[*Reflection*]

Part 01 : Design scalability

and the future of the rural in post Brexit UK

Presently over 60% of UK's rural land is under the threat of future urbanisation due to its current undesignated status (see chapter 2). Considering that Brexit will force a drastic change in trade relations globally, making the trade and import of food into the UK difficult any loss or repurposing of productive rural land will exasperate this situation further . The national farmers union of Britain is already predicting UK's food sufficiency factor to go down to a 50% by the year 2050.

In this context the proposed new rural city incorporates a strategy for both - expected urban growth as well as efficient use of land for agricultural production . By using minimal elements for design, the new city allows a certain flexibility that is able to accommodate any future uncertainties . As such , the main elements of the design that remain fixed even as the typology replicates include - the grid - as a tool for delineating ownership , the service cores - that act as the infrastructural exchange points between the city and the rural, the typology : that establishes the open built ratio and lastly the elevated superstructure that combines production with functions of the community

At each scale these elements produce different spatial and social qualities depending on the physical conditions of the site .

At the smallest scale , the design acts as a productive unit influenced mainly by the site topography . While the land is subdivided into well defined 1 Ha parcels the units on the other hand are more flexible , incorporating the act of production through various multipurpose spaces that can be attached or detached at the upper levels . Essentially the smallest scale incorporates the maximum living diversity with no direct connection to the regional city network.

Once replicated this typology meets the larger road network and begins to incorporate elements of food logistics such as - two way arterial roads, transport terminals , horizontal service cores that facilitate the exchange of raw materials from the city and packaged organic food from the new rural city . Furthermore, with the intermixing of communal spaces and access to more services the city is also able to accommodate diverse occupations at this scale .

More than half the British countryside at risk of 'urban sprawl' if planning laws are relaxed, campaigners warn

By LEON WATSON
UPDATED: 10:20 BST, 7 February 2012

Share 34

Urban sprawl will threaten
countryside under a propo
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The Campaign to Protect F
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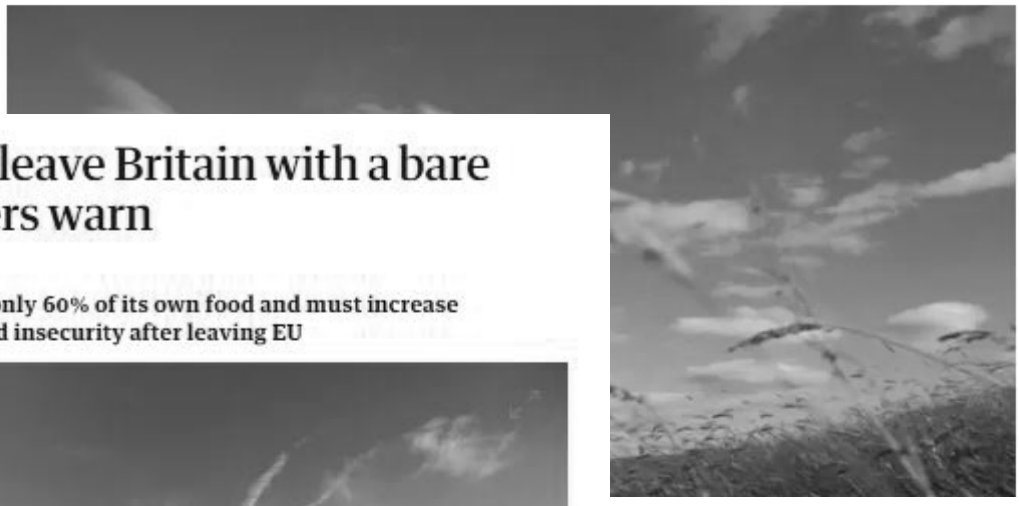
Tim Breitmeyer: Councils need to rethink attitude to rural development after Brexit



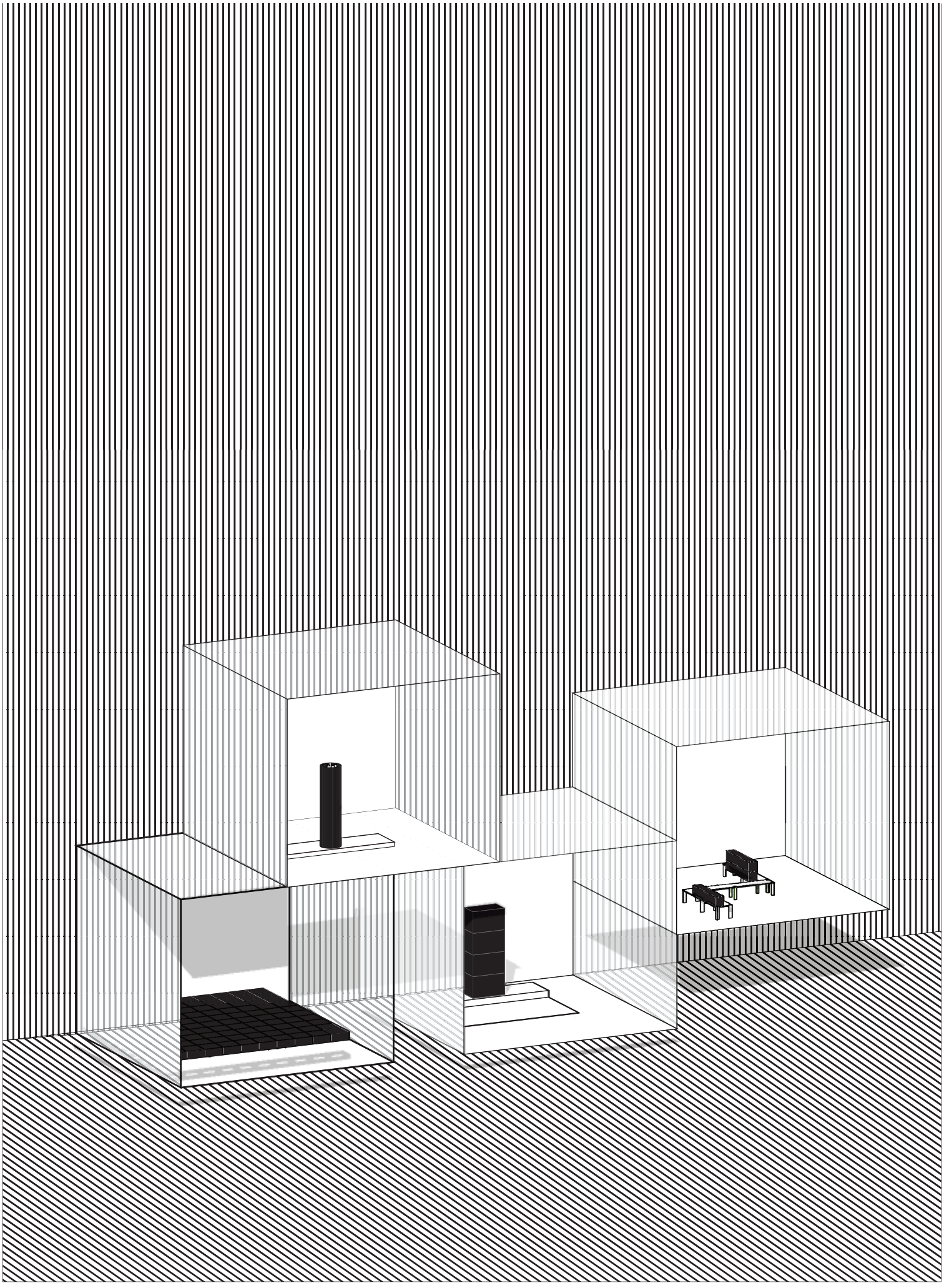
Brexit could leave Britain with a bare larder, farmers warn

NFU says UK produces only 60% of its own food and must increase production to avoid food insecurity after leaving EU

▲ The NFU says vegetable shortages in Europe and the US this year have highlighted the UK's over-reliance on other countries for food. Photograph: Chris Ratcliffe/Bloomberg/Getty Images

Britain must increase home-grown food production and build stronger supply chains to face Brexit uncertainties, the National Farmers Union has said.

Figure *: Increasing population and changing economic relations post Brexit will have immediate and lasting impact on the rural countryside of UK . Source : Mail online and Yorkshire post*



At the regional scale the design is able to interact with the existing context through a series of interchanges . The first interchange between the proposed design and the city is the infrastructure terminal that essentially facilitates the exchange of services and goods between the industrial and the productive city .

Just as the industries were fed by the rural , the new rural city is now fed by the city and its industries through organic and nutrient based raw materials . Furthermore by internalising the logistics of food distribution, the design also opens up the opportunity to redefine the port as a new productive space that can be used to introduce more advanced and sustainable farming techniques .

Unlike the industrial city, each element of the new rural city reinforces the importance of attaching the act of production to land. Once placed on site , these elements area able to superimposing clear lines of ownership that helps regulate both the extent of urban growth and the type of farming. As the design interacts with more and more elements of the industrial city it is able to adopt new methods of production and logistics.

The fixed elements of the new city

The grid - as a tool for delineating ownership , The service cores - that act as the infrastructural exchange points between the city and the rural, The typology : that establishes the open built ratio and lastly The elevated superstructure that combines production with functions of the community

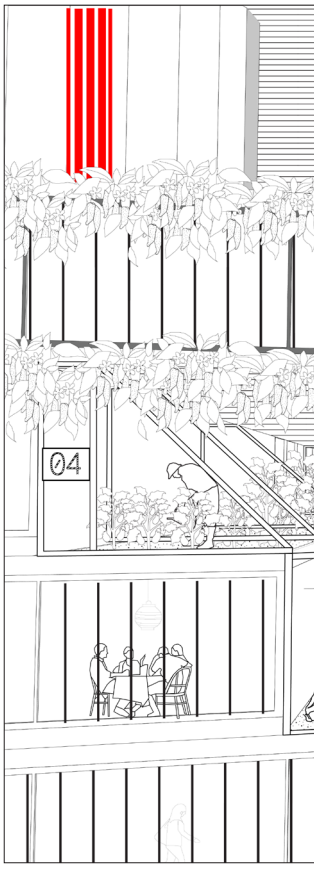
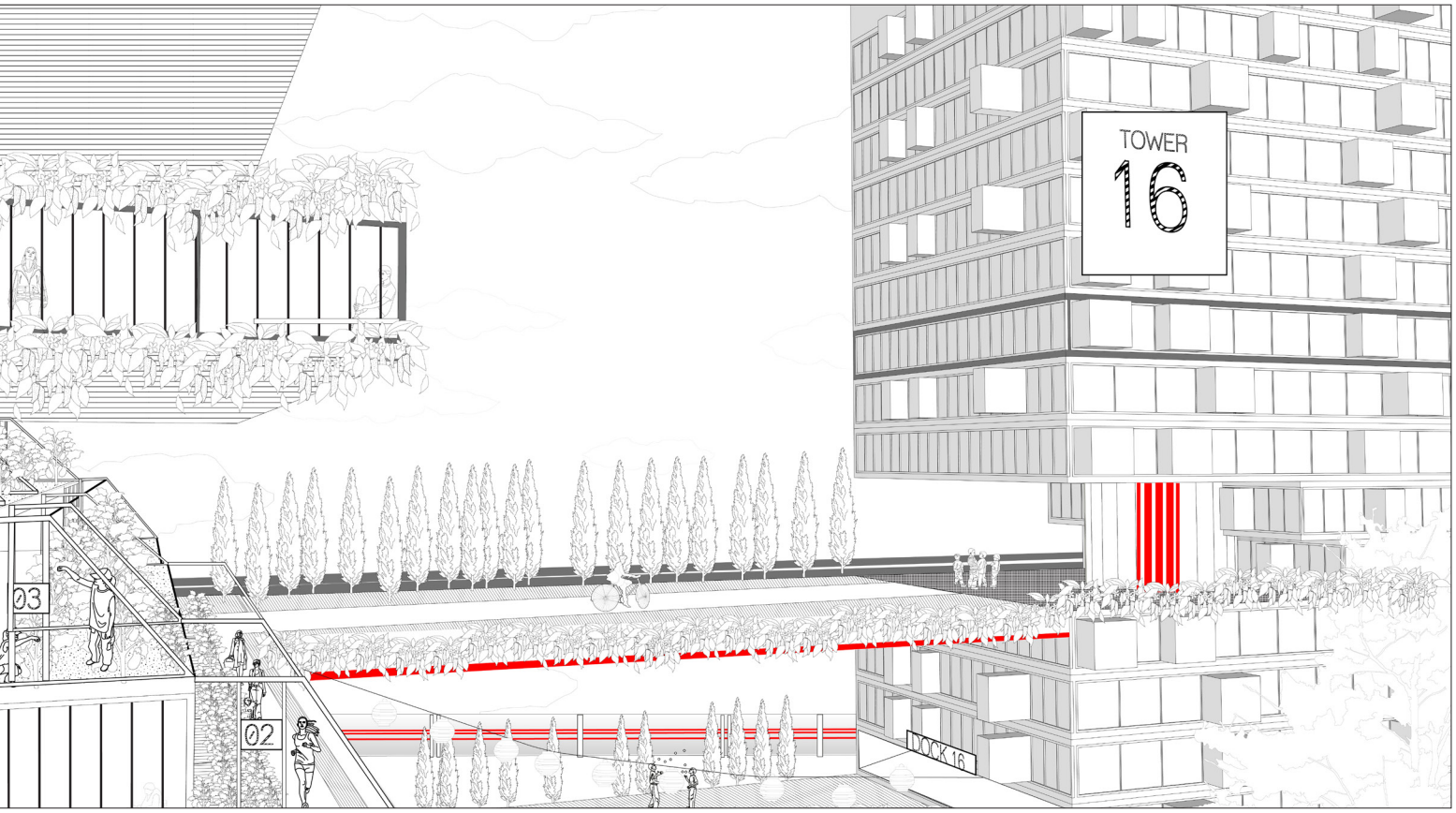


Figure *: Elevated social spaces that can create unique communal parks with a variety of farming types*

Figure : *New living typologies that are built around the space of production*



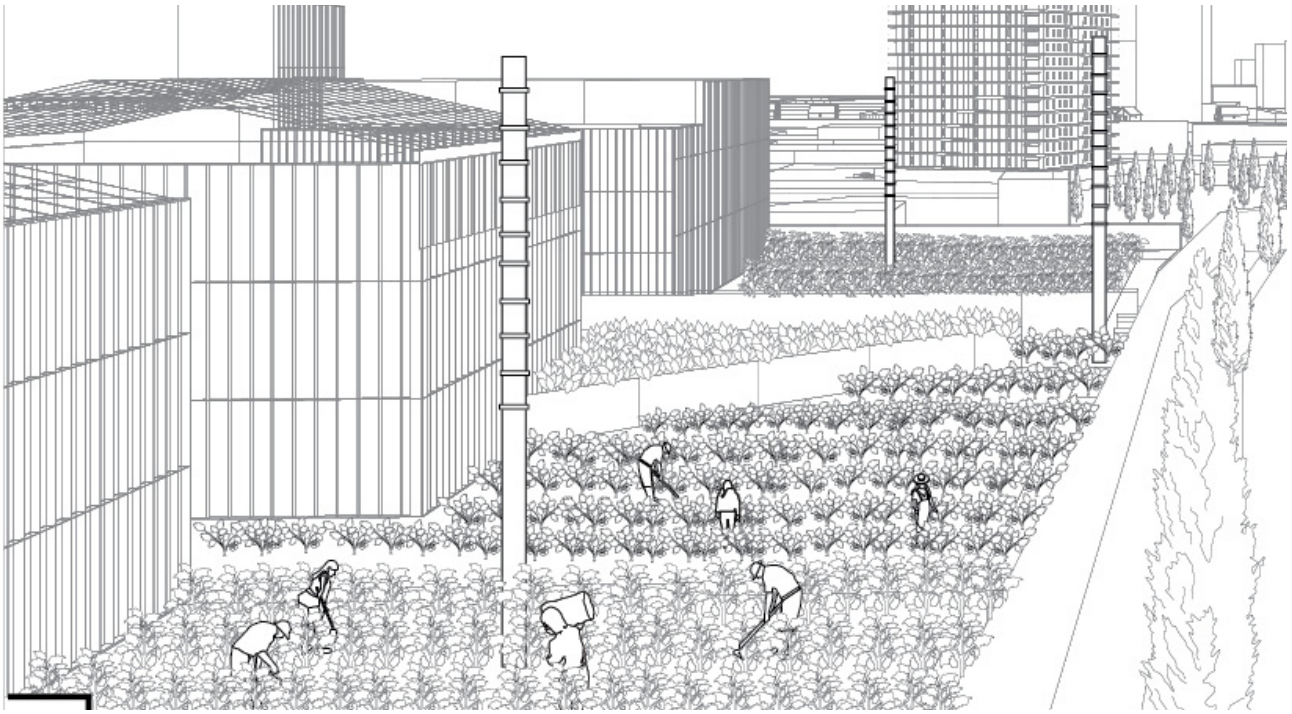


Figure *: The communal farm at the city edge*

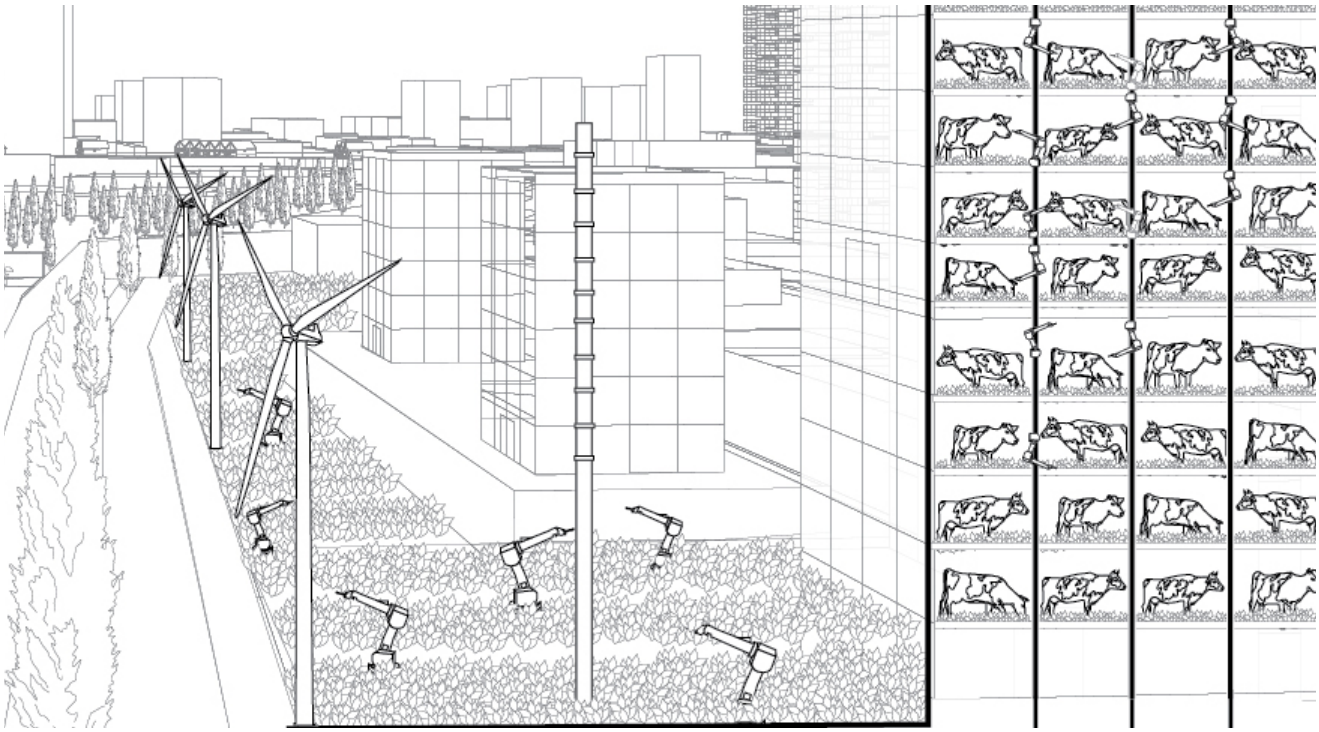


Figure *:The commercial farms at the city edge*

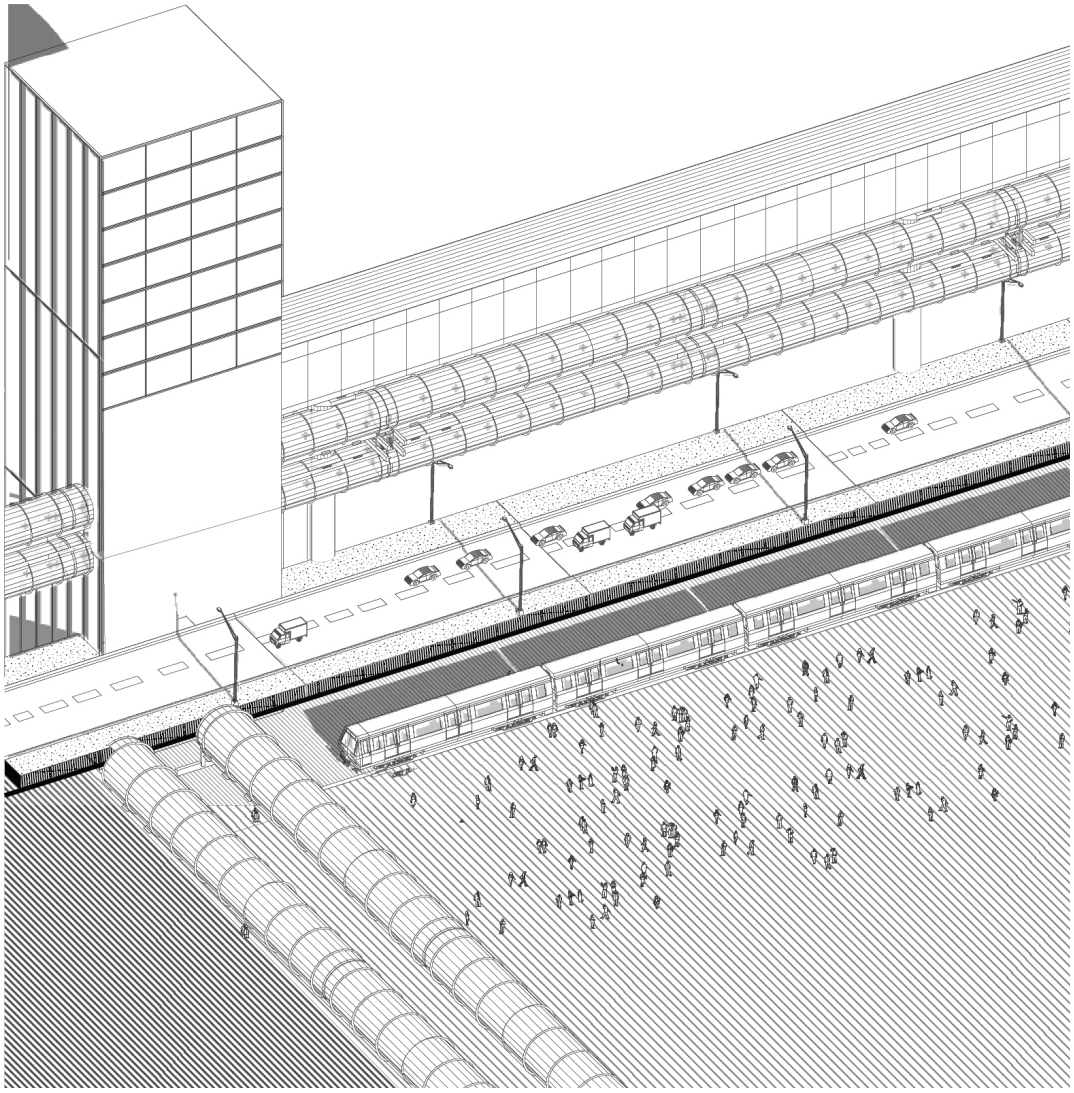


Figure *: Logistical edge between two typical typologies , Drawn by author*

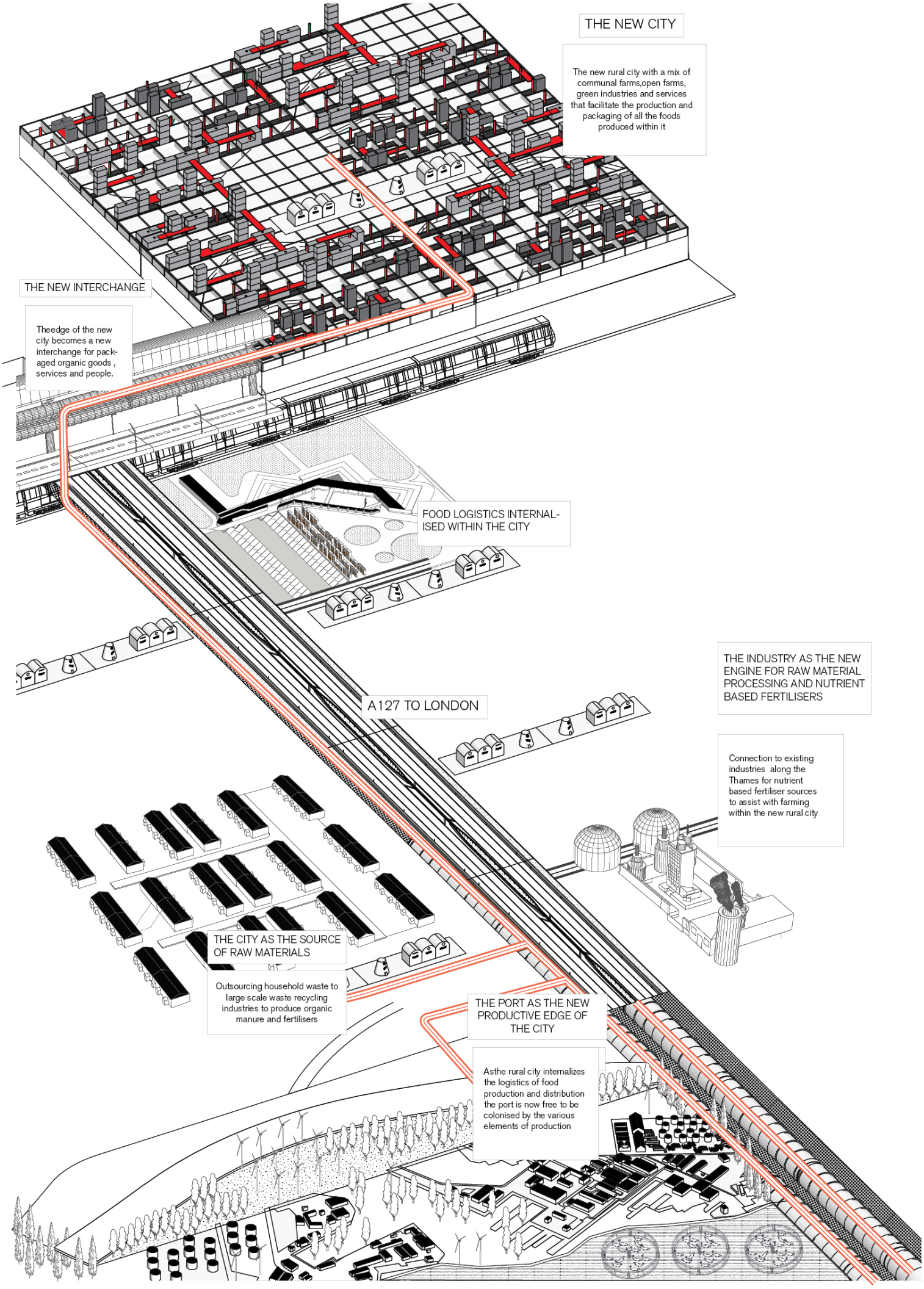


Figure *: The new rural city at its points of interchange at the regional scale , drawn by author*

Cambodia's sugar rush leaves farmers feeling bitter at 'land grab'

Kate Hodal reports from Koh Kong, where villagers claim they are losing their livelihoods to plantations that supply Tate & Lyle

The plantation extends as far as the eye
leaves swaying against the dusky blue li
horizon. There are no houses, no anima
2
Standing by a rickety wooden fence that
the field in front of us, Yoen Sarin, 29, w
extended from there to just over there."

Economic disaster beckons as water-hungry investors buy up Africa's land

Water drawn from rivers, dams or underground to irrigate new farms in Africa may severely affect users downstream

irrigation schemes are too reliant on 'blue' water, drawn
nny Vaughan/AFP/Getty Images

:s in African farmland by "ecologically
vereign wealth funds and speculators
and possibly even conflict, some of
erts have predicted.

ınd attracted by low land prices and
ıfrica, hundreds of investors from
cquired millions of hectares (some
n hectares) of underused land where
rground water to irrigate food crops
/ have struck deals with governments
access to water for years.

s College London researcher Martin
k of 50 academic essays on the
major foreign direct investments

UK investors gather for controversial Africa land summit

International development and environment charities to protest against 'land grab' outside Agriculture Investment Summit

An estimated 70m hectares of agricultural land – or 5% of Africa – has been sold or leased to western investors since 2000. Photograph: Siphiwe Sibeko/Reuters

Pension fund managers and hedge funds gather in London on Tuesday for a summit to discuss the next big investment opportunity: buying up swaths of African farmland.

The Agriculture Investment Summit promises guidance through the

Part 02 : Design replicability and its impact on UK's increasing land grabbing

In an attempt to take advantage of the cheap labour and land that is mainly available in the global east many British companies have made large scale investments to buy productive farmland in countries such as Africa and India (see figure) . Presently UK has bought the rights to more than 3 million hectares of land, (the equivalent to almost two thirds of UK's total farmland) collectively from over 30 countries in the world (*Swanson,2015*). This has globally resulted in the displacement of farmers and uprooting of rural communities including the destruction of ecosystem on a massive scale . While on one hand, these out sourced mega-farms allow the production of crop products that can otherwise not thrive in UK's local conditions, on the other hand it deprives the local communities and farmers of their basic means of sustenance leaving many in poverty and hunger.

Since the decline of the British empire, many of UK's former colonies have failed to tackle effectively, the aftermath of their late but rapid industrialisation . In countries such as India , a lack of clear planning and environmental laws has left vast stretches of its productive rural land at the mercy of speculators and multi- national companies .In fact, the government further pushes for foreign investments by providing soft loans and incentivising commercial farming, citing them as crucial means to provide their citizens with a better access to social and economic services . Thus, while UK continues to enforce its colonial ideologies through a much more advanced and formal capitalist system of demand and supply, its former colonies continue to encourage such unethical practices in order to become competitive members of the global economy.

By redesigning UK's rural and reestablishing new forms of ownership the design tries to address this very contradiction. Through a new system of land redistribution it gives back land to the communities, generating a new value that makes productive land an indispensable element of the new city. The new city is built around it and built with it , every member of the new city owns this land and also equally shares this land .

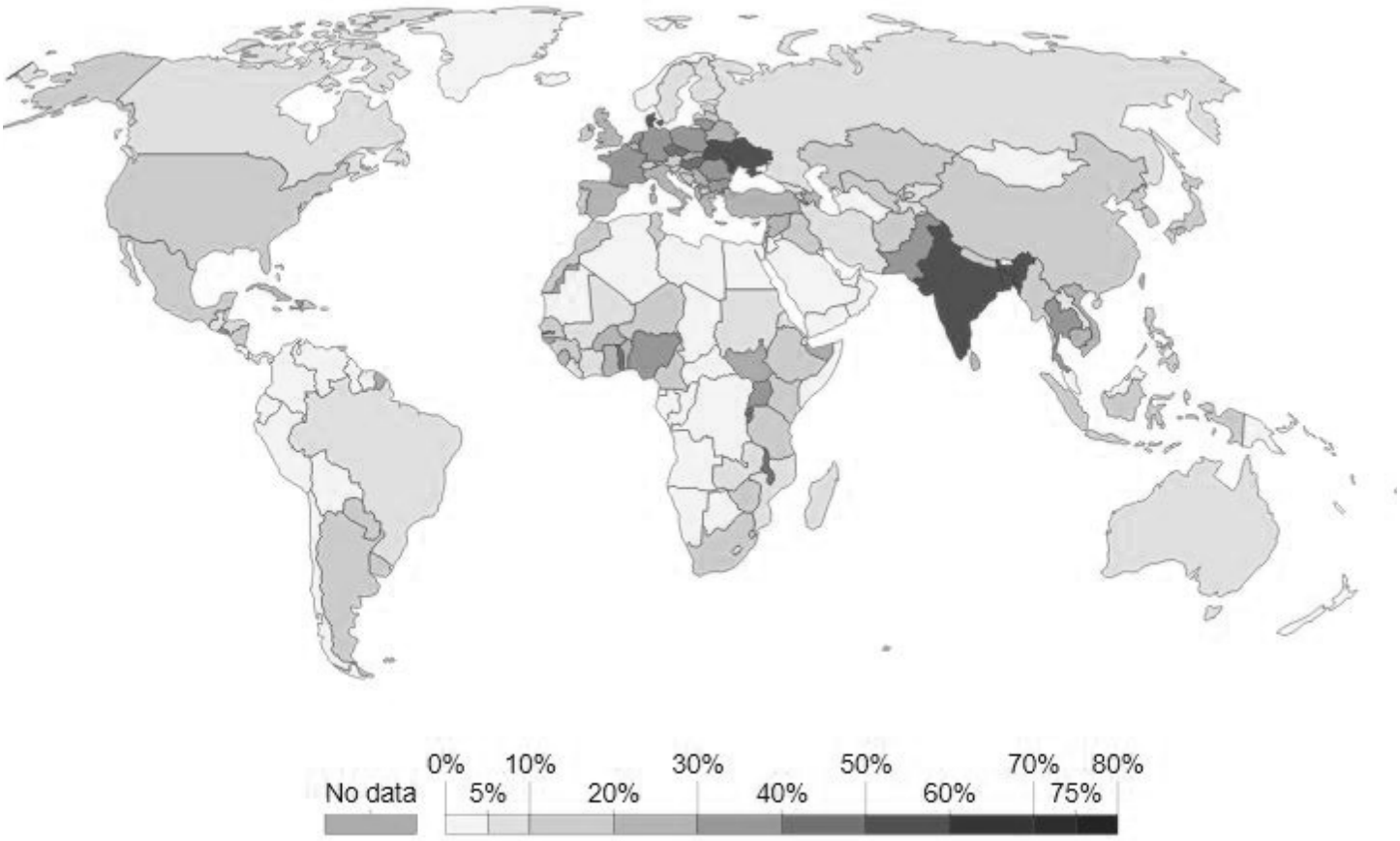
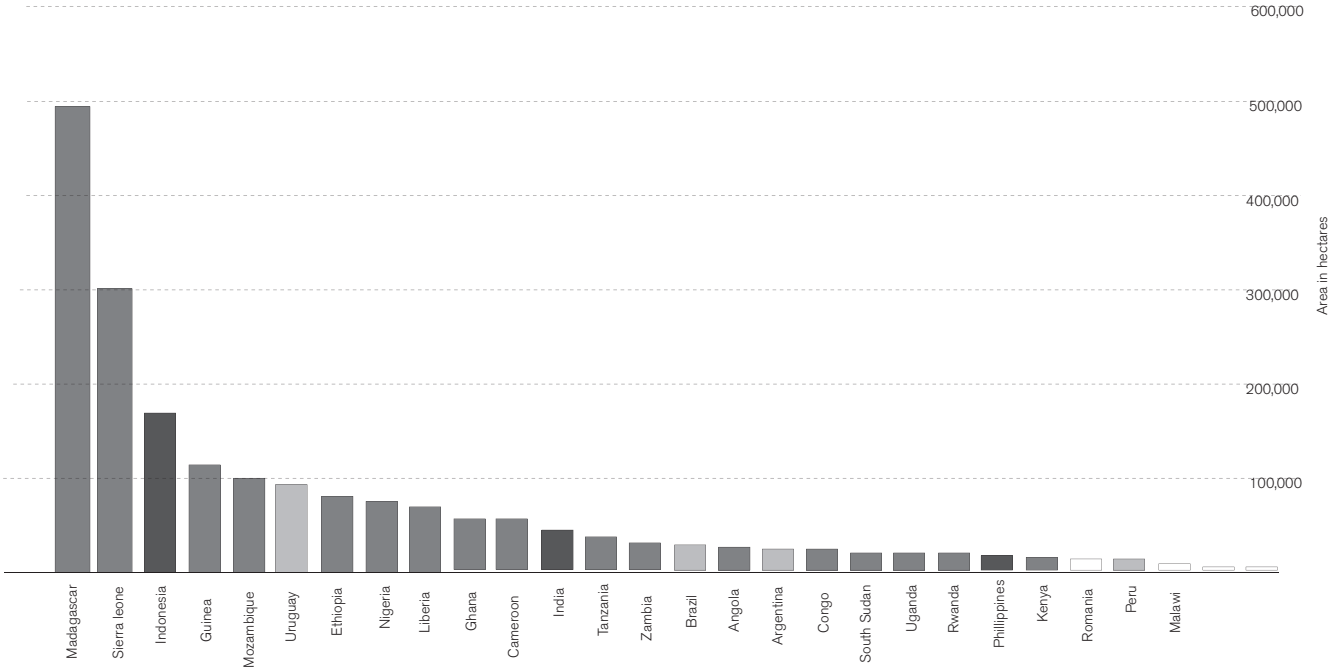


FIGURE 00 *: Share of global land area used for arable agriculture , 2014* Source : World Bank , 2014 .

FIGURE : *UK acquired agriculture land globally as of 2016 ,* Source : statistica.com, 2016 *, drawn by author*



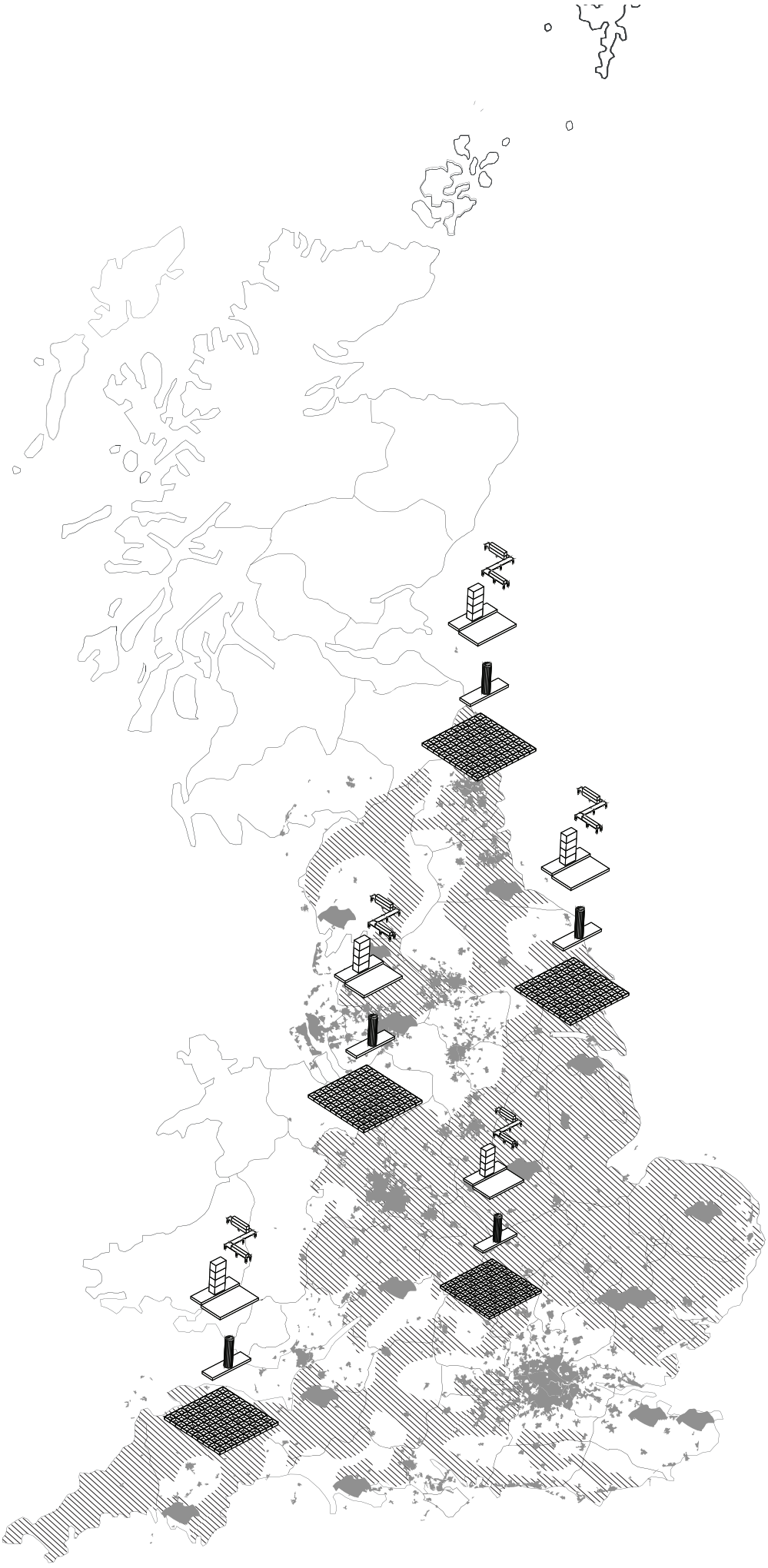


FIGURE : Replicating the design to reappropriate the UK rural landscape

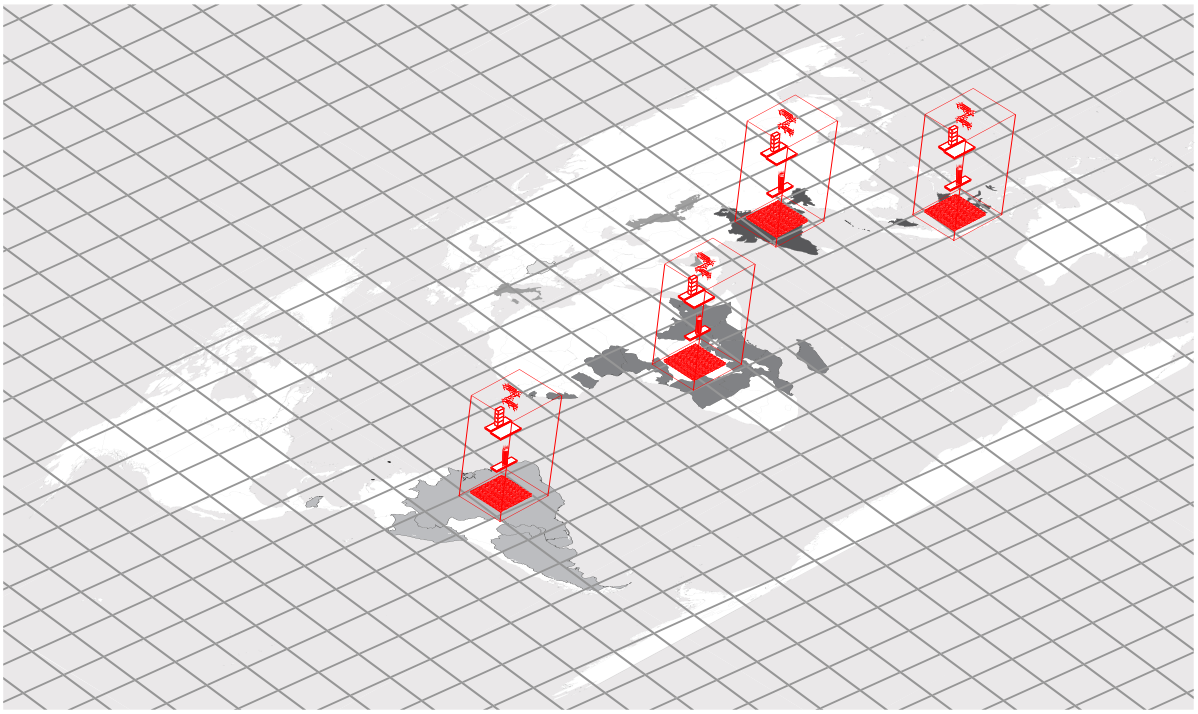


FIGURE : *Replicating the design to give acquired land within UK's former colonies , drawn by author*

Considering the fact that almost 60% of UK's rural land while being productive is either privatised, heavily industrialised or at the risk of future urban growth, the proposal to reappropriate farmland into smaller communal parcels will work effectively within UK . Since the elements of the design module can be replicated globally as a new masterplan for the rural cities which can both give back valuable land to communities and also increase productivity with efficient utilisation of technology and investment .

The context of Delhi ,is a perfect example of a colonial city which once had a strong rural character but over the years with gradual industrialisation became one of the most densely populated cities in India Along the fertile banks of the river Yamuna, that cuts through the city dividing into two unequal eastern and western halves, ruins of the industrialist landscape are very much visible . The proposed design can become an effective way to repurpose these post-industrialist ruins into small productive islands within the city where food can be produced and sold at a much cheaper rate since the cost of the logistics will become minimal . Furthermore , by utilising technology effectively ,parcels within these food islands can also be rented out to farmers during high drought seasons or unfavourable weather conditions .

Thus, the proposal for the new rural city will not only provide UK with new productive land , and empower farming communities equally it can also effectively reduce the act of land grabbing on a global scale while opening the avenue for a new food economy , where investments can be directed towards introducing and exchanging services

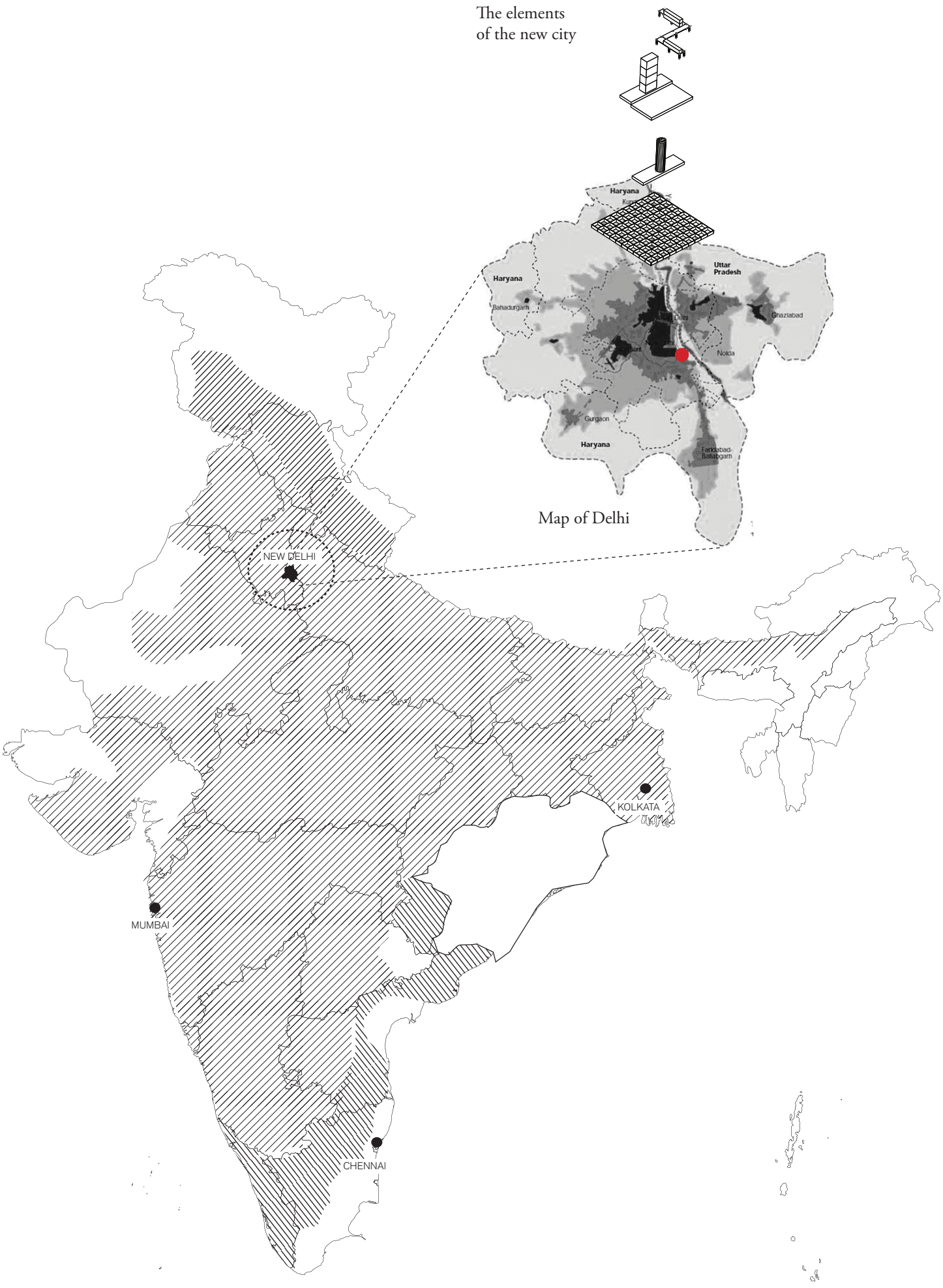


FIGURE 00 *: Existing arable land in India ,* Source : National institute of Hydrology, India 2012 *drawn by author*

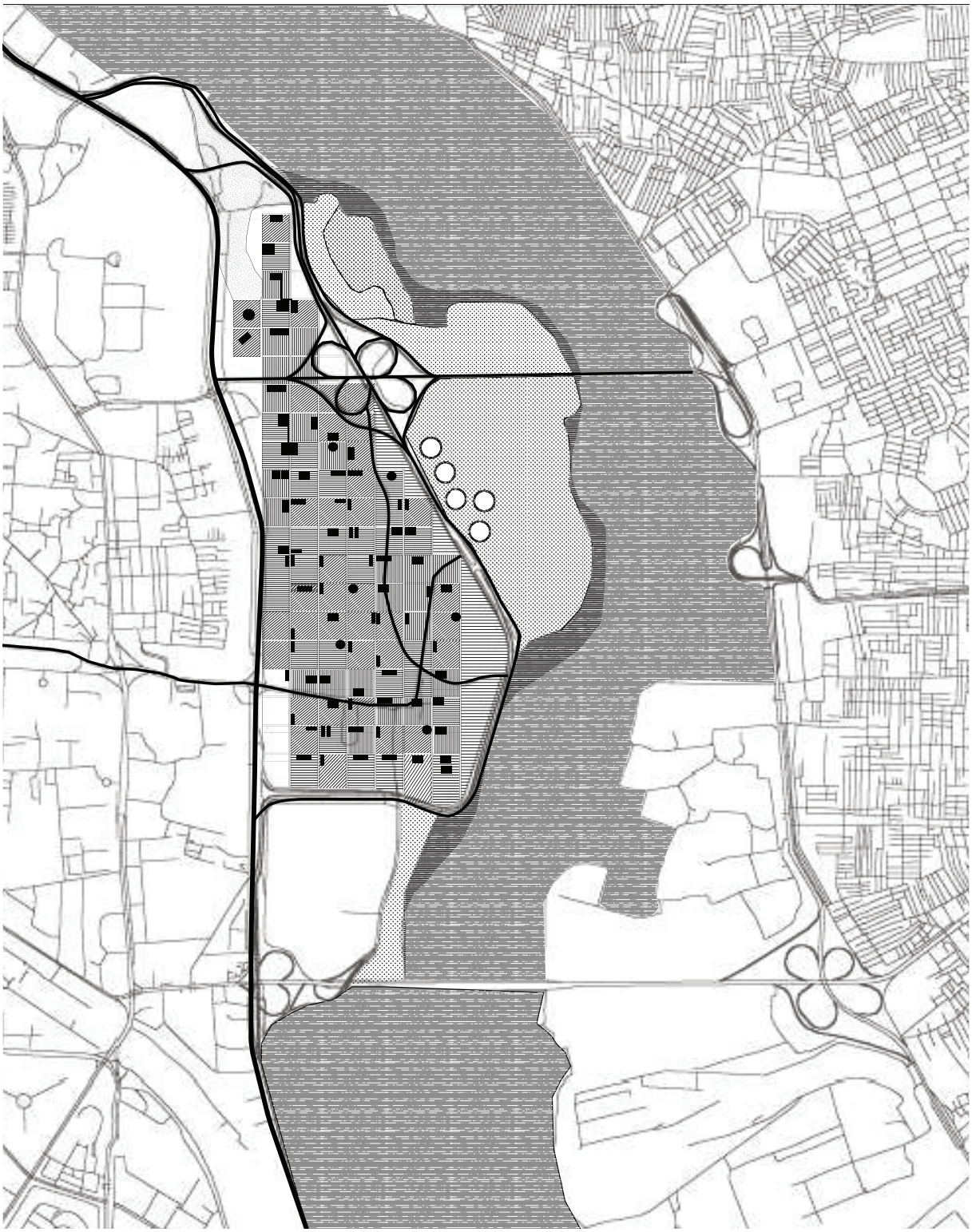


FIGURE : Placing the design in the post industrialist landscape of Delhi , seen here the Rajghat powerplant land reappropriated , drawn by author

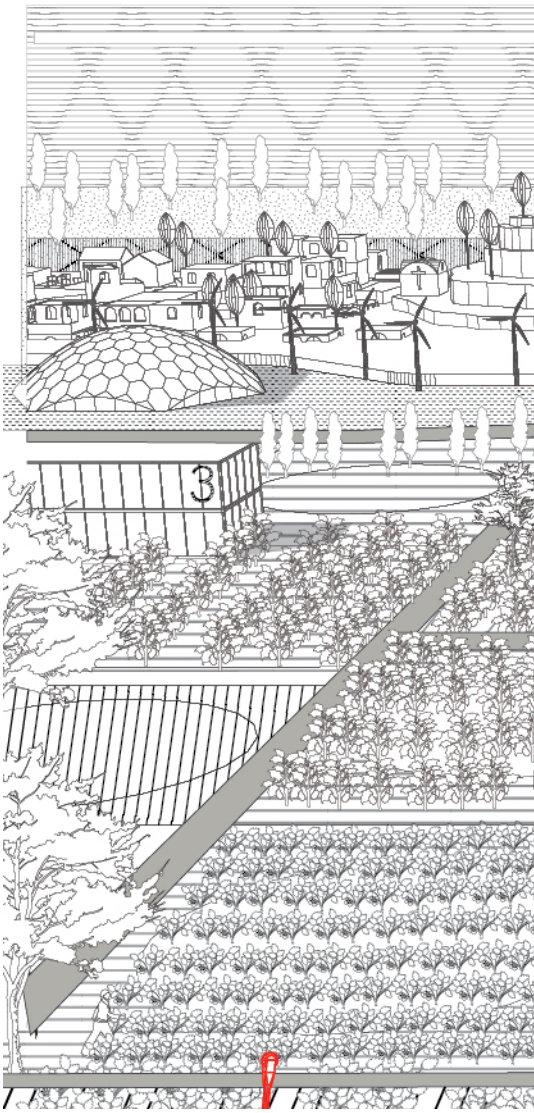
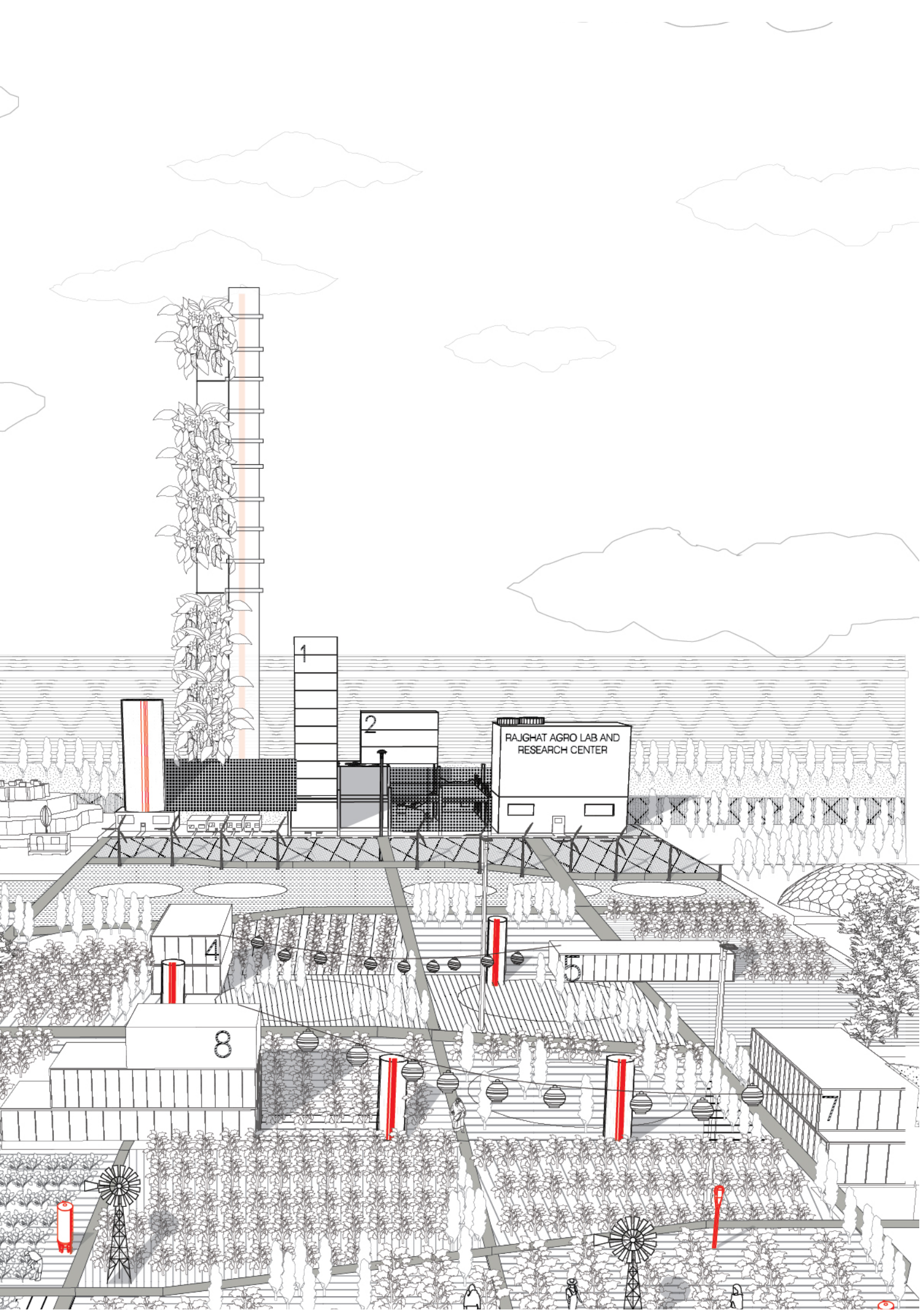


FIGURE : **Repurposing the post industrialist ruins of Delhi :** Reclaiming vital productive land within the densly urbanised city of Delhi by repurposing abandoned ruins of the industrial city , in this case a non functional coal based powerplant along the banks of the river Yamuna that could be reappropriated and sold out to farming communities around the city to make food available at a much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RAJGHAT AGRO LAB AND
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Part 03 : Commercial food production and labour

The mechanised commercial farms :

By reducing the footprint of animal based farms the rural city creates a new typology of concentrated farms where all activities of animal based production and distribution are internalised so that land can be utilised for other productive purposes . In doing so , the new animal farms have been reimagined as highly mechanised multi-level towers that need little or no manual supervision . This reduces the usual competition for labour between commercial and non commercial farming practices , and also makes commercial farming an expensive method of production which can help in eventually pushing towards a more sustainable consumption pattern .

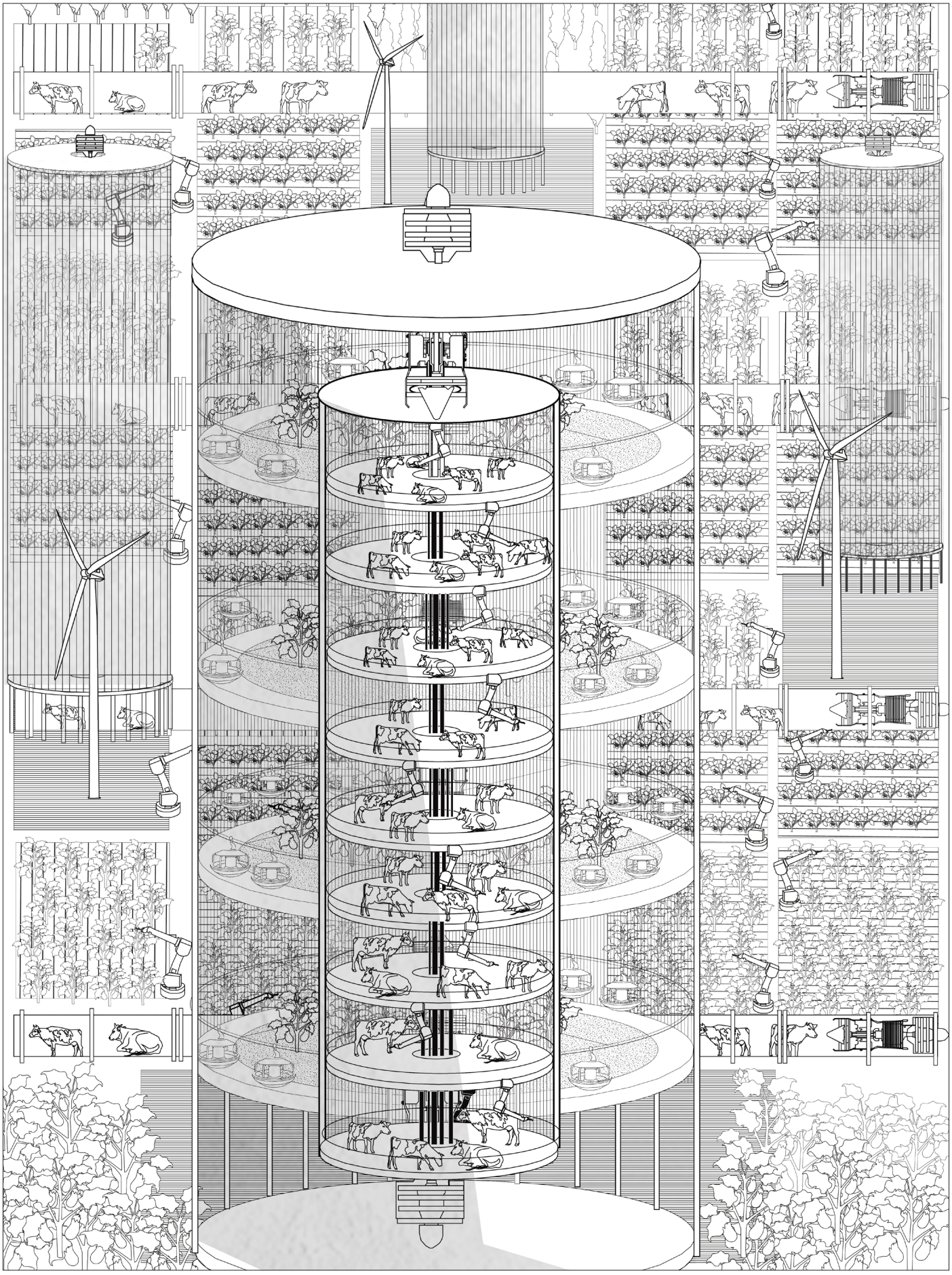
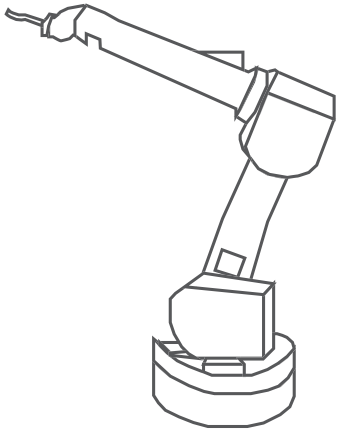


FIGURE : The new city internalizes all animal based farms into highly dense agro towers that can effectively combine both animal farming and commercial food production and will be heavily dependent on technology based labour

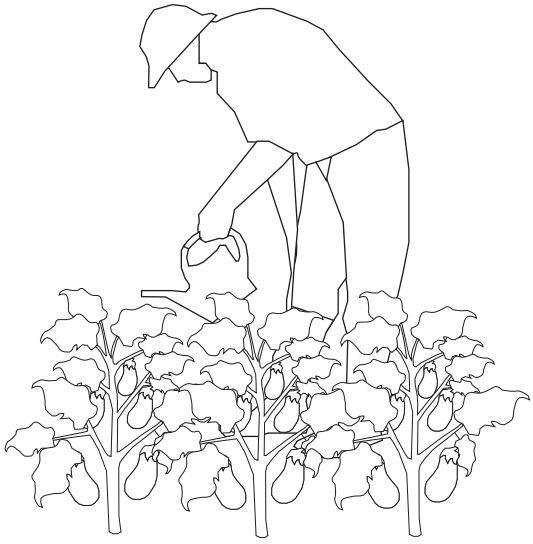

Southend
Organic Juice
NEW SOUTHEND
Southend farm fresh
VEGETABLES
Nature's basket
Good taste - Good heal
BEST QUALITY
LOWEST PRICES
TOWER 03
Community farm
Community farm
Beckett community farm
FRESH FRUITS



Fully mechanised commercial food production

The manual communal farms :

The communal farms will be mainly allowed to grow short duration crops that would require constant upkeep and maintenance making it a highly labour intensive production activity . While the communal farms are under the care of the communities that collectively own the land parcel , the farmers on the other hand will be allowed to grow long duration crops in larger open farms . The main objective is to incentivice organic farming and make it more labour intensive by utilising the opportunity to introduce new agricultural reforms in the post Brexit UK .



Manual labour on communal farms

Part 04 : The port and the changing food economy

Since the new rural city internalizes food production therefore producing , processing and packaging locally grown food. This also opens up the opportunity to re-imagine the function of the port . Since the port already acts as an autonomous unit with a much more relaxed tax and custom duties, the port with the help of all the existing infrastructure connected with it can transform into highly mechanised independent public private farms that can continue to trade with the EU and help fill the gap in the food market that is expected to come after Brexit .

Much like the elements of the industrial city the various infrastructures of the sea can be transformed into new productive units of the independent port farms.

Port of Dover warns of 'regular gridlock' in event of hard Brexit

Port's head of policy says there will be serious congestion without a suitable trade deal

1,293

▲ Lorries queue on the M20. Port chiefs sai
Photograph: Gerry Penny/EPA

The port of Dover has warned
week in the town and on surr
a Brexit deal involving frictio

Richard Christian, the port's h
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tr
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Secret government 'ARMAGEDDON' report reveals Brexit will leave Scotland's supermarkets empty

Andrew Learmonth @andrewlearmonth
Journalist

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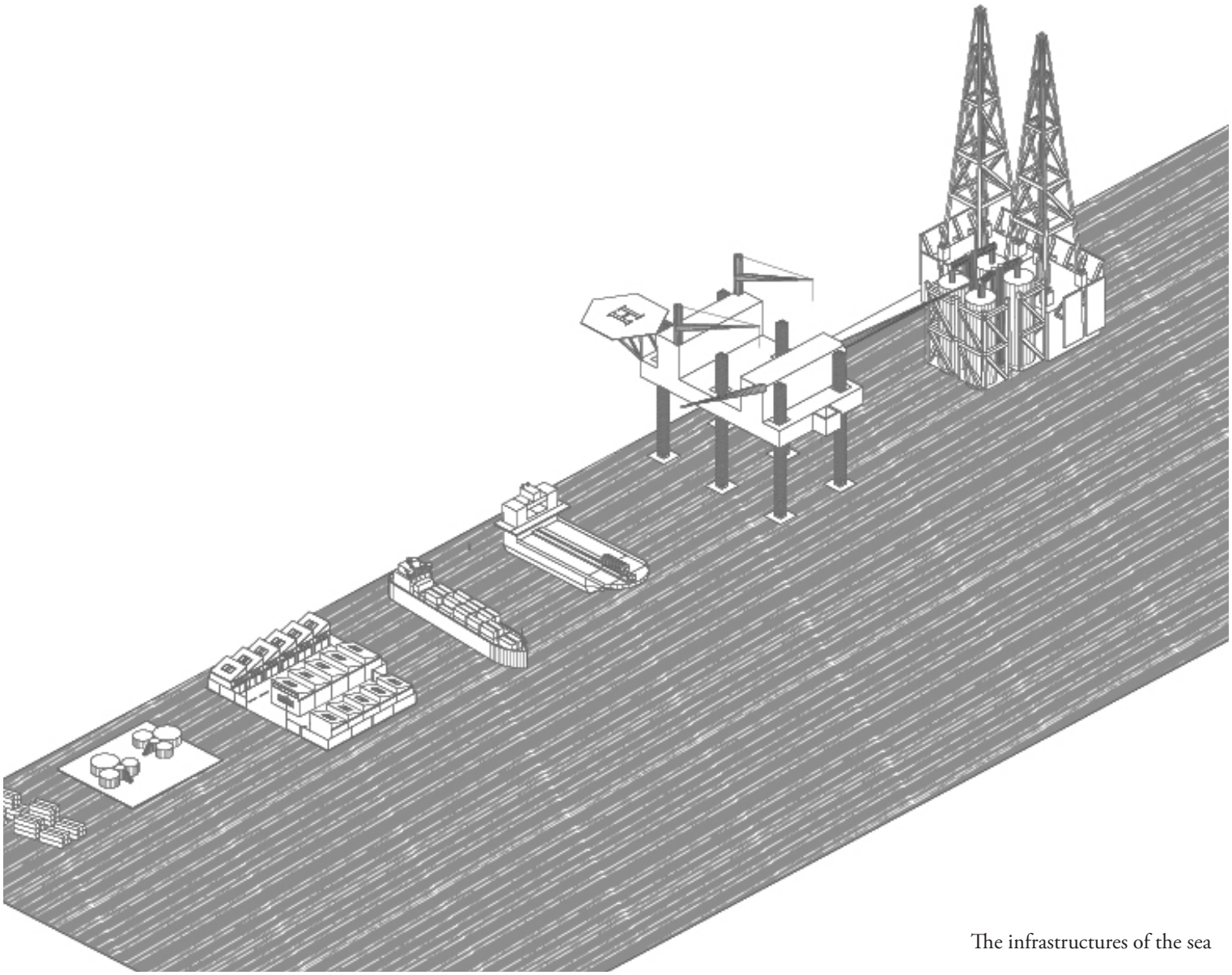
5 Glasgow tells Katie Hopk where to go after refugee

wling tried to attac – and got it all wr
E: Here's how to m Todd's tablet
Minister says it's n on' for staying in s et post-Brexit
K for Scots to hope ne But England win l Cup?

'Armageddon' Brexit: 'No deal' scenario could hit fuel and food

UK officials have warned that leaving the EU with no deal could immediately cripple trade, a newspaper report says. In one scenario, there could be food and fuel shortages within two weeks. And it could be even worse.



The infrastructures of the sea

The port of Dover reimagined as a new territory of production

Reflection

PART I

Research + design

The complex landscape of the North Sea coupled with its significance as a geopolitical territory makes it a relevant starting point for understanding the imminent issues of the environment from a global perspective . Taking UK as my subject, I began with a broad investigation of its historical , political and territorial expansion while simultaneously tracing the morphological evolution of the North Sea through each stage. This approach provided me with enough evidences regarding the influence of the sea not only on the evolution of UK's geographical and political territory but also globally, as it laid the foundations for an empire that thrived on the use and exploitation of overseas land and resources. The complexity of the site necessitated the need to narrow down the scope of my project to only one of the many elements I identified during the initial mapping phase. I decided to focus on the system of food production within UK for three specific reasons - 1). The food trade and production was fundamental to British trade since the onset of maritime logistics and continues to be one of the most globalized industry's of UK till today . 2). Since the British food industry is heavily import dependent any kind of predicted or unpredicted (global) change in the near future for UK - Brexit, increasing migration, increasing urbanisation, climate change etc. will pose a major threat to the functioning of this industry. Thus making it a crucial factor to be considered in any future urban or policy based model. And lastly, 3). The current methods of production and logistics within UK's food industry are dangerously widespread and unsustainable and have been recorded to have serious environmental impacts globally.

By narrowing down the focus of my research, I was able to recognize how the conjunction of the sea and the land became a departure point for radically new decentralised systems of food - production, manufacturing ,trade and profit. Together these systems have irreversibly altered our modes of living and consumption and till today continue to have serious environmental and economic impacts on a global scale. This globalization of food trade and production also demanded the creation of new urban typologies such as warehouses, rail and shipping docks, barracks, large housing blocks, goods depots, factories, that permanently transformed the fabric of the city and rendered the rural area as a defunct space of production. The increasing industrialisation in the post colonial era compelled the re purposing of land from a space of production to a space of living and manufacturing and prompted a drastic change in the nature of land ownership and liability. Many global events including especially the recessions in 1975, 1982, 1991 and 2009 can be understood as a direct result of this reckless devaluing of land productivity , ownership and accountability. The results of this shift will only become more visible post Brexit when it will become increasingly expensive to feed UK.

This understanding of the North Sea - UK relation and its perceptible impacts both globally and at the urban scale provided the conceptual basis for my project and laid the foundations for my main research question : - *Can a radical redesign of the systems of food production within UK help rehabilitate the 'rural' as the new territory of the self-sufficient living- productive city , so as to be able to subvert the global impacts of its unsustainable food demands in the post Brexit future?*

The research question fed directly into my design, providing me with three clear design aspects - designing for an alternate and more sustainable system of production , designing for the 'rural' with a clear understanding of its urban quality and functioning and lastly designing to monitor and decrease the possible environmental impacts of UK's food consumption. I related each of these aspects with a specific spatial answer (eg - reducing mono cultures, inserting disaster resistant crop and farming types, introducing tech-based farming to increase productivity and re purposing less fertile areas) that I could then insert into the rural fabric to create a new system of living and production.

It was interesting to realize during this process that mapping is a far more intuitive process than I perceived it could be. During this stage I made a conscious effort to detach from a more rational approach of mapping by which I would have represented what is already visual and instead tried to make it more perceptive so that the maps could become a projected representation of what I wished to accomplish from the site. Like any other design project , my research was extremely crucial in providing me with a valid starting point but in many ways this project also made me realize that the process of researching for design is not always absolute ; any material, any data or any form of representation already entails a bias. As an urban designer dealing with a site as complex as the North Sea ,I found myself constantly looking for scientific validation at the beginning of my research phase which limited my ability to realize the full potential of what I could make out of this project. For example, I utilised a huge part of my research trying to map the physical site conditions such as soil types, rainfall , farming type. Although the research was very relevant it did not directly feed into the design. In fact, the understanding of what should be designed and how it can be designed only came after I replaced fact based research with empirical analysis by which the spatial evidences of the globalization of food trade were discernible.

This approach made me understand the change in the urban form of the city as a direct result of industrialisation and decentralisation of food production and highlighted the potential of the defunct rural (countryside) of England to become the new site for a productive landscape. I combined my understanding of the rural landscape of England with the relevant design principles I picked from projects such as - Wright's Broadacre city , Branzi's Agronica and MVRDV's Plant city in Potsdam to test on site a completely new system of 'rural sprawl' combined with production.

The design proposes a new feudal system of land ownership that allows a collective to own 1 hectare of productive land on which they can live and produce . Depending on the current patterns of consumption , I was able to estimate the amount of additional land and the corresponding increase in yield of each crop by the year 2050 when UK's population is projected to increase to 77 million making it the most populated city in Europe. Subsequently, a 1 hectare typology was designed for each crop type including a proposed ideal ground coverage and density (FAR -floor area ratio,) based on the per hectare yield that is required to meet the 2050 consumption demands (See table). The step to create relative values for ground coverage and FAR was crucial since it ensured an equitable access to land, resources and profits and reinforces the importance of collective benefits over individual benefits. The proposed design takes inspiration from the open-field system that existed in rural England until its perpetual decline after the industrialisation of cities. This system allowed the arrangement of agricultural land into scattered strips that were communally regulated but privately owned, but the proposed design tries to take this a step further by combining communal interests with individual rewards. This is achieved by placing a system for FAR subsidies that allows an individual to go vertical and expand the size of his/her dwelling as long as the productivity targets of the 1 hectare collective holdings are achieved.

The end result does not claim to be a definitive solution to the impending food crisis, rather it is a test of whether the revival and appropriation of one of the most archaic systems of land ownership and profit will be able to diminish the perilous consequences of years of consumerism that was a direct result of colonial industrialisation. The design tries to find a balance between individual and collective needs while highlighting the glaring inadequacy of design to find a conclusive answer to a problem that clearly demands a radical revaluation of the present systems of governance and society .

Farming type	Current total yield A	Current per hectare yield B	Projected total yield A X 9	Projected per hectare yield B X 9
	(million tonnes)	*(tonnes / hectare)*	*(million tonnes)*	*(tonnes / hectare)*
Cereals	23	2.5	207	23
General crops	2.4	0.26	22	2.4
Horticulture	3	0.30	28	3.0
Pigs		0.5/ Ha		5.0/ Ha
Lambs		3.8/ Ha		34.5/ Ha
Poultry		20 / Ha		180 / Ha
Cattle / livestock		1 / Ha		10 / Ha
Dairy		0.17 / Ha		1.6 / Ha
Beef		0.2 / Ha		1.9 / Ha

PART 2

Graduation project vs graduation studio

For this year's graduation studio Delta interventions focused on the territory of the North sea encouraging the students to understand the tensions between land and sea as a complex overlap of environmental, political and societal forces that could be addressed collectively or individually. My project delves into this concept by understanding the territorialization of the North sea as a result of the changes on land. Taking the British colonial empire as my departure point, I tried to trace the evolution of the sea, from an unconquerable territory full of unfamiliar sea monsters to a contested territory that is today at the heart of global geopolitics. I found evidences of this changing role of the sea in the dynamic urban form of the city - from the open field system within an agrarian city where social equity and collective sustenance were paramount to an enclosure system within the industrial city where capital gain was more important than collective sustenance and profits . I understood these two systems as an imitation of the hierarchies within nature from a collective co-existence of the land and the sea to the eventual domination of the sea. By proposing a new system of land allocation, production and living, the project tries to highlight the importance of reimagining the city as a design for the collective which has the potential to both embody individual sovereignty and ensure the equitable distribution of public goods. By internalizing the systems of production and distribution within the city the project tries to contest North sea's current role as a facilitator of an unequitable decentralised global trade .

The project provided me with an opportunity to address issues of sustainability via a less explored logic of social equity and justice . Through the design, I was able to explore 1). how urban form could play a crucial role towards a sustainable consumption by overlapping the space required for living, production and distribution, 2). how urban form could promote a sustainable lifestyle by reducing the footprint of intensive farming activities and allowing collective small scale commercial farming of pasture and cattle. and lastly 3). how urban form could facilitate the equitable distribution of common goods using comparable ratios for productive and built land for each crop type to ensure a uniform per hectare consumption. As an urbanist who has to deal with several stakeholders , it was important for me to explore how design can also embody different forms of governance. Furthermore, understanding and designing within a system of collective ownership and common benefits as part of an academic project allowed me to test a complex theory without taking into account the unfavourable outcomes which provided me with an in-depth understanding of the relation between the land and sea that would have otherwise been difficult to explore professionally.

PART 3

Methods

The method of approach for this project can be categorised into three broad steps ; The first step was *Disassembling the site* : Using mapping as a primary tool of investigation the project research began by creating an inventory of maps at two scales. The UK scale to understand historic evolution, territorial expansion, development of ports,waterways and the evolution of the coast. The North Sea scale to analyse geomorphological systems through erosion, accretion and sediment flow studies. The overlaying of maps further helped in establishing certain relational identities and

isolating the various operable systems of the sea and land that were useful to understand the influence of the sea not only on global trade and logistics but also on the morphology of the city. This step reiterates Corners method of re-making territory over and over again where the process of overlaying is crucial to understand the new and diverse consequences of the various systems of the site (2002, pp. 213-215). Overlaying became a method of empirical analysis by which I was able to easily recognize the various multi-scalar interactions between the sea and the land that were able to redirect the influence of the colonial expansion on the fabric of the city . This stage was important to understand the macro-scale especially with respect to the North sea and was useful in mapping the social, economical and ecological processes that informed the spatial patterns of the city .

Following on from this the second step of my method of approach was *Understanding the site components :* This step was extremely crucial in establishing a theoretical framework for my project that not only led me to the project hypothesis but also informed my design considerably . The theoretical framework was guided by an extensive literature review that was useful in tracking the evolving approaches to rural redevelopment , with a special focus on the approach towards agrarianism. While the first phase was useful in de constructing the site the second stage was helpful in identifying the components of the site that could be used for both thematic as well as design exploration of the project. Identifying specific components to work with eg - rural countryside, densities , 1 hectare typologies, grid superimposition etc, were essential to condense the logic of reasoning into speculative strategies that facilitated the design to address collectively the wide range of issues - social, political , environmental and economic identified previously.

Lastly, the final step of my method of approach focused on Re-assembling the site ; The first part of reassembling involved identifying a discreet site where the design strategies could be tested , for this I decided to focus on three factors a)farming potential : to identify sites with high to medium grade soil, favourable permeability and suitable rainfall b)Rural risk : to identify the undesignated rural areas that have been included within the future growth plans and c) Urban risk : to identify future urban areas that need urgent rehabilitation due to the impending risk of flooding . Following on from this by combining the analysis done in step 01 with the set of components that were identified and found relevant in step 02, I was able to formulate a set of speculative design strategies that could be translated onto the selected site . Crucial to the process of testing my design strategies on the site was a projected calculation of the land and yield requirements within the selected time frame. This calculation was guided by the scientific data I gathered during the research phase and it eventually served as a very crucial unit of measurement to test the applicability and relevance of the project on the micro as well as the macro scale. A major part of my project was also shaped by the various tools and references that were provided by the graduation studio mentors. While the group work aided the territorial analysis and the thematic exploration within the broader North sea context , a series of master classes on site perception, image making and mapping was useful in developing different methods of 2D and 3D representations.

PART 4

Social, professional and scientific framework

The project tries to visualise a new concept of the city, where new forms of inhabitation and land occupation will be able to augment its resilience and self sufficiency. Since food is a natural derivative of productive land, land becomes a key element of the project narrative. Through the concept of land appropriation the project tries to establish new relationships between natural and man-made systems. By proposing new ways of occupying , owning and utilising land the project tries to redirect the conversation of sustainable living towards the rural. Furthermore , the strategies of urbanisation employed in this project address directly the current shift towards compact cities. Using a systematic sprawl the design tries to highlight the flexibility of a decentralised city to be able to accommodate and respond to future uncertainties without compromising on the sustainable and efficient utilisation of land.

Regarding the question of wider societal relevance the focus on food sufficiency directly relates the project to a much larger global issue. In a time when geopolitical and economic systems are dictating the future of our land and resources, food sufficiency becomes a much larger political debate. Knowing full well that the complexity of this issue is beyond the scope of this project , the design still tries to challenge this multiplicity by developing a counter narrative that puts forward new forms of land appropriation. The project does not want to look at a context specific answer , rather it uses the process of design to identify the best possible tools to reorganize the systems of power at different scales. This allows the design to be universal and adaptable. By tracing the spatial impacts of an industrial economy the project also redirects the current discourse on sustainability by highlighting the importance of social equity as a necessary measure for environmental sustainability and climate resilience.

Lastly, with regard to my own professional development the project was crucial to learn the importance of consistency in both design and research. The complexity of the North sea context brought forth several aspects of research and design that I would have otherwise overlooked as part of an academic project. Furthermore, the process of reducing and /or eliminating information was perhaps one of the most important tools I took away from this project. It made me understand the necessity of spatially visualising and translating every relevant as-

PART 5

Ethical issues and dilemma's

A key focus of the project was to highlight the global impacts of a decentralised food industry with a specific focus on UK's former colonies . In that context it was important that the design always address the issue of food sufficiency from a global perspective, which was not necessarily always in favour of UK. At many points during my research phase this conflict became evident , while my theoretical research reinforced the continued dangers of UK's post-colonial food empire, my site specific research brought forth the various environmental and urban risks that were limiting their productivity. On several occasions I found myself debating between the importance of the intent of the design over the applicability of the design. This was one of the reasons why the design was developed as a replicable model that while addressing the site specific issues within the UK , is also able to be re-appropriated else where. Considering an urbanists profession is becoming increasingly multidisciplinary the possibility of encountering a design project that might have equal and opposite effects on its environment is probable. Therefore, the need for a flexible , replicable design model like the one proposed in this project increases all the more. The designer can no longer be definite, he/she needs to be adaptive and reiterative. Such a prerequisite also needs to be complimented by necessary digital design technologies and complex algorithms that can help rationalize the multitude of climatic and environmental parameters, technical necessities and economic and geopolitical uncertainities.