such as schools, the river, shops and churches. The theme Landscape and Climate looks at how the villages can be more active in their position within and relation to the landscape as a system, looking at the blue-green networks that need strengthening, opportunities for de-sealing and water buffering, recreational programming of specific landscape spaces, the potential of community supported agriculture and other more sustainable links with the agricultural economy. Building Practice is the third theme, identifying at the scale of the village how the built fabric can respond to existing qualities, what can be seen as a strategic site within the core, what the important heritage buildings are to treat as special and even where in the long run houses need to disappear in order to counter ribbon development and correct mistakes from the late twentieth century. Eventually the theme of Amenities is addressed at the scale of networks of villages, in order to look at which village provides what service, how they relate to connecting systems in the landscape and infrastructure, where overlap can be reduced and where coalitions can be found in order to establish multiple use of the infrastructure in order to



fig. 4. Design research for the village of Neerlinden looking at alternative profiles for the main street (a), de-sealing operation on the village square (b), the reuse of the vacant church building (c), the position of the school extension (d) and new pedestrian passage (f) in relation to the shared gardens and waterpark (h) with additional housing (g), and the reuse of remarkable abandoned farmhouses (e). (by Plusoffice Architects, Leefbare Dorpen Getestreek, 2020).

activate them better.

Research by design for strategic locations

By zooming in to specific spaces within the village framework, previously identified as strategic locations, design research is then used to illustrate the potential of a specific location in addressing multiple themes at the same time. The examples vary from quick volumetric studies on how a given density can be better distributed in order to also gain green space, safeguard a natural area, integrate heritage in new developments, build a softer mobility approach, and strengthen existing initiatives within the spatial layout of the village such as the farmers market or a social organization. The studies serve as examples and discussion departure points for a more strategic dialogue with partners involved in the development decisions in these villages. (fig. 4)

A dialogue on quality

In order to give a framework to the dialogue on architectural quality between investors, architects and the commune administration, the team of Plusoffice was invited to rethink the instruments they designed for the commune of Nijlen

following the spatial development plan t a tool that can structure such a conversation. Going further than existing tools such as the Woningtypetoets [housing type test] and the norm for Social Housing in Flanders, this instrument is structured as a compass on ambitions broken down into different aspects, organized around four scales: the village as a whole, the direct surroundings, the collective dimension of the project and the individual scale of a housing unit. It goes through a series of questions tailored to the actual concerns of, quality demands by and specific conversations held by the local administrators of the municipalities involved. By structuring the dialogue in a hierarchical manor, we start with the central question: what can this project do for the village? Is it needed, can it contribute to other challenges previously identified, can it resolve a problematic situation... This first step does imply that there is already a legal basis for the project to be examined in terms of its' quality. After each segment a decision is needed, whether the project is unacceptable, acceptable but needs improvement or scores well on the stated goals. Later in the compass other challenges will be addressed relating to limitation of land sealing, strengthening water and other landscape systems, collective mobility, services



fig. 5. The dialogue on architectural quality between investors, architects and the commune administration can be structured through this compass, following four subsequent scales: the village as a whole, the direct surroundings, the collective dimension of the project and the individual scale of a housing unit. (by Plusoffice Architects, Dialogokompas Architectuurkwaliteit Intergemeentelijke Kwaliteitskamer Getestreek, 2020).

provided to support collective living, protection and reuse of heritage buildings, and eventually very basic qualities such as daylight, minimal room sizes, well oriented private outdoor spaces.

The compass serves in the first place as a dialogue tool inviting a conversation between different stakeholders: administrators looking for support in how to motivate the ambition for a more qualitative architectural production that this densification wave can bring; between administrators and local politicians to help define what ambitions are necessary and what is at stake when these investments are being made; between architects, investors and local administrators when projects are being discussed for permit suitability.(fig. 5)

These three strategies that resulted from the design research study help to reposition the discussion on urbanizing villages and the planning policy focus on density in a broader debate on what roles these villages can play in the future. It is part of a wave off renewed interest that is

also picked up by other actors both regulatory (Province of Antwerp 2018, Province of West-Flanders 2021)^[v] and socio-cultural (Ar-Tur 2019, A+ architecture in Belgium 2020)^[vi] and can be traced back to earlier studies (Maat 2017) on strengthening villages. While Flanders is holding its breath until the political level provides the means to organize a true transition towards a more sustainable restructuring of the territory and the legal instruments to organize a redistribution of the associated densities, these strategies in the meantime help act on the transformation (and often densification) process that is taking place in villages regardless of their context. This implies that we provide local administrators, designers and villagers with the tools and skills to define the qualities, set ambitions and develop territorial visions needed to start discussing and eventually also influence these processes in order to start strengthening these villages and not just consume them. The agenda here is to use controlled transformation processes for building up spatial qualities: creating stronger and more resilient landscapes, another mobility context in which high level bike infrastructure as being planned can

supplement the larger scale public transport infrastructure, a more networked system of amenities and another building culture that contributes to the quality of the village in itself. Understanding that rural urbanizing areas produce most of their wealth outside the agricultural sector, Kajdanek argues for a new paradigm to understand the ongoing transformation as a multifunctional development of rural areas⁹. The strategies studied above aim at giving form to such a multifunctional development paradigm imbedded in practice at the village scale, using density and other parameters in the reproduction of inherent qualities.

Notes

^[i]The vision document of the Beleidsplan Ruimte Vlaanderen (BRV) [Spatial Policy Plan Flanders] (2016) estimates the daily space occupation in Flanders at an average of 6ha/day, which given Flanders' fairly limited size is a significant number. The first strategic goal formulated in the BRV is 'a more optimal use of existing urbanized areas and safeguard to the maximum existing open space' and is a plea for a higher density, at the right location and in combination with other strategies such as climate and economic resilience or transit-oriented development.

^[ii]Flanders has 487 inhabitants per square km. the 2017 figures on population density at the regional and municipal level were published by Statbel, Belgian Statistics Bureau, statbel.fgov.be, accessed 2 May 2021

^[iii]The statistical data used by the province as background for the spatial policy plan are not used as strict numbers. The policy plan is at this moment in its negotiation phase with the political municipal level and is not available for publication yet. The study 'Leefbare Dorpen Getestreek' (plusoffice architects 2020) uses these numbers to build up an argument on the differentiation between strategic and spontaneous growth in relation to the village context.

^[iv]These densities have been calculated by plusoffice architects during the development of the 'Dialogkompas Architectuurkwaliteit' Plusoffice-Voorland 2019-2020, based on data obtained from the building permit applications submitted to Zoutleeuw, Linter, Landen and Geetbets during the period 2018-2020. The density is calculated based on parcel area, and hence differs from the more global densities used in territorial planning discussions. The latter would include public space, infrastructure, park, open space... which automatically leads to lower densities. The distinction between parcel density and territorial density is important to keep in mind.

^[v]In 2018 the Province of Antwerp in collaboration with University of Antwerp published the inspiration guide 'Veerkrachtige Dorpen' [resilient villages] and provides aside from a theoretical framework a set of best practices. The 'Leefbare Dorpen Getestreek' as commissioned by the Province of Vlaams-Brabant was directly inspired by the initiative in Antwerp, but focusses more on research by design. In 2021 the Province of West-Flanders launched their response under the title 'Village DNA'. Over the course of four years they will be investigating how participatory processes can help establishing more in-depth knowledge on what constitutes the village DNA and the way interventions that can be developed from such a DNA conceptualization.

^[vi]In 2019 Ar-Tur in collaboration with KU Leuven in the frame of Ward Verbakels' PhD research set up the Kempenlab Dorspararchitectuur. This research project runs for 2 years and focusses on the role of architecture as a language in villages. It runs through a series of symposia, debates, lectures, student research and a publication. In 2020 A+ Architecture in Belgium published a volume of the architectural review on the topic of 'Villages'. This resulted from a discussion with Ward Verbakel as part of the artistic committee of A+ during the summer of 2019 and was launched in collaboration with Ar-Tur during an event with several speakers on March 4, 2020.

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Kampong Luong floating morpho-typology: 'Living with water' in the Tonle Sap

Vu Thi Phuong Linh, KU Leuven (2020-24)
K. Shannon, B. De Meulder (promoters)

abstract: Throughout history, the Mekong Delta landscape has witnessed drastic transformations resulting from the interplay of changing hydraulic development paradigms and evolving ethnic practices of traditional ecological knowledge (TEK) to 'live with water'. This paper investigates a TEK case study of the floating morpho-typology of fishing villages in Tonle Sap Lake, the critical freshwater ecosystem of the delta, which is endangered due to fishing industries, urbanization, fertilizer-pollution, upstream hydropower dams and climate change. The case is the floating agglomeration of Vietnamese refugees in Kampong Luong which has subsequently been facing forced displacement under the government's fishing conservation policy. The paper presents a morphological interpretation of the village, focusing on the way of 'living with water', with seasonal and daily practices, intermingled in the great wetland system. This will be combined with historical contexts of hydraulic transformation and ethnic movement in order to understand TEK's evolution woven into landscape transformation.

keywords: traditional ecological knowledge (TEK), hydraulic development paradigms, fishing

Tonle Sap Lake plays a prominent role in the flood pulse system of the Mekong River Delta, with incredible seasonal fluctuation in water levels up to 10-11m and the size of the lake can increase four times (2,500 - 3,000 km² in the dry season, November to March; 10,400 - 16,000 km² in the wet season, May to October).¹ Around the lake, the transitional margin between the permanent open water and the seasonal inundated landscape is home to numerous floating villages of different ethnic groups, especially the Khmer and the Viet. Those floating villages undoubtedly hold magnificent traditional ecological knowledge in living with water.

Traditional ecological knowledge (TEK) is rooted in the anthropology discourse and extended to ecology and natural resource management. Nevertheless, as a widely accepted definition, TEK is embedded in a particular place and set of practices, handed down through generations, particularly about human and non-human relationships with their local group and the environment.^{2,3}

This paper brings TEK concept into an ecological approach in landscape architecture and urbanism, using the eco-hydrological process as medium in the interpretation of TEK and the landscape.⁴ The paper also focuses on the observation of TEK in physical forms or morphological interactions between the human settlement and immediate environment. From investigating the case of Vietnamese community in Kampong Luong, the paper attempts to identify the morphological logic of how traditional practices weave in the eco-hydrological complexity of the Tonle Sap.

Therefore, the paper structure follows aspects of landscape processes and focuses on fundamental questions: 1- how the community came to the lake and became an agglomeration, 2- how the village morphology intermingles with the eco-

hydrological process, 3- how landscape has transformed through history, and how traditional practices has adapted in the contemporary context, and 4- how people have been working in changing the landscape. The study is based on morphological observations for different seasons and years. It also includes the historical exploration in larger scaled geological sections and zoom-in investigation for major processes and typologies. In addition, social-economical-political complexity is addressed and integrated into the discussion. In all parts, TEK are discussed, tied on the landscape processes.

Movement & accumulation

Kampong Luong village locates at the southern bank of the Pursat - Snoc Trou transect. It is one of the five major fish landings of the Tonle Sap. Kampong Luong means Port of the King. It was a small fishing village in ancient times and became a port in the post- Angkor period or earlier. Nowadays, among five floating communes in Kampong Luong, the Vietnamese cluster separately at the furthest to the opened water. The village moves and changes its size and shape seasonally, varying from the channel to 5 km out the shore, extending to 14 km².⁵ The village's location, shape, and size are never the same. They sensitively accord to the dynamic water regime, climate condition, and surrounding landscape feature.

Flood-pulse is the primary driver of the Tonle Sap ecosystem resulting in its abundance. However, the wild swamp and hydrological disturbance at the water margin are hard to live with. Therefore, from ancient time until now, here remains the place for the so-called 'poor' or 'outsider' or 'informal' living with flood risks, providing fishes and wild products for the city. Among them, the Vietnamese boatpeople migrated back and forth, up and down Mekong River, especially during the chaos of transition periods of

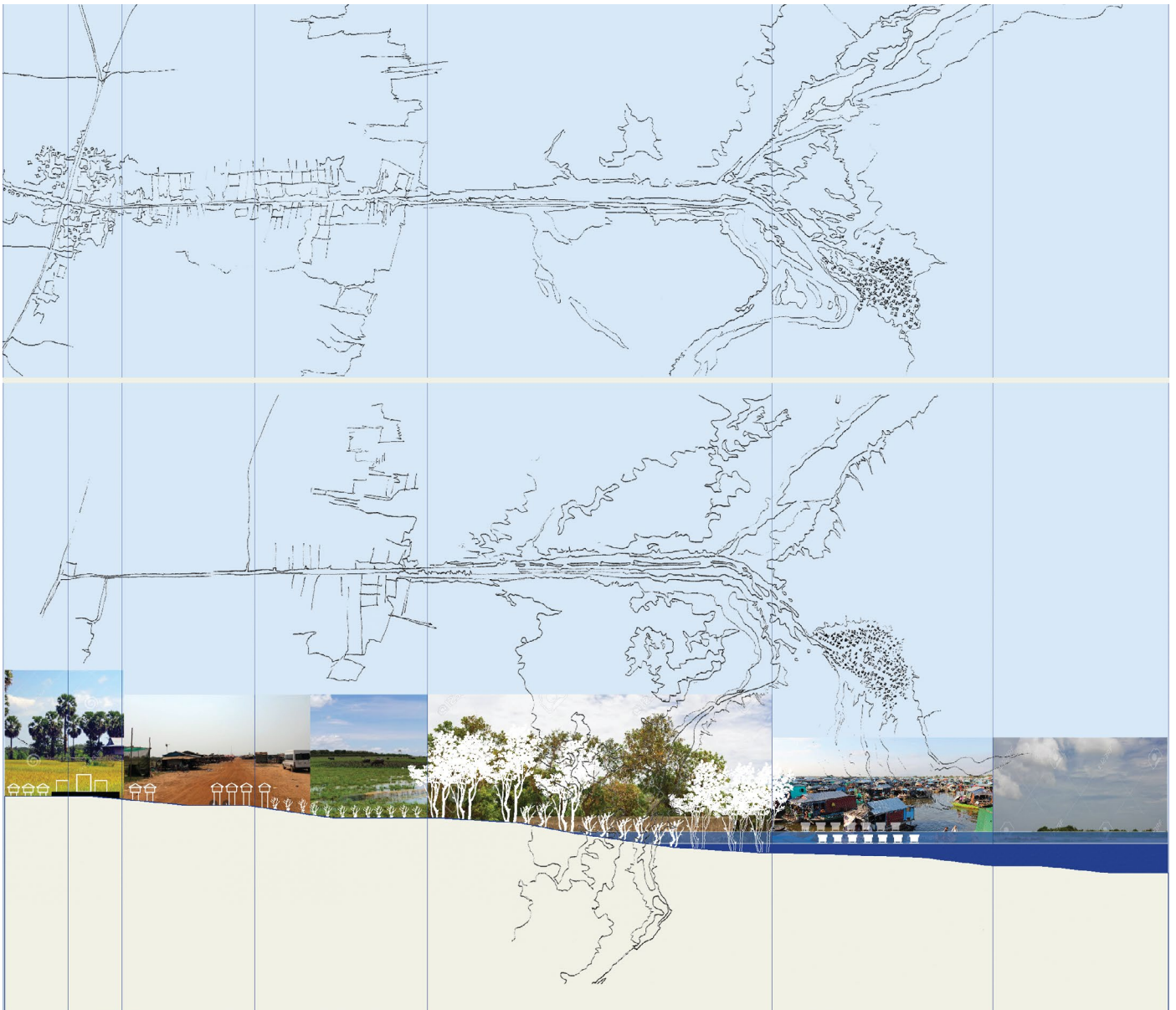


fig. 1. Water dynamics, marginal habitat and adaptive morphology of the village. Kampong Luong in dry season in 2014 and 2019. (by author from Google earth 2014, 2019).

Vietnamese Southward movements, French colonization, American War, the Cambodian genocide, Vietnamese occupation, the times of complicated cross-border movement between Vietnam and Cambodia.⁶

The over-size floating village of the Viet migrant in Kampong Luong has particular conditions for its succession and accumulation. Despite the discrimination toward the Vietnamese in Cambodia, there has not been any serious conflict among ethnic groups living around the lake. On the contrary, different ethnic groups have been living together in mutual interaction within the common ecosystem, sharing resources, succession when abundance. Therefore, despite significant historical fluctuations in population, the Vietnamese group still keeps their growth through generations, forming a particular cultural layer, vast territory, social and economic network on the water.⁷ Due to the significant fish landing location, Kampong Luong has accumulated and urbanized, known as one of the largest floating communes on the lake with 600 households/3000 people. The commune became a busy town that offers

everything as a terrestrial town. People hardly need to leave the water. They are living in boat houses or ferry houses. They have a school, a church, a pagoda, a clinic, a petrol station, an ice factory, few grocery stores, a homestay for tourists, and boat hawkers for trading activities inside and outside the village.

Whether the Vietnamese community appropriated the water surface either by choice or no other choice, since the 1990s, the floating villagers have been considered as refugees, are not allowed to access land for settling. The villagers' movement and subsistence activities are restricted in between complicated boundaries, including administrative divisions, flooded forest - rice paddy border, assigned fishing lots, and fishing conservation territories which become even more complicated with the water dynamics.⁸ Within those constraints, the agglomeration has been formed with a rational arrangement of homogeneous affordable floating structures, which shows mutual adaptive principles and community connected for economic and political survival rather than social

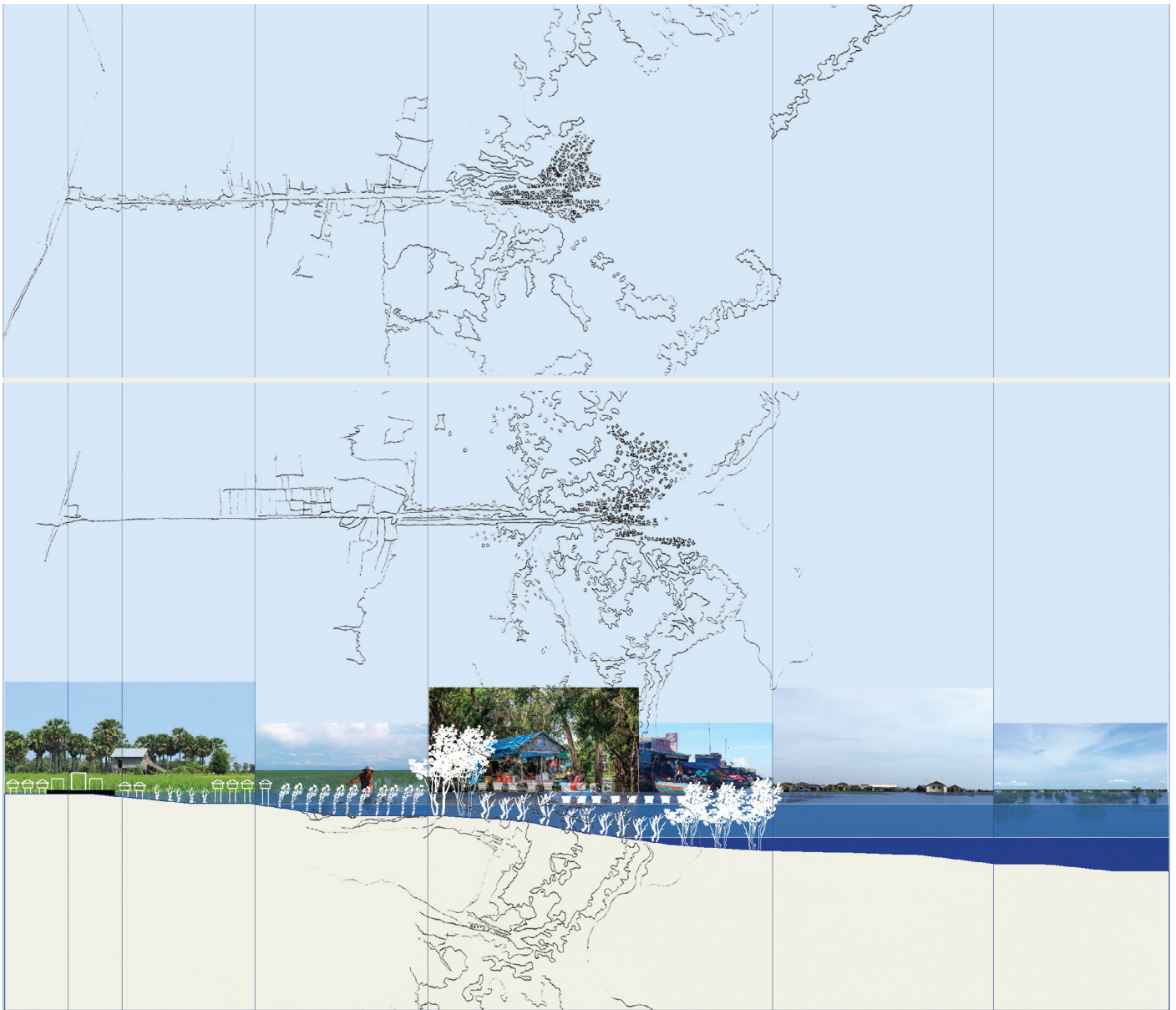


fig. 2. Water dynamics, marginal habitat and adaptive morphology of the village. Kampong Luong in dry season in wet season in 2014. (by author from Google earth 2014, 2019).

hierarchy or religious order. Meanwhile, informal service and economic networks have been created with a flexible sharing system of jobs for the urbanizing livelihood. The villagers are fishermen, farmers, providers, users, traders, builders, borrowers, leaders, and social workers involved in various rural-urban activities that help to keep the community as self-sufficient on the water as possible.

Living with eco-hydrological process (water dynamics and the marginal habitat): **adaptive morphology**

Kampong Luong has an average water depth of 0.8-1 m in the dry season (4 months) and 8-10 m in the wet season.⁹ The villager moves their houses together up and down the shore, following seasonal rhythms when the water rises and sinks. Depended on the topography (of the lakebed, muddy edge, or stream), the movement of floating villages can vary from 2 to 5 times annually.¹⁰ In Kampong Luong, normally, there is only twice a year. However, sometimes it changes depending on the unusual water condition. In the rainy season, the village moves closed to the inundated shore and the channel's mouth, safe enough from storms

and waves. The village moves out to the open water in the dry season to ensure one-to-four-meter water below the floating houses (the lake depth is 1-5m in the dry season).¹¹ The village shape, therefore, changes between seasons. In the dry season, the egg shape of the village forms within the constraints caused by the lakebed (water-depth) and the open water atmosphere (wind, sun, wave). Meanwhile, in the wet season, the floating houses spread all together at the channel's mouth, adjusting to the inundated topographic edge and tree canopy. In both seasons, the houses float together to the right place to anchor. The rational space between houses seems to help to form a mass for survival in the disturbed water. During the seasonal movement, the community's collective know-how defines the village's location admitting ecological and political conditions. Other houses follow each other to find their relative location, historically, arranged either on purpose or by chance. The villagers know, without any map, how to array their houses in layers along common routes, that boats can move along and in between very dense spaces. As fishermen for generations, they have their born

knowledge of water dynamics, the cosmos and ecological environment integrated in daily activity for subsistence is much sophisticated than any kind of guidebook. (fig. 1, 2)

There is a lot of human non-human interaction in the marginal habitat that the floating community depends on for their movement and existence. The organic margins of the lake are seasonal, adaptive to the flood-pulse regime, and shaped through time with sedimentation processes interplayed with vegetation patterns. The most crucial original pattern along the shore is the flooded gallery forest covering 10% of the Tonle Sap floodplain. The forest species is typically 7–15 (even 20) meters tall with the flood tolerance up to 4–6m water depth for up to 8 months annually. In correspondence with water levels, the edge dynamics can be observed, changing from forest canopy with patches of floating aquatic vegetation in flood season to a muddy inundated edge with mixed vertical trunks in the dry season. Here is also the area for migrated fishes and mud fishes, diverse freshwater zooplankton, therefore critical for the whole lake metabolism.¹²

The past abundance of the lake habitat can only be seen in the Bayon bas-relief at the Angkor monuments, old travel books, or told by the elder from their memory. The current pattern appeared in Kampong Luong is the degraded landscape with fragmented stands of large trees, invasive floating species and shrubs, hollow patches and fish traps, full signs of human domination and effects. The extensive clearance of forest, and fish reduction and bio-diversity loss have been observed in several studies. The change of the habitat can be understood further in the morphological transformation of the lake, which is explained chronologically in the following part. (fig. 3)

Hydraulic transformation: criticism on development paradigms

This part briefly reviews different development paradigms under different political regimes through history, focusing on those significantly altered the hydraulic pattern of the Tonle Sap, so its ecological process. The key paradigms mentioned are road and road-based development (also as dikes), industrial fishing lots, vast canal system for mass-rice production and hydropower dams. The criticism is also on the ideologies of the states driving those developments.¹³ Fig.4. Historical sections of Hydraulic transformation of the Tonle Sap Lake. By the author from various sources.

The lake ecological system had been changed since Khmer Empire (IX-XVI centuries), starting with the ancient road crossing from Siam to Angkor and further to the East, running parallel to the water edge. That was completed in colonial time around the lake to become the central Cambodian national road, almost acting like a dike, which modified the entire hydraulic regime of the lake. From the colonial period until today, roads remain to be as the symbol of modern development. As a consequence, road-based development progressively built, neglecting the floodplain ecology and water-based livelihood.¹⁴

During the French colonial period (1863-1954), with the total exploitation, besides the large-scaled road and canal development in the Mekong delta, the fishing lot system was introduced in Mekong River and the Tonle Sap. The system is a form of water privatization for capital accumulation.¹⁵ That continued with American imperialism and modernism (1954-1975). The vast extraction machines were introduced in the lots for industrial fishing. There are three primary technologies used in large-scale fishing operations: seining, barrage, and dai fisheries. Fish reduction, therefore, had already been reported in 1973. Until 1999, there were 139 lots in Tonle Sap which continued until 2011 when the government issue the law to close all industrial fishing lots.^{16, 17}

During the Pol pot regime and genocide (1976-1979), the lake was abandoned. Everyone had to move to the rural for farming development. In higher land of the lake floodplain, Khmer rouge developed the abnormal irrigation system for mass-rice cultivation. That is a part of the Khmer rouge's extreme socialism which murdered all kinds of natural - cultural diversity.¹⁸

Since 1985 when the Cambodian People's Party has taken the political advance, urban development started to boom following the flow of global capitalism and the progression for GDP-based development and quality of life. Urban and rural infrastructures have expanded until now, including roads, dams, flood gates, tubes, canals etc. Several studies prove that infrastructure development make negative impacts on the lake ecosystem. Today, hydropower dam development upstream of the Mekong River, especially with the whole plan for fully damming the river, is the greatest thread on the Tonle Sap, causing ecological crises and significantly modifying the flood pattern and sedimentation. That destruction has been intensified with the climate change, and more severe in the future. The whole environmental degradation caused by those large-scale development has unjustly burdened the local community.¹⁹

Currently, in Kampong Luong, the urbanizing water margin has emerged as the most active but highly contested landscape, partly associated with the Vietnamese refugee status. The problem arises due to the ecological crisis and fish vanishing in the Tonle Sap. The floating villages have been facing poverty, pollution and blamed for increasing illegal fishing and forest cutting. From the viewpoint of modern development ideologies, the Cambodian government was convinced that the forced displacement of the floating communities is the solution for modernization and fishing conservation. Unfortunately, floating communities do not have any voice in that decision. More than two-thirds of Vietnamese have been evicted from the Tonle Sap until now. However, it is reported that there were protests to refuse the order. Many people came back to their evicted home where they still can find a way to survive with their experiences around the water.²⁰

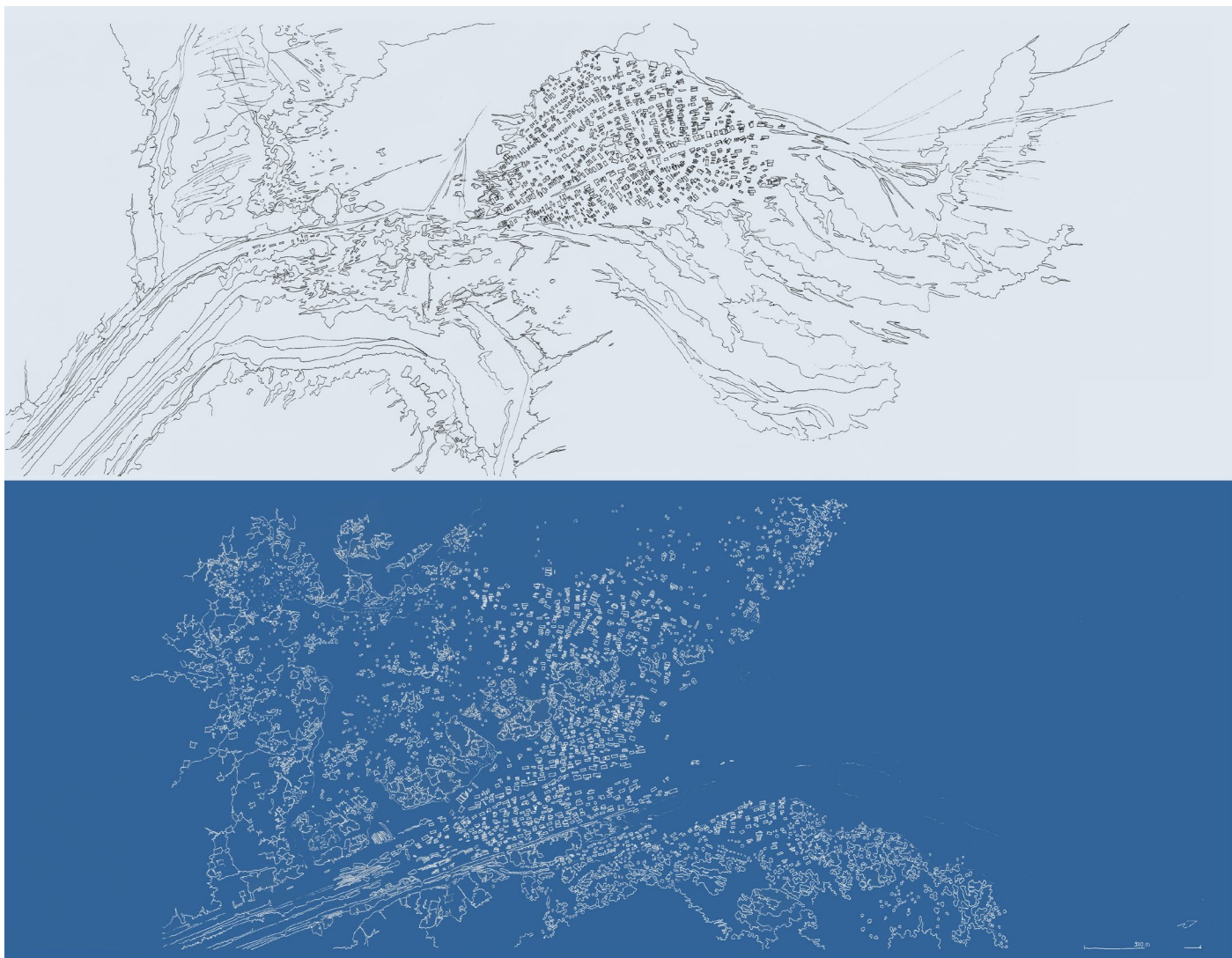


fig. 3. Kampong Luong in correspondence with immediate factors of climate and ecology in dry season and wet season. (by author from Google Earth).

Landscaping and TEK transformation

What and how are people doing with the landscape as traditional practices? Hunting, gardening, and building are the fundamental human activities changing the face of the earth since ancient times.²¹ Those are still the original practices of the floating communities changing landscape of the Tonle Sap. Some technologies from the long past still exist as inherited. For example, small, simple tools made from bamboo or wood are used to catch for daily meals, or traditional floating houses are entirely built from local materials such as bamboo structures, straw panels, and leaf roofs. Those original technologies occurred when the daily life of people was almost self-sufficient within the lake habitat. However, most existing practices have been transformed, not only in forms such as materials, products but also on multiple processes, to adapt to the contemporary context.

The existing fishing, (forest) gardening, and building activities in Kampong Luong are still following the seasonal water rhythms. The particular changes of traditional practices today can be read among interrelated factors: production scale, technology, and process.²² The expansion of landscape production TEK has happened due to population

growth and the increasing market demand. Meanwhile, the resource is getting scarce, especially fish vanishing and the shortage of natural materials. Therefore, the landscape production becomes more and more connected to the urbanization system rather than only within the ecological system of the lake. The entangled and mismatches between traditional practices and the contemporary landscape led to confusion in interpreting TEK and its transformation. The observations in Kampong Luong also highlight that: materials for production tools, boats, buildings are urbanized; landscape processes are driven by the market or state institutionalized; and the increase in practices of catching, forest cutting, and burning causes ecological damage. The above observations are elaborated and represented in the schematic section (fig. 5) in Kampong Luong with further notations.

Fishing. Almost all villagers are fishermen in daily practice for subsistence. Their daily routines for subsistence fishing change between seasons following the water regime. During the dry season, people can only fish within the open lake and river streams. In the flooded season, the fishing territory can be extended to inundated land but limit catch in the deepest area of the lake because of dangerous waves and storms. The fishes cached are mostly blackfish and trey

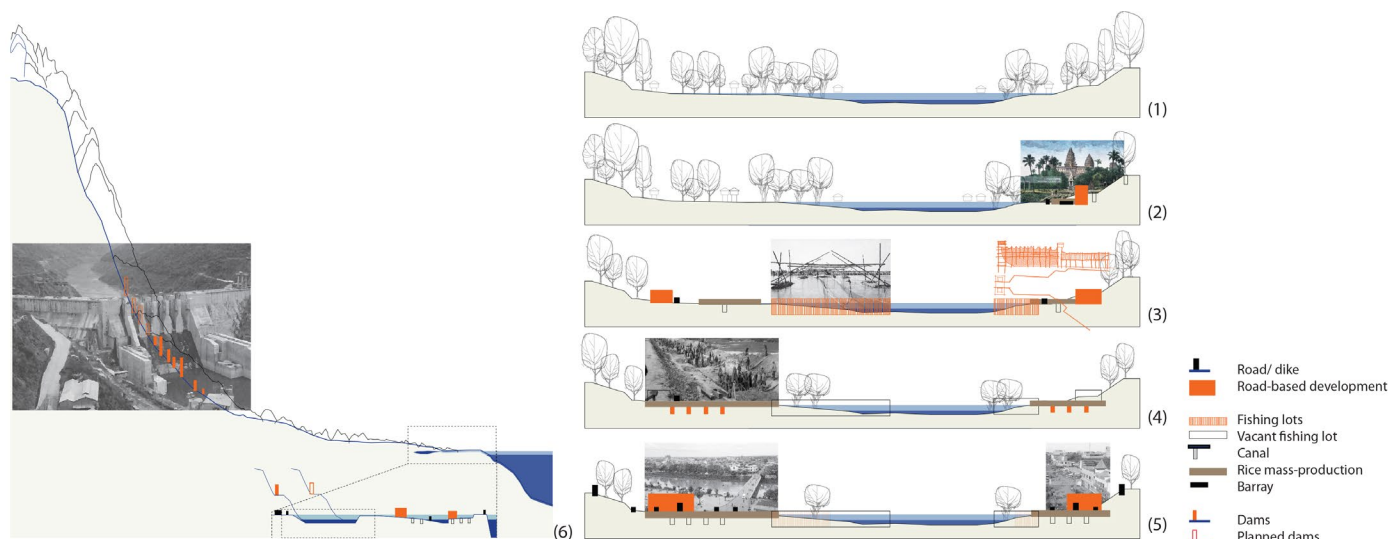


fig. 4. Historical sections of Hydraulic transformation of the Tonle Sap Lake 1) Khmer Empire; 2) French & American colonial period; 3) Pol pot regime 4) Post war development. (by author from various sources).

riel. Gillnets are most widely used in the opened water, but the net materials and mesh size are different from the traditional ones. Some traditional practices were banned in the inundated area, such as samrah or brush park fisheries, due to the total cut forest for tree branches to create artificial forests to trap fishes.²³

Meanwhile, medium-scale fishing is driven by market rules. It brings the major income for the fisherman and supply for the local fish market. The medium-scale fisheries are operated with the fishing lots contracted to particular individuals or groups by the government. They are opened from December to May because migrating fishes spawn from June to September and dangerous winds and storms occur from October to December. Different types of gear are observed in which gillnets are largely used in opened water. Arrow-shaped traps with bamboo fences are most seen at the margin of the inundated forest. The traps, up to 500m, are moved up and down following water levels to catch fishes while they are migrating out the flooded forest in a particular time of the flood-pulse, mostly blackfish, especially giant snakehead.²⁴ However, many bamboo fences have been replaced with plastic. Gillnets also use nylon nets with small mesh sizes. It is observed that the medium-scale fishery has created significant fragmentation in the margin of the flooded forest and contributes to the fish reduction phenomenon of the lake.

Gardening. Flooded forests are extensively used, including collecting timber, medicinal plants, vegetables, fruit, and bark for subsistence or local trade, fishing during the wet season, and burning for cultivation in the dry season. There is a survey for Kampong Luong that shows the deforestation process and the changing landscape mosaics in the associated human activities such as cutting, burning, cultivating. The destruction of species followed with emergence and succession of the others seasonally, some cyclic ecological processes continue, some already disappeared or hardly recovered. For example, cover of

the early successional liana was previously associated with disturbed forest, or mixed shrubs killed by burning during the previous dry season were covered with common *C. trifoliatum*.²⁵ The changing vegetation pattern led to the change of sedimentation process, fish pattern, and associated ecological (re)production.

Building. The floating house matters for the way of living on the lake. The architecture works with extreme flood-pulse and disturbed storms but also adapt to urbanization in materials, sizes and functions. Similar to the traditional house in the past, the Vietnamese floatinghouse in Kampong Luong has two major functional and structural/assembled parts: the house and the floating foundation, either boat or ferry. Various materials are used for construction: wooden boards, corrugated metal, prefabricated sheets, MDF, or laminated chipboards, painted with uniformed bright blue color. Each house has extended floating structures for movement, increasing production, and trading, including a boat, fish cage, aquatic-vegetable cage, desk for fish processing, or other manufacture and commercial activities. Besides the need for new boats due to population growth, the villagers have to renew their house every three years to resist environmental wear and tear because of constant movement on water.²⁶

Conclusion

From the case study of Vietnamese floating village in Kampong Luong, the following are some conclusions pulled out for the paper's aim related to traditional practices and landscape evolution:

1. The lake ecological process primarily determined by the seasonal flood-pulse regime delivers the morphological logic of traditional practices and landscape, therefore characteries TEK in 'living with water' in the Tonle Sap. In which large-scaled developments have largely modified the hydro-ecological process through time.

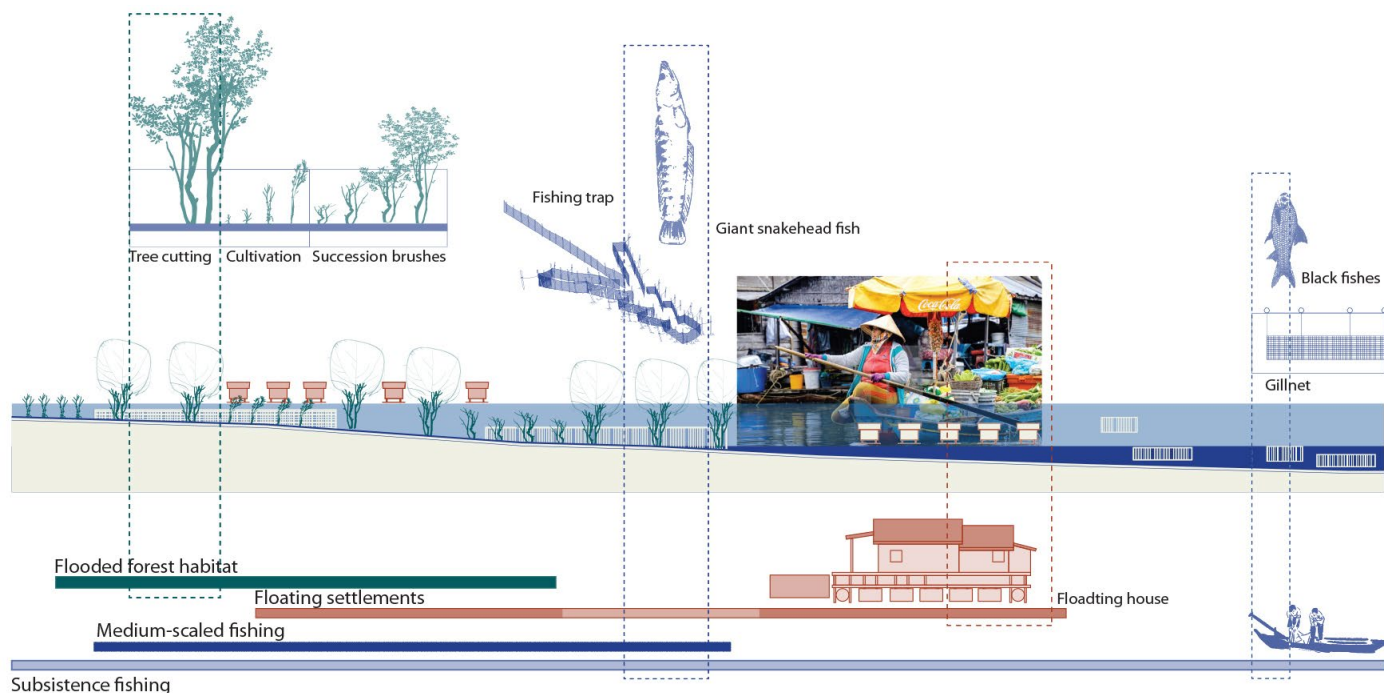


fig. 5. Schematic section of landscape production: fishing, gardening and building in Kampong Luong . (by author from various sources).

2. TEK in living with water has been neglected in the development ideologies of the states through history. That includes hydraulic transformation, people movement or displacement, and market-driven production. However, there have been always people's resistance and adaptation to ecological and political disturbance.

3. Traditional practices in changing the landscape can be read in subsistence fishing, (forest) gardening, and building activities of the community. The existing traditional practice has been adapted but mismatched in production processes, scales, and technologies in the contemporary context.

The case study of the floating village provides observations as another interpretation of human settlements where traditional practices appear in multi-layered interactive processes of the landscape. The further question can be how TEK is informed, and the traditional practice plays a role in landscape evolution for the continuing study.

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Landscape As Resistance in A Luoi Mountains, Thua Thien Hue

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K. Shannon, B. De Meulder (promoters)

abstract: This paper examines the notion of “landscape as resistance”. It develops the understanding of traditional ways of living of Mon-Khmer groups associated with traditional ecological knowledge (TEK) that are still evident in Hong Van and A Dot communes in A Luoi Valley. Through historical and ongoing disturbances, the existing imprint of indigenous cultural landscapes (including sacred, productive and settlement landscapes) implies forms of resistance to the generic homogenization of the territory. The paper critically analyses the occupation of the territory concerning their locational assets and proposes through a design research alternative spatial development strategy. As part of the strategy, TEK, together with scientific knowledge concerning resource management and contemporary aspirations, are researched to address the significant challenges posed by climate change. The study demonstrates an attempt to use landscape as an operative tool to resist homogenization and understand the dichotomies of culture/nature, indigenous/scientific, and traditional/generic perspectives in greater detail.

keywords: landscape urbanism, traditional ecological knowledge (TEK), forestry, water, climate change

Landscape as resistance

In the ever globalizing and urbanizing world, traditional settlements are often neglected in design, planning and management. However, traditional settlements and their related cultural values could be crucial in envisioning new (urban) settlement typologies which can relate to landscapes, resist generic homogenization, and adapt to the consequences of climate change. Southeast Asia is one of the fastest-growing regions in the world¹. Under the impacts of the global market, similarities between towns and cities are increasingly ignored and varying cultural characteristics within unique spatial landscapes not considered. The region is among the world’s major deforestation hotspot due to its rapid urbanization². The predicted consequences of climate change (mainly related to water issues) are exacerbated in both urban and rural areas. There needs to resist the homogenizing and globalizing tendencies of the built environment by re-engagement with landscapes. In addition, an alternative new settlement model to meet development needs in the manner of balancing the use of natural resources and sustaining forest and water reserves is essential.

Kenneth Frampton with his “critical regionalism” advocated a critical attitude towards the ongoing and homogeneous globalized modernization and urbanization, and described topography, climate, light, and material as place-based factors and urges architects to combine these with an understanding of the tectonic aspects of architecture³. The idea was to study local characters and identity and integrate them with the architectural design process. He also suggested that land should not be reserved for freestanding-built form typologies⁴. Simultaneously, an intermediate landscape as remediation and compensation to the ongoing destructive commodification of the artificial world needs to be conceived⁴. He has conceptualized

his “critical regionalism” as more definitive landscape strategies looking for landscape capacity to resist universal homogenization. Adopting this position for practices of landscape urbanism, in praise of the ‘indigenous traditions’, Shannon has argued that symbolism, myth, and religious law, which were inseparable parts of an ‘ecosystem’ joined to the landscape and hydrology of South Asia, should form a basis for future urban development⁵. Similarly, TEK defined by La Duke (1994) as the culturally and spiritually based way that indigenous people relate to their ecosystems. TEK is based on knowledge acquired enduring relationship with local lands, including climate, soil, water, mountains, lakes, and forests⁶. From TEK, inhabitants can gain natural historical knowledge of local places and make sense of their everyday lives concerning surroundings and promote their way of settling regarding environmental management. Thus, TEK has been seen as a dynamic inquiry system, adapting to new ecological conditions⁷.

In Southeast Asia, “critical regionalism” is a common tendency. Over time, colonialism, capitalism, and socialism have superimposed generic engineering systems (including forestry and water management) on top of the natural and indigenous landscape to expand exploitation, cultivation and urbanization⁸. Consequently, indigenous groups have retreated to peripheral areas that are less accessible, like mountains. As James C. Scott has insightfully observed, there is a resistant slowness of the local everyday practices in the rural context⁹. Based on TEK, the local inhabitants have modified everyday lives to adapt with new ecological conditions and resist exogenous impositions. The resistance has induced dichotomies of indigenous versus scientific and the traditional versus the generic.

Vietnam, especially the central area, is at a critical turning point in accelerated urbanization and economic

development where the negative impact of climate change is manifesting itself. Located in the center of Vietnam, Thua Thien Hue (TTH) Province has a unique socio-cultural history and diverse landscapes, including mountains, foothills, a plain, and lagoon compressed from west to east with steep topographical changes of from 1500 meters to over 60 kilometers. It is a pars pro toto for Central Vietnam¹⁰. Co Tu, Pa Kô, Bru-Van Kieu, and Ta Oi ethnic groups (the today Mon-Khmer's descendants) still reside in A Luoi, and Nam Dong mountainous district belong to Truong Son Mountains. In Hong Van and A Dot communities, located at two heads of the valley and close to the Vietnam-Laos border, the imprint of indigenous landscapes of Pa Co and Ta Oi groups is still evident even though the impact of contemporary processes of homogenization is becoming evident. The daily practices of these ethnic groups create sacred, productive landscapes and settlements, which form a silent resistance. A Luoi Valley, with complex historical, cultural layers and geography (as a source of rivers), reveals the urgent need for a remedial landscape and sensitive settlement development strategy (fig. 1).

This paper examines the critical capacity of landscape to resist the physical homogenization of the territory through the case study of A Luoi Mountains in TTH. The notion of “landscape as resistance” in this paper should be viewed through the perspective of the term “critical regionalism” by Frampton. The paper builds on a hypothesis that understanding and evaluating the imprint of indigenous landscapes can potentially lead to an alternative spatial development strategy that counters generic urban planning by offering a greater balance of ecology with economy.

Design research as a method

The forest and water urbanism strategy will be proposed in a design research exercise (in Hong Van and A Dot communes) developed further in parallel with Frampton's landscape strategies. The proposed strategy uses forest and water systems as an operative tool to structure new settlements, remediate contaminated land and resist the generic planning approaches of the government. Following Frampton's work (1983), local characters such

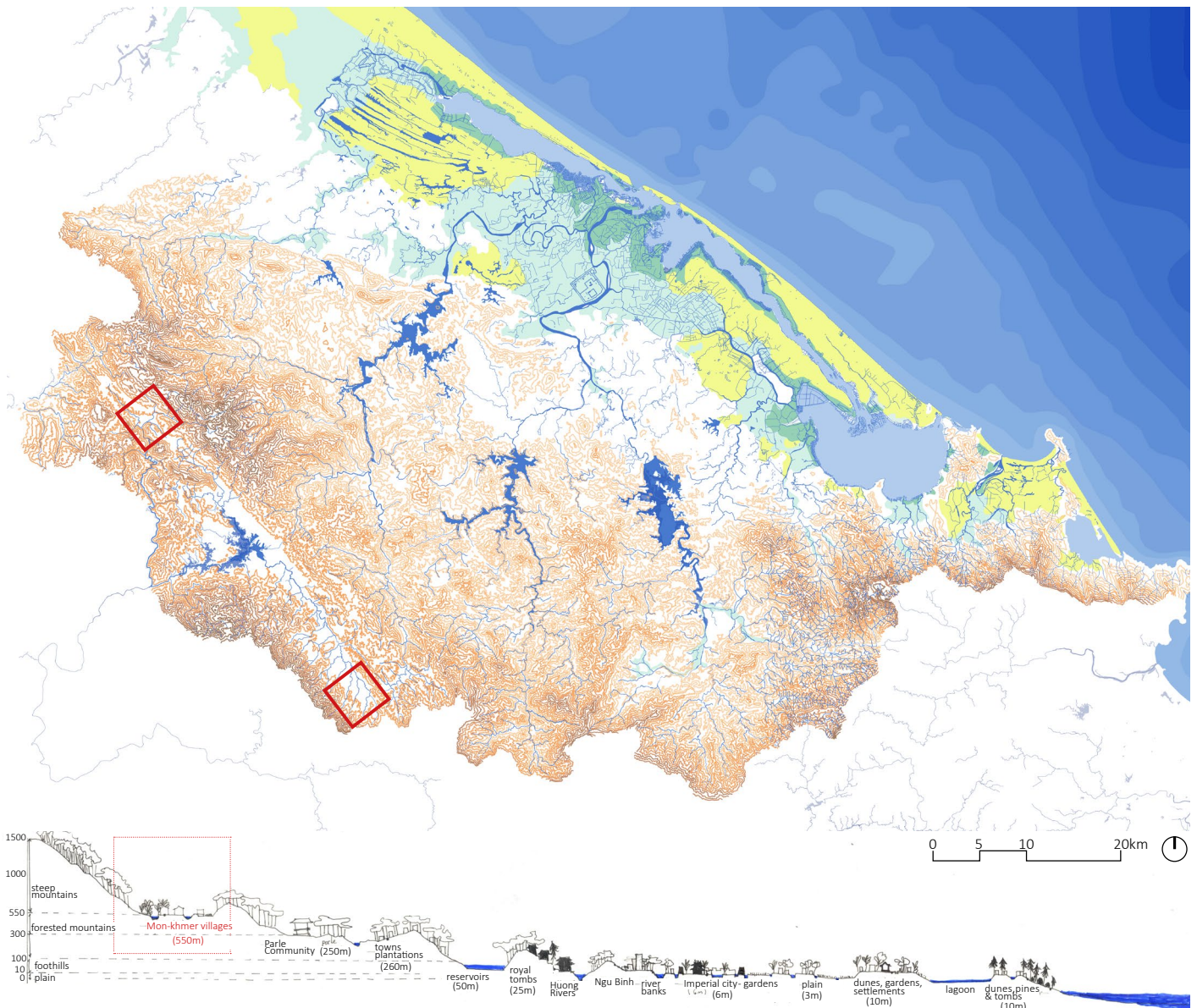


fig. 1. Thua Thien Hue has diverse forest, water and settlement landscapes induced by the relationship of ethnic groups with geographical locations (by author based on DoC 2019 and RUA drawings).

as (topography, climate) and cultural practices will be studied. The paper revisits the traditional way of living of Mon-Khmer groups (associated with TEK) and forms of local resistance touching topography, then integrate them into the design process.

The design research is based on the intensive on-site fieldwork concluded in TTH Province by this researcher. The mapping method in “Design with Nature” by Ian McHarg will be used to analyze and design landscapes¹¹. Through interpretive mapping, forms of landscape resistance are mapped in layers. Examples include (sacred) landscape figures, infrastructure, settlements, and social-natural disturbances. Overlapping and analyzing these layers can assist in developing design methodologies that consider TEK, scientific knowledge concerning resource management (forestry and water management), and contemporary aspirations within the context of significant climate change challenges.

Forms of landscape resistance

There are two settlement patterns (Mon-Khmer and Kinh) that work parallel in A Luoi Valley, revealing several forms of resistance that induce nature of urbanity in TTH as the evolving dichotomies of culture versus nature, and traditional versus generic conceptions. Before settling down in A Luoi Valley, Mon-Khmer groups were highly mobile and adaptive to the varying environment. From that position, the inhabitants have accumulated a huge body of TEK then promoted the way of settling embedded in the local environment. Several scholars commented that, these groups occupied various ecological floors, collected products from forests and rivers (through hunting, fishing, gathering, and mining) and cultivated in a cyclic manner and shifting cultures mode^{12,13}. With shifting cultivation, diverse crops are cultivated based on accumulated knowledge of soils and seasons over number of generations. Mon-Khmer people organized autonomous clusters of Crnol (villages), sacred forests for ti-rang (tombs), and cultivation domains dispersed along the margins of springs and rivers. This followed the logic of locational assets, advantages of accessibility, and connectedness. On lesser slopes, each Crnol comprised a few to dozens of long-stilt houses surrounding a communal house inside forest clearings. Between villages, there was a dynamic socio-cultural and spatial interaction as well as material exchange through forest paths and streams. Mon-Khmer people adapted their settlements to surroundings. Villages and swiddens were abandoned when there was a sign of environmental exhaustion, and new villages constructed in other sites. After the fallow period, the abandoned areas were reutilized once they regained their fertility. Thus, shifting cultivation and cultures mode did not completely colonize the mountains, but rather became a new ecology amidst the tropical forests.

Over time, their territory and settlement practices were becoming increasingly limited due to extensive

change brought about by the Nguyen Dynasty, the French colonialism Second Indochina War and the state socialism. After the government’s resettlement project in 1976, resulting in lowland Kinh people invading A Luoi, Mon-Khmer groups gave up their shifting cultivation and cultural modes and ritual practices to settle as Kinh’s standard. Co Tu, Pa Kô, Bru-Van Kieu, and Ta Oi settled in the valley, lived in single houses along streets, and cultivated monoculture crops (including wet rice and Acacia plantation). Kinh people, with considerable density, have occupied the broadest segment of the valley (known today as A Luoi Center), which provides accessibility, a large flat surface for settlements, and enough water for irrigated rice fields. This has resulted in Mon-Khmer groups being pushed more to border areas of the valley and come under the control of Kinh officers (i.e. Hong Van and A Dot). Despite these substantial challenges the indigenous cultural landscapes have not been entirely transformed and destroyed which imply forms of landscape as resistance.

Sacred landscape as resistance

The imprint of sacred forests and vernacular tombs widely spread in TTH’s territory (accounted for approximately 20%) is strongly evident (fig. 2). The abundance of vernacular tombs comes from “the incapacity to systematically enforce regulations that so strongly interfered with deeply rooted rituals”, as De Meulder and Shannon has mentioned; therefore, sacred landscapes imply a form of silent resistance by the dead¹⁰.

In A Luoi Valley, Hong Van and A Dot communes have the same landscape features consisting of a system of irrigated wet-rice fields (supplied by A Sap River and its tributaries), dry land Acacia plantation and forested mountains. Vernacular tombs have embedded in forest patchworks on higher ground (ranging from 610 to 670 meters) and deemed sacred forests with mixed vegetations. These patchworks, together with traditional communal yards/houses (which host rituals and ceremonies), create clusters of sacred landscapes with attached villages. Villages exist that are still named with Mon-Khmer language customs (according to the name of the streams).

Settlement and productive landscape as resistance

Even though living with Kinh’s standard, settlement practices of Ta Oi and Pa Co people are still influenced by old traditions that are transmitted through generations by folk stories and songs¹⁴. These customs correlate with Basso’s description of the Western Apache that people and landscapes are intimately connected by a reciprocal relationship between individuals and the community, influenced positively by the voices of their ancestors¹⁵. They have altered landscapes to create a self-sustain system to survive in harsh environmental conditions and climate change. When relocated far from resources (like forests) and food supplies, Ta Oi and Pa Co people (in Hong Van and A Dot) have constructed chains of fishpond (at the level of wet-rice fields) closed to villages. The ponds also work

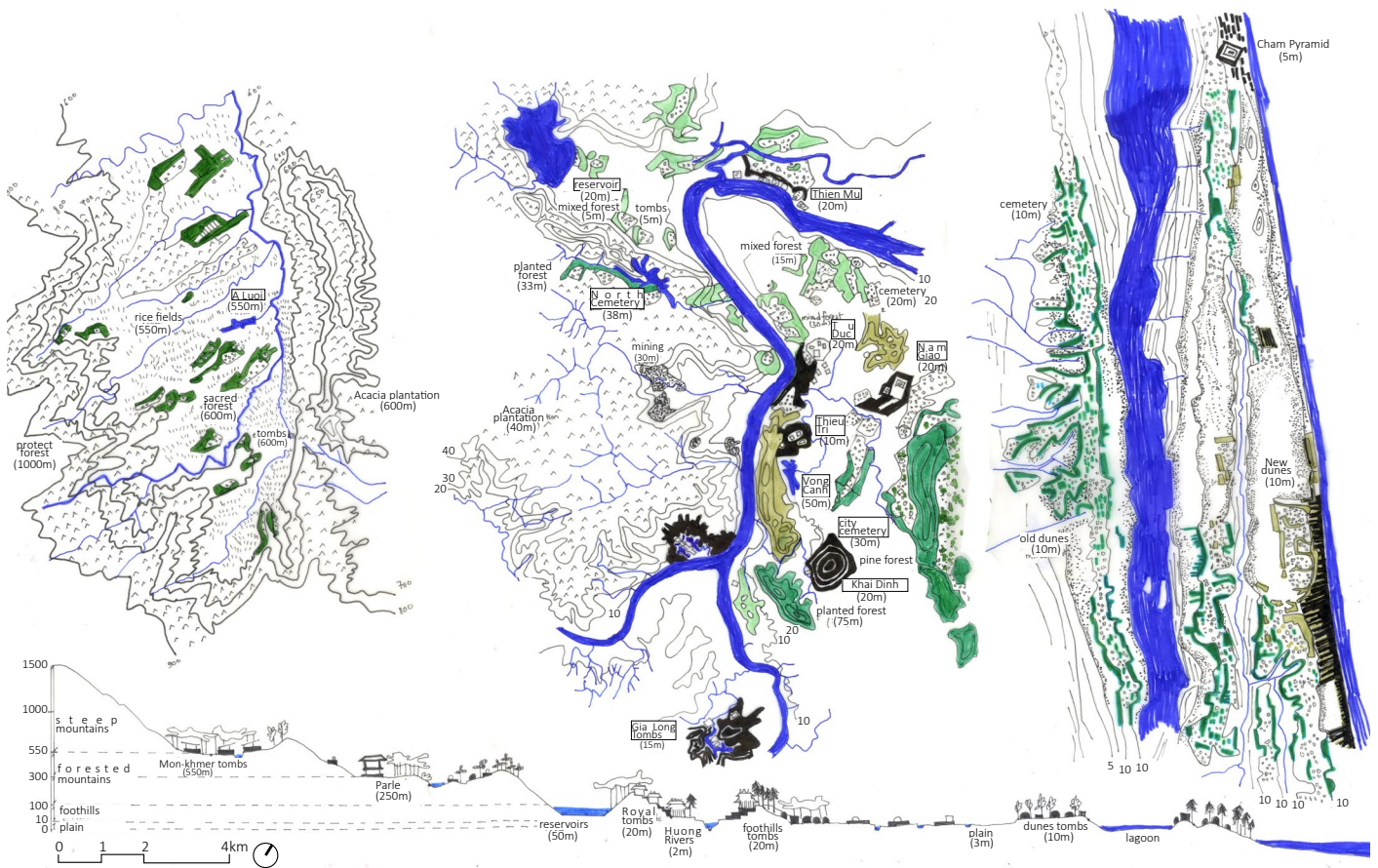


fig. 2. The variety in tombs typologies associated with diverse terrains, settlements, forests, and water, of Mon-Khmer, Cham and Kinh (by author based on Google Earth 2020).

as water reservoirs to supplement needs during drought periods. Altered from Kinh's linear system, houses have setbacks to streets and organized as clusters (along streets) creating a dynamic social interaction between households. Gardens surrounding houses are cultivated for growing fruits, cassava, and vegetables. Gardens also include space for cattle, and poultry to diversify products and income. Ta Oi and Pa Co people still maintain networks of interaction between sacred forests, community yards, gardens, ponds and animals which is a core characteristic of TEK. They also still apply Kinh's living customs in their daily life. In this case, TEK mediates between traditional and generic approaches. In short, Ta Oi and Pa Co people have formed a system of hybrid archipelagos (combining traditions and Kinh's living standards) linked by springs, which could be developed further as a new settlement model. (fig. 3)

The ability of Kinh customs to adapt the mountainous context to wet-rice agriculture is constraint by the environmental conditions. This together with limited investment^{16,17} could be defined as a form of landscape resistance.

Disturbances and contemporary aspiration

Over the course of the last 70 years, successive shocks and waves (French Colonialism, Second Indochina War, Doi Moi Period) along with migration have overwhelmed the A Luoi Mountains. During the Second Indochina War, specifically in the 1961-75 period, A Luoi mountains were the main area of conflict due to their vital political and

geographical location. Extensive use of Agent Orange, bombs and development of military infrastructures (including Viet Minh's Ho Chi Minh roads and US-South Vietnamese troops' base camps and three airstrips) ravaged most of the terrain¹⁸. Ultimately, forests, soils and streams were all subjected to the extent of contamination caused by Agent Orange, which entered the soil and water systems of the plain. The side effects of chemical warfare persist fifty years later, shown from evidence in food, soil, and water samples¹⁹.

The post-reunification (after 1975) policy regarding forestry (adapted from French and other (Soviet) perspectives), agriculture and population distribution have created larger forest clearings to serve various economic and political needs. The resettlement program in 1976 resulted in large amount of Kinh people and indigenous people (who back from Laos after the war) to take over A Luoi Valley. It resulted in more deforestation for settlements and wet-rice fields¹⁷. Since 1986, during Vietnam's Doi Moi period of economic renovation, the government has advocated active afforestation programs (named 327 and 661) to supply raw materials for the global paper and woodchips industry. The government has provided households with lands and funds to plant fast-growing Acacia species (imported from Australia) with 5-7 years of harvest rotation cycles. Until 2015, there was 49,950 ha of Acacia plantation in A Luoi District²⁰. The introduction of the exotic Acacia species has contributed to environmental challenges including prolonged drought periods, soil degradation and erosion²¹.

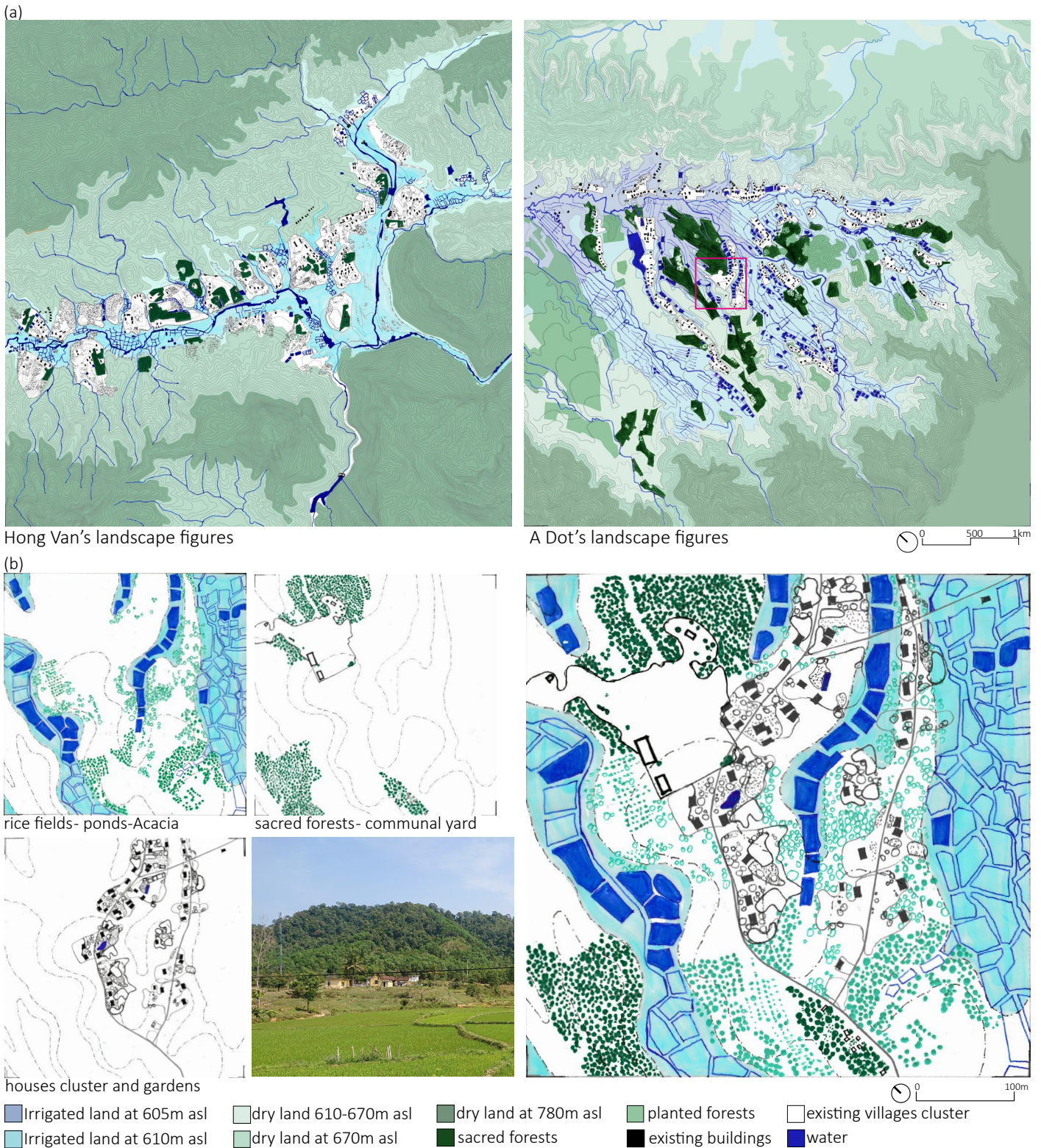


fig. 3. (a) Hong Van and A Dot communes' clusters of villages, ponds, planted and sacred forests. (b). A resistant slowness of the local everyday life in Cavin Village (by author based on Google Earth 2020 and DoC 2019).

Research has also shown that these changes have impacted the hydrology of the area and its ability to contain floods.

Since 2004, the process of generic homogenization has become more evident with the reconstruction of the HCM road, the extension of A Luoi Town, construction of a hydro-power plants (combined with resettlement program) and reservoirs, and the intensification of Acacia plantation and wet-rice fields. Since the 2010s, the government has planned to build two new border towns at Hong Van and

A Dot communes with a projected population of 4000 and 10,500 respectively by 2030/22. The aspiration is to build up eco-tourism towns to promote tourism (associated with craft villages) and exchange with Laos. The term “eco-town/city” or “eco-tourism town” has been an underlying theme in all recent projects that focus on developing commercial, service, administrative and industrial zones. Affected by the force of real estate, a large area of the built environment is often projected over the landscape. The projected built environment will take over most of the area of productive

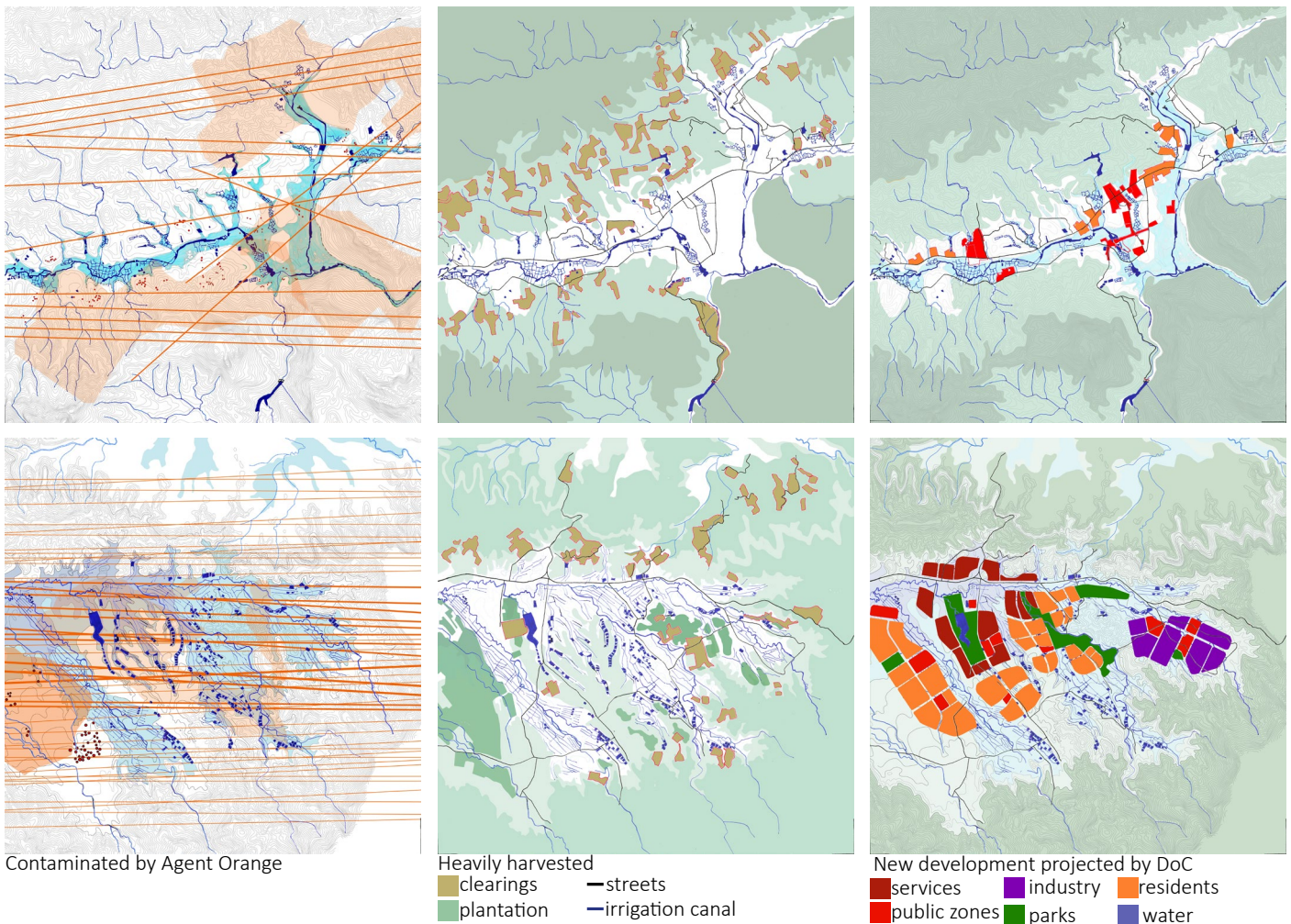


fig. 4. Collection of disturbances and contemporary aspiration in Hong Van and A Dot (by author based on TTH's PPC 2013 and DoC 2019).

landscapes (mainly wet-rice fields and plantations), which are flat and accessible but also vulnerable to floods. The “eco-layer” is the leftover of productive landscapes combined with parks in riparian areas and tree lines on streets. Besides, commercial, administrative, and residential zones are greening with public parks to attract new inhabitants. The subsequent design research aims to illustrate the reverse approach to the government’s zoning plan. (fig. 4)

The mountains have also suffered from major challenges posed by climate change. Villages have experienced long droughts in recent years. It is projected that the dry season will extend by 10% to 24%²³. A Luoi is also vulnerable to storms and floods. The tropical storm Linfa in 2020 caused heavy rainfall in A Luoi District, accounting for 2290 mm²⁴ which is the highest recorded in the whole region. The synthesis of all the disturbances (natural and artificial) and contemporary aspiration in Hong Van and A Dot communes has posed an urgent need for a counter spatial development strategy (to the generic planning) integrating landscape with settlement development.

Forest and water as resistance, adaptation, and remediation

The design exercise (in Hong Van and A Dot communes)

illustrates a possible scenario with an alternative spatial development strategy that strengthens the natural environment and socio-cultural identity. Intermediate forest and water landscapes are proposed to restructure the existing sacred, productive and settlement archipelagos as resistance, heal the contaminated lands and structure new settlements that are more robust to deal with climate change challenges. At the same time, design research also works as a tool for questioning the development density and priority in the valley. The following remedies are proposed;

Reserving significant landscapes

In contrast with the government’s plan, the research proposes that all the irrigated lands located from 605 to 610 meters are preserved, and that new settlement developments should be concentrated on higher drylands in between 610 - 670m. The irrigated lands where wet-rice fields and fishponds located will function as sponges to absorb heavy rainfall and ensure food supply for the new settlements. This landscape strategy will be based on the theories promoted by Frampton. The step-stones of sacred forests (protected by villages) link to springs set a framework for new intermediate forests and settlements. Besides, the appearance of indigenous species (i.e. bamboo, shrubs) in sacred forests shows the healing process of soil.

Strengthening forest and water structure

After tropical storm Linfa in 2020, the province has developed a restoration forest program by planting indigenous trees in mountainous areas to prevent floods, landslides and soil improvement²⁵. Following the same logic as above, the design research proposes intermediate forest strips between Acacia plantations and natural forests starting from 780 (in Hong Van) and 785 meters (in A Dot) to the west of the research area. The new forest strips would act as a shield to protect natural forests from being harvested. These forest strips also add an extra layer to clean water which flow from springs to the valley. Strengthening headwater covers helps to reduce water evaporation during

dry seasons and increase absorption in rainy season²⁶. Ecotourism activities can take place within the range of the new intermediate forest. Simultaneously, a system of healing forest patchworks is set in correlation with ponds, sacred clusters, villages and redress the historical impact of Agent Orange toxins in the soil. It is proposed to introduce a layer of orchards to enhance the sustainability of gardens, ponds and houses of villages. The combined system of new forest strips, patchworks and orchard gardens works as successive layers of cleansing, at which aims to improve livelihood by diversifying plantations and reducing their vulnerability to pest and natural disasters.

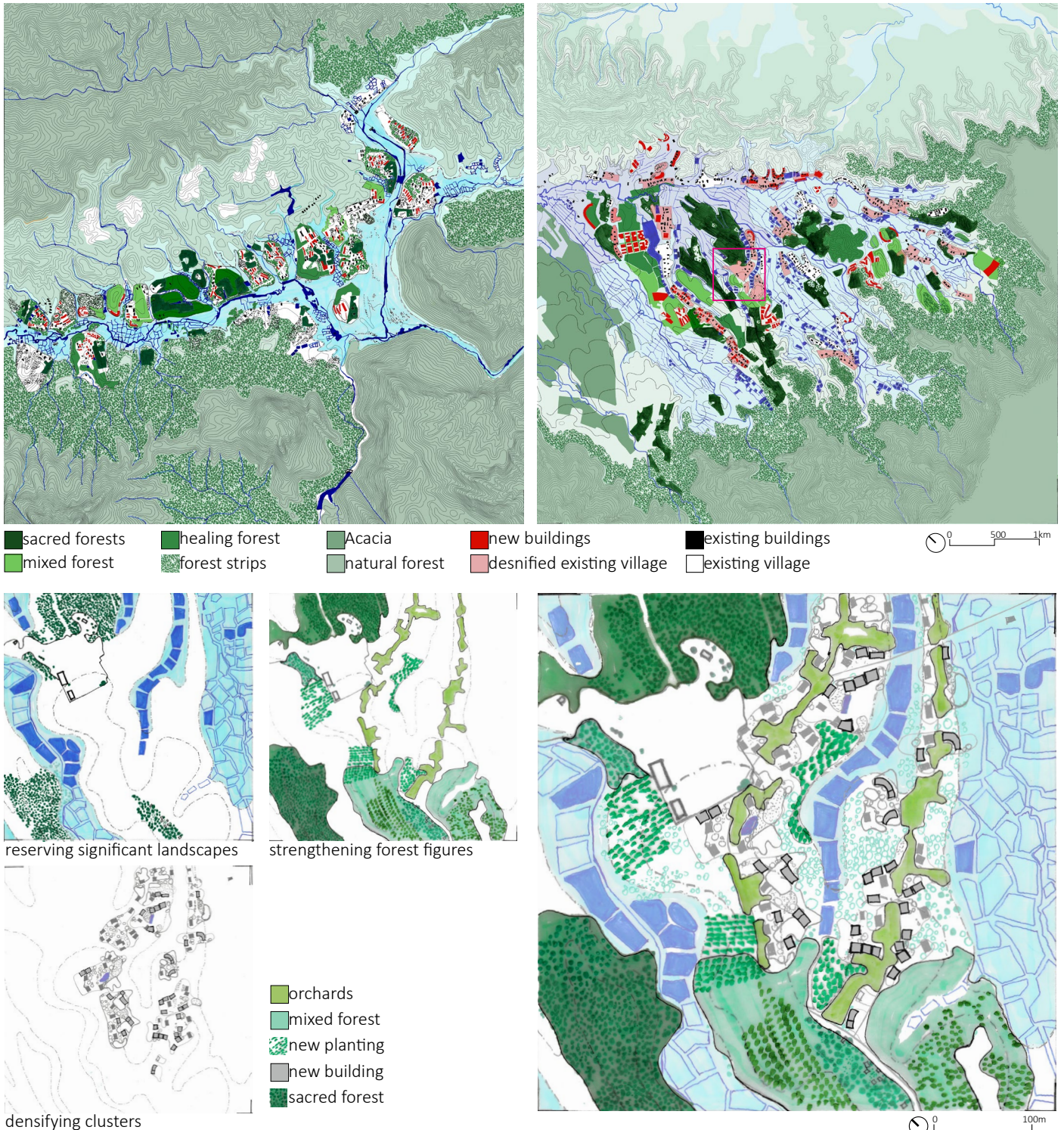


fig. 5. The new landscape strategies based on the imprint of indigenous landscapes, using forest and water system (by author).

Densifying existing archipelagos

New settlements are developed following the logic of the existing archipelagos including sacred forests, ponds and villages. Densification is possible in two ways. First, the existing clusters of villages will be densified by integrating new typologies with the topography following existing patterns of houses, gardens, sacred forests and community yards. The proposal aims to provide new living spaces in line with the 1 to 2% estimated population growth rate²⁷. Secondly context-responsive and high-quality settlements (alternating with trees, gardens) are proposed in clearings framed by sacred and new forest patchworks accessible by existing road network. New settlement clusters complement existing villages by linking with productive and sacred landscapes hosting dynamic socio-cultural interactions including ecotourism activities, trading, and living. In summary the design strategy aims to densify and diversify the existing archipelagos (fig. 5).

Conclusion

Through the case study of TTH's A Luoi Valley, this research addresses the common spatial challenges in Vietnam and Southeast Asia, which is experiencing extensive generic homogenization and urbanization. It is predicted that, in 2100, over 40% of the region's biodiversity may vanish²⁸. Social crises and the significant challenges posed by climate change are exacerbated. Hence, there is a need for the spatial development of settlements with socio-cultural identity, in which a balance is found between landscape (forest and water systems) and settlements.

This research has argued that the imprint of indigenous cultural landscapes in Hong Van and A Dot communes results from the resistance of the local everyday life. The design research proposes the use of indigenous landscapes as a basis to develop a new intermediate forest and water figures by structuring settlements, remediating lands that would oppose the generic solutions by government. The realization of traditional settling way adapted to modern-day living standards can be conceptualized and upscaled to a new form of settlement development which is context-responsive, resilient and adapt to climate change. The design strategy applies both TEK and scientific knowledge (related to resources management), theory and practice (ongoing projects), history and contemporary aspirations to gain a practical meaning.

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Fixing (With) Traces: Rethinking Social Housing Repair

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V. d'Auria, B. De Meulder, C. Lin Pang (promoters)

abstract: The paper addresses repair-thinking in the context of Brussels' social housing renovation through the notion of traces. With Brigittines (Marolles) as case-study, the paper moves from breakdown analysis to repair projection. First, a historical and spatial reading of the Marolles neighborhood investigates the influence of state and institutions' paternalism in space, and the evolutive morphologies of mass disciplining over four centuries of urbanization. It is followed by a short overview of social housing governance in Brussels. Then, three aspects of social housing repair as urban project are discussed: de-institutionalization, architecture of care and welfare landscape. At the estate level, spatial questions informed by ethnographic insights explore components of an infrastructure of care. At the level of the city-region, high-rise estates are conceptualized as structuring elements of a regenerating and inclusive urban system, mobilizing architectural morphology, socio-economic aspects of the city and underlying landscape features.

keywords: high-rise housing, architecture of care, urban regeneration, welfare landscape, Brussels

Introduction

In Brussels, social housing is an eroded public system in need for repair¹. Since the creation of the Brussels Capital Region (BCR) three decades ago², it has been the subject of asynchronized restructuring policies and building renovations, unable, however, to satisfy the increasing demand for affordable housing. City-region, provincial town and international capital, Brussels was made and mutilated by compromises, of which social housing bears the stigma.

Since the massive production of high-rise estates supported by postwar stimulus policies³, social housing was caught in-between a series of challenges: economic instability, institutional layering, (public) land scarcity, higher housing standards, rising precarity, aging patrimony, calls for more inclusive modes of design, etc. The city's growing complexity and public housing fragilization have questioned the spatial expertise of architects dealing with urban regeneration. Designers' knowledge must diversify in order to cope innovatively with the last requirements in public commissions (including co-production⁴), or withdraw from urban renovation practice. However, despite a general consensus across disciplines on its outdated condition, social housing renovation is rarely addressed as a system. In the absence of structural change concerning urban precarity, inadequate adjustments perpetuate the culture of compromise. Architectural interventions compensate for management shortcomings; regulations and social cohesion projects⁵ make up for poor spatial design⁶.

Inspired by André Corboz' metaphor of the territory as a palimpsest⁷, this paper relies on 'trace' as a transversal component to rethink social housing repair. A trace is a part or a small amount of something larger that might exist—invisible, intangible—or is gone in the case of a

leftover intended or not. It is an interface—yesterday's testimony, tomorrow's laboratory. Material or immaterial, it transcends disciplines and is multi-scalar as micro physical traces might connect back to macro politics, and back.

Excavating and repurposing traces produced by a malfunctioning system through a case-based approach combining fieldwork observations and design investigations, the paper ties back to the ongoing renovation and maintenance of postwar high-rise estates, and the needed restoration of an 'outdated yet irreplaceable'⁸ housing policy. It evaluates the architect's position as a 'fixer' or 'maintainer', engaged in 'the collective project of repair'⁹. 'Rethinking repair'¹⁰ moves beyond the binary relationship designer-user, acknowledging the contribution of breakers, fixers, maintainers, reflecting the contemporary urban complexity and challenge of spatial justice.

With Brigittines estates (fig. 1) as case-study, the paper moves from breakdown analysis to repair projection. First, a historical and spatial reading of the multilayered and mutilated district Marolles investigates the influence of state and institutions' paternalism in space, and the evolutive morphologies of mass disciplining over four centuries of urbanization. Then, follows a short overview of social housing governance since the creation of the BCR. Finally, projective investigations address social housing repair. At the estate level, three spatial questions informed by ethnographic insights explore components of an infrastructure of care¹¹. At the level of the city-region, high-rise estates are conceptualized as structuring elements of a regenerating and inclusive urban system, mobilizing architectural morphology, socio-economic aspects of the city and underlying landscape features.

Paternalist Urbanisms in Marolles

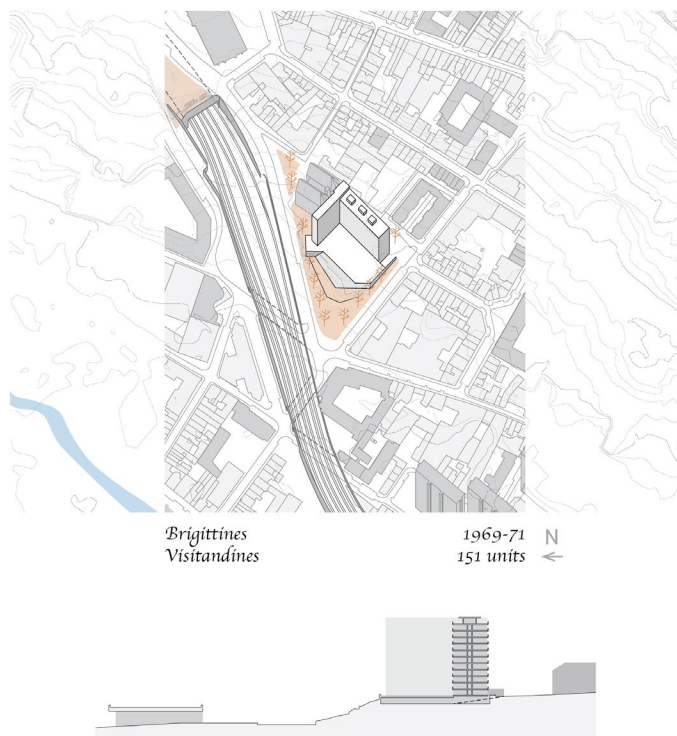


fig. 1. Briggittines social housing estate, Brussels (by author).

Briggittines social housing estate is located on the edge of the Marolles, medieval faubourg which developed on a hilly side of the Senne valley, known for its resilient social vocation¹². This reputation dates back to the 17th century when religious communities (Minimes, Marolles, Briggittines, Visitandines, etc.) settled in the area—then crime and prostitution hotspot—to bring social, educational and medical support for the local population¹³. The convent's closure following the Joseph II Edict (1781), left behind large vacant lands (convents courtyards). Landlords gradually turned them into profitable investments: they rented out to poor workers' families small units lining narrow dead-end streets known as *impasses*¹⁴, overcrowded, offering minimal living conditions.

From the 19th century, the state's attempt to control the popular district increased. A part of the Marolles identified as red-light district is walled and regulated by a curfew. An institutional mesh is progressively introduced with public schools, retirement homes, dispensaries, baths, complemented by special programs and large-scale public projects including the law court and the Saint-Pierre hospital, aiming for the regulation of local customs and behaviors of the urban poor. Infrastructural works assimilated to sanitation programs include the coverage of the Senne which disappears from the urban landscape (1867), the opening of rue Blaes, Vossenplein (1835-58) and rue de Nancy (1892)¹⁵. In the 20th century, the urban fabric mutilation continues with the shift to functional urbanism including the North-South junction (1930s-1950s) and the tunnels planification (1970s). The cleaning operation culminates with the tissue demolitions to erect social housing blocks including Briggittines (1969-71) supposed to massively restructure the 'depraved' district and its population. In 1969, the *Bataille de la Marolle*¹⁶ spells the

end of massive destructions. From then on, state's control will continue to operate from within, supporting the constitution of the densest associative network in the city, perpetuating the marginalization of its population. In the meantime, a new logic has been imposed on the old fabric, erasing the fragile ecologies that for centuries have bound natural, social and spatial orders. Today, the area possesses the largest concentration of social housing in central Brussels, a 'rampart against gentrification' according to institutional employees¹⁷.

State and institutions' paternalism has transformed the Marolles over time, affecting spatial reality (fig. 2) and consequently the lived experience. The identification of urban precarity as deviant margin and in contrast to the norm has justified most extra-ordinary urban interventions to sanitize, discipline and control, reinforcing the local feeling of 'otherness'. Paternalistic urban politics have succeeded to and interrupted one another, disrupting organic logics, imposing institutional orders, laminating landscape structure, urban fabric and social tissue. Enforcing differentiation, these have created and sustained asymmetrical relationships between powerful givers and 'unable' receivers. In the next chapter, the Marolles' urbanization finds reverberation in the politics of Brussels' social housing.

Social housing: a deficient institution

Since their creation (1989), the three regions have received more (urban) competencies, at the expense of an eroding state. If decent housing was sanctioned in the Belgian constitution (1994)¹⁸, the BCR is responsible for most aspects related to housing and urbanism on its territory.

Belgium is a homeownership country with a dominant private housing market. This cultural construction also prevails in Brussels where regional subsidies to support homeownership are generally higher than the ones allocated to public housing¹⁹. However, two-third of its residents relies on the rental sector. Considering their income only, the same proportion of the population would be eligible to social housing. To avoid (past) clientelism, attribution follows objective criteria: since 1996, candidates collect 'priority titles' to 'prove' their state of precarity²⁰. However, the mismatch between stagnating offer (7-8% of the regional market since the 1980s despite two public programs to revive the sector²¹) and rising demand²² results in decade-long housing insecurity for potential tenants²³. Alternatives are emerging but insufficient, hence a growing 'affordable housing crisis'; 'housing with social objectives'²⁴ concerns only 11,5% of the market²⁵.

The social housing system is deficient; residual, it is disconnected from the rest of the market, excluding further the publics it is supposed to help. The gap between public (subsidized, income-based) and private (market-driven) sector widens with the canonization of private property on the background of rising urban inequalities. Social housing



fig. 2. Paternalist urbanisms in Marolles (by author).

works as safety net for the most vulnerable, locked in a dead-end scheme with low perspective to move out²⁶. The hyper institutionalization of social housing compensating for national fragmentation is driving its own exclusion. Social housing is increasingly perceived as a public assistance model. System, architecture and residents are the objects of external stigmatization associating care and urban poor dependence on the welfare state: social tenants are ‘incapable’²⁷, ‘unstable’ or ‘irresponsible’²⁸ because unable to care for themselves.

Institutional distance²⁹ translating into material distrust characterize the everyday in Brigittines estate. The concierge—only social housing company (SISP) employee based in the area and responsible for the cleaning and small fixes in the building—‘works only part-time’, ridiculous according to a tenant (mother) pointing at the collective spaces’ maintenance. Social workers report being ‘the instruments of the public authorities’³⁰. Inhabitants of the estate criticize the restricted focus of the Contrat de Quartier Durable (CQD)³¹ Jonction (2014-2019) on the public space, while the emergency stairway had been inaccessible for months because it was breaking down, and while rumours spread among tenants and social workers, and taken up by local medias³² would identify the building as a ‘temporary tower’ that has passed its due date³³. Statistically, social housing construction and renovation undergo slower and longer administrative steps than other (public) collective housing projects³⁴. To maintain care as a public concern, social housing needs systemic repair-thinking.

Rethinking social housing repair

Traces have been addressed as leftovers of urban politics and policies that have marked spatial and social fabrics over time. Building upon this layering, the paper adopts a projective attitude concerning social housing repair: (1) de-institutionalization is a brief reference to policy reformulation³⁵, (2) architecture of care and (3) welfare landscape³⁶ formulate design questions.

De-institutionalizing social housing

Hyper institutionalization of affordable housing excludes twice the urban poor: it locks tenants in a housing system hard to control and ‘home’, and it condemns awaiting candidates to housing insecurity deepening the gap with the dominant private market. De-institutionalization of social housing invites to think repair as a collective retrofit. The collectivization of the affordable housing question—including policies reconfiguration and private market socialization—presents an alternative to its ongoing commodification.

Fixing social housing exceeds quantitative matters and accessibility mechanisms: social housing must be ‘home-able’, inviting maintenance and care practices³⁷. Systemic repair aims at a better control of one’s housing whatever tenure or socio-economic profile, as well as stabilizing (fixing) the residence of fragile urban groups in the city. On the possibility to ‘home’ social housing³⁸, the next part raises design questions in search for an architecture of care.

Architecture of care

Fifty years after the major postwar construction wave that produced around 160 high-rise estates across the city³⁹, renovation of the social housing patrimony is a major challenge: decades of bad and deferred maintenance⁴⁰ coupled with an unfortunate use of then innovative construction techniques have resulted in quickly deteriorating buildings. Beyond comfort and stability concerns, the image of decay affects inhabitants’ lived experience⁴¹, impeding care.

(Social) housing was posited as an ‘infrastructure of care’⁴²: a socio-material system that structures social life, enabling self- and mutual care between members of a family, community or neighborhood, between human and non-human including domestic pets, vegetation or urban nature, and in return, for material elements including objects, buildings and public spaces. Gendered and bound to the domestic realm, care includes ‘homemaking’ and ‘homing’ practices. It is related to maintenance, skilled

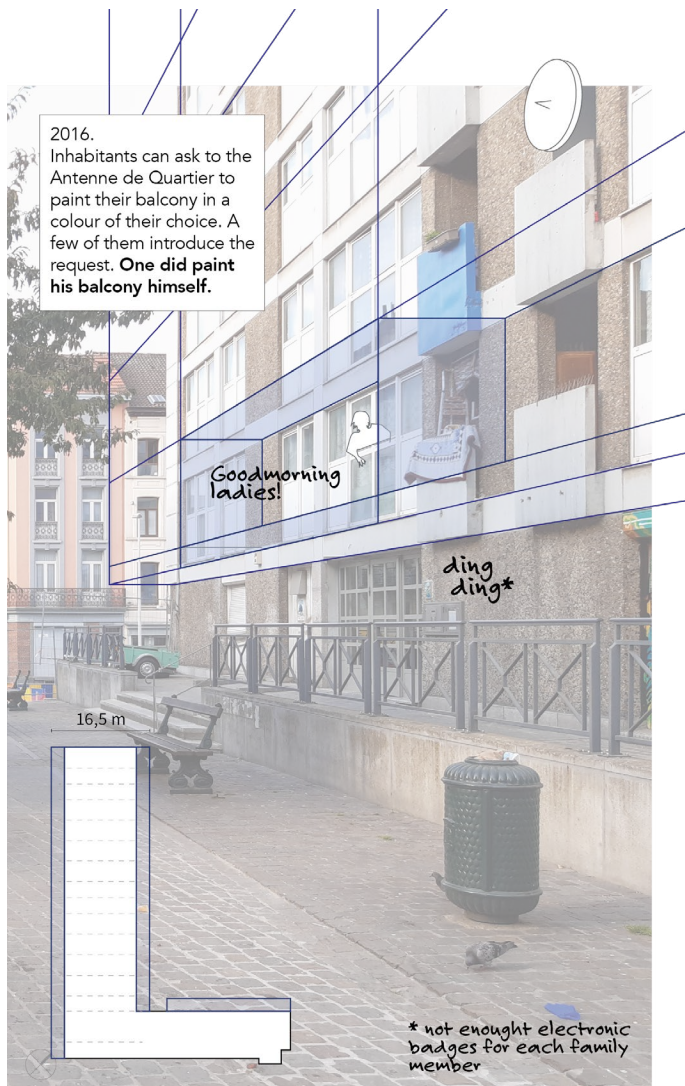


fig. 3. Architecture of care: thick envelope (by author).

labor⁴³ which serves the persistence of an architecture (morphology, image) or a system (social housing).

Rethinking repair broadens the scope of building renovation: three design questions turn traces into components of an architecture of care, encounter and appropriation⁴⁴ (fig. 3, 4, 5).

Thick envelope

Conducted between lockdowns in 2020, the fieldwork in Briggittines took place outside, directing the attention on the lived experience on the open spaces and envelope. The grid of windows and loggias (service balcony connected to a tiny kitchen) is a canvas on which people appear (simultaneously) to check when one hears an unusual sound. A resident shakes a tablecloth agitating the pigeons waiting in line for bread to fall down. Some tenants have put a net to avoid birds' intrusion. From time to time, a cat stretches on the concrete railings. Many households have turned their balcony into a tiny storage place: an old satellite antenna has invaded F*⁴⁵ (isolated woman) loggia for years without being connected to her television. Living on the first floor just above the entrance, JL* (isolated man) commutes between his television and the window to cheer his neighbors coming in. The Briggittines' façade is an embryo infrastructure of care.

The thick envelope (fig. 3) crosses fieldwork observations with the work of Lacaton & Vassal⁴⁶. The architects have dealt with renovation of high-rise estates beyond energetic imperatives, adding more (undefined) space and flexibility. Their interventions focus first on the domestic sphere, making space for self- and mutual care between household members.

Corridor-room

In Briggittines, the corridors are narrow, dark, partitioned by fireproof doors. The first building visit is disorientating despite the different colors assigned to the corridors' walls to facilitate the inner navigation⁴⁷. In the absence of collective storage room, bikes and pushchairs are left in the hallways despite the interdiction⁴⁸. The concierge—soon retired and hard to replace—cleans every week traces of passage and prolonged presence including dirt, urine or trash 'left by the youth who squat here at night'. A resident (mother) met on the access balcony expresses the unsafety feeling associated with the collective spaces' occupation by young men (not necessarily resident)—a common pattern in high-rise social housing⁴⁹. Diversion practices—curating traces (leaving burned marks on the walls, empty cans, old furniture), negotiating breakdowns and impeding maintenance through 'squat'—have been associated to poverty⁵⁰ as well as demonstrations of the rejection of an excluding system⁵¹. In spaces where care is impossible, maintenance ends up as an institutional duty, subjected to regulations and external control.

In light of this experience, the corridor is imagined as a more-than-functional collective space: a room opened to the outside where everyday life and its traces find place (fig. 4).

Mediating ground floor

At the building inauguration, Briggittines' ground floor included a caretaker's lodge, shared rooms, a social centre and meeting room for elderlies, a recreational space for youth and a crèche⁵². Most of these programs 'difficult to run because of the cost for tenants'⁵³ were never carried out; during the fieldwork (2020), most rooms were inaccessible.

Lately, closure and commercialization have served as remote management strategies for collective spaces. However, recent urban projects near social housing estates tend to publicize the high-rise ground floor: 'opening'⁵⁴ would solve deficient management and maintenance of so-called 'problematic'⁵⁵ spaces. The Masterplan and CQD Jonction worked on improving the 'connection'⁵⁶ between the plinth upper platform and its surroundings, removing housing units (including concierge lodge), enlarging entrance halls and clearing out the first two floors of the small building aisle. This last intervention was eventually rejected because of the management and safety concern raised by a public housing company and local worker, referring to the invitation to 'squat' that a covered open

(envelope, corridor and ground floor) questions the role of traces in the (de)construction of social housing as infrastructure of care. The next section brings back the discussion on repair at the urban scale.

Welfare landscape

High-rise estates constitute a major part (60%) of the social and a substantial share (15,3%) of the regional housing stock⁵⁹. Most central⁶⁰ cases are located in the *croissant pauvre*—area statistically concentrating high precarity, unemployment, housing density, etc.—on the traces of which the BCR drew a priority zone for urban regeneration⁶¹. In addition, a large part of these estates is situated in the Senne valley, lowest and least attractive perimeter where industrial and popular districts historically developed. In this mixed zone (heritage of industrial past), the landscape diversity of river basins is hardly legible, with few green spaces. In Marolles, the river ecosystem is gone under urban sedimentation and stream diversion. Today, only remain traces left on urban tissue⁶² (fig. 6).

Criticized for their functionalism, high-rise housing buildings constitute nonetheless spatial opportunities for inclusive regeneration of these forgotten valley systems. Arguably pillars for spatial justice, social housing secure low-income populations close to public facilities in central neighborhoods. These areas including the Marolles have been heavily transformed over time, accumulating unintended traces and tensions.

Increasing biodiversity near social housing sites is a regional objective⁶³, identified as a means to reduce green spaces' maintenance costs for social tenants⁶⁴, aiming for affordable improvement⁶⁵. However, as ongoing high-rise renovation needs to exceed material decay, housing standards and energetic performances, (central) public spaces renewal must tie back to larger urban challenges: ecological (and financial) objectives are indissociable from social/societal ones. This is what attempts to bind repair-thinking: reconnecting social housing to urban logics, situating the high-rise as material and political component of an inclusive urban system, turning traces as resilient structures of a welfare landscape.

Conclusion

Social housing as urban and political system requires repair-thinking, beyond needed material renovation and supported new production. The paper addresses this tension moving from urban and institutional analysis to projective multi-disciplinary questions. Despite breakdown into sections, de-institutionalization, architecture of care and welfare landscape are entangled co-constitutive ideas. This work in progress is an assemblage of reflexions on the (social) housing question formulated from a privileged situation—white educated (architect and urbanist) female researcher—in search for alternative modes to engage with inclusive urban regeneration processes. Fieldwork material was collected during a patchwork ethnography⁶⁶

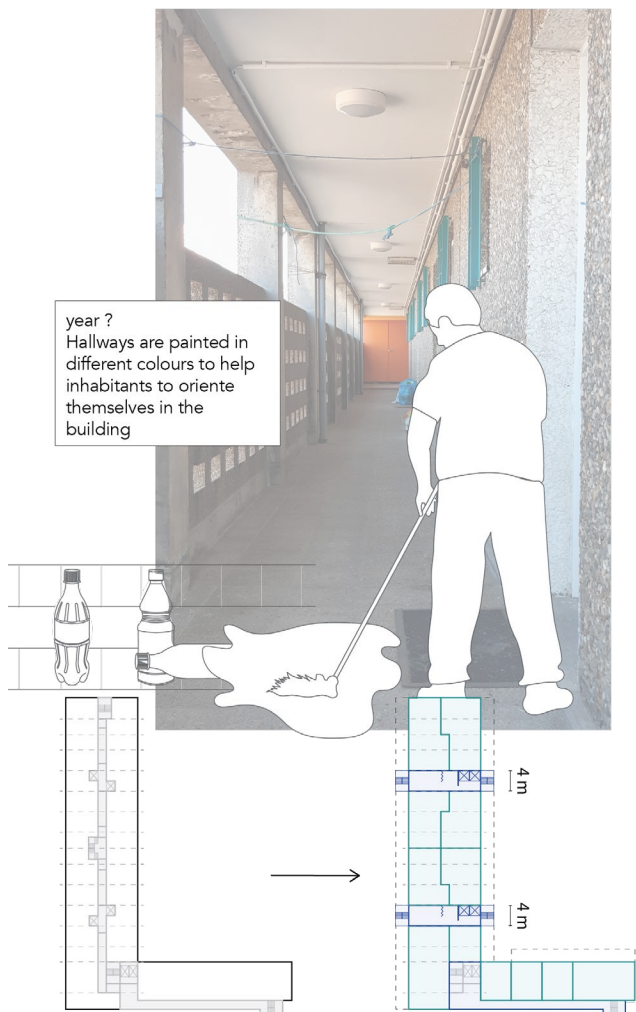


fig. 4. Architecture of care: corridor-room (by author).

space would present there⁵⁷.

The high-rise ground floor mediates—between city and housing community, street and home, institutions and tenants—but struggles to convince. One wonders how repair could avoid further spatial subtraction of vulnerable groups. Loosely regulated, open spaces surrounding high-rise social housing estates constitute nonetheless fertile terrains for homing—possibly care and maintenance—practices⁵⁸. (fig. 5) F* feeds wild cats in the decaying Akarova garden located in front of the Brigittines building, a habit she could keep after the CQD animation thanks to a successful request of the garden key. There too, M* (isolated female senior) grows exotic vegetables in the few remaining boxes that she could save before the start of the CQD construction work, occasionally sharing the space with young men who like sitting and smoking in group on the wooden benches. Fieldwork conducted in another estate (Héliport, 2019) identified mutual care and everyday maintenance work in front of housing buildings legible through the frequent presence of repair vans parked on the walkway, and the fixing and social activities by (male) inhabitants around their vehicles.

Pointing at spatial characteristics of high-rise estates

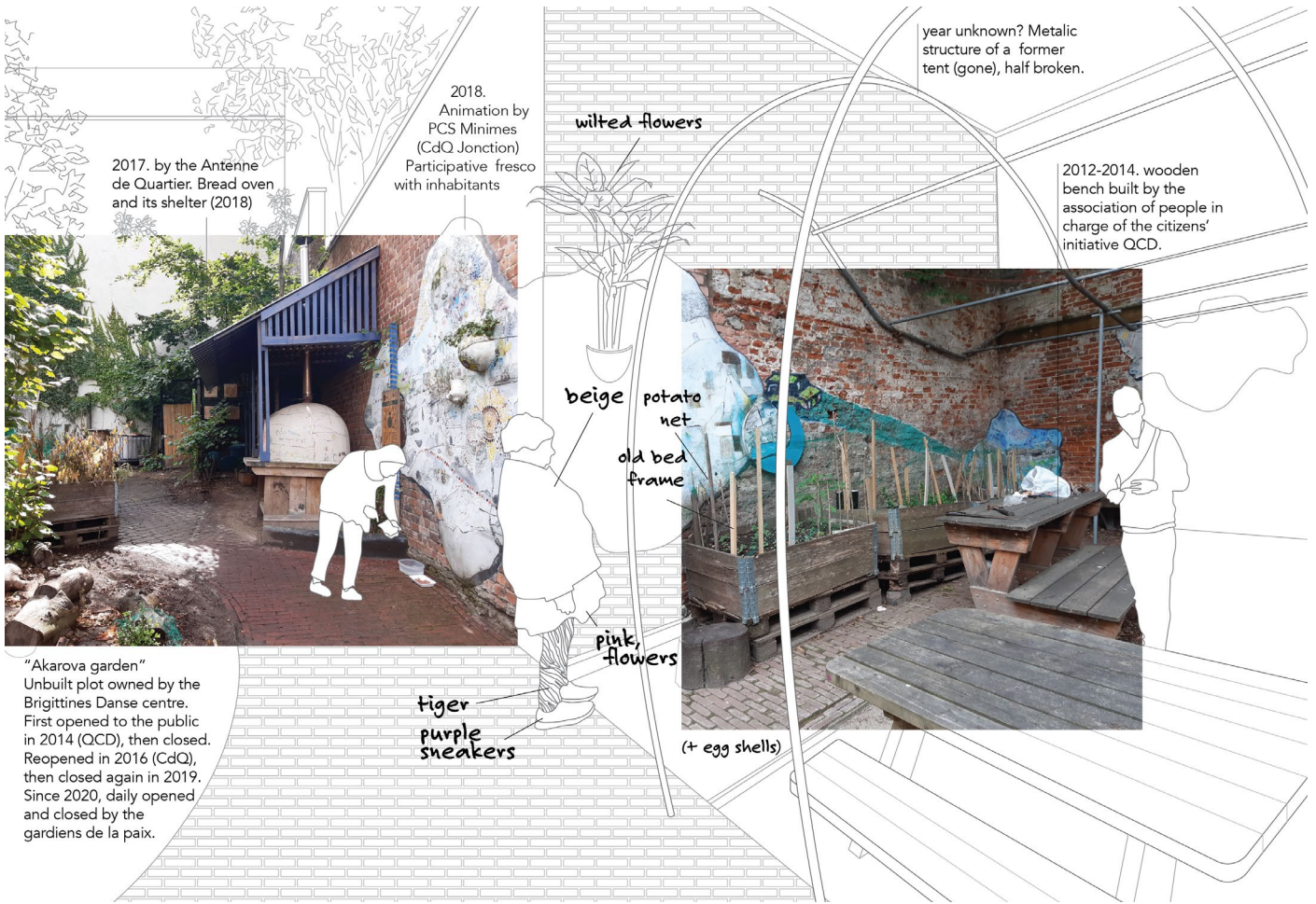


fig. 5. Traces maintenance near Brigittines (by author).

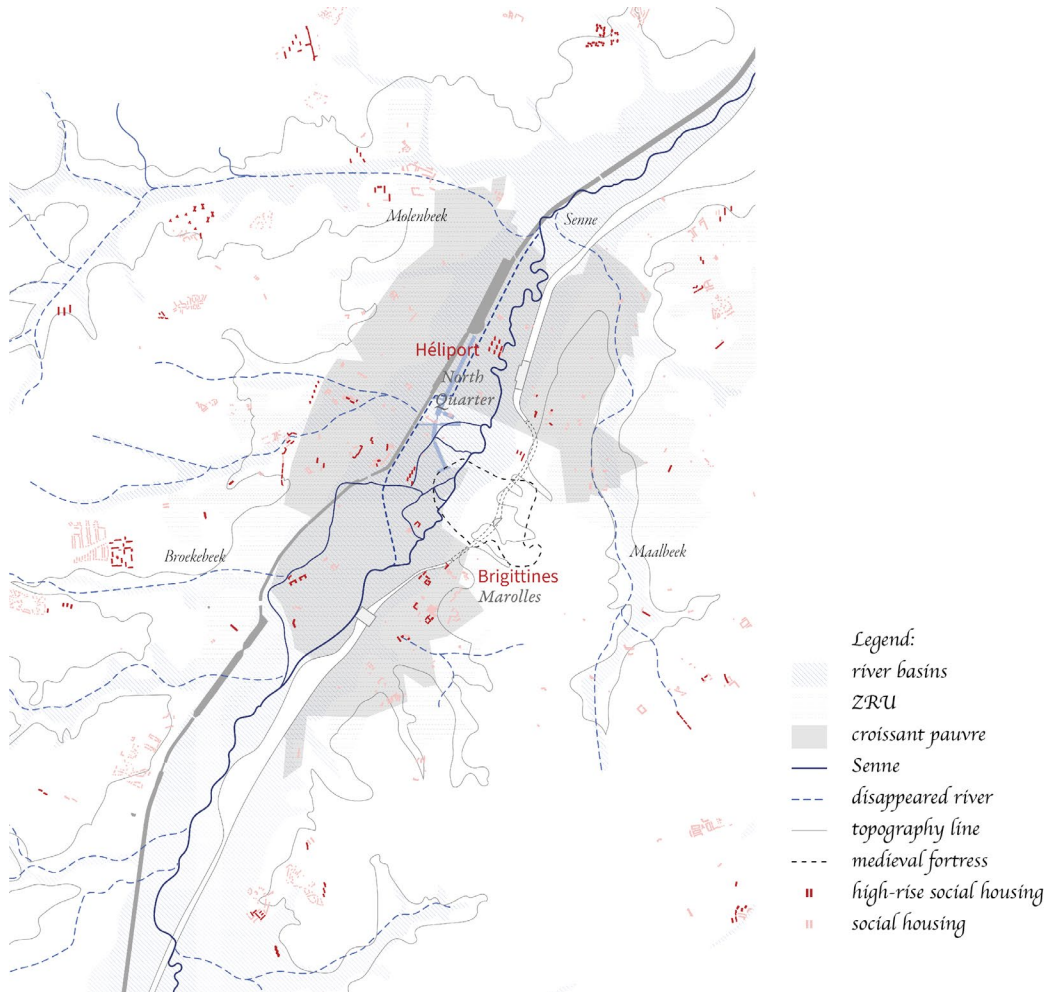


fig. 6. High-rise and valley systems (by author).

made of interviews, spontaneous interactions and participant observations periods in Brigittines estate. This brainstorming of what could mean social housing repair if addressed as an urban project was not co-produced with local actors, but eventually aims to be brought to where it originates for future confrontations.

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³Postwar high-rise estates constitute approximately 60% of Brussels social housing.

⁴Despite a loose (under construction) definition, public participation has become an unescapable component of urban renovation projects in Brussels.

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¹⁸Article 23

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²²(30/09/2020): the social housing waiting list counts 49.135 households, or 10,5% of Brussels' population. In: Nawal Ben Hamou, *Plan d'Urgence Logement 2020-2024* (Brussels, 2020).

²³Average wait (2019): 9 years for a 1-bedroom or studio flat, 10 years for a 2-bedroom flat and more than 12 years for a 3-bedroom flat. In: <https://logementbruxellois.be/candidat/attribution/> accessed 30 April 2021.

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- ⁵⁰'People are poor here. They throw furniture in the corridors. See here's piss.' A tenant (23/09/20)
- ⁵¹Bernard, 'Maîtriser Son Logement. Réflexion Sur l'inadaptation Des Instruments Législatifs.'
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Temporary Urbanism: A Strategy to Re-activate Everyday Heritage

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M. Short, B. P. Sendra (promoters)

abstract: For many European cities such as London, their underused historic structures have posed a major challenge in planning. Temporary urbanism is valued for its capacity to transform city's unproductive spaces flexibly, but criticised for its instrumentality as an agent for gentrification. However, few of objectives of temporary urbanism have a direct connection to heritage. This paper focuses on the interim uses of London's derelict everyday heritage spaces and critically evaluates the implications of temporary use in making inclusive places for the local community. The case of Platform Project in London is studied, it consists of three meanwhile workspaces converted from a disused public toilet and two railway arches. This paper finds that temporary use can act as a pragmatic tool for safeguarding everyday heritage and navigate the demand for self-reliance in place re-activation, but also produce a space of vulnerability for the users.

keywords: temporary use; industrial heritage; meanwhile space; opportunity; vulnerability

Introduction

The temporary use of space, a long-existing practice in urban reality, has received considerable critical attention in academic discussions during the transformation of many Western post-crisis cities^{1,2}. Temporary use is defined by its short-term timeframe and flexibility, which also referred to as 'temporary urbanism', 'tactical urbanism' and 'meanwhile use'^{3,4}. This paper investigates the context of the British response to the global financial crisis of 2008, during which the public sector lacks resources and control to implement master plans, and the uncertain political and economic conditions raise a reluctance to enter potential long-term commitments⁵. Facing the high vacancy rates in the recession and corresponding weak real estate market, the temporary use initiatives rise up in the absence of planning to address the 'blight' of vacancy in urban environments^{6,7}. Temporary urbanism is praised as a catalyst for new cultural production and economic benefits⁸, a progressive force providing local communities a place as participants in urban development^{6,9}, and an experimental response to urban vacancy¹⁰. At the same time, temporary urbanism has also attracted critical questioning as an agent for gentrification and social displacement in the critique of austerity urbanism^{11,12}. It is therefore significant that the subject be critically scrutinised within the context of the city's wider political economy.

It is acknowledged that temporary use adds commercial value and promotes place image in accordance with heritage conservation goals, however, few researchers have examined the connection between objectives surrounding temporary use and heritage. Indeed, applying interim uses to vacant historic buildings and sites contributes to ongoing maintenance, sustains heritage assets, and boosts creativity and entrepreneurship in disadvantaged neighbourhoods, until they can be brought back into use again¹³. The long-standing aspiration for permanence in heritage conservation is challenged by the public-sector

austerity measures in the aftermath of 2008 financial crisis. This paper focuses on the role of temporary use in re-activating London's derelict heritage in the time of austerity, which locates the subject in the dynamics of political, economic and cultural transformation of historic fabrics at the level of everyday community life. The paper shows how temporary use is compatible with everyday heritage and its regeneration in post-crisis London, involving the opportunity and precarity in making integrated places where strong dialogue is curated between the users and the spaces. With the case study, temporary use of historic structures is analysed as an integral part of the heritage revalorisation process and an alternative to the specialised methods to manage everyday spatiality for community life. The analysis demonstrates the multivalent character of temporary use, with opportunity on one hand, and precarity on the other.

This paper focuses on the city's marginal industrial heritage, including a disused public toilet converted into space for pop-up enterprises and two railway arches used for events and start-up businesses in the Loughborough Junction, South London. The 'temporary use of space' means the short-term, alternative and user-led adaptation of vacant heritage space. It creates the conditions for alleviating vacancy, reinforcing historic significance and making the space accessible and usable. The study is based on the contextual and perspectival methodological framework. The temporary use initiatives are examined as a method of flexible spatial production and consumption linked with wider urban processes. Additionally, through multiple perspective analysis, the differential outcomes for diverse parties of participants demonstrate complement the analysis of conditions and processes of temporary use in heritage spaces. The Platform Project case study clearly demonstrates the different phases of development, which facilitates the analysis on the states of the site before, during and after the temporary use. Meanwhile, it unveils the

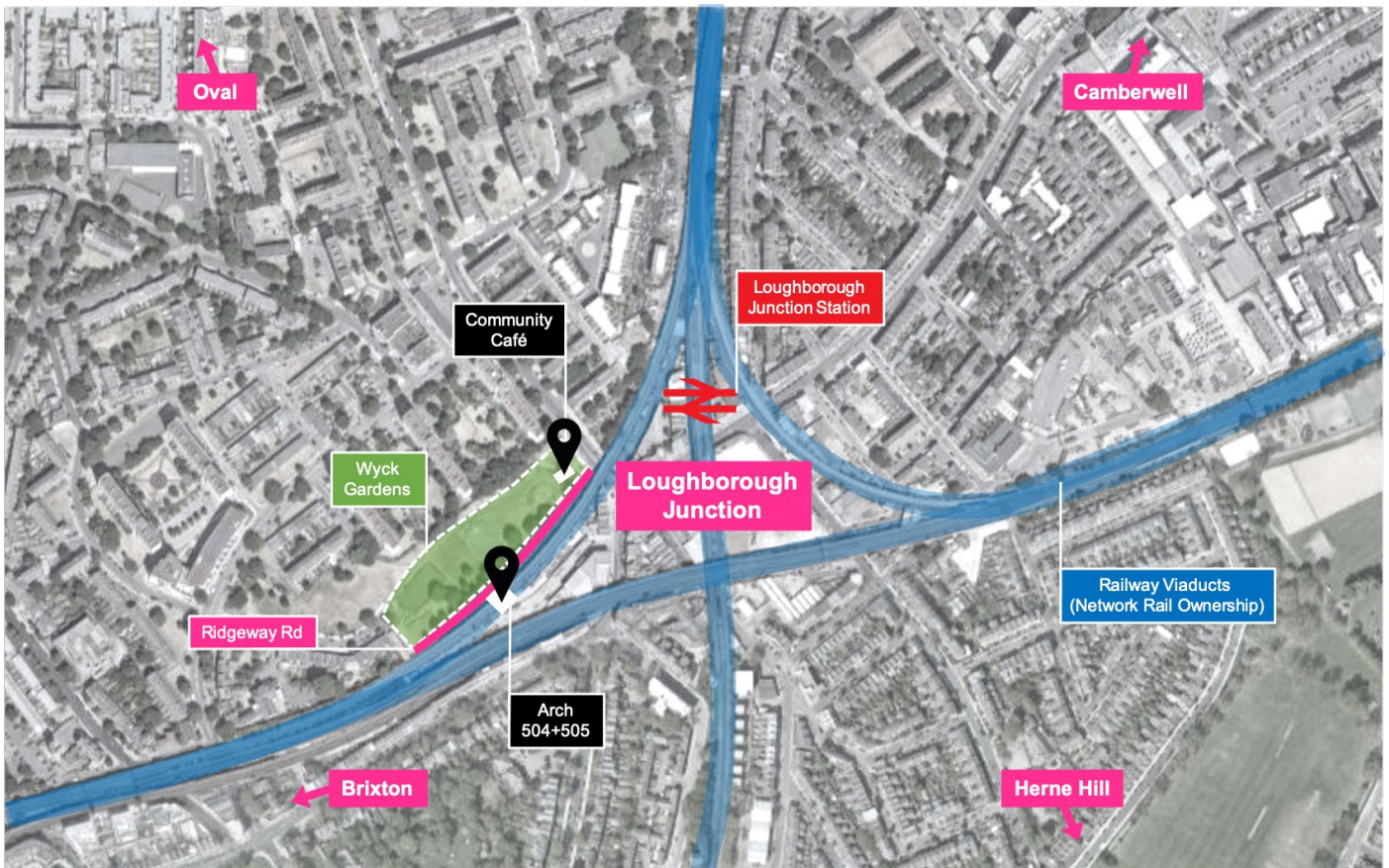


fig. 1. Loughborough Junction's location map (by author).

perspectives, intentions and responses to temporary use taken by different stakeholders and the transformation of their social relations. The study analyses the activities and subjectivities of the multiple stakeholders involved in the project alongside the phases of use. The data of case study are obtained from publicly accessible records, including project timeline of process and reports from online press and media. The processes and perspectives reveal some socially beneficial opportunities, but also some extent of inequality and vulnerability encountered by some parties. The analysis indicates that temporary urbanism serves as a proactive strategy for safeguarding the city's marginal heritage and navigating the demand for self-reliance. However, the possibility of the temporary use is far from the 'panacea'¹⁴ or the 'magic'¹⁵ as its outcomes for different stakeholders may vary.

The paper is organised as follows: Section 2 investigates the multivalent social meaning and context of temporary urbanism. Section 3 examines the concept of everyday heritage as a user-led approach towards place transformation. Section 4 explores the intersection between the concept of temporary urbanism and everyday heritage by showing the processes and outcomes of a case of interim use in industrial heritage site. Lastly, conclusions are given in Section 5.

Temporary urbanism: opportunity and precarity

In the past few decades, formal planning initiatives have been carried out to identify, regulate and conserve the built environments. However, sometimes such planned

measures fail to engage citizens into the plan, preserve the local identity, and enhance the amenity of the community, especially during the transformation of many Western post-crisis cities¹. After the global financial crisis of 2008, this becomes more explicit with a decreased public-sector capacity in managing urban change. Much of the literature on temporary urbanism views it as an opportunity, more specifically, a timely solution in respect of crisis, recession and austerity^{11,16}. It is in a context where traditional models of development are challenged that the temporary solutions are utilised as fast, cost-effective and flexible response. Against this backdrop, the notion of temporary urbanism is valued as a pragmatic instrument to deliver economic profits and social interaction for spaces in need of transformation¹⁷. In this way, temporary urbanism can be defined as a set of processes and actions for spatial adaptability based on knowledge exchange between experts and amateurs, which challenges formal ways of space production as a flexible mechanism to catalyse transformation¹⁸. The Platform Project in Loughborough Junction was a typical case, which aimed to provide local people with an accessible workspace to develop new businesses in Loughborough Junction, South London. The Loughborough Junction was a decrepit area of Lambeth situated between Brixton, Camberwell and Herne Hill, nine bridges made up the junction, as shown in fig. 1. The project consisted of three meanwhile workspaces: a disused public toilet converted into space for pop-up enterprises, a railway arch used for meetings and events, and a second arch accommodating office space for start-up businesses, bringing together the concepts of temporary

urbanism and everyday heritage and locates them in wider urban development processes. It demonstrated application of temporary use to London's everyday heritage spaces, where the historical elements construct an everyday routine in people-place interaction. The case study places the discussion on temporary use as an innovative but precarious practice in heritage spaces, with its processes and outcomes of opportunities and limitations, and its multiple roles in re-activation of neglected historic sites. The interim reuse and modest adaptation were applied to London's Victorian heritage to bring these marginal spaces back to commercial and social uses through functional configuration. The goal was to offer budding entrepreneurs an opportunity to experiment and make mistakes with an affordable cost, as well as provide an accessible and socially-inclusive venue for local community use.

Temporary urbanism offers a direct route to community participation for a wide range of people, however it does not imply an equal process for all stakeholder groups involved. Temporary use embraces diversity particularly by incorporating a range of actors including users, landowners, developers, public authorities, and public-composed citizens⁸. The users who are characterised as bottom-up and community-rooted possess an everyday knowledge of neighbourhoods¹⁹. In opposition to the users, the landowners, developers, and public authorities act as the decision makers in a formal planning model. This group is termed as 'development industry'²⁰, whose risks are reduced and profits are maximized while waiting for vacant land and property converting into a profitable use by the temporary approach¹⁰. Madanipour¹⁸ identified them as the long-term beneficiaries in temporary use practices. On the contrary, the users may endure the latent risks of eviction or displacement when the state of economic uncertainty changes to a more desirable state²¹. Ironically, these users are often the unwitting players in symbolic gentrification. They actively take on the role of preparing for preconditions for subsequent profit-oriented redevelopment, which leads to the destruction of former temporary initiatives¹². This paradox is inherent in orchestrating culture and creativity to pursue monopoly rents which characterises the dominance of capitalist property market²². The Platform project was a two-year project run by the social enterprise Meanwhile Space working in collaboration with Lambeth Council, Network Rail and Loughborough Junction Action Group (LJAG) to re-activate vacant spaces in Loughborough Junction. In this project, the social enterprise Meanwhile Space is the primary promoter of the Platform project, works as an interim landlord to help business start-ups excluded from renting commercial property and make money by charging tenants rent at cheap rates. With funding from JP Morgan (November, 2013) and the building at 2 Ridgeway provided rent-free by Lambeth Council (May, 2014), the Platform Project commenced in June 2014, delivered by Meanwhile Space, which coordinated between landlords, developers, local councils and community volunteers to

reinvigorate a disused public toilet and two railway arches into a community café and shared workspaces^[i]. The Loughborough Junction has seen a steady decline since the late 1990s, owing in part to planning blight associated with failed transportation schemes and the abuse of its housing stock by both private and council landlords, and neglected by local authorities due to its densely populated council estates and reputation for gang-related violence, leading to the prevailing low levels of amenity. Despite said decaying conditions, the space beneath railway arches was seen appropriated for commencing place regeneration due to its proximity to railway station and the availability for adaptive uses. Thus, reshaping such a formerly-neglected space, in which local residents and business pioneers were primary users, became an objective. All joined partners played an equally vital role in achieving the in the Platform project's success: Lambeth Council and Network Rail made unused railway arches and a building accessible, which would have cost around £36,800 to rent otherwise; JP Morgan Chase Foundation secured funding of £265,586; and Meanwhile Space designed the project relying on its track record of revitalising local areas. And these efforts were all glued together by the drive of local communities' participation and LJAG, an independent group of volunteers who lived or worked in Loughborough Junction^[iii].

Everyday heritage: the connection between people and place

Historic buildings and sites are an irreplaceable part of our heritage. They involve not only those with outstanding architectural and historical value, but also those within mundane historical contexts affecting our life through everyday actions, where old and new components of the city merge and generate new significance for community. Highlighting the potential of heritage in its everyday context also underlines the instrumental role of heritage in enhancing place identity and producing spatiality of everyday life^{23,24}. Beyond its official significance, a heritage site implies a living dimension that reinforce spatial and historic connectivity between place and everyday social practices of its users, who live in and derive affective meanings from place²⁵. The place, therefore, is a generative mechanism which is linked to people-place interaction. People transform a space into a place of cultural significance, they act as users of space but also drivers to repurpose the historic environments and contextualise the heritage with everyday dynamic place use²⁶. Indeed, it is through everyday practices that heritage significance is generated at local community level, which referred as the bottom-up process of heritage creation²⁷. Everyday heritage can be interpreted as a user-led approach towards place transformation. The marginal heritage spaces in the city such as railway arches and vacant open spaces are increasingly taken up for short-term, community-oriented commercial use in London²⁸. They represent the commonplace heritage constituting part of the urban terrain and the ordinary experience of the past encountered in people's everyday life. The adaptive reuse of such spaces provides a unique opportunity for marginal

heritage to dovetail with contemporary community life and support urban regeneration²⁹. During people's continuous interaction with place, local communities create their own symbols of heritage apart from its outstanding historical value³⁰. The heritage acts as a catalyst to reorganise space through new functions and meanings within habitual life and spatial context. Conserving everyday heritage spaces therefore has socio-economic viability. However, exploiting everyday heritage as a consumable experience through user-led approach conceals motivations and aspirations of different stakeholders, leading to conflicts at multi scales.

In the Platform project, as part of the London's industrial heritage, the Victorian railway viaducts carrying daily traffic for local community constitute a material aspect of everyday assemblage of urban life. The presence of railway infrastructure serves as markers of everyday landscapes of local working class. In the context of post-industrial urban reinvention, transport infrastructure is increasingly manipulated for its symbolic value and its relation to strategies of urban regeneration. Railway arches prove high adaptability to support hybrid spaces with its modular configuration. They are well-suited place for temporary use, which incorporates a networked system of small-scale businesses in need of flexible and affordable spaces near commercial centres. Despite long epitomising symbols of dereliction and social disorder, residual spaces beneath arches in Loughborough Junction were exploited by temporary users to cater for new values. The process created a strong bond between the ordinary and the extraordinary, engaged with local residents and their seemingly trivial routines, and thus creatively developed local integration. It demonstrated how an everyday route could evolve into an extraordinary place because of the concept of temporary urbanism and the socio-spatial significance of everyday heritage.

Temporary use of everyday heritage spaces

Confronted with the austerity measures since the 2008 recession, including the imposition of strict fiscal policies and massive cuts in governmental spending, many Western cities have suffered from the knock-on effects of disinvestment, decline and disuse, together with vacant sites of halted development and public retreat¹¹. Moreover, the 2020 coronavirus crisis and the associated surge in remote working and online shopping during ensuing recession are likely to lead to an increase in vacancy rates. Historic urban cores are extremely vulnerable to such crisis, primarily due to increased rates of vacancy and subsequent physical decay and dereliction. This challenges the long-standing aspiration for permanence in urban heritage conservation. If resources are not immediately viable for long-term conservation, the best way to protect a building is to 'keep it occupied, even if the use is on a temporary or partial basis'¹³. Indeed, implementing temporary use to vacant historic buildings and sites share common goals with everyday heritage, they are both powerful forms of direct community action that leverage historic built assets



fig. 2. Arches 504 + 505 in Loughborough Junction (Reprinted from *Meanwhile Space* website, <https://www.meanwhilespace.com/single-post/loughborough-junction-arches>).

to arrive at solutions for regrowth. Beyond intensive public participation in conservation planning, the temporary initiatives are concerned with a self-organised management by the tenants, whereby unofficial objects, places and practices and intangible aspects of heritage operates at the local level to create identity of everyday community sociable places. In the time of austerity, there is an explicit shift from preserving heritage for its intrinsic merit to accommodating the changes to ensure its continued use to achieve regeneration³¹. Heritage, as a present-centred use on imagined pasts³², is therefore mobilised for various contemporary purposes. It is no longer solely associated with passive regulation, but active uses. Through creative mediums, temporary uses are depending on and stimulating local communities' involvement in identifying social significance and envisioning regenerative solutions for their everyday places. During the two-year short-term lease of the Platform project, temporary reuse brought derelict spaces back to life by increasing footfall and visibility to reduce anti-social behaviour including graffiti, litter problems, fighting, and drug use in the surroundings. The short-term adaptations also enhanced deliverability and robustness for the long-term maintenance of historic site. Launched in October 2014, Arch 504 and 505 were renovated to provide shared workspace for creative start-ups. Arch 504 was a flexible event space which held events ranging from theatre to youth tennis and artist showcase. Arch 505 was office space for 5 start-up businesses at a time, with a common meeting area in the centre (fig. 2). Modest adaptations were fit inside the arches to make them warm and dry without costly structural work, by which hundreds of arches could be brought into use as workspace and retail. As a result of temporary use, 10 embryonic businesses were launched in the arches and more than 150 local volunteers participated with various projects, receiving valuable skills and experience. The incubator spaces were shared among Platform tenants for agreed periods of time on business development. One-on-one business support of 42 hours was given to users of arches. The local communities benefited from the training for public good up to 144

hours organised collaboratively by local institutions for participants to increase employability^[iii]. The small business continued to thrive in renovated arches as makerspace (e.g. a furniture workshop run by local entrepreneurs), three of which originated from the Platform project. At the same time, the community café converted from a disused public toilet at 2 Ridgeway thrived as the home to a host of cultural events rented affordably (50% market rate), adding to the community cohesion. Different projects took up residence in this refurbished space on a rolling basis, including thrift shops, education support projects, fashion workshops, films and performances, and so forth^{Note4}. The space was shared between the locals with ties to meanwhile tenants from elsewhere (Fig 3). Overall, the project promoted the establishment of a pivotal connection among all partners and stakeholders.

The surroundings of the Platform project reaped longer-term social benefits beyond the mere economic re-commercialisation of a neglected space, of which the temporary use of everyday heritage was the trigger. Although the funded provisional project came to an end in May 2016 supporting over 60 people, its impact continued to support emerging uses of ad-hoc spaces. The arches orientated from the project were still in use by local entrepreneurs. Project Manager Anne Wilding illustrated that Lambeth and Meanwhile Space had partnered with Network Rail since 2014 to bring more arches into use through temporary use^[v]. Their approach to community engagement with heritage spaces resulted in a productive and collaborative outcome of long-term regeneration. Subsequently, more adapted arches forged a series of follow-on spaces for Meanwhile Space network of 11,000 people seeking temporary space to test ideas, who would otherwise not be able to afford the space^[vi]. The community café also continued to operate following on from the funded project, housing a farm café and a kitchen space for local food-based start-ups staffed and run by local volunteers who came to socialise and learn new skills. The grassroots were enabled in the volunteer-led way to re-activate spaces of their everyday routine through the direct operation. Every Friday local residents were invited to cook in their much-needed café kitchen and share their culture and food. Inclusive community events were organised according to bottom-up needs, including a front-of-house training scheme for unemployed local youngsters. Beyond temporary impacts, the local council has attracted £1.64 million from the London Regeneration Fund to build affordable workspace while retaining the community-led character of the intervention^[vii].

The story of Platform Project shows that a social enterprise in partnership with local council and private investment fund converts abandoned industrial heritage into favourable use relying on local community's involvement. This functional conversion is mediated by a two-year temporary use plan as a response to significant resource cuts in public sector after the 2008 financial crisis.

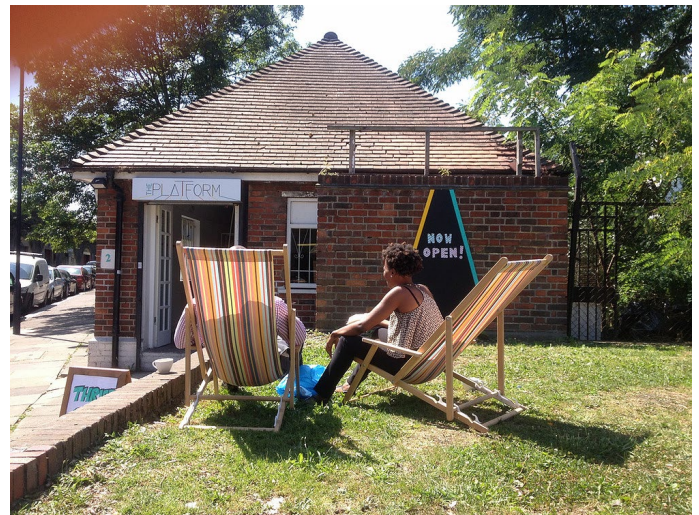


fig. 3. Community café converted from a disused public toilet (Reprinted from Meanwhile Space website, <https://www.meanwhitespace.com/single-post/loughborough-junction-arches>).

Temporary use, therefore, acts as a timely and pragmatic measure that reduces upfront budget for maintenance of historic infrastructure. Although the temporary use does not directly target at preserving heritage assets, it can transform the image of derelict heritage from vacancy to vibrancy with the fast production of tangible results. In this sense, temporary urbanism represents a powerful mechanism for place branding based on local identity formation, which will attract investors and gentrifiers as resources for built heritage revalorisation instead of public sectors during recession. More essentially, the economic and social diversity is supported by the spatial diversity of everyday heritage. Beyond an infrastructural purpose for which these adapted spaces are originally designed, they collectively represent a potential to innovatively re-activate city's neglected heritage through everyday people-place interaction.

However, the process of temporary use does not imply an equal process for all stakeholder groups involved. While short-term leases can help entrepreneurs get businesses off the ground, they also imply a sense of insecurity, with concerns that rent rises may drive away current tenants. By the nature of meanwhile workspace, such scheme will not be long-term viable but a creative alternative of urban deprivation for local community. During the period of temporary use, the relatively lower rents charged by Network Rail and Lambeth Council acted as a bulwark against gentrification and permitted start-up businesses to persist in neighbourhoods where other commercial rents kept rising. With incremental bottom-up economic stimulation, the railway arches in Loughborough Junction, however, might become more inaccessible to temporary users as the tenants successively transitioned to commercial Network Rail tenancies since 2018. As formerly-neglected industrial heritage rises in importance in commercial and public sector strategies, Network Rail as a principal landlord for arches is increasingly interested in extracting value from its arches to add monetary value, which now

leads to gentrification pressures on the tenants and the displacement of local small businesses with rising land values. Ultimately, the refurbishment of obsolete heritage often means putting up rates and rents of the surrounding, which is an intended outcome for landlords and developers from the outset of this alternative regrowth strategy^[viii]. The redevelopment proposals following accelerated growth in land values have raised concerns among local communities and LJAG, worrying that over-development on this small site may minimise local spatial quality and social inclusion built by temporary use of everyday heritage. As a result, from the perspective of the landlords and developers, they can perpetuate neoliberal logics of transformation by adopting temporary use strategy and constructing a fairly safe market in the traditional way of speculative development. Contrarily, from the perspective of the users, they may endure latent risks of industrial gentrification of arches, expelling them from where their business begins after the short-term lease. Reviving heritage spaces through temporary use is therefore a conflictual process as its users' creativity is exploited for the economic benefits of others, producing a space of vulnerability for users themselves after a fleeting moment between two relatively permanent histories.

Conclusion

This paper highlights that temporary urbanism is a concept of high pragmatic value for safeguarding everyday heritage and navigating the demand for self-reliance on heritage resources in place re-activation, especially in the time of austerity. It addresses a knowledge gap in a direct involvement of heritage in temporary use debates, aiming to reconcile temporary urbanism with everyday heritage in the context of London's post-crisis recovery. Rather than relying on top-down regulation, both concepts of temporary urbanism and everyday heritage place in the hands of grassroots a tool by which they can regain the power of making place.

By drawing on the case of Platform Project, the temporary use of London's marginal industrial heritage is analysed within a wider urban context, and from different perspectives. The analysis finds that the temporariness means unequal implications for various parties. For some it helps with lost revenue and delivers substantive revitalisation, while for others it is a fleeting moment of vitality but inevitably means vulnerability. The tension is inherent in the instrumentalisation of creativity with the intention to pursue monopoly rents, because the symbolic value achieved through temporary use is often exploited to create preconditions for further market-oriented development, leading to the destruction of former temporary use.

In general, temporary use of vacant historic sites provides an active response for the issue of urban heritage dereliction, particularly a pragmatic approach to conserving heritage as a living experience that creates everyday spatiality for

community life. This is often the case in the recovery from recession with a reduced institutional capacity in urban planning. However, by definition, 'temporary' and 'everyday' are at odds, whereby temporariness implies a limited period of time and everyday indicates timelessness. For temporary urbanism, its opportunity is a temporary one within a particular phase, after which the spatial and social conditions may totally transform.

Notes

^[i]JP Morgan Chase Foundation is a private foundation which serves the needs of the non-profit community through investment. The project timeline of process was obtained from 'Meanwhile Space: Ten Years in Practice' published in 2019 by Meanwhile Space.

^[ii]This was rolling 6-week capacity building programme. The stakeholders' participation was obtained from Meanwhile Space website, <https://www.meanwhitespace.com/single-post/loughborough-junction-arches>.

^[iii]The Data of impacts of renovated railway arches were obtained from Meanwhile Foundation website, <https://www.meanwhile.org.uk/articles/8-arches-504-505-in-loughborough-junction>.

^[iv]Details were obtained from LJAG website, <https://loughboroughjunction.org/the-platform-provides-a-space-for-entrepreneurs-and-creatives-in-a-former-public-toilet>.

^[v]Interview with project manager Anne Wilding was conducted by Future of London in July 2016, <https://www.futureoflondon.org.uk/2016/07/28/brixton-workspace-visit/>.

^[vi]About 80% of the tenants were underemployed or unemployed, they were found through ties to local recruitment agencies and community events, based on information available on the Guardian, <https://www.theguardian.com/sustainable-business/2016/sep/29/derelict-buildings-cheap-rents-london-gentrification-meanwhile-space-local-buisnesses>.

^[vii]Details of the community café's operation were obtained from Future of London website, <https://www.futureoflondon.org.uk/2016/07/28/brixton-workspace-visit/>, and the Brixton Blog, <https://brixtonblog.com/2021/04/help-the-platform-cafe-bounce-back/>.

^[viii]Based on house price database from the UK government, the average flat rates in Loughborough Junction was approximately £485,700 in 2021, £290,000 in 2015, £157,000 in 2010, and £204,000 in 2007, showing a bounce back in the post-crash period.

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Marka Camp (Jordan): An Evolving Definition of Refugee Camp and Hosting City. Employing Mental Mapping Dissecting the Conceived, Lived and Perceived Space of Marka.

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abstract: UNHCR defines refugee camps as temporary facilities built to provide immediate protection and assistance to people who have been forced to flee their homes due to war, persecution or violence. However, with the prolonged refuge of people and protracted existence of these facilities, refugee camps as continuously evolving as socio-spatial entities that have surpassed the fixed definition associated with it, and surely go beyond the Agambenian camp definition as a space of exception. The evolution of refugee camps, over decades, is directly related to the development of its hosting cities in an inseparable manner. This intertwined development necessitates a continuous revisiting of camps' definition as a temporary setting. This paper aims to unravel this co-evolving definition of camp and city. With this purpose, a thorough morphological analysis is complemented with a query that investigates the perceptual definition of Marka camp and Russeifa –its hosting city – by employing the method of mental mapping. The study cartographically compiles the views and perceptions of thirty-eight key informants who reside either in the camp or in the city. The two groups are composed of gender-balanced participants who reside Marka or Russeifa and born between 1950 and 2000.

The two groups are both asked to define the camp as well as the city, including the defining of main landmarks. This information is processed and confronted with the morphological space set by the state and the humanitarian bodies (United Nations). As such, the scale of conceived, lived and perceived space -as understood by Henri Lefebvre- of city and camp is re-constructed.

Based on the collected outputs, the study then associates the perceived with the set borders of the camp and the city. Such comparison is employed to empirically trace the actual domain of the camp and the city and to explore the extent of the spatial interconnectivity of the two settings, which is addressing the primary query of the ongoing doctoral study in investigating the spatial agency of the refugee camp.

keywords: spatial agency – mental mapping – palestine refugee camps – displacement – space production

Introduction

It has become a common discourse to claim that the world is becoming, urban and that cities are being seen as key mediators in the global politics, global economy and in the social and cultural tensions of living with diversity¹. Relatedly, as over half of the world's refugees nowadays live in cities rather than camps², questions that address the relationship between the camp and the city have become pressing more than ever. At the same time, these debates are growing despite the governments' confrontation and solid arguments that camps are necessary to separate refugees from local residents as a method of minimizing social conflict and competition over scarce resources³. Kirbeab also argued that in many countries, refugee camp is constructed as the "proper" space for refugee populations that employs the technology of spatial segregation that enables the containment of those displaced⁴; such thinking can be also related to a series of normative assumptions over refugee policies⁵. Even UNHCR in 1995 considered that "flows of refugees to cities were undesirable", reflecting the priority of placing the refugees in camps, and it was not until 2009 that UNHCR adopted a more inclusive policy on Refugee Protection and Solutions in Urban Areas⁶.

Recent debates even started to popularize that refugee camps are neither the best nor the future mechanism to protect displaced populations⁷.

Nowadays, refugees find themselves in a prolonged refuge, living in camps that continuously evolve as socio-spatial entities that surpassed the fixed definition of temporality associated with it long time ago, and surely go beyond the Agambenian camp definition as a space of exception. This evolution of refugee camps, over decades, is directly related, according to this paper, to the development of its hosting cities in an inseparable manner. This intertwined development necessitates a continuous revisiting the definition of the camp.

This paper aims to unravel this co-evolving definition of camp and city, this time, from the perspective of its residents. With this purpose, a thorough morphological analysis is complemented with a query that investigates the perceptual definition of Marka camp and Russeifa –its hosting city – by employing the method of mental mapping. The study cartographically compiles the views and perceptions of thirty-eight key informants who

reside either in the camp or in the city. The two groups are composed of gender-balanced participants who reside Marka or Russeifa and born between 1950 and 2000.

What Is a Refugee Camp?

UNHCR defines refugee camps as temporary facilities built to provide immediate protection and assistance to people who have been forced to flee their homes due to war, persecution or violence⁸. Similarly, UNRWA defines a Palestine refugee camp as a plot of land placed at the disposal of UNRWA by the host government to accommodate Palestine refugees and set up facilities to cater to their needs⁹. Refugee camps are perceived as exceptional and hence temporary measures as they are created as a response to an emergency¹⁰.

Generally, the theoretical discourse on refugee camps was mainly divided into two camps themselves; the first one and perhaps the most popular is Agamben's theory of exception where biopolitics is manifested in camps' spaces, conceiving the camp as "a piece of land that is placed outside the normal juridical order"¹¹. It was Michel Foucault who first coined the term biopolitics to position bare life (a life stripped of any right and value) in the mechanism of power, which inspired many scholars to place the camps within a Foucauldian frame¹². Foucault's biopolitics can be traced back to the seventeenth century when power's concerns started to focus on the population as a whole, conceived as a political, scientific and biological problem^{13, 14}, amongst other scholars, defined camps as depoliticized spaces of exception, nondescript places¹⁵, and sites of incarceration¹⁶, where refugees wait the day they return to their homeland. Moreover, refugee camps or the humanitarian sites according to ¹⁷ and¹⁸, or as fields of technology of "care" and "control" ¹⁹, where the working power is manifested through the applied techniques of headcounts and situation reports, which may support fragile forms of political and community activism²⁰. Relatedly, ²¹ described the way shelters were distributed over neat grids with the hegemonic presence of the humanitarian buildings, which all drawn carefully with the assistance of the aerial photos, as a blatant reflection of the hierarchical relations of power. Other theorists echoed the same discourse by positioning the camp as irrational, structurally invisible non-places^{22, 23}. Also discussed how some researchers like²⁴, measured the openness and closure character of the camp in relation to the level of its mimicking and resemblance to their urban hinterlands. The second theoretical camp casts refugee camps as geographies of violence ^{25,26} discussed the refugee as a living, foundational challenge to the truisms of the nation-state system, and as an interruption to or aberration of "the proper and enduring form of political identity and community- that is, the citizen and the sovereign nation-state" ²⁷. More moderate yet recent discussions viewed refugee camps as spaces of hospitality ²⁸ and identity²⁹.

However, and despite the dichotomy in treating camps as hyper-tensioned versus depoliticized passive sites, the two

major debates seem to agree on juxtaposing the camp and the city (the exception and the norm), as 30 argued. Such mainstreaming juxtaposition in literature is problematic since it automatically overlooks the fluidity of relations between camps and hosting cities. At the same time, while camps as geographies that have received attention in recent years in Europe ³¹ much less work has focused on refugee camps as distinctive political, social, cultural, and humanitarian spaces³².

What is a city?

Consequently, the city started to be discussed within the framework of forced migration and refuge³³, and a growing interest in the development of refugee camps is taking place at the scholarly fora³⁴. As such, the protracted displacement which resulted in evident evolution and expansion of refugee camps, have been continuously challenging the scholars to rethink the camp as a space that is interconnected with its hosting spatial system, inviting them to unravel the embedded complex social arrangements and economic activities behind such positions. In the middle of these debates, most host governments continue preferring to apply more restrictive measures to contain the refugees in camps and other organized settlements to control their mobility, and to minimize their socioeconomic presence in their hosting communities and to ensure the commitment of the humanitarian bodies to support their needs ³⁵. Yet, the multi-dimensional impact of refugee camps cannot be missed, while Crisp argued that a number of cities including Kabul, Nairobi and Bogota have all witnessed significant growth due to forced migration ³⁶.

The space of Lefebvre

Amongst the various Marxist interpretation of space, Henri Lefebvre ³⁷ stands out as a key scholar who theorized the city based on the Marxist understanding of the society. And perhaps one of Lefebvre's main contribution to this theorization is his Spatial Triad Model³⁸, where he sought to unite three "realms"—the mental, social, and physical—into a conceptualization of what space is ³⁹.

Spatial Triad involves three main moments of space; (1) Representation of space (conceived space constructed by professionals and technocrats, (2) Representational space (lived space), and (3) Spatial practices (perceived space).

The conceived space can be taken as the conceptualized space or space without life, the people-less, where this space is produced by architects, urbanists and in our case, the humanitarian and host government regime ⁴⁰. While the lived space is the one lived by the users and interpreted through their experiences and day-to-day existence. The produced space is a result of social practices and material conditions, meaning that space and time are contingent upon and shaped by macro-scale policies and innovations. Through time, the lived space evolves and produced as perceived space upon the social dynamics and needs of its users, just to take a different form from the way it was designed by its designers.

For Lefebvre, the distinction between the place of work and place of residence is an explicit reflection of the confrontation between the conceived space (mainly dominated by the capitalist) and lived spaces. Agency and actions are a result of an endless provoking of the lived space and perceived space over the conceived space. Consequently, the Spatial Triad Model paves the road for what is ultimately names urban revolution.

Mental mapping

A mental map is a person’s point-of-view perception of their area of interaction or the lived space according to Lefebvre. Mental maps are an outcome of the field of behavioral geography and were famously utilized by Kevin Lynch in his “The Image of the City”. Lynch claimed that “Most often our perception of the city is not sustained, but rather partial, fragmentary, mixed with other concerns. Nearly every sense is in operation, and the image is the composite of them all.”⁴¹. The creation of mental maps relies solely on the memory of the narrators as reflected by their experiences and unique interaction with their spaces. This query operationalizes mental mapping as a method to investigate the change of the camp and city from its planned form to the lived one by asking key informants to define the borders of Marka camp and Russeifa city.

Methodology

This query aims to investigate the Conceived, Lived and Perceived Spaces of the camp and the city from the residents’ point of view. Therefore, the study operationalized the mental mapping tool to capture the perceived borders of the camp and the city from the viewpoint of the residing individuals. Thirty-eight key informants were interviewed in May 2021. The breakdown of the participants according to their gender and place of residence is illustrated in table 1.

The interviewees were asked to verbally define the borders of the camp, then the borders of the city, highlighting main landmarks in both settings. The second phase was mapping the main landmarks mentioned by the interviews through one-to-one sessions with volunteers from the camp as well as UNRWA’s Camp Services Officer to accurately position the main landmarks.

Introducing marka camp and russeifa city

The city of Russeifa is located in the central region of Jordan, in Zarqa River basin (fig. 1). The cities of Amman, Zarqa, and Russeifa compose a corridor that forms the



fig. 1.

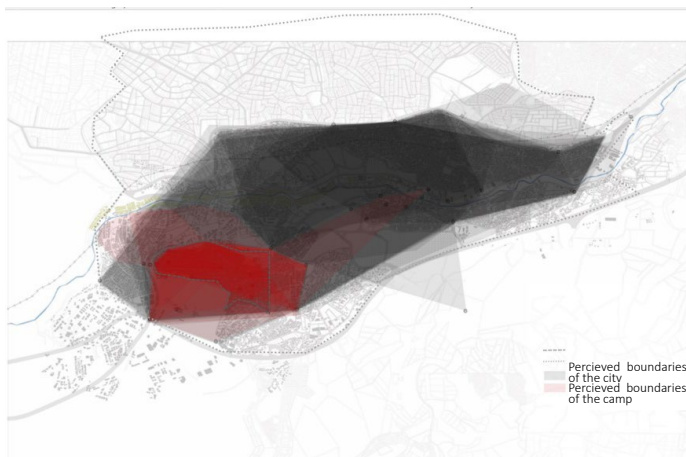
second largest metropolitan area in the Levant (after Damascus), where it hosts nowadays more than half of Jordan’s businesses⁴². The word Russeifa is a feminine miniature-name of the word pavement; which is the road paved with gravel that eventually turns into a paved path. Since its early beginnings, the city has combined significant resources such as Zarqa River, phosphate mines, Hejaz railway, and diverse demographic fabric, which are rarely found elsewhere in Jordan; Russeifa even hosts the second largest Palestine “official” refugee camp in Jordan, Marka camp.

Palestine refugee camps were established after the 1948 and 1967 Arab-Israeli conflict, to accommodate more than 750,000 Palestinians who fled or were expelled during the Palestinian exodus (UNRWA 2015). Jordan received the largest number of Palestine refugees of all the United Nations Relief and Works Agency-UNRWA fields; nearly 370,000 refugees were accommodated in ten recognized camps, resembling 18% of the total population. Nowadays, Jordan hosts more than 2,000,000 Palestine refugees (40% of total registered refugees in UNRWA’s five fields), where nearly 20% of them reside in one of the ten official camps in the kingdom⁴³. The majority of Palestine refugees (except ex-Gazans) were granted Jordanian citizenship, while the majority of those residing other host countries remain stateless⁴⁴.

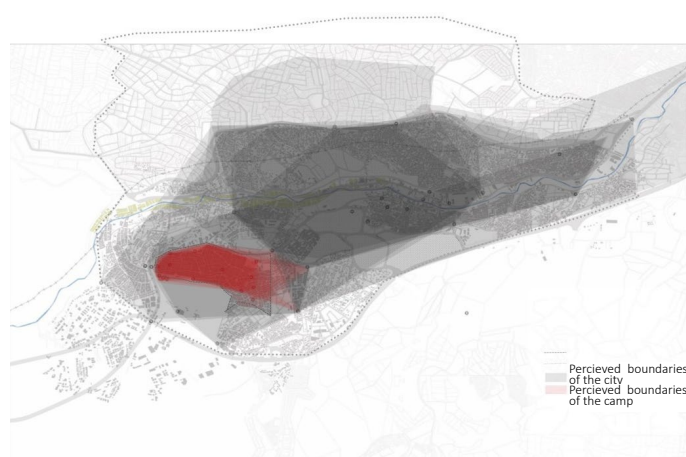
Marka camp is the second largest camp in Jordan, and one of the six emergency camps erected in 1968. Marka initially sheltered 15,000 Palestine refugees and displaced persons who fled the West Bank and the Gaza Strip as a result of the 1967 events⁴⁵. The Camp is located in Russeifa, a city in Zarqa Governorate in the central region of Jordan,

Gender of respondent	Place of residence	No. respondents	Average age of respondents
Male	Russeifa city	12	26 years
	Marka camp	9	29 years
Female	Russeifa city	9	21 years
	Marka camp	8	24 years

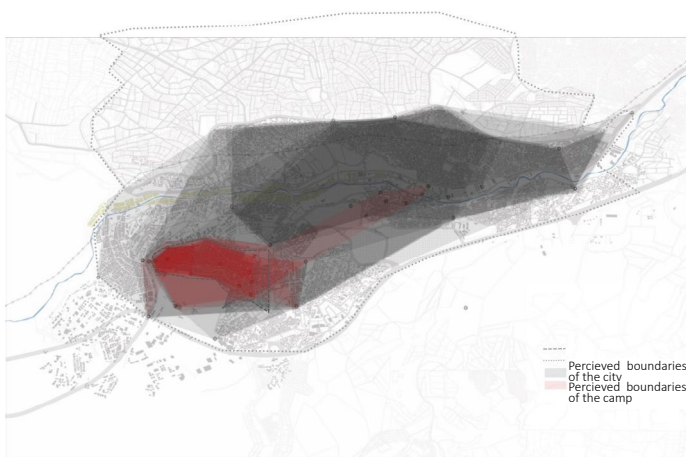
Table. 1. Age and gender of respondents/place of residence.



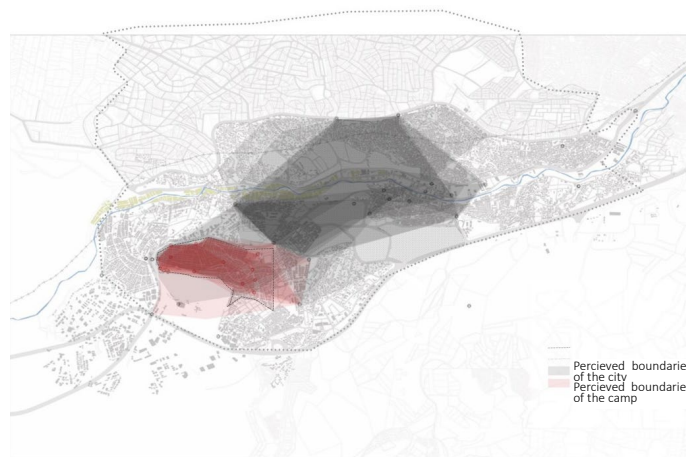
Map 1. Perceived boundaries of the city and the camp - Male residents from Russeifa City



Map 3. Perceived boundaries of the city and the camp - Male residents from Marka Camp



Map 2. Perceived boundaries of the city and the camp - Female residents from Russeifa City



Map 4. Perceived boundaries of the city and the camp - Female residents from Marka Camp

in Zarqa River basin. Russeifa is resided by 472,604 inhabitants⁴⁶, promoting it the fourth-largest city in Jordan, after Amman, Irbid, and Zarqa. Together with Amman and Zarqa, Russeifa hosts more than half of Jordan's businesses. The city is known for the phosphate mine industry (that was active between 1935 and 1984), as well as hosting various heavy industries.

Russeifa also enjoys a rich and diverse demographic fabric including Circassians, Armenians, Chechens, in addition to Bedouins, Palestinians and Palestine refugees. On the other hand, the city suffers over-population (population density exceeds 13,000 capita/km² ⁴⁷), and severe environmental contaminations (air pollution from Phosphate piles and water contamination from the factories' disposed waste in the river) ⁴⁸.

The United Nations set the borders of the camp and the refugees living within those borders have the right of use rather than ownership, these borders are internationally recognized and are used as anchor point whenever the topic of Palestine refugees are put on the table. However, UNRWA operates schools and health centers in areas outside the recognized camps. It is noteworthy to mention that Palestine refugees in Jordan enjoy full accessibility to all the services outside the official refugee camps given the fact that they are Jordanian citizens. The porous nature of

camp's boundaries coupled with granted citizenship have given the city and the camp a new dimension. This query tackle one of the layers of space production by investigating the lived and perceived borders of the camp and city.

Findings and conclusion

Forced migration and refugee camps have been receiving scholar and intellectual attention recently. The camp in many cases is still capsulated in the Agamben's state of exception, drawing bold separating line between the camp and its hosting setting and overlooking the reciprocal impact between the camp and the city.

This study aimed to detect the fluidity of relations between the camp and the city in an attempt to contribute to the investigation of the spatial agency of the camp on its hosting settings. This inquiry utilized the mental mapping as a method to confront Lefebvre's' conceived, lived and perceived space.

Despite the fact that the camp space has been initially designed and officially "documented" by the humanitarian bodies; the perceived space of the camp and the city has changed by time due to the spatial metabolism that took place over more than past fifty years.

This study aimed to capture the perceived spaces of the

camp and the city using the mental mapping method; were the main findings of the query can be summarized as follows:

1. The majority of the city-residing participants considered the camp as an edge of the city or a landmark that declares the end or beginning of their city (map 1, 2), despite the fact that the Marka camp is administratively contained in Russeifa city. This observation indicates how the camp has evolved as an integral part, yet autonomous part of the city.

2. The perception of the camp from the city-interviewees' point of view is perceived through its edges (mainly the market), a few of the key informants could define the depth of the camp and the majority perceived the camp as the main street.

3. The camp's interviews' could accurately define the borders of Marka camp as well as the city, while the city's interviews' showed less knowledge in their city as well as the camp (map 1, 2, 3, 4).

4. Gender differences in defining the borders of the camp and the city were obvious in both groups (camp and city residents), females tended to define the borders by main elements or landmarks, while males used more administrative and officially-set borders to define the spaces.

5. UNRWA facilities, commercial districts and infrastructure such as bridges were amongst the top mentioned landmarks to define the borders of the city and the camp, interestingly, the phosphate mines and Zarqa River were barely mentioned by the respondents indicating less interaction with the natural surroundings.

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¹²J Hyndman, *Managing Displacement: Refugees and the Politics of Humanitarianism* (University of Minnesota Press, 2000); Robert Lippert, 'Governing Refugees: The Relevance of Governmentality to Understanding the International Refugee Regime,' *Alternatives: Global, Local, Political*, 24.3 (1999), 295–328 <<https://doi.org/10.30437549902400302>>."type": "book"}, "uris": [{"http://www.mendeley.com/documents/?uuiid=b6f4d691-2352-4004-999f-8d040bd0a6e3"}, {"http://www.mendeley.com/documents/?uuiid=5a0e319e-1f48-454e-ac53-cf35756fe282"}], {"id": "ITEM-2", "itemData": {"DOI": "10.1177/030437549902400302", "ISBN": "0304-3754", "ISSN": "03043754", "abstract": "Most studies of aspects of the international refugee regime, some of which are historical in orientation, however, are informed by conventional international relations theory.... These studies lend some insight into the international refugee regime by pointing to the primacy of the political and by appropriately avoiding reliance on humanitarian sentiments as explanations. But, like state theory, they suggest nations or alliances have certain essential ahistorical interests and tendencies." {Lippert 1999 #287 /ft \": 297"} {Lippert 1999 #287 /ft \": 304"} argues that the present international refugee regime "... should not be understood simply as the result of inevitable progress in responding to a growing, intractable international refugee problem as is commonly presumed. In each instance above, "failure" led not to programs or reforms that foresaw giving up on the international refugee crises, but instead to the invention of new programs. In this way, these refugee programs are similar to those of the modern prison." The concept of refugeeness is considered to have conferred a moral dimension to the problem of refugee, which became a moral category, in particular in the East-West confrontation. Further, "Refugeeness would later become useful during the rise of nationalism in Africa in the 1950s and 1960s, as well as in other non-Western spaces where colonial arrangements had previously prevailed. Since decolonisation, Western authorities have assumed that these new nations (along with their rulers and citizens

¹³F. Foucault, M., & Ewald, *Society Must Be Defended*: Lectures at the Collège de France, 1975-1976 (Macmillan, 2003).

¹⁴G Agamben, *State of Exemption* (Chicago Press, 2005).

¹⁵Edward W. Said, *After the Last Sky: Palestinian Lives* (New York, N.Y.: Columbia University Press, 1999).

¹⁶Suvendrini Perera, 'What Is a Camp?', *Borderlands*, 1.1 (2002), 14–21.

¹⁷Ilana Feldman, 'What Is a Camp? Legitimate Refugee Lives in Spaces of Long-Term Displacement', *Geoforum*, 66 (2014), 244–52. refugee camps are an excellent site to consider the production of legitimacy in "anomalous geopolitical spaces." Rather than focusing on how the parties that govern camps gain legitimacy, or do not, in the eyes their inhabitants, this essay considers the problem of refugee lives: how various actors define the right way to live as a refugee, what role they ascribe to refugee camps in this way of living, and the complex realities of actual refugee lives amidst these various claims. The legitimacy at issue here is not of a form of governing, but of a way of being, of living. Different arguments about the right way of being depend to a considerable degree on the perspectives these actors bring to bear: whether they approach refugees as primarily recipients of assistance, political symbols and actors, or multi-faceted subjects with a range of concerns. There is, of course, no final arbiter to decide what actually is the right way of living as a refugee: it is an ongoing debate. Even without resolution, these different arguments about legitimate refugee life are consequential, in no small part because they can shape the contours of people's lives and relationships and influence the allocation of resources."author":{"dropping-particle":"","family":"Feldman","given":"Ilana","non-dropping-particle":"","parse-names":false,"suffix":""},"container-title":"Geoforum","id":"ITEM-1","issued":{"date-parts":[["2014"]]},"page":"244-252","publisher":"Elsevier Ltd","title":"What is a camp? Legitimate refugee lives in spaces of long-term displacement","type":"article-journal","volume":"66"},"uris":["http://www.mendeley.com/documents/?uuid=7eea7e8b-fa3c-30cb-9936-4f4fe45334c7"]},"mendeley":{"formattedCitation":"Ilana Feldman, 'What Is a Camp? Legitimate Refugee Lives in Spaces of Long-Term Displacement', *Geoforum*, 66 (2014

¹⁸F Agier, M., & Bouchet-Saulnier, 'Humanitarian Spaces: Spaces of Exception', in *In the Shadow of "Just Wars": Violence, Politics, and Humanitarian Action* (Cornell University Press Ithaca, NY, 2004).

¹⁹Liisa Malkki, 'National Geographic: The Rooting of Peoples and the Territorialization of National Identity among Scholars and Refugees', *Cultural Anthropology*, 7.1 (1992), 24–44.

²⁰Adam Ramadan, 'Spatialising the Refugee Camp', *Transactions of the Institute of British Geographers*, 38.1 (2013), 65–77 <<https://doi.org/10.1111/j.1475-5661.2012.00509.x>>; Kim Rygiel, 'Politicizing Camps: Forging Transgressive Citizenships in and through Transit', *Citizenship Studies*, 16.5–6 (2012), 807–25 <<https://doi.org/10.1080/13621025.2012.698511>>.

²¹Hyndman.

²²Marc Augé, *Non-Places: Towards an Anthropology of Supermodernity* (London: Verso, 1995).

²³Romola Sanyal, 'Squatting in Camps: Building and Insurgency in Spaces of Refuge', *Urban Studies*, 48.5 (2011), 877–90 <<https://doi.org/10.1177/0042098010363494>>.

²⁴Sari Hanafi, 'Palestinian Refugee Camps in Lebanon:

Laboratories of State-in-the-Making, Discipline and Islamist Radicalism', in *Thinking Palestine* (London & New York: Zed Books, 2008), pp. 82–100.

²⁵J Loescher, G., & Milner, 'Protracted Refugee Situations and State and Regional Insecurity: Analysis', *Conflict, Security & Development*, 4.1 (2004), 3–20.

²⁶Hannah Arendt, 'The Origins of Totalitarianism', Houghton Mifflin Harcourt, 348 (1973).

²⁷Peter Nyers, *Rethinking Refugees: Beyond State of Emergency* (New York, N.Y.: Routledge, 2013).

²⁸Adam Ramadan, 'The Guests' Guests: Palestinian Refugees, Lebanese Civilians, and the War of 2006', *Antipode*, 40.4 (2008), 658–77 <<https://doi.org/10.1111/j.1467-8330.2008.00628.x>>.

²⁹Liisa Malkki, 'Speechless Emissaries: Refugees, Humanitarianism, and Cultural Anthropology', *Cultural Anthropology*, 11.3 (1996), 377–404.

³⁰Nick Gill, 'New State-Theoretic Approaches to Asylum and Refugee Geographies', *Progress in Human Geography*, 34.5 (2010), 626–45.

³¹J. Darling, 'Becoming Bare Life: Asylum, Hospitality, and the Politics of Encampment', *Environment and Planning D: Society and Space*, 27.4 (2009), 649–65; A Hyndman, J., & Mountz, 'Refuge or Refusal', in *Violent Geographies: Fear, Terror, and Political Violence*, 2007, pp. 77–92.

³²K. (Eds.) Black, R., & Koser, *The End of the Refugee Cycle?: Refugee Repatriation and Reconstruction* (Berghahn Books, 1999); Hyndman; Ramadan, 'Spatialising the Refugee Camp'.

³³Jonathan Darling.

³⁴Sanyal, 'Refugees and the City: An Urban Discussion'.

³⁵Karen Jacobsen, 'Refugees' Environmental Impact: The Effect of Patterns of Settlement', *Journal of Refugee Studies*, 10.1 (1997), 19–36 <<https://doi.org/10.1093/jrs/10.1.19>>; Jonathan Baker and Roger Zetter, 'Shelter Provision and Settlement Policies for Refugees; A State of the Art Review', *Studies on Emergencies and Disaster Relief*, Afrikainstitutet, 2, 1995, 1–106.

³⁶Jeff Crisp, Tim Morris, and Hilde Refstie, 'Displacement in Urban Areas: New Challenges, New Partnerships', *Disasters*, 36.SUPPL.1 (2012), 23–42 <<https://doi.org/10.1111/j.1467-7717.2012.01284.x>>. interacting with and reinforcing other global mega trends, including armed conflict, climate change, crime, environmental degradation, financial and economic instability, food shortages, underemployment, volatile commodity prices, and weak governance. Displaced people also are affected by and engaged in the process of urbanisation. Increasingly, refugees, returnees, and internally displaced persons (IDPs

³⁷H. Lefebvre, *The Production of Space* (Oxford: Blackwell, 1991).

³⁸Lefebvre.

³⁹Joseph Pierce and Deborah G Martin, 'Placing Lefebvre', *Antipode*, 47.5 (2015), 1279–99 <<https://doi.org/10.1111/>

anti.12155>.

⁴⁰B. Gronlund, *Lefebvre's First Ontological Transformation of Space: Lived, Perceived and Conceived Space*. (Malden, 1993).

⁴¹K. Lynch, *The Image of the City* (MIT press, 1960).

⁴²Ed Ababsa, Myriam, *Atlas of Jordan : History, Territories and Society* (Presses de l'Institut français du Proche-Orient (ifpo), 2013).

⁴³UNRWA, *UNRWA Annual Operational Report 2019 for the Reporting Period 01 January – 31 December 2019, 2020* <<https://www.un.org/unispal/document/unrwa-annual-operational-report-2019-for-the-reporting-period-01-january-31-december-2019/>>.

⁴⁴Jalal Al Hussein and Riccardo Bocco, 'The Status of the Palestinian Refugees in the Near East: The Right of Return and UNRWA in Perspective', *Refugee Survey Quarterly*, 28 (2009), 260–85.

⁴⁵UNRWA, 'Where We Work', 2020.

⁴⁶Department of Statistics DOS, *The General Census - 2015* (Amman, 2015) <<http://dosweb.dos.gov.jo/>>.

⁴⁷Municipality of Russeifa, 'Introducing Russeifa City', 2010.

⁴⁸World Bank, *Urban Growth Model And Sustainable Urban Expansion For The Hashemite Kingdom Of Jordan – Report, 2018* <<http://documents1.worldbank.org/curated/pt/983981555961147523/text/Urban-Growth-Model-and-Sustainable-Urban-Expansion-for-the-Hashemite-Kingdom-of-Jordan.txt>>.

