South African CitiesNetwork

The Urban Land Paper Series

Volume 1

Market Interventions for Sustainable Cities: Understanding land markets

by Nicola King and Mark Napier

South African CitiesNetwork

CONTENTS

A metropolitan economy, if it is working well, is constantly transforming many poor people into middle-class people…. Cities don't lure the middle class, they create it (Jane Jacobs, in Siegel, 2000).

Background

Within cities, land is a key and limited resource, essential for built environment interventions and central to any decisions about urban management and development. Land, and its appropriate management, is required to meet social, economic and environmental goals, which are often in conflict with each other. Land-use planning and development control laws remain one of the most basic and important instruments for natural resource management in developing countries. These include physical planning, national planning, zoning and development permitting in the context of land management (Markandya et al., 2002).

Understanding why land markets fail (and thereby constrain development) or function well (and thus enable sustainable spatial development) will allow for better-informed policies, legislation and proposed actions. Furthermore, a better understanding of the impact of policies, developmental interventions and land-use planning on spatial development (in the context of divergent local needs and the greener economy objectives) would go a long way in ensuring effective policies and better implementation of sustainable cities in the future. This would ultimately ensure the sustainability and resilience of communities, cities and regions. This paper aims to address the South African Cities Network (SACN) strategic objective of understanding land markets and the interventions required for sustainable cities.

This paper aims to provide a context for urban land markets, identifying some of the historical and current distortions in South Africa as well as urban land market failures. The paper recognises that any interventions are ultimately governed by the overarching goals and outcomes intended for the interventions, based on different perspectives of equity and justice. Given this context, the paper focuses on the characteristics of urban land, and how these characteristics can drive urban land market failures. It then identifies interventions that can be used to address these market failures in order to ensure the development of sustainable urban cities. A framework of urban land markets for sustainable cities is proposed, which recognises that any interventions fall within the broader realm of sustainable development. To this end, the framework places these interventions in the context of the five forms of capital that underpin sustainable development and the flows of capital, factors of production, wages and services. in order to ensure that more people have access to land and better tenure through functioning markets.

Although important to the debate in South Africa on land and land markets, informal land markets are not included, as this paper focuses on urban land . These markets may be recognised or unrecognised, extra-legal or unregistered, and, as a result, require a unique and distinct set of actions to address their sustainability and inclusiveness in the formal urban land market space (Royston, 2013).

What are Urban Land Markets

Land typically refers to property, excluding buildings or equipment that do not occur naturally. Traditional economics regards land as a factor of production alongside capital and labour. Land titles may extend an owner's rights beyond the land itself, to include all natural resources on the land, including water, plants, human and animal life, fossils, soils and minerals. Normally a market approach refers to a system that allows free trade to allocate goods or resources to 'achieve a least cost or economically efficient allocation' (Quentin Grafton et al., 1962). However, efficient or least-cost allocation is only possible when property rights are clearly defined and allocated, and prices are inclusive of all externalities (whether positive or negative).

For the purposes of this paper, land markets refer to land that includes the factor of production, man-made alterations and additions to the land, and the owner's rights to associated natural resources. The reason for choosing this definition is that urban land does not function merely as a factor of production, which is the case for agriculture. For urban land, the land value is driven by the man-made alterations to the land and the owner's rights to various aspects associated with the land. This in turn has implications for both spatial planning and land-use management.

Whether called 'planning' or 'zoning', land markets are regulated in many cities and countries over the world. These interventions ensure the provision of certain amenities but researchers are increasingly becoming aware of the repercussions they have in land and housing markets, as well as in other segments of the economy (Cheshire and Vermeulen, 2008: 2).

The 'shape' of cities, and their sustainability, is determined to some extent by the nature of ownership and property rights defining land, the complexity of commodification on the land and the effectiveness of the land market.

Urban land markets are important to society and sustainable transformation because they potentially allow the poor and working class access to land, housing and business premises.

[1] Financial, natural, produced, social and human.
[2] Definition of land taken from Investopedia www.investopedia.com. Accessed on the 3rd March 2015.

This in turn shapes who depends on government (or municipalities) for land and housing, and who accesses these through the market, or who allocates these to themselves by occupying land or premises (Napier, 2009b). Accessibility and affordability remain constraints to participation in land markets in South African cities.

Urban land market distortions and market failures

Market distortion and market failure differ in relation to origin and intent. Market distortion refers to the 'deliberate regulation or intervention by the state, which prevents the efficient allocation of productive resources or the unhindered establishment of a clearing price' (for the purpose of this paper – land) (DFID 2005; Murphy et al, 1992, cited in Napier 2009a: 71). Market failure refers to the failure of market forces to maximise social benefits – in this case, well-located land that is integrated into the urban infrastructure of South African cities and towns (Napier, 2008; Khan, 1998). The social benefit refers to the increase in the welfare of society from an economic action, such as the trading or use of urban land.

Many people live in societies in which the goods and services they consume are provided through markets and subject to their income; they are able to make choices about what to consume, how much to consume and where to consume (Cheshire and Vermeulen, 2008). However, markets can and do fail to efficiently distribute some goods and services. As a result, to varying degrees, governments intervene in markets through the use of tools, such as direct regulation and/or economic incentives (taxes or subsidies). Land markets are no different, and land-use planning or zoning is a key regulatory tool in the hands of municipalities. This form of regulation guides the use of the natural resource, in this case land, according to rules and norms. As a result, prices and markets still have some level of influence, but this influence is constrained by planning decisions (Cheshire and Vermeulen, 2008).

Contemporary and historical state interventions in South African cities and towns have distorted urban land markets, especially affecting the poor. This has resulted in market failure for less wealthy individuals and households in their attempts to find places to live, trade and manufacture in order to earn a decent living (Napier, 2009a: 1).

Cities are driven by and depend on land as a fundamental input for development and growth. Land-use planning and implementation can be a measure both of successes and challenges faced by a city. Planning for sustainable, integrated and equitable land use and development in South Africa requires an understanding of these markets – which externalities are not accounted for and why these markets fail – in order to allow for sustainable solutions for cities.

Examples of historical market distortions in South African cities include:

- Tenure that was limited to rental in most historical townships in urban areas.
- Depressed affordability driven by limited education and income.
- Limited access to, and insecure tenure of, business rights.
- Layered and inconsistent regulatory systems.
- Disparate levels of infrastructure.
- Spatial segregation and dislocation underpinned by transport subsidies.

Componding these historical market distortions, new failures to land markets are now emerging and include:

- The State's emphasis on house production has led to land (value) being neglected and location issues.
- The ramp-up of supply-side programmes, such as public infrastructure programmes, in the absence of an expression of demand has lead to a mismatch between need and supply.
- The grant system has created unwitting market players and led to under-valued assets.
- A rising gap between grant product and bank-mortgaged product is continuing to emerge, affecting the market's ability to define appropriate clearing prices.
- Limited or no available serviced land on the market for poor and working class people.

Given the prevalence of both urban land market distortions and failures, interventions are required to meet the needs of developing sustainable cities. Sustainable cities are potentially defined by the overarching demands of equity and fairness. The question may then be asked, for whom? The next section identifies three key arguments around the distrubitutional effects of urban land market interventions. When considering an intervention, the distributional effect and ultimate goal for implementing the intervention need to be understood, to ensure that the intervention achieves the desired outcome.

Equity and fairness in the choice of urban land market interventions

Efficient land markets aim to allocate land in a way that maximises the difference between social benefits and social costs. However, this does not necessarily explain how these costs and benefits are distributed between members of a society or inhabitants of a city. The 'best' distribution depends on what view of equity and fairness is held (Khan, 1998). The perspective depends on which argument is prioritised and which argument overrides. These arguments include: the social justice argument, the poverty alleviation argument and the urban efficiency argument.

[3] This section is adapted from Napier (2009a).

The social justice argument for land rights

Ideologically, at least in a context where the right to access land is entrenched in a national constitution, it is important that all citizens (and even residents) are fairly granted the choice to own, use or access land. It can be argued that property rights (for those who already own land) and rights of access (for those who aspire to acquire land or user rights over land/space) are key to building a stable land market. Land, land rights ('rights, restrictions and responsibilities'), improved technical supports ('e.g. land registration and accurate spatial identification') and the 'cognitive capacity of market participants' are seen as the building blocks or necessary ingredients for a functional land market (Wallace and Williamson, 2006: 124).

The poverty alleviation argument

Land is often discussed as an asset that households can use to alleviate poverty, through using the property either to trade up and achieve positive residential mobility, or to use as a locality for trading, small manufacture or sub-renting. There is also a heated debate about whether property needs to be underpinned by formal title in order to be more efficient as an asset – e.g. title may enable the use of property as collateral for formal finance (de Soto, 2000; Royston, 2007; Tomlinson, 2005). Others point out that legalisation of land and the transfer of ownership rights may take too long and curtail the plans of households to remain mobile (Datta and Jones, 2001).

Despite this, the argument that land is a usable asset (whether it is owned or simply has defensible use rights attached to it), seems self evident, especially if located in neighbourhoods that are well integrated into the urban economy. From the perspective of the individual household, Landman and Ntombela suggest that access to, and ideally integration with, public uses in higher value areas provides some opportunity for poorer inhabitants to 'gain access to opportunities and facilities which are generated through the resources of the more wealthy' (Dewar and Uytenbogaardt, 1991, cited in Landman and Ntombela 2006).

The urban efficiency argument

From an urban efficiency perspective, opening up the market in well-located land to the poor makes sense. Locating large numbers of poor people on the urban periphery means that accessing employment and other urban opportunities generates a tremendous amount of movement and concomitant costs. The poor bear the brunt of this, with cities only subsidising public forms of transport. This has a negative impact on the broader economy, as it exerts upward pressure on wages and labour costs as a result of high transport expenditure.

About 67% of the demand for public transport comes from township areas (DoT, 1999). The subsidies needed to prop up public modes of transport continue to pose a problem to national and local government. The excessively long working days for the poorest sectors of population reduce productivity and increase transport costs borne by the consumer and by employers.

A discussion on urban land markets and identified interventions, would not be complete without understanding the role of distributional impacts of these interventions and the arguments for or against them. This paper does not intend to unpack the distributional impacts (whether positive or negative) of various interventions. However, it is important to bear in mind that any selected intervention will fall within the broader context of desired goals set by government for sustainable cities.

Why Do Urban Land Markets Fail?

Cities are driven by, and depend on, land for development. The market's inability to allocate land efficiently is referred to as a market failure. A market failure may not necessarily mean that a market (in this case, a land market) does not clear (i.e. the quantity of land demanded is greater or smaller than the quantity of land supplied), but that the market forces have failed to maximise the social benefits of the land. When this happens, a divergence between private costs and social costs may be created (Khan, 1998). Private costs reflect the direct costs to a person engaging in an activity, but the activity may lead to society incurring costs that the individual person does not pay for directly. For example, an individual may incur private costs (e.g. petrol and wear and tear on a vehicle) but driving the vehicle also creates costs for the society (e.g. pollution, congestion, and wear and tear on the roads). These costs are not necessarily incorporated into the individual cost of driving, and so society as a whole carries the added burden. Social costs may to some extent be managed through taxes, levies and other charges.

Urban land markets were defined upfront. However, land has certain characteristics that underpin the reasons for urban land market failures and the divergence between social and private costs in the market. Typical features of land include (Cheshire and Vermeulen, 2008; Pamuk, 1999):

- Land has a specific and fixed location – because each piece of land is locationally unique, the value of the land is influenced by its specific location.
- The value of land is largely determined by the

[4] Tomlinson M. 2005. 'Title deeds not a magic wand', Business Day (Johannesburg), 10 August 2005. http://www.businessday.co.za/.

characteristics and uses of other land bordering it and to which it gives access.
- Land and housing markets capitalise the impacts of amenities, neighbourhood characteristics and the lack of amenities of a given location.
- The valuation of open space and other planning-induced amenities may not be fully accounted for in land markets.
- The actions of landowners – whether positive or negative – that generate externalities, may not be captured in land markets.
- Government authorities tend to be more involved in land regulation and management than for other goods in the market, and government is itself a significant land owner,
- Land is expensive to develop, and zoning, servicing and building on land take time and money. Here there is a difference between formally recognised land and informally supplied land. If the urban authorities zone and service the land before people settle on it, the development costs may have to be spent upfront. However, if people have already occupied the land (prior to official approval), the development costs can occur after settlement.
- Land and the buildings on the land last for a relatively long time. Land can be used and re-used many times and in different ways over many years.
- Significant transaction costs are involved in acquiring land (e.g. costs to identify available properties for sale or rent, costs to negotiate sale or rental contracts – or the use of unregistered land – and costs for transfer of ownership).
- Over any given time period, land does not change hands often compared to many other types of goods, and so the volume of transactions over time is low, which may affect how prices are set.

As a result, land markets experience various market failures that lead to the inappropriate, disproportionate or inefficient allocation, use and management of the land. Key market failures observed in land markets include: imperfect competition, imperfect information, different views of land as a public good, inappropriate government intervention and externalities.

Imperfect competition

Imperfect competition refers to markets where the individual actions of particular buyers or sellers have an effect on the market price. In such markets, marginal revenue differs from the market price, and marginal social cost then differs from marginal social benefit (Khan, 1998). In the case of urban land markets, imperfect competition may lead to barriers to entry and disparity in social welfare.

Imperfect information

When some segments of the market – buyers, sellers or both – do not know the true costs or benefits associated with land use or land transactions, imperfect information exists. Imperfect information for a public good or externality differs from imperfect information for a private good (Khan, 1998). For example, township properties are often undervalued and remain 'ripe for picking' by better-informed buyers and other market actors (Napier, 2008).

Public goods

Many environmental goods and services have a public-good nature, which implies that the responsibility for their management rests with governments (King, 2006). In South Africa, the responsibility for land allocation and management is distributed differentially over the three tiers of government, national, provincial and local, as well as an intermediate tier defined by cities or municipalities.

If land is regarded as a pure public good, critical to sustaining human life, its characteristics should be (derived from Hassan, 1997 and King, 2006):
- Land is a public good, not privately owned.
- Nature governs the renewable supply, and the long-term supply of land is relatively inelastic.
- Land is essential to the existence of human life and to the functioning of ecosystems and the maintenance of biodiversity.
- Land has no substitutes.

Based on the classical theory of public goods and the definition proposed by Samuelson (1954; 1955) public goods are defined by non-exclusion and non-rivalry in their consumption and use. These views on public goods are, however, challenged by Randall (1981) in his review of the definition of public goods, and hence of the characteristics of land resources. Randall recognises two axes of classification for economic goods, based on the 'possibility that the good may be provided by markets and the possibility that its provision may be pareto-efficient', implying that no-one will be made worse-off when a group or individual uses the good. The resulting four categories of goods are: divisible and exclusive goods, divisible and non-exclusive goods, indivisible and exclusive goods, and indivisible and non-exclusive goods. Based on this work, land resources and their management can result in rivalry and excludability, with allocations falling short of pareto-efficient goals. Furthermore, Khan (1998) recognises that public goods may be collectively or privately provided, as is the case for land in South Africa.

Inappropriate government intervention

Inappropriate government interventions can create a disparity between the private and social values for land. In South African cities, a complex and confused regulatory environment for land markets favours existing and sophisticated landowners. Furthermore, public officials are not always capacitated to open up creative opportunities for the poor in land markets or to negotiate with private sector actors to ensure more inclusive developments (Napier, 2008).

Externalities

Externalities are one of the most important classes of market failures for natural resources, including land. Externalities refer to unintended consequences (either positive or negative) associated with land uses or land transactions. Externalities may also arise through poorly defined property rights or the inability to enforce property rights, for example an open access externality (Khan, 1998). An example of an externality is where value capture by municipalities is under-developed (Napier, 2008). Table 1 shows the differences between pecuniary externalities (an externality that operates through prices rather than through real resource effects) – e.g. an influx of city-dwellers buying second homes in a rural area drives up house prices, making it difficult for young people in the area to get onto the property ladder – and technological externalities (which have a direct resource effect on a third party) – e.g. pollution from a factory that directly harms the environment or human health.

Urban Land Market Interventions for Sustainable Cities

A vast selection of instruments is available to change land-use actions and development. Some instruments are used to influence market behaviour, for example changing property rights or land title arrangements, while others affect the process of land management and include improved regulation, the use of subsidies or taxes, and the provision of better and appropriate information (Markandya et al., 2002).

The following section defines some of the key interventions that can be considered within a broader suite of options to address the market failures of imperfect competition, imperfect information, different views of land as a public good, inappropriate government intervention and externalities.

Legislation

The core of well-functioning land market economies is sound social, legal and institutional support to uphold the enforcement of contracts and land transactions. Weak institutions supporting land and real estate transactions lead to inefficiency and poor productivity (Rajack and Lall, 2009). Indeed, 'the inability of societies to develop effective, low-cost enforcement of contracts is the most important source of both historical stagnation and contemporary under-development in the third world' (North, 1996).

In the short term, deregulating land markets and lowering transaction costs (such as application charges, processing costs and impact fees) may reduce revenues and rents to cities but, in the long term, more efficient and cost-effective measures may ensure more direct and sustainable revenue streams. This in turn requires the removal of any systemic illicit rents for tenure (Rajack and Lall, 2009).

At times, the State also becomes a player in urban land markets, using public holdings or the acquisition of private land to steer these markets towards more efficient and inclusive outcomes. This may increase the available supply of land; encourage private investors to establish housing solutions where revenues appear unattractive; and ensure spatial connectivity, cost-efficient designs and city efficiency. Despite its merits, the role of the State or city as a player in urban land markets also carries risk of further distorting the market in unintended ways (Rajack and Lall, 2009).

However strong the legislation, it may be rendered ineffective without strong enforcement. Legislation remains a first step towards establishing well-functioning land market economies and needs to be supported by effective enforcement of the legislation's intent. For example, the artificial raising of the price of land in localities where the state acquires land.

Better information

The appropriate land-use decisions and actions for sustainable cities can be supported through the use of land information systems, various land assessments, and public information that provides timeous and appropriate information on critical land issues, land conditions, as well as the social and environmental implications of land use. Although land-use information systems are available and collate information on cities to some degree, this information is not necessarily relevant for the period under evaluation or accessible to all citizens. Information that is timeous, up-to-date, relevant and accessible for decision-making is required to support effective land-use and management decisions.

Table 1: Summary of differences between pecuniary and technological externalities

Type of externality	Types of variables affected	Effect of production possibility frontier	Effect on social welfare
Pecuniary externality (not a real externality)	Prices	Movement along frontier	Transfer from one segment of society to another
Technological externality	Ability to produce goods or utility	Shift of frontier (downward in the case of negative externalities)	Net change in welfare (downward in the case of a negative externality)

Source: Khan (1998)

Economic incentives

Economic incentives include pricing, preferential tax schemes, transfer and development taxes, and subsidies. These can be used to encourage cities' management, developers and landowners to use their land in accordance with defined social or environmental objectives (Markandya et al., 2002). However, subsidised interventions targeted at the poor may still become subject to imperfect competition, which may lead to 'downward raiding' and result in unintended consequences (Rajack and Lall, 2009). The circumstances surrounding, and the application of, selected incentives remain a complex issue. There is no 'one-size-fits-all' solution for cities' management, developers and landowners. Certain incentives needs to be selected and applied in accordance with the defined outcomes required. This may align with the choices between equity and efficiency and whether one is seeking social justice, poverty alleviation or urban efficiency outcomes.

Advocacy

Also referred to as moral suasion, advocacy is a process of supporting and enabling people to express their views and concerns, get access to information and services, defend and promote their rights and responsibilities in order, ultimately, to be able to make choices and have access to options (SEAP, 2015). Advocacy is not a typical market intervention but remains vital for empowering actors to participate in markets (in this case urban land markets) in developing countries, where the disparity between the wealthy and the poor remains large, and the power imbalances define the ability to access information and markets. In the context of South Africa, civil society has historically played an important role in driving change. Advocacy continues through various avenues within this civil society space.

Command and control regulation

Regulatory controls include zoning, sub-division regulations, transfer of development rights, and various controls designed to protect sensitive land resources, public interests, and environmental and cultural values (Markandya et al., 2002). Land regulations serve two purposes: (i) to ensure that different types of land uses are separated – for example, industrial development and polluting firms or users are separated from residential users; (ii) to integrate private and public land uses – for example, to maximise access and use of transport infrastructure (Rajack and Lall, 2009). However, it has been observed that the net impact of regulations in the formal urban market may have limited reach. Formalising urban land markets is often a complex and extensive task, which is underestimated (ibid).

Property rights

The allocation of clearly defined and secure land tenure rights allows for investment in either land and infrastructure development or improvements (Markandya et al., 2002). This in turn leads to successful capital accumulation in many regions and countries (Rajack and Lall, 2009). Formal land markets and land property rights have a limited reach, as they can be complex, expensive, slow to implement and may lack well-defined links to access finance and private investment. However, the formalisation of property rights (whether private, freehold or rental) remains a central tenant to government interventions to improve access to urban land markets (Rajack and Lall, 2009).

Government allocation of infrastructure

Government provides appropriate infrastructure, such as roads to facilitate accessibility and services to improve social welfare, and protects open spaces to provide a healthy ecological infrastructure (Markandya et al., 2002). According to the National Development Plan (NDP), sustainable cities require spatial justice, sustainability, resilience, quality and efficacy. The appropriate allocation of infrastructure (both man-made and ecological) underpins the long-term sustainability of cities.

Understanding the Role of Urban Land Market Interventions in Managing Sustainable Cities

The market interventions listed above aim to address the NDP's goals and achieve access to services, tenure security, access to credit, and redress past imbalances, while ensuring a sustainable city into the future. Table 2 outlines these interventions, the market failures that they address and the implications for managing sustainable cities.

A Framework for Sustainable Urban Land Markets

The concept of capital has a number of different meanings, and so it is useful to differentiate between five kinds of capital: financial, natural, produced, human, and social. All are stocks that have the capacity to produce flows of economically desirable outputs. The maintenance of all five kinds of capital is essential for the sustainability of economic development (Goodwin, 2003). Urban land markets remain complex integrated systems and are dependent on these five forms of capital to function. Through the use of market interventions, these forms of capital are better equipped, supported and capacitated to participate in urban land markets.

Table 2: Impacts of various market interventions on social welfare and the management of sustainable cities

Market intervention	Types of market failure addressed	Types of variables affected	Effect on social welfare	Implication for managing Sustainable cities
Legislation • Basic human rights • Governance • Regulatory rents and revenues	Imperfect competition	Prices	Transfer from one segment of society to another	Separate polluters from residential users. Integrate private and public space. Lower rents may lead to longer-term revenue streams.
Better information • Planning • Mapping • Value	Imperfect information	Prices	Transfer from one segment of society to another	Improved decision-making.
Economic incentives: • Taxes • Subsidies • Grants	Imperfect competition, externalities	Prices	Transfer from one segment of society to another	Correction of externalities. Redress welfare imbalances.
Advocacy: • Supporting and enabling people • Access to information and services	Public goods	Prices Income	Transfer from one segment of society to another, Net change in welfare	Stronger buy-in and commitment from society. Better choices and options. Safeguarding of rights.
Command and control regulation • Restricting land use • Artificially limiting urban development • Increasing minimum development standards	Public goods Externalities	Prices	Net change in welfare	Ensuring the preservation of green-belts (may limit land supply or increase property values). Managing urban densities. Increasing the cost of unintended development.
Property rights: • Secure • Transferrable	Imperfect information,	Prices	Transfer from one segment of society to another	Rising property values. More frequent land transactions. Higher municipal revenues. Use of real property as collateral.
Government allocation of infrastructure: • Access • Services • Ecological infrastructure	Inappropriate government intervention	Prices Income	Transfer from one segment of society to another Net change in welfare	Lower transaction costs through better access. Improved welfare through service delivery. Sustainable cities through ecological infrastructure.

Source: Authors' own

Ultimately, this will provide for sustainable cities and improved social welfare within the urban landscape.

In the South African context, the question remains: how can land-use planning, development control and building regulation be better used to facilitate better urban land markets? For urban land markets to work better and be more inclusive, a number of key elements or layers need attention. Figure 1 shows the layers, working from the bottom up, that countries need to build and strengthen to make the whole system work. These are the necessary foundations for a functional and accessible land market. The system works better if human rights and then property rights are in place. Land needs to be well administered and managed for the public good and to stimulate investment at all levels. With the rights-base and good governance in place, market interventions to lower the barriers to entry and the costs of transactions are more effective. The physical urban geography is the setting in which this all plays out, making a difference to how places are made and shaped. More equal access to this system can lead to improved livelihoods and open the doors to more of the benefits of urban life (Napier et al., 2013).

Through the market interventions identified above, the five forms of capital (financial, natural, produced, social and human) may be able to provide the relevant factors of production, capital, labour, and resilience to support functioning sustainable cities. In turn flows, through wages, infrastructure and services, may be established to support the effective functioning of the forms of capital. Ultimately, the selection of the 'best' or most 'effective' intervention will depend on the goals or impacts chosen and the form of capital to be supported.

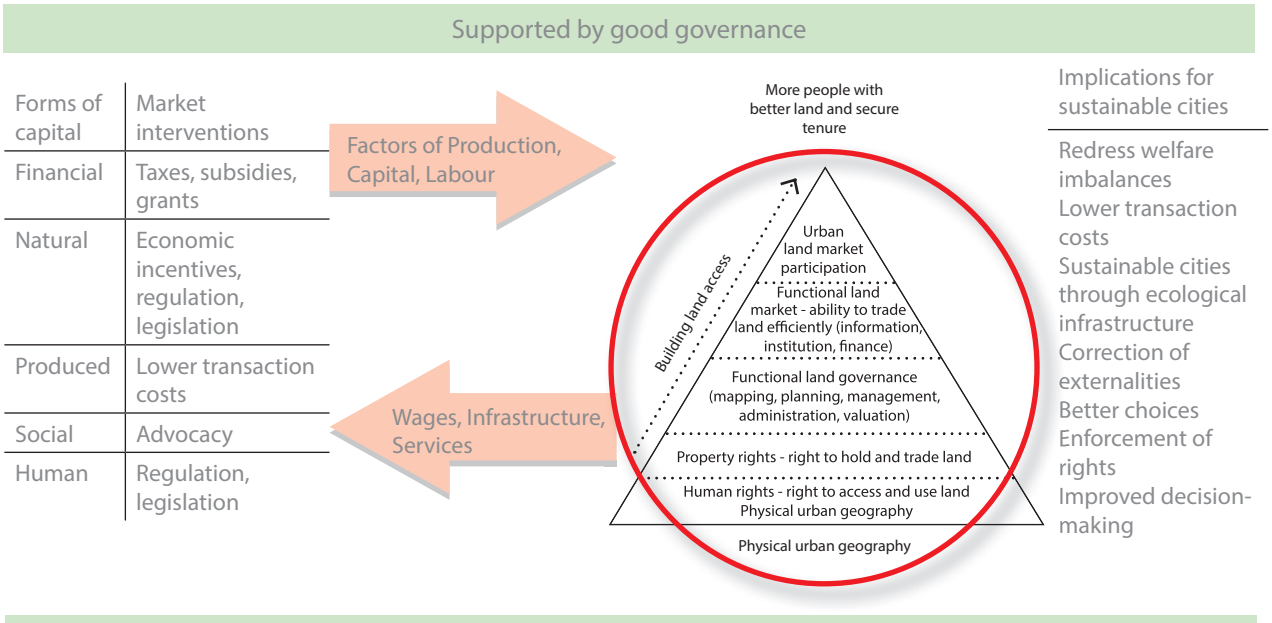
Conclusion

Government and market interventions are used to influence land market outcomes in cities across the world. Although well meaning, these interventions may generate subsidiary effects that are unintended by policymakers. Achieving socially desirable outcomes in complex land and real estate markets remains a challenging task. The unintended result may be a net social loss, leaving the urban economy worse off (Brueckner, 2009).

Most state and private sector urban interventions and investments affect the land and real estate market. With a better grasp of land market dynamics, these effects can be more consciously factored into policy and programme designs. Without this awareness, single-pronged approaches to addressing land markets for sustainable cities may fail, as interventions may be misdirected, generate unintended externalities or become ineffective because of the varied demographic and socioeconomic characteristics of sub-groups within a city and the multitude of constraints underlying effective implementation (Rajack and Lall, 2009). The rank ordering of chosen interventions for sustainable cities will change depending on the severity of the current market constraints. This needs to be given careful consideration, given the extent and diversity of land market and credit distortions experienced in developing countries (Dasgupta and Lall, 2009).

In many cultures, land is viewed as a resource to be used for the common good. As land becomes an increasingly complex commodity, elements of that viewpoint need not necessarily be lost nor militate against the stimulation of vibrant urban land markets which constantly open up opportunities for

Figure 1: A framework for market interventions for sustainable cities



Source: Authors' own and Napier et al. (2013)

the poor to have a place in the city, and thereby to become less poor. The challenge is understanding the complexities of the system sufficiently well to be able to intervene to address market failures but without distorting the market to the detriment of all (Napier, 2008).

Recommendations

Decision-makers need to take into account the 'true' value of land in order to ensure that the following contributions are internalised:

- The importance of land markets in supporting income.
- The importance of land markets in supporting job creation.
- If valued correctly, land will be:
- used at the most efficient level,
- be developed in accordance with its value, taking into account the competing goal of social inclusion.

In order for good land market governance to reflect fair policy considerations, the following factors should be taken into consideration when allocating resources:

- The level of service provision across sectors.
- The method of payment across sectors.
- Land vendors and other suppliers and sources.
- Security and reliability of land supply, including property rights.
- Income across sectors and user groups.
- Willingness-to-pay across sectors and user groups.
- The ecological thresholds of supply, and whether the resource is renewable or non-renewable.

Appropriate legislation, which is strongly defined and appropriately enforced, may ultimately separate polluters from residential users, integrate private and public spaces, and lead to longer-term revenue streams through lower rents. This also includes the enforcement of command and control policies that:

- restrict land uses to preserve ecological infrastructure,
- artificially limiting urban development to manage urban densities, and
- increase minimum development standards to raise the cost of unintended or undesired development alternatives.

To make well-informed decisions when designing urban interventions, availability of (and access to) relevant and timeous information needs to encouraged:

- Data about land and real estate transactions, including price, should be included in decision support systems, such as land availability, and suitability tools used by municipalities.
- Informed by analysis of this data, municipalities should be encouraged to formulate a specific land policy, as part of their integrated development plan, showing how vacant and under-used land will be developed and managed to achieve wider socio-economic and environmental objectives.
- Better information will ultimately inform more effective mapping, planning and valuation.

Property rights need to be clearly defined, secure and transferable, in order to encourage rising property values, more frequent land transactions, higher municipal revenues, and the use of real property as collateral. Including the economic value of natural resources, such as land, into decision-making allows for the resource to be properly measured, carefully managed and effectively allocated among competing users. This will, in turn, effectively support the principles of good land governance and transformation towards just, sustainable cities.

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