

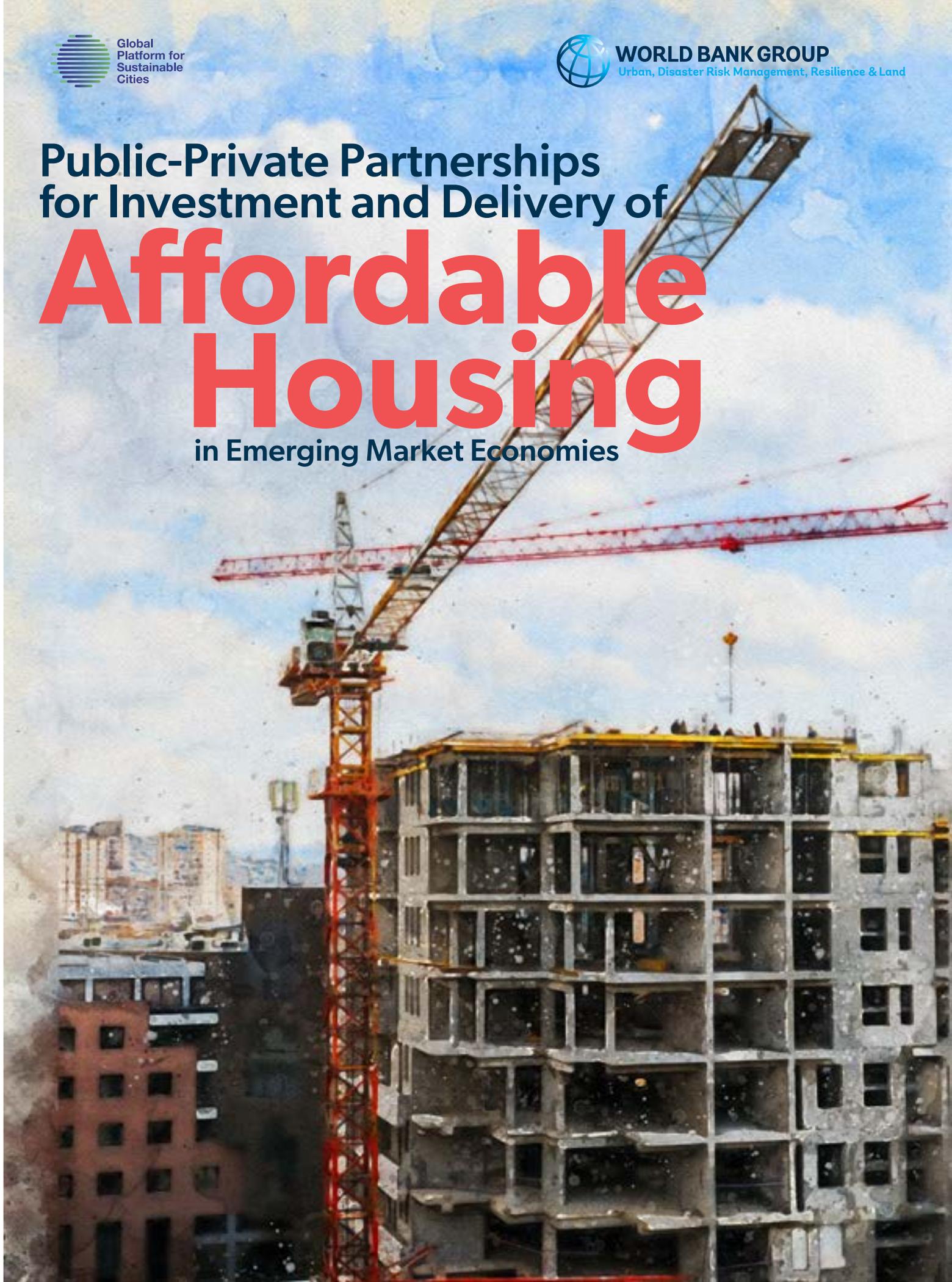
Public-Private Partnerships
for Investment and Delivery of
**Affordable
Housing**
in Emerging Market Economies

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Executive Summary

Context: The Evolving Role of the Public Sector in Housing Markets

The role of the public sector in housing delivery in many developed economies evolved from “government as builder” in the post-War era in the 1950s when the government directly constructed and delivered housing to meet the daunting demand for housing, to “government as enabler and regulator” in the 1980s and 90s when governments retreated from direct provision but started to focus on facilitating the private sector to deliver housing effectively, and to assist the poorest segment of the population. **The point of departure is the belief that housing is essentially a private good that is best provided by the market.** Today, the government’s role is therefore focused on Should read: (i) establishing the enabling environment for the private sector (including private individuals) to deliver housing; (ii) addressing the market failures; and (iii) avoiding and/or correcting government policy failures.

However, challenges persist for low-income households to find affordable accommodation in locations that work for them. Such shortages of affordable housing are most pronounced in developing countries, which in recent decades have seen rapid urbanization and the proliferation of informal settlements, which are increasingly challenging for the public sector to address. As the private sector and public sector fail to provide adequate and affordable housing for the lower-end of the market segment at the pace and scale that is needed, governments have since the later 2000’s repositioned themselves as partners, and increasingly as entrepreneurs, to catalyze – and reduce the risk for – the private sector’s entry into the affordable housing markets.

Public-Private Partnerships (PPPs) emerged first within developed economies, where the public sector has looked to the private sector to assist in affordable housing provision without the fiscal burden falling entirely on the shoulders of the state. Developing countries are increasingly requesting the World Bank’s support to address their housing challenges and are particularly interested in exploring ways to increase private investment in affordable housing. The idea of PPPs has had a resurgence in policy discussions as a mechanism to expand housing provision, particularly since it has been used with moderate success in infrastructure provision, including in emerging markets.

Objectives

It is within this context that the World Bank initiated a scoping study to (i) take stock of the knowledge base and experiences with affordable housing PPPs globally; (ii) develop a working definition of housing PPPs; (iii) begin establishing the basic parameters of a housing PPP decision-making framework, primarily in the context of affordable housing in developing countries; and (iv) lay the groundwork for further research around the different procurement options, institutional structures, and financial models for successful PPPs for affordable housing. It is envisaged that this work may form the basis for the development of an assessment tool to assist World Bank task teams, housing practitioners and policy makers in guiding the public-private provision of affordable housing in emerging economies.



Defining Housing PPPs. While countries around the world have largely attempted to adapt infrastructure PPP frameworks to the housing sector, its definition, namely, “[a] long-term contract between a private party and a government entity, for providing a public asset or service, in which the private party bears significant risk and management responsibility and remuneration is linked to performance,”¹ may not always fully capture the dynamics of the housing sector. Why?

First, the definition derived from public infrastructure and service provision involves assets that are traditionally owned by the public sector. In the housing sector, however, public rental housing constitutes only a small share of the housing market in most countries. Therefore, the question of how to incentivize the private sector to supply housing (a typically private good) in the affordable market (both for sale and rental) becomes central for the public sector.

Second, even if the definition of *public service* is broad enough to include the government’s role in ensuring affordability of housing (largely privately produced), such a definition requires that the private sector’s role and enumeration are codified in a *long-term* contract with a government entity. In the housing sector, the government has a wide range of policy, legal, regulatory, financial and administrative instruments to encourage the private sector to participate in affordable housing delivery. Such private sector participation or “broadly defined PPPs” may not need to be governed by long-term contracts between the two parties, nor be transactional or site-specific in nature as with infrastructure PPPs. For example, zoning instruments like Inclusionary Zoning (which requires developers to make a certain percentage of new units affordable to low- to moderate-income residents) are a powerful tool to steer developers to the affordable market. **It is this broader context of the respective roles of the public and private sector in the housing sector, that differentiates public-private-partnerships for affordable housing from typical infrastructure PPPs.**

Therefore, this study proposes the following working definition for a housing PPP:

A partnership between the public and private sectors established through a contractual relationship which seeks to access private sector finance, design, construction, commercialization, maintenance or operational management for the delivery of affordable² housing and, in some cases, ancillary services. The public sector contribution can be provided in the form of cash or equivalents such as land, development rights, revenues (rents/tariffs) generated from land, infrastructure and building assets, taxation relief and/or a share in the equity generated over a fixed period. The private party’s remuneration is significantly linked to performance.

This definition allows both public and private sector parties to develop partnerships that are appropriately structured around a specific housing need and context. It also allows the public sector the flexibility to enable the delivery of different housing tenures (e.g., for rent or for sale) and different asset classes (e.g., residential or retail space), which would in turn make it easier for the private sector to engage. Moreover, the definition does not bind the parties with long-term contracts, as is typical with infrastructure PPPs.

What We Have Learned

A review of the source literature on affordable housing PPPs reveals that affordable housing PPPs, in narrowly defined terms, have mostly been implemented in high-income countries, and their application to emerging economies is relatively new. Overall, there is limited documentation and patchy data on the

1 World Bank, *Public-Private Partnerships Reference Guide*, V. 3.0 (2017).

2 Affordable housing is another term that does not have a universally accepted definition. For the purpose of this study, housing is considered ‘affordable’ when housing expenditure (mortgage payment or rent plus utilities) leaves a household with a socially acceptable standard of both housing and non-housing consumption.

actual outcomes of housing-related PPPs³ in emerging market economies. **Public sector authorities in both developed and developing countries have attempted to use PPPs for housing with a wide range of outcomes, but with no clear formula for success.** In developed countries such as the UK, Canada and Australia, PPPs emerged as an effective mechanism for the public sector to procure public assets and services by bundling the design, building, financing, operations and maintenance of these assets or services into a single contract with a private sector entity, which effectively became the legal instrument we call a Public Private Partnership today. A PPP is attractive because it enables the public sector to secure assets and services more efficiently at lower cost and risk, and improved quality. However, when PPPs have been used in emerging economies, they have encountered the following challenges: key institutions and supporting legal and financial systems have been insufficiently mature to facilitate implementation or to reduce the costs and risks for the private sector to deem them viable/profitable. Moreover, some PPPs have ended up continuing to rely heavily upon government land, subsidies or guarantees, making it questionable whether the private sector has taken its fair share of risks and whether the deal has maximized value for money.

Presently there is no single PPP model that is applicable to every location. Each context presents a different set of assets or levers that the public sector can use to incentivize the private sector, such as land, infrastructure, development rights, subsidies, etc. Each context also presents a unique set of risks related to institutional capacity, systems maturity, procurement transparency, and productivity – and of which may inhibit private sector engagement or investment.

Given their complex transactional nature, PPPs tend to be time-consuming, costly and difficult to implement, particularly at the beginning. In most developing and emerging economies, housing PPPs cannot provide a ‘silver bullet’ to resolve the affordable housing deficit and it might be more important to prioritize improving housing sector fundamentals, strengthening the institutions within the housing sector and removing constraints that can enable and inhibit private sector investment.

What’s Next

The study therefore recommends that rather than looking to establish a perfect PPP, it is advisable to initiate an incremental shift of investment and risk in affordable housing provision – gradually moving investment and risk-taking for the design, building, financing, operating and maintaining of affordable housing from the public to the private sector. Before engaging in an in-depth discussion on housing PPPs, a broader perspective and a sound framework for the role of public and private sector in the housing sector is needed. Housing PPPs are not silver bullets. Governments must first identify the key constraints in the enabling environment (policy, legal/regulatory and administrative) along the housing value chain. By removing/reducing these constraints, the market as a whole will benefit from more private sector entry/competition.

Going forward, the successful design and implementation of PPPs for affordable housing calls for further research and continued learning from implemented public-private housing projects from around the world to enable proper comparison, to close information and data gaps, and distill good practice and lessons learned. This will require further exploration of delivery institutions/vehicles, as well as ways in which the (future) value of real estate assets can be used to underwrite the production of affordable housing developments and unlock short-term finance that in turn could unlock longer-term institutional finance. With enhanced understanding of implemented housing PPP cases, a guidebook can be produced with detailed evaluation tools and/or model spreadsheets for use by governments.

³ Desk review of affordable housing PPPs reveals that most housing projects using the “PPP” descriptor, while involving contracts between public and private sectors are not necessarily PPPs in accordance with the definition. Inconsistent use of the acronym confuses the discussion and muddies claims of success or failure.

Introduction

Background

The demand for housing in rapidly urbanizing developing countries is growing exponentially. Greater employment opportunities and better access to education and basic services in cities have significantly increased urban migration and thus the demand for housing. Governments face an increasingly challenging endeavor to provide and facilitate access to safe, well-located and affordable housing, especially for low- and middle-income populations living in cities. In many countries, housing markets have failed to respond adequately to this demand, leading to today's global housing deficit. It is estimated that nearly 100,000 new housing units per day are needed to meet urban housing demand.

As a result, many low-income people in cities end up living in slums. Close to one billion people are estimated to live in slums, often in unsafe, undesirable, and uneconomic locations, without access to basic services and isolated from the city core and jobs, contributing to urban sprawl. Without increased housing production urban informality and dysfunction will worsen.

Given that the demand for housing often exceeds supply, and that public sector resources are often inadequate to cope, substantial private sector investment needs to be mobilized to achieve scale and reach in the affordable housing market. A growing number of client countries are requesting the World Bank's support to address their housing challenges and are particularly interested in exploring ways to incentivize and increase private sector participation to attend to the needs of lower-income populations.

In this context, Public-Private Partnerships (PPPs) have been posited as a possible mechanism to draw the private sector into the affordable housing markets. PPPs have been used for affordable (social) housing provision in several developed countries but are relatively nascent in emerging economies, and initial attempts have shown mixed results. Documentation of these housing related PPPs is limited; the definition of what actually qualify as a "PPP"⁴ is questionable, and the data pertaining to actual outcomes in emerging economies are patchy and not independently verified.

Objectives

Against this backdrop, this Note seeks to establish the first layer of a knowledge base for understanding PPPs for housing delivery and to initiate an approach to evaluate potential partnerships between the public and private sectors in emerging economies. The main audience are World Bank task teams as well as housing practitioners engaged in designing affordable housing projects and programs that require private sector participation and investment.

Considering that accurate data and literature on housing PPPs are thin, particularly in developing countries, this study serves as a starting point. It is a *living document* to be updated as experiences and knowledge of PPP application to affordable housing within emerging markets deepens.

Structure of the Note

Section 1: Contextualizing Housing PPPs within Policy and Practice

Provides those less familiar with the housing sector the fundamentals of affordable housing, as well as a brief timeline of how housing policy and practice has adapted to political and socio-economic changes over time, particularly around the role of the public sector in the housing market, leading to the consideration of PPPs.

Section 2: Defining Housing Public Private Partnerships

Provides a working definition of housing PPPs and compares and contrasts the differences between the application of PPPs to public infrastructure and to affordable housing, broadly defined housing PPPs and strictly defined housing PPPs, as well as housing PPPs and government contracting out builders to build. It also provides basic description of their main principles and components of a housing PPP.

Section 3: Affordable Housing PPPs: Complexities and Models

Drills down to housing sector's complexity and lays down a typology of partnership models for affordable housing delivery, building upon work initiated in India.

Section 4: Case Studies

Focuses on three case studies, comparing the factors influencing the eventual model design, and the lessons to be derived therefrom.

Section 5: Frameworks for Assessing Affordable Housing Partnerships

Articulates and conceptualizes the frameworks needed to broadly analyse the variables and options available to governments to devise affordable housing partnerships and context-specific assessment tools for modelling.

Section 6: Next Steps

Proposes further areas of study and outputs.

Section 7: Appendix

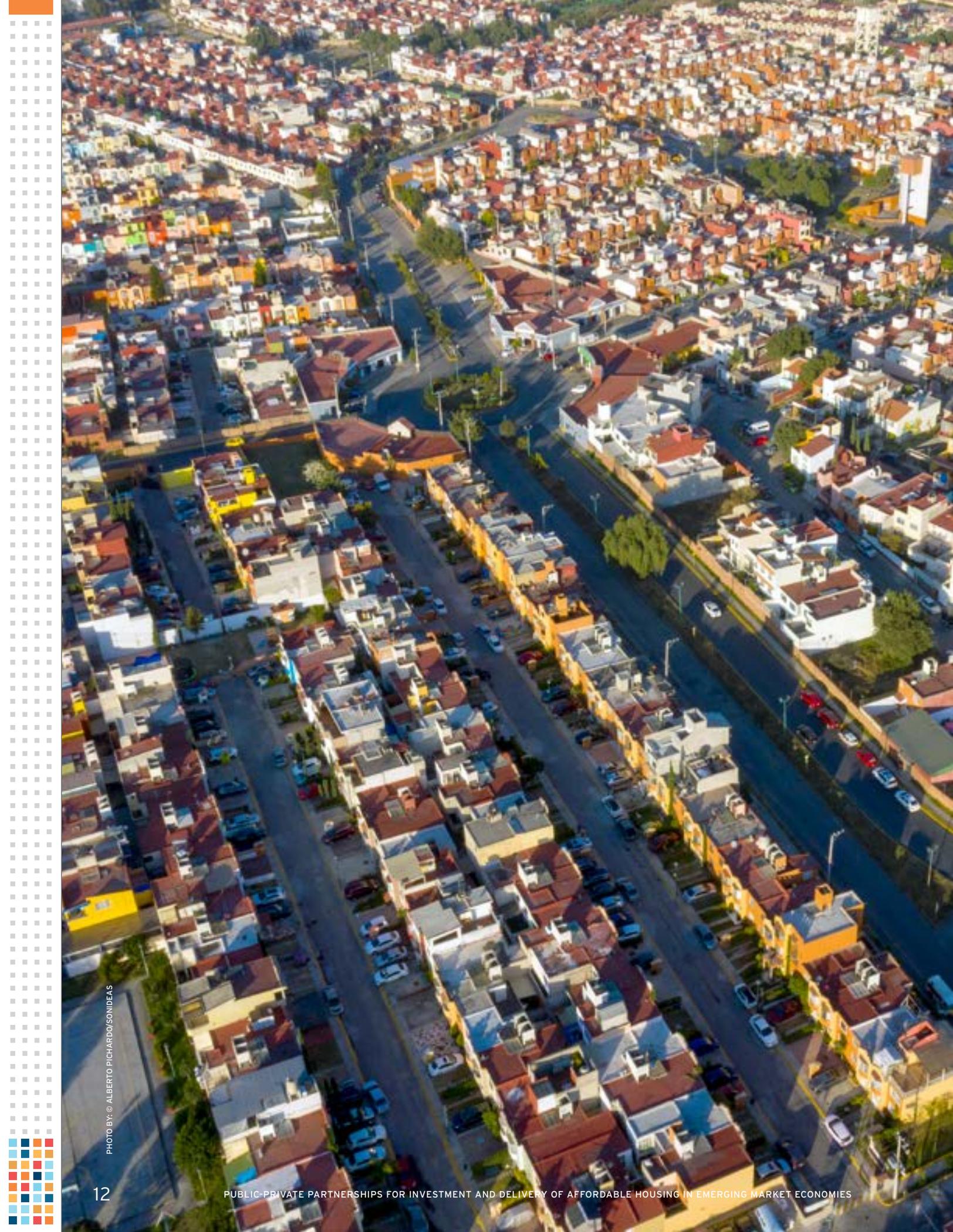


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Context of Affordable Housing Delivery

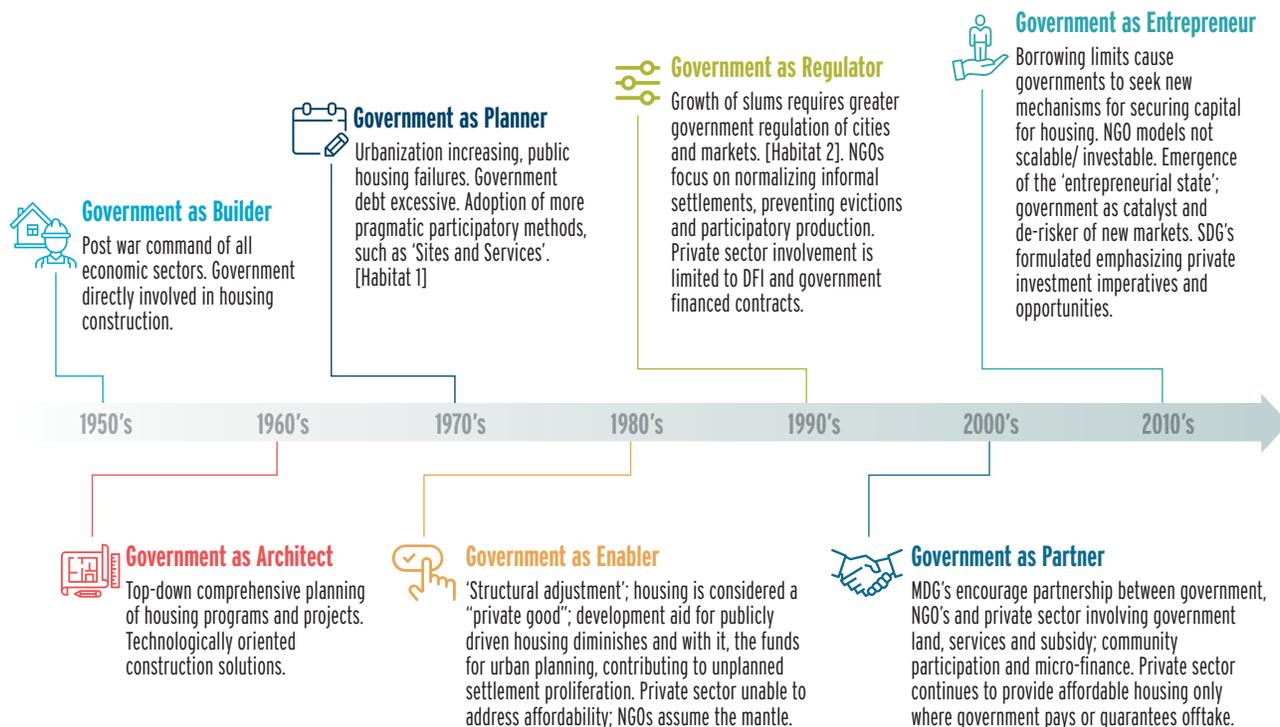


1.1. Housing Policy and Practice Precedent

The challenge of achieving affordable housing for all is not only daunting but also perennial. It is estimated that US\$16 trillion is required to meet the demand for 440m affordable houses globally between 2010 and 2025.⁵ The challenge is particularly acute in fast urbanizing developing countries where the formal housing sector has been unable to produce new housing at the scale or pace or price needed to respond to prevailing demand. As a result, housing choice is severely restricted for both low- and middle-income households; nearly a billion people or about one-third of urban population in developing countries live in slums.⁶

Governments around the world have intervened in housing delivery through a variety of instruments: taxes, subsidies, regulations, and direct public provision. Direct Government provision began with housing returning soldiers after the First World War and again, more intensely, following the Second World War. Public housing in developing countries has gained momentum in response to urbanization. Over the last 70 years, governments have implemented multiple methods to provide affordable housing, of which the PPP is the most recent iteration. It is useful to locate PPPs within this timeline. Figure 1.0 below provides a brief (and generalized) overview of policy and practice change. Government starts out with a frontline delivery role, gradually retreats from delivery through structural adjustment in the 1980's and returns to a more active role in the latter 2000's as the symbiotic scaling and de-risking roles of the private and public sectors begins to be realized.

Figure 1.0 Evolution of Government Approaches to Affordable Housing⁷



5 McKinsey Global Institute, *A Blueprint for Addressing the Global Affordable Housing Challenge* (2014).

6 UN-Habitat, *SLUM ALMANAC 2015-2016: Tracking Improvement in the Lives of Slum Dwellers* (2016). This figure is expected to double by 2030.

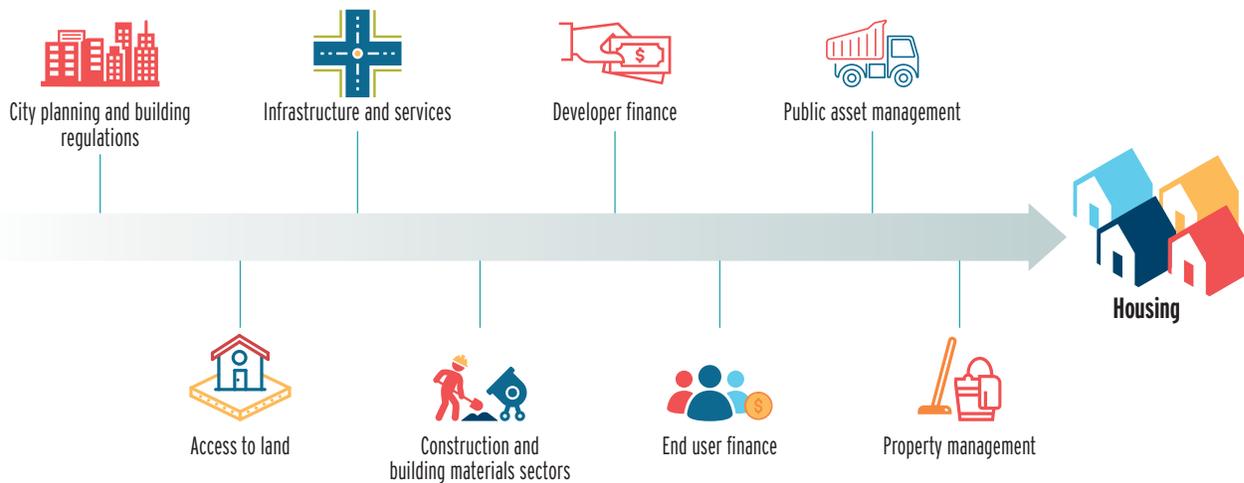
7 PADCO, *Urban Development Timeline* (2006), adapted for housing by M. Majale and L. English (2008), updated by L. English (2017).

1.2. Affordable Housing Fundamentals

The stylized description of government's role aside, addressing the affordable housing challenge requires sound understanding of the housing sector. **The point of departure is the belief that housing is essentially a private good that is best provided by the market.** The fact of the matter is, with very few exceptions in the world, the bulk of housing is produced by housing suppliers in the formal and informal sectors without direct government assistance. The seminal 1993 World Bank publication "Enabling Market to Work" advocates the enabling approach, which moves the government away from direct provision of housing or removal of slums and focuses its role on policy instruments that would facilitate the private sector to deliver housing effectively. Concretely, the government should aim to (i) provide the enabling environment for the private sector (including private individuals) to deliver housing as a whole, (ii) address market failures; and (iii) avoid and/or correct government policy failures.

For governments to play an enabling role, they must understand how housing markets work, and how their policy, legal and regulatory instruments, and subsidies affect housing producers' and consumers' behavior and, ultimately, housing sector outcomes. Policies and practices which constrain the responsiveness of the housing supply (such as restrictive planning and zoning regulations, lengthy and costly bureaucratic procedures) often lead to underinvestment in housing, higher housing cost, and/or lower quality of housing and neighborhoods. Similarly, policies and regulations that inhibit the flexibility of financial institutions to make market-based decisions in mortgage lending or micro-finance will result in reduced investment in housing.

Figure 1. The Housing Value Chain



Identifying and removing binding constraints along both sides of the housing value chain is a key part of a market-enabling approach. On the supply side, factors include access to land (security, tradability and enforceability of land tenure), infrastructure and services provision, planning and building regulations, building materials industry, access to developer finance. On the demand side, factors include household disposable income for housing and access to end-user finance. The availability and quality of public asset management and property management also have a bearing on the quality and value of residential property over time – a factor which has often been overlooked in the housing policy debate.

However, left to themselves, housing markets do not deliver housing efficiently and equitably. In another word, there are market failures in that it has failed to produce affordable housing⁸ for all at the scale and speed demanded by consumers, as evidenced by homelessness, sub-standard housing with poor access to basic services, and key segments of society being unable to afford to live near to their place of work.

When government endeavor to address market failures, however, need to understand and segment the market as their resources are limited, which is particularly true for developing and emerging economies. Every housing market is naturally comprised of different actors, each of which has different financial capacities and needs. Segmenting according to income levels clarifies these different submarkets and allows for targeted, more effective programs. Often, it is the lower-income segment of the market that is left behind by formal housing producers. This market failure raises the question of how governments can best encourage formal private housing suppliers to expand their market to the affordable housing space, or how to bring informal housing suppliers into the formal processes without jeopardizing affordability.

1.3. Motivations for the PPP Method

As affordable housing challenges have become increasingly acute – World Bank estimates that 100,000 housing units per day are required through 2030 to meet the demand – governments in emerging economies have realized the importance of leveraging their limited resources to entice the private sector into the affordable market.

Limited financial resources, political pressure arising from expanding unplanned settlements and housing deficits, combined with fiscal pressures have led governments to look for “off balance sheet solutions” that will deliver housing at scale. Guided by successful application of PPPs to public infrastructure, and to social housing delivery in Europe, housing PPPs have become attractive for both the public and private sectors for the following reasons:

For the public sector:

- To harness private sector capabilities, experience and efficiency;
- To deliver the asset or service without imposing upon its own treasury and credit rating;
- To free up available (limited) public funds for allocation to other sectors where private provision is not possible;
- To tap into private financial resources for land, infrastructure, construction and/or marketing, operations and maintenance of housing units;
- To transfer risk to a more competent or non-political entity, limiting government exposure to risks related to implementation, cost escalations, political interference, or external factors (e.g. international markets), etc.;
- To cap costs over the project life cycle, providing certainty for government planning and budgeting – which can also hold the private party accountable;

⁸ For the purpose of this scoping study, we define housing as ‘affordable’ when housing expenditure (mortgage payment or rent plus utilities) leaves households with a socially acceptable standard of both housing and non-housing consumption.

- To foster competition for innovation and better value for money in service provision, which is more difficult to achieve through a public entity or monopoly;
- To promote mixed use and mixed income developments (since government mandates for housing are typically limited to assistance for the very poor).

For the private sector, there are benefits to be gained from housing PPPs as well, provided a sound and stable administrative framework is in place:

- To open up new market segments hitherto considered too risky or costly to serve;
- To diversify portfolios for market segments with different demand characteristics.

Context: key messages

1. The role of government in housing provision has evolved over the decades in response to changes in social, political and fiscal context, program failures and shifting notions about its perceived role and responsibility.
2. In developed economies, government roles have transitioned as follows: Builder > Architect > Planner > Enabler > Regulator > Partner > Entrepreneur. The lack of private sector provision of housing affordable for lower-income groups has resulted in emerging economies adopting any one of these roles – or all of them.
3. If a government does not wish to carry the full financial burden of delivering affordable housing, it needs to position itself as an enabler, de-risker and regulator of an affordable housing market.





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2

Defining Housing

“Public-Private Partnership”



This section provides a working definition of housing PPPs and compares and contrasts the differences between the application of PPPs to public infrastructure and to affordable housing, broadly defined housing PPPs and strictly defined housing PPPs, as well as housing PPPs and government contracting out builders to build. It also provides basic description of their main principles and components of a housing PPP. For those who are less familiar with PPPs, please refer to the World Bank Public-Private Partnerships Reference Guide which helps readers navigate the substantial body of knowledge that has been generated globally on infrastructure PPPs.⁹

2.1. Definition of Public-Private Partnerships

2.1.1. Definition of a Typical [Infrastructure] PPP

The World Bank uses a broad concept, applied both to new or existing infrastructure and services, defining PPP as:

“A long-term contract between a private party and a government entity, for providing a public asset or service, in which the private party bears significant risk and management responsibility and remuneration is linked to performance”¹⁰

A typical infrastructure PPP is understood as a relationship between a public and a private entity, formalized under a contractual relationship, using a specific method of procurement. The contractual relationship requires a systematic and meticulous consideration of costs, revenues, incentives and risks over the project/service life cycle. As such, it is complex and expensive to execute, as is later explained.

A PPP is not the only means by which a Government can partner with the private sector, distribute its risk, or through which the Government can access private sector investment, assets or services.¹¹ Any appraisal of a partnership between the public and private sectors should first consider whether the desired outcomes can be achieved through less a complex partnership or contractual structures.

2.1.2. Proposed Definition for Public-Private Partnership in Affordable Housing

As there is no specific definition for an affordable housing PPP, the following is proposed to guide this study:

A partnership between the public and private sectors, established through a contractual relationship which seeks to access private sector finance, design, construction, commercialization, maintenance or operational management for the delivery of affordable¹² housing and, in some cases, ancillary services. The public sector contribution can be provided in the form of cash or equivalents such as land, development rights, revenues (rents/tariffs) generated from land, infrastructure and building assets, taxation relief and/or a share in the equity generated over a fixed period. The private party’s remuneration is significantly linked to performance.

⁹ World Bank, *Public-Private Partnerships Reference Guide*, V. 3.0 (2017).

¹⁰ World Bank, *Public-Private Partnerships Reference Guide*.

¹¹ *Workshop on Affordable Housing PPPs* (Malaysia, April 2019): The majority of government representatives surveyed considered PPPs to be the only mechanism for attracting private finance.

¹² Affordable housing is another term that does not have a universally accepted definition. For the purpose of this study, housing is considered ‘affordable’ when housing expenditure (mortgage payment or rent plus utilities) leaves a household with a socially acceptable standard of both housing and non-housing consumption.

This definition allows both public and private sector parties to develop partnerships which are appropriately structured around a specific housing need and context. It also allows the public sector the flexibility to ensure the delivery of different housing tenures (e.g., for rent or for sale) and different asset classes (e.g., residential or retail space), which would in turn make it possible for the private sector to engage. Moreover, the definition does not require the parties to be locked into long-term contracts, as is typical with infrastructure PPPs.

Box 1: Three Differentiations to Facilitate the Understanding of Affordable Housing PPPs

1. Differentiating transaction-based, contractually governed PPPs (i.e., “strictly defined” PPPs), from broadly defined housing PPP agreements which include a host of mechanisms to incentivize the market players to increase supply of affordable housing units.
2. Differentiating affordable housing PPPs from large scale infrastructure PPPs.
3. Differentiating affordable housing PPPs from government contracting private firms as builders (who take no financial or commercial risk).

2.2. Three Differentiations to Facilitate the Understanding of Housing PPPs

The term PPPs has been loosely used in the housing sector. It is important, therefore, to draw boundaries between some commonly conceived notions of housing PPPs in policy discussions and practices.

2.2.1. A Broader Concept of Public-Private Partnership in Affordable Housing

While countries around the world have largely attempted to adapt an infrastructure PPP framework to the housing sector, its definition may not always fully capture the dynamics of the housing sector. Why? First, the definition derived from public infrastructure and service provision involves assets that are traditionally owned by the public sector. In the housing sector, however, public rental housing constitutes only a small share of the market in most countries. Therefore, how to incentive the private sector to supply housing (a private good) in the affordable market (both for sale and rental) becomes a central question for the public sector. Second, even if the definition of public service is sufficiently broad to include the government’s role in ensuring the affordability of housing (largely privately produced), such a definition requires the private sector’s role to be codified in a long-term contract with a government entity. In the housing sector, the government has a wide range of policy, legal, regulatory, financial and administrative instruments to attract private sector investments into the affordable housing space. Such private sector participation (“broadly defined PPPs”) need not be governed by long-term contracts between the two parties, nor be transactional or site-specific as in the classic infrastructure PPPs. For example, instruments like Inclusionary Zoning, which requires developers to make a certain percentage of new units affordable to low- to moderate-income residents, are powerful regulatory tools to steer developers to the affordable market. It is this broader context of respective roles – for both public and private sectors – that sets the definition of public-private-partnerships for affordable housing apart from that of a typical infrastructure PPP.

Before any in-depth discussion on housing PPPs, a broader perspective and a functional framework for the role of the public and private sectors in housing is needed. Narrowly defined Housing PPPs (see below) are not silver bullets. Governments must first identify the key constraints in the enabling environment (policy, legal/regulatory and administrative) along the housing value chain. By removing/reducing these constraints, the market as a whole will benefit from more private sector entry/competition.

Box 2: The Low-income Housing Tax Credit (LIHTC) → Is it a PPP?

The LIHTC provides a federal income tax incentive to private investors in return for equity investments in private rental housing targeted to lower-income households. Since its inception in 1986, the LIHTC has become the most important resource for the production and preservation of affordable rental housing in the United States today. Since 1986, nearly 3 million affordable housing units have been placed in service, at a rate of between 60,000 and 100,000 units per year.

The LIHTC program gives State and local LIHTC-allocating agencies the equivalent of nearly \$8 billion in annual budget authority to issue tax credits for the acquisition, rehabilitation, or new construction of rental housing (HUD). The LIHTC standard requires that the average income of all households in assisted units is 60 percent of Area Median Income (AMI) or below. Properties are required to comply with investment regulations for 15 years and meet affordable rent requirements (i.e., if the household is paying no more than 30 percent of its income for rent and utilities) for at least 30 years.

Several partners are required to finance and structure an LIHTC deal: federal, state, and often local government agencies, equity investors, attorneys, and project developers or owners and professional property managers. Sometimes the HOME Investment Partnerships Program and the Community Development Block Grant program of the US Department of Housing and Urban Development are leveraged to finance projects. In many cases, the project developers are non-profit corporations.

The LIHTC does not fit into the strict definition of a housing PPP (Section 2.1.3). However, the LIHTC is a good case of a broadly defined public-private partnership whereby the public sector deploys a taxation instrument to attract private sector investments into the affordable housing space.

2.2.2. Affordable Housing PPPs vs Large Scale Infrastructure PPPs

Housing PPPs are more complex to deliver than infrastructure PPPs for the following reasons:

- a) Single vs Multiple Assets. Whereas infrastructure typically focuses on a single sector, housing comprises not only dwellings, but also roads, water, sewerage, electricity and stormwater infrastructure, as well as supporting social infrastructure such as recreation fields, community centres day care centers, schools, etc.
- b) Multiple vs Single Offtaker. An infrastructure PPP typically has a single offtaker, such as a government department, state-owned enterprise, or utility company. Housing, however, often involves multiple offtakers: home purchasers, buy-to-let purchasers, rental companies, and a range of utility providers, schools, clinics, commercial operations, etc.¹³

¹³ When a housing estate is to be delivered to a single offtaker (e.g., a university accommodation or housing for employees of a single (or few) large employers), then its complexity is similar to that of an infrastructure PPP.



PHOTO BY: © ALEJANDRO ESPINOSA/SONIDEAS.COM

- c) Utility vs Urban Management. Following construction, an infrastructure PPP focuses on the management of the specific infrastructure service provided, whereas a housing PPP must manage an urban area comprising the various service providers identified in (b) above, as well as the socio-political dimension of resident associations.
- d) Utility vs Real Estate Revenue Models. Whereas an infrastructure business model is based on user service charges, a housing business model involves multiple revenue variables, whose sources include the sale of assets (e.g., houses, surplus land, development rights), residential and commercial rentals, utility tariffs, as well as the potential uplift from real estate and asset value appreciation over time.
- e) Politics. Housing attracts voter support in ways that public infrastructure construction does not. As such, it is often exposed to political interference at national and local levels – which may not always be in alignment.
- f) Variability over time. Because housing involves multiple assets and offtakers, each with its array of variables and associated risks, attempts to bundle such complexity and variability into a single procurement package exposes the public party to frequent requests for variations in contract scope, and costs – or alternatively, potential risk of private party failure, requiring the public party to step in.
- g) Multiple governments at play. The housing sector is shaped by policies and instruments deployed by both national authorities (often in charge of tax waivers and subsidies to end users) and by local governments (land supply, planning and zoning and development control regulations, municipal infrastructure and service provision). This creates an additional level of complexity.



2.2.3. Housing PPPs vs. Government Contracting Builders

Governments often contract out to builders to either build according to a government’s design or to design and build public housing with output-based specifications set by the government. After completing the housing construction, the government assumes responsibility for allocating the units to end-users, as well as operating and maintaining them. Design-Build contracts are short-term contracts, with no long-term maintenance or operations responsibilities allocated to the private party. More importantly, the builders do not take financial or commercial risks, as they simply hand back the units to the government after they are built. Although Design-Build contracts tap into some resources of the private sector in terms of design, construction, and project management, such private sector participation schemes fall short of maximizing the financial, property management, and other resources and expertise of the private sector. All too often, governments consider design-build the ultimate PPP model, whereas this study seeks to push that boundary and encourages governments to engage in more strategic and productive ways of sharing risks and resources to achieve desirable outcomes.

Box 3: TOKI Models: Contracting-Out and PPP Joint Ventures

The Housing Development Administration (TOKI) is a state-owned enterprise responsible for the implementation of the Turkish government’s housing policy. Its core activities are: (i) revenue sharing projects targeting middle- and high-income households; (ii) social housing projects targeting low-income households, and; (iii) slum transformation projects. With consolidated powers including rights to all state-owned land, the authority to override local zoning, and the power of eminent domain, TOKI has emerged as a national developer or co-developer of housing, either directly (by hiring general contractors) or indirectly (via individual PPP joint ventures). TOKI is self-financing and has supplied more than 640,000 homes between 2003 and 2018.

For social housing projects, TOKI supplies land and provides project design. Then a contractor is procured through a tender process to construct the housing units. Sales prices of the units are set by TOKI without a profit purpose. Upon completion, the contractor delivers the units to TOKI, which then sells the houses to targeted beneficiaries. TOKI also provides long-term, variable rate housing loans for the target groups, with title deeds kept as collateral until debt is fully repaid.

For revenue-sharing projects, TOKI provides land (typically in prime locations), and a tender process is carried out to choose the private developer. The developer is selected based on the expected total income from the project and the revenue share between TOKI and the developer. The private developer designs and constructs the housing units and finances the development. The sale prices of the housing units are jointly determined by both parties. TOKI receives its share even if the expected revenue is not obtained. If the obtained revenue is higher than the expected one, the extra revenue is shared between both parties.

Based on the Affordable Housing PPP definition under Section 2.1.2, these social housing projects are not PPPs but a standard public procurement of works. The revenue-sharing schemes, on the other hand, do qualify as a PPP joint ventures where private partners do assume a greater role in the planning, financing, design, construction, marketing and sale of the housing products. Substantial risk associated with the project is transferred to the private party, who is best positioned to manage it. It should be noted, however, that the resulting units are not affordable housing and that cross-subsidization is realized through TOKI’s overall portfolio, rather than at the individual project level.

2.3. PPP Principles

PPPs were established in the developed economies of North America and Western Europe. Through their use over time, key principles were identified to guide the use of these instruments and to avoid some of the pitfalls which became evident. From the literature, Canada's 8 "golden" rules¹⁴ appear to be the most succinct way of capturing the essentials.

1. Public interest is paramount;
2. Maintain accountability and transparency throughout the project lifecycle;
3. Carefully plan and define scope and objectives;
4. Measure project viability against criteria set by the initiating partner;
5. Provide value for money and appropriate risk transfer;
6. Ensure competitive and fair tendering processes subject to proper due diligence;
7. Reflect the needs of the targeted community and integrate them into project KPIs;
8. Manage the project responsibly throughout the term of the agreement, with predictability and priority as determined by the partnership.

2.3.1. Structural Requirements

PPPs emerged in the context of well-established public and private institutions, with legal and financial frameworks that enable the transfer of public service provision to the private sector within a codified system (PPP) that optimizes public-private participation and the management of risk. Requirements for a public sector client to procure a project using a PPP method usually require:

- a) An approved legislative framework for Public Private Partnerships.
- b) A public authority (such as a PPP unit) that is dedicated to administering transactions, as well as monitoring and reporting on PPP contracts;
- c) Institutional competence and experience to oversee complex PPP transactions;
- d) Private sector investors and developers capable of assuming risk.

The fact that many of these requirements are not evident in many emerging economies raises concerns about the effectiveness of PPPs there. Therefore, models must be developed that are appropriate to their legal and financial systems, existing institutions, their capacities, competencies and constraints, both public and private.

2.4. Main Elements of a PPP

The following subsection highlights the main elements of a housing PPP. It is not meant to describe the steps for assembling a housing PPP, which are covered in Section 7.1 of the Appendix.

¹⁴ City of Calgary, *Public-Private Partnerships, Calgary Council Policy Framework* (Calgary, 2008).

2.4.1. *The Asset or Service*

It is important to understand *what* specific housing asset(s) or service(s) is to be delivered, and for *whom*. This will determine the basics of the business model, the costs of production, and the potential methods for achieving affordability for targeted population.

What asset(s) and service(s). For affordable housing this will depend upon the proposed tenure (e.g., rent or sale or other forms), built-form (e.g., incremental, complete, detached, attached, etc.), usage (e.g., single, mixed, etc.), basic infrastructure and social services, as well as specific services required (e.g., facilities management or rental management).

For whom. A core part of any affordable housing PPP is to understand the targeted “price points” of the affordable housing assets to be generated. Therefore, an affordability analysis – based on house prices, the incomes of targeted beneficiaries and potential customers of the PPP, and interest rates and other credit rules for potential customer groups – constitutes a fundamental part of the technical assessment.

2.4.2. *Resources and Risks to be Shared*

The business model is also dependent upon the resources each party will bring to the partnership to produce the asset and/or service and lower its cost. Public resources tend to include assets (land, infrastructure), incentives (development rights, tax relief, administrative streamlining, subsidies), guarantees (financial and offtake). It is critical for public resources that are included in the partnership to be adequately marked-to-market (even if these are not marked-to-market in the government books) to ensure that the structure does not include implicit subsidies that make the model unsustainable. The private sector brings capital, either owned or raised (project debt and equity), as well as technical, marketing and management capacities.

A risk matrix should be developed to name and categorize each risk identified throughout the project lifecycle: to analyze the likelihood of the risk occurring (and the effects if the risk materializes), to identify measures to mitigate the risk, and to allocate the risks to the party who is best placed to handle it (or to share it). Housing PPP projects in emerging economies typically have the following: political risks, social risks, market risks, financing risks, offtake risks/demand risks, and procurement risks. For a more detailed list of risks, refer to Section 7.1.2 in the Appendix.

2.4.3. *Structure and Model*

The eventual structure of the partnership will depend upon the asset or service to be produced, the resources each will contribute, and the business model for ensuring financial viability. Typical PPP structures are defined by the role of the private sector in the arrangement. For affordable housing PPPs, these include, but are not limited to:

- Design Build and Finance (DBF)
- Design Build Finance and Operate (DBFO)
- Design Build Finance and Operate and Maintain (DBFOM)
- Operate and Maintain (OM)

Section 3.2 features some of major affordable housing PPP structures adopted by developing countries.

2.5. Value for Money (VfM)

The primary objective of engaging the private sector in delivering affordable housing as a social good or a public service is to ensure greater Value for Money (VfM) than could be achieved through purely public provision. In doing so, governments must ensure that any public resources deployed, or risks incurred, are worth the investment and that the benefits outweigh the costs – and that they will do so over an extended period of time. Concretely, governments must determine (i) if PPP is the better approach, (ii) if yes, which PPP structure would offer best VfM, compared to other possible PPP structures; and (iii) if the governments deploy their own limited finances and assets strategically to facilitate an affordable housing delivery system that is sustainable, replicable, and therefore scalable. Many PPP programs require a VfM analysis to gauge whether the scheme can achieve the optimal combination of benefits and costs in delivering the assets and services for end user.¹⁵

Value for money is evaluated both quantitatively and qualitatively. The qualitative analysis involves sense-checking the rationale for using a PPP. It may include determinants such as: (a) whether a project is suitable for private financing; (b) whether a project's complexity would benefit from private sector innovation; (c) the potential for optimal risk allocation; (d) the degree of stakeholder support; (d) institutional capacity; and (e) social and environmental criteria.¹⁶ Qualitative VfM analysis is usually done as part of the PPP screening process.

Quantitative VfM analysis typically involves comparing the chosen PPP option against an alternative implemented entirely by the public sector. For affordable housing, it is common to examine multiple alternative models for leveraging private sector capital and expertise to supply affordable housing. In order to determine which PPP model to use, governments must systematically analyze the direct (& indirect) costs and the potential benefits of various structures. The time- and cost-efficiency – as well as the effectiveness – of each structure must be compared. Such analysis should take into account the market, as well as the regulatory and political context, of a particular city or country. Quantitative analysis is usually done at a later stage of PPP preparation and appraisal. Governments should be aware that ex-ante qualitative VfM is an imperfect tool when its foundational assumptions are based on limited data.

It is worth highlighting, however, that a VfM analysis is only one part of the PPP project appraisal process. Other PPP appraisal criteria include the project's feasibility, its economic viability (irrespective of procurement routes), its commercial viability (whether the project is likely to generate enough of a return to attract high quality investors), its affordability, and whether it can be completed in a fiscally responsible way.

2.6. Advantages and Challenges of PPPs

The surveyed literature shows that while housing PPPs offer many advantages, they also present challenges. Both are summarized below:

2.6.1. Advantages

- a) Cost savings: private sector profit orientation drives efficiency and cost-cutting;

¹⁵ For detailed discussion and further references on VfM, please see: World Bank, *Public-Private Partnerships Reference Guide*.

¹⁶ Due consideration of sustainability and environmental, social, and governance (ESG) standards is increasingly becoming common as a supplementary analysis to VfM.

- b) PPPs cover the whole lifecycle: concentrating all costs into a single bundle simplifies procurement;
- c) Output-based: payments are linked to performance;
- d) Risk sharing: risk is allocated to the entity most competent to manage it effectively;
- e) Deadline incentives: the private entity is responsible for financing, so any delays impact upon profitability;
- f) Broadening public services: government is able to redirect its own finances to other needed sectors;
- g) Improved levels of service: combining the strengths of the public and private sectors improves the quality of assets and services.

2.6.2. Challenges

- a) Procurement complexity: PPPs are significantly more complex than traditional public works tenders;
- b) Politics: PPPs are susceptible to political changes over the period of the contract;
- c) Rent seeking: controversies may arise as to “who” benefits;
- d) Transaction fees: transaction costs and fees are very high;
- e) Monitoring costs: governments incur significant costs monitoring PPPs;
- f) Costs of private capital: private capital is generally more expensive than capital sourced from the public sector;
- g) Long term obligations: long-term annuities are a budgetary burden on weak economies;
- h) Contract rigidity: rigid forms of contracting result in risk premiums;
- i) Competitive complexity: once the contract is signed, there is little competition.

Box 4: Challenges for Affordable Housing PPPs Commonly Seen in Emerging Economies

- The real estate industry may be underdeveloped and unregulated;
- A non-competitive domestic market may be dominated by a small number of residential developers who profit more from alternative investments (hence, there may be a lack of motivated bidders);
- The private sector may lack investors and developers capable of assuming risk;
- Public sector capacity, formal processes and/or the structure for decision-making in general may be weak;
- There may be a lack of institutional competence and experience to design, structure/ appraise, and oversee complex PPP transactions;
- The public sector might not be trusted to honor its commitments and responsibilities;
- There may be a lack of access to mortgage financing and construction financing;

PPP definition, principles and components: key messages

1. There are varied (and sometimes competing) definitions of what constitutes a PPP. The World Bank employs a standard definition for public infrastructure PPPs (2.1.1), which has been modified for affordable housing in this note.
2. Essentially, public-private partnerships seek to harness the private sector to deliver public assets and services and to minimize or defer governments' expenditures and risks.
3. PPPs provide certainty for governments about budgetary expenditures, as well as assurances that service standards will be maintained.
4. PPPs were created in developed economies and are not always readily suited to the realities of emerging economies.
5. PPPs require that appropriate legal structures be in place, and that the various parties be competent to perform their assigned tasks under the model.
6. The private sector should be aware that it is assuming a large portion of risk from the public sector, and what the consequences for non-performance of a PPP contract might be.
7. Academics, professionals and policy makers analyzing case studies have identified many pros and cons in the use of PPPs to procure housing (examples of which are covered in the Appendix).
8. PPPs depend on both the public and private sectors to perform and deliver value for money in a demonstrable manner.





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3

Affordable Housing PPPs: Complexities and Models



3.1. Housing Complexity

Application of PPPs to affordable open market housing delivery presents significant challenges. The following perspectives serve to illustrate these challenges:

3.1.1. Low-income vs Upper-Income Markets (or Informal Private Sector vs Formal Private Sector)

This subsection will not reiterate the typical concerns about land titling, removal of encumbrances, loan underwriting and infrastructure availability – as these affect housing markets generally. What is important here is the significant difference between the lower-income and middle/upper-income housing markets.

In most developing countries there is a functioning affordable housing market provided by the Informal Private Sector (IPS) without any subsidy or guarantee. The housing is affordable to consumers, and commercially viable for those that produce it. Whilst there are concerns about quality and adequacy, this market nevertheless provides a baseline for evaluating affordable housing investment and delivery models. The fact that the IPS produces the majority of housing in almost all developing countries – and that this market continues to expand – suggests that the IPS understands low-income demand and the business model for supply better than government or the Formal Private Sector (FPS).

Any attempt to attract FPS housing providers down market should therefore be wary of providing subsidies or guarantees as a substitute for a lack of knowledge about the market. Rather, these incentives should be carefully employed to formalize existing and relatively successful informal markets, and to integrate the financial, managerial and technical capacities of the FPS.

This study does not provide opportunity to investigate the subject in detail, but some lessons from precedent are provided below as examples:

Criterion	LESSON
<p>1. Economies of Scale :</p> <ul style="list-style-type: none"> For an IPS with smaller profit margins per unit, affordable housing must be produced at scale to ensure commercial viability. Scale enables bulk purchasing which lowers material cost per unit; scale also distributes management cost over a larger number of units thereby also lowering cost per unit. Too large a scale, however, requires higher borrowing, greater dependence on sales, greater market speculation, and greater vulnerability to delays. 	<p style="text-align: center;">➔</p> <ul style="list-style-type: none"> Achieve scale through multiple smaller projects rather than a single mega-project. Reduce transaction size, complexity, risks and time to implement. Distribute risks across the portfolio.
<p>2. Know the Customer</p> <ul style="list-style-type: none"> Information and data about the low-income market is very limited (e.g household size, configuration, mobility, income, etc.), and effective demand cannot be confirmed until appraised. You cannot speculate with the low-income market. 	<p style="text-align: center;">➔</p> <ul style="list-style-type: none"> Know for whom you are building before you build! Where there is no guaranteed offtaker, client origination and closing need to be project-managed to the same degree as construction. Phase projects to enable learning about consumer requirements and constraints at each increment - so as to improve product responsiveness and profitability

Criterion		LESSON
<p>3. Know the Chains and Capacities:</p> <ul style="list-style-type: none"> • Because profit margins are thin, delays eliminate profit very quickly. • One must know the speed of all supply chains in order to model production and potential cash flows; knowing the actual speed of planning approvals, client origination, loan underwriting, material supply, and house production is critical. • The capacity (financial, managerial, technical, technological) of all institutions is important. Capacity is important for increasing project scale and complexity. 	➔	<ul style="list-style-type: none"> • The programme has to be designed around actual speeds of supply chains. End users are the most critical of all supply chains. • The programme should be paced at the slowest supply chain. • The complexity, scale and speed of the project cannot exceed the capacities of existing institutions without creating delivery risks. • The programme should utilize and develop local capacity/capability/ technology; it should avoid models which over-rely upon 'imported' expertise as such dependency can pose a risk to scale and sustainability. • The above also applies to investment.
<p>4. Sequencing Production and Cashflows</p> <ul style="list-style-type: none"> • Large-scale projects that are built very quickly may make sense for the contractor, but do not always make investment sense. • Increasing the scale and speed of a project requires not only increased capital, but also increased sales closures to service the debt - which places the project at risk and could result in potential insolvency and a request for a government bailout. • Building more slowly, may render the project unfeasible for larger building contractors. 	➔	<ul style="list-style-type: none"> • Employ Just-in-Time: do not build faster than sales. • Build at the rate of sales to avoid over-production/ sunk costs. • Increase equity over debt to reduce debt obligations. • Slow down and phase the development to minimize capital demand, pay down debt, and improve investment returns. • Scale project phases to match local contractor production and financial capacity.

3.1.2. Structuring Complexities

a) Single or Multiple Offtake

If the housing estate to be produced, e.g. university accommodation, housing for employees of a single (or few) large employers has a single offtaker, then complexity is significantly reduced. If, however, there are multiple offtakers, each with their own requirements and time scale, it is pivotal that procurement for each offtaker is undertaken under a coordinating Special Purpose Vehicle (SPV), a project company created to develop and manage the project. The SPV will “pass through” most of the rights and obligations to a downstream structure of contracts, allocating responsibilities, obligations, risks, and cash flows from the SPV to the different private actors through different agreements.¹⁷

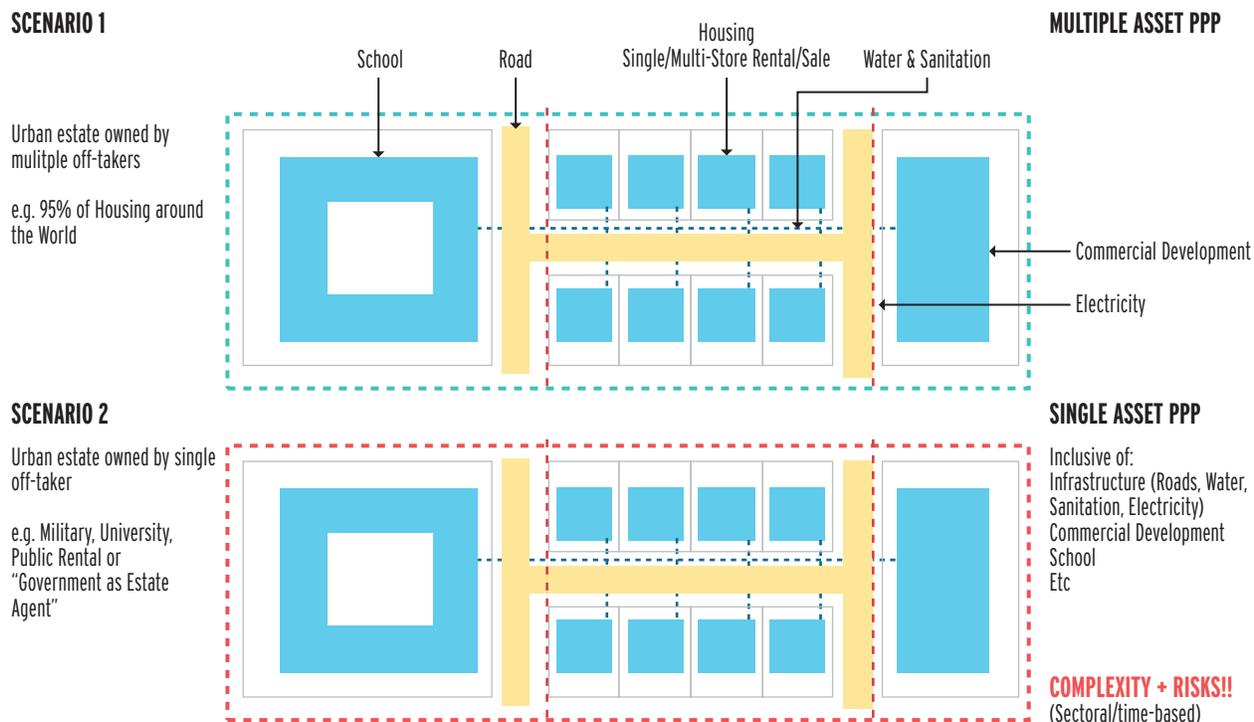
b) Investment and Delivery Structures

To ensure its citizens can access housing that is adequate and affordable, government may decide to produce such housing itself, or enable others to do so. Regardless of the approach, government needs to exert sufficient control to ensure that sufficient levels of affordable and adequate housing are supplied.

¹⁷ For a detailed description of SPVs, see APMG International, “6.1 Introduction to the Basic PPP Project Structure,” *The PPP Certification Program Guide* (Buckinghamshire, UK: APM Group, 2020). <https://ppp-certification.com/ppp-certification-guide/61-introduction-basic-ppp-project-structure>.



Figure 3.1 Single Asset vs Multiple Asset Offtake Scenarios¹⁸



The dilemma thus, is how government can exert control, when it is not directly involved in production?

PPPs provide a framework for government to get the private sector to finance and produce housing, but with the caveat that such housing will be handed back to government. As such it remains the eventual client, with associated holding risks and responsibilities. PPPs cannot be employed without specific PPP law and management in place.

Government regulations (spatial planning, development rights, building regulations and by-laws) and housing policy (subsidies, taxation) also provide a mechanism for government to exert control over housing affordability and adequacy, but this requires strong development controls and enforcement of regulations. The advantage of regulatory interventions is that they are programmatic and apply to many projects within a geography, as opposed to PPPs, which are limited to specific site, project or transaction.

Between (direct) engagement and (indirect) enablement, a range of investment and delivery structures exists (around the world) or could be adapted to enable government to exert control to ensure that affordable and adequate housing is produced. The table below provides a simple matrix illustrating the options between exclusive public and private provision that may be considered in devising a context-appropriate affordable housing investment and delivery partnership structure.

18 Sourced from L. English and J.P. De Swardt, *Settlement Company Modelling* (Urbuntu Ltd, 2018).

PARAMETERS	DIRECT CONTROL	INDIRECT CONTROL		NO CONTROL
Deliverable	Public Good/Asset	Public/Private Good Housing is a public good if owned by a public/public purpose institution.		Private Good
Tenure	Rental and Sale (associated with public employment)	Rental, Rent-to-own, Shared ownership, Mixed Rental/Sale		Rental, Rent-to-own, Shared ownership, Sale
Ownership	Public ownership	Private/ Non-state custodianship		Private ownership
End User Demand	Non-market	Semi-Market		Open Market
	Government guarantees offtake	Government guarantees offtake for affordable component only	No offtake guarantees	No offtake guarantees
Commissioning Authority (CA)/ Client	Public Institution (whose core business is not housing)	Private Entity (whose core business is not housing)	Private Entity (whose registered core is business is housing - Housing Company*	Private (whose core is real estate and housing)
	E.g. Government Department, Hospital, Military, State University State-owned Enterprise	Private University/ Private Corporation/ Non-Profit Company/ Trust/ SPV	Community Interest Company/ Community Development Corporation/ Housing Association/ Trust	Private Company / Private Individual
Delivery Vehicle	No vehicle if DB contracts Special Purpose Vehicle if DBF/DBFM or DBFMO	Special Purpose Vehicle	Housing Company (HC) If none exists: 1. HC will first be incorporated (to mediate between uncertain market and investors) 2. HC will need to be capitalized before undertaking the project	Project Company
Specifications	CA specifies housing requirements. Drafts Contract	CA specifies housing requirements. Drafts Contract	Housing Company specifies requirements based on iterative market origination. Drafts Contract	Private Co specifies requirements based on iterative market origination. Drafts Contract
Delivery Agent	Building Contractor	Developer	Building Contractor	Building Contractor
Legal Framework	Procurement Law/ PPP Law	PPP Law	Company Law	Company Law
Delivery Risks	Government assumes all DBFOM risks	Developer and CA share DBFOM risks as per contract	Housing Company shares risk with Government for affordable component as per housing policy	Housing Company/ Investors assume all DBFOM risks for market component
Recovery Risks	Government guarantees repayment risks	Government guarantees repayment risks for affordable component as per contract	Housing Co/Investors assumes all repayment risks for market component	

* Housing company articles limit the business objects and may not be altered without government approval. It may be registered as a Social Housing Company if suitable regulation exists.



3.1.3. Contracting Complexities for an Open Affordable Housing Market

Providing an ‘open market’ affordable housing supply solution (i.e. where there is no guarantee of end user offtake) requires a composite expertise including: marketing, end user origination and financing, project/unit design, financial and investment structuring, procurement, construction, and the management of any assets – and the coordinated management of these such that the sequence of house production and sales occur at just the right time to ensure that project cashflow can attend to any debt obligation.

If this sequence is not achieved, a project will end up with unsold units, sunk investment, and potential financial failure (depending on the robustness of the developer’s balance sheet). Critical to sequencing production and sale is the control of each supply chain. On the sales side, this requires that there are no delays in end user client identification, assessment, underwriting and loan closure, and on the production side, that there are no delays in development approvals, material or labor supply etc. The more difficult of these chains, in affordable housing, is the sales supply chain. Any contract for open market affordable housing will therefore need to incorporate ‘marketing competency’, Figure 3.2(a) illustrates a typical DBFMO PPP arrangement, with the additional responsibility for end user marketing, and mortgage close.

Contracting for this type of arrangement raises several concerns:

a) Knowledge of the market, and predicting demand requirements over time

In most developing and emerging economies, formal developers and mortgage banks have limited knowledge of, or engagement with, the low-income market segment, hence the common appeal for offtake guarantees. This also presents the following challenges to the Contracting Authority: how to frame a contract that is likely to experience many changes in scope, adjusting to future changes in the market, whilst at the same time ensuring that it can cap costs and risks.

b) Integral nature of governance and operations

The PPP arrangement in Figure 3.2a illustrates that the SPV is both investor (owner) and operator/developer. This means that if there is failure in implementation, the CA cannot simply fire the developer, as it is also the owner. The CA may have ‘step in’ rights, but suspending a project has serious political, social and financial implications.

c) Local industry participation and development

Most developing countries are unlikely to have private companies with a development track record, fundraising capability, and risk management experience to qualify to bid for the PPP illustrated in Figure 3.2b. As such, they tend to draw from a small pool of international corporations and reduce local participation to non-leadership and sub-contracting roles. If governments are seeking to scale the supply of affordable housing, it is important that they structure contracts that enable and de-risk the participation and development of investors, developers, supply chains and services.

Figure 3.2(b) is based partly upon the Kenya Case study (later described later in Section 4) and serves to suggest how the above concerns can be addressed:

Figure 3.2a: Comprehensive (All inclusive) Affordable Housing PPP Contract

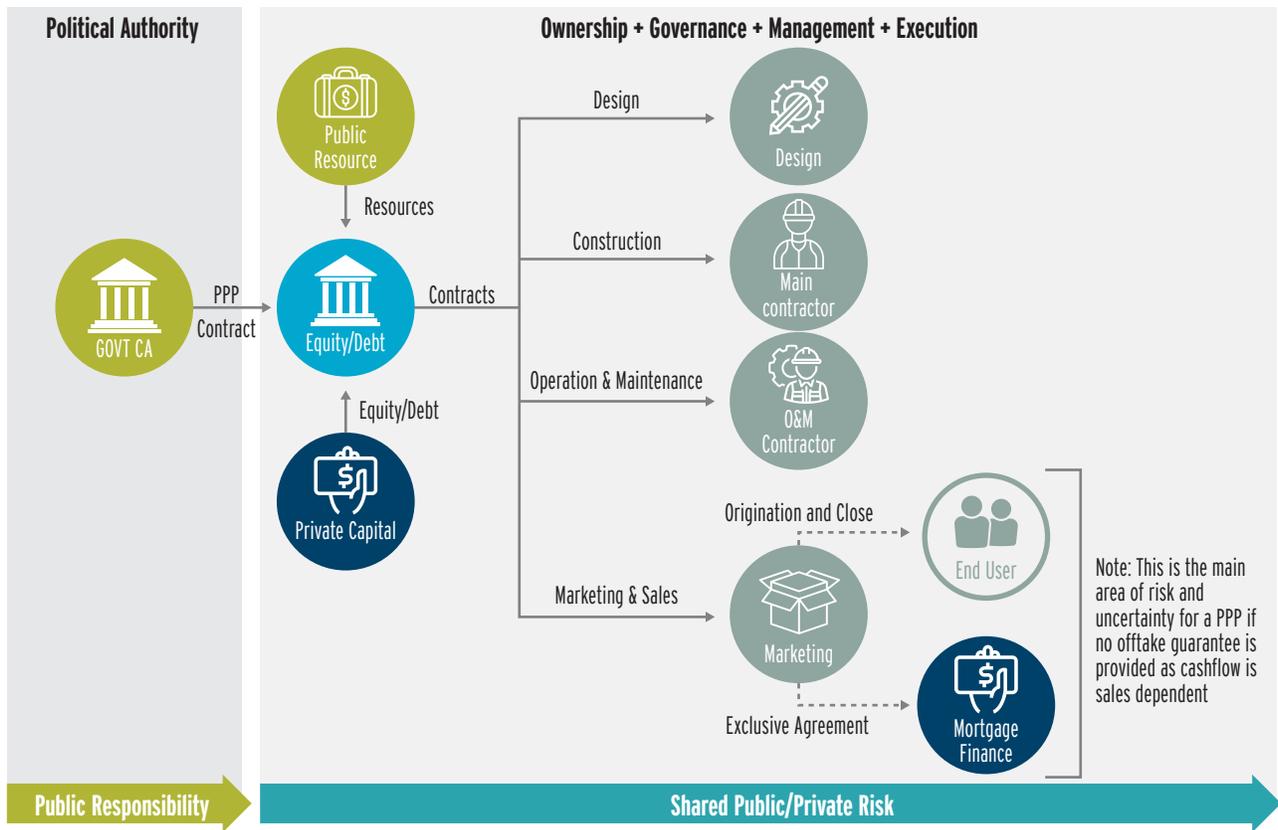
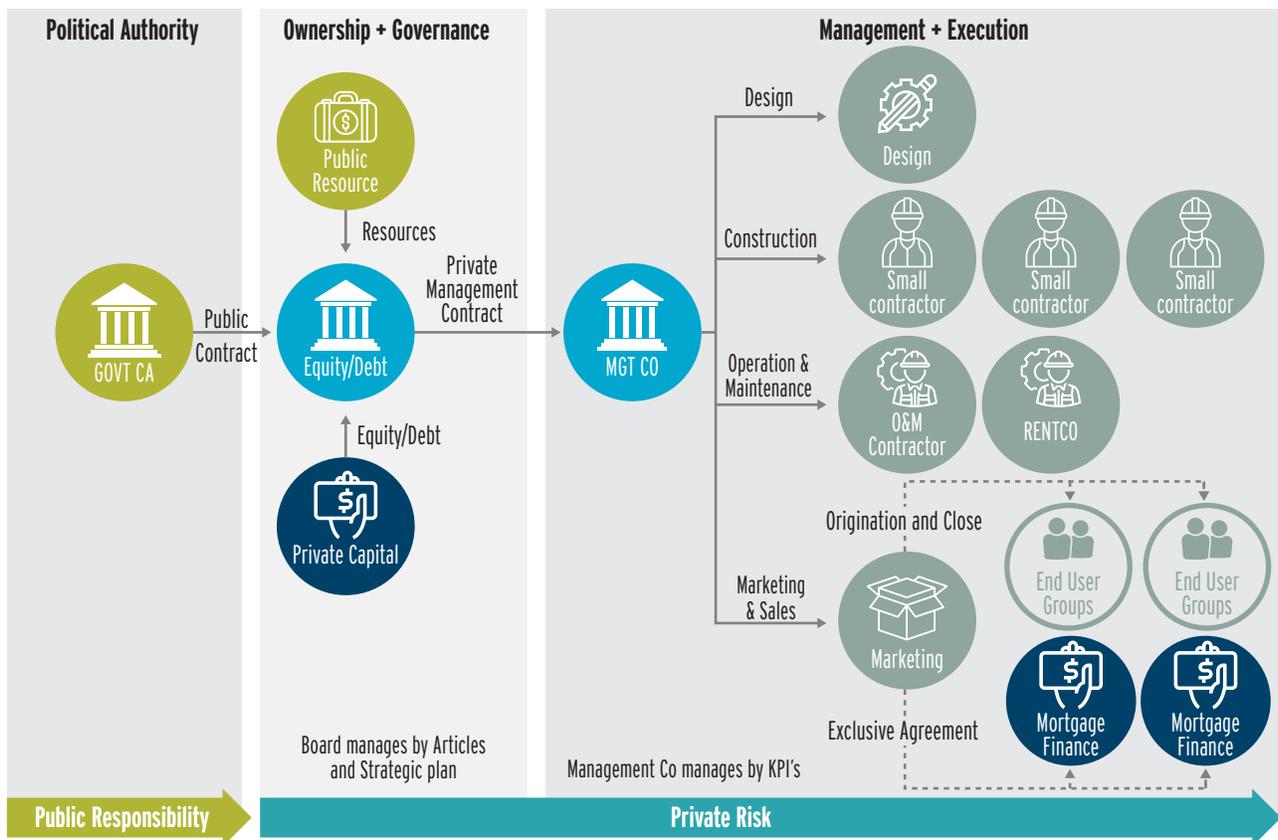


Figure 3.2b: Disaggregated Affordable Housing Contract(s)



- a) Rather than an SPV the Government incorporates a privately invested Housing Company (restricted by registration to specific affordable housing activities). The Housing Company Board assumes total responsibility, and appoints a management company to undertake marketing, design, construction and maintenance. The Company operations are not defined by a rigid contract and can adapt to demand changes (housing type, size, cost etc) and the speed of delivery, etc.
- b) Separating governance and management promotes accountability balancing performance (profitability mandate) and conformance (affordability mandate).
- c) Project Management, Design, Operations, Maintenance and Marketing services tend to exist as independent entities in developing countries but seldom as a single entity under 'one roof'. Through the Housing Company these services are able to be engaged individually and as required, not part of a single contracted consortium. This provides flexibility and increases local industry participation and development.

3.2. Partnership Models for Affordable Housing

The following section illustrates typical structures for engagement between the public and private sectors. They draw upon models from India¹⁹ and Kenya²⁰ and are presented in a simplified format that enables comparison²¹. For detailed consideration, the reader is encouraged to examine the documents referenced in the footnotes.

As the intent of the 'partnership' is to shift responsibility for affordable housing supply from the public to private sector, the models (or structures) are sequenced to show how risks and responsibilities pertaining to resource provision, offtake, production and cost recovery is gradually transferred. To illustrate the changing balance between public and private a 'weight scale' is provided listing the respective responsibilities.

3.2.1. Government Offtake/ Government Pays [Sale]

The first model requires the private sector contractor to design, build and finance the units (DBF contract) before handing them back to the Government. The Government pays the private sector contractor in cash. The Government then assumes onward risks for offtake, sales and arranging mortgage finance. Mortgage finance is either provided by the government or by private banks with subsidies provided by the National Housing Bank.

3.2.2. Government Offtake/ Government Pays with Land [Sale]

The second model is similar to the first, with the only difference is that instead of cash, the Government pays for the units through land and the associated development rights. Obviously, the land and development rights need to be equal value to the cash option (in present value terms) to provide sufficient incentive. The Bhubaneswar PPP project in India (featured in Section 4) uses this structure.

19 Ministry for Housing and Urban Affairs, *Public Private Partnership Models for Affordable Housing* (Government of India, 2017). This document provides a detailed analysis of a range of models appropriate to Indian context. <http://mohua.gov.in/upload/uploadfiles/files/PPP%20Models%20for%20Affordable%20Housing.pdf>

20 County Government of Nakuru and World Bank, *Naivasha Affordable Housing Prototype Business Case* (Kenya, May 2019).

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Figure 3.3 Government Offtake/Government Pay with Land [Sale]²²

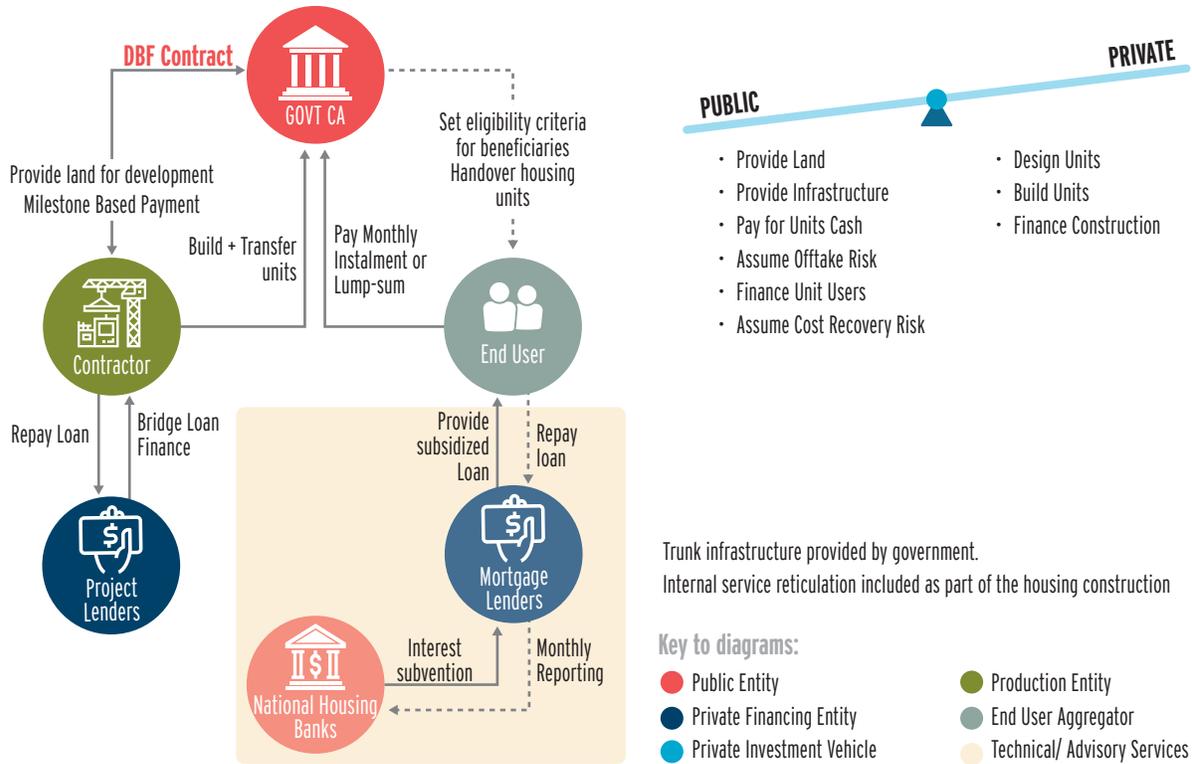
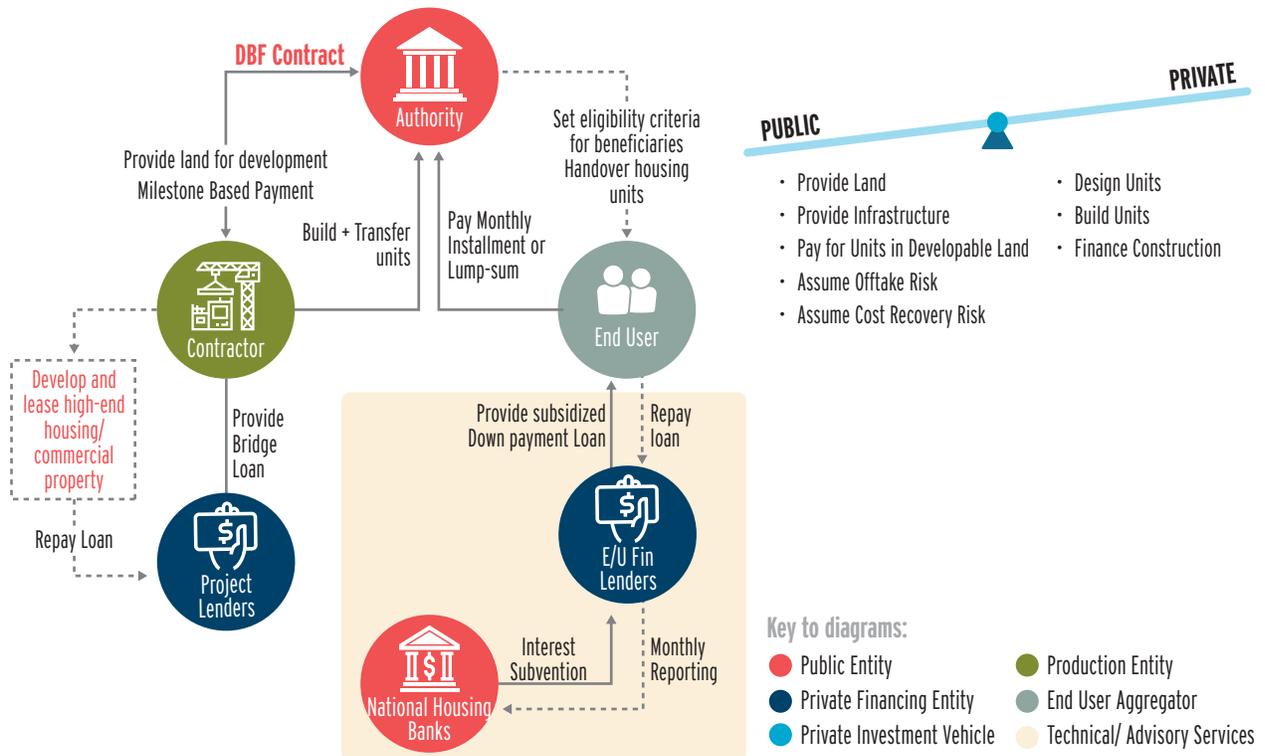


Figure 3.4 Government Offtake/ Government Pays with Land [Sale]²³



22 D. Harrison and L. English, *Public Private Partnerships for Housing Workshop* (Indonesian Ministry of Public Works and Housing/ World Bank, 2019)

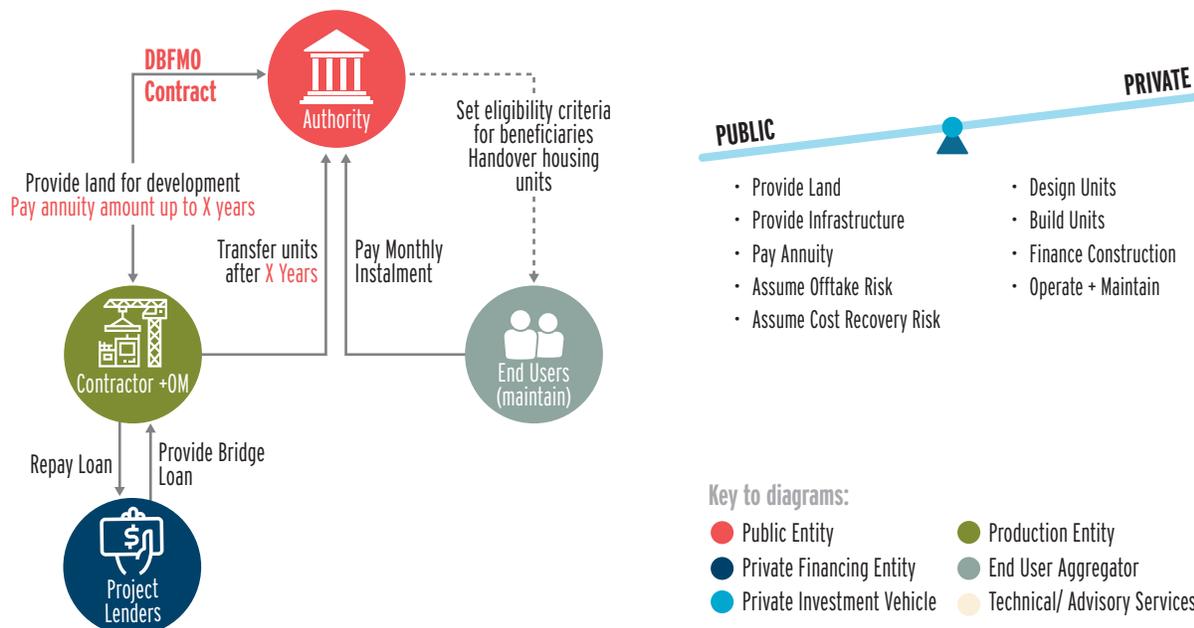
23 Harrison and English, *Public Private Partnerships for Housing Workshop*.



3.2.3. Government Offtake/ Government Pays with Annuity [Rental]

The third model is applied to rental housing. The government requires the private sector contractor to design, build and finance the units, and then to assume responsibility for maintaining the units (DBFM contract) for a period of time (10-20 years), after which the units will be handed back to the government. The government pays the private sector contractor an annuity calculated to cover the total costs of design and construction, including profit and any escalations – and could also include affordability compensations for tenants that meet certain eligibility criteria. End users are responsible for internal maintenance of their units. The government remains responsible for any risks related to offtake or non-repayment.

Figure 3.5 Government Offtake/ Government Pays Annuity [Rental]



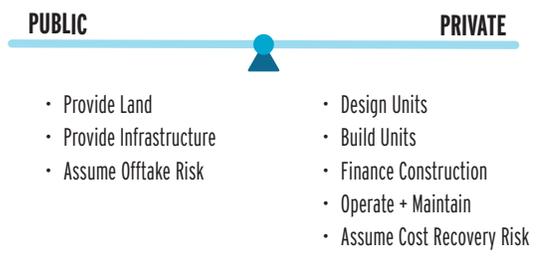
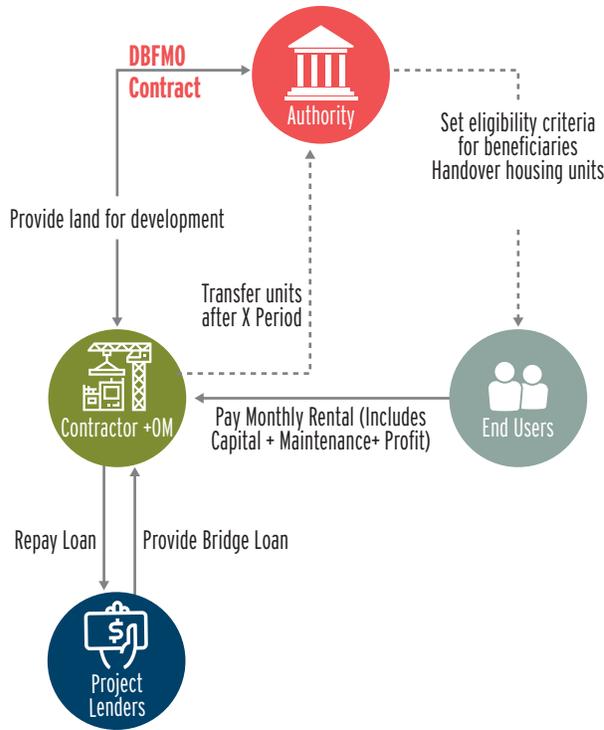
3.2.4. Government Offtake/ End-User Pays [Rental]

The fourth model is similar to Model 3 above, except that the private sector, in addition to its DBFM role, undertakes an operations role, collecting rents directly from tenants (DBFMO contract). In this model, the private sector contractor is paid from rent collections. The rental price point must therefore recover all costs of design, construction, and maintenance (including profit and any escalations) within a specified contract period (say 10-20 years) before the units are handed back to government. In this model, end users are responsible for internal unit maintenance, and the Government is responsible for offtake or tenant non-payment risks. Government can also provide cash for affordability compensations for tenants that meet certain eligibility criteria.

3.2.5. Government Offtake/ End-User Pays [Sale]

The fifth model is focused on housing intended for sale. The private sector contractor is required to design, build and finance the units, and to recover costs through sale to end users. The unit price point therefore needs to include costs of design, construction, and maintenance, including profit and any escalations. In this model, the government continues to be responsible for end-user offtake and for arranging mortgage finance through private banks capitalized by the National Housing Bank. The private sector contractor, as such, is not required to have knowledge of the end user market.

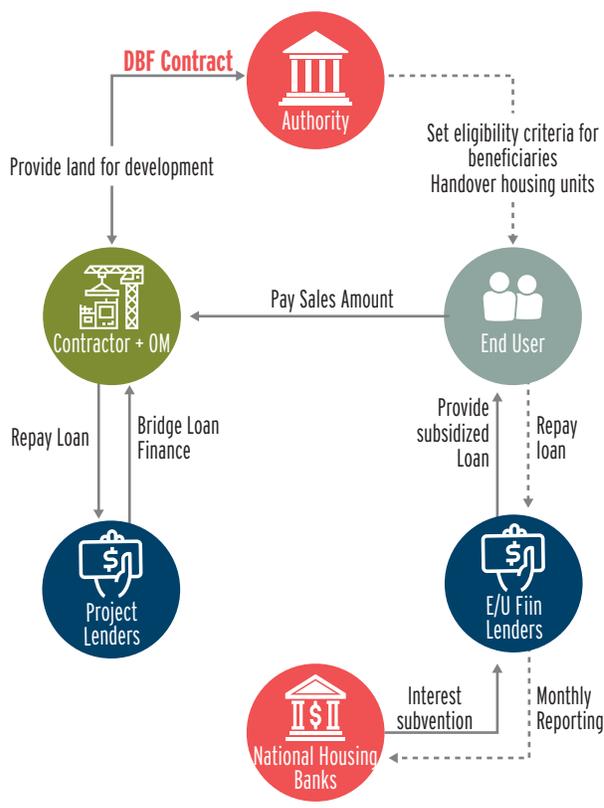
Figure 3.6 Government Offtake/ End-user Pays [Rental]²⁴



Key to diagrams:

- Public Entity
- Production Entity
- Private Financing Entity
- End User Aggregator
- Private Investment Vehicle
- Technical/ Advisory Services

Figure 3.7 Government Offtake/ End-User Pays [Sale]²⁵



Key to diagrams:

- Public Entity
- Production Entity
- Private Financing Entity
- End User Aggregator
- Private Investment Vehicle
- Technical/ Advisory Services

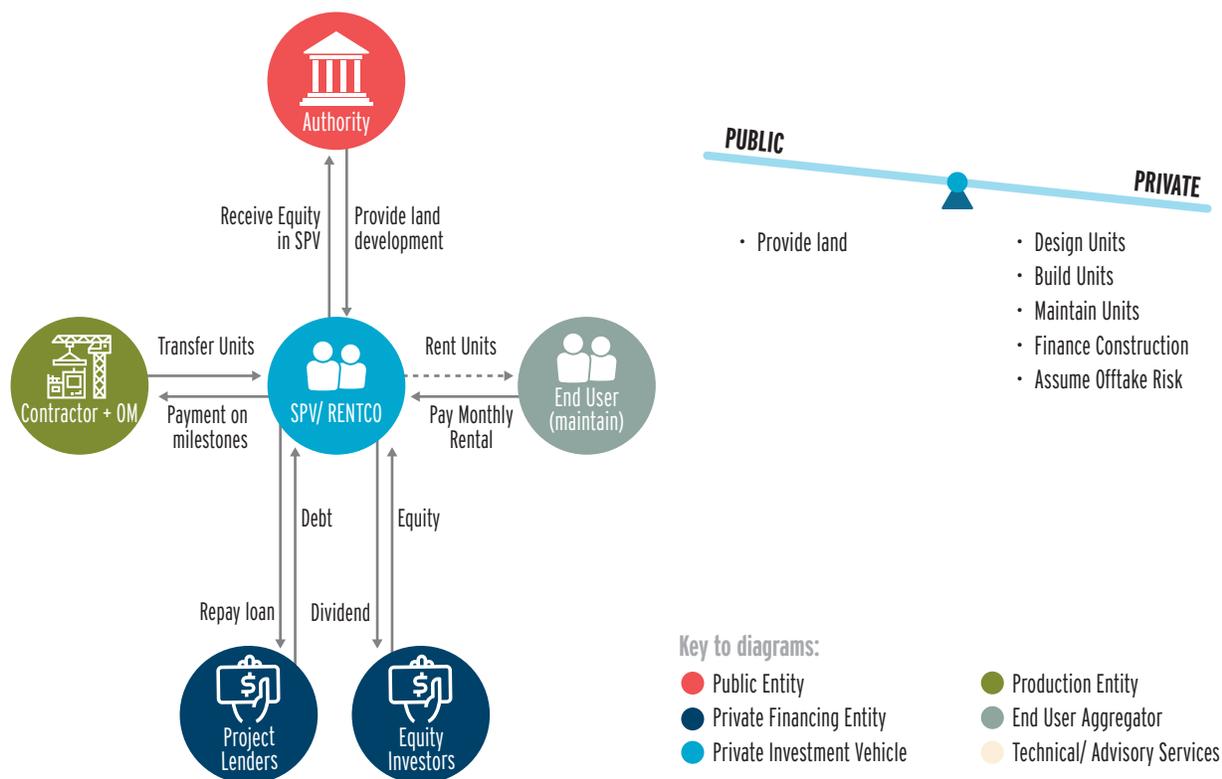
24 Harrison and English, *Public Private Partnerships for Housing Workshop*.
 25 Harrison and English, *Public Private Partnerships for Housing Workshop*.



3.2.6. Market Offtake/ End-User Pays [Rental]

The sixth model is derived from the Kenyan initiative. Here, the government’s contribution is to provide land and trunk infrastructure only. The government also sets the urban planning and housing standards. The land is vested in an SPV in exchange for shareholding. The remaining shares are offered to the private sector through competitive public offering. Following capitalization, the SPV then undertakes to design, build, finance, maintain and operate the rental housing stock. Rental price points consider all costs, profit and financing costs. There is no handover to government. The SPV is also responsible for identifying tenant offtake, and as such is required to have an acute knowledge of the low-income rental target market.

Figure 3.8 Market Offtake/End-User Pays [Rental]²⁶

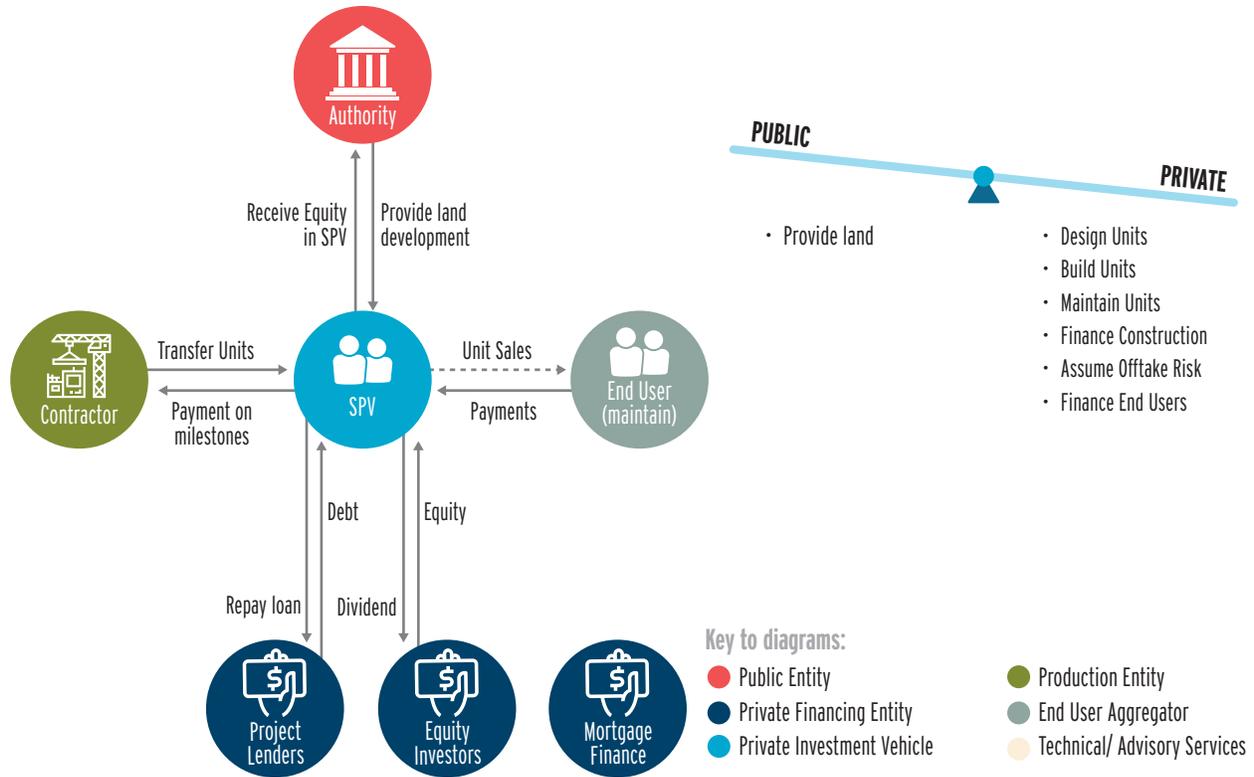


3.2.7. Market Offtake/ End-User Pays [Sale]

The seventh model is derivative of the above model, except that housing produced is for sale. The SPV is again responsible identifying offtake and securing mortgage finance for approved end users. As such the SPV requires acute knowledge of and linkages to the low-income target market. In the case of Kenya, a mortgage refinance company has been established to ensure mortgage bank liquidity.

26 Harrison and English, *Public Private Partnerships for Housing Workshop*.

Figure 3.9 Market Offtake/End-User Pays [Sale]



Adaptation of PPPs to affordable housing: key messages

1. A key difference between traditional infrastructure PPPs and housing PPPs is that the underlying asset will seldom be publicly owned or managed.
2. Delivery of affordable housing is complex. Public Authorities looking to procure housing for a multiple offtake PPP (rather than a single offtake PPP for infrastructure) will meet significant challenges.
3. PPP structures developed by some nations (India) particularly focus on leveraging public and private land (and development rights) to resource affordable housing PPPs.
4. The Public sector can use a range of different subsidies or levers to commercially incentivize the private sector to deliver affordable housing to the market. These include land, cross-subsidisation through land rights or income mixing, cost recoveries through annuities, capital grants, transfer of asset ownership, and asset rental.
5. The different models have delivered affordable housing with varying results, and no single structure is applicable to every location. Each model has its own advantages and disadvantages as to how it incentivizes the private sector to perform, and the remedies it offers for tackling lack of performance, lack of transparency and corruption.



PHOTO BY: © ALBERTO PICHARDO/SONIDEAS.COM



4

Case Study





The following Case Studies of housing PPPs in India, Brazil and Kenya illustrate the diverse ways in which Public Private Partnerships have been structured to meet local conditions within Emerging Economies. The cases are presented in a matrix to help compare the factors influencing the eventual model design, and the lessons to be derived therefrom.

These cases were selected on the following grounds: (i) quantified data are available both on the sector and at project level; (ii) their varying modalities illustrate risk and reward allocations in response to different local housing market contexts, as well as the competencies of both parties involved; and (iii) they have been completed and sufficiently tested in the market.

Among the three PPP projects featured, the Casa Paulista Program is the oldest and well into the operations and maintenance stage. The Indian Bhubaneswar Affordable Housing Project is under construction, and the Kenyan Naivasha Affordable Housing Project is at the bid-evaluation stage.²⁷ (See Overleaf)

²⁷ All three projects involved the World Bank Group in its various capacities: Brazil (IFC's equity investment in the winning firm); India (IFC's advisory service), and Kenya (IFC and FCI's advisory service/TA).

Case Studies from Emerging Economies using “Public Private Partnerships” to deliver Affordable Housing

CONTEXT		Brazil [Casa Paulista Program]	India [Bhubaneswar A/H Project]	Kenya [Naivasha A/H Project]
Photo				
Project Overview		<p>The Casa Paulista Program was launched by the state of São Paulo in 2012 to procure a private company to design, deliver and maintain, through a 20-year contract, 14,000 affordable and market-affordable housing units and associated urban infrastructure within the zones for special social interest (ZEIS districts) in downtown areas pursuant to the City of São Paulo Strategic Master Plan.</p> <p>The bidding launched was for 14,000 housing units, divided into four lots. Only one of them succeeded, for 3,683 housing units within Julio Prestes Housing Complex, located in Cracolândia, one of São Paulo's most vulnerable territories. Among them, 2,260 housing units were targeted at low income families earning up to 6 six minimum wages monthly (USD 1,200). 1,423 units were targeted at families earning between 6 and 10 minimum wages (or USD 2,090), the “popular niche”. So far more than 50% of the units were delivered and are now occupied by residents.</p>	<p>To address Bhubaneswar’s housing shortage, the International Finance Corporation (IFC) was appointed as a Transaction Advisor to develop Odisha’s first affordable housing PPP. The IFC worked with the BDA to develop a transaction and competitive tendering process to deliver the project, which aligned with national real estate legislation. It was awarded to a consortium which signed an eight-year development agreement to design, finance, construct and hand back 2,600 affordable homes for the BDA to allot to lower income families. The developers will be given 13.71 acres of land for the affordable housing, free of charge, plus freehold on an additional 6.5 acres which can be developed for higher income residential homes.</p>	<p>In 2017, the Nakuru County Government launched the Naivasha Affordable Housing Project on a 22ha site in response to the National Program to leverage public land to enable market solutions that would not impose legal, fiscal or performance obligations upon government.</p> <p>Working with 23 large employers as ‘anchor clients’ a business model was produced yielding 2400 units and a MIRR of 15-20%. Due to concerns about developer liquidity and inability to provide offtake guarantees the County incorporated a housing company responsible for marketing, design, construction, financing, managing, operating and disposing of the units. Procurement focused on capitalization of the company through an investment offer memorandum, as opposed to a typical PPP.</p>



CONTEXT	Brazil [Casa Paulista Program]	India [Bhubaneswar A/H Project]	Kenya [Naivasha A/H Project]
<p>Why was the Private Sector involvement necessary?</p>	<p>The State of São Paulo, through its Housing Company (CDHU) used to take an important responsibility for the low-income housing supply with dedicated fiscal resources (1% of the VAT annual allocation for housing production). However, the state of São Paulo recognized that, based on its budget, it would take fifty years for the state to address the present housing needs of the population with earnings equivalent to between one and five minimum wages. Moreover, the public sector has limited indebtedness capacity. Therefore, it was necessary to "stimulate participation of private developers in provision of housing for social interest; overcoming a model that has the public sector as the almost exclusive provider of housing for low income population in the state." the PPP operation was then set up to increase housing supply through taking advantage of the private sector's capacity, including their ability to borrow from private and public financial institutions.</p>	<p>Odisha, a low-income state in India, has an estimated shortage of 400,000 housing units for the poorest sections of the society - Economically Weaker Section (EWS) and Low-income Group (LIG). The estimated requirement in the capital city of Bhubaneswar is estimated at 80,000 units for the EWS and LIG. Given the scale of the development required, private sector participation becomes imperative for the Government as it lacks the liquidity and capacity to implement projects to provide affordable housing for all.</p>	<p>Kenya has an affordable housing deficit of 2 million units; the Kenyan Government is fiscally constrained and cannot borrow to meet the capital-intensive demands of building housing. As such, the Government is looking to limit its contribution to land and bulk infrastructure provision, requiring the Private sector to originate, underwrite, design, build, finance, maintain, operate and/or dispose. The Government requires solutions that are completely off-balance sheet, incurring no legal, financial, or performance liability.</p>
<p>Present Housing Delivery for Lower-income market</p>	<p>Two federal programs sought to support expansion of the country's urban infrastructure and housing sectors: The Growth and Acceleration Program (PAC) and the My Home My Life (MCMV). Launched in 2007, PAC sought to address Brazil's significant infrastructure gap. Launched in 2009, MCMV's goal was to simultaneously expand housing supply and demand through financing of housing construction and home mortgages, functioning as a counter-cyclical response to the effects of the global economic recession of 2007.</p> <p>In the state of São Paulo, the state-owned enterprise Housing and Urban Development Company (HUDC) is responsible for direct production of affordable housing for commercialization at subsidized rates to families with earnings falling between the equivalent to one and ten minimum wages. In 2007, the state created the state-level social housing council (CEH), social housing fund (FPHIS) and guarantee fund (FGH), as required by the national social housing law. The São Paulo state housing department developed a comprehensive housing plan for the period 2012-2023. The plan highlighted the size of the state's housing gap, and reinforced the concept that, acting alone, the state was unable to address this gap; rather, private capital was required. The Casa Paulista Agency facilitated the combination of two public funding sources, FGTs and FPHIS, something that CDHU was prevented by law from accomplishing.</p>	<p>Without government sponsorship or contribution, most of the private sector developers do not cater to the housing requirements of the low income segments, and work on projects only for medium and higher income groups. Most of the affordable housing is built by State-level institutions that cannot deliver at the scale needed.</p>	<p>The low-income segment is presently ignored by the formal market. Demand is 200,000 units per year. Current housing production is 80,000 per year, of which only 1000 is formally developed. 59% of urban dwellers live in inadequately constructed rented housing located within unplanned, poorly serviced settlements.</p>

CONTEXT	Brazil [Casa Paulista Program]	India [Bhubaneswar A/H Project]	Kenya [Naivasha A/H Project]
Government Role in Low Income Housing Provision (Enabler vs Implementer)	<p>In São Paulo State, the bulk of the housing programs delivered by CDHU was targeted to other areas in the State, and not to the capital city or its city center, where COHAB (the municipal housing company) had the mandate of investing in São Paulo city. For a long period, there had been no political alignment between the State and the Municipality. Casa Paulista PPP could convene this unprecedented alignment of the 3 levels - Federal, State and Municipal established the perfect environment for a housing PPP in the central area of São Paulo.</p> <p>The Brazilian government's role has been hybrid, displaying elements of both provider and enabler. For low-income housing, the government has played a major role as the provider of sizable subsidies to lower income groups. In Brazil, it is only in 2003 (after the Federal Government created the Ministry of Cities) that a National Housing Policy was enacted. Before then, only the State of São Paulo had the most robust social housing program channeling resources from the overall public budget into housing subsidies and credit (compulsory investments of 1% VAT resources).</p>	<p>The Government of Odisha, with identification of private sector players to undertake the development, has assumed the role of an enabler and not an implementer. The government's role has been limited to providing the site for development of the project to the private sector and facilitating approvals. construction, the BDA would be responsible to allot the housing units to the EWS section under an appropriate mechanism.</p> <p>The Kenyan government is looking to the Private Sector for low-income housing solutions but tends to involve itself in projects rather than focus on a market-enabling or de-risking role.</p> <p>The Kenyan government is engaged in establishing a centralized 'offtake portal', but data is insufficiently integrated to properly curate client offtake; it also lacks the resources to guarantee potential offtake non-repayment.</p>	<p>Housing is one of the 4 pillars of the Government's Development Strategy. It seeks to deliver 500,000 houses by 2022. While housing policy is set at the national level by the State Department for Housing and Urban Development, the Kenyan Constitution delegates the responsibility for housing planning and delivery to county governments.</p> <p>PPP legislation is in place but mostly developed for infrastructure, i.e. single client offtake.</p> <p>PPPs are being pursued for procuring student housing for a university, i.e. single client offtake.</p> <p>PPPs have not been previously used for market housing, i.e. multiple client offtake housing.</p>
Housing Policy Context	<p>Brazilian housing policy exhibit state-centric pro-people regeneration alongside settlement upgrading policies led by city governments. Social movements and activism have become the hallmark of Brazil's housing landscape, accumulating in the paradigm-shifting 'Statute of the City 2001'.</p>	<p>The Affordable Housing Policy was notified by the Government to provide impetus to affordable housing development. It sets out various models for development of affordable housing (one of the options being PPPs), governing guidelines for development, beneficiary identification and selection process, size and costing of houses, proposed practice for O&M etc. The Policy hence aims to streamline the development process and bring consistency.</p>	<p>PPP legislation is in place but mostly developed for infrastructure.</p>
Legal Context	<p>Federal PPP legislation is in place. The state of São Paulo also has its own PPP legislation. Federal, State and municipal governments have been involved in developing PPP legislation.</p> <p>Strictly speaking, the PPP would have been viable even just with the Federal regulations in place; while the state law served more as an institutional and/or political foundation.</p>	<p>PPP legislation in place but mostly developed for infrastructure.</p>	<p>PPP legislation is in place but mostly developed for infrastructure, i.e. single client offtake.</p> <p>PPPs are being pursued for procuring student housing for a university, i.e. single client offtake.</p> <p>PPPs have not been previously used for market housing, i.e. multiple client offtake housing.</p>



CONTEXT		Brazil [Casa Paulista Program]	India [Bhubaneswar A/H Project]	Kenya [Naivasha A/H Project]
Institutional Context (Responsibility for housing policy, planning, financing and delivery; and their capacity and capability)	Government	<p>The Social Housing National System is regulated by the Federal Government. The Federal Government coordinates and distributes resources to subnational. The system was strengthened by the creation of the Ministry of Cities (now Ministry of Regional Development - MDR). The MCMV program was set up based on this model, making use of upfront subsidies and subsidized financing from FGTS (Provident Fund).</p> <p>The Secretary of Housing of the state of São Paulo provided policy guidelines and designed housing programs and subsidies. The São Paulo State Housing and Urban Development Company (CDHU), the executor, has a role in contracting civil works, manages the portfolio of low-income housing, and conducts the cadasters and the social work and outreach activities. The subsidies for the payments and for the rates come out of the State budget, via State Secretariat of Housing. Both are responsible for planning, investment and management of housing programs in the state.</p> <p>For housing PPPs, the state of São Paulo created the Casa Paulista Agency in 2011, which relies on resources from FPHS, and the FGH. The FGH has not yet been activated.</p>	<p>Urban local bodies (ULBs) and development agencies unable to cope with housing demand due to rapid urbanization.</p>	<p>County Governments (sub-national entities) are responsible for housing planning and delivery. Although this authority has been delegated by the central government, the resources necessary for its implantation has not. Consequently, counties lack both resources and capacity for enablement and implementation.</p> <p>Consequently, urban planning, land use zoning, and development rights allocation are poor, and development controls are poorly enforced.</p>
	Housing Developers	<p>Housing developers coordinate among themselves to participate in the bidding processes, to access credits, and to execute civil works. Sao Paulo State is the biggest housing market in Brazil; well organized, with diverse demand, and more than 2,000 companies operating in the real estate market.</p>	<p>Private Developers have good financial capacity and ability to raise debt but have primarily catered to the housing requirements of middle and high income group.</p>	<p>Kenya's National Housing Corporation (public entity) has historically focused on civil service housing.</p> <p>Private sector builders have focused on upper incomes. Low income housing has mostly been delivered by informal settlement landlords and individually through cooperative structures.</p>
Financial Context	Financial	<p>Private sector partners in banking, investment and development are actively engaged.</p>	<p>Financial Institutions well-established and stable, providing project debt, mortgage finance. Banks tend to focus on upper incomes</p>	<p>A strong retail banking system focuses on upper incomes. Savings and Cooperative Societies and IMFI's are well-established and provide most of the financial services to the middle and lower markets.</p>
	Public Finance	<p>Both public & private sector financing partners were able to provide development finance to developers as well as end user finance. Banks tend to focus on the upper income groups.</p> <p>State government allocated budget to support, strong capacity, being the richest state in Brazil.</p>	<p>State Government undertook initiatives to facilitate access to finance for the EWS and LIG beneficiaries</p>	<p>Government is fiscally constrained. Government borrowing is excessive, raising the cost of private debt.</p> <p>Even though Government has committed to providing land and infrastructure, its ability to ensure that these resources are budgeted and available to meet project deadlines, is limited and unreliable.</p> <p>In most cases, developers need to plan conservatively, and should not rely upon government contribution.</p>

CONTEXT		Brazil [Casa Paulista Program]	India [Bhubaneswar A/H Project]	Kenya [Naivasha A/H Project]
Financial Context	Project Debt	Project debt can be raised against the security of the land or adequate collaterals by the developers for higher end housing. The government owned Caixa Econômica Federal (CAIXA) provided construction financing for middle to low income housing. Finance is structured based on the real estate transaction. Financing is available for the final borrower before and after housing construction, housing units are sold before construction adding private savings and end user credit as part of the financial equation. Under the real estate regulation in Brazil, landowner allows private developers to act on his behalf, without necessarily granting land rights and the real state serves as collateral.	Raising project debt for real estate project is not easy with banks reluctant to lend to real estate developers and seek security of the land or adequate collaterals to lend.	Project debt is limited and discontinuous. Banks are reluctant to lend to developers. Insolvency is high. Developers tend to have limited balance sheets, raising debt against the security of land. This means that projects are over-leveraged and sensitive to sales targets. Banks require vehicles that have enough equity to ensure that viability is less sensitive to delays in supply, or sales.
	Project Equity	Developers provided equity, IFC also had equity in it.	Most of the development is funded by way of equity from the developers and construction linked contribution from the buyers.	Finance institutions prefer to take an equity position in the development vehicle, owing to liquidity problems experienced by developers. This provides for greater control over capital deployment and recovery. New vehicles are needed that separate ownership (investment) and implementation (development)
	Mortgage Finance	The main lender in Brazil has been CAIXA. The Brazilian mortgage market is still far below the levels in comparable countries. Private financial institutions operated in the higher end segment of the market	India has a well-developed mortgage finance market. There are several housing finance companies which are willing to extend home loans to the EWS and LIG beneficiaries.	Kenya has an undeveloped mortgage market (only 22000 historical mortgages). Only 330 mortgages issues in 2018. Housing clients are used to incremental forms of housing production and finance. Kenya Mortgage Refinance Company established to provide liquidity to mortgage banks by refinancing portfolios. Even so, unlocking mortgage finance also requires improving underwriting capacity and quality, of mortgage banks and SACCOs, redesigning loan products, and streamlining the land planning and titling. This is a long-term project.
	Public Resources provided	Federal, State and City subsidies (although small) were provided. Two main types of subsidies are: CAIXA: upfront subsidies and interest rate subsidies State Government provided Annuity payment; and Guarantees Municipality provided centrally located land (free of legal disputes)	The Government of Odisha provides land, and basic infrastructure facilities (water, power and sewerage) till the battery limits of the project site.	Kenyan Government provides land, and infrastructure; although County land is often encumbered, titles imperfect; and County finances for infrastructure provision are limited, unbudgeted and unreliable to assure investors.



CONTEXT		Brazil [Casa Paulista Program]			India [Bhubaneswar A/H Project]			Kenya [Naivasha A/H Project]		
What structure for Private Sector Participation has been used?	Guarantees offtake	Social services for end users before (9 months) and after occupation (3 months)	Guarantees offtake for LIG only	Private sector responsible for HIG marketing and sales	Guarantees offtake					
	Sets design standards	Designs units	Sets design standards	Contribute funds to an O&M account to enable O&M of the housing units	Designs units					
Procurement Competitiveness	Guarantees end user mortgage payments	Finance construction	Provides finance (Subsidy)	Assumes market risk for high income units	Finances construction					
	Finance construction	Finances construction partially	Designs units		Builds units					
Cost Recovery	Finances end users' mortgages	Operates and maintains for 20 years	Operates and maintains		Finances end users					
	Pays annuity		Pays in commercial land		Operates and maintains					
Replication	Open bidding. Based on a business plan and design standards provided by the State, bidders compete on a discount basis. Canopus was a single bidder and provided a 1.5% discount.	Developers/ investors compete based on lowest requirement for subsidy or highest premium they are willing to offer.	Developers/ investors compete based on lowest requirement for subsidy or highest premium they are willing to offer.	Investors compete on (1) residual valuation of the land, (2) housing affordability mix, (3) equity: debt leverage and (4) development program.						
	Government identifies offtake for the low-income units. CAIXA recovers costs through loan repayments and recovered partially by sale of market rate housing.	The developer is expected to recover the cost of affordable housing construction through the profits generated from the housing for middle / high income.	The developer is expected to recover the cost of affordable housing construction through the profits generated from the housing for middle / high income.	Private sector SPV identifies offtake. Private mortgage banks pay the SPV for units produced. Mortgage providers recover costs through loan repayments.						
REPLICATION + REFINEMENTS										
How much has the model been used and with what success?	There has been significant initial success with the private sector uptake of the scheme demonstrating clear benefits. However, most beneficiaries have been low-middle income bracket with demonstrable household income. The scheme has struggled to have success with the base of the pyramid which has a more challenging credit profile.	The Government of Odisha, using the documents drafted for the project as base documents, rolled out 3 more projects in the state. The transaction structure and documents were suitably modified to structure slum rehabilitation projects as well. In addition, development of projects under a similar structure is being discussed with select countries in the Asia Pacific Region and in Africa.	The Government of Odisha, using the documents drafted for the project as base documents, rolled out 3 more projects in the state. The transaction structure and documents were suitably modified to structure slum rehabilitation projects as well. In addition, development of projects under a similar structure is being discussed with select countries in the Asia Pacific Region and in Africa.	Investment offers for project SPV currently underway. Investment closed in June. The County have put in place plans to replicate the project, and to have new policy and regulations approved by the County to streamline and normalize the modality.						



CONTEXT		Brazil [Casa Paulista Program]	India [Bhubaneswar A/H Project]	Kenya [Naivasha A/H Project]
	Affordability	Affordable units were targeted to households with the equivalent of between one and six minimum wages, and the remainder to those earning the equivalent of between six and ten minimum wages.	Housing meets the lowest income category.	Business Case assessment for prototype determined feasibility at between \$75-500 per month.
	Profitability	IRR is 9.57% per year, according to business plan provided by the State. Nevertheless, the real profitability is unknown.	<ul style="list-style-type: none"> Cash surplus of \$4 m for BDA \$11 m in revenue (government of India's financial assistance and proceeds from subsidized sale price) - \$7 m grant to developer Leveraged \$67M private investment; private developer received freehold rights to 6.5 acres of land Affordable units @ \$2,200/unit (25% of actual construction cost) 	<ul style="list-style-type: none"> Capital required: \$6m (split \$3m debt/ £3m equity) Scheme to be built in 14 phases over 48-60 months; 150 house per phase; Sales at each phase Debt exit at Month 24 Maximum capital at Month 18 Preference share of \$750,000 to County in Month 36 IRR between 15-20%
	Key Dependencies and Scalability	Dependent upon government identification of beneficiaries, financial and state subsidies, and the availability of Government land.	Dependent upon Government identification of beneficiaries, financial and land subsidies.	Dependent upon government land availability, a second scheme is being planned.
What feedback regarding challenges and constraints have been noted?		Feedback from the scheme was initially very positive, but, with time, the financial burden of the annuity payments and the scale of deployment left financial problems for the government which have led to the scheme being put under review. It also had a number of unintended consequences which included a dramatic increase in land value due to rapid acquisition and speculation by developers.	The project structure needs to provide for suitable mechanisms to enable the real estate developers to raise construction finance. Also, the land parcels being identified for development should have proper connectivity to the city and should be in proximity to commercial and social facilities so that the poor are willing to relocate from their existing slums.	This complex arrangement requires the government to establish the SPV and the private sector to assume ownership of control of the SPV through equity investment. Thereby, the SPV assumes all responsibilities to provide low-income housing, i.e. design, build, financing construction, offtake identification, underwriting, financing and recovery, operating and maintenance.
What are the next steps for the model to be taken forward?		50% of the original plan is still to be completed. There has been subsequent bidding for the remaining lots. Casa Paulista is focusing on completion of previous transactions; currently there are no new operations being planned. Nevertheless, CDHU is currently starting to identify potential for PPPs. Now the City of Sao Paulo is taking the concept forward. It has used the same business model as Casa Paulista, and 13,000 housing units were contracted on various locations within the city. The demand is assigned by the Municipality of Sao Paulo (income group of up to 10 minimum wage).	The project structure has provided proof of concept for private sector participation in affordable housing development. The project expanded the market for affordable housing by implementing a transaction structure that ensures competitiveness, integration, and sustainability. The cross-subsidization model reduced the need for public financing to develop affordable housing, enabling the government to develop more projects. Projects on similar structures are being proposed in several states in India and other developing countries.	A prototype project is currently being implemented.

Case Studies: Key Messages in Summary

1. **Responsiveness to context:** The Partnership models are specific to country context (policy, legal, fiscal, institutional), city context (planning statutes, development rights, property taxations), and site context (location, developability, infrastructure, marketability). Housing PPPs therefore require a multi-disciplinary and integrative competence to assemble.
2. **Levels of intervention:** The cases provide examples of intervention both at an ecosystemic level (through policies, public institutional intermediation, etc.) and at project level (land, infrastructure, and development rights), more so, the Brazilian and Indian cases. Drawing a line between enablement and implementation, particularly at a project level provides a challenge if these modalities are to scale.
3. **Inducing participation:** Each context is faced with a formal private sector unwilling to produce housing for lower income groups without enticement through public asset provision, subsidy or incentive. The challenge for government is to use their limited resources strategically, and to gradually wean the private sector from these dependencies as the market matures.
4. **Replication:** Strategic use of subsidies, cross-subsidies or incentives can ensure both affordability and profitability; however, unless the subsidy or incentive is sustainable, and that they are regularly reviewed and adjusted to mobilizing increasing levels of private investment and private risk taking based on the maturity of private experience in PPP in the sector, replication cannot be guaranteed, and a market cannot be developed.
5. **Housing PPPs are not easy:** The motivation for PPP from the governments has often been stronger than the appetite from market players. It often takes time for the private sector and the public sector to learn how to work as partners.
6. **Learning from failure:** There is much to be learned from the implementation of these projects – particularly areas where failure has occurred - and how precedent should reshape policy. The absence of a body of knowledge gleaned from actual project implementation means that mistakes are more likely to be repeated.



PHOTO BY: © ALEJANDRO ESPINOZA/SONIDEAS.COM

An aerial photograph of a densely populated urban area, likely a city in an emerging market. The buildings are colorful and packed closely together. In the foreground, there is a market area with many colorful stalls and tents. The sky is overcast.

Frameworks for Assessing Affordable Housing Partnerships



This section provides a starting point for developing a methodology for considering all the options available to enabling affordable housing markets in developing and emerging economies. The methodology should build on but expand beyond the transaction-centric PPP to leverage resources and value additions available through regulatory instruments and real estate investment vehicles, both in the short, and over the long term.

The frameworks and tools conceptualized in this section are intended to prompt discussion and guide the scope of future work to establish this methodology.

5.1. Guaranteed Offtake Partnership Assessment Framework

In situations where government or a private institution assumes responsibility for allocating the units produced to selected beneficiaries, i.e. guarantees offtake, it would be useful to expand upon the partnership models developed by the Indian Ministry for Housing and Urban Affairs²⁸ so that it is applicable to other contexts. A step approach listed below and detailed in Section 7.1. [Appendix A] suggests a way in which this could be developed.

- Step 1: Define the **service or asset** to be delivered and to what standards.
- Step 2: Identify the **institutions** (public and private), their roles and mandates.
- Step 3: Evaluate the institutional capacities and **competences** relative to their roles.
- Step 4: Determine the **resources** parties can bring to produce the asset and/or lower its cost.
- Step 5: Assess the viability of the **business model**.
- Step 6: Determine the most suitable **structure** to deliver the asset or service.
- Step 7: Determine the distribution of risk and **responsibility**.
- Step 8: Determine the **process for procurement**.

5.2. Framework for Assessing Affordable Housing Modelling Variables

In practice, offtake guarantee is not necessarily available either by the government or the private sector sponsors. When examining the gap between the end-user affordability case and an investment case in an open market there are substantial number of variables to be considered. A decision-making framework is necessary to systematically appraise the options to devise a suitable model for development and investment.

Figure 5.1 conceptualizes a matrix listing key variables of ‘Land’, ‘Product Planning and Design’, ‘Implementation’ and ‘Financing’. Under each of these variables a set of options (‘dots’) is listed, each with its own resource implications and risks – requiring assessment of the potential subsidy or de-risking. Following consideration of all options and their associated opportunities and constraints, the dots are joined to create an ‘options route’, of which the red line in figure 5.1 is an example. This which then provides the basis for structuring the institutional, legal, financial, operations and procurement arrangement necessary to effect private sector affordable housing delivery, as well as the appropriate Development and Investment vehicle (which may take the form of an SPV, and LLC, LLP, etc. as appropriate to context).

28 Ministry of Housing and Urban Affairs, *Public Private Partnership Models for Affordable Housing*. <http://mohua.gov.in/upload/upload-files/files/PPP%20Models%20for%20Affordable%20Housing.pdf>

5.3. Decision Tools

The following are indicative tools which could be developed to assist the evaluation of options flowing from different offtake arrangements, or, from the use of different incentive levers. The range of options is obviously not limited to those illustrated.

5.3.1. Offtake Options Tool

When structuring affordable housing PPPs, one of the core challenges is to understand the following question at the outset: what type of offtake is required? Figure 5.2 is a flow diagram starting from the point of affordable housing as a “problem”. It shows the typical decisions and paths the public sector may have to navigate to procure a solution. It suggests that historically most solutions have led to the public sector providing some form of demand or supply-side subsidy to stimulate private sector engagement.

5.3.2. Leverage Options Tool

Another area of decision is examining the levers available to the public sector and how they should be arranged for optimal effect. Figure 5.3 illustrates how these could be mapped as a flow diagram to assist option appraisal. It is still in its early stages and needs further development to explore how the levers should be arranged to best generate value and ensure private sector performance for each model.

5.4. Future Value Capture/Leveraging Tools

When considering how to create a sustainable and scalable supply of affordable housing, the mechanisms for generating income tend to focus on sales, leases, rents (including the securitization of rent rolls) and service revenues (water, energy, levies, etc.). In none of the cases reviewed in Section 7, has any consideration been given to the equity value of the land and rental asset. Due to pressures on urban land and rental housing in urbanizing developing countries, the equity value of these assets increases often exponentially over time and, if modeled over, say, 25-30 years, can unlock considerable resources for financing affordable housing.

Land typically constitutes the main input of the public sector in a housing PPP, it is therefore critical to think through land value capture as a powerful tool to incorporate in the toolbox of PPP arrangements. When private sector contributes the land in a PPP, its future value will be captured in the price of the house the private entity requires or in the terms of the rental arrangement the private entity agrees to. Land value changes are also hard to model, as they require efficient land-markets with many transactions to get reliable prices.

The following are cashflows generated by the authors, using various scenarios, to examine the potential increase in equity of an asset held over 30 years.

5.4.1. Rental Assets Value Creation

Figure 5.4 below illustrates a typical cashflow model on an affordable housing unit based on a rental model. The authors have used typical values from the Kenya case study to establish a consistent baseline to illustrate the typical values, repayment term, increase in land values and the increase in capital value over a typical 30-year period assuming average GDP as a proxy for growth. In this example, the landlord sees a regular rental income but realizes the full value through the appreciation of the asset over the term.

Figure 5.2 Housing Offtake Decision Options

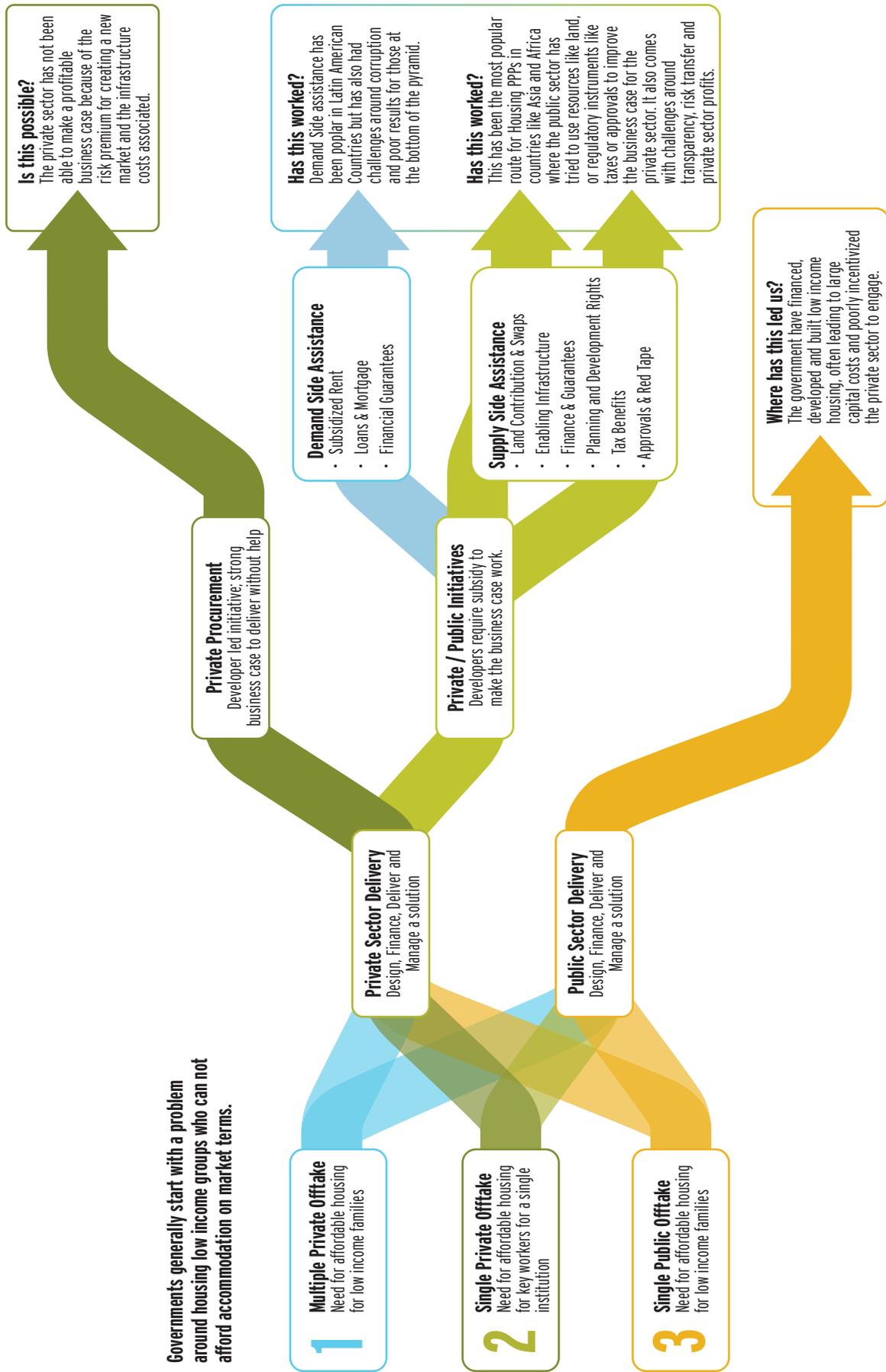
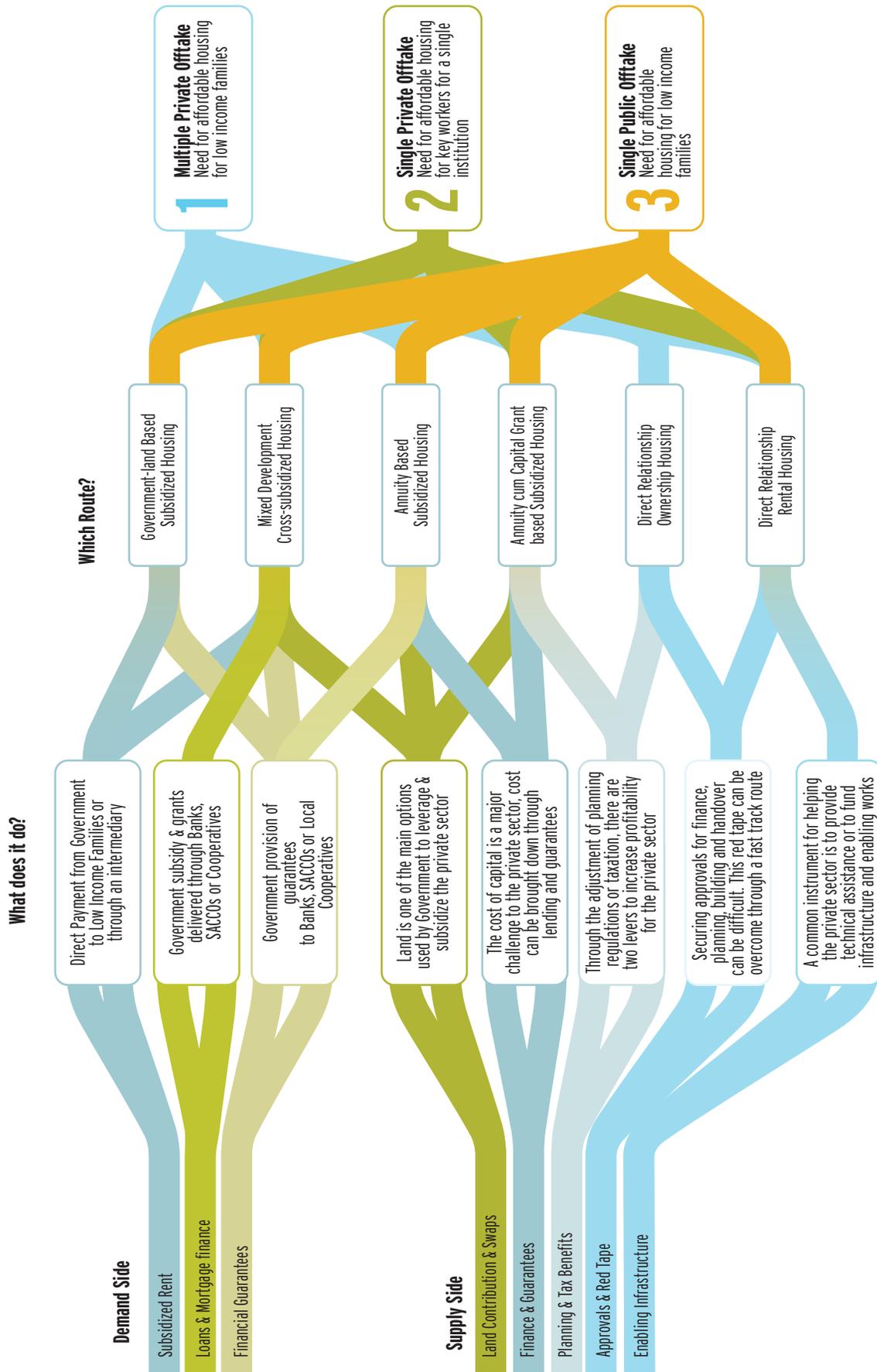


Figure 5.3 Demand & Supply Side Leverage Options



Box 5: Government's Resources/potential contributions to housing PPPs

- Planning and development control
 - Higher density (Floor Area Ratio)
 - Transferrable Development Rights
 - Streamlined planning and building permits
 - Zoning allowing for mixed development (retail/commercial, affordable/higher end housing)
 - Housing types and standards
- Land
 - With clean title, free of encumbrances
 - Location: proximity to jobs/livelihoods, close to public transportation, schools and clinics, and other community services
 - Size: large enough to enable cross-subsidization and cover initial fixed costs
- Infrastructure
 - availability of trunk and secondary engineering infrastructure
 - provision of social infrastructure (schools, clinics, etc.)
- Subsidies
 - Supply side subsidies:
 - Tax benefits and/or other financial subsidies for developers
 - Adjustment on Construction Cost Index (in countries where inflation is significant)
 - Demand side subsidies:
 - Eligibility for end-user subsidies
 - Size of end-user subsidies
- Guarantees
 - Offtake guarantees
 - Project finance Guarantees
 - End User Finance Guarantees (Default guarantees)
 - Annuity
- Concessions and Licensing
 - Ability to manage neighborhood as private estate
 - Ability to raise levies (for estate management)
 - Ability to bulk purchase and provide service utilities (water, electricity)

5.4.2. Cashflow Model: Shared Ownership Models PPP

In the case of a shared ownership model, the purchaser of the house may only buy 50% of the property, and in doing so must service a mortgage for that portion. He will also need to pay rent on the portion that he does not own. The final element is a service charge which is levied on the development. This model can be very helpful to assist low-income households onto the property ladder, but needs to be coupled with a strategy to support them to take on more equity over time, otherwise they may find themselves unable to exit the investment or unable to maintain the payments due to increasing cost of servicing the debt, the service charge and the rent.



Figure 5.4 Cashflow Model: Rental Housing PPP³⁰

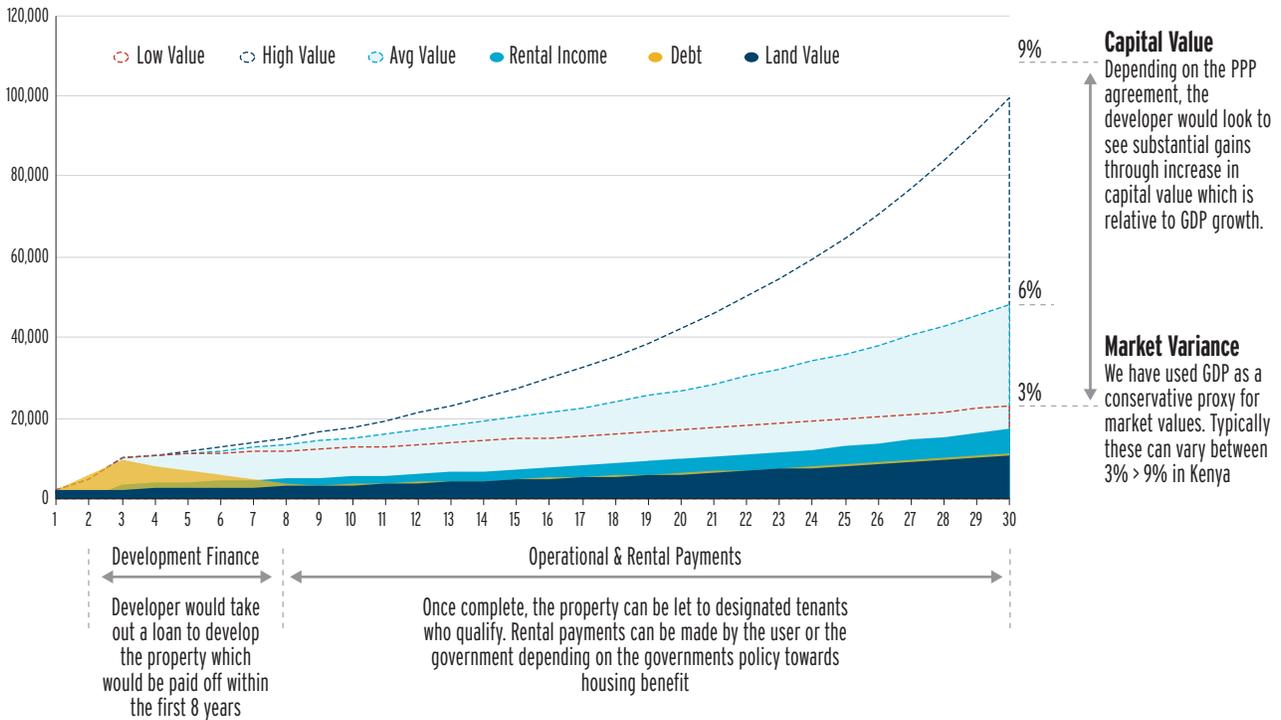
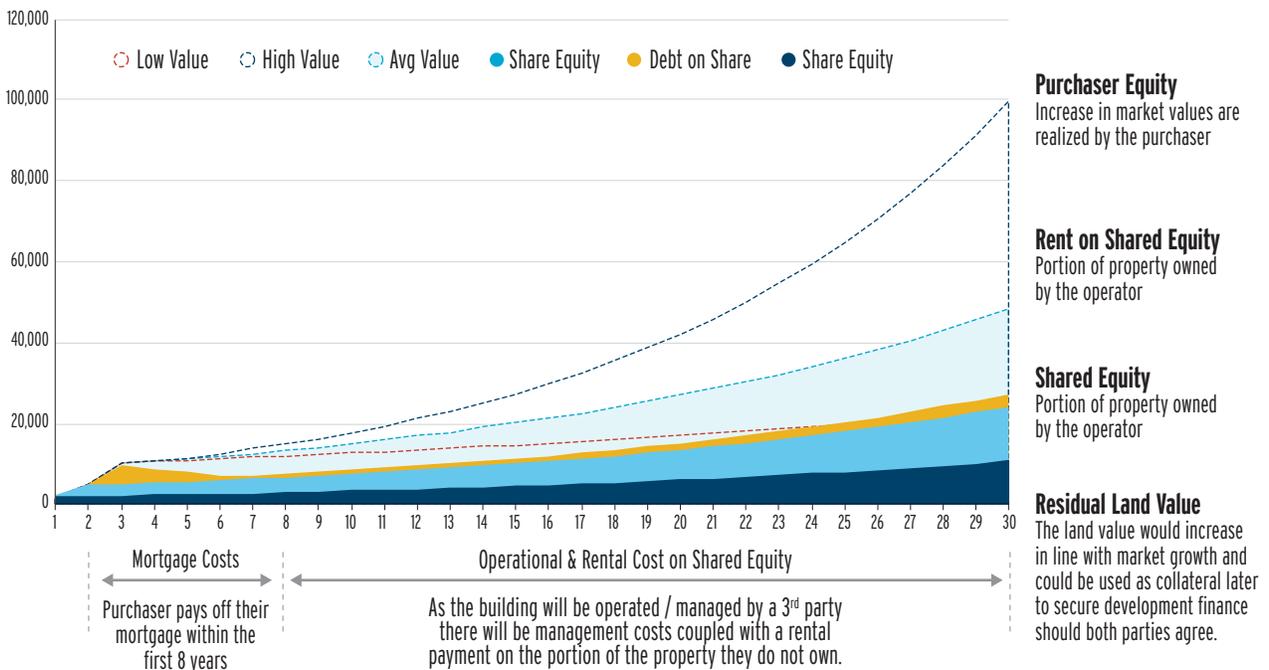


Figure 5.5 Cashflow Model: Shared Ownership Housing PPP³¹



30 Diagram adapted from L. English, "Urban Housing Options Appraisal Canvas," *Human Settlement and Shelter Residency Materials*, (Eastern University, 2007).

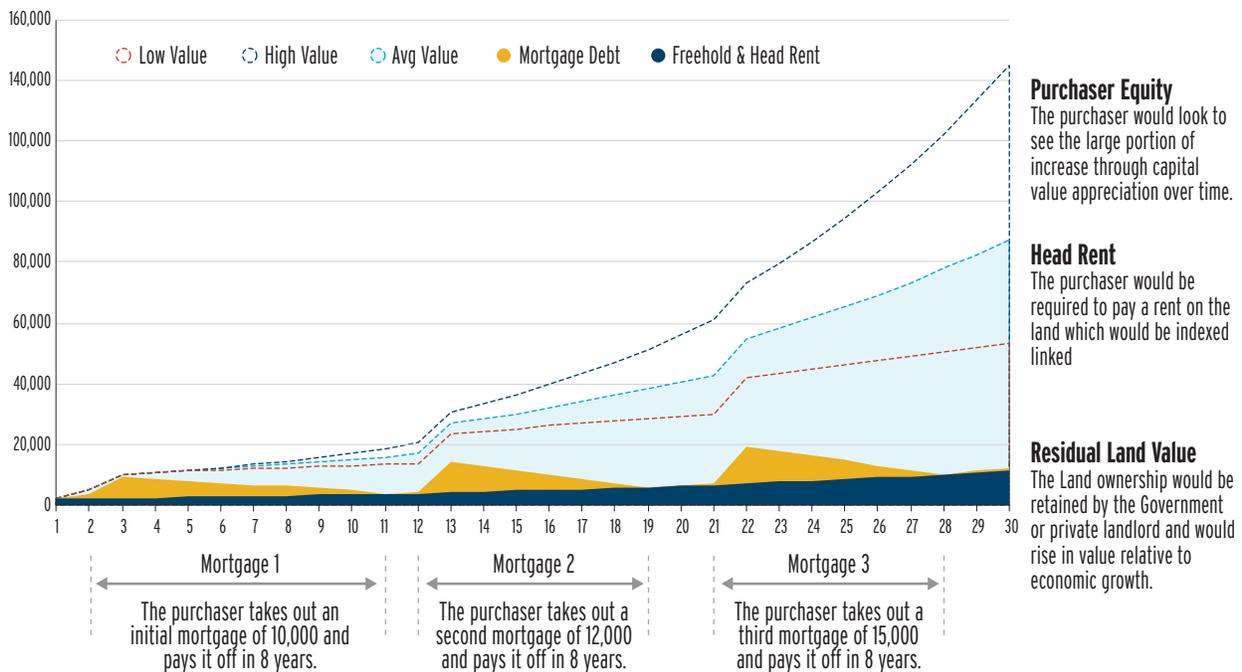
31 English and Duhaene-Gold, *Apex Company Modelling*.

This model is based on capturing the added land value or total asset value over time. Affordability is not helped if the purchaser must pay a realistic rent on the part owned by the investor, while at the same time transform the lease into equity or buy more equity.³²

5.4.3. Cashflow Model: Leasehold Housing for Sale PPP

One way of bringing down the initial capital cost of purchasing a house is to offer a leasehold purchase. In this model, the low-income household is able to afford the cost of the house, but not the land. The freehold of the land is leased with a ground rent or head rent with a long-term leasehold allowing the buyer a “virtual freehold” while at the same time providing a long-term low yielding income for the freehold owner. In this model, the purchaser is able to invest in the building, adding value through construction and asset management to realize higher growth in capital value over time.

Figure 5.5 Cashflow Model: Leasehold Housing for Sale PPP³³



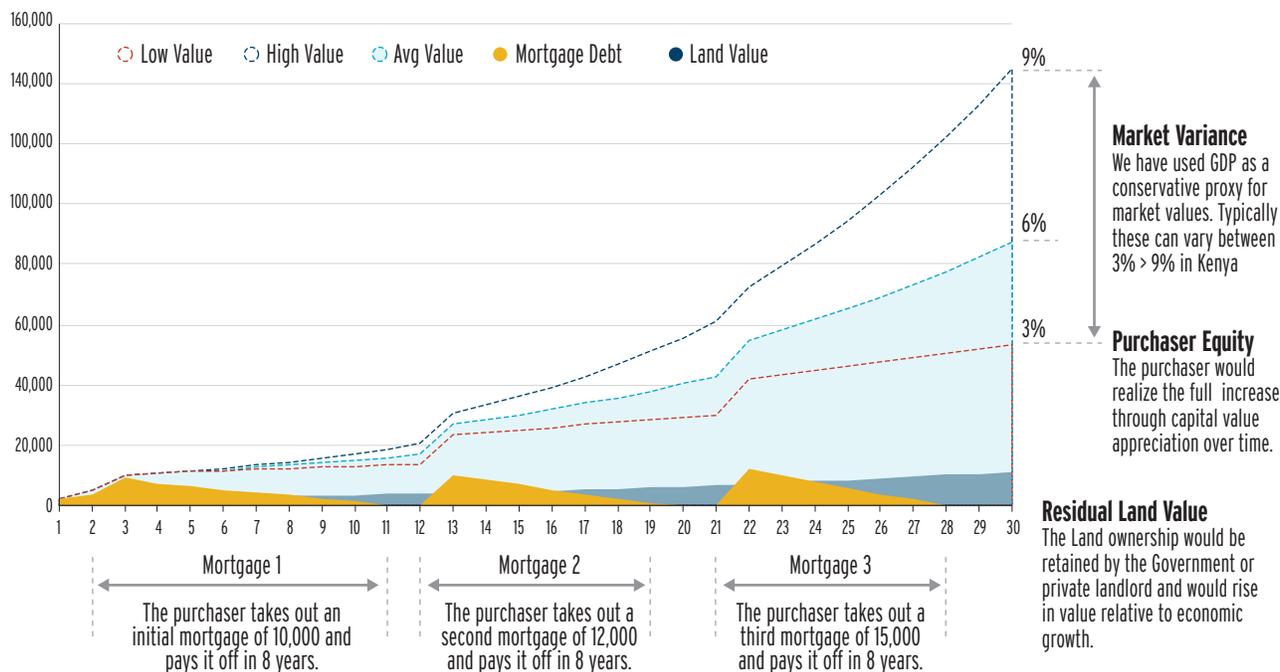
5.4.4. Cashflow Model: Freehold Housing for Sale PPP

The final model illustrates how, if low-income households can afford to buy a property, through investment in the building through construction and asset management, they are able to realize all the capital growth. This model relies heavily on access to mortgage finance to allow for incremental development of the property. It also has the additional benefit of creating a strong credit history for the purchaser against which lending institutions would have confidence in offering lower rates of interest on mortgage finance as well as unsecured loans.

32 Experience exists in Australia and the US with shared ownership: the interest rate on a mortgage is subsidized in lieu of the lender being able to share in the increased value at sale. In non-sophisticated markets this is difficult to explain to owners who must give up part of the sales price.
33 English and Duhaene-Gold, *Apex Company Modelling*.



Figure 5.6 Cashflow Model: Freehold Housing for Sale PPP³⁴



Frameworks for assessing and modelling affordable housing partnerships: key messages

1. The modelling of partnerships providing open market solutions to affordable housing supply will need a broader perspective that seeks to leverage all possible instruments and real estate investment vehicles to reduce the need for subsidies and guarantees, or substitute for them entirely.
2. Critical issues for determining the best route for affordable housing provision should start and end with the question of who are you delivering the housing for? Is it a single public, single private or multiple private offtake?
3. The levers available to the government touch on both demand and supply side finance. Not all levers have to hit the public purse. The Government should consider the optimal use of its assets (appropriately valued) to incentivize the private sector to perform.
4. In all scenarios, a single contract like a PPP should really be broken down into multiple stages of procurement to ensure best value is secured at each stage. Emerging economies are too volatile economically and politically for both the public and private sectors to engage in long term contracts (10+ years) without incurring major risk premiums or high risk of failure / default.

34 English and Duhaene-Gold, Apex Company Modelling.



PHOTO BY: © DOMINIC CHAVEZ / WORLD BANK





PHOTO BY: © ARNE HOEL / WORLD BANK



PUBLIC-PRIVATE PARTNERSHIPS FOR INVESTMENT AND DELIVERY
OF AFFORDABLE HOUSING IN EMERGING MARKET ECONOMIES

6

What's Next?



This work represents a short scoping study in which the authors have attempted to collate, structure and synthesize a subject for which there is yet no precise definition or categorization. The work references a variety of sources and projects that, whilst “housing-related”, exist in different contexts, have deployed different modalities and seek to realize different offtake outcomes. This study is intended however to be a “starting point” for developing a primer on affordable housing PPPs for World Bank Group staff and for housing practitioners in general. The next steps are proposed below:

i. Finetuning the Definition for Public-Private Investment in Affordable Housing Delivery

While this study has proposed a working definition of affordable housing PPPs without losing sight of the broader understanding of public private engagement in relation to affordable housing, further consultation with a wider set of stakeholders is needed to fine tune the conceptualization and lay a solid foundation to guide the development of a framework for assessing affordable housing PPPs.

ii. Future Study Areas and Outputs

- a) **Expanding in-depth Case Studies:** Build a database on implemented housing PPP projects in emerging market economies from around the world to close information and data gaps, and to gain deeper understanding of the challenges and opportunities in structuring and appraising affordable housing PPPs, and distil good practice and lessons learned.
- b) **Delivery Institutions/Vehicles:** Explore Private Sector/Non-state institutional vehicles such as Housing Associations, Housing Enterprises, Estate Companies – even “Building Societies” – whose interests are more aligned with the longer-term financing, production and asset management related to rental housing, commercial and social facility management, infrastructure, and overall estate management – than what typical PPP structures encompass. These entities also possess the ability to blend short and long-term financing, as well as blend revenue streams derived both from sales, rental and tariffs.
- c) **Development Rights and Land Value Capture:** The potential of future real estate value of housing for underwriting the production of affordable housing developments requires further investigation, as it could unlock short-term finance, which could in turn unlock longer-term institutional finance
- d) **Project Capital:** In immature capital markets the cost of private capital is expensive. Explore ways to aggregate local long-term savings to fund developments that could be more patient and aligned with the project lifetime than the capital markets.
- e) **Securitization and Investment Instruments:** Explore ways in which REITS, bonds and other investment instruments unique to Housing and Real Estate, could be utilized to increase the supply of development finance, particularly for rental property



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Based upon stakeholder need and feedback, the product of further study may be as follows:

- a) **Typology Manual:** Categorizing the range/spectrum of arrangements from public centric to private centric that exist within different legal and policy contexts, institutions, competencies, resources, development rights and levers, delivery vehicles and structures (SPV's, JV's and co-financing arrangements) and offtake outcomes (public/private, rental/sale).
- b) **Lessons Learned Compendium:** collating case study close-out information and data from implemented projects (as opposed to theoretical sources) in line with the above categorization.
- c) **Guidebook:** Providing a step-by-step approach for designing a partnership between the public and private sector to produce housing.
- d) **Tools:** 'How-to's' including, e.g.; how to examine legal and policy context; how to assess capacity and competency of component institutions; how to evaluate (and value) resource contributions; how to identify risks and their mitigation measures; how to do Value for Money analysis; how to structure institutional arrangements; how to undertake financial modelling that factor development rights and land value capture.



PHOTO BY: © ALBERTO PICHARDO/SONIDEAS.COM



7

Appendix



7.1. Appendix A: Assembly of a PPP

Following from Section 5.1, provided herewith is a slightly more detailed consideration of the step-by-step assembly of a housing PPP. In practice, however, some of the steps may blend, or shift backwards and forwards to respond to the reality of project preparation.

This session draws largely from literature on Infrastructure PPPs, and for more extensive descriptions, please refer to the PPP Certification Guide³⁵ and the Public-Private Partnership Reference Guide Version 3.³⁶ The processes warrant further adaption to the housing sector.

7.1.1. Step One: Asset/Service to be Provided

The **FIRST STEP** is to define the asset or service to be provided. Figure 7.1 below proposes a table that could be used to describe the specific housing asset or service required. The main elements suggested here would be housing typologies, infrastructure requirements, and the role the private sector is expected to perform.

Figure 7.1 Defining the Asset to be Delivered

[The table below is notional. It serves to illustrate the key variables a housing project would consider, and under each of these variables, there would be several options or alternatives.]

Built Typology Variables				Infrastructure Variables			
OPTIONS	Tenure	Form	Use	Roads	Water	Sewer	Energy
1	Freehold Purchase						
2	Shared Purchase						
3	Lease Purchase						
4	Rent-to-own						
5	Rental						
6	Sub-rental						
7	Hand back						
8	Tariff Charge						

Affordability analysis. A core part of the affordable housing PPP is to understand the targeted “price points” of the affordable housing assets to be generated. Therefore, an affordability analysis, based on house prices, income of targeted beneficiaries and potential customers of the PPP, interest rates and other credit rules for potential customer groups is a fundamental part of the technical assessments.

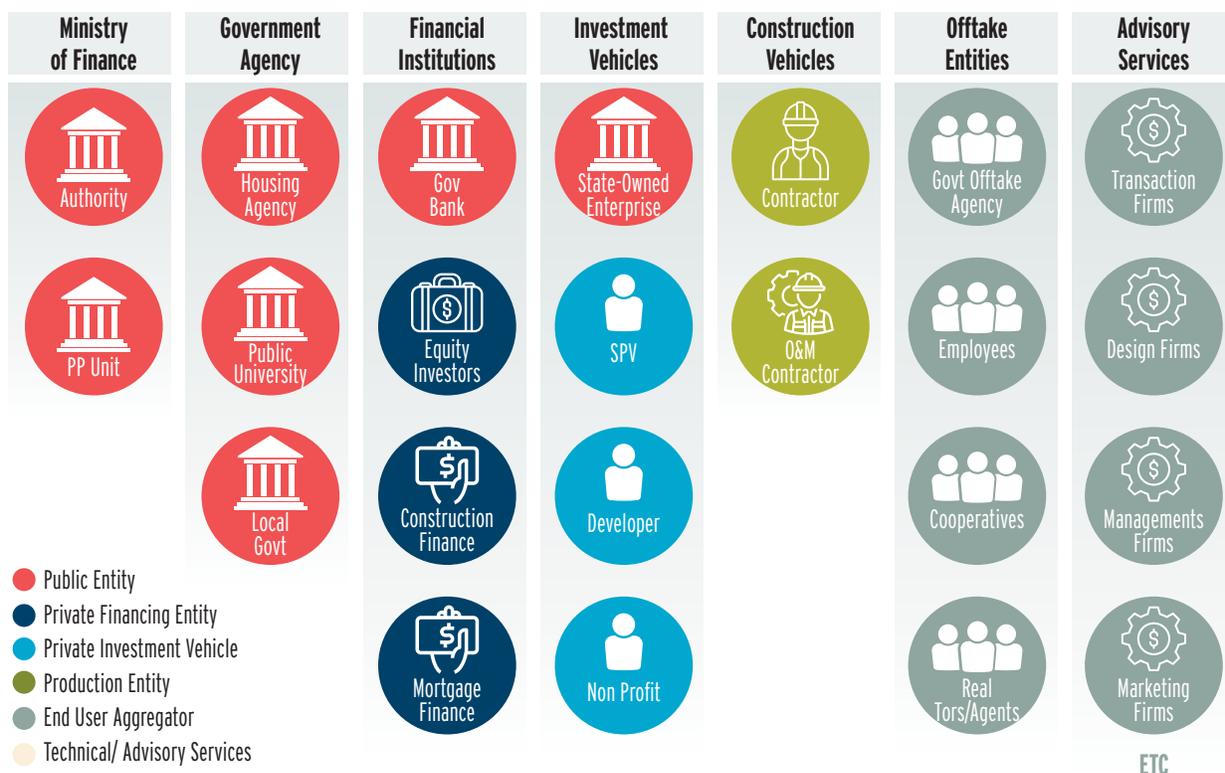
7.1.2. Step Two: Component Entities

To deliver the housing asset or service the **SECOND STEP** is to identify and map the existing institutions within the city or country to ensure that sufficient capacity exists to procure and monitor a PPP. Also important is that there are laws and regulations to govern the use of PPPs and that certain governmental entities are empowered and mandated to procure and monitor PPPs. Ideally, there should be a designated PPP Unit which oversees the conceptualization, preparation and procurement of PPP transactions. PPPs require a certain level of institutional development and capacity. The component institutions/entities that are required to structure

³⁵ APMG International, *The PPP Certification Program Guide*. <https://ppp-certification.com/pppguide/download>.

³⁶ World Bank, *Public-Private Partnership Reference Guide*. <https://ppp.worldbank.org/public-private-partnership/library/ppp-reference-guide-3-0>.

Figure 7.2 Component Entities



7.1.3. Step Three: Component Entities’ (Generic) Competence

Following the mapping of the requisite entities, the **THIRD STEP** is to evaluate the competency of each entity in terms of its financial, technical, operational management, and risk management capacity. This will determine how roles, responsibilities and risks are to be distributed between public and private entities.

Figure 7.3 Competency Factors and Distribution (Notional)

General Assumption (Emerging Economy):

Competencies	Public	Private	
Output Focused (Efficiency/profit)		●	Technically even
Design Capacity	●	●	
Lifecycle Costing		●	
Financial Modeling		●	
Credit Worthiness/Balance Sheet	●	●	Depends on guarantee
Equity Raising Capability	●	●	Land and Infra as equity
Debt Raising Capability	●	●	
Downstream Procurement Flexibility		●	
Politics Free Managements		●	
Project Management Efficiency		●	
Risk Taking/Management	●	●	Depends on time
Operations Management	●	●	Depends on time

● Competent
● Limited Competence

Figure 7.3 above illustrates the key competencies and a ‘generic’ distribution of responsibilities between the public and private sectors. Note that this is merely an illustration – an actual assessment may conclude differently. Generally, it is assumed that the private sector is more competent at execution and managing risk. It should be borne in mind that housing developments can be

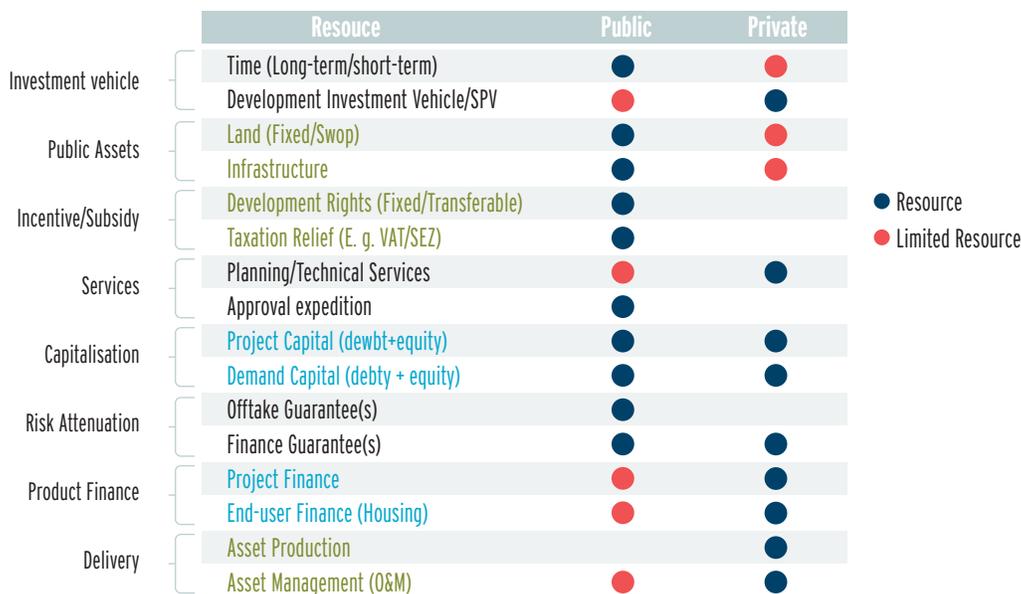
long term and competence has a “time limit.” Private sector entities may be competent in the short term, but “incompetent” over a longer term. E.g. contractors are inclined to execute as quickly as possible so as to reduce risk exposure and expedite profit-making. When required to deliver slowly to avoid over-production, or hold stock in the case of rental, the same contractors may be unable to adjust their business model, or manage the risks posed by an extended period.

7.1.4. Step Four: Resourcing

The **FOURTH STEP** is to determine the resources each party will bring to the partnership. Such resources could include those illustrated in Figure 7.4 below. These include existing institutional investment vehicles (with existing balance sheets) through which the scheme could be financed; assets such as land or infrastructure, project capital (debt and equity), and incentives such as subsidies, development rights, planning approval expedition, and risk attenuation instruments such as credit guarantees and end user offtake.

An essential as part of the calibration is a gap analysis of what is needed to close the affordability gap, given payment capacity of targeted households and subsidies available. Such gap analysis will inform the resources that are needed to be brought into the partnership. To close the affordability gap, it is important to first look into ways in which regulation/facilitation by the public sector can do for the sector (not just one deal), then special measures to be addressed in a PPP arrangement.

Figure 7.4 Resource Contribution (Notional)



7.1.5. Step Five: Institutional Arrangements/Structuring of PPP

The **FIFTH STEP** involves establishing the most suitable configuration or arrangements between the entities to deliver the asset or service identified under Step 1, and, incorporating the conclusions of Steps 2, 3 and 4. Borrowing some major configurations that are used for infrastructure services or asset provision, listed below are some housing PPP structures mainly to demonstrate how considerations under STEPS 1,2,3 and 4 come together. Detailed descriptions and diagrams are included in 3.2.

- a) **Government Offtake/ Govt Pays [Housing for Sale]**
- b) **Government Offtake/ Govt Pays with Land [Housing for Sale]**

- c) Government Offtake/ Govt Pays via Annuity [Rental]
- d) Government Offtake/ End-user Pays [Rental]
- e) Government Offtake/ End-user Pays [Ownership]
- f) Market Offtake/ End-User Pays [Rental]
- g) Market Offtake/ End User Pays [Sale]

7.1.6. Step Six: Risk Management Distribution

The **SIXTH STEP** is to determine the distribution of risk between public and private parties. The figures above illustrate how risk tends to be distributed across the different PPP structures. A risk matrix should be developed to name and categorize each identified risk, to analyze the probability of the risk's occurring, and to describe the effects if the risk materializes. It should also identify measures to mitigate the risk and to allocate the risk to the party (or parties) best placed to handle it.

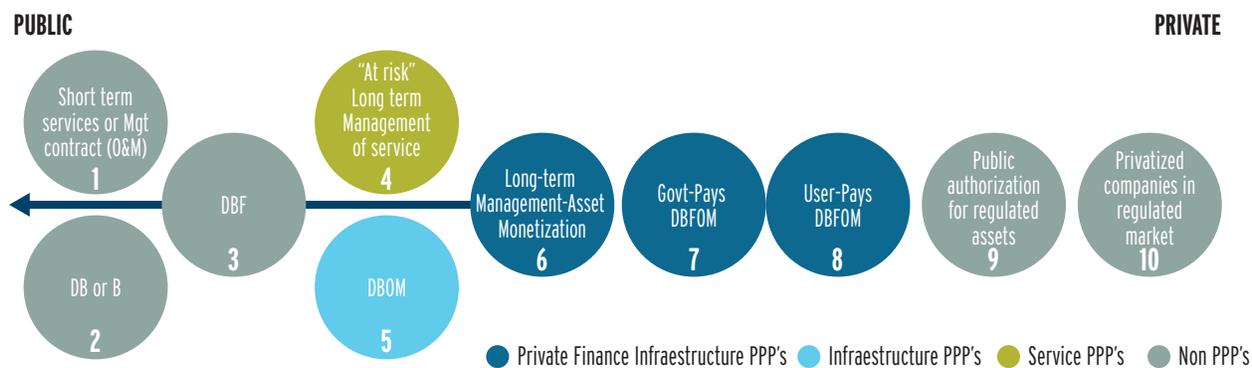
Risk assessment is usually qualitative in nature, which generates nominal or descriptive scales for each of the risks identified. The matrix below illustrates the initial stage of risk-naming in a potential housing PPP project.

Project Lifecycle	Risk Category	Description
Planning/ feasibility	Political	Change of government results in cancelling contracts; government interference
	Policy, Legislation and Regulation	Frameworks not in place for investor confidence; changes in policy, law and regulation affecting performance of the project or the Private Partner's costs
	Social (and public acceptance)	Project impact on adjacent properties and affected people (including public protest and unrest); resettlement; indigenous land rights; and industrial action.
	Environmental	Negative environmental impacts by the project; cost of compliance prohibitive, and climate change.
	Market	Real estate market downturn or collapse
Financing	Financial Markets	High inflation; exchange rate fluctuation; interest rate fluctuation; unavailability of insurance; and refinancing; shallow construction finance market
	Project Finance	High financing cost, private partner lacking financial capability
	Mortgage Finance	Increased cost of finance; lower risk tolerance for underwriting
Implementation	Procurement	Insufficient competent bidders / corruption
	Land Availability and Access	Delays in Land acquisition; Land not suitable for the project; title is unclear and with unresolved encumbrances, access to the site restricted
	Infrastructure and Social Services	Trunk and secondary infrastructure not in place or delayed; essential social services lacking
	Permit and Approval	Approvals are slow & laborious causing delay / corruption
	Design	Typology, size and unit mix not suitable for the purpose required; frequent and late design changes; Unproven engineering technics
	Construction	Contractors over run on time & budget, poorer quality of construction; poor compliance with health and safety standards; defects; industrial action; and vandalism.

Project Lifecycle	Risk Category	Description
Operation	Operation	Operators not interested in the welfare of the residents; events affecting performance or increasing costs beyond modelled costs; poor compliance with maintenance standards; industrial action; and vandalism
	Maintenance + Operational	Poor public and private sector competency; Lacking experience with social management
	Partnering	The Private Partner and/or its sub-contractors not being the right choice to deliver the project; Contracting Authority intervention in the project; ownership changes; and disputes.
	Condition at Hand back and Residual Value	Deterioration of the project assets/land during the life of the PPP or are not in the contractually required condition at the time of hand back to the Contracting Authority; and the risk of the residual value of the project assets/land.
	Revenue /Off take	The risk of insufficient tenant nominations and insufficient/non-payment (rent or mortgage)
	Demand	Market demand change

Figure 7.12 illustrates a more comprehensive continuum of institutional arrangements to deliver public services. On the extreme left, a Government Institution is responsible for public service delivery and may contract with the private sector to provide short term professional services, or to design or to build an asset – whereas on the extreme right, responsibility for the public service delivery has been completely privatized and is the responsibility of a Private Company. The Government’s role in the latter is only to regulate the company.

Figure 7.5 Procurement Structures: Public/Private Risk Continuum ³⁷



EXAMPLES

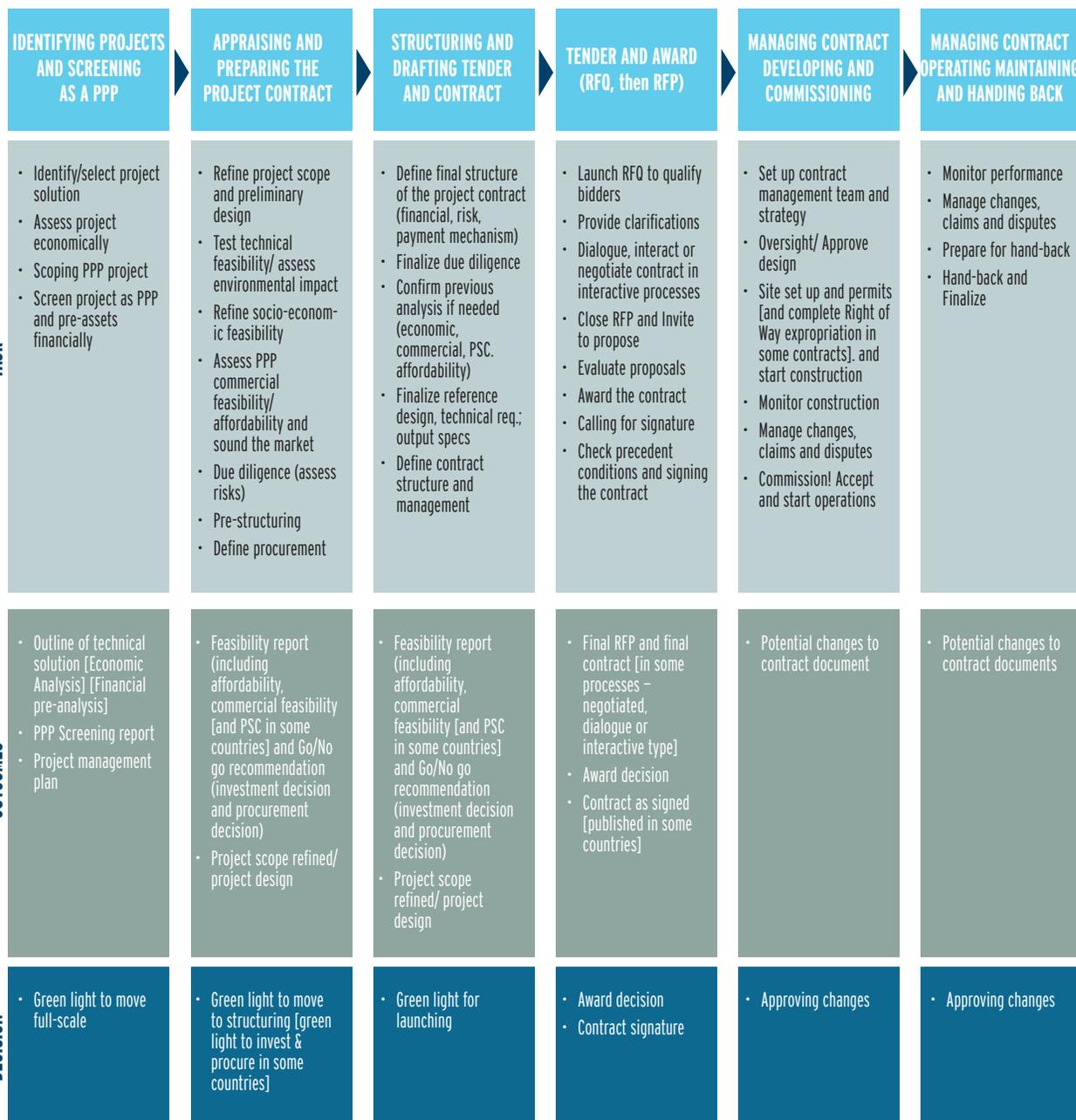
- 1 O&M 2 years for a road
- 2 Contract for design and build. or build only, of infrastructure (e.g road, rail track or entire rail system)
- 3 As in #2 but having the contractor pre (bridge) financing the works against future payments
- 4 10-year contract for managing a water supply service, 15 years contract to manage bus transport operations in a city. 15 years contract to manage renewals and ordinary maintenance in a road under fixed price and quality deductions, Sometimes named lease, affermage, concessions
- 5 contracts delivering an asset where the contractor will also provide maintenance for a number of years
- 6 30-year lease or concession to operate an existing toll road against a payment of an upfront fee. or operate water system in a city
- 7 25 year DBORvi contract to build, manage a hospital facility/building or school, a road, or a VVWTP, etc. Being compensated by performance / availability payments. A power purchase agreement (PPA) in an independent power project (IPP)
- 8 DBFOM 30 year contract for a road compensated by charges to users collected by the private partner; a concession of water supply where extensive refreshment and upgrading of infrastructure and plant
- 9 A concession to use land in a port location to develop and operate related facilities for 99 years at the entire risk of the developer; an authorisation to develop renewable energy IPP to be compensated according to a regulated price subsidised according to renewable energy regulations
- 10 A telecom operator or electricity distributor that competes for clients /users under some limits/regulations

37 APMG International, *The PPP Certification Program Guide*. <https://ppp-certification.com/pppguide/download>.

7.1.7. Step Seven: Procurement Process

The **SEVENTH STEP** is to consider the process for transacting the asset or service. Figure 7.16 illustrates a typical process for identifying the stages, tasks, expected outcomes and decisions made at each stage PPP Procurement Process for the Government Pays Scenario.

Figure 7.6 Typical PPP Procurement Process (Government Pays Scenario)



7.2. Appendix B: Case Study Comparative Analysis

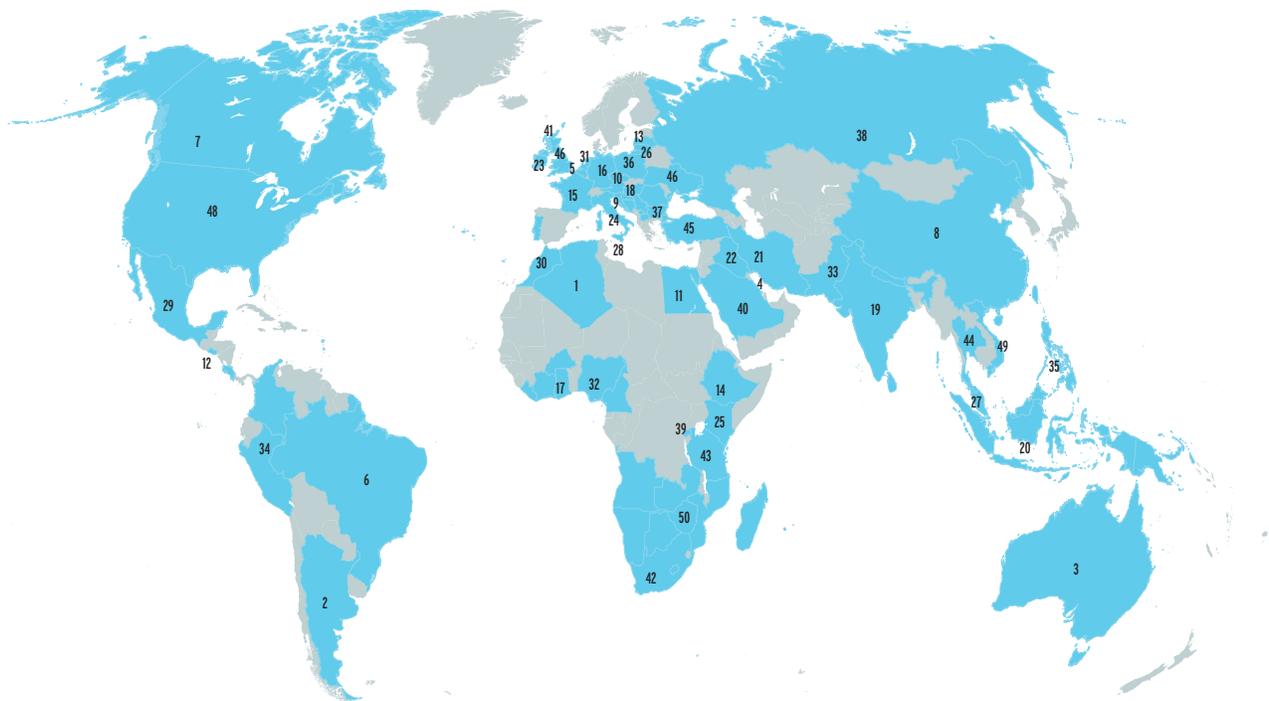
The research relating to affordable housing PPPs identified a wide range of sources written by a cross-section of academics, professionals, and policy experts. The material fell into three broad categories:

- Academic research papers focused on housing PPPs’ failures and successes;
- Policy research carried out by governments and development finance institutions;
- Professional journals looking at specific aspects of housing PPPs’ delivery.

The authors have included a brief overview of the source literature, coupled with a number of key “lessons learned” which reflect the salient points raised. Given the lack of consistent material, and even the lack of a clear or consistent definition of the term “Public Private Partnership,” it was deemed that the literature was too varied and “thin” to provide a more comprehensive analysis at this stage.

Although not exhaustive, an extensive collection of Government, Professional and Academic Literature has been collected as part of this study which covers contributions from more than 51 Countries. As part of this report,

7.2.1. PPP Configurations



1 Algeria	11 Egypt	21 Iran	31 Netherlands	41 Scotland
2 Argentina	12 El Salvador	22 Iraq	32 Nigeria	42 South Africa
3 Australia	13 Estonia	23 Ireland	33 Pakistan	43 Tanzania
4 Bahrain	14 Ethiopia	24 Italy	34 Peru	44 Thailand
5 Belgium	15 France	25 Kenya	35 Philippines	45 Turkey
6 Brazil	16 Germany	26 Latvia	36 Poland	46 Ukraine
7 Canada	17 Ghana	27 Malaysia	37 Romania	47 United Kingdom
8 China	18 Hungary	28 Malta	38 Russia	48 United States
9 Croatia	19 India	29 Mexico	39 Rwanda	49 Vietnam
10 Czech Republic	20 Indonesia	30 Morocco	40 Saudi Arabia	50 Zimbabwe

7.2.2. Summary of Lessons Learned from Case Studies

Client	Target	Land	Planning + dev rights	infrastructure	regulation expedite	project capital	tax breaks subsidies	demand capital	offtake guarantee	finance guarantee	estate div/spv	project finance	end user finance	asset producer	asset	asset owner	asset o&m	asset occupant
GZU, Zimbabwe	Employees																	
Single institutional offtake model	Robust and appropriate	Masvingo Muni	TCL		Local Gov Enabled developer				GZU	CABS	TCL	Old Mutual	OM/CABS/GZU	TCL	1000 S/Plots 300 H	H/Owner	H/Owner Tenant	
FONAVIPO, El Salvador	ESW/LIG																	
Demand Side financing fund	Effective in mobilising private sector	Gov. provided land			Local Gov Enabled developer							Fonavipo \$3000/H		TCL	2300 Houses	H/Owner	H/Owner Tenant	
MHMLP, Brazil	BOT/LIG/MIG																	
Demand Side financing/grant fund	Did not reach the lowest income groups				Tax Breaks			Finance and grants				Construction finance	Grants for LIG					
Namibia	LIG/EWS																	
Gov. policy focused on creating VMI	Evidence only at the policy level	Masvingo Muni	TCL						GZU	CABS	TCL	Old Mutual	OM/CABS/GZU	TCL	1000 S/Plots 300 H	H/Owner	H/Owner Tenant	
M-Pradesh India	EWS/LIG/MIG																	
Gov. policy focused PPP vs EPC options	Evidence only at the policy level	Masvingo Muni	TCL						GZU	CABS	TCL	Old Mutual	OM/CABS/GZU	TCL	1000 S/Plots 300 H	H/Owner	H/Owner Tenant	
Rajasthan, India	EWS/LIG																	
HDFC affordable housing	Land swaps given over 25-40%	Gov land contribute	Gov facilitate	Gov Provide	Gov Facilitate		Tax incentives		Gov have set up offtake				Gov set up grants and finance				H/Owner Tenant	
Naivasha, Kenya	EWS/LIG/MIG																	
President's flagship PPP initiative	Secondary county level focus	Gov land contribute	Gov Facilitate	Private Dev provides	Gov Facilitate	Private Sector	Tax incentives	Gov have little role		Model takes care of it			Arranged with local banks				H/Owner Tenant	
Gaborone Botswana	Vulnerable /LIG																	
BHC have been involved in PPPs	Use of pops to increase production	Both private and public land used	Mechanisms to bring new land tomtk	Infrastructure by private sector	Problems with regulation													More information needed



The team has compiled an overview by selecting key lessons learned from both developed and developing nations which have been using Public Private Partnerships for delivering Affordable Housing. Although not exhaustive, the following key themes have been identified from the literature and have contributed to this report:

1. The market should guide real estate PPPs (United States);
2. The definition of housing PPPs is too narrow and not helpful (Australia);
3. Public/private partnerships are necessary to deliver social housing (Canada);
4. Housing PPPs (should aspire to) deliver economic growth (Kenya);
5. Land can be used as leverage for housing PPPs (India);
6. PPPs struggle to deliver to the low-income sector (Nigeria);
7. Why low-cost housing PPPs fail (Thailand);
8. Critical failure factors for affordable housing PPPs (Thailand);
9. Private sector business case requires public subsidy (Indonesia);
10. Challenges to public and private sector profit sharing (Malaysia);
11. There is an infrastructure gap in affordable housing (Botswana);
12. The private sector needs to address risk management (Tanzania);
13. There is a need for clear legal agreements with the private sector (Botswana);
14. Public financing is required on supply and demand sides (El Salvador);
15. Private financing is possible on supply and demand sides (Nicaragua);
16. Critical success factors for affordable housing PPPs (Ghana);
17. Principles required for affordable housing PPPs (Egypt).

7.3. Appendix C: Lessons learned From Cases

7.3.1. Lesson learned: Greenfield land should be free of encumbrances

Country: India (Bhubaneswar)

Source: IFC³⁸

The project used a DBF (Design, Build, Finance) contract. The project aimed to produce 2600 specified residential housing units for EWS beneficiaries [341 sq. ft, G=4 units] on 13.71 acres of affordable housing land. The project includes water supply, internal roads, sewerage system, MSW management system, power, streetlights etc. a public thoroughfare including neighbourhood shopping, and community facilities - primary school, marketplace and primary health centre.

- a) Key Obligations of the Public Partner- BDA (Bhubaneswar Development Authority)
 - Handover the project site, free from encumbrances, to the developer for implementing the project; help the developer obtain required clearances;
 - Facilitate developer access to finance, and provide step-in rights to lenders;

³⁸ Sumeet Shukla, *Development of Affordable Housing Project in Bhubaneswar under a PPP Framework, PowerPoint Presentation and Interview* (IFC, May 2018).

- Identify and allot units to the EWS beneficiaries in accordance with the policy;
- Pay grants during the construction period, when required;
- Provide 6.5 acres land in lieu of payment released in proportion to EWS House completions. developer is permitted to construct housing units for and / or commercial development as per their own marketing.

b) Key Obligations of Developer

- Develop a master plan, design and construct units, and hand back to BDA within specified time frames
- Facilitate 80% of EWS beneficiaries' access to housing finance of at least US\$2300;
- Rectify any structural defects as per RERA requirements within 5 years of hand back
- Competitive Procurement:
- Project was awarded to the developer which required the least subsidy.

c) Competitive Procurement:

- Project was awarded to the developer which required the least subsidy.

d) Role of the IFC

- Structuring the transaction:
 - Review policy, laws and by laws to determine development potential;
 - Assess the financial viability of the project;
 - Identify risks and allocate these between the public and the private sector;
 - Structure transactions to set out the roles and responsibilities of the parties, events of default, termination payments, etc.
- Bid process management
 - Develop of bid documents;
 - Assist BDA in responding to queries raised by potential bidders;
 - Assist BDA in evaluating bids to identify selected bidder;
 - Assist BDA in executing the contract with the selected bidder.

e) Lessons Learned:

- Ensure that land is free of encumbrances before embarking upon PPP. This project started in 2013 and closed only in 2017.

7.3.2. Lesson Learned: Market should Guide Real Estate PPPs

Country: United States

Source: Policy Research Paper³⁹

This research makes a clear distinction between infrastructure PPPs and real estate PPPs and concludes that they should not be treated in the same way. Additionally, it highlights the frictions between political and market influences and concludes that, in order to maximize wealth creation, the market should lead.

39 Marc Scribner, *The Limitations of Public-Private Partnerships Recent Lessons from the Surface Transportation and Real Estate Sectors* (2011), page 23.

“The purpose of this paper is to draw a bright-line distinction between two common forms of PPPs: those in the surface transportation and real estate sectors. The goal of development policy should be to allocate resources in the most efficient manner possible, and market discipline is critically important in this respect. In other words, the market should guide development decisions.

But these sectors are hardly similar, as the case studies bear out: One has long been dominated by government monopolies and the other has been largely free of political forces. In the case of surface transportation infrastructure, innovative new private-sector financing, management, and ownership regimes have much to offer in terms of minimizing taxpayer exposure, capturing user revenues, and creating an efficient transport network. In contrast, government’s recent expanded role in real estate development has increased taxpayer exposure to risk, socialized costs, and concentrated the benefits into the hands of select private developers and special interests.

The popularity of PPPs should not blind policy makers to the fact that these sectors suffer from problems that are markedly different. A responsible path forward would be to utilize PPPs in surface transportation infrastructure development and management, while cutting bureaucratic impediments such as land-use regulations and business licensing to promote re-development. In essence, both require reducing political forces and expanding market forces. Only when policy makers realize their own limitations will these sectors be free to maximize wealth creation that could potentially bring about a new era of American prosperity.”

7.3.3. Lesson Learned: A Narrow Definition of PPPs is Not Helpful

The paper makes the case that the PPPs project selection requirements are too onerous for any projects to be approved. For developers, PPPs are too complicated; rather transfers of existing development rights and requirements to set aside a percentage of each development for affordable housing are more suitable. On a local government level, taxes derived from urban development are directed mostly toward the federal level, leaving Local government with little room, or incentive, to negotiate.

Country: Australia
Source: Academic Paper⁴⁰

- a) Source: Research into affordable housing PPPs in Australia has led to some insights into the challenges of too narrowly defining the Public Private Partnership and the constraints it has put on the delivery of low-cost housing.
- b) “The widening gap between demand and supply of affordable housing in Queensland has provided an opportunity for both the public and private sector to find innovative ways to increase the supply of affordable housing. PPPs are one way proposed by researchers and government. Although policy and guidelines are ready to support partnership initiatives, a lack of application to real projects is the real implementation problem.”
- c) “The Queensland state government has too restrictive a definition of PPPs, thus affordable housing projects cannot fall into this scope. Moreover, the private sector requires other benefits and more incentives to deal with lower cash flow return from affordable housing tenants. The contradiction between investment decision-making criteria of public and private sector has obstructed the implementation of partnerships.”

40 Connie Susilawati and Lynne Armitage, *Do Public Private Partnerships Facilitate Affordable Housing Outcome in Queensland?* (Australia, 2004), page 7.

- d) “PPPs may not be a suitable way to facilitate the increasing supply of affordable housing without major changes and a more comprehensive approach. However, partnerships in a broader context might be suitable for affordable housing projects.”

7.3.4. Lesson Learned: Partnerships Are Needed to Deliver Social Housing

Country: Canada

Source: Policy Research⁴¹

- a) Canada has been one of the first movers in the Social Housing PPP sector. This research identifies the inherent character and value that the private sector and public sector bring to a social housing partnership but finds that the challenge appears to be how to get them to perform effectively over time.
- b) “The case studies reviewed show that social housing can be effectively delivered and managed through partnerships. The private sector has a tremendous amount of skill, resources and experience to offer the social housing sector. It is also flexible, innovative and better able to absorb and manage risk. Among the key factors identified that enhanced the success of the affordable housing project are choosing the right partner, having an industry leader and legally defining roles and responsibilities within the partnership.”
- c) “An overview of the case studies also reveals that there is a large role for all levels of government to play. Without some form of public financing, it is questionable whether any of the housing partnerships reviewed could have housed the lowest income group. But while the case studies show that PPPs reveal some promises in addressing affordable needs in the short term, long term measurements are required to ascertain whether the models will continue to meet this demand. Additionally, future research is necessary to assess the implications of these and other PPP affordable housing projects on democratic and public accountability.”

7.3.5. Lesson Learned: Housing PPPs Deliver Economic Growth

Country: Kenya

Source: Academic Paper⁴²

- a) The Kenyan government has been looking at the use of PPPs to deliver affordable housing. They have determined that the DBFOM model would deliver value for money through use of the private sector project management expertise. The government also hopes to see economic growth due to the increased use of materials, higher employment and wider supply chains associated with PPPs.
- b) The purpose of this study was to investigate the influence of PPP finance on the provision of affordable housing in Nairobi County, Kenya. It found that factors influencing the provision of affordable housing in Nairobi County include risk allocation, private capital, delivery time, and cost-saving PPP finance. Furthermore, the PPP finance structure in the DBFOM model allocates risk to the party best suited to manage it and at the lowest cost; this allows the public entity to leverage the private sector's project management expertise.
- c) The public entity was motivated to seek partnership with the private sector primarily due to the potential of improved delivery times and the availability of private capital. On-time and on-budget delivery of projects is made possible through the use of contracts

41 Alexandra Moskalyk, *The Role of Public-Private Partnerships in Funding Social Housing in Canada* (Canada, 2008), page 36.

42 Peter Oluoch Ojwang, *The Influence of Public Private Partnerships Finance on Provision of Affordable Housing: the Case of Nairobi County* (Kenya, 2015), pages 50-51.

within the PPP framework. Such benefits are already being enjoyed in countries like the UK, where a mature housing PPP structure exists. The need for public sector subsidies is twofold: first, to enhance commercial viability to attract private capital; second, to ensure the affordability of the housing units by the targeted low-income households.

- d) The study also revealed that affordable housing PPPs have other effects, given the scale of the projects: an influence on economic growth, job-creation, and expansion of infrastructure. Finally, the success of the projects depends on political goodwill and an adequate regulatory framework.”

7.3.6. Lesson Learned: Land May Be Used as a Lever for Housing PPPs

Country: India

Source: Government Guidelines⁴³

In looking at different affordable housing PPP options, the Indian Ministry for Housing and Urban Affairs has identified six models where government land is the main lever for subsidy and an additional two models which allow for private land to be developed as part of an affordable housing PPP.

- a) “PPP Models on Government Land:
- Government-land Based Subsidized Housing
 - Mixed Development Cross-subsidized Housing
 - Annuity Based Subsidized Housing
 - DBFMT: Annuity cum Capital Grant based Subsidised Housing
 - Direct Relationship Ownership Housing
 - Direct Relationship Rental Housing
- b) PPP Models on Private Land:
- Private land based Subsidized Housing (CLSS Scheme for Economically Weak Sections of Society (EWS) / Low-income Groups (LIG)/Middle-Income Groups (MIG)
 - Private land Based Subsidized Housing (Affordable Housing Partnership Scheme for Economically Weak Sections)”

7.3.7. Lesson Learned: PPPs Struggle to Deliver to Low-Income Groups

Country: Nigeria

Source: Academic Paper⁴⁴

- a) Research into the use of PPPs to procure housing in Nigeria determined that it primarily benefits the high- and middle-income earners, rather than low-income earners. This appears to be a consistent failure in several countries where private developers have been engaged in delivering affordable housing.
- b) “From the discussion, it is obvious that this country's experience in the application of PPP in housing has mainly been in the production of housing for the high- and middle-income

43 Ministry of Housing and Urban Affairs, *Public Private Partnerships for Affordable Housing in India*, page 61.

44 Egidario B. Aduwo, Eziyi O. Ibem, Paschal Onyemaechi, *Challenges and Opportunities in Public-Private Partnerships (PPPs) for Housing Low-Income Earners in Nigeria* (Nigeria, 2016), page 15.

earners, while the low-income people that constitute a greater percentage of the urban population have been neglected in most PPP housing schemes. The evidence presented in this chapter also shows that the main reasons why the housing PPPs in Nigeria have not made any significant contribution to addressing the housing needs of the low-income population are not far-fetched. These include poor access to long-term housing finance; inadequate supply of developable land; the absence of specific and uniform policy on PPP in housing, and over-emphasis on joint venture model by the operators of PPP housing schemes.”

- c) “..... In view of these opportunities PPP for housing the low-income earners offers, there is a need for all the stakeholders in the housing sector in Nigeria to work together in realising the goal of PPP in housing as stated in the New National Housing and Urban Development Policy (NNHUDP) in 2002. Further, there is also the need to go beyond the rhetoric and identify how best PPP in housing for the low-income people can be actualized so that Nigeria can benefit maximally from PPPs in addressing the housing challenge faced by a majority of her citizens.”

7.3.8. Lesson Learned: Why Affordable Housing PPPs Fail

Country: Thailand; Indonesia, Malaysia; Philippines; Vietnam

Source: Academic Paper⁴⁵

A study of Critical Failure Factors (CFF) for Affordable Housing (LCH) was carried out to identify the underlying causes for failure in affordable housing PPPs, a summary of which is provided below:

a) Indonesia:

- The quality of low-cost housing products was poor due to substandard construction. The LCH Program was cancelled because of lack of economic viability and subsidies;
- The number of units sold was uncertain because the housing finance subsidy approval process was complicated;
- LIGs were unable to access homeownership because they lacked the financial documents necessary to apply for housing mortgages.

b) Malaysia;

- Too many houses were built in the same place;
- The quality of construction materials was low. This resulted in low functional performance;
- LIGs were unable to access homeownership because of their financial difficulties and attitudes;

c) Philippines:

- The project was delayed, and the quality of housing products was substandard because developers were exploiting the program to increase their profits;

⁴⁵ Surangkana Trangkanont, *Critical Failure Factors of Public-Private Partnership Low-Cost Housing Program in Thailand* (Thailand, 2014), page 8, table 1.

- LIGs were unable to access homeownership because their financial profiles were poor, and financial institutes perceived them as being at high risks for default.
- d) Thailand;
- The program was abused by politicians for their own benefit;
 - The program housing target was reduced because the program was no longer supported by the government.
- e) Vietnam:
- The project was cancelled because of lack of economic viability;
 - The project investment failed due to the competition among administrative units;
 - LIGs were unable to access homeownership.

7.3.9. Lesson Learned: Failure Factors for Low-Cost Housing PPPs

Country: Thailand

Source: Academic Paper⁴⁶

A study of Critical Failure Factors (CFF) for Low-Cost Housing (LCH) was carried out to identify the underlying causes for failure in Affordable Housing PPPs. A summary of which is provided below:

- a) Public clients' ineffective change management;
- b) Public clients undermined organisational culture and staff's behaviour;
- c) Policy pressure;
- d) Poor bidding documents;
- e) Inappropriate contractors;
- f) Political risks;
- g) Economic crisis;
- h) Relative law and policy risks;
- i) The limitations of housing finance;
- j) Low-income Groups difficulties.

“The concurrence and interrelation of these CFFs in various stages of PPP-LCH project life cycle resulted in not only the failure of project output and outcome but also the failure of program-initiating organization's performance. As a result, the failure of the program was obvious.”

⁴⁶ Trangkanont, *Critical Failure Factors*, page 23.

7.3.10. Lesson Learned: Affordable Housing PPPs Require Subsidy

Country: Indonesia

Source: Academic Paper⁴⁷

- a) Private developers operating in the real estate market get better returns from developing residential stock for middle and high-income groups where they can command market-based returns, evidenced most clearly in a research paper on the Indonesian market below:
- b) “The Regular Scenario resulted IRR 23.33%, NPV 28 Billion Rupiah and payback period of 2 years while the PPP scenario makes IRR 16.21%, NPV 12 Billion Rupiah and payback period of close to 3 years as presented in the table below. Hence, the PPP scenario is not attractive for the investors/developers as it has lower IRR, much lower NPV differential and longer payback than regular scenario which it will make developers not interested to involve under PPP scheme. To tackle these problems, it is highly considered if the government can offer incentives or claw back to the private sector in other to make the project more feasible and increase the investment appetite for the private sector in joining PPP in developing public apartment.”

7.3.11. Lesson Learned: Challenges to Public/ Private Profit Sharing

Country: Malaysia

Source: Academic Paper⁴⁸

- a) Examples from Malaysia are frequently analyzed as they have been utilizing PPPs to procure housing for some time and have examples of both success and failure. A key point is the challenge of profit sharing between the public and sectors which is explained in the following text.
- b) “All of the interviews admitted that their organisations had made oversights in the past and incurred losses because profit-sharing accountability was lacking. There were cases of private developers who reneged on paying their dues as scheduled. Or when required to compensate the agencies with completed houses, unscrupulous partners had handed over units with lower quality finishing (e.g. cement rendered instead of tiled flooring), unlike those put up for sale. Developer’s profit-sharing accountability had not been identified by past scholars or observers as a success or failure factor for housing PPP. Virtually all the housing PPP examined had low-cost housing included as part of the public agencies’ social obligation, but as expected, disliked by the private partners. Given the chance, they procrastinated or even absconded from this obligation. Such was the case with one developer who constructed low-cost houses well after the rest of the development was completed. The field study found that non-compliance to the bumiputera quota was lesser of an issue than non-fulfilment of the low-cost housing quota. The identification of developer’s social accountability as a success factor concurs with Payne (2000).
- c) Success factors which had the greatest impact was action against errant developers and failure factor with the greatest impact was robust and clear agreement.”

⁴⁷ Erman Sumirat, *The Investment Analysis of Public Apartment under Public Private Partnership Model to Attract Investors in Indonesia* (Indonesia: Universitas Padjadjaran), page 62.

⁴⁸ A.-R. Abdul-Aziz and P.S. Jahn Kassim *Objectives, Success and Failure Factors of Housing Public-Private Partnerships in Malaysia* (Malaysia, 2010), page 154.

7.3.12. Lesson Learned: Infrastructure Gaps in Affordable Housing

Country: Botswana

Source: Academic Paper⁴⁹

- a) When private developers are engaged and proactively bring plots and houses to the market, this appears as a breakthrough for the government, in that they are able to deliver higher volume of housing to the market without having it on their balance sheet. However, as can be observed in Botswana, the private sector is focused on short term profits from sales, which are dependent on the government's providing a safety net for utilities and infrastructure management.
- b) "Phakalane Estate encountered strong resistance when it tried to handover secondary and tertiary infrastructure services to the local authority—Gaborone City Council (GCC)—and respective utility parastatal companies—notably Botswana Power Corporation (BPC), and Water Utilities Corporation (WUC). First, GCC was reluctant to take over roads, street lighting, storm water and refuse collection, because it had not budgeted for them. Second, both BPC and WUC argued that connections to Phakalane Estate developments would increase pressure on existing infrastructure. They wanted Phakalane Estate, as the developer, to pay for the necessary improvements on the infrastructure. Third, WUC was not satisfied with the quality of infrastructure services being offloaded to them. According to Moeti (2012) and Gaotlhobogwe (2011) WUC demanded to be paid P30 million (USD 3.75 million as of 2012) being the cost of upgrading water supply and sewer systems while BPC demanded P22 million (USD 2.75) for upgrading its power supply substation."

7.3.13. Lesson Learned: Private Sector Should Address Risk Management

Country: Tanzania

Source: Academic Paper⁵⁰

- a) A significant issue that gets little attention in PPP literature relates to the "competency" of both public and private partners to perform.
- b) "The purpose of this study was to investigate the perception of PPP risks in housing construction projects in Tanzania alongside the existing risk management strategies adopted in HPPP projects. A total of 28 and 15 risks and risk management strategies were identified as shown in Table 3 and 4 respectively. Delays, private partner financial incapacity, poor workmanship and conflicts were the top four identified risks. These results may serve as valuable reference for PPP stakeholders to further develop effective project and risk management strategies."
- c) "There is a positive relationship observed between the identified risks and the risk management strategies. However, the positive relationship and demonstrated awareness does not reflect in the success of the project. So many projects fail mainly because of poor project management skills as demonstrated in previous similar studies. (Kavishe and An, 2016; Kavishe et al., 2018). Since PPP projects are considered prone to so many uncertainties due to their complex nature. Risk management strategy is inevitable and a key feature of managing PPP projects as an attempt to deal effectively with uncertainties in order to achieve project success."

49 Faustin T. Kalabamu, Paul K. Lyamuya, *An Assessment of Public-Private-Partnerships in Land Servicing and Housing Delivery: The Case Study of Gaborone, Botswana* (Botswana, 2017) page 514.

50 Sumirat, *The Investment Analysis of Public Apartment*, page 62.

7.3.14. Lesson Learned: Need for Legal Agreements

Country: Botswana

Source: Academic Paper⁵¹

- a) When private developers are engaged and proactively bring plots and houses to the market, this appears as a breakthrough for the government in that they are able to deliver higher volume of housing to the market without having it on their balance sheet. However, as can be observed in Botswana, the private sector is focused on short term profits from sales, which are dependent on the government's providing a safety net for utilities and infrastructure management.
- b) "The projects were implemented without written agreements or legally binding instruments. Consequently, private partners pursued processes that would maximise their revenues and profits. All projects benefitted the elite, rich and, at most, middle income earners. The poor and other vulnerable groups were left out. Even schemes targeting the poor ended benefiting middle and high-income earners. The poor have, as a result, been forced to find accommodation in peri-urban villages or reside in heavily congested but inadequately serviced self-help housing areas."

7.3.15. Lesson Learned: Public Financing of Both Supply & Demand

Country: El Salvador

Source: DFI Publication^{52,53}

- a) Private developers operating in the real estate market get better returns from developing residential stock for middle- and high-income groups when they can command market-based returns, evidenced most clearly in a research paper on the Indonesian market below:
- b) "FONAVIPO, is the National Affordable Housing Fund which acts as a second-tier lender to microfinance institutions (MFIs). The MFIs will use these funds to benefit 2,300 low-income families. Apart from extending funds to MFIs, the government also has a provision for giving grants of up to \$ 3000 through FONAVIPO to low-income consumers to participate in the housing market."
- c) "An information and advisory centre, along with mobile administrative units to provide support to low-income consumers to draw up required paperwork for loans and subsidies applications has also been set up under the assistance provided by the IDB. The personnel of participating microfinance institutions will also be trained to improve customer service and lending methods and expand the client base."
- d) The attention paid on capacity building of personnel and establishment of supportive services such as information and advisory centres and mobile units have contributed to the success of the program in reaching the low end of the housing market."

51 Kalabamu and Lyamuya, *An Assessment of Public-Private-Partnerships*, page 515.

52 Pallavi Jain Govil, *Providing Affordable Housing in Developing Countries through Public Private Partnerships: Lessons Learnt* (World Bank), pages 7-8.

53 Many Paths to a Home: Emerging Business Models for Latin America and the Caribbean's Base of the Pyramid – 2014 - Stickney, Christy

7.3.16. Lesson Learned: Private Financing of Supply & Demand

Country: Nicaragua

Source: DFI Publication⁵⁴

- a) A “Rent to Own” approach, developed in Nicaragua has seen some success based on the private sector financing and developing affordable housing. Although not strictly PPP, it has meant that the private sector has managed to unlock the business case for delivering affordable housing at scale for those at the base of the pyramid.
- b) An innovative market-based approach to making affordable mortgage financing accessible to households has been adopted in Nicaragua, which does away with the dependence on government subsidies, which tend to be uncertain. RAFCASA, a financial services company, has promoted a savings scheme that enables families to enrol in a savings plan drawn up according to their required down payment for a home mortgage. This rent-to-own scheme has been designed as a solution for families who are unable to save up enough down payments for a house. The target group is the informal sector households earning less than four minimum wages. The project is expected to cover 500 such low-income Nicaraguan families.
- c) Such workers are offered a fixed term rental period, often about two years long, whereby the rental amount is fixed in such a manner that a part of it goes towards their mortgage down payment. Completion of the rental scheme allows the families to qualify for a mortgage loan from the Banco de Finanza (BDF) to complete their housing payments. BDF is the fourth largest commercial bank in Nicaragua and has a large social housing portfolio. The IDB (through the Opportunities for the Majority Initiative) has given project finance to BDF. This partnership with RAFCASA has helped evolve a sustainable business model where the mortgage product has been suitably down sized to reach the low-income segments.
- d) On the housing side, new homes are purchased and held by BDF from low-cost housing developers. These are sold to the client households as and when their rental agreements convert into a mortgage. RAFCASA conducts the loan evaluations of interested families and those approved qualify for entering into rental agreements. Families who cover their down-payments can then take on mortgages, which usually have tenors of up to 20 years and carry market-based interest rates.”

7.3.17. Lesson Learned: Success Factors for Affordable Housing PPPs

Country: Ghana

Source: Academic Paper

The following are critical success factors (CSF) identified across a wide range of academic literature on affordable housing PPPs:

- a) Commitment and responsibility of public and private sectors;
- b) Stable macro-economic condition and sound economic policy;
- c) Competitive and transparent procurement process;
- d) Multi-benefit objectives;

⁵⁴ Stickney, *Many Paths to a Home*.

- e) Government involvement by providing guarantees;
- f) Strong and competent private consortium;
- g) Favourable and efficient legal framework;
- h) Stable and effective social support;
- i) Involvement of well-organized and committed public agency;
- j) Thorough and realistic assessment of cost, projections and benefits;
- k) Available, strong and resilient financial market;
- l) Shared authority, trust and communication between public and private sectors;
- m) Appropriate risk allocation and risk sharing;
- n) Good and favourable governance and strong political support;
- o) Correct project identification and evaluation of project technical feasibility;
- p) Project expected to be able to pay debt.

7.3.18. Lesson Learned: Principles for Affordable Housing PPPs

Country: Egypt

Source: Academic Paper

Academic research in Egypt identified the main principles required for affordable housing PPPs to be successful:

- a) Insert the partnership projects within the strategic plan of each ministry;
- b) The central unit of the PPP must play its supervisory roles actively for a successful partnership;
- c) Add the responsible administration for the housing sector to the administrative structure of the PPPs central unit;
- d) Provide the legislative framework to organize the partnership process in the social housing sector;
- e) Stimulate the local banking sector to finance the partnership projects for a longer time period and enable citizens to purchase their units;
- f) Allocate the area of land in a manner compatible with the size of the companies and their ability to complete the projects in a specified time;
- g) Reduce the percentage of area allocated to social housing compared to the percentage allocated to the private sector (less than 50% achieves greater profitability);
- h) Increase the time limit for the private sector (more than two years), to provide an opportunity for completing projects with available financial resources;
- i) Accelerate the pace of licensing for construction operations in order to reduce the total time of project implementation;
- j) Contribution of the government in construction of housing units: follow up on project implementation and market the housing units;
- k) Use alternative types of partnerships between government and the private sector (such as B.O.O.T) to achieve appropriate profitability (instead of B.O.T.).

7.4. Appendix D: PPP Definition Clarifications⁵⁵

This Appendix aims to articulate the definition of a PPP used in infrastructure PPPs, namely what a PPP is and what a PPP is not. Private participation in infrastructure may be under public procurement (where government remains the ultimate owner of the infrastructure asset and/or service, controlling the asset and/or service to different degrees, and higher or lower private involvement in the asset cycle) or may be under liberalized and regulated conditions (liberalized markets and/or privatized assets and services such as telecommunications or energy in a number of countries).

- a) Infrastructure contract procurement may range from traditional contracts for construction (B, DB and other similar forms) to wider and longer involvement by the private sector (DBOM and DBF), to the widest scope where the private sector delivers and manages the infrastructure (and potentially related services) under a procurement contract (DBOFM and similar forms, such as BOT);
- b) DBF contracts are regarded as an infrastructure PPP model in some jurisdictions. However, only DBOM and DBFOM (and similar forms such as BOT) include the obligation for long term maintenance to be bundled with the construction obligation. These are also usually the only contract forms in which remuneration is based upon the performance of the asset;
- c) DBFOM (or DBFM) contracts are the most typical form of private finance PPPs;
- d) Variations of DBFOM and DBFM include joint ventures (public and private parties co-owning the project company is referred to as an institutional PPP or publicly controlled PPP). However, this PPP scoping study considers that they may be properly regarded as a PPP only when there is significant private equity investment in a joint venture (more than 50% of the development finance);
- e) One hundred percent public company structures acting as “public private partnerships” are not considered proper PPPs [If they add to the State’s debt burden, rather than draw in private finance into the market];
- f) Independent Power Producers [IPP’s] operating a Power Purchase Agreement (PPA) are PPPs, similar in scope to DBOFMs;
- g) The PPP concept is also applicable to the management of existing infrastructure and the operation of public services, where the long-term contracts transfer risks and where the remuneration of the private partner is based upon the performance of the asset or service (availability and/or volume of use). This is sometimes used to “monetize assets” or to “refinance” the public investment, previously done through conventional construction procurement, in a sequence of DB (and later, FOM) contracts (mostly in self-feasible user-pays PPPs);
- h) A PPP should not be confused with privatization, nor is the term PPP appropriate in the context of economic operators acting in liberalized and regularized market (for example, electricity distribution companies acting in an energy market that has been liberalized and open to competition) as long as there is not a specific procurement to build and /or manage the asset for a limited period of time under a public contract with such a private operator.

⁵⁵ APMG International, *The PPP Certification Program Guide*, Section 1.2. <https://ppp-certification.com/ppp-certification-guide/2-private-participation-public-infrastructure-and-services-what-and-not-ppp>.



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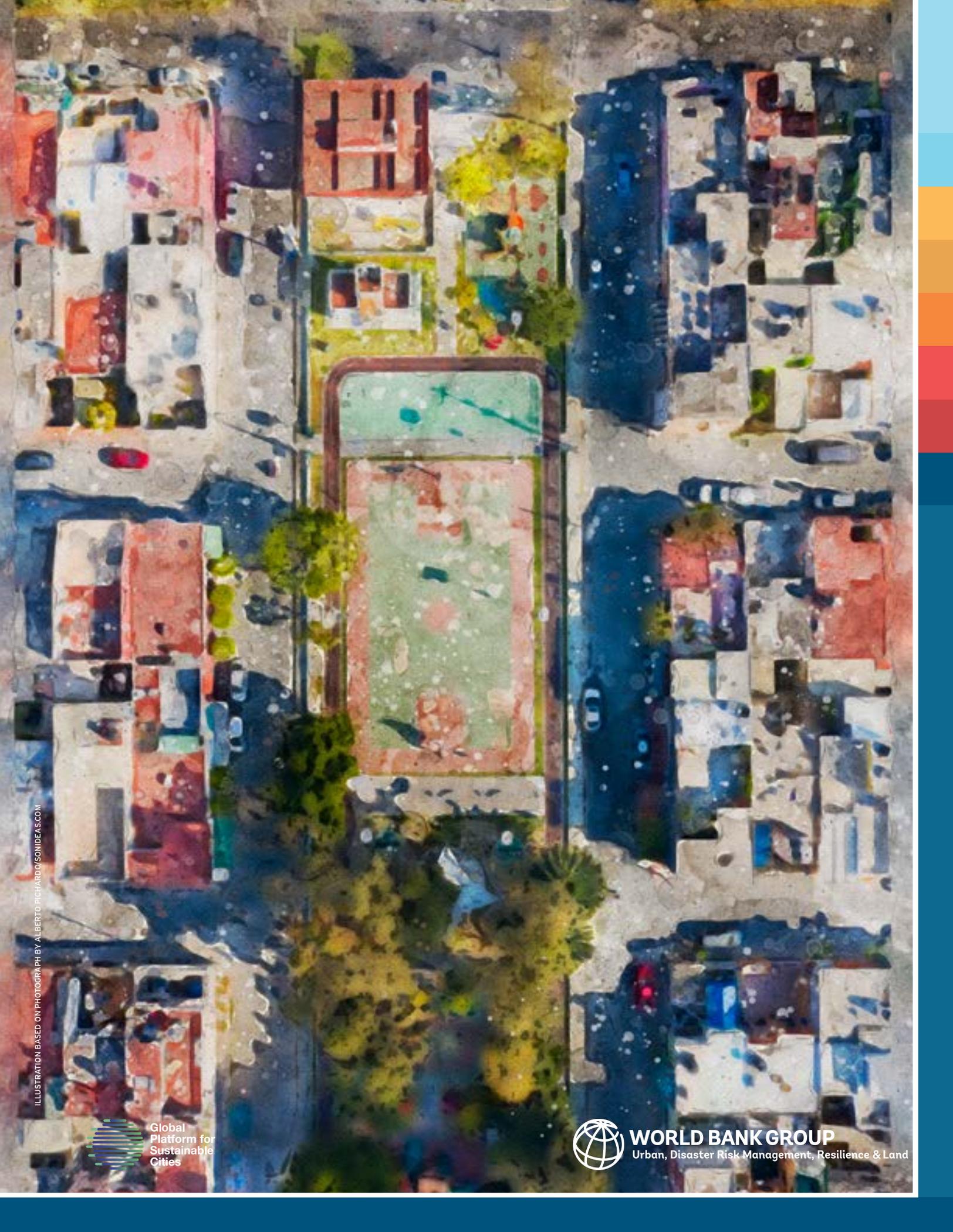


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