Governance of the Just Urban Transition

South African Cities Network

GOVERNANCE OF THE JUST URBAN TRANSITION

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INTRODUCTION

In recent years it has become clear that environmental resource limits (at both local and global scales) and planetary boundaries, such as climate change, pose significant threats to the ability of the Earth to sustain human society (Rockström et al., 2009; Steffen et al., 2015, 2018). Planetary boundaries is the concept used to describe the various biophysical thresholds within the Earth system that, if breached, could result in non-linear change with catastrophic consequences (Rockström et al., 2009). In response to these threats, global attention has focused on shifting human behaviour to improve resource efficiency, reduce carbon emissions, minimise harmful waste and protect critical ecosystems (Allen et al., 2018). Concurrently, inequality and poverty are critical focal points in global commitments such as the Sustainable Development Goals (UN-Habitat, 2016). It is urgent and important that these two agendas are pursued in tandem, so as to avoid trade-offs. Consequently, it is imperative that shifts towards low-carbon economies, climate resilience and reduced resource consumption, prioritise the needs and aspirations of low-income communities in ways that directly tackle global and domestic inequalities. As the Agenda 2030 for Sustainable Development states, the sustainability transition must leave no one behind. This has become known as the just sustainability transition (or merely the 'just transition').

The just transition sets out to fundamentally shift the way society functions: to raise the quality of life of all citizens, reduce poverty and inequality, build a resilient economy and an inclusive society, while adapting to environmental change and mitigating climate and negative environmental impacts (Presidential Climate Commission, 2022). The just transition is built on the premise that environmental sustainability and social justice have interconnected drivers, processes and outcomes (Leach et al., 2018; Roy et al., 2018; Pasgaard & Dawson, 2019; Westman & Castán Broto, 2021; Rockström et al., in press). Some scholars argue that it is not possible to address social or environmental issues in isolation - in other words in order to achieve social justice, environmental concerns must be addressed and vice versa (Agyeman, Bullard & Evans, 2002). However, there is a real possibility that without concerted effort towards ensuring justice, attempts to live within planetary boundaries will likely exacerbate existing injustice and inequality (Gupta et al., 2023).

It is increasingly clear that cities play a critical role in the just transition. The way cities develop fundamentally shapes space, society and the environmental systems on which life depends (Pieterse & Parnell, 2014; IRP, 2018). Cities are sites of inequality and these are heightened by climate change and development (Hughes & Hoffmann, 2020). Furthermore, the proportion of South Africa's population living in urban areas continues to rapidly increase, from 57% in

2000 to 68% in 2021 (United Nations Population Division, 2018). As such, urban development and cities contribute significantly to the contemporary climate and environmental crises, and are crucial to achieving environmental sustainability (Revi et al., 2014). Not only do global environmental and social issues manifest at the local level, but cities – and rapidly growing cities in the global South in particular – can play a critical role in reducing poverty and inequality while minimising and/or reducing resource use and environmental impacts (Rockström et al., 2009; Davis, 2010; Revi et al., 2014; Campbell, 2016; Westphal et al., 2017; IRP, 2018). However, there is a significant risk that the urban poor will not only bear the brunt of climate impacts, but that pathways towards environmental sustainability have the potential to exacerbate inequality and poverty. Climate impacts and environmental ills perpetuate existing inequality, and in South Africa this dynamic is highly racialised and gendered, with women and black Africans bearing disproportionate burdens (Cock, 2019).

Cities are under significant pressure to develop in ways that do not entrench environmental degradation or inequality. For Southern cities, this challenge is compounded by the need to ensure adequate living conditions and access to basic services for rapidly growing populations, many of whom live in contexts of extreme deprivation. Building just and sustainable cities in practice requires progress towards the equitable distribution of resources as well as the benefits and burdens of urban development. Although there is growing traction with the idea of a just transition, there is still work needed to identify and track just transitions, and to examine just transitions at the urban scale (Hughes & Hoffmann, 2020).

A just *urban* transition (JUT) is "a process of transitioning over a period of time to inclusive, equitable, resilient and spatially integrated cities that are decarbonised, resource efficient and biodiverse" (South African Cities Network, 2022: 145). The process of shifting towards socially just and environmentally sustainable cities requires realigning the ways in which cities are governed and existing institutional systems function. This research paper sets out to examine the governance arrangements and institutional factors that will play an important role in the JUT, and what actors will be instrumental in supporting this transition.

This paper is structured into four sections. The first section sets out the contextual framing, establishing the JUT, and identifying the local institutional and governance arrangements and relevant actors in South Africa. The second section describes a number of governance models that are relevant to the JUT, and in particular in the governance across a range of state and non-state actors. The third section presents a series of case studies on how actors and processes intersect in urban planning. These case studies reflect on the processes required to further a JUT, as well as the role of influential stakeholders in this transition. The sectors included in these case studies deliberately extend beyond the dominant focus of the just

energy transition, and also include sanitation and housing - which are key issues for South African cities. This section returns to the governance models described in the second section, and reflects on what elements of these models are present in the case studies. The final section reflects on the processes, actors and potential challenges for a JUT in South African cities. It applies principles from the various governance models and considers how these could be combined to support South African cities and their shift towards just urban sustainability. This paper presents insights from existing research and draws extensively from expert interviewees.

1. FRAMING GOVERNANCE FOR A JUST URBAN TRANSITION

In recent years, it has been widely acknowledged that cities and urban areas will play a critical role in addressing the dual challenge of furthering social justice alongside environmental sustainability (United Nations (UN), 2015; UN-Habitat, 2016; Ziervogel et al., 2021). Rapid urbanisation is a defining feature of the current era, with the growth concentrated in the global South, and especially within Africa and Asia. By 2050 it is anticipated that the majority (90%) of urban residents across the globe will be located within these two regions (United Nations, 2014; Anciano & Piper, 2019), and 50% of African population will be urban (Dodman et al., 2017; OECD & SWAC, 2020). In South Africa, the combination of natural population growth and migration has resulted in dramatic urban population growth, with some 60% of the population living in cities.

Urbanisation has important implications for the environment as urban development is associated with land transformation and pollution, and resource consumption is typically higher in cities than rural areas. As such, cities contribute disproportionately to environmental degradation and thus have a commensurate role in addressing contemporary environmental crises (such as climate change).

Unlike the form of urbanisation that characterised cities in the global North, urban population growth in the South is decoupled from economic development. In many Southern cities, population growth has outpaced the growth in urban jobs, as well as the provision of basic services and housing (Croese, 2021). This interplay of factors has resulted in cities with high unemployment levels, poverty and informality. In the absence of formal economic opportunities and infrastructure, urban residents have relied on informal means of securing shelter, basic services and income (Anciano & Piper, 2019). Urban planning theory and governance have been slow to adjust to the rate and form of contemporary urbanisation in the global South, and remains largely based on assumptions from the global North, which do not address “the problems of poverty, inequality, informality, rapid urbanisation and spatial

fragmentation particularly (but not only) in cities of the Global South' (Watson, 2009: 2259). Given this context, it is thus critical to consider, from a global South perspective, what it means for cities to transition towards just sustainability.

The following subsections explore the various concepts and factors relevant for understanding the governance of South Africa's JUT. It first describes in broad and generalised terms, what social justice and the JUT entail. This is followed by a discussion of the role of governance and the translation of ideas into policy. This subsection briefly explores some potential challenges for urban governance of the JUT. The discussion then narrows to consider South Africa's JUT and the specific governance factors that are likely to be influential.

1.1. SOCIAL JUSTICE

It is important to acknowledge that social justice (or merely justice), which is a fundamental component of the JUT, is a multifaceted concept and can be interpreted in different ways depending on the context, and who is defining it and to what end. In general, social justice is based on the principles of equity, fairness and inclusion. Importantly, justice involves enhancing overall well-being and addressing existing inequalities, by prioritising disadvantaged groups rather than treating everyone the same (Leach et al., 2018). The various elements of social justice include ensuring that just outcomes are reached (distributive justice), that decision-making and conflict resolution processes are fair (procedural justice), that everyone is treated fairly and without discrimination regardless of their identity, values or associations (justice of recognition), and that the injustices that have occurred against individuals and communities are addressed (restorative justice) (Patel, 2021).

A comprehensive interpretation of the just transition encompasses all forms of social justice together, including distributive, procedural, recognitional and restorative justice. The definitions of each of these elements of social justice are contested, as well as how these play out in reality (Harvey, 2003; Davies, 2011). There are also instances where conflicts between different components exist. For example, it is possible that a just process could result in an unjust outcome. In such cases, making decisions regarding which type of justice should be prioritised over another is very difficult, and is prone to influence by powerful individuals or groups. Harvey (2003) cautions against uncritical views of justice, as visions of ideal outcomes can hide vested interests and desires for maintaining the status quo. Furthermore, there is growing acknowledgement of the need to decolonise definitions, conceptual frameworks and policy agendas around social justice (and by inference just sustainability) to develop locally embedded approaches that are context specific. Bouzarovski et al. (2023: 1) draw attention to

the need to “expand the traditional vocabulary and frameworks of [social] justice and contribute towards decolonising relevant debates".

Justice is intricately linked to the legal system. Political and social values are socially constructed norms emerging from experiences and so it is also important to consider how these norms are woven into legal, political and economic systems (Anciano & Wheeler, 2021). Interpretations of what is ‘right’ or ‘just’ are influenced by worldviews and individual perspectives. Robert Cover (1983) posits ‘nomos’ as a normative universe where ‘right’ and ‘wrong’, ‘lawful’ and ‘unlawful’ are created through narratives that locate values in practice and give them meaning. Legal rules and institutions thus interact with other cultural forces to produce legal meaning:

> *A legal tradition is hence part and parcel of a complex normative world. The tradition includes not only a corpus juris, but also a language and a mythos - narratives in which the corpus juris is located by those whose wills act upon it. These myths establish the paradigms for behaviour. They build relations between the normative and the material universe, between the constraints of reality and the demands of an ethic* (Cover, 1983: 9).

Nomos is a useful concept for thinking about political values because it connects the normative with the concrete through law. While nomos is articulated in relation to legal tradition, it can also be interpolated into arguments about the relationship between a just transition and urban governance, and how this relates to the social contract (between citizen and state).

In South Africa, the constitution asserts the right to basic services for all citizens, and obligates the government to ensure adequate access to services. This rights-based service delivery is the primary interface between local municipalities and urban residents. Lemanski argues that infrastructure embodies urban citizenship and shapes the relationship (rights and responsibilities) between citizens and the state (Lemanski, 2020).

1.2. A JUST URBAN TRANSITION

A JUT refers to the shift towards more environmentally sustainable and socially equitable urban development. A JUT is specifically concerned with ensuring that the risks and benefits of the shift towards environmental sustainability in cities are equitably distributed, and that the processes through which the shift occurs are inclusive. A JUT spans the breadth of the economy and society, and includes the development of plans, policies and investments to support a systemic shift towards a low-carbon and environmentally sustainable future where all urban communities have a good quality of life, benefitting from the urban dividend. A JUT

encompasses the need to shift urban governance to be more procedurally just, be more tolerant (justice of recognition) and for resources to be distributed more equitably (Hughes & Hoffmann, 2020). At the heart of the JUT is the need to ensure active participation of communities and all relevant actors. In other words, the JUT encompasses distributive, participatory, recognitional and restorative justice.

The idea of a just sustainability transition emerged originally from within bottom-up environmental justice movements (Agyeman et al., 2016), specifically the labour movement (Hughes & Hoffmann, 2020). These movements were concerned about the impact on the labour force of shifts from sectors and industries harmful to the environment to sustainable ones. More recently it has been acknowledged that both bottom-up and top-down approaches are necessary to bring about a just transition (Ziervogel, 2019; Culwick Fatti, 2022). Global action is required to uproot the systems that drive poverty, inequality and the environmental crises, and local actors are needed to bring about change within communities and ensure accountability (Ziervogel et al., 2021; Culwick Fatti, 2022).

The Paris Agreement (2015) specifically highlights the need to "[take] into account the imperatives of a just transition of the workforce and the creation of decent work and quality jobs in accordance with nationally defined development priorities". The global adoption of the Paris Agreement has led to increased attention to the labour consequences of climate mitigation efforts and especially the transition towards renewable energy. However, it is increasingly evident that the JUT extends beyond implications for the labour force and beyond the energy sector.

While justice and sustainability are imperatives that are strongly interwoven throughout policies, legislation and plans, Patel (2006: 692) emphasises that 'a policy commitment to sustainable development does not automatically result in the achievement of social and environmental justice'. This inability to achieve both socially just and environmentally sustainable outcomes is not necessarily reflective of a lack of will, or even the lack of explicit strategies to foster these imperatives, but rather the result of a complex set of factors, institutional dynamics, decision-making processes and trade-offs.

Achieving just sustainability requires not only intervention across a range of sectors and stakeholders, but also confronts where interests and responsibilities are not necessarily shared (Mummery & Mummery, 2019). Misalignment does not necessarily arise from poorly understood ideas or a lack of will, but rather deep differences, influenced by world views and oftentimes competing goods. Goh (2019), for example, shows how efforts to build flood resilience in Jakarta, which was considered a public good and sustainable, nevertheless

dispossessed people of their homes. This example shows how two equally valid needs - the need to build flood resilience and residents' need for housing - came into conflict.

Where these types of conflicts exist, assuming that it is possible to find compromise or align different positions can trivialise real difference, skewing outcomes in favour of those with power and influence. Conflicts can occur within individuals, where cognitive dissonance undermines action against injustice or environmental damage, despite knowledge of these issues (Swyngedouw, 2021). Trade-offs are likely to emerge across different scales - each influenced by different priorities and objectives (Lu et al., 2021). Additionally, furthering justice and/or sustainability at one scale, can have different impacts at other scales (Lawhon & Patel, 2013). Without careful consideration of the complex set of consequences of trying to live within planetary boundaries, it is possible that progress can be made in one measure (e.g. climate change) while causing detrimental effects in other measures (e.g. ensuring just access to water and energy) (Gupta et al., 2023).

While there is a strong argument to prioritise addressing existing injustice over a potential future injustice or a delayed impact with uncertain consequences, it is nevertheless important to acknowledge that actions taken now will have an impact on the ability for the future. Temporal considerations and trade-offs between prioritising immediate needs versus longer-term consequences are particularly pertinent in just sustainability. These trade-offs are evident in the impact that historical actions have had on our current ability to achieve sustainable and just cities. Climate change exemplifies the way in which environmental costs of past (and current) development have been externalised onto future generations. The ways cities and infrastructure have developed over time have direct influences on current and future resource consumption patterns (IRP, 2018). In many cases, cities have been locked into highly resource consumption patterns because they were built at a time when resource availability was not a constraint (or was less of a concern than the immediate developmental need) and there was little understanding of the environmental and social costs of pollution and ecological degradation. Hallowes and Munnik (2019) call for expanded imaginaries around potential future outcomes that are based on the utopian goal of a just transition. Cartwright et al.(2023: 49) argues that a just transition will "involve people doing things differently. Officials, businesses, households, and NGOs will be required to adopt new modalities, new technologies, and new collaborations as they implement new ideas".

1.3. EQUITABLE URBAN RESILIENCE

The concept of resilience has become increasingly popular in local government discourse and academic research. This coincides with growing climate change concerns, and the need to think through disaster risk management. Resilience, as a concept, originates in engineering and science disciplines, however, it has more recently been seen through the lens of social ecological systems. Urban resilience focuses on systems, in particular the ability of a city wide system, to adapt and transform to shocks that fall outside the range of normal and expected disturbances, be they climate related or other forms of crisis. (Meerow & Newell, 2019; Kapucu et al., 2023). Building urban resilience includes building the capacity of Institutions, communities, individuals and systems to absorb external shocks, adapt and 'build back better'(Kapucu et al., 2023).

Although the literature on urban resilience has turned to focus on ecological resilience (Folke et al., 2005), a particular concern is that ecological and disaster oriented frameworks of resilience don't deal adequately with questions of structural inequality, power imbalance and social justice (Cretney, 2014; MacKinnon & Derickson, 2012; Weichselgartner & Kelman, 2015). To address these concerns Martin et al (2018) developed the idea of equitable resilience. They define this as a:

> *form of human-environmental resilience which takes into account issues of social vulnerability and differentiated access to power, knowledge, and resources. It starts from people's own perception of their position within their human environmental system, and accounts for their realities, and of their need for a change of circumstance to avoid imbalances of power into the future.*

The authors are advocating that conceptions and practices of resilience - if they are to be equitable - must cross scale boundaries and allow for fundamental whole system changes. This is resilience that recognises the need for systemic change, beyond adaptation.

In an equitable resilience framework, resilience strategies must incorporate a deliberate focus on whom they aim to benefit, while concurrently promoting meaningful participation in decision-making, the fair distribution of social and material resources, and the recognition of social, cultural, and political diversities. Thus Martin et al (2018) argue that when thinking through urban resilience planning, it is crucial to consider distributional, recognitional, and procedural equity. While the fair distribution of resources may be considered in some urban contexts, there is room for improvement in acknowledging and addressing the structural factors that perpetuate inequalities. If resilience is equitable it is necessary to ensure the active involvement of marginalised groups in decision-making processes.

1.4. GOVERNANCE AND TRANSLATING IDEAS INTO POLICY

Urban change is shaped by a multitude of actors and logics, often driven by conflicting motivations (Anciano & Piper, 2019, 2022; Ballard, Hamann & Mosiane, 2021), and thus it is necessary to map out the set of state and non-state actors and institutions that have influence over a JUT. Furthermore, decision-makers and governance systems are particularly important in navigating complex interactions between social justice and environmental sustainability.

How a city is governed, especially in the context of supporting a just transition, is a complex and multifaceted issue. Urban governance is guided by a combination of formal plans, legislation and frameworks that direct urban planning, together with a range of tacit factors such as political and financial pressures, and intergovernmental relationships (South African Cities Network (SACN), 2020). It involves a range of stakeholders, from local government to the private sector and community leaders, and requires careful consideration of the economic, social, environmental, and political implications of any policy decisions. This complexity is further compounded by the fact that South African cities are highly diverse in terms of settlement type, economic development and political leadership. As such, it is essential that urban governance be approached with an understanding of how these various elements interact with each other in order to ensure effective decision-making processes that benefit all citizens. This of course is no easy task. First it is necessary to understand what is meant by governance and some of the models that have been developed to support just urban governance. These are discussed in general terms before focusing on the formal, institutional frameworks that guide governance processes in South Africa.

Democratic governance is, in theory, a virtuous feedback circle between three components: politics, democracy and government (Figure 1). In this model, politics (the first component) encompasses individuals or groups, who are equal in both principle and law, and who form views on and mobilise around issues that they believe are critical for those in power to address (Dahl, 1989). South Africa's democratic politics centres on the assumption that different people or groups will have alternative views on key issues and are entitled to voice these opinions publicly. Political parties play an important role in connecting political issues and groups with government, in shaping policies, mobilising collective ideas and identities, identifying potential leaders, educating the public, contesting those in power and ultimately representing citizens in formal decision making spaces such as parliament. These roles are critical in legitimising the political system (Dalton & Wattenberg, 2000). In addition to political parties, civil society organisations can support democratic practices and participation, develop and lobby policy

positions, help to organise citizens, and to train and build leadership capacity (Almond & Verba, 1989; Putnam, Leonardi & Nanetti, 1994).

The second component, democracy, involves institutions through which individuals and groups can contest the offices of rule, or influence the decisions of rulers, in ways that uphold the values of equality, freedom and fraternity. In terms of contesting office, not only is any citizen entitled to run for office, but also the choice of official is made through free, fair and frequent elections. As a result, electoral outcomes reflect the real choice of the majority of voters (Dahl, 1973, 1989). In a democracy, any group may form a political party and membership is open to all citizens. Critical to all of this is a free, diverse and independent press that offers multiple means through which to report, examine and comment on the decisions of rulers (Dahl, 1973, 1989).

Citizens and groups may also try to influence officials through a range of formal mechanisms from legally required consultations on draft budgets, laws and policies, through representative forums such as citizen assemblies, to communicating one-on-one with officials through, for example, personal lobbying. Post-apartheid South Africa's constitution has entrenched institutions to support participatory democracy (e.g. IDP processes) to ensure that citizens have formal influence over government decision-making between elections.

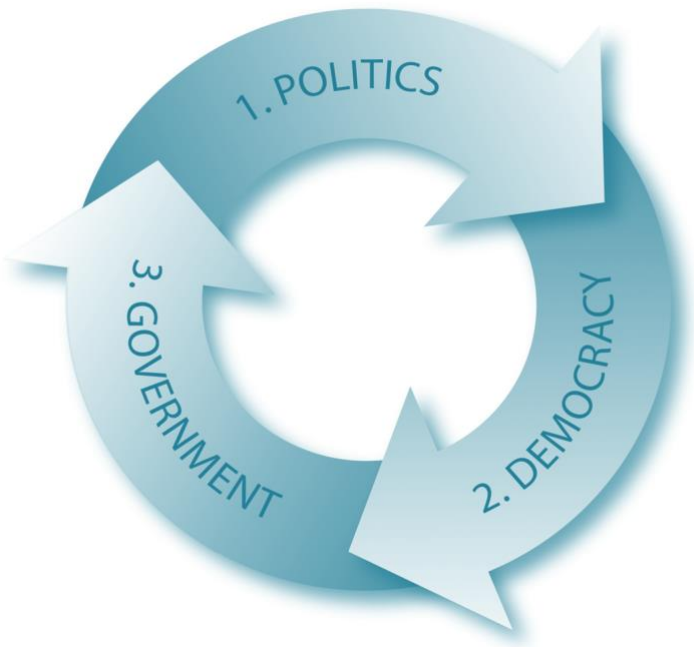

Figure 1: Model of democratic rule (Anciano & Piper, 2019)

Lastly, in this theoretical model, decision-making and implementation are enacted by government led by elected officials 'in that they are not subject to the tutelary control of military or clerical leaders' (Levitsky & Way 2002: 53). A central feature of democratic rule is that elected leaders do actually make the important decisions, which can occur in a variety of ways. First, rulers must deal with events that confront the state, for example whether to enforce a pandemic lockdown, or engage in military action. Second, they must develop policies or plans of action for the economy, education, health, security and so on. Third, they must introduce new laws to enable these decisions and policies, subject to some form of judicial or constitutional oversight (Dahl 1989).

In respect of urban democratic rule the same model of democracy applies but with an important qualification: local government is never self-governing but always part of a larger state system. This opens the possibility that City Hall may take positions on issues that conflict with the positions of the national government. Depending on the design of the system, one level (usually national) will prevail over the other. The existence of conflict between national and local is thus not evidence of a lack of democracy in and of itself. It is possible for both levels of state to represent the views of the majority of citizens in both of their domains authentically, and for their divergent groups of citizens to hold different views. For example, the City of Cape Town (CoCT) is controlled by the Democratic Alliance (DA), who has supported Ukraine in the war with Russia, whereas the national government is controlled by the African National Congress (ANC), who has taken a neutral stance. These differences have caused conflicts between these levels of government and international relations. In contrast, there may be conflicting mandates within domestic politics. A local government municipality run by one party may want to follow a specific policing plan for example, but are constrained by national policies dictated by an alternative ruling party. These challenges can extend to energy and water provision and thus affect the governance of a JUT.

1.5. CHALLENGES FOR LOCAL GOVERNANCE

There are various challenges that confront the quest for just urban governance and productive power. Some of these include the exclusion of the urban poor from decision making processes, the constriction and capture of democratic spaces by elites, and the limited power of local municipalities over non-state forms of local governance and informal life (Anciano & Piper, 2019). Each of these is discussed below.

Given the importance of citizen participation within democratic systems, the exclusion of marginalised groups from participation processes poses a challenge for just urban governance. The urban poor are often unable to afford to live by the rules of the democratic

city. The urban poor thus practise their own form of politics, which contrasts with the model of liberal democratic rule. This can take a number of forms: unable to afford formal housing, many urban poor auto-construct houses and thereby assert their right to the city and participation in urban life. Nevertheless, as Chatterjee (2004) explains, many city governments consider the urban poor as 'biopolitical' objects to be 'developed', or 'populations to be governed' rather than as citizens bearing rights. Furthermore, where the urban poor adopt informal practices because they cannot afford to fully follow the rules of the city, they can become vulnerable to legal prosecution and police harassment, which can deter them from choosing to participate in democratic processes (Anciano & Piper, 2019). In South Africa, state-citizen relations are often mediated by political parties. This type of mediated politics can result in public protest, and become a means through which political parties exert influence over both the state and forms of social representation. Finally, the urban poor can adopt practices of 'quiet encroachment' (Bayat, 2000, 2013) where they try to hide their informal actions (e.g. auto-construction or livelihood practices) from the state until these are sufficiently established for the poor to defend their rights to live and act in these ways. In such cases, defending their homes or practices can take the form of state resistance (Anciano & Piper, 2019).

In contrast to the exclusion of the urban poor, powerful social groups can apply undue influence over democratic processes and urban decision-making. This over-involvement can result in decisions and plans favouring the interests of the elite rather than those of the poor and marginalised or society as a whole. Multiple democratic institutions in South Africa have been captured by wealthy individuals, and corrupt officials and politicians, thus undermining the ability of these institutions to govern and effect productive power. The capture of participatory institutions and spaces undermines democratic rule as it further excludes traditionally underrepresented groups (e.g. the urban poor) (Anciano & Piper, 2019).

The increased involvement of non-state actors (e.g. elites) within urban governance poses a third challenge for just local governance. A wide range of actors produce and shape cities, and increasingly, traditional government functions are being fulfilled by quasi-independent organisations or the private sector - through both deliberate and unintended ways. This decentralisation of various forms of authority has weakened the power of the state, as multiple actors (rather than just the state) become involved in collaborative- or co-governance. This decentralisation gives greater power to the private sector and elite interests, which in turn can shift the focus of service delivery and resource distribution from democratic principles and pursuing the common good, to following market forces towards profit. The reduction of state power is also evident in cities where significant numbers of urban residents (largely poor) live and act beyond the formal system. These informal processes and actions can exert informal

influence over formal processes and institutions. Furthermore, informal institutions and actors can subvert formal processes and control over the distribution of urban resources.

1.6. SOUTH AFRICA'S JUST URBAN TRANSITION

In South Africa, there is significant momentum around the idea of a just energy transition, which has focused specifically on the transition away from coal-powered electricity generation to renewable technologies. In particular, the focus on the just transition has been particularly concerned with the impact on the coal value chain and labour force, and ensuring that those who work within these sectors are not negatively impacted by the transition (see Makgetla, 2021; Patel, 2021; Hallowes & Munnik, 2022; Jaglin, 2023). Swilling (2019)argues that a just transition can be defined as a set of complex highly contested socio- political processes that result in the significant improvement in well-being for all citizens and reduced inequalities, and the simultaneous restoration of degraded ecosystems, decarbonisation and radical improvements in resource efficiency. Achieving both these aims through a just transition would require and result in structural transformations

The energy transition will have a significant impact on South African cities - and especially those urban nodes that are strongly tied to coal value chains. However, the JUT will have an impact on every urban area as it focuses on addressing poverty, inequality, environmental degradation and climate change, while ensuring economic growth and social development. Channelling the just transition through cities makes particular sense in South Africa as the population is urbanising and the constitution mandates local government with providing services, social and economic development and promoting a safe and healthy environment (Cartwright et al., 2023). South Africa's JUT is fundamentally tied to creating inclusive and sustainable cities, where residents have access to the infrastructure and services required to ensure quality of life. A wide range of sectors are required for this, including, but not limited to, energy, water, sanitation, transport, housing, education, healthcare, and broader urban planning.

Ideas around a just transition have been evident in South Africa for more than a decade, and are inherently rooted in post-apartheid legacies and the political-financial expectations that those who benefited from apartheid will subsidise post-apartheid redistributive policies. Under apartheid, the delivery of basic infrastructure was explicitly uneven and unjust; with Black South Africans not considered legal citizens, with no legitimacy to occupy urban spaces in their own right, and with very restricted access to basic infrastructure. Consequently, since the advent of democracy and universal citizenship in 1994, successive post-apartheid governments have pursued a grid-centric vision of the universal delivery of infrastructure for

all citizens of South Africa, prioritising the physical extension of networks of infrastructure (e.g. housing, water, sanitation, electricity) as part of the political extension of citizenship rights. Whilst apartheid's explicit denial of citizenship rights to the majority of the population was delivered via unequal access to urban space and associated infrastructure; the post-apartheid state has implemented a suite of redistributive policies that extend public infrastructure networks and go hand-in-hand with the extension of citizenship rights. Indeed, access to basic services (housing, water, electricity) is a constitutional right. Arguably the post-apartheid implementation of a "grid-infrastructure-centric vision of citizenship" is a continuation of the apartheid vision of using infrastructure as a marker of citizenship, albeit through an agenda of inclusivity.

Where post-apartheid South Africa focused on improving access to basic services for the poor, the environmental sustainability elements of the JUT require deliberate attention to middle and upper income groups, whose lifestyles and choices have much larger impact on resource consumption, waste generation and land degradation.

Cartwright et al. (2023) argue that by engaging a just transition, cities in South Africa could accelerate the country's just transition, and harness the finance, technologies and partnerships required to overcome service delivery backlogs by rethinking service delivery modalities and tackling the reproduction of unequal outcomes.

1.7. GOVERNANCE FACTORS INFLUENCING SOUTH AFRICA'S JUST URBAN TRANSITION

> *Working towards just sustainability demands efforts that navigate, with foresight rather than hindsight, the intricacies and potentially complex dynamics in multi-scalar contexts…(Adegun, 2018: 12)*

South Africa's Constitution is the primary document for guiding the just transition, but the range of relevant policies span from the national down to the ward level. The South African Constitution divides political authority spatially in terms of three spheres of national, provincial and local government, each with their own executive and legislative capacities. The national sphere is privileged over the provincial and local spheres, with limited powers given to local government.

While South Africa's constitution privileges national over the other spheres, significant power is given to local governments for issues that affect a just transition. It is also notable that the Constitution requires 'co-operative governance' that aims to reduce the possibility of gridlock

or conflict by requiring constructive relations between the three spheres and the integration of rule across the state (Republic of South Africa (RSA), 1996). Thus any analysis of the governance of a just transition will require an understanding of how different spheres of government interact and their relative responsibilities (see earlier discussion of the different tiers of governance).

While the Constitution of post-apartheid South Africa is not based on the principle of subsidiarity, cities are authorised to drive their own development and spatial planning. Co-operative governance is especially apparent through attempts to integrate policy processes around developmental governance from local to national spheres. All South African municipalities are required by the Municipal Systems Act of 2000 to develop a 5-year integrated development plan (IDP), which guides development within the municipality. In addition to municipal considerations, IDPs must incorporate and align the development priorities of provincial and national governments into a singular plan for the municipality (Local Government 2000). IDPs are the primary tools through which socio-economic disadvantage and spatial inequality that persist from apartheid are addressed.` This intention is supported by the Spatial Planning and Land Use Management Act (SPLUMA) of 2013, which engages with how spatial planning should be used to redress racial inequality, spatial segregation and unsustainable land use patterns. SPLUMA deliberately gives municipalities responsibility over developmental and spatial planning processes. Municipalities are also constitutionally required to implement Free Basic Services, and find ways of funding these services. Additionally, municipalities raise the majority of their budgets through collecting taxes, from property rates and revenue from selling basic services (e.g. electricity, water, sanitation, refuse collection). In this way, municipalities have partial financial autonomy from the national government, in a way that provinces do not.

However as a recent report notes,

> *For all the progress made on transversal management, urbanism, urban systems and urban transformation, it should be recognised that South Africa's Metros are run largely within silos and through engineering and financial accounting principles that have frustrated the efforts of officials driving inclusive human development, ecology and environmental justice, community participation, climate resilience and endogenous economic growth that feature in national policy documents. Ironically, the proceduralism and built-in conservatism that has (mostly) kept Metros functioning has seen poverty alleviation framed as discrete 'projects' and has failed to unlock new partnerships or virtuous cycles of socio-economic progress and environmental rehabilitation.* (Cartwright et al., 2023: 49)

Important to the context of a just transition is the idea of deepening democracy and decision making by taking it closer to 'the people'; this is seen through the idea of participatory democracy. Decentralisation of decision-making and participatory mechanisms that support citizen involvement in policy formulation between elections is, in theory, central to the governance of urban South Africa (Piper & Deacon, 2009). While participatory mechanisms have not lived up to their promise in contemporary cities (Lemanski, 2017), they do form a symbolic premise for the governance of a just transition. Swilling argues that a just transition should be focused on community ownership of resources (e.g. renewable technology), rather than the current focus on the private sector-led transition, which is currently the case.

As highlighted, government is only one set of the key actors and institutions that influence urban governance. In any city there are complex forms of hybrid governance that involve citizen leaders, officials, brokers, political party actors etc. In understanding how citizens engage the state and the state engages them in relation to supporting a just transition, it is necessary to explore multiple forms of everyday governance. Being and surviving in the city presents dynamic and multi-layered bundles of rights, exclusions, relationships, differentiations and possibilities (Holston, 2009). This conceptualisation is drawn from studies that look at how individuals or institutions engage in networking, alliance building, communicating and coordinating across systems and places (Anciano & Piper, 2019; Coelho et al., 2020).

Much of the work on urban governance focuses on the urban poor, as they often reside in the cities' margins, eking a living from precarious livelihoods. Even though they comprise a substantial proportion of the urban population they have limited or no rights to the city (Purcell, 2014). There is, however, growing evidence of the extent and significance of elite and middle-class residents engaging in hybrid or informal governance practices too, especially in the Global South. These are often a result of the limited capability of the state to enact its bureaucratic and governance functions to the satisfaction of wealthier residents. Despite the existence of policies to manage and plan the city, such policies may be differentially or partially enacted. This leaves space for elites to buy their way around blockages to building livelihoods and accessing basic services, potentially undermining state legitimacy (Kelsall, 2012). These processes also have implications for urban sustainability and justice.

There are various concepts used in different contexts to explain ways in which the state and non-state actors (at all points on the socio-economic spectrum) engage and negotiate public order in the context of reduced state capacity. These include (but are not limited to) 'infrastructural citizenship' (Lemanski, 2020), 'state-in-society' (Migdal, Migdal & S, 2001: 1), 'unorthodox organisations' (Joshi & Moore, 2004: 31), 'governing by 'discharge' (Hibou, 2004:

1), ‘mediated state’ (Menkhaus, 2007: 23), ‘twilight institutions’ (Lund, 2006: 685), ‘negotiated statehood’ (Hagmann & Péclard, 2010: 539) and ‘hybrid institutions’ (Büscher, 2012: 483). A further concept is that of ‘boundary spanning’. Research in this field examines how ‘boundary spanners’ mediate between communities and state actors to sustainably co-produce urban regeneration (Frieling, Lindenberg & Stokman, 2014; Van Meerkerk & Edelenbos, 2014). Hybrid governance is another frequently used term. Literature from the Global South links this term to political orders in what have traditionally been seen as ‘weak’ or ‘fragile’ states. Boege et al (2009) stress the need to reconceptualize fragile states as hybrid political orders, allowing for better understanding of everyday governance and the formation of political communities beyond a focus on the state. Booth (2012) reinforces this position with the idea of ‘working with the grain’ and an understanding of what forms of governance arrangements ‘actually work’. Hybrid governance is even seen as a viable form of service provision without the state where state capacities are limited, despite bringing clear risks in terms of legitimacy and security (Meagher, 2014; Kapidžić, 2018). Hybridity can include international institutions, development agencies, non-governmental organisations (NGOs), religious groups, community-based organisations and chieftaincies among others. Hybrid governance thus broadens analytical research beyond a focus on state and elite level actors to engage meaningfully with the agency of non-elites or local elites, termed elsewhere subaltern politics (Albrecht & Moe, 2015: 4). Hybridity literature criticises dichotomies such as public and private, state and non-state, formal and informal, which is central to historical political science narratives in the west.

From twilight institutions to boundary spanning, these concepts all depict the ‘multiple sites of urban governance’ (Lindell, 2008: 1879) where non-state actors/citizens exercise public authority such as providing public services - the co-production of services (Rateau & Jaglin, 2022). While these concepts depict the increasing role of non-state actors in urban governance processes, they emphasise the active role of the state in maintaining and exercising their mandate through various arrangements and continuous (re)negotiations. Through this interface boundaries between the state and society are blurred and the state is continuously (re)constructed as the everyday practices of non-state actors penetrate state processes (Das & Poole, 2004). Any implementation of the idea of a just transition will require a nuanced understanding of these hybrid governance processes. Furthermore, it is important to note that state and non-state actors are not always binary, and there is overlap through mediators and brokers, especially in informal settlements.

2. GOVERNANCE MODELS

Numerous models have been developed to support good governance, and which are relevant for the JUT in South Africa. As a constitutional democracy, a necessary component of achieving a just transition is for citizens to participate and meaningfully influence governance and decision-making processes. In other words, democratic participation requires that power, control and agency be afforded to citizens, not held only by the state.

The following subsections explore a number of governance models that could support the JUT in South Africa. It is important to note that no model will be able to provide a perfect guide for governing the JUT, but it is valuable to consider various models that can each contribute towards thinking through this governance challenge. We have identified three different phases of a project or process where different models can be valuable for informing urban governance across a range of stakeholders. These phases include: 1) stakeholder analysis; 2) analysing the problem and identifying solutions; and 3) monitoring and reflection. We argue that these phases are iterative, and at each step monitoring and reflection should be done to inform the next phase in the cycle. The following subsections describe various governance models relevant to stakeholder analysis and project analysis and solution identification.[1]

2.1. STAKEHOLDER ANALYSIS

The JUT is a multifaceted project with elements ranging from small-scale projects to systemic changes. Each of these elements requires the involvement of a range of state and non-state actors. The relevant stakeholders will differ depending on the issue or problem to be addressed. The **stakeholder analysis** phase can be broken down into five different parts (Figure 2), the first of which is to identify the general development problem that needs to be solved. and it is thus necessary to begin a process by identifying the range of actors and their respective roles. This process can be supported by the use of a **stakeholder analysis matrix** (Figure 3). A stakeholder matrix can be populated with varying degrees of specificity, depending on the information available. For each type of stakeholder group, it is important to identify how they are affected by the issue at hand and what role they might play in addressing

[1] Note that the governance models described here do not refer to models for managing government departments or institutions. Rather these models provide tools for thinking through how governance can extend beyond the state towards meaningful and productive participation across a range of stakeholders.

it. Stakeholders should be identified across different scales or levels, both within and beyond the state.

Following the stakeholder matrix, it is necessary to assess the importance of each stakeholder to the problem and their capacity to influence associated decision-making processes. The **power cube** (Figure 4) is a useful tool to interrogate influence and power over processes and decision-making. This tool highlights how power can be invisible or hidden, and emerge from multiple levels (Gaventa, 2005). The different sides of the cube represent different dimensions in which power can manifest, and how these interact with one another. One of the sides focuses on the different levels of decision-making and where authority lies. These range from local up to global. Another dimension is the form that power can take, including visible, hidden or invisible. The final dimension relates to the spaces in which power manifests, and includes closed, invited and claimed or created spaces. (See here for more information).

In identifying and analysing the various stakeholders, it is possible to interrogate critically who has / has not been included in decision-making processes, whose voices are heard and whose are not, and how various stakeholders (e.g. cities and politicians) engage in decision-making spaces.

Figure 2: Stakeholder analysis and its 5 component parts.

Stakeholder	How affected by the Problem	Capacity to Address Problem	Motivation to Solve the Problem (+ or -)
Poor rural women	At risk during childbirth	Limited because of poor quality health care services	High +
Traditional birth attendants	Unable to access formal health care services but directly involved in most deliveries	Limited with existing knowledge and resources	Mixed: concerned about possible loss of status but interested in increased knowledge/resources

Example of a simple Stakeholder Analysis Matrix for a maternal mortality project

Figure 3: Example of a simple stakeholder analysis matrix (Drawn from NZAID Logical Framework Approach Guideline 2006)

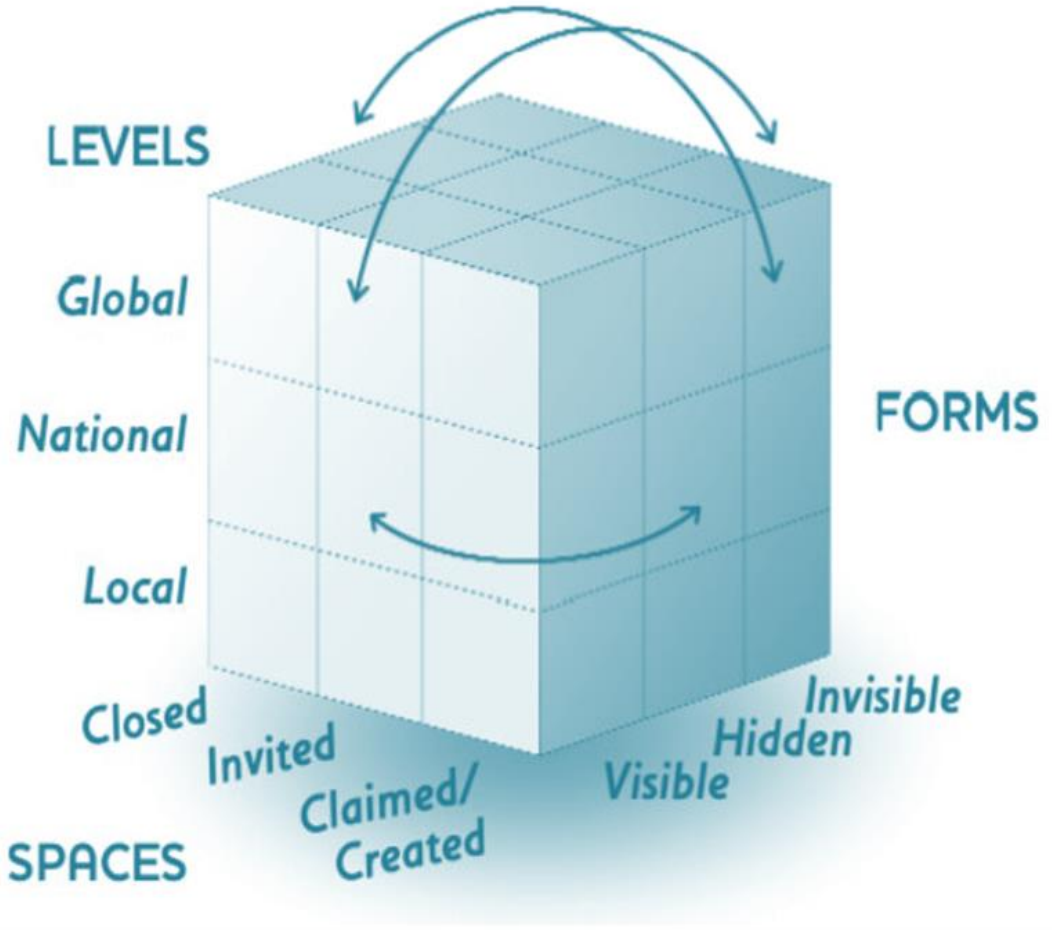

Figure 4: The power cube (Gaventa, 2005).

2.2. PROBLEM ANALYSIS AND SOLUTION IDENTIFICATION

In attempting to to make systemic changes, as is the case with the JUT, it is important to avoid what Andrews et al. (2012) refer to as capability traps - in other words pretending to "reform by changing what policies or organisations look like rather than changing what they actually do" (Andrews, Pritchett & Woolcock, 2012: 1) .The **Problem Driven Iterative Adaptation (PDIA)** approach has been developed in response to this risk, and aims to to build state capability by focusing on solving complex problems and promoting development and innovation. It is based on the idea that development challenges should be addressed through a process of problem-solving and learning rather than relying only on pre-packaged solutions. The approach involves four key elements:

a) Addressing specific problems in a local context

The first core principle is to identify and understand the underlying problems rather than immediately searching for solutions. By focusing on prevailing problems, the bias towards externally prescribed solutions is reduced, and the emphasis is placed on addressing internal functionality needs (Pritchett, Andrews, and Woolcock, 2012). This approach ensures that problems are defined locally rather than being externally imposed. It prioritises performance and motivates front-line workers and leaders to participate actively in creating change. Pritchett et al (2012) suggest a "5-why technique" or Ishikawa diagrams as a tool to prompt stakeholders to ask "why" five times, repeatedly asking why a problem matters.

b) Creating environments that enable decision-making, and encourage experimentation and positive deviance

The second principle focuses on problem-driven interventions that are developed through an incremental process of 'muddling through'. By taking small gradual steps, stakeholders can flesh out contextual challenges and build political support, and when a combination of elements work together, incremental reforms focused on addressing the problem can produce desired outcomes.

c) Continuous, active and hands-on learning

The third principle is to undertake a problem-driven, stepwise reform process, combined with active learning through real-world experimentation. By engaging in continuous testing and trying out solutions, reformers can learn valuable lessons about what works and what doesn't in addressing problems from a local context (Pritchett, Andrews, and Woolcock, 2012). This principle emphasises the

importance of immediate feedback and incorporating lessons back into the identification of the problem and design potential solutions.

d) Active involvement and collaboration of stakeholders

The last emphasises the importance of collaboration between various stakeholders to ensure that the proposed reforms are viable, practically implementable, politically supportable, and relevant to the specific context. Pritchett et al. (2012) argue that change can occur when a range of stakeholders collaboratively design and implement locally relevant solutions to address specific problems. They highlight the need to bridge "the agents with power to those with ideas" (Pritchett, Andrews, and Woolcock, 2012, p. 17). This perspective challenges the notion that change is driven exclusively from the top-down by powerful agents or elites who are deeply embedded in institutional mechanisms.

There are various tools that can assist with the four steps of the PDIA approach. A **SWOT (Strengths, Weaknesses, Opportunities and Threats) analysis** can be useful to help identify localised contexts and knowledge (Figure 5). Using a SWOT analysis requires that for the issue under consideration, the strengths, weaknesses, opportunities, and threats should each be identified and placed within the relevant quadrant of the table. The top two quadrants, Strengths and weaknesses, refer to the internal factors that can be controlled, while the bottom quadrants, opportunities and threats, are external and cannot be controlled, only managed. Looking across the other direction, the left quadrants refer to factors that are helpful for achieving the objective, while the quadrants on the right are harmful.

Figure 5: Strengths, Weaknesses, Opportunities and Threats (SWOT) analysis framework.

A **problem analysis** (Figure 6) is another tool that can be used to explore the various elements of a problem and can help to guide discussions and engagements across a range of stakeholders. This tool comprises four main steps, including first discussing and agreeing on the problem or need to be addressed. The second step involves identifying the most critical focal point of the broader problem, which was agreed in the first step. This is followed by identifying all of the problems associated with the core/focal problem. The final step is for these associated problems to be organised into a **problem tree** according to their hierarchy with regards to their cause and effect relationships with the core problem. Figure 7 provides an example of a problem tree.

Figure 6: The four main steps of a problem analysis.

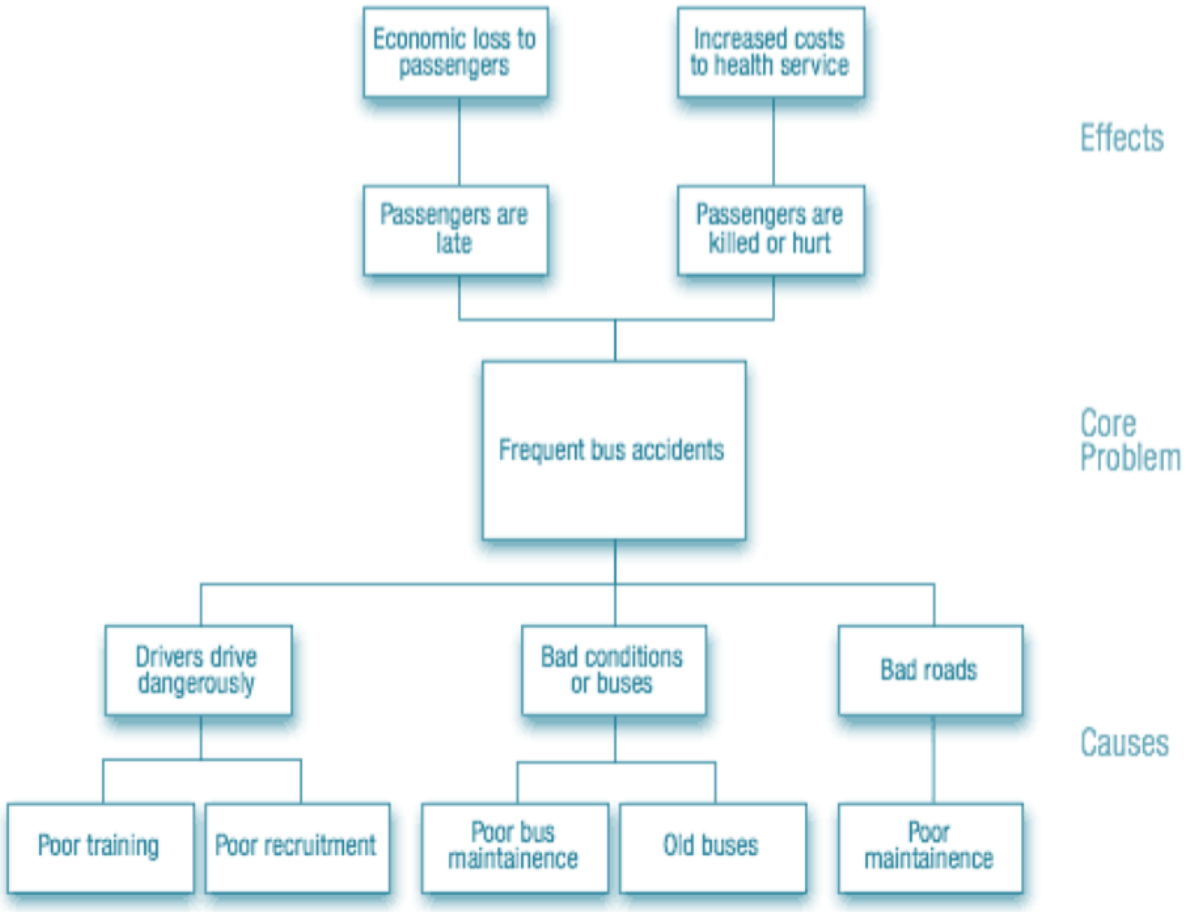

Figure 7: An example of a Problem Tree (Source: Information Drawn from NZAID Logical Framework Approach Guideline)

Being able to arrive at useful inputs to develop a Problem Analysis and Problem Tree related to JUT problems requires meaningful participation across a wide range of stakeholders. Co-production has been flagged as an important way of facilitating such engagements, and has been directly linked with being able to build cities that are both socially just and environmentally sustainable. There are two dominant ways in which co-production is relevant in the JUT context: 1) co-production of knowledge (e.g. urban visions for and understanding of cities), and 2) co-production of services.

The challenge of fostering JUTs has been linked with the need to look beyond dominant knowledge and perspectives, and in particular to find ways of co-producing understandings of and visions for cities (May & Perry, 2017; Hughes & Hoffmann, 2020; Culwick Fatti, 2022). There is growing acknowledgement that to shift the form and function of cities, it is necessary to draw on a range of perspectives and non-typical forms of knowledge because relying on traditional understandings will likely replicate the existing systems that have led to the current environmental and social crises. Furthermore, by expanding the understanding of cities it is possible to build towards a future that is not limited to that which benefits the dominant groups (Hughes & Hoffmann, 2020). Studies have demonstrated that ensuring community participation within decision-making and governance processes through co-production can enhance not only procedural but also distributive justice (Adegun, 2018).

Co-production principles have been adopted and experimented with to greater and lesser degrees within local government in South Africa. The effectiveness of co-production depends on the inclusion of a wide range of stakeholders and perspectives (May & Perry, 2017). The aim of these co-production processes is not necessarily to reconcile differences in perspectives, but rather to create a safe space for different perspectives to be given an opportunity to shape a collective understanding of issues and potential solutions or plans (Culwick et al., 2019). Castán Broto (2022) Importantly, co-production processes can build relationships and support networks across government, the private sector, academia, civil society and communities. These types of networks can develop to support the co-production of services.

There is growing evidence of where a range of actors together with the state are supporting service delivery in both rural and urban contexts. Co-production of services can be considered as a form of decentralisation, where the state, citizens and market players come together to deliver services (Castán Broto & Neves Alves, 2018). It relies on the involvement of multiple stakeholders, institutions and technologies, in order to meet the growing need for services and changing nature of demands (Rateau & Jaglin, 2022). Service co-production is argued as a

key tool in challenging the structures that reproduce urban inequality, especially in areas within cities that are poorly connected with services.

Although knowledge co-production and service co-production are distinct in some ways, they are arguably interconnected (Castán Broto et al., 2022) (Figure 8). Service provision requires locally specific knowledge which is strengthened through co-production. The involvement of communities in service provision, deepens the understanding of urban infrastructure and services.

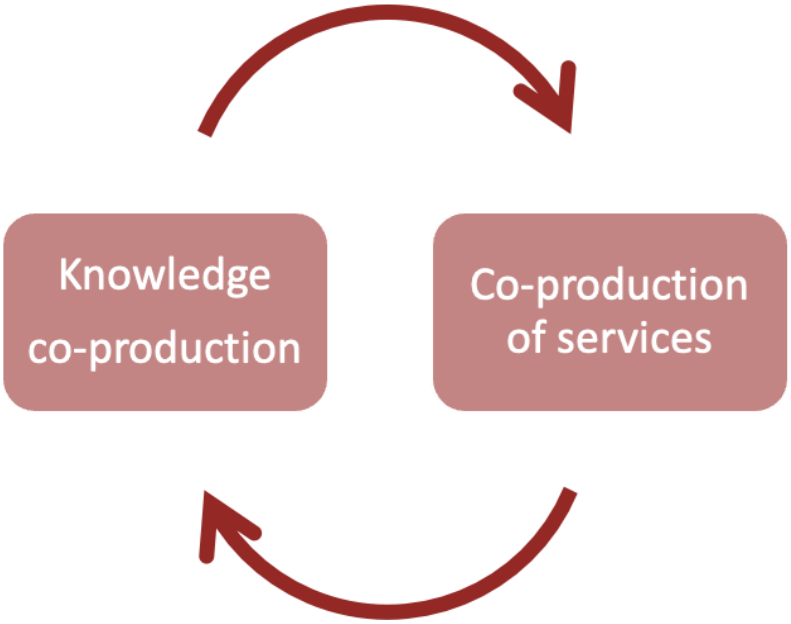

Figure 8: Interconnectedness of knowledge co-production and the co-production of services

One of the key features of the just transition is the uncertainty embedded within both potential climate futures, and in the adoption of experimental and innovative approaches to urban governance. **Adaptive co-management** has been designed deliberately for contexts where uncertainty exists and where no single actor or institution is able to understand and manage a particular issue. It was developed to support adaptive governance of ecosystem management, and is based on the principles of collaboration, flexibility, and learning-based design and management (Folke et al., 2005). Adaptive co-management relies on collaboration across diverse stakeholder groups from a range of scales (local, regional, national and global), and spanning governments, international bodies, the private sector, non-government organisations, community groups. This approach requires that power and responsibility over decision-making and management processes must be shared across the relevant stakeholders. Folke et al. (2005) argue that this approach counters the tendency for scientists or technical experts to provide scientific evidence to government agencies, who develop agendas and then propose potential solutions to a range of relevant stakeholders. Adaptive co-management through stakeholder meetings and workshops with a range of different stakeholders, helps to build trust and is designed to even out power imbalances and

allow complex social dynamics to surface, and minimise the risk of polarisation of perspectives, which can stunt discussion and consensus building (Folke et al., 2005).

Case Studies

3. CASE STUDIES

In this section we draw on case study research from South African cities to examine how actors and processes intersect in urban planning. These case studies reflect on the processes required to further a JUT, as well as the role of influential stakeholders in this transition. This section also highlights some potential challenges and resistance for shifting towards cities that are both socially just and environmentally sustainable.

We consider three case studies, each focuses on a different element related to urban infrastructure and explores the respective considerations for social justice and environmental sustainability, and the various actors and processes related to the governance of these respective infrastructural services. Although the dominant focus of just transition debates has centred on the energy sector, and in particular how government's transition away from coal-powered electricity will affect communities and the associated industries. Less attention has been paid to understanding the collective impact of private small-scale embedded generation projects on municipalities and their ability to ensure just access to electricity. Our first case study focuses on private investments into alternative electricity sources. This study demonstrates that although solar PV investments can contribute positively towards climate change and can support job creation, they can negatively impact municipalities' ability to cross-subsidise service provision for the poor - an entanglement of positives and negatives for just sustainability. This case shows how the private sector and households can play a powerful role in the JUT.

In the other two case studies, we have deliberately broadened our focus beyond the energy sector to consider other elements of urban infrastructure and development. These cases focus on sanitation and housing provision. The aim of these cases is, in part, to demonstrate how the JUT cuts across all urban functions and the governance thereof. The sanitation study is from an informal settlement context, where the negative environmental consequences of inadequate sanitation services are disproportionately borne by the poor. The case exemplifies traditional environmental justice concerns, where addressing environmental and social issues are aligned. The study demonstrates how multifaceted issues around sanitation provision show the complexity of state and non-state processes in governing urban living. The case study looks at how the City of Cape Town provides sanitation to residents in BM Section, Khayelitsha, Cape Town, and how these residents experience sanitation provision.

The third case study considers government-led housing as a critical means of reducing inequality and poverty through the provision of adequate accommodation and basic services. However, provision of housing and services, although critical social justice imperatives, has

negative environmental consequences such as land and resource consumption. Residential development is one of the dominant drivers of urban change and has the potential to transform environmental and social systems. This case study considers Lufhereng, a government-led housing project on the urban edge of Johannesburg, to explore how the project was designed to address social and environmental objectives simultaneously through well considered and integrated urban design, but the implementation has demonstrated the difficulty in achieving this alignment due to a range of social, institutional and political reasons.

FRAMEWORK FOR INTERROGATING CASE STUDIES

Rather than providing concrete decision-making frameworks or replicable processes, these case studies surface what questions need to be asked, what things need to be considered and what potential trade-offs need to be engaged with in order to pursue a JUT. Three case studies are presented in this section, each related to a different urban sector. Each of the case studies follow the same general structure, beginning with a brief background, highlighting the elements of environmental sustainability and social justice that are relevant for the respective case. Each then goes on to identify the stakeholders, mapping their roles and the relative power that they hold in decision-making and governance processes. The case studies conclude with a reflection on challenges, tradeoffs and/or resistance to a just transition.

CASE STUDY 1: ELITE INVESTMENTS IN RENEWABLE ENERGY

To transition the whole of society towards just sustainability, it is necessary to consider not only poor and marginalised groups, but also elites (e.g. individuals, households and businesses) and their respective influences over social justice and environmental sustainability. Steffen and Stafford Smith (2013) argue that if attempts to reduce inequality are limited to raising the living conditions of the poor, rather than reducing the consumption patterns of the wealthy, we are on a course to worsen the current environmental crisis. Focusing on wealthy groups also broadens the analysis beyond government intervention and into the role of private investment and actions on social and environmental systems.

The current electricity crisis in South Africa has been described as “a perfect storm”, where an ageing and inadequately maintained fleet of coal power stations has compounded with necessary upgrades of the Koeberg Nuclear power station and significant failures at the new Medupi and Kusile coal power stations. Over the past year (2022/23), Eskom’s inability to meet the country’s electricity demand has resulted in unprecedented loadshedding (scheduled power cuts), which is unlikely to ease in the short term. In 2022, the country experienced 200 days of loadshedding, and by the middle of June 2023, there had been some level of

loadshedding for all but ten days of the year. At the same time, electricity costs have increased significantly faster than inflation as Eskom attempts to address the electricity crisis. The combined impact of unstable electricity supply and increasing costs have dramatically affected the economy and jobs, as well as the daily lives of all residents.

ELEMENTS OF JUSTICE AND SUSTAINABILITY

South Africa is primarily reliant on coal-based electricity and is among the highest emitters of carbon dioxide both in absolute terms and per capita. As a result, there is significant pressure for the country to shift away from coal-based electricity generation to cleaner options. South Africa is in a good geographical position to make this shift, with some of the best solar and wind resources in the world. In recent years, there has been significant investment in renewable energy through both the government-funded Renewable Independent Power Producer Programme as well as private installations of solar, wind and hydro power.

Social justice considerations have been at the forefront of South Africa's recent focus on its transition from coal-based to renewable electricity generation. However, South Africa's 'just energy transition' (JET) has largely focused on the labour force and affected communities, and ensuring that these communities who are dependent on the coal value chain are not negatively affected by the transition towards renewable sources. However, less attention has been paid to the justice implications of electricity distribution and the role of private households and businesses. Although private solar PV investments can contribute positively towards climate change and can support job creation, they negatively impact municipalities' ability to cross-subsidise service provision for the poor - an entanglement of positives and negatives for just sustainability. In the context of South Africa's energy crisis, private investments by households into renewable energy have largely been motivated by a desire to maintain their living conditions. Patel (2000) notes that environmental justice in South Africa demands that poor communities do not bear the external costs of industrial production processes and over-consumption by the rich." (Leonard 2017, p23-24).

THE CASE STUDY[2]

Many households and businesses have invested in alternative electricity sources to protect themselves against supply interruptions and increasing tariffs. Although these decisions help maintain service access for those who can afford these alternatives, a range of consequences

[2] This research is based on the NRF-funded research project entitled Off-grid Cities: Elite infrastructure secession and social justice.

need to be considered for municipalities and society as a whole. Importantly, the lost revenue from residents relying on off-grid technologies impacts municipalities' ability to cross-subsidise service provision to poor households. Furthermore, the change in consumption patterns as a result of these alternative and hybrid electricity sources has the potential to create additional pressure on the grid.

These investments are generally efforts to maintain a level of normality and to survive through unreliable water and electricity supply. But the cumulative effect of these individual actions could have consequences for inequality and service provision for the poor. South Africa is already one of the most unequal countries in the world. Recent research has shown how affluent households in Gauteng are less affected by electricity interruptions than poor households. Furthermore, affluent households are proportionately more likely to invest in alternative electricity sources than poorer households. Access to solar power grew from 0.3% in 2015/16 to 3% in 2020/21 for the lowest income group, but for the highest income group access to solar increased from 4% to 12% in the same period. As a result, the gap is widening between wealthier households who can shield themselves from electricity interruptions and poorer households who cannot afford to do so. Not only are the poor less able to afford alternative power sources, there is a risk that municipalities will gradually be unable to cross-subsidise services to the poor as they lose revenue from wealthy consumers.

South African municipal financing systems are designed around the principle of cross-subsidisation, where the rates from high consumers of electricity and water (assumed to be wealthier households and businesses) help to pay for services for the poor. Rates are structured using block tariffs, where the cost per unit of electricity increases with increasing consumption. This structure firstly disincentivises high consumption of resources, and is designed to be pro-poor by assuming that low income households have lower consumption patterns. However, as high income households rely more on self-generated electricity, their consumption drops and they benefit from lower costs for electricity. The impact on municipal financing is thus two fold: not only is revenue reduced from reduced consumption, the amount received per unit of electricity is less. As feed in tariffs come into effect, these stakeholders

Private investments have the potential to add strain and complexity to the grid. Grid-charged battery systems increase electricity consumption and post-loadshedding peaks. Although solar photovoltaic installations reduce pressure on the grid during the day, they leave the evening peak unchanged. Because power plants cannot easily increase or reduce electricity production, they must continue producing electricity in excess during the daytime to ensure they can meet the evening peak.

STAKEHOLDERS, ROLES AND POWER

In contrast to the other two cases, private individuals and businesses have significant power to influence the transition to renewable energy and the associated social justice implications. However, these investments can have unintended consequences for managing electricity supply for the rest of society. Historically, the state has played the primary role of ensuring stable electricity supply, however with the increasing investment by private households and businesses, the state's role in mediating the interests of different stakeholders to ensure that everyone benefits from energy resources has diminished.

Stakeholder	Subset of main stakeholders influencing governance of private energy investments	Relationship to private renewable energy investments	Relative position of power to influence private energy investments
National Government	Treasury Department of Electricity	Set legal frameworks Facilitate financial support	Medium
Local Government (officials / departments)	Finance departments Electricity / infrastructure departments Environment departments	Develop local policies and strategies, and ensure	Medium
State owned entities	Eskom City Power	Generate and distribute electricity	High
Regulatory bodies	NERSA	Regulate energy sector	Medium
Private Sector	Banks/Financial institutions Alternative energy suppliers Businesses with solar power	Finance, develop and install alternative energy systems.	High

		Investors in renewable energy	
Political representatives	Ward councillors, Mayors	Framing policy	Medium
Residents	Households and individuals		High

Table 4: Stakeholder mapping of private renewable energy investments

CHALLENGES, TRADE-OFFS AND/OR RESISTANCE TO A JUST URBAN TRANSITION

One of the key governance challenges, of private investment in renewable energy, is that it is being driven largely by actors outside of government. In many other areas related to the JUT (as per the other case studies), government stakeholders have significant power and influence over decisions and how the transition to environmental sustainability occurs. In this case, the private sector and households are leading a transition towards green energy in a way that could significantly influence the electricity grid, municipal revenue systems and government's ability to ensure equitable access to electricity. Jaglin (2023) echoes these findings, and questions whether municipalities are capable of driving the just energy transition.

Furthermore, the regulatory environment has not yet caught up with the necessary instruments to register, monitor, regulate and respond to these investments. This means that currently there is no comprehensive understanding of the extent of investments (both total number and capacity) or the impact that these are having on the electricity grid and municipal finances.

One of the common concerns about grid 'defection', even if only partial, is the potential loss of revenue for municipalities. Given that municipal financial systems in South Africa are dependent on revenue from basic services and rates, municipal finance departments are concerned about the impact that lower revenue from those who have invested in private energy systems might have on municipalities' ability to provide services and ensure fiscal stability. Municipalities around South Africa have taken different approaches to responding to private investments, with some adopting an enabling environment that encourages those who have invested in private renewable energy to feed into the municipal grid, while others have proposed more punitive measures such as increasing electricity connection rates to compensate for lower revenue from the sale of electricity.

CASE STUDY 2: SANITATION WITHIN THE INFORMAL SETTLEMENT CONTEXT

Basic, safely managed sanitation is a fundamental human right, and central to human dignity according to the United Nations General Assembly (UN, 2010). Sustainable Development Goals (SDG) 6.2 focuses on 'achiev[ing] access to adequate and equitable sanitation and hygiene for all, end[ing] open defecation and, paying special attention to the needs of women and girls and those in vulnerable situations'. Yet, there are still millions of residents in South African cities who do not have access to basic, dignified sanitation. Rapid urbanisation compounds the challenge of achieving adequate and equitable sanitation for all. As low-income migrants move into cities, often settling on the margins of the city and in informal settlements, services such as sewered sanitation - if they exist at all - become overburdened. It is estimated that more than seven million citizens live in informal settlements and backyard shacks, some without running water, sanitation and electricity (Sobantu et al., 2019). About 20% of the City of Cape Town's 1.4 million households live in informal settlements (City of Cape Town, 2020).

ELEMENTS OF JUSTICE AND SUSTAINABILITY

Adequate sanitation provision is not only a social justice concern, it is also an environmental concern. Unmanaged faecal matter contaminates open sewers, rivers and open ground causing environmental and health hazards (Anciano and Piper 2019 Chapter 2). Poor access to safely managed sanitation is also linked to greater vulnerability to the impacts of climate change. Concomitantly, as recent research has demonstrated, improved sanitation infrastructure makes communities more resilient to climate disasters (Peirson & Ziervogel, 2021). Thus, a just transition requires adequately managed sanitation, to meet requirements of dignity, health and environmental protection.

THE CASE STUDY[3]

In this case study we explore how sanitation is provided in BM Section, Khayelitsha, Cape Town. We shall first discuss the legal framework supporting the provision of sanitation, then look at the City of Cape Town's (CoCT) approach to sanitation in informal settlements. We will

[3] This data for this case study is drawn from a three year, mixed methods research project on sanitation in BM Section, Khayelitsha. The data for this case study is primarily drawn from two rounds of interviews with a total of 42 respondents. The first round conducted in 2021, consisted of 20. In our second round of interviews, conducted in 2023, we interviewed 13 respondents. The interviews were conducted in the homes of the informants to enable the research team to observe the location and state of the PFTs. We also interviewed 7 CoCT officials in the Informal Settlement Basic Services (ISBS) unit, and staff (2) of a private company contracted by the City to service sanitation in BM section, as well as leaders of civil society organisations campaigning for decent sanitation.

review the role of non-state actors in governing sanitation access and provision and then look at the blockers and enablers of a just sanitation system.

BM Section is an informal settlement in one of Cape Town's largest townships, Khayelitsha. The township itself was established on the outskirts of Cape Town in the 1980s for Black Africans as part of the segregated planning of Cape Town under apartheid laws. While it was initially established as a formal area, over time it grew into a mixture of formal and informal housing. BM Section is one of the informal settlements that emerged in the early 1990s when residents from Khayelitsha and other areas occupied an empty piece of land. According to the City of Cape Town's basic services asset register, obtained by the authors from the City of Cape Town, BM sits on 32.42 hectares and has 4093 residential structures and a population of 13 671 people. Like most informal settlements in South Africa it is still regarded as an illegal settlement thus BM Section residents lack security of land tenure. The insecure tenure results in limited investment from the residents and the CoCT which affects the provision of services such as sanitation (see Groenewald et. al., 2013).

PROVIDING SANITATION IN BM SECTION

Legislation plays an important role in setting out legal requirements for safely managed sanitation. The South African Constitution, (No. 108 of 1996) and legislation such as the Water Services Act (1997) and Sanitation Policy (2016) obliges local authorities, such as municipalities like Cape Town, to provide basic services such as water, sanitation and refuse collection in informal settlements. The legislation was informed by the post-apartheid government's initiatives to provide sanitation to previously deprived populations thus broadening infrastructural citizenship (see Dugard, 2016; Lemanski, 2019). The government further introduced the Free Basic Sanitation policy (FBSan) to fully subsidise basic water and sanitation services for the poor (see Huchzermeyer, 2006). Other policies such as the Upgrading of Informal Settlement Programme (UISP) have seen the national government provide funding to municipalities to upgrade informal settlements, providing security of tenure and access to services.

The CoCT is obligated to provide basic sanitation services to all residents in informal settlements, and it goes to great lengths to do so. It provides free basic water and sanitation services to residents in more than 200 informal settlements with a target ratio of one shared toilet to a maximum of five households and one tap to 25 households within a maximum walking distance of 200 metres (City of Cape Town, n.d.). According to the City nearly 36% of informal-settlement households are estimated to have access to full-flush toilets at a maximum ratio of five households to one toilet. About 20% of informal settlements have full flush toilets

in communal blocks while 80% are catered for through Container Based Sanitation (CBS) options like chemical toilets, container toilets and Portable Flush Toilets (PFTs). In 2019 the CoCT provided 50 000 toilets, distributed among 250 000 households in different informal settlements (Kaiser, 2019). 11.36% of households have a 1:1 ratio in the form of Portable Flush Toilets" (City of Cape Town, 2022).

When choosing sanitation types for informal settlements, the first sanitation option considered by the City is a shared full flush toilet system. However, installation of full flush systems is made difficult due to a range of issues, which can include disputes in land ownership, topographical incompatibility and finance constraints. In these instances, the CoCT installs CBS technologies. Where it is feasible to provide full flush toilets, it provides shared facilities. As a senior COCT official explains:

> Full flush toilets will always be our preferred technology…it's what people aspire to, it's what you and I would prefer to use as opposed to a container. But the challenges are that a lot of informal settlements are located on land that is not owned by the City and the City is bound by the Municipal Finance Management Act which clearly states that we're not allowed to expend capital funds or permanent infrastructure on land that is not owned by the City. So, that immediately excludes those settlements from being provided with flushing toilets. In a lot of instances, the settlement is far too dense for us to provide flushing toilets because there is no space to excavate…sewer mains within the informal settlement. (City Official 1, 2021)

In this case study the CoCT provides four types of free sanitation in BM Section:

1. Communal full flush (sewer) toilets connected to the City's grid situated in many single concrete cubicles and two ablution blocks (with attached bathrooms and a laundry area);
2. Shared chemical toilets (similar to a 'festival toilet');
3. Shared container toilets (shared container-based toilets with a detachable 200-litre tank) and
4. PFTs the only form of private CBS.

Figure 9: Map of BM Section showing the density and location of full flush shared toilets (Blue), Container toilets (Green), Chemical toilets (Red). Source: City of Cape Town.

Type of toilet	Number in BM and users ratio	Servicing interval	Serviced by	Superstructure enclosure provided
Portable flush toilet (PFT)	930 (1:1)	3 times/week (sealed and transported)	Private company hired by CoCT	No
Chemical toilet	30 (1:5)	3 times/week (vacuum emptying)	Private company hired by CoCT	Yes
Container toilet	228 (1:5)	3 times/week (sealed and transported)	Private company	Yes

			hired by CoCT	
Sewer toilet	680 (1:5)	N/A	CoCT contract workers	Yes

Table 1: Sanitation technologies in BM section, ideal ratio of users, servicing frequency and provision of superstructure for user interface.

STAKEHOLDERS, ROLES AND POWER

There are a range of actors and processes that influence the provision and management of sanitation in BM Section. These are detailed in the table below, looking at who a stakeholder is, different examples of the stakeholders, their relationship to sanitation provision and their relative position of power to influence (govern) sanitation provision in BM Section.

Stakeholder	Subset of main stakeholders influencing governance of sanitation in BM Section (examples)	Relationship to sanitation provision in BM Section	Relative position of power to influence sanitation provision in BM Section
National Government	Department of Water and Sanitation Treasury	Set legal frameworks Facilitate financial support	High
Local Government - City of Cape Town (officials)	Department of Water and Sanitation Urban Mobility Department EPWP programme	Management of contracts for procurement and servicing of all types of sanitation. Management of EPWP workers in BM Section	Very High
Private Sector	Contractors providing CBS infrastructure	Collect, transport, clear and deliver PFT cartridges	Medium

	Contractors servicing CBS Contractors servicing PFTs	Clean fixed CBS (honeysuckers) Collect, transport, clear and deliver movable CBS cartridges	
Political representatives	Ward councillor Mayor MAYCO member for Water and Sanitation	Set overall policy objectives Councillor supports roll out of PFTs	Very High
Employees	EPWP workers	EPWP workers are contracted to clean ablution blocks. EPWP workers are contracted by the private sector contractors to clear PFTs.	Low
Civil society	Social Justice Coalition	Organise residents Hold protests demanding improved sanitation Engage with media	Medium
Local community leaders	BM Section Committee leaders	Facilitate community discussions Engage with councillor Support research Call meetings to support distribution of PFTs.	Low
Residents		Users of sanitation infrastructure	Low
Media	Newspapers Radio Social media	Share information from civil society Share information from government	Medium

Table 2: Stakeholder mapping of sanitation provision in BM Section, Khayelitsha

GOVERNING PORTABLE FLUSH TOILETS (PFTS) IN BM SECTION

Now we have a good sense of the key actors and their relationship to sanitation provision in BM Section, we can look in-depth at the governance of just one form of sanitation, and explore the processes and challenges linked to this.

If a resident in BM Section wishes to have a PFT in their home (the only form of private sanitation in BM Section) there are several steps that must be taken. They can either request a PFT through their ward councillor or other local leaders such as street committee members, or they can wait until a general meeting is called when PFTs will be offered. They will then attend the meeting and put their name on a list. Once the PFTs are available they will be called to collect them and be given a demonstration of how they work and how the servicing of cartridges will be managed. They can then sign for the PFT and take it home, or ensure the City has it delivered. There are currently about 930 PFTs, in approximately a quarter of households in BM Section (City Official 3).

From the City's point of view initiating the supply of PFTs is a multifaceted and long-term process involving a range of departments and non-state actors. First they need to ensure there is a budget line for provision of PFTs (allocated through the IDP process and other mechanisms years before rollout of infrastructure). If the budget is confirmed they can work out the allocation per settlement and area. While CoCT staff told us that demand for PFTs is relatively high, the City only distributes once there is acceptance by a community, and their leaders (City Official 3). Such an approach is deemed necessary to prevent vandalism and secures the private contractor's access to the community to distribute, service and maintain PFTs. The City therefore has to work closely with community leaders and the ward councillor in BM Section before they meet with residents. The City also needs to ensure private contractors are in place to service the PFTs.

THE COMPLEXITY OF PFT GOVERNANCE

Providing PFTs to residents of informal settlements in Cape Town comes with a host of governance challenges, from the point of view of both the CoCT and residents. From the perspective of the CoCT, the roll-out process of PFTs starts with problems of identifying legitimate leaders to facilitate the delivery of PFTs in each community, more so in instances where there are divisions. An official who facilitates the PFT roll-out process in BM section and other informal settlements in Khayelitsha told us of situations where City officials had to halt the roll-out process midway after being threatened and chased by residents who felt that they had been left out of work opportunities linked to servicing PFTs (City Official 3, 2021).

The private contractors who service PFTs must hire residents to clean and collect PFTs from the neighbourhoods where PFTs are provided. These casual workers are drawn from lists of community members who voluntarily register as job seekers under the City's Expanded Public Works Program (EPWP). These employees are called 'pullers' and they must live in the neighbourhood they service. Such a practice presumably guarantees both local knowledge and safety for the 'pullers' in settlements such as BM section. EPWP workers are, however, paid low wages resulting in high turnover. In any event an EPWP worker is only a temporary position, for up to eighteen months, although several people we spoke to about BM Section stated EPWP staff were changed every six months. Private companies servicing PFTs must employ and supervise casual workers who are not their direct employees, and who they have little say in choosing. The companies have limited control over staff; they cannot incentivise, discipline or change certain conditions of work as these are the City's EPWP workers.

Stakes are high, and protest can ensue if the PFT roll-out interferes with the informal settlement's labour market. There are many formal and informal institutions that compete for control in informal settlements such as BM section. From our interviews with City officials, it is clear that the process of identifying legitimate community leaders to work with is a delicate one (City Official 2, 2021). Gatekeepers will try to maintain control of labour opportunities. In many instances competing local leaders threaten not only the success of the roll out process but the safety of the City officials responsible for the roll out, and the safety of contractors hired to manage the servicing of PFTs (City Official 3, 2021).

A further important governance issue in the roll out of PFTs is the way in which they were used as a political tool by political parties. One of the challenges that the CoCT faces in its engagement with citizens is the political nature of PFT provision in a city governed by the opposition party, DA. PFTs were, by political actors and the SJC, associated with the apartheid bucket system and the DA portrayed as promoting and perpetuating this injustice.

CHALLENGES, TRADE-OFFS AND/OR RESISTANCE TO A JUT

While PFTs are in demand, they are not the form of sanitation that residents in BM Section want. Interviews with both City officials and residents in BM Section confirm that residents want full flush toilets, ideally in their home, as this for them is dignified and equal to the sanitation other South Africans have access to.

CASE STUDY 3: GOVERNMENT-LED HOUSING, LUFHERENG, CITY OF JOHANNESBURG

Urban infrastructure networks directly influence resource consumption patterns (IRP, 2018) and urban inequality. Housing influences a range of factors related to social justice and environmental sustainability due to its direct and indirect impact on the environment, resource consumption, access to economic opportunities and urban amenities, and overall quality of life (Chiu, 2000; Shapurjee & Charlton, 2013; Turok, 2016a). Thus government-led housing, which provides the poorest citizens with shelter and access to basic services such as electricity, water and sanitation, raises quality of life for poor residents and is an important means of furthering justice and sustainability in cities (Chiu, 2000; Shapurjee & Charlton, 2013; Turok, 2016a; Caldeira, 2017; Charlton & Meth, 2017; Adegun, 2019; Mitlin & Bartlett, 2020; Culwick Fatti, 2021; Mete & Xue, 2021). Government-led housing, particularly at the scale of the South African National Housing programme, contributes to shaping urban form of cities and infrastructure networks, including roads, water, electricity and wastewater networks. These large developments can create path dependencies with long-term implications for resource consumption (Turok, 2016a; IRP, 2018; Mahendra & Seto, 2019; Pineo, 2020; Mete & Xue, 2021). In addition to housing and infrastructure construction, the form of housing developments influences residents' access to urban amenities and opportunities (Adebayo, 2021), and by implication environmental sustainability (Monstadt, 2009). However, there is limited consensus on what forms of development are best suited to fostering just urban sustainability.

The South African government has placed concerted effort into raising the poor's living conditions through the government-led housing programme in which qualifying citizens can benefit from fully- or partially-subsidised houses or rental units (Myeni & Okem, 2019). Government in South Africa is constitutionally responsible for helping to ensure access to adequate housing and services, and national housing policies stipulate that housing must be located with convenient access to jobs, healthcare, education and other social amenities. Furthermore, policies emphasise the importance of higher-density housing to ensure efficient land use, maximise economic investment and minimise environmental impacts. These principles are designed to guide spatial restructuring so that cities become more equitable and just (Parnell & Crankshaw, 2013).

ELEMENTS OF JUSTICE AND SUSTAINABILITY

Social justice in reference to housing includes enhancing the equity of resource distribution (Campbell, 1996; Leach et al., 2018) and entails government-led housing that improves the quality of life of the poor, increasing access to adequate shelter and basic services, ensuring secure tenure, and enabling access to amenities and economic opportunities (Chiu, 2000;

Shapurjee & Charlton, 2013; Turok & Borel-Saladin, 2016; Mtapuri & Myeni, 2019), as well as redressing existing inequality.

Environmental sustainability considerations of urban development, and housing by implication, include land transformation, resource consumption and waste production. Land transformation increases impervious surfaces, damages ecological systems and can cause environmental degradation. Population and building density, as well as the ratio between floor area of dwellings and the land on which they are built, all influence resource consumption and environmental degradation (Waters, 2016). For example, high-rise buildings are very efficient in terms of land consumption, whereas suburban areas are inefficient. However, in the South African post-apartheid context, it could be argued that allowing low-income citizens to benefit from low-density forms of suburban housing that are dominant in high-income areas is socially just. Beyond land consumption, other types of resource consumption include the materials required to construct houses and infrastructure, and the post-construction residential consumption of water, energy and other resources (Chiu, 2000; IRP, 2018). Retrofitting and maintaining existing buildings rather than building new developments, and reducing average dwelling size are important ways of increasing resource efficiency (Hickel et al., 2021).

THE CASE STUDY

The Lufhereng housing development is located on the western edge of Soweto, near the municipal boundary between the City of Johannesburg (CoJ) and the West Rand District Municipality. This multi-billion Rand project is one of the largest government housing projects undertaken under the Breaking New Ground (BNG) policy and within the CoJ (Lekgetho, 2013; City of Johannesburg, No date). In the early 2000s, the CoJ was approached by the Gauteng Provincial Government to develop the approximately 2 000 ha site, which was partially owned by the Province and had previously been designated as agricultural land. Originally, the site fell beyond the CoJ's urban development boundary, but this boundary was extended to accommodate the project. Project planning was initiated in 2004 and Phase 1 of construction began in 2008. Within two years this first phase was completed, and 2 433 houses were handed over to beneficiaries from 2010.

Lufhereng was designed to play a significant role in reducing Soweto's housing backlog. It was anticipated that Lufhereng would provide houses for people on the 1996/97 housing database and particularly for people living in backyard dwellings and the Protea South Informal settlement and the surrounding areas (Nkosi, 2010; South African Government, 2010). Because CoJ's urban development boundary was extended to include the Lufhereng development and there are limited services and amenities in and around the site. Lufhereng

was thus designed to include all necessary services within the settlement. These include schools, a transport node and associated public transport routes, as well as industrial, agricultural and retail centres.

Although the full Lufhereng development is still to be finalised, initial indications suggest that the potential economic opportunities will not be realised due to insufficient commitment and coordination of relevant stakeholders. This poses a significant risk that the settlement, which was deliberately designed to have job opportunities in addition to providing houses, will only do the latter and force people to travel significant distances to find jobs. This is associated with the negative consequences of increasing environmental impacts, and social and financial costs.

STAKEHOLDERS, ROLES AND POWER

The Lufhereng housing development had significant involvement of all three spheres of government, and has been described as “a joint venture” between these three (Gauteng Provincial Government, 2012). However, despite a level of cooperation, the project did not necessarily align well with the respective sphere’s plans. Lufhereng was initiated by the Gauteng Provincial Government, but did not align with the City’s spatial development frameworks. Nevertheless, there was significant political pressure that obliged CoJto make the project work (Charlton, 2017). Although the housing department is primarily responsible for housing projects, coordination and support is required from a range of local and provincial departments to ensure that the range of associated services are planned and incorporated into these developments. In the CoJ, there is an infrastructure unit within the housing department that coordinates how the composite set of infrastructure for the housing projects is planned and developed. Once the contractor or developer has completed the housing project and associated infrastructure, the infrastructure assets are handed over from the developers to the various municipal utilities (e.g. City Power, Joburg Water) for ongoing maintenance (Interview 2019). The associated amenities (e.g. schools, clinics, parks, libraries) are funded and managed by the relevant provincial or municipal department.

To coordinate the various phases and components of the Lufhereng project, the CoJ set up a project office within the CoJ housing department. A project manager from the Joburg Property Company was appointed to the project offices and a representative from Gauteng Provincial Government was seconded to coordinate the various components of the project and liaise with the respective government departments. The project office ensured that the budgeting and planning had constructive outcomes for the project’s vision. A technical coordination team was set up that met bi-monthly to ensure alignment between the various sets of infrastructure, and

their associated construction schedules. This team comprised officials from both local and provincial government across the full set of relevant departments.

In Lufhereng, there was political pressure to fast-track Phase 1, which exemplifies the tension between delivering housing as quickly as possible and of ensuring that residents have access to a broader set of amenities and services. Although policy requires housing developments to be integrated across a range of services and opportunities, the housing department is measured on the number of dwelling units delivered.

Stakeholder	Subset of main stakeholders influencing governance of government-led housing (examples)	Relationship to housing provision in Lufhereng	Relative position of power to influence housing provision (Lufhereng)
National Government	Treasury Department of housing	Set legal frameworks Facilitate financial support	High
Provincial government - Gauteng Provincial Government	Department of housing	Initiate project and manage fund transfer from National to municipal government	High
Local Government - City of Johannesburg (officials/departments)	City Transformation and Spatial Planning Housing department Environment and infrastructure services department Transport Department	Involved in planning settlements and coordinating various services	High
State owned entities	City Power Joburg Water Pikitup	Manage delivery of services and maintenance of infrastructure once settlement has been built	Medium

	Joburg Roads Agency PRASA	Planning rail lines and stations and managing train services	
Private Sector	Developers Designers Engineers	Design and development of integrated projects, including detailed engineering and integrating across services. Managing construction	Medium
Political representatives	MEC housing CoJ Mayor Ward councillor	Set overall policy objectives, project & budget prioritisation Councillor supports engagement with residents	Medium/High
Residents	Recipients of subsidised houses and basic services	Recipients of government-led housing / owners / tenants	Low

Table 3: Stakeholder mapping of housing provision in Lufhereng, Johannesburg

Although the project was embedded within CoJ structures, it was not protected from political influence from powerful provincial actors. In 2008, the then Member of the Executive Council (MEC) for Housing in Gauteng (a key ANC appointment) exerted pressure on the project to deliver houses and hand them over to beneficiaries as quickly as possible in advance of the upcoming provincial elections. The provincial department circumvented the project management team and appointed a construction company to build Phase 1. An interviewee noted that "we need to deliver and we need to build houses – they were counting numbers" (Interview, 9 October 2019). The influence of a powerful political figure helped to rally together the various infrastructure teams to successfully complete construction. However, this phase was pushed through before the plans had been finalised or buy-in had been obtained from banks and private stakeholders that were critical for the successful implementation of the bonded housing, services and amenities within this phase.

CHALLENGES, TRADE-OFFS AND/OR RESISTANCE TO A JUST TRANSITION

As a large project that had the potential to address a significant portion of the housing backlog in Soweto (Urban Dynamics, n/d), Lufhereng held greater political appeal than numerous small projects, and its prioritisation reflects the interests of those in power, rather than beneficiaries who ultimately bear the consequences and externalised costs of the development (e.g. transport costs).

Despite being located far from existing amenities and economic opportunities in surrounding areas, Lufhereng is designed for residents to benefit from proximity-enabled access within the settlement. This vision has both positive and negative environmental consequences for the development – negative in terms of land transformation and long connections to bulk infrastructure networks (associated with high resource requirements), but positive because short internal trips have low resource implications. However, delays in delivering the planned amenities, services and economic opportunities can result in negative consequences for both social justice and environmental sustainability, as shown in the Lufhereng project.

Despite commitments for a fully integrated settlement. The lack of coordination between the housing and supportive elements is particularly stark in Lufhereng Phase 1, and as a result, a decade after houses were handed to recipients, there are limited other services and opportunities and people have to travel far distances to access social amenities and economic opportunities. Despite scholars and practitioners arguing that urban expansion projects are faster, Lufhereng has been a very lengthy project, and especially in the delivery of services and amenities.

Government housing projects, particularly at the scale required to meet the growing demand, have implications on other infrastructure investments and land acquisition, and thus require the input and commitment from a range of departments and spheres of government. This coordination can prove difficult especially where departments have competing objectives or plans. Vested interests, such as the potential economic gain from land value appreciation, can also influence the location and form of new housing projects. Politics may also influence the type of housing projects that are adopted. For example, one large housing project may hold greater political appeal than a number of small infill projects. Unfortunately, those who are likely to bear the negative consequences and externalised costs of housing investments (e.g. high transport or housing costs) seldom have influence over decision-making processes that fundamentally affect them.

The challenge of aligning social justice and environmental sustainability is fundamentally affected by the conflicts, and differing motivations and perspectives within institutional practices, politics and agendas of decision-makers and decision-making processes.

Neglecting these institutional and governance related factors, and focusing primarily on reconciling social justice and environmental sustainability considerations will not produce development that is simultaneously socially just and environmentally sustainable.

REFLECTIONS ON THE CASE STUDIES

These case studies have revealed a complex interplay between social justice and environmental sustainability, which differ across the different sectors. They demonstrate how there are frequently direct conflicts in securing both environmental sustainability and socio-economic justice; and navigating the diverse demands of different stakeholders. The set of stakeholders involved in each is not constant, and where stakeholders are involved across the different cases, their respective roles and where relative power sits is also variable.

The sanitation case demonstrated the complexity of governing any resource or infrastructure, in practice. It shows there are multiple actors involved, who engage in a range of governing processes, guided by a set of explicit and implicit rules. What does this mean for thinking through a JUT? Although government is a starting point, it is not the only, or even necessarily the main actor that must be considered. Any new technology or process must start with, and constantly include the buy-in of residents. This links closely to the idea of social justice.

There are significant technical challenges in instituting service provision across a wide variety of “customers’. Furthermore, the requirement of the JUT requires fundamental shifts to existing systems and the assumptions on which these are based, which can be difficult for stakeholders to embrace. Resistance to alternative technologies is a common threat, especially where the new technology is perceived to be inferior to that found in wealthier communities, regardless of whether this is the reality (Haque, Lemanski & de Groot, 2021).

The cases reveal how it is important to understand who holds power in the governing of the process or issue. If residents' power is low to affect change at the design stage, this does not mean their preferences won’t materialise or affect the embrace of climate friendly technologies later. Improving or changing habits that can support climate sustainability will only fully work if end users understand and accept the technology offered or proposed change.

While there may be some similar views on acceptable levels of service provision, residents will always have their own individual demands that may conflict with neighbours, and thus **conflict management** is important when thinking through the governance of any service or resource. The role of local leadership, including, but not limited to a ward councillor, is central. Local committees, CBOs and civil society groups should be engaged at regular intervals and can act as conduits between citizen and the state, if direct citizen engagement is not possible

(although this would be in many ways preferable). In the case of sanitation in BM Section, the CoCT does not have the staff or the capacity to constantly manage citizen engagement, or oversight of servicing. This raises the question of how governance can be co-produced.

Although bringing together a range of stakeholders into urban governance processes towards a JUT has its challenges, the off-grid case and the reality that private households and businesses are shifting the current energy landscape in cities, raises the question of whether there are potential opportunities for municipalities to partner with residents and businesses towards co-producing the just energy transition? What are the consequences of municipalities not pursuing this type of co-production? What unintended consequences might need to be considered in such arrangements?

The sanitation and housing case studies demonstrated that with the management of any single resource or service there are a range of other services that need to function effectively. In the sanitation case the servicing of one PFT involves, on a daily or weekly basis, water (two litres to flush the toilet), roads (to transport the cartridges to be serviced), and electricity (to keep the pumps working at Borchards Quarry Waste Water Works where the cartridges are cleaned). While the housing study revealed significant complexity in aligning not only basic infrastructure and services, but also access to economic opportunities and social amenities in order to further a JUT. Governing one resource in a JUT, relies on the governance of multiple other resources.

Finally, a significant challenge lies in how to deal with issues of financial sustainability and resource distribution given that not everyone can have everything. The JUT will require difficult decisions to be made, with trade-offs between sometimes equally valid objectives.

4. GOVERNING SOUTH AFRICA'S JUT: PRINCIPLES, PROCESSES, ACTORS AND POTENTIAL RISKS

If the transition to environmental sustainability in cities is going to be socially just, it needs to be inclusive of a wide range of stakeholders beyond the city, including politicians, the private sector, communities etc. The JUT is both broad and complex, and will involve every aspect and sector of cities. This task can be daunting, and potentially inhibitive to starting. By starting with a pressing need or low hanging fruit, progress, even if only incremental, can be made towards realigning cities towards sustainability and justice. This can help build momentum and willingness to engage with additional projects or processes.

What is the role of the state in transition within a capitalist society where the transition is primarily tied to economic transformation (production and consumption)? To a large degree, the JUTis about an economic shift, but decision-makers tend to be politicians and government officials who have limited influence over economic developments. The post-apartheid state was initially founded on a radical politics of socialist redistribution, but this was rapidly replaced by neoliberal agendas of economic growth above all else. In the case studies presented we see this in the desire of the state to partner primarily with the private sector (in fact, it's rarely a 'partnership', more like the state subsidises the private sector!). And yet, there is widespread global evidence that neoliberal private-sector led development largely excludes the needs of the poorest. A really radical governance of the JUT would devolve power to communities (see the work by Mark Swilling) - this is also an inherently African driven understanding of resource ownership. Although this model requires radical governance change that is well beyond the interests of those in power, it is important to be able to consider all potential options and the merits that they hold.

There is no precise understanding of justice, but having a clear sense of this is important to be able to shift ecological conditions. Dominant understandings of justice are western-centric and do not always translate well into global South or African contexts. It is thus necessary to develop and refine definitions and understandings of what justice means in African cities that are also faced with the need to respond to environmental crises.

4.1. KEY RISKS FOR GOVERNING THE JUST URBAN TRANSITION

There is a risk, or at least a perceived risk, that the sustainability transition and by implication the just transition will cost more than traditional developmental approaches. This perception

is likely to undermine widespread acceptance of alternative approaches, especially in fiscally constrained environments.

Furthermore, poor urban communities consider environmental concerns as less of a priority than access to basic service. Unless the link between social justice and environmental sustainability issues/solutions are clearly demonstrated, obtaining buy-in and support from poor communities will be very difficult.

> *"Environmental concerns are seen as, or may sound to be of a luxury…, as opposed to when you're looking to respond to people having access to food, having access to shelter."* (City official interview, 2023)

The JUT requires a realignment of consumption patterns and how people engage with the urban. In the context of resource limits and the need to reduce waste and pollution, a key challenge that will likely confront significant resistance is in changing how people live their lives and decoupling lifestyle aspirations from resource consumption. Given that South Africa is to a large extent a capitalist society and the promise of democracy is for all to be able to live a good life, realigning the urban system towards reduced consumption and aspirations is likely to face significant political and market resistance.

Interviews reveal that the current actors that are engaged with some municipalities is very limited to a small pool of 'acceptable' NGOs and organisations outside of government that they will work with. Although there are some attempts to bring in the universities to be collaborative. However, limited budgets often undermine these potential collaborations.

A challenge related to the just transition in South Africa is that strategies, dimensions, and timing of the transition particularly with regards to the reduction of emissions by 2050, are poorly defined and remain contested (Patel, 2021). One interviewee argued that "We need to transition to low carbon as quickly as possible but not so fast that we exacerbate inequality and poverty in the process" (Expert interview, 2023).

4.2. REFLECTIONS ON GOVERNING THE JUST URBAN TRANSITION

This paper has considered how governance models can meaningfully interact with existing local government policies and frameworks. There are multiple models that can be drawn from and assessed in relation to the South African city, none of which will provide a silver bullet.

This paper has argued that the JUT will require hybrid governance that involves a complex set of state and non-state actors. Furthermore, the breadth of JUT concerns is wide, as demonstrated by our respondents and case studies, thus a starting point for active governance is to think through which lens to address key concerns. The governance models outlined in the second section of the report provide useful tools for thinking through both the principles and practices of facilitating a JUT. These tools should not be considered in isolation, but rather should be thought about in combination. These tools relate to each other in various ways and they can be used to frame questions and think through processes when approaching the governance of a just transition at the urban scale. Figure 10 provides an illustration of how the various governance practices together form an interconnected governance cycle.

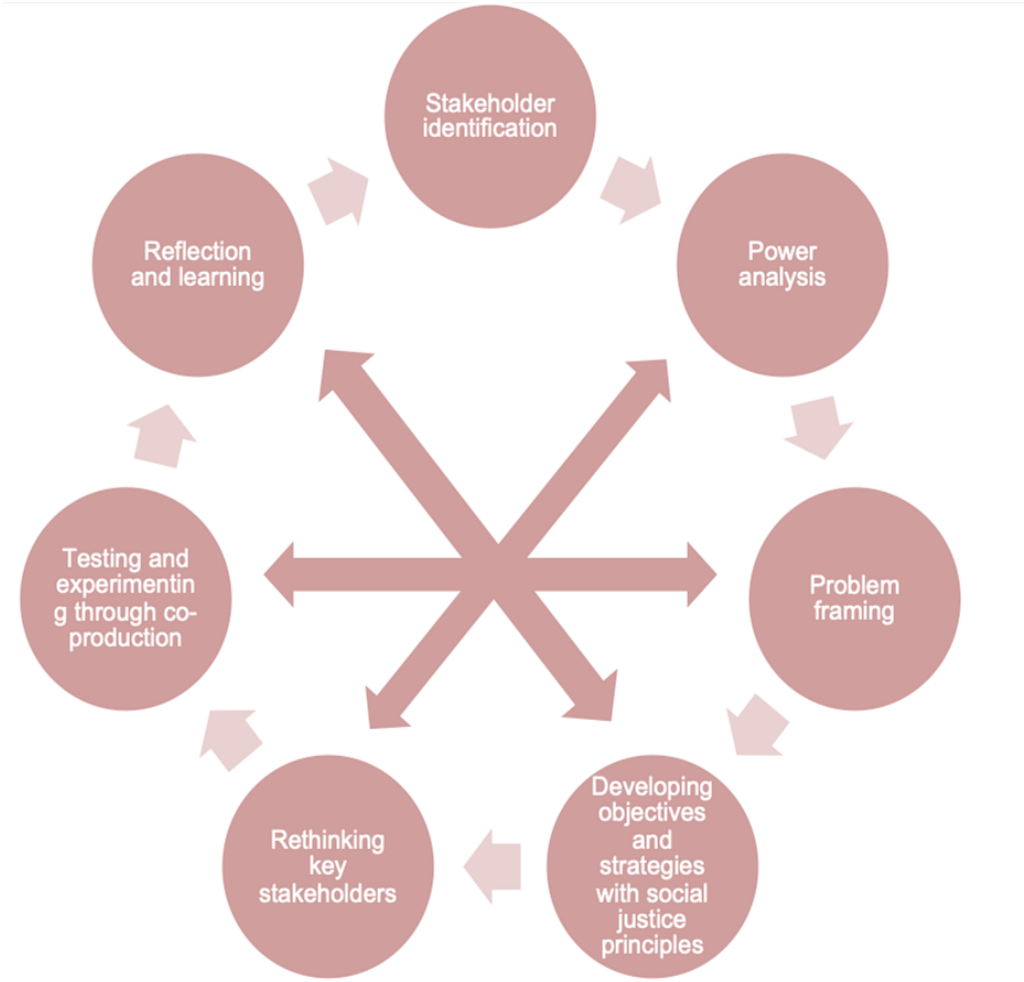

Figure 10: A governance cycle to support the process towards a JUT

Knowing who has real-world knowledge of a process or issue related to a JUT is the first step to planning sustainable and transformative change. As we have shown, a JUT can encompass a wide range of issues with cross-cutting themes and actors involved, not only from multiple arms of the state, but from civil society, local leadership groups and the private sector. Thinking

carefully about who to ‘have in the room’ when trying to understand and address a particular issue is important to generating meaningful and relevant knowledge.

It is also important to consider those who hold power in any process and problem framing. It is important to be aware that power can be hidden or act at different levels. Power is also manifest in where processes or meetings take place, and how they are conducted. Questions to reflect on here include: Who has defined the nature of the problem and elements to consider? Who has driven the agenda for a meeting? What was left off, as well as what was added, and why? What type of space, and where are JUT challenges being discussed, and how does that affect the ability of all participants to participate and present their views?

Identifying and understanding underlying problems rather than immediately searching for solutions in the context of a JUT is key. First, problems must be locally defined - with as many key stakeholders in the room as possible. Second, collectively identified objectives should be developed together with strategies that reflect social justice principles. The governance process should be iterative, and at various stages it is important to to reconsider who the key stakeholders are and whether the process of framing the problem, and developing objectives and strategies has flagged additional stakeholders that should be included. At any point, where rethinking of key stakeholders is undertaken, and additional stakeholders are included, it is also important to relook at where power sits and who has influence.

The development of objectives and strategies must be matched with a phase of testing and experimentation, which we argue should be done through co-production. Given that the JUT requires shifting the way cities currently operate and the way in which they are understood, it is critical that any process of testing and experimentation be paired with reflection and learning that can be fed back into reframing the problem, and refining or redeveloping objectives and plans. It is likely that mistakes will be made and experiments will fail, and in these cases it is critical that a supportive environment is created to foster learning and further experimentation, rather than overly conservative and risk averse processes.

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APPENDIX I: INTERVIEW CONSENT FORM & PROJECT INFORMATION SHEET

Participant information sheet

Governing the just urban transition [Off-grid cities]

Good Day,

We are a team of researchers at the Gauteng City Region Observatory, the University of the Western Cape, Cambridge University, and the University of Cardiff. We regularly undertake research about what happens in cities in South Africa to improve our understanding of how people live in cities, and when possible influence policy.

This research project is looking at the institutional and governance arrangements required for a just urban transition in South Africa. This project is funded by the South African Cities Network (SACN) and is connected to the NRF-funded Off-grid Cities project. We are trying to understand the nature and dynamics of the institutional and governance shifts required for a Just Urban Transition in South Africa. We would like to ask you for your views on these matters.

As such, we would like to invite you to participate in an interview, which should take no longer than an hour of your time. We will be asking about your understanding of the just urban transition and related governance and decision-making factors. There are no right or wrong answers, we are just interested in your thoughts, opinions and experiences. With your permission, we will record the interview on a voice recorder and take notes while the event is taking place.

The information you provide may form part of publications in journals and books but will always remain confidential, which means that only the research team will have access to it. Your personal information will be kept completely confidential and material from the interview will be anonymized. You may choose to use an alias (another name) to protect your identity. Though direct quotes from you may be used in the report, your name will be kept anonymous. We will keep the data in a secure place.

There are no benefits in assisting us with our research beyond the valuable information you provide us with and participating in some interesting discussions. We do not see that there are any foreseeable risks in your participation. The interview is only concerned with your opinions with regards your thoughts and opinions on inclusionary housing. Interviews will take place at a site and time that is convenient for you and on a platform that follows Covid protocols.

Participation is completely voluntary; there are no penalties if you do not participate or if you refuse to answer any of the questions. You are also welcome to leave at any point if you feel uncomfortable. If you have any concerns or complaints regarding the ethical procedures of this study, you are welcome to contact the University Human Research Ethics Committee (Non-Medical), telephone +27(0) 11 717 1408, email hrecnon-medical@wits.ac.za

If you have any queries or would like to discuss the research further, please do not hesitate to get in touch with us on the numbers and email addresses below.

Yours sincerely,

Gauteng City Region Observatory (GCRO): Christina Culwick Fatti; christina.culwick@gcro.ac.za; 0834583543

University of the Western Cape: Fiona Anciano, FAnciano@uwc.ac.za or 0829361528

Informed consent form for key informant interview

Governing the Just Urban Transition [Off-grid cities]

Lead researchers: Christina Culwick Fatti, Fiona Anciano, Margot Rubin, Charlotte Lemanski

Participant's Agreement:

I understand that my participation in this research is voluntary. The interview is for research purposes only and will not provide any further benefits beyond that. If, for any reason, at any time, I wish to stop, I may do so without having to explain. I understand the aims and goals of this research.

The researcher has reviewed the individual and social benefits and risks of this project with me.

I am aware the data will be used to write research papers and may form part of publications in journals and books. The data gathered in this interview are confidential and anonymous with respect to my personal identity unless I specify/indicate otherwise.

Please read the statements below and tick the ones you agree with:

- ☐ I understand the information will be used will be used to write research papers, journals and books.
- ☐ The information from this interview will be anonymous and no one will know my personal identity unless I indicate otherwise.
- ☐ I grant the researchers permission to audio record this interview.
- ☐ I grant the researchers permission to use this recording for research use only.
- ☐ I understanding that I can stop and withdraw at any time, and for whatever reason,

_____ _____

Participant's signature Date

_____

Interviewer's signature

APPENDIX II: INTERVIEW GUIDE

OFFICIALS

- How does your department understand the concept of a 'just transition'?
- How do you understand the concept?
- Are you involved in any projects that relate to the relationship between environmental sustainability and social justice?
    - Can you talk through a specific example?
    - Can you share the key actors, enabling factors, blockages, challenges
- Which departments in the City/Province, to your knowledge, would be involved in formulating policies and implementing plans regarding environmental sustainability and social justice?
- Who are the key actors and stakeholders in relation to environmental sustainability and social justice?
    - Do you work with other departments?
    - Do you work with other arms of government?
    - Do you work with politicians?
    - Do you work with civil society?
    - Do you work with the private sector?
- How would decisions be made in your area regarding aspects or projects or funding related to a just transition?
- What is the relationship between elected politician and City officials in developing plans that
- Do you use any specific governance models, such as co-production, to think through plans regarding a just transition.
- Key risks facing cities that would prevent just transition
- How are decisions made in the face of trade-offs and how are these navigated?

EXPERT INTERVIEWEES

- What is your understanding of a just urban transition (JUT)?

- Can you think of any examples of projects that support a JUT?
- Which departments in the City/Province, to your knowledge, would be involved in formulating policies and implementing plans for the JUT?
- Who are the key actors and stakeholders in relation to the JUT (both within and beyond gov)?
- What do you think the relationship is between elected politicians and City officials in developing JUT plans?
- What would your advice be regarding developing a governance model to support cities in furthering a JUT?
- What do you think are some risks facing South Africa cities that would prevent a JUT?
- Do you have any insight into how decisions are made in the face of trade-offs (e.g. between environmental & social objectives) and how are these navigated?
- Where do you think the budget for a JUT does/should come from?

APPENDIX III: INTERVIEW LIST

City Official 1. 2021). Personal communication. Virtual Interview on Zoom, 12 August 2021.

City Official 2. (2021). Personal communication. Virtual Interview on Zoom.

City Official 3. (2021). Personal communication. Virtual Interview on Zoom.

Expert 1 (2023) Personal communication. Virtual Interview on Zoom, 13 June 2023

City Official 3 (2023) Personal communication. Virtual Interview on Teams, 20 June 2023

City Official 4 (2023) Personal communication. Virtual Interview on Teams, 20 June 2023

Expert 1 (2023) Personal communication. Virtual Interview on Zoom, 14 June 2023

Expert 1 (2023) Personal communication. Virtual Interview on Teams, 8 May 2023

Expert 1 (2023) Personal communication. Virtual Interview on Zoom, 24 April 2023

Expert 1 (2023) Personal communication. Virtual Interview on Zoom, 22 June 2023

Treasury official (2023) Personal communication. In-person Interview, 15 June 2023

Expert 1 (2023) Personal communication. Virtual Interview on Zoom, 27 June 2023

Expert 1 (2023) Personal communication. In-person Interview, 5 July 2023

City Official 5. (2023) Personal communication. Virtual Interview on Google Meet, 8 June 2023

Expert 1 (2023) Personal communication. In-person Interview, 29 May 2023

Expert 1 (2023) Personal communication. In-person Interview, 19 June 2023

Expert 1 (2023) Personal communication. Virtual Interview on Zoom, 2 May 2023