Towards a Just Urban Transition: Promises and Pitfalls for Asian Cities

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Abstract

Despite mounting global attention to the need for Just Transition, there is a gap in scholarship that examines the complex implications of these shifts in cities-moreover, a lack of attention to just urban transition in cities of the Global South. Drawing from the literature review and purposive interviews, this article proposes key principles to guide a just urban transition and discusses various themes and examples from the perspective of Asian cities. These include density, 15-minute cities, smart cities, urban greening, and good green jobs.

Keywords: Cities, Just transition, Asia, Climate change

การเปลี่ยนผ่านเมืองอย่างเป็นธรรม: คำมั่นสัญญาและอุปสรรค สำหรับเมืองในเอเชีย

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บทคัดย่อ

ถึงแม้ว่ากรอบคิดเรื่องการเปลี่ยนผ่านที่เป็นธรรมจะได้รับความสนใจมากขึ้นในระดับสากล แต่ยังมีช่องว่างในงานวิจัยที่ศึกษาถึงผลกระทบที่ซับซ้อนของการเปลี่ยนผ่านเหล่านี้ในเมืองต่าง ๆ โดยเฉพาะอย่างยิ่งในเมืองในประเทศโลกที่สาม บทความนี้เป็นการทบทวนวรรณกรรมและการสัมภาษณ์แบบเจาะจงเพื่อนำเสนอและอภิปรายถึงหลักการสำคัญของการเปลี่ยนผ่านเมืองที่เป็นธรรมจากเมืองในเอเชีย ประกอบไปด้วย ความหนาแน่นของเมือง, เมืองเดินทางไม่เกิน 15 นาที, เมืองอัจฉริยะ, การเพิ่มพื้นที่สีเขียวในเมือง และงานที่ส่งเสริมสิ่งแวดล้อมที่ดี

คำสำคัญ : เมือง, การเปลี่ยนผ่านอย่างเป็นธรรม, เอเชีย, การเปลี่ยนแปลงสภาพภูมิอากาศ

1. Introduction

The urgency of global decarbonization could not be more profound. The world is currently on track for 2-3℃ of heating, and even if all net zero pledges and nationally determined contributions to limit heating to 1.5℃ are met, there is still a risk of triggering multiple planetary tipping points (Armstrong McKay et al., 2022). Cities and their residents are major drivers of carbon emissions, with cities responsible for around 75% of the world's energy consumption and over 70% of greenhouse gas (GHG) emissions (United Nations, 2021). At the same time, cities are some of the worst affected by climate change impacts, with increased incidences of extreme events such as floods and storms posing significant risks to human lives and critical infrastructure. Cities in Asia are among the most vulnerable to climate change; for example almost half of urban populations are living in low-lying coastal zones prone to coastal hazards including sea-level rise, stormwater surges and land subsidence (Atta-ur-Rahman et al., 2016). Moreover, risks are unevenly distributed, with the most vulnerable more likely to live in hazardous areas such as along steep slopes or riverbanks prone to flooding and landslides (Satterthwaite et al., 2020).

Despite these issues, there has been a limited focus on cities within Just Transition discourse. A Just Transition (JT) has been defined as "greening the economy in a way that is as fair and inclusive as

possible to everyone concerned, creating decent work opportunities and leaving no one behind" (International Labour Organization, n.d.). Historically JT was driven by trade unions and labour movements in response to workers facing job losses due to environmental legislation toward polluting industries. Over time, it came to synergize with the global climate agenda, promoting fairness and equity as a central part of the transition away from fossil fuels. Literature points to the particular potential of JT to unite various strands of scholarship such as energy justice, environmental justice and climate justice (Heffron, 2021; McCauley & Heffron, 2018).

Discussion around JT in cities is beginning to emerge from some directions. For example, a recently released report on Just Green Transition by Transnational Municipal Network C40 Cities argues that "by investing in climate solutions, cities can mitigate climate breakdown, deliver health benefits, create jobs and tackle systemic inequality" (C40 Cities, 2023). Accordingly, they argue that investments in key areas such as mass transit, clean energy and walking and cycling infrastructure would have profound benefits. Similarly, the EU Horizon 2020-funded project Urban Arenas for Sustainable and Just Cities identifies several key drivers of injustice that need to be tackled through JT in cities. These include uneven environmental health and pollution patterns, energy and transport poverty, material and livelihood inequalities, uneven and exclusionary urban intensification and regeneration, limited citizen participation in urban planning, unfit

institutional structures and weakened civil society (Urban Innovative Actions 2022).

Following Heffron (2021) and McCauley & Heffron (2018) applying the lens of JT can unite various strands of justice scholarship and facilitate a more interdisciplinary approach. However, a stronger focus on cities of the Global South is needed, and particularly on cities in Asia as these are some of the fastest growing and most climate vulnerable (United Nations Department of Economic and Social Affairs, 2014). This article responds to this need, offering a scoping of relevant justice frameworks within the urban context and providing examples from cities which show modalities of urban development that can yield synergies between social equity, poverty reduction, drastic reduction of GHG emissions and decent work. We aim to elucidate some key principles needed to support a just urban transition (JUT) and provide empirical knowledge that shows what JUT could look like in practice.

2. Theoretical framework

Despite strong existing academic and practical bodies of knowledge for urban climate action, and separately around climate justice, there is little academic scholarship that considers their intersection (Hughes & Hoffmann, 2020). An initial attempt has been made by Hughes & Hoffmann (2020) who examine different strains of

justice scholarship and activism which could inform JUT. Of these, they highlight environmental justice which defines three forms of justice: distributional (concerned with the distribution of environmental costs and benefits), procedural (relating to engagement and participation in decision-making processes), and recognitional (recognizing the social, cultural, and institutional processes that caused the inequalities in the first place). However Hughes & Hoffmann (2020) argue that on top of this, a focus on agency and change process is needed in order to elucidate the "transition" part of JUT and how it plays out in the urban context. This means a focus on multi-level governance, decision-making, reconfiguration of existing power relations and empowerment of new actors (ibid., p7).

While these principles are undoubtedly key to JUT, we argue there remains a need for spatially grounded theories that can be more directly relevant in the urban realm. In this vein, a foundational body of thinking comes from Henri Lefebvre, whose theory of rights to the city (RTTC) was first advanced in the late 1960s. Lefebvre argued that RTTC entails the right to participation (in any decision that contributes to the production of urban space) and the right to appropriation (the right to physically access, occupy, and use urban space) (Purcell, 2002). RTTC has since been adopted by the New Urban Agenda (UN-Habitat, 2020), albeit with a limited scope focusing on the rights of explicitly excluded groups such as migrants, refugees and internally displaced persons, as opposed to the rights of urban dwellers at large.

Another spatially grounded concept comes from the German eigenart which calls for conditions to be created in which urban dwellers can develop self-efficacy, in other words that they should have agency to design cities in distinct ways that enable individual quality of life, identity and a sense of belonging (Brandi, 2021; WBGU, 2016). Eigenart thus requires two essential principles: the recognition of creative autonomy to shape urban space and the right to a diversity of cultural expressions (WBGU German Advisory Council on Global Change, 2016).

Finally, we argue that within JUT, a focus on labour relations is essential because the degree of transformation required to radically shape economic systems away from carbon-reliance will necessarily involve the transformation of economic systems and changes for the workers in these systems, including a move towards "green jobs", a concept which we explore in this paper. Classic Marxist theory remains relevant in this regard, highlighting the alienation of workers in capitalist systems, where value is generated by workers but controlled by owners. By integrating Marxist theory into environmental justice and climate change discussions, one can argue that both the environment and workers bear profound impacts of the expansionary tendencies of capitalism under which production is driven by the objective of maximizing profits and the "structural imperative to perpetually create new needs as soon as the means to satisfy them have been developed" (Wissen & Brand, 2017). This dynamic has been particularly evident in neoliberal forms of capitalism dominant since

the 1970s which prioritize shareholder profit and perpetuate an ever-widening gap between the global “haves” and “have nots”, alongside a vested interest in maintaining carbon-intensive systems and unsustainable resource extraction (Chomsky & Pollin, 2020; Huber, 2022; Parr, 2014). These dynamics are replicated on an international scale, where countries of the Global North benefit from an unjust international order which grants preferential access to natural resources and labour at cheaper price (Wissen & Brand, 2017). Conversely, JUT offers an opportunity for new “green” skills, jobs and businesses that will allow people to benefit from a decarbonized future – provided that they are also accessing good jobs, characterized by decent wages, workplace safety and social security. More broadly, a shift will be needed away from exploitative and extractive systems, and toward more equitable and environmentally sustainable economic models such as social business and cooperative approaches.

Bringing these framings of justice together provides a strong foundation for JUT. Figure 1 elucidates the elements combining the four forms of environmental justice, with rights in spatial structures stemming from Rights to the City and *eigenart*. The right to participation is somewhat overlapping with procedural justice across the two realms, thus the figure has been simplified to only include procedural justice. Nevertheless, justice-based and rights-based approaches can, and should go hand in hand, with for example, “distributional justice” implying the right to live in a safe and clean

environment. Underlying the rights and justice aspects are agency and change processes (relating to governance, decision-making and power relations), and as an explicit focus on labour relations which underpin economic and social structures.

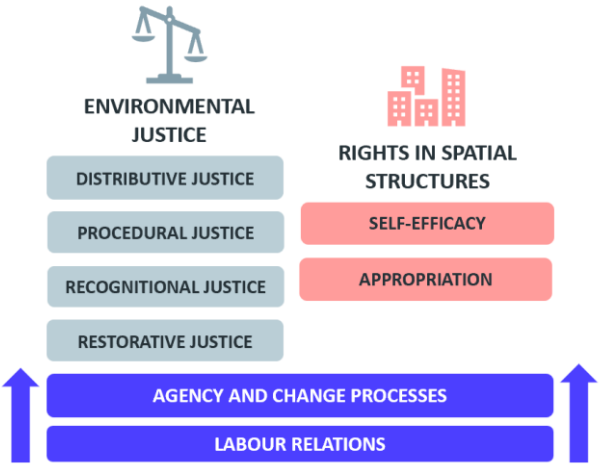

Figure 1 principles for a just urban transition

3. Research methodology

The methodology for this study was qualitative and exploratory in scope. After a review of relevant justice framings within the literature, purposive interviews were conducted during 2023. Participants were recruited through referrals by the research funder Friedrich-Ebert-Stiftung (FES) to local FES country offices. These offices facilitated connections between the research team and key partners and stakeholders engaged in relevant work or partnerships related to

JUT. This led to a total of 15 interviews being carried out across 8 countries (Viet Nam, Thailand, the Philippines, Kenya, Jordan, Tunisia, Argentina and Croatia) which respondents which included energy specialists, government officials, trade unionists, urban planners, and architects and the sharing of associated grey literature such as project reports. Where possible, group interviews were organized according to region to spark discussion and validation across respondents. Themes were then coded inductively to identify commonalities and context-based specificities and triangulated and synthesized with the broader literature. In terms of limitations, due to the small sample size, we do not purport any representativeness of the findings, rather an initial insight into JUT and its implications across different urban contexts.

Our specific research questions are: what examples of synergies can be observed that connect social, economic and climate goals in cities, and what are the enabling and disenabling conditions for JUT? The discussion is structured around two key themes which emerged from the interviews and project report documents: built space and urban imaginaries, and good green jobs. These will be discussed in turn. While we bring in broader discussion from international contexts, this article primarily focuses on transition in Asian cities by highlighting examples from literature and practice.

4. Key themes for a Just Urban Transition:

First theme: Built space and urban imaginaries

Built space in the city, i.e. the structure, layout and infrastructure, is the foundation of mobility and accessibility: connecting residents to job markets, goods and services, determining housing patterns and influencing the distribution of environmental burdens and amenities. However, built space itself is produced by actors: top-down municipal planning, private developers, and bottom-up, community- or individual-led actions. These actors are intermeshed within complex structures of power dynamics which vary greatly across different sites and countries and are influenced by certain "imaginaries" of urban space, i.e. models such as "smart cities", "green cities", and "livable cities". Within the context of urban sustainability, climate action and just transition, some types of urban form and urban imaginaries may be more conducive to the principles of JUT, others may undermine the principles, and others – while seemingly conducive, may have certain disbenefits or unjust outcomes.

A specific feature which may be able to directly support JUT is density. Some degree of density is arguably necessary for sustainability, because the more spread-out a city is – the more trips are needed, which can be particularly carbon-intensive when undertaken in private vehicles. This also affects pollution levels,

congestion and the accessibility of other areas by those in peripheral areas not well served by public transportation, or without access to private transportation. Higher density can also improve efficiency as, for example, less infrastructure such as roads and sewage are needed, and district heating and cooling could potentially be facilitated, requiring less energy and lowering costs for residents. District heating has been utilized since the 1930s by certain countries including the USA, Germany, Russia and the Nordic countries, but gained popularity in the 1970s due to global energy crises which necessitated more efficient systems (Werner, 2017). District cooling on the other hand, is a more recent development but certainly one which warrants attention in Asian cities which are facing extreme and growing heat stress (Maharjan et al., 2021; Zander et al., 2019).

However, the relationship between density and sustainability is not linear. Extremely high-density areas, including informal settlements which are prevalent in Asian cities, pose their own set of challenges, including difficulties in providing essential services like waste management and sanitation. In Tunis, Tunisia, for example, the central Medina area is characterized by very dense intertwined residential and commercial units, with residents and owners sometimes annexing alleyways as extensions to their dwellings, thus reducing pedestrian mobility (Cities Alliance, 2021). Similarly, in Viet Nam, the construction of informal housing is widespread and often overlooked by authorities. This auto-construction may ignore

building standards and permits, which poses safety concerns (Le & Hung 2021). This type of urban form also has gendered implications. For example, in Tunis, women reported that the often poorly-lit dense alleys and public areas were unsafe in the evenings, meaning that women felt more safe meeting in private spaces (Cities Alliance, 2021). In response, Cities Alliance's Femmedina initiative, collaboratively designed seven public spaces specifically tailored for women which included markets dedicated to selling artisanal products and handicrafts and recreational spaces aiming to enhance women's access to economic markets and reclamation of public space.

More broadly, a model of urban form which has the potential to align with JUT is the "15-minute city". 15-minute cities have gained significant traction in recent years, spurred particularly by the COVID-19 pandemic, as a model of urban spatial organization that can address intersecting social and ecological challenges. A 15-minute city is one in which all essential services should be accessible within a short (15-minute) walk, bicycle ride, or public transport trip from one's home. Barcelona, Botoga, Buenos Aires, Melbourne, Milan, Paris, and Portland are among those which have recently introduced 15-minute city urban planning policies. The "hyper-localization" of 15-minute cities can provide a pathway for cities to radically decarbonize due to reduced needs for trips and the reimagining of public space with fewer roads, more green space, and enhanced public services and amenities. As well as accessibility, these modalities of urban living can

create stronger neighborhood ties, a stronger sense of community and place identity, enhance social mixing, improve public health and safety, and facilitate more de-centralized and participatory forms of governance (Khavarian-Garmsir et al., 2023; Moreno et al., 2021).

Despite the popularity of the model, theory and implementation has so far been concentrated in the Global North, with a lack of focus on potential application or appropriateness in cities of the Global South, such as how it might function in dense and informal urban areas of Tunisia or Viet Nam. Moreover, despite its supposedly transformational character, there remains a lack of critical discussion including that on potentially unjust impacts. Alongside the technocratic way it has sometimes been implemented, this deficiency might go some way to explaining the skepticism and pushback to the model in some places with fears that it might lead to a "climate lockdown" with private transportation trips prohibited (Reid, 2023). For interventions that tackle private car use to contribute to JUT (as well as more livable and less polluted cities), affordable, accessible and high -quality alternatives need to be in place, otherwise the model may have a negative net impact on equitable mobility.

Urban transportation patterns can also be shaped by complex historical and sociological factors systems. In cycling-dominant countries such as the Netherlands, Denmark, and Germany, city administrations have actively promoted the establishment of

dedicated cycling lanes, provision of bicycle parking facilities, and the implementation of disincentives such as taxes and constraints on car ownership (Pucher & Buehler, 2008). Additionally, land use policies in these regions have generally favored compact and mixed-use development, fostering an environment conducive to easily accessible cycling distances, although it is notable that many of these cities were already relatively compact due to historical pre-car development.

In many Asian cities, motorcycles are dominant, with the region accounting for almost 85% of global motorcycle sales (Jones et al., 2013). For example, in Viet Nam, motorcycle use is ubiquitous, with two-wheeled modes of transportation well suited to Vietnamese cities, which are characterized by high density, narrow streets, mixed-use areas, and sidewalk activities. However, motorcycles also contribute to air pollution and have relatively high emission rates compared to automobiles (ibid.). In Viet Nam, instead of a push for enhanced cycling infrastructure, private car ownership rates are rising, seen as a status symbol and part of an "identity of a new middle class" (Le & Hung 2021; interviews, Viet Nam, November 2022). These transformations also point to a growing income gap, with the city's poorest relying on bicycles, despite safety issues due to a lack of separate lanes. Walking poses challenges as well, given that sidewalks are frequently utilized for parking, driving, or commercial purposes, thereby restricting opportunities for the expansion of non-motorized transportation. Expansion of electric motorcycles via tax

incentives and technological improvement has been posited as a potential solution (Jones et al., 2013), however rollout will not encourage a shift to lower carbon modes of transportation such as walking, cycling and public transportation and cities must devise new ways of waste management to contend with EV batteries. Viet Nam has taken strong strides in recent years to improve clean public transportation, as evidenced by the mass rollout of electric busses in the country's capital Ha Noi beginning in 2021 as part of an action programme on green energy transition. However, whether this will influence rates of private vehicle ownership in the country remains to be seen.

Following from this point, in the urban climate change literature there can be an over-emphasis on technological transition, exemplified by "smart city" discourse. Smart cities can certainly be a pillar for enhanced urban sustainability and livability, that enable a plethora of benefits including optimizing traffic flows, reducing energy consumption, improving waste management and disaster response (Boukerche & Coutinho, 2018; Sánchez-Corcuera et al., 2019). However, smart city discourse can also sideline deeper framings of equity, justice and governance in a way which does not question their outcome beyond the specific challenge that they aim to address (Coletta et al., 2019). This means that technical solutions often fail to address root causes of urban sustainability or injustice, such as solutions for traffic congestion not addressing the problem of too

many vehicles on the road, or accessibility divides as wealthy urban residents are more likely to own private vehicles.

Moreover, other imaginaries of urban sustainability are premised upon economic competition, aesthetics and international standing which can contribute to processes of gentrification and inequality. An example comes from the McKinsey report "The Urban Sustainability Index: A New Tool for Measuring China's Cities", which discusses industrial restructuring as a tool for increasing energy and resource efficiency, freeing "valuable downtown land for redevelopment." A case study is provided of revitalization of a formerly industrial area in the city of Shenyang, which "enhanced the city's urban image and helped drive economic development through real estate investment" (Xiao, Xue & Woetzel, 2010). This top-down transferal of disused space into the private realm may invite economic development, but it also leads to a potential loss of place identity, diminished public space and the channeling of wealth into private hands. Conversely, in an example in Ha Noi, a collective organization called Ha Noi Ad Hoc is developing alternative futures for redevelopment of former factories and workshops which remain embedded in the city's urban fabric as public spaces. As an outcome, they aim to stimulate public discussion about bottom-up processes of adaptation which celebrate cultural heritage and the ways in which diverse architectural forms have shaped the city (Ha Noi Ad Hoc, n.d.). This approach aligns much closer to the goals of Rights to the City and *eigenart* which argue for

the rights of urban dwellers to create and utilize urban space according to diverse needs and identities, and the participation of urban dwellers in decision-making and planning processes.

Finally, in many cities in both Global North and South contexts, urban greening and Nature-Based Solutions (NBS) have been advanced as multi-functional solutions for various goals including climate adaptation, disaster risk reduction, and urban livability. Chapter 6 of the IPCC WGII report on Cities, Settlements and Key Infrastructure emphasizes hybrid and multifunctional measures which combine NBS with traditional "grey" infrastructure and integration in adaptation planning and hazard protection (Intergovernmental Panel on Climate Change, 2023). Urban greening measures including public parks and trees can also help to mitigate urban heat island effects and improve air quality through air flow, shading and evapotranspiration. (Kolokotsa et al., 2020) reviewed 50 case studies on NBS in the urban environment, concluding that proximity to natural environments is associated with lower stress, improved air quality, reduced urban overheating, and increased level of physical activity.

However, if implemented without principles of justice at the core, these same measures can also lead to negative outcomes for certain groups. For example, so called "green gentrification", when residents are priced out of areas because value have risen – making the benefits of greening such as urban cooling, fresher air and

recreational spaces unavailable to the original residents – creating "elite enclaves of environmental privilege" (Anguelovski et al., 2019). A study in Hangzhou, China, found that urban greening initiatives which focused on revitalizing disused spaces such as former industrial sites, retrofitting green spaces along dilapidated canals and mass tree planting on city streets found that "even the smallest green space embellishments led to inflated property prices" (Wolch et al., 2014). The authors recommend making cities "just green enough" with initiatives which are functional and suited to local needs such as cleaning up polluted areas and creating spaces for urban agriculture and community gardens, while avoiding a so-called "riverwalk" model of urbanism which may exacerbate exclusionary processes. This is certainly a risk factor which needs to be taken into consideration within 15-minute city urban planning, and a consequence of investment in a neighborhood into parks, or more pathways and cycle lanes without measures such as rental controls and ensuring allocation of low-income housing may also lead to gentrification.

To conclude, this section has examined various forms of urban built space and imaginaries of urban sustainability from a justice perspective, elucidating several risk factors and potential disbenefits. We argue that while a degree of density is important for sustainability, it is not a prerequisite for JUT – rather, urban planners should work to understand and respond to the needs of urban dwellers of diverse genders and social groups and the different ways they access and use

urban space. The 15-minute cities concept holds strong promise as a practical yet transformational model for JUT, but more critical analysis is required, particularly how it could be applied in cities of the Global South and how to safeguard against potentially exclusionary effects such as gentrification or reduced mobility through private vehicle regulation without adequate alternatives being in place. Finally, we note the pitfalls of certain urban imaginaries such as those which rely on private sector-driven development and technological transition, which may erode Rights to the City or fail to address root causes of unsustainability and injustice. Even seemingly "low-regret" solutions like urban greening may exacerbate exclusion and inequality for certain groups, if a justice lens is not incorporated into planning decisions. Planning decisions will also need to be made holistically, for example ensuring rent controls and adequate provision of low-income housing stock within 15-minute city areas or areas subject to urban greening, to ensure that all can benefit from these interventions.

5. Key themes for a Just Urban Transition:

Second theme: Good green jobs

The second key theme to emerge from the research process is around good green jobs. As discussed in the theoretical framework section, labour underpins just transition, yet there has been a lack of focus on urban labour patterns and the implications for JUT. The

Sharm el-Sheikh Implementation Plan proposed by the 2022 United Nations Climate Change Conference (COP27) advanced key principles of JT which include social dialogue and stakeholder participation (United Nations Framework Convention on Climate Change, 2022). During COP27, the General Secretary of the International Trade Union Confederation Sharan Burrow stated that "workers must have a place at the table for a transition that stabilises the planet, economies and our societies. Transition plans need to include both climate and employment plans" (International Trade Union Confederation, 2022). At the World Mayors Summit in 2022, C40 Cities announced that 50 million green jobs are needed for member cities to deliver their commitments to limit global heating to 1.5°C, and that comprehensive urban climate action would result in 30% more jobs compared to "business as usual" (C40 Cities, 2022). Transformation of labour will involve both the scaling down of certain carbon-intensive sectors while scaling up of low-carbon jobs such as post-consumer recycling and upcycling industries, waste-to-energy, green buildings, nature-based urban design, urban agriculture and renewable energy. The challenge will be ensuring that workers are not left behind, and that green jobs are also good jobs.

In terms of emerging sectors, an example comes from nascent urban agriculture enterprises in Thailand. Social enterprise Bangkok Rooftop Farming (BRF) attempts to connect actors across the value chain and make use of empty space on disused rooftop areas

(interviews, Thailand, February 2022). BRF collects food waste which is used to create compost for vegetable production for local distribution, creating a further link in the circular economy chain. In another example of urban agriculture in Thailand, the Chiang Mai Urban Farm was formed during COVID-19 lockdown on a former landfill site to support vulnerable community members to enhance food security. Various actors including local NGOs, civic groups came together, supported by the local government in the initiative, which also provides training opportunities in sustainable agriculture and a public community space. These two models of urban agriculture show how circular economy and social enterprise approaches can synergize. The outcome is reduced food waste, reduced carbon emissions through shortening supply chains, and the potential for a stronger sense of community cohesion and place identity. At scale, urban agriculture could also create a range of jobs including, including in cultivation, operations, logistics, and delivery. As a key barrier to change, BRF emphasized the need for an attitude shift in Thailand so that people no longer “feel scared of soil and insects” (interviews, Thailand, February 2022). Urban agriculture therefore not only represents a transformative approach to food systems, but also the potential to restore human connection to food production, which has been eroded by industrialized production and urban living.

6. Key themes for a Just Urban Transition:

Third theme: Informal labour

Another key theme which requires attention in the discussion of JUT in Asian cities is informal labour. For example, informal waste collectors form the backbone of recycling efforts in many countries, yet their contributions are poorly recognized. In Thailand, there are around 1.5 million informal waste workers who may be responsible for up to 75 per cent of recycling in the country (Atichartakarn, 2022). These jobs are often extremely low-paid, hazardous and precarious. Informality usually means wage insecurity and a lack of access to social protection, such as benefits in the event of injury and sickness, disability, maternity, unemployment, and old age. Exclusion from these systems was particularly damaging during COVID-19 when lockdowns affected the ability of workers to conduct their regular activities. There are also important implications for gender equity. In Thailand, women waste workers are more likely to pick through waste on foot, while men are more likely to own a cart or pickup truck which they use to collect recyclables. Women are also reluctant to work outside of daylight hours due to safety considerations. These limitations diminish the earning capacity of women waste workers, with one study finding that women earned an average of 6,090 THB per month (approximately 177 USD) compared to 8,067 THB (234 USD) for men (Archer & Adelina 2021). Similarly in Viet Nam,

women informal workers earn as much as 50 per cent less than men (Le & Hung 2021). This means that although informal recycling could be considered “green jobs” they are certainly not good jobs, or just jobs.

Within the waste sector, some countries have taken steps to formalize informal recycling to both improve efficiency, and support workers. These models might include direct employment, enhanced collectivization through unions and associations, and partnerships between public, private, and informal bodies. In one example from Pune, India, a hybrid system driven by informal workers was established after they formed a union called the Kach Patra Kashtakari Panchayat (KPKP) and advocated for their rights to dignity, safe working conditions, and livelihood security. As a result, Pune municipality authorized the KPKP to carry out primary waste collection services and became one of the first local governments in India to provide waste pickers with identity cards and health insurance (Moora & Barde, 2019).

In other countries such as in Thailand and Viet Nam, informal waste workers have had reservations about formalization due to the potential restrictions on the flexibility of their work and loss of earnings from taxation. There are other approaches available however, such as workers associations. In the city of Quy Nhon, Viet Nam, a UNDP-GEF pilot project led by the Viet Nam Women’s

Union facilitated access to equipment (bicycles and carts) and 0 per cent interest loans (United Nations Development Programme, 2022). Meanwhile, In Thailand, the Saleng and Recycle Trader Association (SRTA) has been active in advocating for waste workers' interests, for example by organizing protests against the import of foreign waste which drives down local prices. However, there are limits to progress of unions in Thailand for the informal waste sector, as informal workers are not legally allowed to form a union, which restricts their collective bargaining power.

Another example showing the potential of strong labour unions to advance JUT comes from the Philippines. In 2016, the government of the Philippines attempted to enact a modernization programme for Jeepneys – public busses adapted from abandoned US army jeeps post WW2 which are run on a semi-informal basis. These Jeepneys are responsible for almost half of all trips in Metro Manila, and while efficient in terms of their carrying capacity, as aged and diesel-powered vehicles, they are also highly polluting (Dobrusin, 2022; interviews, Philippines, November 2022). The Jeepney modernization programme aimed to phase out 240,000 traditional Jeepneys, replacing them with electric or cleaner engines (ibid.). However, this move also put the jobs of almost 500,000 operators at risk (ibid). In response, Jeepney operators from different unions called a national strike, calling for a moratorium before phase-out to allow time for preparation and the provision of government financial assistance to

enable operators to modernize (ibid.). The outcomes of these actions were the government granting many of the union's demands, and the formation of a worker-run, collectively owned transportation model with a socialized profit system which has improved working conditions, provided higher incomes for workers, and lowered emissions (ibid.).

Progress did not stop there. Sparked by the Jeepney drivers demands for just transition, a coalition called "Move as One" was formed to further improve working conditions and ensure living wages for public transport operators, as well as the creation of pedestrian walkways and separate bike lanes (WeSolve Foundation 2021; interviews, Philippines, November 2022). Move as One gained public support from over 140 civil society organizations, including healthcare workers, labour unionists, cycling groups, youth groups, and urban planners who all had an interest in improving transportation systems (ibid.). Since 2020, the coalition has lobbied for more than 12.8 billion PHP (approximately 231 million USD) in public transport investments, including over 500 kilometers of bike lane networks in Metro Manila, Cebu, and Davao, which highlights the power of collective effort in tackling complex issues like transportation reform. Conversely, in the case of Bogota, Colombia, pushes for EV transition for public transportation were less successful because the government failed to engage with transport unions, communities and traditional operators, instead placing responsibility for transition in the hands of private

operators. This led to delays as the private operators were unable to recruit the number of electric bus drivers needed, and risked thousands of jobs from traditional operators (Dobrusin, 2022). This should stand as a lesson as many more cities throughout Asia and the Global South accelerate EV transition in the transportation sector.

As an overall approach that tackles climate and jobs simultaneously, several countries including the United States, Canada, the United Kingdom and the European Union are articulating "Green New Deal" (GND) proposals which align decarbonization with improving material living standards. These include large-scale investments in renewable energy, clean transportation, employment, a decoupling of economic growth from unsustainable resource consumption, employment and a focus on social inequities. For example, the European model includes setting up a Social Climate Fund to support vulnerable citizens mitigate the costs of the transition to cleaner energy. It is noted that transition will not rely only on high-skilled workers such as those required to develop green technologies, rather it could result in employment gains across almost all occupational categories including which could consequently reduce "job polarization" (Cedefop, 2021). Nevertheless, GND still faces critique as it risks co-option into a "green growth" model as a modified business-as-usual which continues to serve vested corporate interests, rather than an opportunity to address underlying and systemic drivers

of injustice such as wage stagnation, precarious unemployment and underinvested public services (Morgan, 2020).

There is also limited evidence of similar models in Asia and in the Global South more broadly. Only South Korea has enacted GND legislation, committing to invest approximately US 144 billion and create almost 2 million jobs by 2025, while also strengthening social safety nets (Chowdhury, 2021). At the global scale, a thematic brief by (United Nations Economists Network, 2023) has been prepared "A global green new deal for a sustainable recovery and a resilient future", but discussion remains high-level and without articulation of specific pathways forward for countries of the Global South. Indeed, the trajectory to a just transition may not be linear, and there may be other models better suited to Asian contexts. In Thailand, a model called Bio-Circular Green Economy (BCG) has been rolled out as a national agenda for 2021-2026. The model has also gained traction regionally, being formally endorsed by the Asia-Pacific Economic Cooperation (APEC) member countries in November 2022. It includes investment in bioenergy, biomaterial such as bioplastics, and new green job opportunities. However, several critiques have been directed at it which might indicate some unjust implications. For example, plantations and afforestation for carbon credit trading have led to concerns over conflicts over land rights of smallholder farmers – a concern which led to protests by youth and farmers in Bangkok when the model was endorsed (Banerjee, 2022; Thai PBS World,

2022). Moreover, the model's emphasis on technological solutions such as bioplastics may neglect the root causes of unsustainable consumption and inadequate waste management, while also bearing practical limitations. For instance, bioplastics require industrial facilities to break them down and they cannot be sold to recycling companies for profit and are therefore not collected by informal workers.

To conclude, this section discussed various forms of labour which included emerging green jobs (urban agriculture), informal labour (the informal recycling sector), and transition within the public transportation sector. We draw attention to informal labour as a key topic in Asian cities, and the Global South more generally. While there may not be any "one size fits all" solution in terms of formalization for just transition, the contribution of informal labour must be recognized, and steps must be taken to ensure coverage for the sector under social protection schemes, as well as strengthening collective bargaining power. Finally, broader framings of labour and "green jobs" within just transition were discussed, specifically GND proposals which mainly emanate from the Global North, and some alternative visions from Asia such as the Thai BCG model, both of which have significant potential, yet face critiques and risks, for instance as a modified business-as-usual which may not adequately address root causes of injustice and the climate crisis.

7. Conclusion

This article has considered relevant principles for JUT which remains an under-explored area within JT discourse and practice. Bringing several conceptions of justice and rights together in the urban realm, an overall framework underpinned by agency, change processes and labour relations is proposed. With this framework in mind, drawing from the literature review and purposive interviews, several issues related to JUT in Asian cities are discussed, considering opportunities, barriers and pathways forward.

In terms of labour relations, the transformative potential of unions in pushing for a just transition is emphasized, as well as on coalitions which unite various stakeholders around common goals, such as in the case of Move as One in the Philippines. Additionally, principles for good green jobs need to take different types of work such as informal labour into consideration to ensure that transition does not leave marginalized populations behind. As overall models for JUT, there is strong potential for 15-minute cities and GND, yet gaps are highlighted, such as a risk of gentrification which could arise from 15-minute cities if not implemented without sufficient community consultation and policies for rent control and affordable housing stock.

Overall, JUT must remain a deeply political movement which is not bogged down or coopted by vested corporate and governmental

interests, or an undue focus on technological solutions which obscure or perpetuate root causes of injustice and the climate crisis. These dynamics can sometimes be seen in urban sustainability and climate action initiatives, such as urban “regeneration”, urban greening, and EV transition. Green cities and smart cities can be just cities, but interventions first have to be premised upon principles of justice.

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