City Space Architecture

REPORT FROM 'PAST PRESENT AND FUTURE OF PUBLIC SPACE'

Urban Design for Super Mature Society

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Abstract

This paper aims to discuss an experience in teaching and learning urban design-research studio at The international Program in Architecture and Urban Design, Meiji University, Japan, in 2018. The studio attempted to address a specific context of the advanced aging and shrinking of the city in Japanese society through urban design thinking. By applying a research-led teaching method which requires students to search and respond to the resource approach to sustainable urban regeneration, the studio seeks creative and responsive ideas which could create an alternative to the decline of urban fringe in a specific context of an old new town suffering from the advanced aging demography.

With our main interest in the research on requalification, the studio was seeking to explore this concept in urban design scale. This design-research studio tried to identify and later applied the keywords with prefix "RE-s" as statement and conceptual thinking in the production of space. The area of investigation is Tama New Town located in Tokyo's western suburb. It is the largest new town ever developed in Japan during the period of rapid economic growth in the 1970's. Its design, which adopted the modernist planning concept, has become problematic in today's situation. Half a century has passed, the new town, which never achieved its goal, has aged and is facing several socio-economic challenges.

The aim of this urban design-research studio is to reach beyond just technical problem solving by spatial design and instead exercise the responsive strategic thinking to address the current alarming issues of the aging and shrinking society which, we believe, important to the New Urban Agenda proposed by the UN-Habitat. Here we tried to address specific questions; how should urban design respond to the shrinking society? How can urban design thinking address the situation where there is no "growth" and oppressed with super-aging neighbourhoods? And how can we re-shape the environment that will be less and less inhabitable? Within this studio, students are encouraged to respond critically and creatively in overall strategic planning, urban and architectural design including the design of public space for a sustainable future.

Keywords: urban design, aging society, requalification, Tama New Town

I. Introduction

This paper aims to share knowledge and experience in teaching urban design-research studio that attempted to address the alarming issue of the Japanese super mature society. The scope of this paper is to reflect on one particular design-research studio during the spring semester 2018, focusing on a specific site in Tokyo. It may not correspond to aging problems in other places but it could produce an applicable outcome for other places in Japan or elsewhere. The paper has a pedagogical aim to share our method of how to stimulate critical thinking and how to trigger students' creativity to conceptualise alternatives to the usual "scrap and build" which dominate the current Japanese building industry. This urban design studio is entitled "RE[1]-s" as a philosophical statement in the production of space. We attempted to draw inspiration from the term *requalification* and use it as a key concept in urban design with which we hope to effectively address the issue of the super aging society and shrinking city in Japanese society.

Aging Japan

Japan is the most aging society in the world. Its population of 15- to 64-year-olds, which is the active age group, started shrinking in 1995, about the time the country descended into the "lost decades" of economic stagnation and deflation. In 2006, it became the first country with more than 20% of its population at 65 or older. By 2050, that is projected to exceed 35% (Foster and Doyle, 2019).

The aging phenomenon is not only happening in Japan; China and South Korea are facing the same problem. The outlook for all three countries is worse still: From 2020 to 2060, working-age populations are projected to drop 30% in Japan, 26% in South Korea and 19% in China, according to the Organization for Economic Cooperation and Development. These estimates are based on an especially broad age group of 15 to 74. Pensioners aged 65 or over are expected to make up more than 30% of these countries' populations by 2060. Hong Kong, Singapore and Thailand look destined to follow similar trajectories (Obe, 2019).

In Japan, demographic change is occurring more in the rural and urban fringes as young generations move to the city. The mortality rate exceeds the natality rate for the first time in Japan since 2005 and Japan is now constantly losing population. However, Japan's biggest cities—Tokyo, Yokohama, Osaka and Nagoya— are growing (Foster and Doyle, 2019). The problem of an aging and shrinking society has brought other connected problems such as a labour shortage, especially in agriculture and healthcare sectors. With the change of family structure and lifestyle, the solitary death of the elderly at home has increased dramatically. The number of unclaimed urns at cremation facilities proves the seriousness of this problem. Moreover, the lack of family and social supports pushes many elderly ex-convict males to return to prison. In addition, the suicide rate among desperate elderly people with old-age parents has also increased. The spatial effects of the loss of population density can be seen through the "shutter street" (closed shops), abandoned schools and healthcare facilities in many small towns and suburbs of big cites all around Japan. The "ghost town" phenomenon presents an uncertain future of Japan's rural and countryside.

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[1] Word-forming element meaning "back to the original place; again, anew, once more," also with a sense of "undoing,", from Old French and directly from Latin *re-* "again, back, anew, against."

Government policies addressing aging problems tend to be geared towards technological solutions such as healthcare assisted robots and related IT gadgets, which have been produced in big number to support the elderly people. The issue of opening up Japan for skilled immigrants to substitute the labour shortage is still quite sensitive one and it has only recently been discussed and implemented by the government (Deguchi, 2018).

The aging of society is becoming a global issue in the developed world. Conversely, this can be seen as a sign that there is a foreseeable limit to growth. Therefore, we go against the existing neoliberal capitalist paradigm which is obsessed with growth and challenge it with more responsible alternatives. Based on this thinking, the design-research studio is prepared to assert a different standpoint in relation to the shrinking phenomenon by seeking the potential to readjust our urban environment for a sustainable future.

II. Requalification

In this studio, we wanted to emphasise the significance of requalification in the resource approach to sustainable city. It starts with the research component by addressing and theorising the terminology and practices of requalification, expanding its importance to not only environmental but also cultural sustainability. The research underpinning this studio was inspired by the idea of upcycling, which emphasises the comprehensive understanding of the material dimensions of products and the importance of design that can move beyond the less bad (recycle) to the realm of "simply" good (upcycle) practices (Braungart and McDonaugh 2002, 2013). We question the current emphasis on reuse as too narrowly functionalistic and on recycle as too scientific and neglect the "form" and focus only on the materiality. Therefore, we propose the broader idea of requalification which include the cultural aspect of values other than functionality, monetary and materiality but to recognise diverse emblematic, sign, environmental and other dimensions of reality.

The requalification concept starts with criticism of the sectorial way of thinking about material objects and an inadequacy of instrumentalised ecological philosophy associated with such thinking and establishes the need for transdisciplinary approaches to the production of knowledge about material objects and spaces. We argue that sensitive requalification of existing resources and built environments generates novel and culturally attuned qualities.

At the initial stage of the studio, the discussion of several cases of requalification across scales portrayed various degrees of complexity and demonstrated how those practices correspond to the more profound eco-cultural sensibility. Subsequently, we examined the crucial roles of art and design in requalification, which have the capacity to commemorate the non-measurable values of objects and spaces. Seen as an active synergy between the culture of reuse and local creativities, requalification provides more responsive alternatives compared to the practices driven by dominant global, capital-led development, which generate an unsustainable sameness across the world.

Resource Approach

One of the ways to understand a resource approach to the sustainable city is to examine the metabolism of cities and identify the flows of resources and products through the urban system for the benefit of the urban population. These material flows are in the

form of inputs (energy, goods and food) and outputs (waste and emissions), the amount of both inputs and outputs and their impacts to the environment indicate how sustainable the cities are (Giradet, 1999; Rogers, 1998; Wolman, 1965). The metabolism of most contemporary cities, which operate under the current influence of the neo-liberal market and capitalist paradigm, is linear, meaning the cities require vast inputs and discard an equal amount of outputs. Today's society of consumption is broadly dictated by two business models: design obsolescence and perceived obsolescence, which drive consumers to accelerate their consumption and disposal of goods more quickly. These business models increase both the inputs and outputs of material flows in our society.
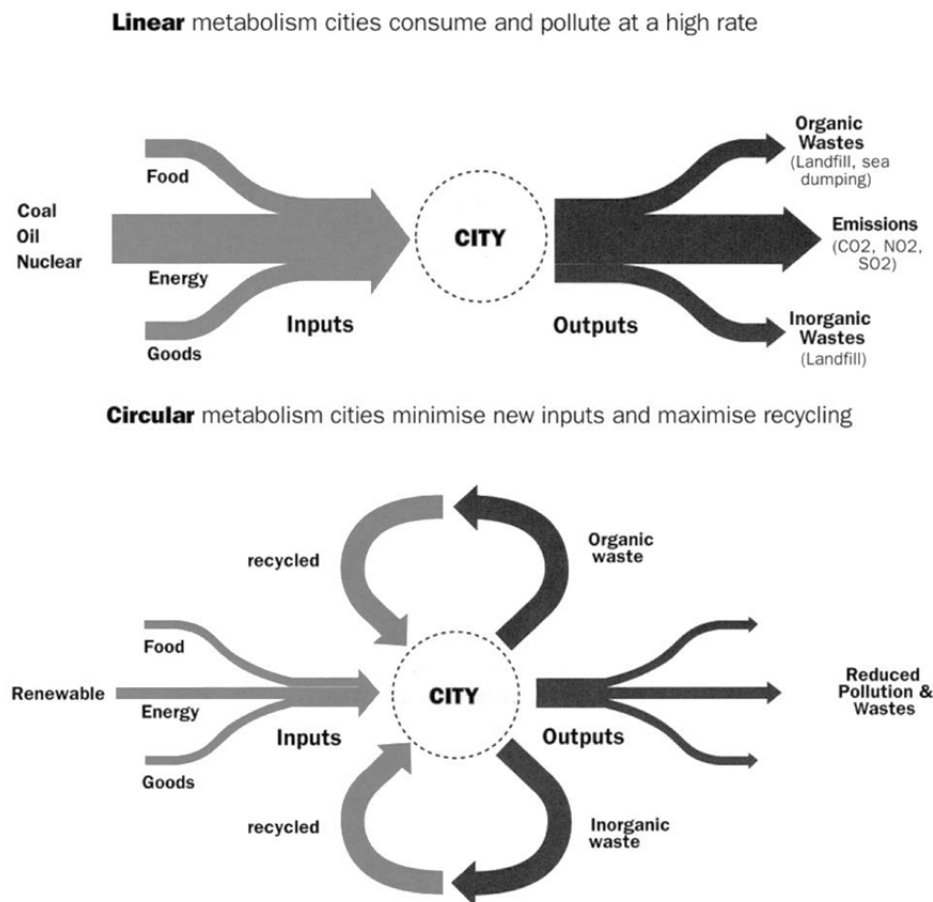
Figure 1: Diagram of metabolism of city by Richard Rogers. Source: Rogers 1998

Many scholars therefore argue that to achieve urban sustainability, cities must close the resource loop and behave like natural ecosystems which have an essentially circular metabolism by reusing, recycling, remanufacturing and diverting material flows within the consumption sphere.
The diagram of linear and circular metabolisms of cities communicates the overall concept of these flows well; however, they risk being too reductive. Cities are the most complex creations of humankind and, especially when it comes to the concept of sustainability, the metabolism alone cannot justify the sustainability in the holistic view. The diagram could

assist with understanding the material and energy flows quantitatively through the cities, but it has certain limitations. The qualitative aspects of cities and sustainability in terms of equality, social justice, good governance, and cultural sustainability cannot be justified in this reductive model. It risks misreading and misleads that material recycling alone is the solution for sustainable cities. We cannot simply assume that cities with good recycling systems are the most sustainable.

Less bad is not good enough

Tokyo is a good example of a city that possesses one of the most efficient waste management systems in the world. The metropolis of 37 million inhabitants is clean and meticulous thanks to the effective collection, separation, pulverisation, and incineration of garbage with the most cutting-edge technology. In this system, 85% of the garbage is incinerated in the municipal furnaces that work around the clock. This system depends mainly on fossil fuels, of which 90% are imported. In this regard, Tokyo uses the technological solutions of waste management to compensate for and justify unsustainable practices such as *scrap and build* which dominate the Japanese construction industry. The life span of buildings in Tokyo is less than 30 years (Tokyo Metropolitan Government, 2011), the shortest compared to other developed countries. Through time Japanese homes steadily depreciate and became economically valueless within 20–30 years. Only land maintains its value; when the owner dies or moves out, the house is usually demolished.

The scrap-and-build practice is a peculiarity of the Japanese housing market that can be explained in many ways: by low-quality construction to quickly meet demand after the Second World War, repeated building code revisions to improve earthquake resilience, a cycle of poor maintenance due to the lack of any incentive to make homes marketable for resale (Berg, 2017) and high inheritance tax which means heirs prefer to sell the property in order to pay the tax burden.

The fast pace of replacement of urban artefacts brings an important question to both environmental and cultural sustainability. The embodied energy and embodied memory in each building is lost due to its short life-span and the city keeps losing its potential tangible cultural heritage in favour of growth in the construction (and demolition) industries. In the case of Tokyo, recycling as technicity over culture can solve the problem of landfill but cannot change the consumption behaviour of its citizens. Recycling is still a myth and depends on energy consumption, and the loss of cultural heritage still continues. Recycling is not good enough. Tokyo is unable to achieve sustainability with technical solutions alone; it undeniably needs a holistic view of the resource approach for a sustainable city which could be possible through transdisciplinary thinking and action.

Complex value system of objects

In natural science, reductionism is the key to investigating objects and their properties by both classification and centering knowledge in very specific fields. On the other hand, scholars in humanities discuss the concepts of value to understand the complex system of objects in our society. The value system of objects has long been discussed by many scholars since Marx and Hegel. More recent views on the value system of objects are about the use (or functional) value, the exchange (or economic) value, the symbolic value and the sign value (Baudrillard, 1996). Objects get marginalised when these values cease

to exist. This is the case of garbage; it gets discarded because it cannot maintain its existence in any value system. These value systems, from the point of view of cultural studies and humanities, are rather anthropocentric by focusing on the values that serve human beings; and therefore, the environmental value is disregarded. On the other hand, when mentioning environmental value, the view generally shifts towards scientific knowledge and, in the majority of cases, narrows down to the measurability of the material components, the calculations of the embodied energy, the carbon footprint and the molecular composition of material. Interestingly when an object is discarded from society it means that its value has ceased to exist and, at that moment, the object is turned into a *thing*. That thing is rejected and pushed out of the human sphere and then becomes a burden to the environment.

Therefore, the concept of this design-research studio is set against the usual practice of *scrap and build* in Japan and explores a more responsive approach within the spirit of requalification. It asks students to search for new meaning or other qualities that could emerge through the various practices of "Re-s". Requalification is not essentially about what to do with the existing physical urban artefacts but more about how the new meanings are triggered. Here the challenge is at the scale of intervention. Many practices of requalification are commonly realized at the scale of artefact towards the scale of architecture, thus this can be applied at the urban scale and territory, creating new meaning to place.

III. Tama New Town

Tama New Town was chosen as an investigation site of this studio for several reasons, mainly because it represents a unique situation of aging in the environment that challenges urban and architectural design thinking.

The Urban Form

Tokyo was severely damaged during the Second World War, prompting a series of visionary plans by prominent architects including the famous Kenzo Tange's 1960 Plan for Tokyo (these were never realized) and development plans by the government, including the National Capital Regional Development Plan of 1958 that proposed a series of satellite towns and a greenbelt around the city. These plans were largely ineffective, and by the late 1960s Tokyo's suburban sprawl remained unaddressed.

Tama New Town was planned when Tokyo became overcrowded. It is a largest state-led residential new town project to address the housing crisis and sprawl in a rapidly changing city. Its primary objective was to build quality housing within a healthful environment on a massive scale. It was planned to respond to the Japanese nuclearization of the family, the motorization of the city, as well as the globalization of the region. Tama New Town would be a model of rational development in the suburbs that would both preserve green space and cultivate an ideal residential environment for the new middle class (Hauk 2015). It was actually intended as an alternative to market-led suburban sprawl by laying out a grand-scale government-led organized housing project; however, it was still in a suburban area.

Tama New Town was located on a topographically rich site (figure 2). The region, known as Tama Kyūyrō (Tama Hills) Region, located 30–40 km to the west of Tokyo on the Kantō Plain, offered a picturesque natural landscape of hills. The Tama River, separating

the site from the Musashino Daichi (Musashino Plateau) to the north, branched off into the Ōguri, Kotta, Ōta, and Misawa Rivers, along which a series of villages were found. The hills, which were 30 to 180m high, and the plains in the valleys around the rivers were topped with Kantō loam soil rich for agricultural purposes. Tama Hills was chosen as a site precisely because of its environmental qualities; the greenery surrounding and permeating town is still visible.

Figure 2: The model of Tama New Town before (1962) and after (1999) showing the transformation of the hills to build the new town. Source: photo by author

The overall masterplan of Tama New Town stretches 14km east–west, and 3km north–south (figure 3). Construction started in 1967, with water and earth works. However, the beautiful Tama hills were bulldozed to make a flat top to ease the construction of residential buildings of *danchi* type (Japanese public housing, often in the form of 5-storey linear apartment blocks). The roads were placed in the valleys. The project started in the Suwa and Nagayama districts in the east, then the development proceeded westwards over 30 years, divided into phases, so that groups of districts were built at one time. Overall, 21 new districts were constructed. The existing villages in the valleys had gone through the land-readjustment program; they were somewhat disconnected from the New Town territory.

Tama New Town was featured as a prominent TOD (transit-oriented development) led by two train lines: Keio Railway and Odakyu Line, with more than 10 stations connect with the sub-center of Tokyo, Shinjuku. Six main stations were created for the new town. Tama Center was planned to be the main business/commercial/cultural hub that fed the new town and nearby region. Therefore, around the station area were mixed-use buildings such as shopping malls and a theme park (The Puraland). There were also plans to accommodate office buildings when the new town was fully developed. However, they were never realised.

The master plan (figure 4) was structured according to a "hard shell, soft cell" framework that fixed the road network as a frame around neighbourhood units which were left undefined.
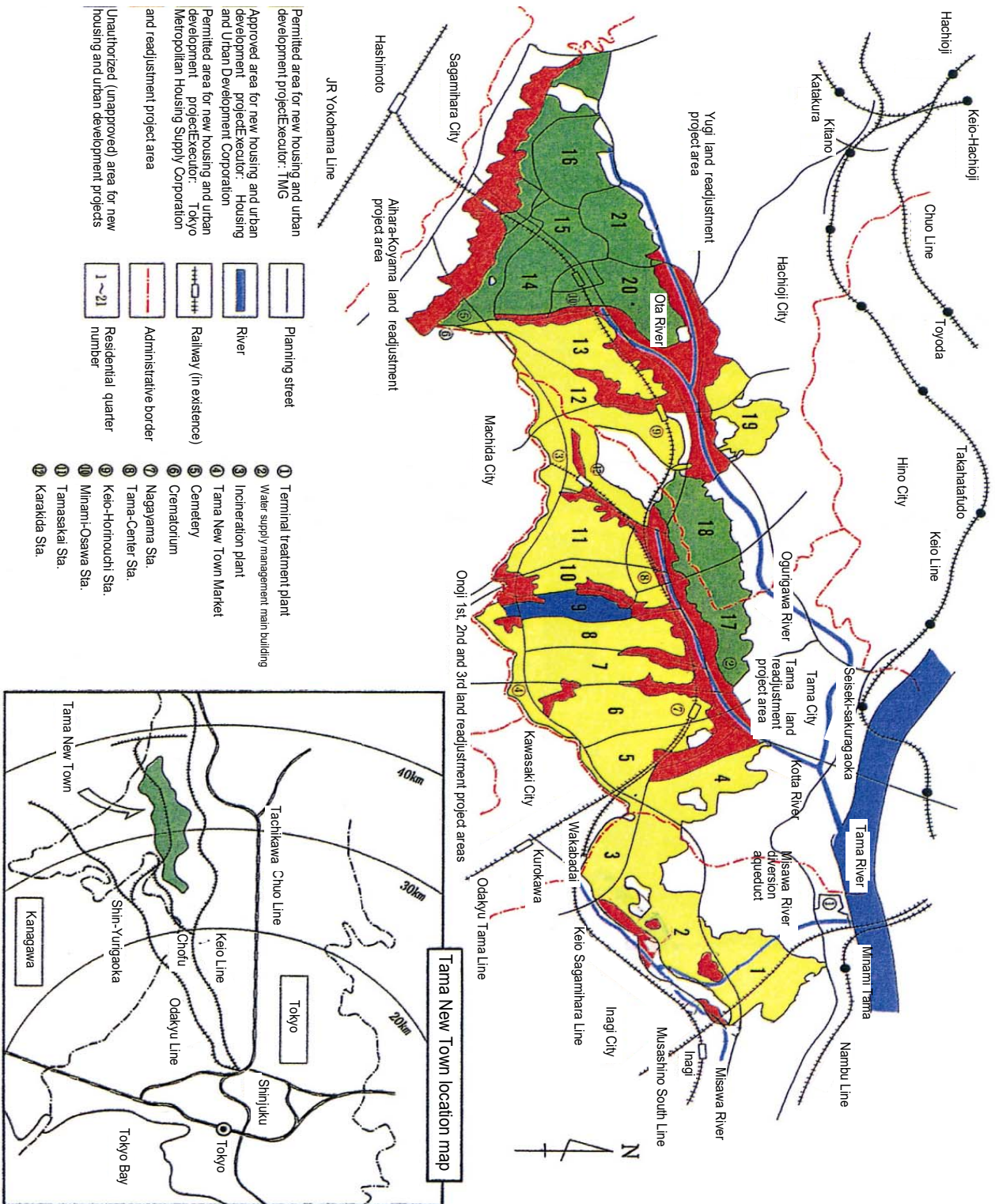
Figure 3: Tama New Town, location and subdivision of neighbourhoods and responsible parties for housing constructions. Source: Tokyo Metropolitan Government 2011
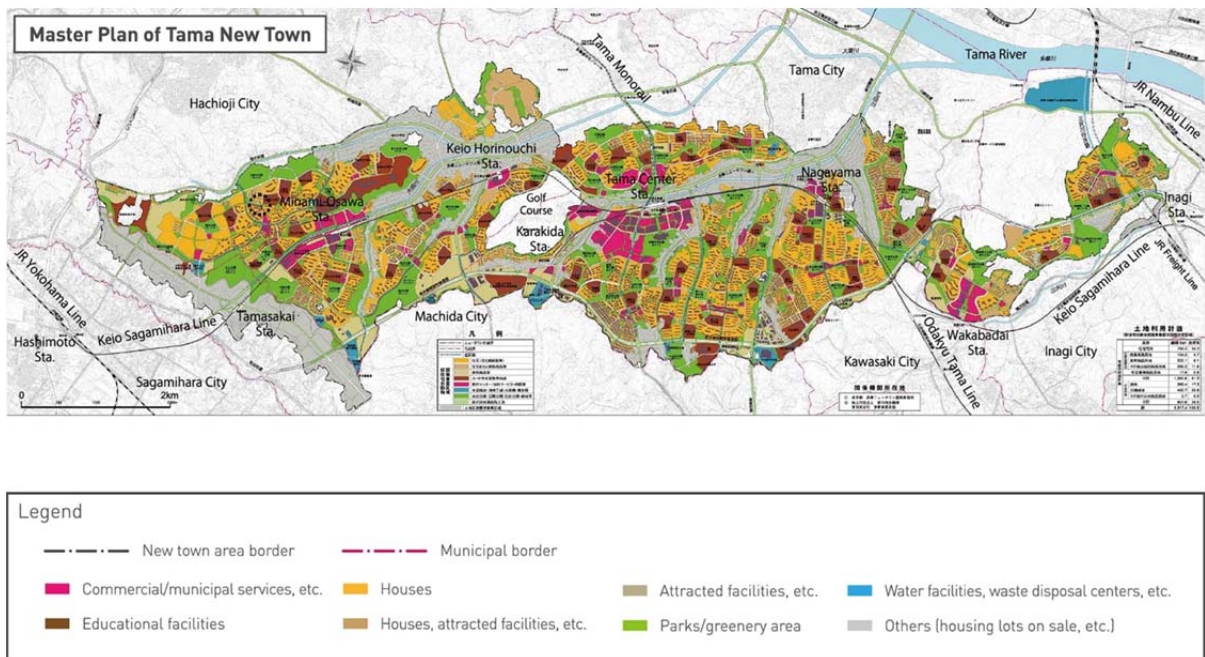
Figure 4: Master Plan of Tama New Town, source: Urban Renaissance

The elongated shape of the territory suggested the development of a linear city by arranging the neighbourhoods along the "urban spine" where the main facilities such as schools, commercial nodes and district centres were placed.

The "skeletal transport infrastructure," or "hard shell" of Tama New Town was an important framework for organizing a project that would develop slowly over time (Hauk, 2015). Each district or neighbourhood was organized as a "soft cell" and was meant to connect with each other via separate pedestrian networks. This "soft cell" echoed C. Perry's 1920s theory of the neighbourhood unit, with some relevant differences (Capitanio, 2018). Each unit almost doubled the size of Perry's unit, both in terms of area and of population. Perry proposed a 400m radius as an ideal maximum walking distance of a square-like neighbourhood. However, in Tama New Town, due to the extended shape of the whole masterplan area and the topography with valleys running north–south, districts span some 2km north–south and some 0.5km east–west. In terms of circulation, there were no streets in Tama New Town. Perry's model had major streets along the borders of the unit, to limit traffic in its centre, following the classic principles of modernist planning; but in Tama New Town roads in the valleys created the complete separation of pedestrians from vehicular traffic. The terrain of the Tama hills, which demands stairs, ramps, flyovers and bridges, is a great burden for the elderly and the physically impaired (ibid).

Tama New Town's final plan, issued in 1965, covered 3,061 hectares and set targets for a population of 286,000 people (342,000 projected) at a population density of 94 people per hectare. By the time of the project's completion in 2005, the new town covered 2,900 hectares, the Japan Housing Corporation (JHC) now known as the Urban Renaissance Agency (UR), the Tokyo Metropolitan Government (TMG), and the Tokyo Metropolitan Housing Supply Company (TMHS), along with a few private builders,

constructed 58,239 dwellings (64,430 planned); the current population is about 220,000 (UR 2018).

Problematizing Tama New Town
Four decades has elapsed, changes in demographics, transportation, infrastructure design, land use, life-styles and housing demand, have made Tama New Town and the many New Towns like it challenging places to live. Tama New Town was conceived with the best intentions to solve the problem of Tokyo's housing crisis in the 1970s. It was a rare example of an ambitious grand-scale project initiated by the government. The modernist movement was in its peak at that time and influenced the design of Tama New Town. The mid-rise low-density model of Tama New Town was a novelty. However, it was not how traditional Japanese cities were made and lived in. The low-rise high-density urban fabric with rich street life, which is the main characteristic of Tokyo, was disregarded. The quality of urban compactness and small elements (Radović and Boontharm, 2012) inherited from Edo which mark the uniqueness of contemporary Tokyo are invisible. The bottom-up practice of *machi zukuri* (or literally town making, which refers to an association of residents grouped together in order to think about and improve their community) was also missing. The residents of the New Town tend to rely on the government and wait for top-down initiatives.

The application of a modernist planning model to the Japanese suburban context doesn't seem to be friendly to aging society. This type of planning is what thinkers like Jane Jacobs, Jan Gehl and others fought against. The modernist rigid planning, with isolated building blocks, favoured private vehicles, and, with non-descript public spaces, couldn't generate valuable public life. The spaces between buildings lack human scale, they are dominated by dispersed green spaces which are pleasant for the eye, but the distance makes it difficult to connect. The New Town couldn't gain enough density (of buildings and people) to generate a lively urban and humane environment. It remains a loose and vast Tokyo suburban area.

Today Tama New Town is getting old physically and demographically. The aging and shrinking phenomena in Japan have affected Tama New Town in a very particular way. It suffers the same situation as other new towns of the same type in Japan. An increasing percentage of residents in these communities are elderly living alone. They are the first generation who moved in together with other young, nuclear families of their peers. Their children, who were born or grew up in the new town, attended local schools; later, when they entered the workforce and got married, most preferred to move out. Schools are closing, playgrounds, parks and local shops are deserted. Now the new town pioneers have aged, so, too, have the buildings and the overall environment in which they still live. An increasing share of these senior citizens live alone, following the death of their spouse, and unfortunately many of them die alone (Hirayama, 2018). While the Tokyo government does not disclose information on individual cases of solitary death, figures show that last year about 500 people died alone in public housing block neighbourhoods—more than one a day —and 2,344 over the last 5 years (Watanabe et al., 2019). In the case of Tama New Town, some of the *danchi* residential neighbourhoods are desolately becoming *ghettos* for the lonely elderly (ibid).

Interestingly and sadly, this depressing and secluded environment drives even more single senior citizens to move in. As the conditions of those blocks deteriorate, the building types, the locations and the social situations are no longer attractive to the younger

generation to raise their families in; subsequently, the cheap rent draws other deprived elderly to be among their peers. With their limited mobility that prevents them from walking up and down stairs or across unfriendly terrain, they eventually became "shopping refugees" (people who have been cut off from the retail sector) and became dependent on mobile vendors and delivery services. Despite this, Tama New Town is losing population. During the last 10 years, housing vacancies have increased in Tama City (of which the majority of its territory is located in Tama New Town). In 2015, vacancies were recorded as about 15% (Kubo and Yui, 2019).

The government is aware of these alarming problems and has initiated several redevelopment projects. One of them is the reconstruction of new residential buildings, the Brillia Tama New Town. It adopted the usual practice of scrap and build. The 640 apartments of the *danchi* were demolished and replaced with new condominiums, with a total of 1249 apartments, of which 565 were taken up by the original residents of Suwa ni chome Jutaku housing complex area (the remaining residents sold their ownership rights to the developer and moved elsewhere). The demolition and reconstruction project was said to be the largest of its kind in Japan. Another project is the collaboration between UR and Muji (Japanese company specializing in well-designed minimalist fashion and living). Using Muji as a brand for quality Japanese minimalist living style, the project is focused on the refurbishment of apartments in the old residential blocks into Muji-style living spaces. Several neighbourhoods such as Nakayama, Hyakusa housing complex and Belle Colline (in Minami Osawa) have been refurbished and sold under MUJIxUR program. However, these new initiatives are mainly located in the easy-access areas of Tama New Town. These examples demonstrate the attempts to solve the problem mainly at the architectural scale. There isn't a new vision or urban design or planning strategy that covers a larger territory of the New Town or considers it as a whole.

Figure 5: Brillia Tama New Town (left) and MujixUR (right)

IV. Urban Design Thinking

We are aware that the aging and shrinking problem that Japan is facing cannot be solved by design alone. These issues have rarely been tackled with critical thinking from a spatial point of view. The aim of this design-research studio is to engage students with the reality of the "old new town." They have to face the socio-economic reality of an aging/shrinking

society and then reflect their thinking by responding with design strategy across three scales: territorial, neighbourhood and architectural.

Urban and architectural design need to be based on the hypothetical future. In this studio, students are encouraged to apply critical thinking to the existing situation and use the resource approach as a strategy to achieve a sustainable future.

Several questions are asked in order to trigger their response:

- How should design respond to the shrinking society?
- How can urban design address the situation where there is no "growth" and which is burdened with super aging neighbourhoods?
- How can an environment that will be less and less inhabitable be re-shaped?

Along the line of the resource approach and requalification we have formulated a set of questions:

- What are the valuable resources in Tama New Town, what are the key values and their potentials, and for whom those resources are ?
- Resources can be environmental, natural, human and manmade; what are their inter-relationship and what will be the strategy to valorise those resources?

To help students build the "what if" scenarios, we ask:

- Are there any other alternatives in economic and social models that could keep Tama New Town alive?
- How can spatial configuration and design support those models?
- Assessing Tama New Town in relation to Tokyo, its distance and competitiveness, what will be the possible future?
- What if we can't anticipate growth, how can we design for de-growth?

Students are asked to respond as group with a macro-scale urban strategy. They can choose to define the perimeter and the scope of their design with relevant justifications. In order to assist them to apply circular solutions to design strategies, they need to identify the keywords with the prefix "re" that could be adopted as a concept which can subsequently be developed into a design strategy. The identification of "re_" continues at the neighbourhood and architecture scales. We believe that the keywords with prefix "re" could reflect the design intention in relation to the resource approach and requalification. It is expected to open discussion on the new meanings that could emerge from different urban design thinking.

Selected works of the design results are discussed below:

1. Reframe the neighbourhood street

This proposal addresses the issue of aging in place in Nagayama district. This particular neighbourhood represents the most dramatic situation of aging in Tama New Town. The compound faces an increasing number of senior citizens who have deliberately moved in to profit from the decline of the physical environment and the cheap rents. The area has become a default hospice enclave where the advance-aged elderly population has come to spend the last days of their lives alone. This leads us to ask how we can address this depressing phenomenon and give immediate support through the architecture and urban design. The design aims to improve the spatial quality of the existing building blocks by introducing the central promenade on which the new communal elevators are placed. This space will become the proto "street," both main ground and vertical circulation linking building blocks together. The small-scale common facilities are introduced to shape

the space and engage the edges of this new street. On the two extremities of this promenade are the common facilities, the *sento* (Japanese traditional bath house) and the garden. Along the promenade will be pocket gardens, spaces for gathering, street furniture, and small food-truck markets that allow elderly people to stop and engage with each other.

Figure 6: Reframe the neighbourhood street by Tadao Yamaguchi

2. Retreat Space

Resulting from the modernist planning principle, Tama New Town possesses a large amount of empty spaces such as parks and gardens that are too big for the local community. The project tried to capitalize on the three main elements which are distinct in Tama New Town: the natural environment, especially green spaces; the lateral pedestrian paths that link different neighbourhoods together; and the abandoned public buildings. We want to imagine these lush natural resources as a main attraction and make them a sanctuary for other people outside Tama New Town. This place is easily accessible from Tokyo and suitable for short escapes to return to nature. The intention is to make this part of Tama New Town a retreat space for visitors who appreciate nature. The design strategies are to reconfigure the abandoned public facilities for the activities related to health, well-being and hospitality. It includes the improvement of the lateral pedestrian path, to seamlessly link it to those facilities to ensure better connections with the topography.

By opening up Tama New Town to visitors and exposing its quality of abundant green, we hope to maintain the liveliness and sustain the social fabric of the neighbourhoods.
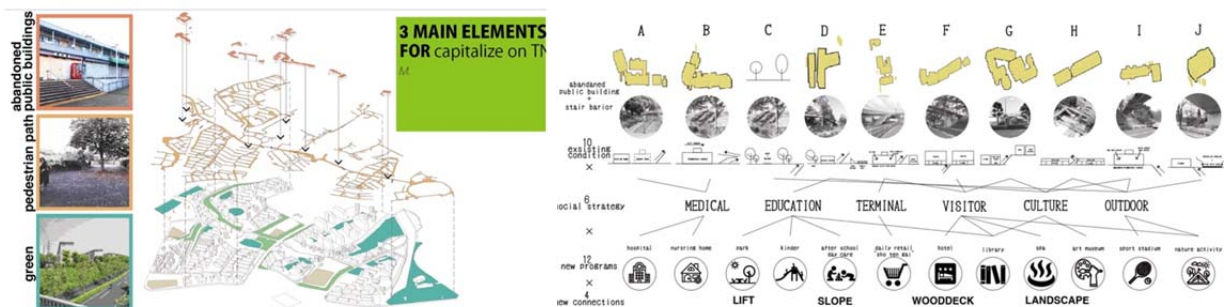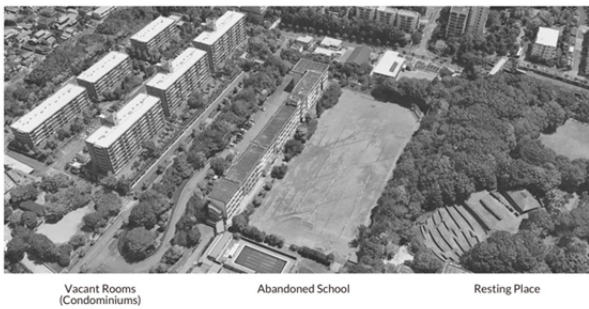

Figure 7: Retreat Space by Yuriko Tanabe

3. Re-make the new Tama New Town society

This project is based on the future transportation project, the Linear, by which Tama New Town can be conveniently linked to other mains hubs of Japan. Linear is a new line of rapid train that will link Tokyo, Shinagawa to Nagoya within 40 minutes. The new station at Sagamihara, which can be easily linked to Tama New Town, could bring new opportunities. The project is focused on the western neighbourhood close to Sagamihara, where the aging and decline of infrastructure is observed. This new connection could be attractive to new entrepreneurs who see the opportunities of being close to hubs like Tokyo and Nagoya. The proposal is also based on the scenario of new immigrants that Japan urgently needs and how they can be integrated into current Japanese society. These newcomers can be the human resources to revitalize the existing but unused resources in the old new town. The design addresses architectural issues by reconfiguring the existing housing blocks as shared houses for young entrepreneurs and foreign immigrants where they can co-live and co-work with the locals. The abandoned buildings and empty spaces between buildings can be converted to working spaces, workshops, warehouses, and production spaces for food and crafts.

Unused Resources

The New TNT Society

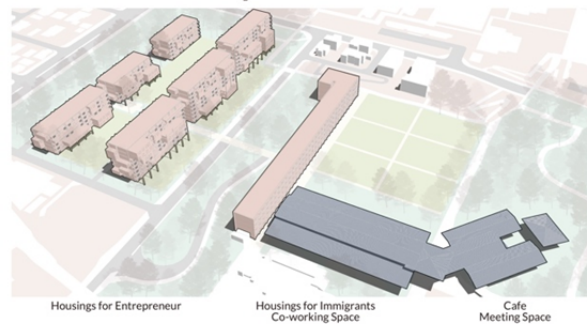| Vacant Rooms (Condominiums) | Abandoned School | Resting Place | Housings for Entrepreneur | Housings for Immigrants Co-working Space | Cafe Meeting Space |

Figure 8: Re-make the Tama New Town Society by Hiroki Igarashi

4. Retrieve local food and agriculture

This project is based on the hypothesis that the situation of aging and the decline of the physical environment of Tama New Town will progress. We may have to accept and face the situation with a different strategy. With the advanced shrinking phenomenon of the neighbourhoods, we must plan for shrinkage and some of the existing spaces could return to nature. In this project, we aim to re-introduce agriculture and food production into Tama New Town by promoting the local and regional types of vegetable (Edo food) and turning the spaces between buildings into a productive landscape. Existing farmers in the region and the new generation of farmers will be welcome to this place and to make use of the available lands. Some abandoned facilities will be transformed into food production warehouses and will serve the agricultural activities. The urban design strategy is to redefine a new pattern of land use that serves the concept of living and farming.

Picture 9: Retrieve Local Food and Agriculture by Tatsuki Ikebe

5. Reforestation

Based on the concept of design for aging and shrinking, this proposal is to plan the long-term strategies for the shrinking of Tama New Town. Capitalising on the theory of Fiber City by Hidetoshi Ohno (Ohno 2015) but adjusted to the local context of the new town, the succession of *Satoyama* (mountains that have connection with the villages) is planned. The progressive reforestation can be initiated from the margin of the town where the connection of the existing *Satoyama* is found. The idea is to return the new town to a natural state and re-establish the rich biodiversity. In the future, this area could become a natural resource of wood and educational place of re-forestation. Some of the existing buildings in the peripheries will be kept to be re-designed to house activities related to the forest such as wood mills, warehouses, carpentry workshops as well as camping facilities.

Figure 10: Reforestation by Hiromu Shimizu

V. DISCUSSION

The selected proposals demonstrate different alternatives ranging from the short-term, responding to immediate needs to ease the crisis, to long-term strategies which address the projection of decline. The super-mature society has brought several related issues that could be addressed by spatial thinking. The core idea is based on the scenario that a shrinking society is already a reality and unavoidable. If we can plan for growth, we should be able to plan for shrinkage. Why shouldn't urban design thinking be non-anthropocentric and recognize that human settlement could, over the span of time,

withdraw into just a necessary footprint? In this case, the natural resources can be re-established. If we plan and design carefully for shrinkage, an old Tama New Town with a territory of over 3,000 hectares can become a real "New Town of the 21st century" by transforming the abandoned living space into productive natural space (forests or farming). The requalification in line with this thinking should prove to generate meanings through the repurpose of built forms and space.

Nevertheless, not all students' proposals could achieve this goal. The proposals demonstrated ideas and strategies of what was the intention or what is to become of Tama New Town. However, we couldn't discuss "how" their strategies could produce the new meanings through design. It is unclear how to identify the requalification from their strategies especially at the neighbourhood and territorial scales. Because of time constraints, students couldn't develop architectural design proposals through which we would have been able to identify the new quality and meaning that could emerge.

It had been noticed that students seemed unfamiliar with critical thinking and inexperienced with large-scale spatial planning. However, the "re" prefix proved to be useful as a brain-trigger to identify the circular solutions in relation to a resource approach to urban regeneration. Even though the design results are incomplete, the overall studio has reached its purpose by stimulating the thinking outside the usual mindset of scrap and build in Japanese context.

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