

STATE-LED ALTERNATIVE MECHANISMS TO ACQUIRE, PLAN, AND SERVICE LAND FOR URBANISATION IN INDIA

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EXECUTIVE SUMMARY

Highlights

- Rapidly urbanising Indian cities need mechanisms to ensure that land is acquired, planned, and serviced with adequate infrastructure and social amenities, to prevent the occurrence of haphazard urban expansion and underprovisioned inner-city areas.
- Such mechanisms should help government agencies recover their costs through land value capture, a method by which agencies recover part of the increase in the value of private property after it is serviced by new public infrastructure.
- Looking beyond the conventional practice of compulsory land acquisition, this document describes six state-led mechanisms to acquire, plan and service land along with land value capture techniques. The unique background of each case is described, along with its characteristics, process, strengths and challenges and the impact of each.
- It also evaluates the legal frameworks of these mechanisms according to nine parameters of equity and efficiency derived from a literature review.
- The mechanisms were found to have the potential to acquire, plan, and service land in infill contexts and urban extensions; better implement city master plans; share financial risks with land owners and private developers; and provide models to states.
- Although no one mechanism can be used universally, these mechanisms can be adapted across different contexts with modifications.
- Recommendations are made to strengthen the equity and efficiency of the mechanisms and they range from measures to prevent disconnected developments, recommendations to adopt standards for planning and urban design and reforms to facilitate better delivery of planned and serviced land that are beneficial to all the stakeholders.

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Context

Rapid urbanisation in India is creating a strong demand for land that is planned and serviced. By 2050, India's urban population is expected to more than double to 814 million from 373 million in 2010, and its urban land cover is expected to increase by over five times.

However, the supply of planned and serviced urban land is constrained by several factors such as hurdles in acquiring land, the low financial and technical capacity of government agencies, inefficient planning practices, distortions in land markets, lack of coordination amongst government agencies dealing with land transactions, and limited use of technologies such as geographic information systems in property valuation and mapping. As a result, implementing public purpose needs in physical infrastructure and social amenities such as roads, water supply, sewerage, electricity, and waste management as well as hospitals, schools, and open spaces, is a challenge.

Due to the limited availability of planned and serviced land, city peripheries have been rapidly transformed by the haphazard growth of slums, unauthorised colonies, piecemeal commercial developments, and mixes of conforming and nonconforming land uses, coupled with inadequate infrastructure services and few social amenities. Unplanned growth needs to give way to planned urban extensions and adequately provisioned inner-city areas.

The National Land Acquisition Act 1894 (updated by the Right to Fair Compensation and Transparency in Land Acquisition, Rehabilitation and Resettlement (RFCTLARR) Act, 2013) which enables compulsory acquisition of land, has conventionally been the primary tool to acquire land for public purpose in India. Alternatives to compulsory acquisition such as the Town Planning Scheme were introduced in the country as early as 1915, but did not get mainstreamed.

Following the enactment of the RFCTLARR Act 2013 concerns about costs and delays in procuring land has led several state-based urban agencies to frame alternatives. The alternative mechanisms broadly include land readjustment, land pooling, leveraging resources of the private sector (public private partnership), market price negotiations, land lease policies and nonmonetary compensation such as granting development rights. However, not all these mechanisms ensure planned and serviced developments on their own along with land value capture components.

About This Paper

This paper describes and analyses six mechanisms that provide an end-to-end area development approach that enables land acquisition, its planning, and servicing, as well as methods to capture the land's increased value to help pay for basic infrastructure and social amenities. A case was selected for each type of mechanism that demonstrated this end-to-end area development approach. For each case, the provisions and processes in the legal frameworks of the mechanism were analysed and experiences with the mechanism were presented from secondary sources regarding its impact, strengths, and challenges. The authors did not conduct primary field studies in the six case study areas.

Through an extensive literature review, nine parameters were derived that assess the equity and efficiency of each mechanism. The legal frameworks and the government documents that detail the six cases were analysed based on these parameters.

Key findings and recommendations are given on how to strengthen each mechanism as well as how it measures up against the nine parameters. Further research needs are also proposed.

Methods such as land purchase policies, market price negotiations, land leases, or compulsory acquisition are not addressed because they typically do not contribute to planned and serviced land and area development along with land value capture components on their own. Other important aspects such as property rights, tenure, land registration, land information systems, taxation and valuation, land markets and demand constraints of urban land are addressed only where directly relevant. State and city authorities seeking to develop alternative mechanisms to acquire, plan, and service urban land using value capture methods should find this study useful. It can assist in knowledge sharing, informed decision making, and legislative amendments for the contextually appropriate use of alternative mechanisms. It will also be of interest to private developers as well as researchers who are directly or indirectly involved in such processes.

This study seeks to fill a gap in the public domain for a single document that details and compares state-led alternative mechanisms to plan and service land in infill areas, urban extensions, and greenfields. There is currently a lack of easy access to collated information on the process of these mechanisms, let alone any analysis of them.

Analysing Six State-Led Mechanisms for Planning and Servicing Urban Land

To see how the six mechanisms fare, six cases—one for each mechanism—were identified. Cases that were state initiated, extensively used, and successful, or which are of increasing interest to state and city agencies were selected. The first four cases are primarily used in urban extension scenarios and the last two are used for urban infill projects. The cases are:

- The Town Planning Scheme (TPS), Gujarat State
- The Land Pooling Scheme (LPS), Amravati, Andhra Pradesh State
- The Navi Mumbai Airport Influence Notified Area (NAINA) Scheme, Navi Mumbai, Maharashtra State
- The Joint Development Model (JDM), Haryana State
- Accommodation Reservation and Transferable Development Rights (AR-TDR), Mumbai, Maharashtra State
- The Cluster Redevelopment Scheme (CRS), Mumbai, Maharashtra State

Each case is documented in detail to show its unique background and characteristics, processes, key strengths, and challenges. Each case outlines how planned and serviced land is ensured, the financing model, and the impact achieved.

Case 1: The Town Planning Scheme, Gujarat State

How Land Gets Planned and Serviced: The Town Planning Scheme (TPS) of Gujarat employs a land readjustment mechanism that brings together a group of land owners who pool their land parcels for development. After deducting area for infrastructure and social amenities, including affordable housing, the government reconstitutes the remaining land into regularly shaped plots and distributes it back to the original owners. Infrastructure is provided by the local government agencies; landowners benefit from improved services and thus an increased value for their land. In the land readjustment and pooling technique used in Gujarat, land is only notionally consolidated and often, the serviced land returned is a portion of the same land originally handed over by the landowners to the agency. An elaborate cost tabulation is involved in the process.

How Land Value Increments Are Captured: The cost of land development is financed partially through a betterment levy, which is calculated based on the estimated increase of the land's value, and partially by the sale of a share of land that is retained by the government authority. Landowners were reportedly happy to pay the betterment levies, because they benefited from the increase in the value of their land.

Impacts: Over 665 TPSs have been prepared in the State of Gujarat; 38 percent of them for the City of Ahmedabad alone. The Ahmedabad Urban Development Authority (AUDA) reported that Ahmedabad is the first city in India to have over 90 percent of its development plan implemented through the TPSs. The state's long history of TPS implementation makes the process acceptable to the people. TPSs were also used in infill scenarios such as creation of a 50-hectare central garden in Ahmedabad.

Strengths and Challenges: The TPS has a robust process with built-in mechanisms for tabulation of plot details and costing of the scheme. It is authorised by a single piece of legislation, which is amended in a timely manner to improve implementation. Challenges include the lack of provisions to compensate landless project-affected people who depend on the land for their livelihoods, or to upgrade the village settlements within the TPS.

Case 2: The Land Pooling Scheme, Amravati, Andhra Pradesh State

How Land Gets Planned and Serviced: In the Land Pooling Scheme of Amravati, privately owned land parcels are legally consolidated by transfer of ownership rights to a government authority for public purpose reservations as designated in the master plan. Participation in the scheme is voluntary, however land reserved for capital city area development can be taken compulsorily if negotiations fail. The authority assembles land for infrastructure and social amenities, including affordable housing for the poor, and later transfers ownership of a percentage share of the land pooled back to the original owners. The landowners are compensated by serviced land as well as monetary support. A fund is created to provide a pension of Rs.2,500 per month for 10 years to all landless families. The scheme also offers skill development programs and monetary benefits such as agriculture loan waivers and interest-free loans to the project-affected families.

How Land Value Increments Are Captured: The cost of developing basic infrastructure and social amenities is expected to be recovered by the government through fees charged on the landowners of the serviced land and sale or lease of the share of land that the authority retains.

Impacts: It is reported that over 13,000 hectares were pooled in less than two months, a record pace, making it the largest experiment of land pooling in the country. However, critics protested against developing fertile agricultural land, and the government reportedly relied heavily on law enforcement to prevent resistance from

farmers in the riverbank villages. LPS is a recent scheme and its implementation is not yet complete, hence its impact and effectiveness are yet to be fully ascertained.

Strengths and Challenges: The strength of the scheme is that it upholds the rights of the landless project-affected persons to receive compensation as well as social development benefits. It is well supported politically with the Chief Minister of the state making a personal appeal to land owners to participate in the scheme. However, provisions to address grievances are weak and the vast differences in property prices across the capital city area have not been considered for valuation of the land.

Case 3: The NAINA Scheme, Navi Mumbai, Maharashtra State

How Land Gets Planned and Serviced: The NAINA Scheme, conceptualised in 2013, is similar to TPS and LPS but differs in its operational framework, process, and compensation packages. Navi Mumbai Airport Influence Notified Area (NAINA) Scheme was developed to support planned development in the influence area of the proposed greenfield airport in Navi Mumbai, Maharashtra. The NAINA Scheme allows landowners to aggregate contiguous land parcels of a minimum prescribed size and then surrender 40 to 50 percent of this land to the government authority for implementing the public purpose reservation in the master plan. Participating landowners retain 50 to 60 percent of their land and are offered additional development rights that are not offered to nonparticipating landowners. Development must be carried out under the regulations of the City and Industrial Development Corporation of Maharashtra Ltd. (CIDCO), which is the “special planning authority” for the scheme.

How Land Value Increments Are Captured: Cost-recovery components include development charges, charges from leasing land in growth centres, sale or lease of plots for schools and community centres to other government bodies, and floor-space-linked premiums imposed on the nonparticipating landowners.

Impacts: By January 2018, CIDCO had received 341 building permit requests, which are at various stages in the permission process. Several developers expect NAINA Township to be one of the biggest suppliers of affordable housing in Navi Mumbai.

Strengths and Challenges: NAINA Scheme has an integrated approach to development because it includes village settlement sites present on the land and their expansion through separate regulations and norms. However, the framework for the scheme lacks

clarity about how long it will take to deliver the trunk infrastructure facilities, which is the responsibility of the government authority. Further, it has no rehabilitation strategies for the landless families who depended on the land for their livelihood nor does it have conflict resolution mechanisms.

Case 4: The Joint Development Model, Haryana State

How Land Gets Planned and Serviced: The Joint Development Model (JDM) of Haryana is a public private partnership model which allows private developers to assemble land through market price negotiations and apply for a licence to develop it into a residential, commercial, or industrial area in accordance with a master plan. As per the Haryana Development and Regulation of Urban Areas Act, private developers may develop a “colony,” which is an area proposed to be divided into plots or flats for residential, commercial, industrial, cyber city or cyber park purposes or for flats in the form of group housing or for the construction of integrated commercial complexes, or plots for a low-density eco-friendly colony. The infrastructure and social amenities within the colonies are built by the developer, who makes a profit through the sale of plots and built-up space. The external trunk infrastructure, such as major roads and power lines to the colonies are usually provided by the government.

How Land Value Increments Are Captured: The developer partially pays the government for the external trunk infrastructure through development charges. Developers also deposit 30 percent of the amount collected from plot sales in a separate account that will be released only after internal infrastructure and amenities are completed to the satisfaction of the state authority. Any profits above 15 percent that accrues to the developer following the completion of the project, must be deposited with the state government or spent for providing further facilities in the colony. Developers who pay infrastructure augmentation charges before taking a completion certificate from the authority are exempted from paying the net profit above 15 percent.

Impacts: Through JDM, from 1981 until January 2018, a total of 1,702 licenses were issued to private developers in Haryana for residential, commercial, institutional, and industrial development. Ninety-three percent of the licenses issued were developed for residential purposes including affordable housing projects on about 12,893 hectares. The developer captures the post-development benefits, though they also contribute to a share of the external infrastructure costs. JDM has been used extensively in the development of the Gurgaon–Manesar urban complex.

Strengths and Challenges: JDM enables the transfer of the financial burden of developing the physical infrastructure and social amenities as per a master plan from the government authority to private players. It mandates the provision of housing for those designated as “economically weaker sections” along with the residential developments undertaken by the private developers. A significant challenge is the lack of accountability thrust on the government authority, which has no stipulated deadline for completion of trunk infrastructure facilities. Further, most of the residential group housing colonies built in Gurgaon are gated communities with large block sizes that prevent thoroughfares and restrict the number of options that a pedestrian or motorist has, to go from one point to another.

Case 5: Accommodation Reservation and Transferable Development Rights, Mumbai, Maharashtra State

How Land Gets Planned and Serviced: In Greater Mumbai, landowners whose land is reserved for a public purpose in the master plan hand over a portion of their land to the authority to accommodate the public purpose (like a park). In return the owner will be entitled to additional Development Rights (DR) irrespective of the development potential of the land surrendered to the authority. The additional development rights can be used on the remainder of the owner’s land or converted into transferable development rights (TDRs), which can be sold or used at another location. In accommodation reservation, the landowner could also construct the amenity (such as a dispensary), as per the stipulations of the public authority at no cost to the authority.

Development rights are given in increments of floor space index (FSI), which is the ratio of the combined gross floor area of all floors to the total area of the plot. For a typical development, Development Control Regulations of Greater Mumbai permits an FSI of 1.33 to 3 in the Island city, varying based on the available road width. It allows FSI of 1 to 2.5 in the suburbs and extended suburbs of Mumbai for residential and commercial developments, but restricts FSI to 0.5 and 0.75 in certain areas of suburbs and extended suburbs. Through transferrable development rights, the landowner can use his or her development rights at the rate of 2.5 times the area of surrendered land if the area under reservation is in Mumbai city (or the Island city), and 2 times the area of surrendered land, if the area surrendered is in Mumbai suburbs or extended suburbs.

How Land Value Increments Are Captured: The government agency receives the land or built-up area for a public purpose amenity free of cost. The authority also receives infrastructure improvement charges which

are imposed on the person utilising the TDR as well as development charges when the person utilises the TDR to undertake construction.

Impacts: Through the TDR program, the Municipal Corporation of Greater Mumbai (MCGM) acquired 306 hectares for various public purposes and 109 hectares for road widening. Over a 10-year period, 150,000 units of slum replacement housing were constructed using AR-TDR.

Strengths and Challenges: TDR enables acquisition of land for public purpose in a built-up inner city context and allows maximising the development of sites with high development potential. However, there is no mechanism to ascertain the absorptive capacity of the areas receiving the additional built-up area through TDR. In addition there is no provision to closely monitor the actual quality of amenities that are handed over the authority through AR.

Case 6: The Cluster Redevelopment Scheme, Mumbai, Maharashtra State

How Land Gets Planned and Serviced: The Cluster Redevelopment Scheme (CRS), also referred to as cluster development scheme, designates a group of buildings, (extending over a minimum area of 0.4 hectares in Mumbai city and 1 hectare in the Mumbai suburbs and extended suburbs), which are in a derelict state, for redevelopment by a government agency or a private developer called a promoter. In return, the promoter gets additional development rights (an increased floor space allowance) that can be used at the same site or transferred to other sites. The promoter chooses a cluster of buildings identified in the development plan or cluster development plan and assembles the land through purchase, exchange with suitable land of equivalent value, procurement of development rights, transfer of land to a legal entity, or through acquisition provided he purchases rights over at least 70 percent of the land in the cluster. The eligible tenants receive “carpet area” equivalent to the area they occupied in the old building. The scheme facilitates construction of improved housing as well as public amenities.

How Land Value Increments Are Captured: Promoters bear the cost of assembling the land and of construction. In return they receive additional development rights to build market-rate apartments that can be sold for profit. Thus, CRS leverages the benefits of redevelopment to ensure affordable housing without the government having to pay for land or construction. Government agencies also collect fees called development cess (tax) and development charges from the promoter.

Impacts: One Avighna Park in Parel, Mumbai is the first approved cluster redevelopment project (on about three hectares) and another three projects received approval by 2014. The CRS has been extended to Navi Mumbai and Thane as well.

Strengths and Challenges: The strength of the scheme is that it enables in-situ upgradation of housing facilities and development of public amenities such as open spaces and road networks, which otherwise remain inaccessible for public purposes. The impact assessment study mandated before taking up CRS helps to better plan infrastructure services. The main challenges are that the tenants are not allowed to participate in planning and implementation and there is no clear conflict resolution process in the scheme.

The requirement of a minimum size of 0.4 hectare in the city and 1 hectare in the suburbs may not address the redevelopment needs of smaller clusters of dilapidated buildings in a dense city like Mumbai.

Nine parameters for equitable and efficient land acquisition methods: Guidelines for reviewing the legal framework of the six cases

Through an extensive literature review, the authors identified nine parameters that were used to assess the equity and efficiency of each of the six cases. Each case's legal framework was analysed based on these parameters (Figure ES1) and the results are discussed in the recommendations section.

Figure ES1 | **Key Findings under the Nine Parameters of Equitable and Efficient Land Acquisition**

1. RECOGNITION OF PUBLIC PURPOSE	<ul style="list-style-type: none"> Clear and unambiguous listing of public purposes is present for all mechanisms because there is a mandate to follow the city master plan which designates land reservations for public purposes. However, none of the cases has a legal procedure or recourse to be taken if land is diverted for other purposes.
2. PUBLIC PURPOSE LAND SECURED	<ul style="list-style-type: none"> Percentage of land to be secured for roads, social amenities, open spaces and economically weaker sections (EWS) is explicitly mentioned in TPS and LPS, but only broadly for JDM and NAINA. There is no clarity on whether the tenants or occupiers of land which was acquired are eligible for the affordable housing set aside in TPS, LPS, NAINA and JDM.
3. OPERATIONAL PROCESS	<ul style="list-style-type: none"> TPS and LPS have well-defined steps, process, and timelines. NAINA scheme has a clear process but does not specify timelines. JDM, TDR-AR and CRS lack clarity in their process, as there is no step-by-step description of the process in their legislations or regulations.
4. ENABLING FRAMEWORK	<ul style="list-style-type: none"> All cases operate at the micro level to implement reservations as per a master plan, which is prepared at the macro level (citywide). The law that mandates preparation of master plans is a significant component that ensures planned and serviced land.
5. COMPENSATION, RESETTLEMENT AND REHABILITATION	<ul style="list-style-type: none"> Compensation offered to landowners is in the form of serviced land for TPS and LPS. LPS also offers monetary benefits. NAINA scheme and AR-TDR offer additional development rights to landowners. JDM offers a negotiated market price to the landowners. Compensation offered to landowners is not explicit in the CRS.
6. RECOGNITION OF RIGHTS	<ul style="list-style-type: none"> Only individuals with legal rights over property are recognized as landowners. For rehabilitation provisions, only CRS and LPS recognize rights of the tenants and landless project-affected persons.
7. PARTICIPATION MANDATES	<ul style="list-style-type: none"> Participation in the physical and financial aspects of TPS is largely confined to landowners. LPS has provisions for participation at all stages of the process. NAINA scheme invites public objections and suggestions to the layout plan submitted by landowners. Prior consent of landowners and tenants for assembling land is sought only in LPS and CRS.
8. COST RECOVERY MECHANISMS AND POST-DEVELOPMENT BENEFITS	<ul style="list-style-type: none"> All mechanisms have cost recovery provisions; however, the viability of projects depends on the market demand for serviced land. Post-development benefits accrue to both landowners and the government authority except for JDM and AR-TDR (if landowners hand over their entire land parcel to the authority).
9. GRIEVANCE REDRESSAL AND JURISDICTION OF COURTS	<ul style="list-style-type: none"> Only TPS has an independent grievance redressal mechanism, while others do not have either an independent system or provisions for redressal. LPS and TPS provide some clarity on whether courts have jurisdiction to settle disputes, while others do not provide clarity on access to courts.

No single mechanism can be applied uniformly or could be accepted by stakeholders across varied contexts. The success of each mechanism is influenced by the political economy, historic evolution and sociocultural context in which the mechanism is applied. Contextual adaptation and regular updating of the mechanisms legislation to meet the changing and dynamic needs of a city or state is critical.

The advantages of using alternative mechanisms are that they:

- Strengthen the ability of city agencies through land value capture to provide basic infrastructure and social amenities in urban development.
- Serve as a bridge between macro-scaled city master plans and implementation at the micro scale.
- Ensure accessibility to planned and serviced land for all income groups.
- Share the financial risks of urban government agencies in land procurement and development, through partnerships with land owners and developers.
- Enable acquisition of land for infill development, urban extensions, and greenfields.
- Can be replicated in other states through contextually suitable legislative amendments.

Some areas that need strengthening include:

- Improving master planning processes and phasing so that land parcels are not constructed as isolated developments.
- Improving accountability mechanisms to ensure that land is used for the designated public purposes. In some cases, land assigned for affordable housing was diverted to other uses.
- Improving accounting practices so that the land value capture of each mechanism is recorded systematically and its use is better managed to implement basic infrastructure amenities and social amenities.
- Introducing public participation mandates to include all stakeholders including landless project-affected people. Most mechanisms currently limit participation to landowners who possess a legal title.
- Including benefits for landless project-affected people who are displaced through the land acquisition process.

Recommendations

Recommendations to improve the alternative mechanisms include the following.

Delineate urban extensions in master plans to prevent distant, disconnected, and dispersed development. Urban extensions should be identified in the master plans taking into account growth dynamics, availability of infrastructure facilities, natural resource constraints and environmental features. Development must be contiguous with existing built-up areas, avoiding fertile agriculture land where possible and must follow appropriate phasing. Further, a city assessment must be done during the master planning process to ascertain whether areas receiving additional density have adequate infrastructure facilities, and are not located in a distant periphery.

Introduce planning and urban design standards to ensure connectivity and walkability. Many global cities specify acceptable block sizes and adopt street standards to encourage connectivity in the street network. This aspect is missing within the documented alternative mechanisms and hence must be introduced.

Institute and implement reforms critical to facilitating the delivery of developed land. Critical reforms need to be introduced that include granting functional autonomy to city agencies to manage land development, improving the accountability of implementing agencies, and other related reforms such as updating and digitising land records. Appropriate checks and balances should ensure that land is used for the intended purpose and compensation and rehabilitation schemes reach the intended beneficiaries.

Ensure participation of all affected stakeholders. Government agencies need to be capacitated and sensitised to work closely with project-affected people, explaining the project's benefits, convincing people and winning their confidence and trust before implementing developmental projects. It is also important to conduct an equity impact analysis of each project in order to bring about improvements in the subsequent schemes planned for the adjoining areas.

Include equitable and fair compensation frameworks. Compensation determination and the land valuation done in the alternative mechanisms should take into account the principles of proportionality, equity, and fairness. Rehabilitation provisions from the National Land Acquisition Act, which includes subsistence allowance, employment opportunities, skill development, and such other benefits for the landless tenants or occupiers, could be adapted and integrated in the state-led alternative mechanisms, with checks and balances to ensure its implementation.

Build the capacity of government staff, adopt new technologies and establish efficient monitoring frameworks to implement alternatives.

Government staff in most cities will require adequate training in the use of alternatives as they have conventionally used only compulsory land acquisition methods. Use of modern technologies such as geographic information systems in data recording, tabulation, and physical mapping could significantly save time involved in the process. All mechanisms should have an efficient monitoring framework with systematic recording of each scheme as it is implemented including tracking of land value gains and proper management of funds to finance the subsequent schemes.

Further Research and Analysis

Further research and analysis could include:

- Primary source analysis of onground cases to ascertain each mechanism’s success or failure as a contributor to planned and serviced development in urban areas.
- A comparative cost-benefit analysis of the six mechanisms to evaluate the implemented case studies with respect to the quantum of investments made by public and private agencies and the returns on such investments accruing to each stakeholder, and more specifically to the original land owner and other project-affected persons.
- Assessment of other critical factors that affect the effective enforcement of the mechanisms. A search for any state-led mechanism typology not

documented in this paper that have resulted in planned and serviced developments.

- Analysis to ascertain whether the land value capture method used in each case example has set in motion a virtuous cycle of reinvestment to acquire and service additional land.

1. INTRODUCTION: THE NEED TO ACQUIRE LAND FOR PUBLIC PURPOSES IN INDIA

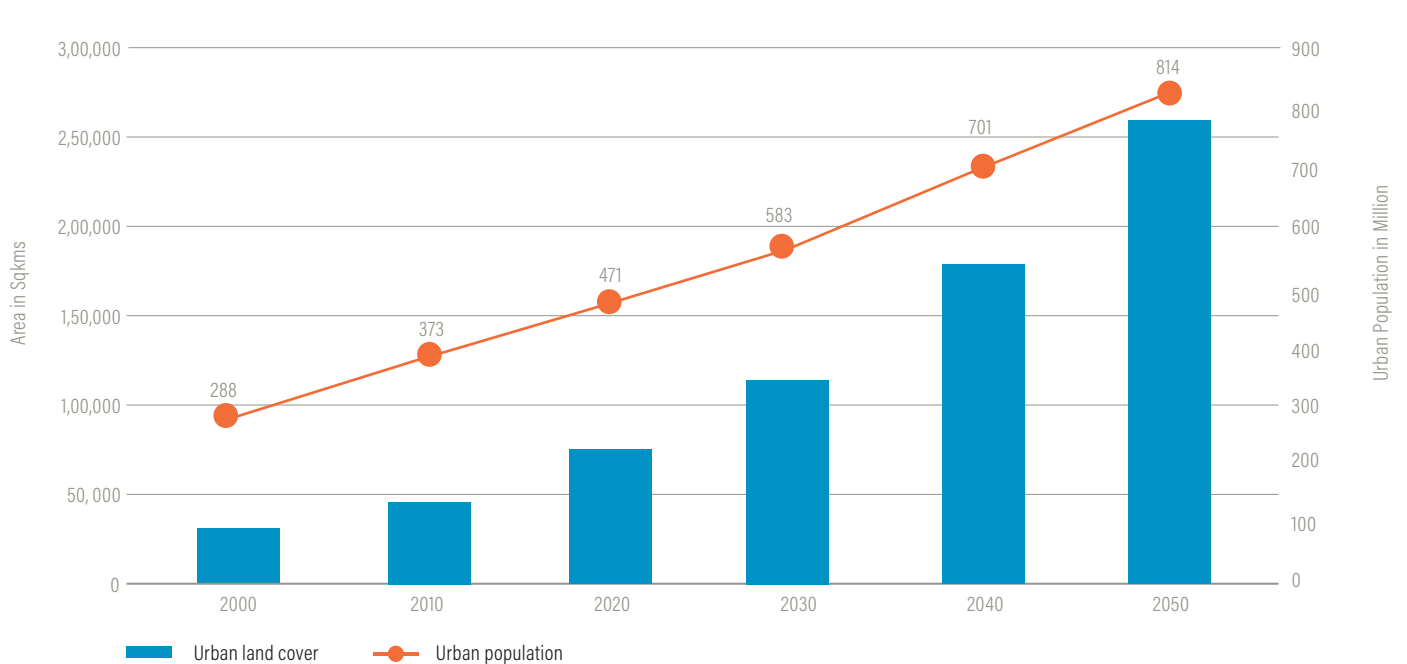
This introduction describes India’s increasing need for land for urban needs, barriers to land development, and new thinking on how to overcome these barriers.

1.1 Accommodating Future Urbanisation

India was just over 30 percent urban when the world turned more urban (51 percent) than rural (49 percent) in mid-2009 (United Nations 2014). By 2050, India’s urban population is expected to more than double to 814 million from 373 million in 2010, and its urban land cover is expected to increase by over five times (see Figure 1; Angel, et al. 2010). This means that in a business-as-usual scenario, an average of 15 square kilometers of land needs to be planned and serviced (see glossary for definition of terms) for urban use every single day up to the year 2050.

Land requirements for various public purposes (which include urban infrastructure services and social amenities; see glossary) are best calculated based on local conditions and needs. However the Urban and Regional Development Plans Formulation and Implementation

Figure 1 | **Projected Urban Land Cover and Urban Population Increase in India**



Source: Angel, et al. 2010; United Nations 2014.

(URDPFI) offers guidelines at the national level that recommend a land-use structure for cities based on population. For a small- or medium-size city (5,000 to 1 million people), the guidelines recommend about 34 percent of the land be devoted to public and semi-public uses,¹ recreational uses (parks, playgrounds, and open spaces), and transportation and communication uses. For large or metropolitan cities (1 million to 10 million people) and for megalopolises (above 10 million people), 42 percent of the land is recommended to be reserved for these purposes (MoUD 2014).

1.2 Issues Affecting the Supply of Planned and Serviced Urban Land

The amount of urban land is expanded mainly by converting rural land to urban uses. The expansion of urban land involves many concerns such as land ownership and tenure, land-use classification and conversion procedures, land assembly and development methods, land titling (maintenance of public record of titles on immovable properties), transaction and registration, and regulatory measures and enforcement (Ansari 2001).

Urban land development involves multiple agencies such as the revenue department in land-use conversions, development authorities in zoning through master plans or development plans, and urban local bodies or parastatal bodies for infrastructure provisioning. The overlap and lack of coordination among these agencies can become so disorganised that the land procurement and development process can be brought to a virtual standstill.

Most city agencies in India sparingly use land assembling and development mechanisms that have land value capture components, thereby denying themselves an important revenue source to finance their operations (Sridhar and Reddy 2009). A large number of new developments occur in the city peripheries. City agencies such as the development authorities and urban local bodies often provide only arterial infrastructure in these areas, leaving the provision of secondary and tertiary infrastructure to individuals or private developers. This contributes to unplanned and unserviced land because these developments can spring up far from major urban areas along arterial roads causing ribbon or corridor development with large pockets of vacant, undeveloped land.

Rather than raising property or other taxes to pay for increased urban services, Indian cities faced with inadequate infrastructure have limited building heights in central locations to restrict population (Hammam 2014). This approach forces scattered and sporadic developments in peri-urban areas outside the limits of

the municipality (MoUD 2014). Urban land dynamics have pushed out low-income households and informal and nonconforming economic activities to distant areas (TCPO 2007). Due to their inability to pay for the basic services supplied by private developers, poor urban migrants often live in unhygienic conditions on the urban peripheries.

According to the Socio-Economic and Caste Census 2011, 38.36 percent (68.97 million) of rural households were landless² deriving a major part of their income from manual casual labour (Ministry of Rural Development n.d.). This category of rural households could potentially add to the number of migrant labourers in cities if they lose their livelihood in rural areas.

Further, factors such as high stamp duty rates (the tax paid by the buyer when purchasing a property), poor property titling systems, the weak financial capacity of government agencies, and litigation involving land acquisition have further affected the urban land supply. Governing large cities has become a challenge because of inadequate finances, weak institutional frameworks, and a lack of capacity for service delivery (ASCI 2014).

1.3 Planning and Servicing Land for Urban Growth

A remote sensing analysis of the urban built-up area in three of the top five most populated urban agglomerations (UA) in India (as per the 2011 census) shows multiple unplanned and unserviced urban extensions. The cities of Delhi, Mumbai, and Bengaluru were chosen to geographically represent the north, central, and southern parts of the country. Between 2005–06 and 2011–12 Delhi's UA grew by 44 square kilometers a year, Mumbai's UA by 8 square kilometers a year, and Bengaluru's by 53 square kilometers a year (See Figure 2a). A spatial analysis of the rapidly expanding peripheral areas of these cities revealed an unplanned, fragmented, and nonhierarchic road network structure (Figure 2b). Although the Indian Road Congress³ classifies roads as arterial, subarterial, collector, and local streets, based on their right-of-way width and the intended speed of travel, these types of roads are largely absent or disconnected making it difficult to efficiently install basic services such as water supply, sewerage, drainage, electricity, and transport.

A high-powered expert committee set up by the Government of India in 2011 estimated the investment requirements for urban infrastructure services over 20 years at about Rs. 39.2 trillion (US\$587 billion) at 2009–10 prices. To keep this amount from becoming even greater, developing sustainable infrastructure

Figure 2a | Annual Growth Rates in Three Urban Agglomerations, from 2005-06 to 2011-12^a

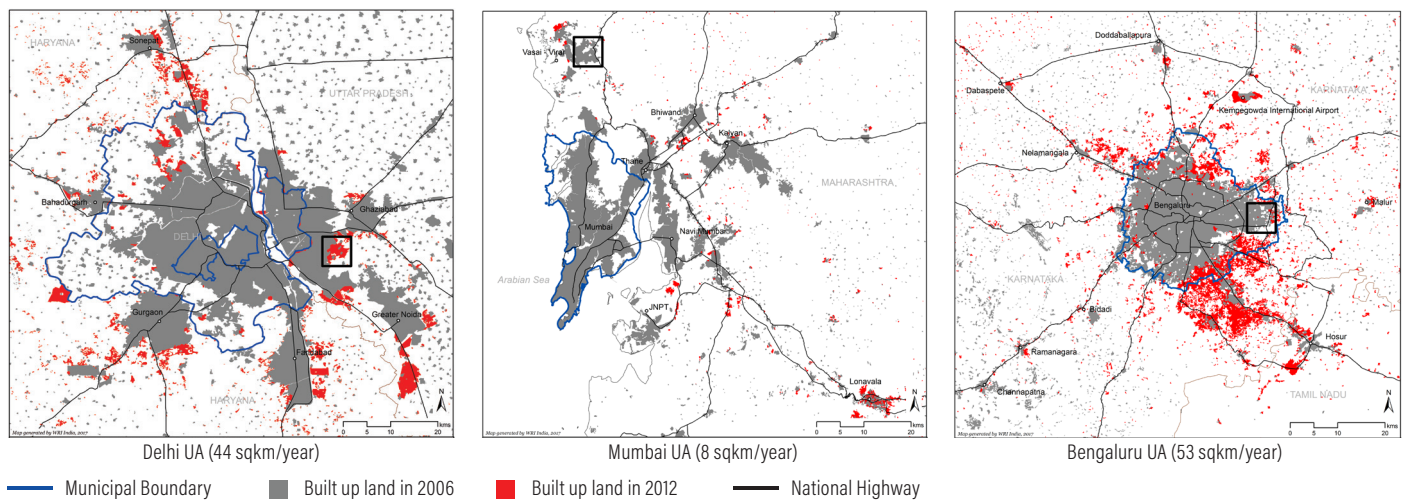
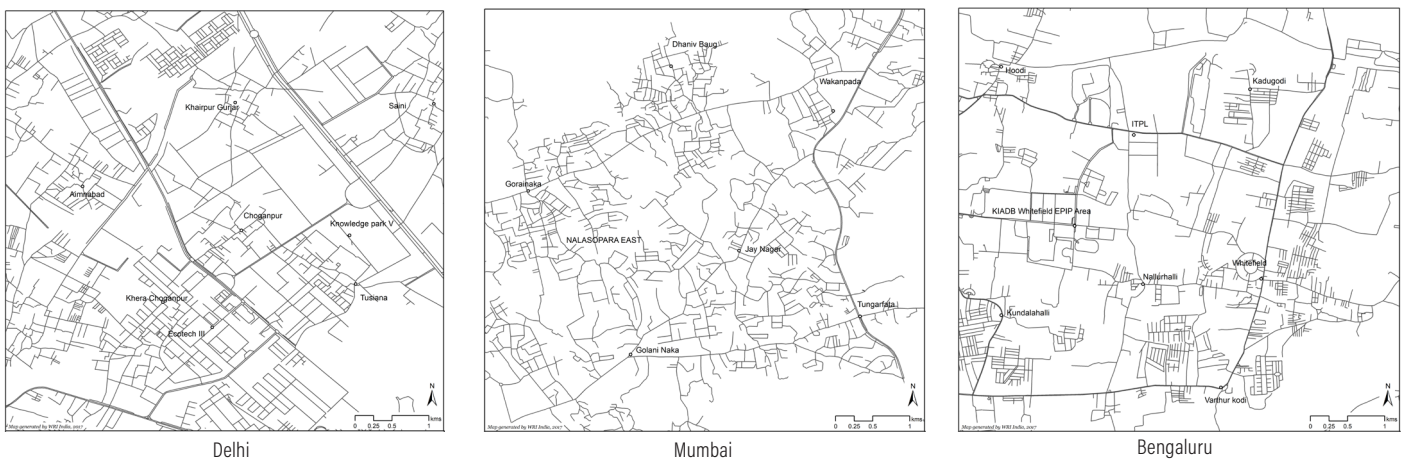


Figure 2b | Unplanned and Nonhierarchic Road Networks in Three Urban Agglomerations^b



Note: a. Growth rate is calculated for the area within the visible frame only. b. Road networks near the peripheries of the three cities show a lack of hierarchy and connectivity.
 Source: Image 1: LULC Bhuvan NRSC; Image 2: Open Streets Maps 2017.

is critical. Locking in inefficient infrastructure would be cumulatively costly, and difficult and expensive to subsequently unwind (Bhattacharya et al. 2015). Population and built-up areas are increasing faster in urban peripheries beyond official administrative boundaries than within the cores of large metropolitan cities (World Bank 2013). These peripheral areas are undergoing rapid transformation resulting in the haphazard growth of slums, unauthorised colonies, piecemeal commercial developments, intermixes of conforming and nonconforming uses of land, coupled with inadequate infrastructure, services, and facilities. Such unplanned and haphazard development has consequences such as loss of fragile ecosystems, loss of productive land, and land-use conflicts (Department of Land Resources 2013).

Unplanned growth needs to give way to planned and serviced urban extensions as well as infill development

to prevent lock-in of unsustainable infrastructure and expensive retrofitting. Providing urban land with services such as structured road networks, infrastructure, and social amenities that serve the common good rather than that of individual property owners is critical and falls under the purview of public purposes.

The National Land Acquisition Act has served as the primary method for acquiring land for public purposes in India. However, several state and city agencies have been exploring alternative mechanisms such as land pooling and readjustment, market price negotiations, land lease policies, leveraging private sector resources with government as the facilitator, public private partnerships, and using nonmonetary compensation, such as additional development rights. Some of these mechanisms not only operate under the guidance of a master plan or a development plan to acquire land, but can also ensure that the land is planned and serviced

Figure 3 | Land Planned and Serviced through an Area Development Approach



Image Source: World Resources Institute India

along with land value capture components to provide financing for the project. The benefits of such mechanisms are regularly shaped land plots with straighter roads along which urban services (water supply, sewerage, electricity and drainage) may be laid out.

For example, Figure 3 illustrates how taking land for an arterial road (typically done through National Land Acquisition Act) leaves rural land parcels unsuitable for urban use and the owners unequally advantaged or disadvantaged. The parcels that do not adjoin the arterial road do not have improved access despite the large costs incurred in building this road.

An area development approach, such as the land readjustment and land pooling mechanisms to acquire land, plans not only arterials but also other hierarchies of road networks; plans the land for urban use by shaping it into more regular or rectangular parcels; shares benefits of access to all plot owners; and provides social amenities such as open spaces and public buildings, thereby offering a more desirable outcome (see Figure 3).

2. BACKGROUND: INTEREST IN ALTERNATIVES AND SCOPE OF THE RESEARCH

The use of alternative mechanisms to acquire land is not new in India; land pooling mechanisms such as town planning schemes introduced by the British through the Bombay Town Planning Act, 1915, have been used in some regions for over a hundred years. However, the primary tool to acquire land remains the Land Acquisition Act (LAA), 1894, which enables the compulsory acquisition of land. LAA 1894 was revised by the enactment of the Right to Fair Compensation and Transparency in Land Acquisition, Rehabilitation and

Resettlement (RFCTLARR) Act, 2013.⁴

This new law provides for more transparency, community involvement at every stage, and enhanced benefits for the affected families (Kalasad 2014). Highlights of the act are mandates for social impact assessments, requirements for the consent of owners when acquiring land for public private partnership projects, compensation based on market value for people who lose their livelihoods through land acquisition, and adequate resettlement and rehabilitation measures that include training, skill development, and land as compensation (Ministry of Law and Justice 2013). However, the 2013 act's lengthy process has caused concerns over delays that have been the focus of debate and discussions since its enactment (Nair 2016a).

2.1 The Search for Alternative Mechanisms

The enactment of the RFCTLARR 2013, motivated several states to explore alternatives to the compulsory acquisition of land. As per section 107 of the RFCLTARR Act, states can enact any law to increase or add to the act's entitlements if they offer higher compensation than required in the act or can make more beneficial provisions for resettlement and rehabilitation (Ministry of Law and Justice 2013). Concerned with potential delays in land procurement, three state governments—Madhya Pradesh, Uttar Pradesh, and Telangana—framed land purchase policies that allow the purchase of land by mutual consent (Nair 2016b).

The Andhra Pradesh government implemented a land pooling policy for its capital city development at Amravati in 2015, which became the most-discussed initiative of the year (Nair 2016b). In 2016, the state of Rajasthan government also passed a land pooling scheme bill to facilitate acquisition of small land

parcels for big infrastructure projects. The state of Haryana passed a land pooling policy in 2018 to boost infrastructure development. In Delhi, a land pooling policy was notified in 2013 and its regulations for operationalisation were approved by the Ministry of Urban Development in 2015. Bihar passed a land lease policy in 2014, using the powers conferred under section 104 of RFCTLARR 2013 to facilitate leasing of land for public purpose projects.

The city of Bengaluru in Karnataka state revised and increased the compensation packages offered to build its ambitious peripheral ring road project after RFCTLARR 2013 came into force (BDA 2015). The Bengaluru Development Authority (BDA) considered alternative methods such as awarding transferable development rights, providing developed plots to compensate land owners for land taken for public purposes, and employing other value capture techniques as they faced high costs to pay higher compensation packages⁵ (Hindu 2015).

In Maharashtra state, the city of Mumbai's Draft Development Plan, 2034 stated that "with the introduction of RFCTLARR Act 2013, the value of compensation of land to the private owner has increased up to twice the prevailing Ready Reckoner⁶ price, making land acquisition by the public authority extremely challenging" (MCGM 2016a,77). "For the purposes of implementing open spaces, roads, amenities and utilities, land acquisition through the route of RFCTLARR 2013 will be the last resort" (MCGM 2016a, 192–193). Mumbai pioneered the use of transferable development rights (TDRs) in 1991 and plans to continue their use as nonmonetary compensation to acquire land for public purposes.

While few new land acquisitions have happened through the RFCTLARR Act, 2013, it is reported that land acquisition has become a time-consuming and expensive activity (NITI Aayog 2018). The Urban and Regional Development Plans Formulation and Implementation Guidelines (URDPFI), 2014 recommend alternatives to encourage land resource mobilisation. Some politicians, experts, and journalists advocate the use of alternatives (Panagriya n.d.; Iyer 2015). Several state and city agencies are exploring alternative mechanisms because they are faced with limited finances, skyrocketing land values, and lengthy procedures involved in compulsory acquisition.

2.2 The Scope of This Paper

This paper identifies alternative state-led mechanisms that enable the acquisition, planning, and servicing of land in infill scenarios, urban extensions, and greenfields under the guidance of a city master plan and

that employ land value capture methods to help pay for the land acquisition and development.

The mechanisms are land readjustment and a variation called land pooling, public private partnerships, additional and transferable development rights, accommodation reservations, and cluster redevelopment. These mechanisms can be used alone or in combination to achieve the objectives stated above.

This paper documents how these mechanisms are practiced in India through six regional cases, each with a unique background, characteristics, processes, strengths, and challenges, and tells how they achieved impact. Table 1 shows the mechanisms; the case chosen for each; and the enabling legislation, rules, development control regulations, master plans, and other documents that were sourced for the assessment of the six cases.

The Town Planning Scheme (TPS), the Land Pooling Scheme (LPS), the Navi Mumbai Airport Influence Notified Area (NAINA) Scheme, and the Joint Development Model (JDM) are used mainly in urban extensions and greenfield areas; whereas Accommodation Reservation and Transferable Development Rights (AR–TDR) and the Cluster Redevelopment Scheme (CRS) are used largely in infill scenarios, where land is transferred from one urban use to another.

Further, to understand whether the mechanisms as used in the cases were equitable and efficient, the enabling frameworks used in each case were assessed against a set of parameters developed through a literature review. Nine parameters were developed to determine the effectiveness and efficiency of each of the six mechanisms. Because each case varies in its type of legislative provisions, scale, context, and point of implementation, they are hard to compare. The parameters provide a yardstick that allows comparison of the advantages and disadvantages of the enabling legislation behind the cases and will help policy makers choose the most appropriate mechanism for a given context.

The nine parameters are: recognition of public purpose (what are the allowed public purpose uses?); public purpose land secured (how much land is devoted to each use?); operational processes; enabling framework; compensation, resettlement, and rehabilitation provisions; recognition of rights of affected people; mandates for stakeholder participation; grievance redressal and jurisdiction of courts; and cost recovery mechanisms and distribution of post-development benefits.

Many of the land acquisition and development mechanisms have been adapted from international contexts,⁷ and are regionally confined and contextually practiced in India. To the authors' best knowledge, there is no single public document that details and compares all the mechanisms used in infill scenarios, urban extensions, and greenfields. There is also a lack of dissemination and easy access to the legal frameworks of the processes used to implement these mechanisms, let alone an analysis of them. This study seeks to fill these gaps.

This research is expected to assist in knowledge sharing, informed decision making and legislative amendments for the contextually appropriate use of alternative mechanisms. It will be of interest to various state and local government agencies, private developers, and researchers who are directly or indirectly involved in such processes. Various development authorities and other urban agencies can use this research to make informed decisions about acquiring land for public purposes. It could also help state agencies such as town and country planning departments make modifications and amendments in their town and country planning acts to enhance the legal environment for the adoption of alternatives to acquire land for public purposes. It can also help analysts and citizens better understand the often-opaque processes that help shape the future of their cities.

2.3 Research Methods

This section describes the sources and methods used in this paper and the limitations of the paper.

Sources and methods

A literature review of the alternative mechanisms used to assemble land for public purposes across India (see Table 1) found that either the stated mechanism, its variation, or a combination of these mechanisms was currently in use. When an alternative mechanism was used in more than one city or state, the most extensive, successful, and current variation was selected for discussion. The Town Planning Scheme of Gujarat and the Land Pooling Scheme of Amravati have generated the maximum interest among urban agencies in India.⁸ Further reasoning for the choice of each case for detailed documentation is discussed in the introduction to each case in Chapter 3.

The detailed literature study included secondary data such as articles in peer-reviewed journals, websites, newspaper articles, reports of multilateral and bilateral agencies, and reports by private and nonprofit

organisations. As acquiring land for public purposes is determined through legal processes, a detailed review of all available acts, government orders, manuals, and applicable rules and regulations was conducted. This enabled documentation of the process through flowcharts indicating implementation timelines where specified (see Appendices B–G).

All alternative mechanisms chosen provide an end-to-end solution to enable land acquisition, land-use planning, its servicing, and finally the capture of its value following development. Any single component of a mechanism, such as, for example, land acquisition, does not form a mechanism of its own but is part of the larger solution. Only mechanisms administered by state and city legislation and regulations for the implementation of public purposes were studied. All mechanisms discussed in this publication follow a macro-level master plan, which is expected to give due consideration to environmental and social aspects. An analysis of the provisions and processes in the legal frameworks of the mechanisms was undertaken with on-the-ground experience where possible.

To identify parameters that could measure the equity and efficiency of the mechanisms, the study team examined published literature such as conference proceedings, theses, working papers, and reports that discuss the evaluation criteria for land acquisition globally and various aspects that affect the land acquisition process in India.

A parameter on recognition of public purposes was taken from Tagliarino (2016) and a parameter to evaluate public participation from Asian Development Bank (2007) and Jain (2012). The parameters to evaluate compensation, resettlement and rehabilitation methods, and cost recovery mechanisms and post-development benefits were from Basnet (2012), Bartolome, et al. (2000), and Mahalingam and Vyas (2001). Further parameters on recognition of rights were derived from Rao (2012) and PADCO, Inc (1991), and a parameter on grievance redressal and jurisdiction of courts from Deininger, Selod, and Burns (2012). Information on operational frameworks, percentages of public purpose land secured, and enabling processes were added because these are important to evaluating whether the objective of planned and serviced urban development can be achieved through the mechanisms discussed.

Table 1 | **Alternative Mechanisms to Plan and Service Urban Land in India, Cases, and Enabling Legislation**

LAND ACQUISITION MECHANISM AND CASE CHOSEN	METHOD OF LAND ACQUISITION AND DEVELOPMENT	ENABLING LEGISLATION/ GOVERNMENT ORDER / MANUALS
Town Planning Scheme Case: Gujarat State	<p>Land readjustment Land assembling technique in which land belonging to different landowners is assembled by a government agency (notionally) to implement public purpose reservations and the remaining land is handed back to the owners as serviced plots following an elaborate tabulation of infrastructure costs, compensations, and betterment levies.</p>	<p>State act The Gujarat Town Planning and Urban Development Act, 1976 and Gujarat Town Planning and Urban Development Rules, 1979.</p>
Land Pooling Scheme Case: Amravati, Andhra Pradesh State	<p>Land pooling (a variation of land readjustment) Land assembling technique in which land belonging to different landowners is assembled by a government agency (formally through a land pooling ownership certificate) to implement public purpose reservations and the remaining land is handed back to the owners as serviced plots without an elaborate costing of the scheme.</p>	<p>Capital city act and rules formulated by the state government The Andhra Pradesh Capital Region Development Authority Act, 2014; Andhra Pradesh Capital City Land Pooling Scheme (Formulation and Implementation) Rules, 2015.</p>
Navi Mumbai Airport Influence Notified Area Scheme Case: Navi Mumbai, Maharashtra State	<p>Land aggregation and pooling with additional development rights Land is aggregated to a minimum prescribed size by owners voluntarily while they are represented by a special power-of-attorney holder. A percentage of the aggregated land is pooled for public purpose reservations by a government agency as per the interim development plan and owners receive additional development rights for developing the remaining land in their possession.</p>	<p>State act and city regulations Maharashtra Regional and Town Planning Act, 1966; Modified Draft Interim Development Plan for Part of Navi Mumbai Airport Influence Notified Area (NAINA), 2015; Modified Draft Development Control and Promotion Regulations for Interim Development Plan of NAINA, 2015; Frequently asked questions and process of NAINA scheme at the City and Industrial Development Corporation of Maharashtra Ltd (CIDCO) website.</p>
Joint Development Model Case: Haryana State	<p>Public private partnership with market price negotiation A private corporate entity acquires land from owners through market price negotiations, then enters into a formal agreement with a government agency to acquire, develop, and dispose of the land as per stipulations set by the agency. Both parties have financial commitments and are exposed to associated risks.</p>	<p>State act and regulations The Punjab Scheduled Roads and Controlled Areas Restriction of Unregulated Development Act, 1963; Haryana Development and Regulation of Urban Areas Act, 1975; Haryana Development and Regulation of Urban Area Rules, 1976.</p>
Accommodation Reservation and Transferable Development Rights Case: Mumbai, Maharashtra State	<p>Transfer of land or built-up area for public purpose reservation in return for transferable development rights A land owner hands over a portion of his land or built-up area to a public agency for a public purpose reservation and in return receives nonmonetary compensation in the form of additional development rights that can be used on site or transferred to another site.</p>	<p>State act and city regulations Maharashtra Regional and Town Planning Act, 1966; Greater Mumbai Report on Draft Development Plan, 2034; Greater Mumbai Draft Development Control Regulation, 2034; Greater Mumbai Draft Development Control and Promotion Regulation-2034; Manual of Municipal Corporation of Greater Mumbai.</p>
Cluster Redevelopment Scheme Case: Mumbai, Maharashtra State	<p>Land with buildings acquired through a range of methods is redeveloped in exchange for additional development rights Derelict buildings in a specified area are acquired by a public agency or developer either through exchange, purchase, procurement of development rights, transfer, or acquisition of land. The buildings are rehabilitated for eligible tenants, public purpose lands are released, and the agency/developer receives additional development rights.</p>	<p>State act and city regulations Maharashtra Regional and Town Planning Act, 1966; Greater Mumbai Report on Draft Development Plan, 2034; Greater Mumbai Draft Development Control Regulation, 2034; Greater Mumbai Draft Development Control and Promotion Regulation-2034; Maharashtra Housing & Area Development Authority Act, 1976</p>

Note: If a landowner fails to give up land designated for public purposes in a master plan, by law the state can acquire the land by invoking the RFCTLARR Act, 2013.

Source: Authors' compilation from documents in column 3.

Limitations and Research

This study focused on mechanisms for acquiring land to ensure planned and serviced urban development for infill scenarios, urban extensions, and greenfields according to a master plan and for capturing some of the increased value of the land for public purposes.

While the land purchase, land lease, and market price negotiations are viable methods for acquiring land for public purposes, they typically do not contribute to getting the planned and serviced land, and do not directly enable land value capture. These mechanisms are not mandated to operate under the guidance of a macro-level land-use plan (master plan). Thus they are not considered in this paper.

Other important aspects such as property rights, tenure, land registration, land information systems, taxation and valuation, land markets and demand constraints of urban land are addressed only where directly relevant.

Two cases (the Land Pooling Scheme in Amravati, Andhra Pradesh and the NAINA Scheme in Navi Mumbai, Maharashtra) are yet to be fully realised and hence their impact cannot be gauged.

Due to time and resource constraints, international learnings were not included and interviews with stakeholders in the land acquisition process were not conducted. Secondary sources were used to compile the six cases.

3. SIX ALTERNATIVE MECHANISMS TO ACQUIRE LAND FOR PUBLIC PURPOSES

Six cases using various mechanisms to acquire and develop urban land are described in detail in this chapter. Each case includes a description of the mechanism used, background, the characteristics of the mechanism, the implementation process, how the mechanism enables planned and serviced land, its financing model, and its impact. Flow charts of the process for each case are in Appendices B–G.

3.1 The Town Planning Scheme (TPS)

The Town Planning Scheme is a land readjustment technique in which land belonging to different landowners is assembled by a government agency to implement various public purpose reservations earmarked in a city master plan. After deducting the land required for the designated public purposes, the government agency returns reshaped and serviced land parcels to the landowners. These parcels are smaller

than the original land plots, but since they are planned and serviced they are presumed to have a higher value.

This mechanism was introduced in India through the Bombay Town Planning Act of 1915 in the erstwhile Bombay (Mumbai) Presidency.⁹ By 1985 over 120 TPS's, including areas in Bandra, Mahim and Andheri in Mumbai, covered over 100 square kilometers across Maharashtra state (Deuskar 2011). After the Bombay Presidency was divided into the states of Maharashtra and Gujarat, the use of the TPSs to manage urban development declined in Maharashtra, however, it became a predominant mechanism to manage urban growth in Gujarat. To a lesser extent, it was also experimented within the states of Kerala (CAG 2016) and Odisha (Bhubaneswar Development Authority n.d.). Due to the extensive use and popularity of the TPS in Gujarat, this case as stipulated in the Gujarat Town Planning Act, 1976 is documented and analysed.

Town Planning Scheme (TPS), Gujarat

Background

In the late 1800s, a plague broke out in India, first officially acknowledged in Bombay (Mumbai) in 1896 and then in other parts of the country (Arnold 1993). During the Bombay Presidency (1843–1936),¹⁰ the British government established the first improvement trust to carry out schemes to combat the epidemic. Large-scale demolitions and land acquisition undertaken by an “improvement trust” created resentment among the citizens who received little or no compensation (Deuskar 2011). To address the peoples’ resentment and institute a comprehensive approach, the British government enacted the Bombay Town Planning Act, 1915, which outlined the Town Planning Scheme (TPS). The TPS combined elements of the English Housing and Town Planning Act, 1909, which dealt with land-use zoning and land reservations, and the German Lex Adickes,¹¹ which dealt with land readjustment (UN-HSP 2013).

The TPS remained embedded in the state’s Town Planning Act, even after the Bombay Presidency was divided into two states. By the 1980s, the overly complex and time-consuming TPS mechanism had fallen out of favour in Maharashtra (Deuskar 2011); whereas in Gujarat, the proactive government authority had amended the legislative framework from time to time ensuring that the TPS flourished in that state.

Characteristics of the TPS

A TPS is conceptualised as a joint venture between landowners and a government authority, in which land parcels under different ownership are pooled and redistributed in an appropriately reconstituted form after deducting the land required for road networks, open spaces, social infrastructure, services, and affordable housing¹². Gujarat's TPS (hereafter referred to as TPS) follows a two-step process that first develops a city-wide master plan¹³ followed by many neighbourhood schemes to implement the master plan (Patel and Ballaney 2015). Second, the authority¹⁴ consolidates the areas proposed for development into smaller neighbourhood parcels typically of 100 to 200 hectares, which become TPSs (Ballaney 2008). The Gujarat Town Planning and Urban Development (GTPUD) Act, 1976 and its subsequent amendments and rules detail a three-phase process to develop a TPS scheme: draft, preliminary, and final scheme. The act allows three years and four months from the declaration of intention to prepare the scheme until its sanction.

TPS Process

A flowchart of the TPS process in Gujarat is shown in Appendix B.

- The authority makes a public declaration of its intention to prepare a TPS in the official gazette and in one or more Gujarati newspapers circulating within the jurisdiction of the authority.
- The authority then publishes the plan of the proposed area to be included in the TPS and the surrounding lands for public inspection within 21 days of declaration of intention.
- The state government appoints a Town Planning Officer (TPO) within one month of the declaration of intention to prepare a TPS.
- The authority calls for a meeting of landowners to elicit opinions and suggestions on the proposals in the draft scheme and modifies them based on their inputs.
- The authority then publishes the draft scheme within nine months of declaration of intention, which could be extended for three more months, seeking public objections and suggestions (For contents of the draft scheme see Appendix A).
- The authority addresses the objections and suggestions received within one month.
- The authority then submits the draft scheme with necessary modifications together with objections to the state government for sanction within three months.
- State government sanctions the draft scheme after making necessary inquiries within three months of receiving it. The authority can take possession of the

land reserved for public purposes after the sanction of the draft scheme. Provision of infrastructure by the authority begins at this stage, starting with the laying out of roads.

- The TPO appointed for the scheme subdivides the draft scheme into a preliminary scheme and a final scheme within 12 months from the date of his appointment.
- The TPO prepares the preliminary scheme by demarcating the final plot areas, the land for public purposes, and the time period for completion of works provided in the scheme and provides for transfer of rights from original plots to final plots. Affected people are given 20 days to raise objections. The plan is modified after two rounds of hearings with the landowners.
- The TPO submits the preliminary scheme for sanction to the state government.
- The state government sanctions the preliminary scheme within two months of its receipt. The authority can take absolute possession of all land reserved for public purposes and all rights on the original plots that were reconstituted into final plots shall become the rights of the landowners as settled by the TPO.
- The TPO prepares the final scheme, which deals with the financial proposals¹⁵ on compensation and betterment levies, and submits it to the state government for approval, with modifications if any based on the decisions of a board of appeal, within four months. A board of appeal is constituted to hear any appeals of grievances on financial matters of the scheme.
- State government approves the final TPS with modifications after all appeals on financial matters are resolved within a period of three months of its receipt.
- Owners of the final plots pay betterment levies to the authority. The execution of the TPS must be completed within two years from the sanction of the preliminary scheme.

Enabling planned and serviced land

Various development authorities in Gujarat consider TPS the preferred option for implementing a master plan. Through reconstitution, land parcels are formed into regularly shaped units and infrastructure is provided as determined by the master plan (UN-HSP 2013). The concerned authority constructs infrastructure such as water supply, drainage lines, and electric lines, as well as road networks, which range from main arterials to collector and feeder roads at the neighbourhood level. Plots for social amenities such as schools, dispensaries, parks, and recreational

spaces are developed as designated in the master plan. Regularly shaped plots with services are returned to the landowners who had surrendered their land. TPS thus serves as an area development scheme enabling holistic development of the areas earmarked in the master plan.

Financing model

The cost of TPS includes the cost of providing infrastructure, legal expenses incurred by the concerned authority, and compensation to the landowners (UN-HSP 2013). The financing strategy for TPS is built on the principle that the benefits of urban infrastructure investments are capitalized through land value capture. The GTPUD Act 1976, clearly states that the cost of the scheme is to be partially or wholly met through a contribution levied on each plot included in the final scheme calculated in proportion to the increased increment in land value due to the provision of infrastructure facilities. Hence the landowner must pay a percentage of the increment as a betterment levy (see glossary). It is reported that landowners are happy to pay the betterment levies because they benefit from a land value at least 10 times higher than their original undeveloped land parcel (UN-HSP 2013). Based on the compensation paid by the authority for the appropriated land and the betterment levy, the “net demand” (fees paid by landowners) from each landowner is calculated. In addition to the betterment levies, the authority also recovers cost through the sale or mortgage of plots (it retains 15 percent of the land appropriated for this purpose). The proceeds from this sale could be also used to provide infrastructure facilities in the scheme area.

Impact of the TPS in Gujarat

TPS was hastened after the 2001 earthquake in Bhuj in Gujarat by using 1999 amendments to the GTPUD Act 1976 that allowed the authority to sell plots to recover costs and take possession of land to build infrastructure after the final approval of the draft scheme (Annez, et al. 2012). Over 665 TPSs have been prepared in Gujarat since its initial decades (UN-HSP 2013). Thirty-eight percent of them (254 TPSs) were prepared for Ahmedabad alone indicating extensive use in the city (UN-HSP 2013). The Ahmedabad Urban Development Authority (AUDA) reported that Ahmedabad is the first city in India to have over 90 percent of its city development plan implemented through the TPS. From 24 TPSs alone, AUDA created a land bank worth Rs. 500 crore (US\$74.25 million)¹⁶ (AMC, AUDA n.d.). More than 80 percent of the land for Ahmedabad’s ring road was acquired using TPS (MoUD n.d.) and a 1-kilometer-wide belt of land was reconstituted and planned to create this road (See Figure 4). In 2012, TPS was proposed for the Dholera Special Investment Region in Gujarat in which

a 580-square-kilometer area was divided into six TPSs ranging from 5,000 to 10,200 hectares (Panchal, et al. 2016). For over a century, TPSs were routinely used at scales of 100 to 200 hectares at a time; their current use to readjust land up to 10,000 hectares at a time is a response to land being sought in bulk for urban and industrial development (Panchal, et al. 2016). The TPS has also been used in infill scenarios such as creation of a 50-hectare central garden in Ahmedabad city (Sharma 2015).

Strengths

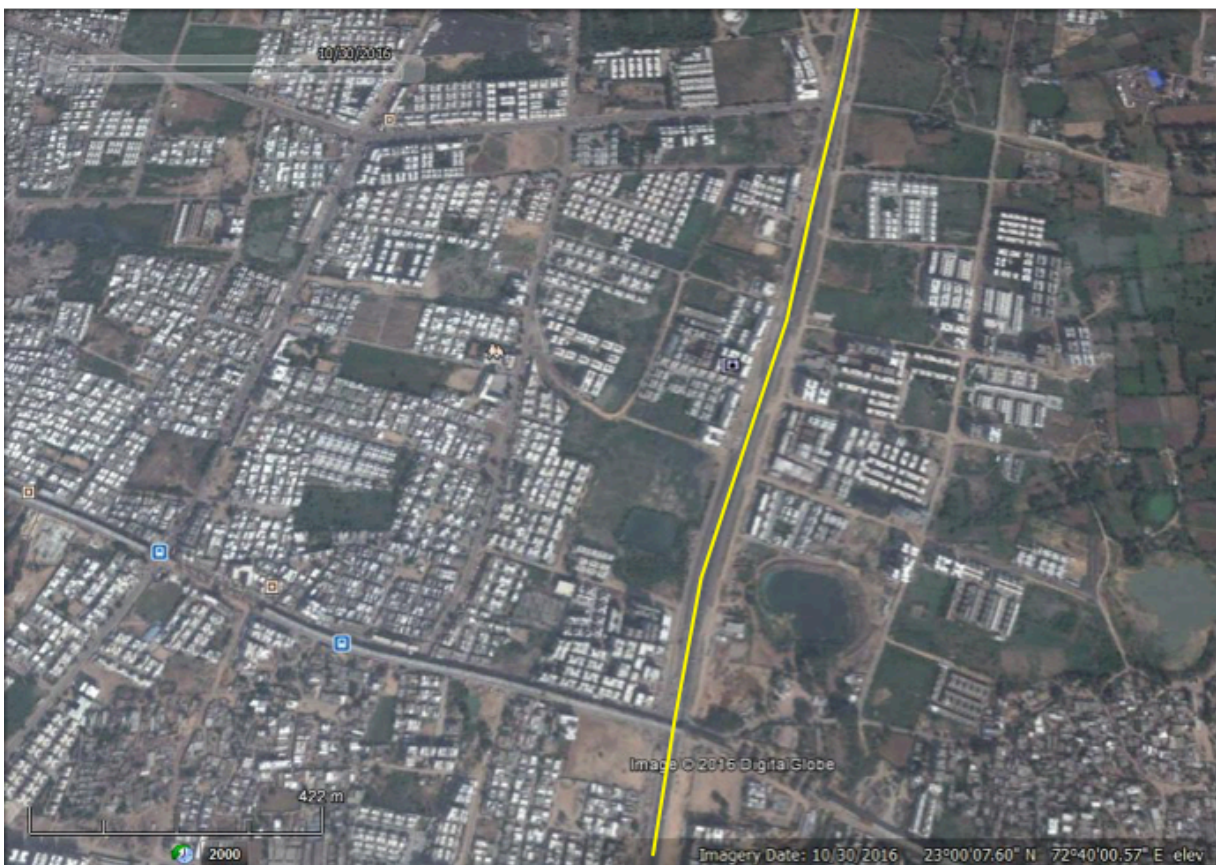
- A single piece of legislation authorising TPS includes authorisation for acquiring land and earmarking land for affordable housing and other public purposes, as well as calculating betterment levies, enabling better control by a single agency (UN-HSP 2013). The legislation also undergoes proactive and timely amendments.
- TPS provides a robust process with built-in mechanisms for tabulating plot details and calculating cost and compensation, as well as a process for stakeholder involvement. Computation of costs and benefits are accessible to landowners making the process transparent (UN-HSP 2013). It is considered a win-win proposition because both the government agency and the landowners benefit. The long history of TPS implementation in the state, makes the process acceptable to the people (Ballaney 2008).
- Granting of solatium (compensation for suffering and loss)¹⁷ is not explicitly mentioned, but exemptions such as a reduction in the betterment levy is granted if plots are used for religious or charitable activities.
- Although the legal frameworks do not specify it, the TPS strives to ensure that owners receive reconstituted plots at or near the location of their original plots.
- The provision to implement road networks at the draft TPS stage expedites development even prior to reaching final agreements on compensation and betterment levies.
- Landowners benefitting differentially are also differentially burdened with betterment levies since the final plot values vary to reflect locational advantages and disadvantages (Deuskar 2011).
- Any rights in an original plot, which in the opinion of the town planning officer can get transferred, will be transferred to the final plot. Thus land ownership disputes also get transferred to the newly reconstituted plots (Mathur 2012).

Figure 4 | Land Parcels Before and After the Implementation of the Ring Road in Ahmedabad through a Town Planning Scheme

A. Land parcels prior to building the Ring Road in Ahmedabad, 2000



B. Same location with Ring Road and surrounding development, 2016



Source: Google Earth

Challenges

- The TPS legislation does not provide for the rehabilitation of landless project-affected people, who may depend on the land for their livelihood. Although there is a mandate to provide affordable housing, it is unclear whether the low-income populations or landless labourers at the project site would be accommodated at the same location. There are also reports of instances in which the land reserved for affordable housing was illegally diverted to other uses (Deuskar 2011).
- Although planned development is expedited by allowing road networks to be built when the scheme is still in a draft stage, this practice can be viewed negatively by affected landowners. Despite the stakeholder consultations at various stages, the land is appropriated even as resolution of disputes is pending (Mahadevia, Desai and Vyas 2014).
- Administrative and procedural delays and public appeasements can delay the implementation of TPS. The state government's process to approve the stages of TPS is centralised and time consuming with reportedly inadequate technical support and many planning officials lacking computer skills and a good understanding of the legal aspects (Ballaney 2008; UN-HSP 2013).
- The TPO has a quasi-judicial position with tremendous powers under both the state government and GTPUD Act (UN-HSP 2013). Most TPO decisions cannot be challenged, except for compensation and contribution-related issues (UN-HSP 2013).
- Since the GTPUD Act did not impose any penalties on the authority for prolonged delays in finalising and enforcing the scheme, costs of delay were transferred to private landowners and other individuals, who face long wait times. However, a 2014 amendment to the act says that the state government may take action against an authority that does not execute a scheme within two years of sanctioning the preliminary scheme.
- Betterment levies are based on the market value of the plot on the day of the declaration of intent to prepare a TPS. It is reported that the betterment levies on finalisation of schemes do not always meet the end cost of infrastructure provision because of inordinate delays in finalising the scheme (Ballaney 2008).
- The legislation has no provisions to upgrade village settlements that fall within the TPS. According to Deuskar, these settlements are often left isolated with a road built around them as a buffer without proper integration with the new development (Deuskar 2011).
- According to Ballaney (2008), assets generated through the TPS are not comprehensively documented by the authorities and are not managed in an appropriate manner, leading to poor implementation of the scheme's intent.

3.2 The Land Pooling Scheme (LPS)

A form of land readjustment known as the Land Pooling Scheme (LPS) evolved in some Indian states taking cues from Gujarat's Town Planning Scheme. LPS is similar to the TPS, except that land is legally consolidated by transferring its ownership to the agency undertaking the scheme and it does not have a complex process to tabulate the scheme's cost components. Haryana, Punjab, Tamil Nadu, Maharashtra, erstwhile and currently bifurcated Andhra Pradesh, and Telangana, Delhi and Rajasthan are some of the states that evolved the LPS. Magarpatta in Pune, Maharashtra, is a township created by 120 land-owning farmer families who privately pooled their land and developed a township of over 174 hectares (Gupta, et al. 2012). Although several cities and states have implemented LPS, the state-led LPS to develop the capital city, Amravati, in the bifurcated Andhra Pradesh state has attracted the attention of several government agencies, experts,¹⁸ and the media (The Times of India 2016; Avenue Realty 2016). Hence the LPS of Amravati (hereafter referred as LPS) is detailed in this publication.

The Land Pooling Scheme (LPS), Amravati, Andhra Pradesh

Background

A greenfield capital city named Amravati, located between Vijayawada and Guntur cities on the banks of the River Krishna, is being developed for the newly bifurcated state of Andhra Pradesh. The cabinet subcommittee constituted for the capital city's formation decided to use LPS to acquire land. The Andhra Pradesh Capital Region Development Authority (APCRDA) was formed specifically to plan, coordinate, execute, finance, fund, promote, and secure planned development of the area. The government notified an area of about 706,800 hectares for the capital region and 12,200 hectares as the Andhra Pradesh capital city area under a provision of the Andhra Pradesh Capital Region Development (APCRD) Act, 2014 (MA & UDD 2015). This area was later increased to 860,300 hectares for the capital region and 21,700 hectares for the capital city (APCRDA 2017). Under the APCRD Act 2014, the government formulated rules for the land pooling scheme known as the Andhra Pradesh Capital City Land Pooling Scheme (APCCLPS) Rules, 2015.

Characteristics of the LPS

The LPS aims to achieve planned development and provide better infrastructure facilities by implementing development plans prepared under the APCRD Act 2014 (The Andhra Pradesh Gazette 2014). Land is legally consolidated by transferring ownership rights to the government authority prior to reconstitution. Unlike the TPS, the LPS legislation permits a “developer entity”¹⁹ to undertake a land pooling scheme in conformity with the development plan in the capital city region. For the capital city at Amravati, APCLPS rules facilitate the use of the Land Pooling Scheme. The LPS ensures that land owners volunteering to surrender their land are guaranteed the return of serviced reconstituted plots (The Andhra Pradesh Gazette 2014). While landowners’ participation in LPS is voluntary as per the APPCLPS rules, land designated in the development plan for public purposes can be appropriated under the RFCTLARR Act 2013 if LPS methods or a negotiated settlement fail. For the capital city, the land pooling rules allow 315 days from the notification of intention to prepare the LPS until the physical marking of roads and social amenities on the land surrendered as part of the scheme.

LPS Process

A flowchart of this process is in Appendix C.

- The authority declares its intention to prepare a LPS and issues notice inviting objections and suggestions landowners within 30 days of the declaration and calls for applications from landowners to participate in the scheme. The notice also specifies the dates for conducting stakeholder consultations to explain details of the scheme.
- The authority addresses the objections and suggestions and examines any request to modify the extent of LPS area.
- The authority notifies the finalised area for the preparation of draft LPS.
- The authority verifies landownership titles with reference to revenue records, registration documents and conducts local enquiries within seven days of receipt of an application from a landowner and publishes a list of participating landowners calling for any objections within 15 days of publishing the list.
- The authority conducts verification of government land, assigned,²⁰ land or other similar categories of land within 15 days of the filing of objections.
- The authority then submits the list of land ownership details of the participating landowners to the commissioner and determines the extent of reconstituted plots to be returned to the landowners.
- The authority prepares the draft LPS within 180

days, in consultation with landowners. The draft scheme includes a final base map, final area statement, layout plan of existing and proposed infrastructure amenities, as well as a cost estimate of the scheme.

- After approval of the draft scheme, the concerned authority publishes it in the prescribed format calling for objections and suggestions within 30 days from the date of notice.
- The authority finalises the draft scheme after considering any objections and suggestions raised, and then notifies the final scheme.
- The authority takes possession of land for roads, drainage, lighting, water supply, and other utilities from the landowners free from all encumbrances within 15 days of notification of the final scheme.
- The authority physically marks the roads and the reconstituted plots on the ground within 60 days of notification of final LPS.
- The authority allots reconstituted plots to the landowners by drawing lots in the presence of at least one-third of the landowners after due publicity within 30 days of physical marking and issues Land Pooling Ownership Certificates to the landowners. The scheme ensures that the landowners get reconstituted plots in close proximity to the original land or within a radius of 5 kilometers of their original plot, unless a specific planning concern warrants its shift (MA & UDD 2015).
- The authority completes the basic formation of roads within 12 months of notification of the final LPS.
- Within three years of notification of the final LPS, the authority develops the infrastructure facilities in the LPS area in a phased manner.
- Within 30 days of completion of all infrastructure facilities, the commissioner publishes a notice of completion of the final LPS. The authority maintains the common infrastructure and respective services including roads, street lighting, solid waste management, sewerage, sewage treatment facility, water supply, parks and playgrounds, or other amenities through usage, consumption, and maintenance charges, which are to be paid by the reconstituted plot owners.

Enabling planned and serviced land

LPS ensures a planned development as envisaged in the master plan and development of infrastructure and social amenities on reserved land parcels. A minimum of 50 percent of the land surrendered is allotted to roads, utilities, social amenities (schools, dispensaries, and community facilities), parks and open spaces, and affordable housing. Main roads, internal road networks, infrastructure services (including water supply lines,

power supply, rain water harvesting, sewage treatment facilities, and water treatment facilities) falling on land guaranteed to the land owners are developed through the LPS by the concerned authority (MA & UDD 2015). A LPS developer must develop all the infrastructure services and road networks. This ensures that the final plots returned to the landowners have access to infrastructure.

Landowners surrendering land for development get a regularly shaped developed plot of a lesser area than their original land based on the land type and its ownership status. All infrastructure facilities within the final plot must be developed by the landowner. For every acre of land surrendered by a landowner possessing a patta (revenue record to establish legal ownership), the landowner gets 25 percent of the land in return if it is dry land (land registered as dry land in the land revenue accounts of government) or 27 percent if it is wet land (land registered as wet, single crop wet, or double crop wet, or compounded double crop wet, in the government land revenue accounts). In the case of assigned lands, the landowner gets 19 percent, if it is assigned dry land and 21 percent in case of assigned wet land.

Financing model

A development fund with an initial capital of Rs. 1,000 crore (US\$ 147.26 million) is created, to meet the expenses related to capital city development (MA & UDD 2015). The LPS rules enable the authority to recover the costs of developing trunk infrastructure, internal infrastructure, social amenities, and other costs by reselling a share of the land area that it retains. A capital region social security fund is created to provide a pension of Rs. 2,500 (US\$ 36.80) per month for 10 years to all landless families (MA & UDD 2015). The reconstituted plot landowners are charged consumption and maintenance fees for infrastructure such as roads, street lighting, solid waste management, sewerage and sewage treatment facility, water supply, and social amenities such as parks and play grounds.

Impact of the LPS in Amravati, Andhra Pradesh

Between January 2015 and March 2016, the Andhra Pradesh government assembled about 13,753 hectares using the LPS (APCRDA 2016). The 2016 India Habitat III National Report stated that this amount of land was mobilised within the record time of less than two months for the new capital city without any expense (MHUPA 2016). While this is the largest experiment of a land pooling scheme in the country (Chari 2015), the project is in its early stages, hence its impact and effectiveness are yet to be fully ascertained.

Strengths

- The LPS mechanism is supported by well-defined rules with detailed provisions explaining the entire process with emphasis on completion in an efficient, systematic, participatory, and time-bound manner.
- It is well supported politically with the state's chief minister making a personal appeal to land owners to participate in the scheme.
- The scheme's legislative framework has provisions to seek consent from interested parties or landowners to participate and solicit suggestions and objections from the landowners at various stages.
- The scheme upholds individual rights and group tenure rights of landowners as well as the rights of the landless. It offers compensation to landless families in the form of pensions for 10 years and social development benefits designed to provide additional livelihood opportunities (APCRDA 2017).
- The scheme ensures that landowners surrendering land receive reconstituted plots in proximity to the original land or within a five-kilometer radius of their original plot.
- The scheme mentions annuity payment to religious institutions or charitable trusts, in case the original land belonged to such institutions.

Challenges

- While the process is systematically described in the supporting legislation, the provision for addressing grievances is weak as there is no dedicated grievance redressal mechanism: the concerned authority is the grievance redressal officer at any stage. The LPS rules have provisions to approach the courts in any dispute regarding land ownership but not for any other matter related to the scheme.
- Reports note that a large amount of fertile agriculture land has been assembled for the capital city development (Sivaramakrishnan 2016; Ramachandraiah 2016). Hence the policy has faced disapproval from farmers, activists, and experts (Majumdar 2016; Sivaramakrishnan 2016).
- Farmers in riverbank villages offered strong resistance to the LPS because the incentives offered were not enough to compensate for their cultivated land. It was reported that the government relied heavily on law enforcement as an instrument of coercion and intimidation (Ramachandraiah 2016).
- While different land categories (dry land, wet land, and assigned land) have been considered for deciding the percentage of plot area to be returned to the landowners, the vast differences in property

prices across the capital city area have not been considered in valuation or arriving at the percentage of land to be returned to the landowners.

- LPS is very recent and ongoing scheme, thereby limiting a comprehensive analysis.

3.3 The Navi Mumbai Airport Influence Notified Area (NAINA) Scheme, Maharashtra

This scheme is a land aggregation method specifically designed for planned development in the influence area of the proposed greenfield airport in Navi Mumbai, Maharashtra. The scheme, like the TPS and LPS, involves bringing together land parcels owned by different landowners; however, it differs in its operational framework, process, and compensation packages. In this voluntary scheme, land is aggregated to a minimum prescribed size by owners who are represented by a person who holds a “special power of attorney.” From the aggregated land, a certain percentage must be contributed to the concerned authority for public reservations as identified in the master plan. As compensation for this land, landowners get incentives for development of the remaining portion of their land, in the form of additional development rights which are expressed as floor space index (FSI; the ratio of the combined gross floor area of all floors to the total area of the plot), as well as exemptions from paying FSI-linked premium charges. This scheme is designed to reduce the financial burden on the concerned authority. The scheme, specifically developed to achieve planned development in the airport influence area, is unique to Navi Mumbai in Maharashtra.

Background

In 1971, the City and Industrial Development Corporation of Maharashtra Ltd (CIDCO)²¹ was designated as the New Town Development Authority for Navi Mumbai (New Mumbai) which was to be developed as a twin city to Mumbai. CIDCO has adopted different models of development for different projects based on the terms granted by the government, the market situation, and the political environment of the region (CIDCO n.d.). Having experimented with various development models for its own townships with varying degrees of success, and after studying land development models across the country, CIDCO proposed a new scheme for the greenfield airport influence area.

While land for the core airport area will be acquired under RFCTLARR 2013, the land in the Navi Mumbai Airport Influence Notified Area (NAINA) will be developed through a voluntary participatory model* referred to as the NAINA Scheme. The NAINA Scheme was conceptualised in 2013 and land aggregation began after approval of the interim development plan for a pilot project area in 2017. The pilot area of 3683 hectares is 6 percent of the total NAINA area. The pilot area contains gaathan (village) lands, buffer areas up to 200 meters around gaathan settlements, special township projects, and rental housing projects segregated by large swathes of land under various zones of the Mumbai Metropolitan Region Development Authority (CIDCO n.d.).

Characteristics of the NAINA Scheme

In the NAINA Scheme, landowners aggregate a minimum quantity of contiguous land (4 hectares for urban villages²² and 7.5 hectares for areas outside urban villages but within interim development plan area) as prescribed by the authority. A percentage (40–50 percent) of that land is surrendered to the authority for developing basic infrastructure, social amenities, and other public purposes as the need arises. In return, landowners get additional development rights as FSI incentives to use on their remaining land (50–60 percent). The FSI incentive is high compared to the norms permissible in the area. It varies according to the quantity of land aggregated by the landowner. For instance, a landowner or power-of-attorney holder who aggregates between 4 and 25 hectares in urban villages or between 7.5 and 25 hectares outside urban villages, but within the interim development plan area, will get an FSI of 1.7. A higher FSI of 1.9 can be availed if the land aggregated is more than 40 hectares outside the urban villages (but within the interim development plan area) or within urban villages (CIDCO 2017). A landowner without the minimum quantity of land prescribed, but who has equivalent land under reservations elsewhere in the interim development plan area, can surrender that land to CIDCO. If more than 40 percent of an owner’s land is affected by reservations made in the development plan, compensation will be through a transferable development right (CIDCO 2017).

Nonparticipating landowners get a maximum permissible FSI of 0.5 in areas outside urban villages and FSI of 1 in urban villages and are required to pay

* NAINA Scheme is a voluntary scheme. However, land under reservation in the interim development plan will be acquired using provisions of RFCTLARR 2013 from landowners not participating in the NAINA Scheme. The nonparticipating landowners can continue to hold property in the scheme area; however, they will receive only the minimum FSI and are not eligible for incentive FSI for undertaking development on their property.

FSI-linked premium charges because they benefit from access to all infrastructure facilities and social amenities developed by CIDCO (CIDCO n.d.). Reservations within the assembled land area are flexible (excluding roads and physical infrastructure) and can be adjusted in the layout, provided the entire reserved land forms part of the NAINA Scheme (CIDCO 2017). The authority permits sale of plots and apartments within the layout after ensuring that all internal infrastructure is completed as per CIDCO's specification and only after issuance of an occupancy certificate by the concerned officer.

NAINA Scheme process

A flow chart of this process is shown in Appendix D.

- The authority prepares and publishes a detailed interim development plan as per provisions of the Maharashtra Regional and Town Planning (MRTP) Act 1966 incorporating the stipulated reservations for roads, open spaces, social amenities, growth centres, and utilities.
- The authority notifies all lands under reservation for acquisition through the RFCTLARR Act 2013 and simultaneously invites all land owners to participate in the NAINA Scheme through public advertisement.
- The authority later withdraws the acquisition notices from landowners who are willing to voluntarily participate in the scheme.
- Landowners intending to participate in the scheme execute a memorandum of understanding among themselves and appoint a special power of attorney (SPA) as their representative for processing the applications for approvals (CIDCO n.d.). A detailed process for applying for development permissions is prescribed by the authority, which includes checking legal documents of the land, a joint measurement survey by the Survey and Land Records Department, and preparation and approval of a detailed layout plan with amenities.
- Once reconstituted layouts are finalised in consultation with the authority and the SPA holder, landowners execute a cooperation agreement among themselves wherein they consent to their reconstituted plot and its location (CIDCO n.d.).
- The SPA holder submits a detailed proposal to the authority seeking outline development permission along with land ownership documents of the participating landowners in the specified format and in accordance with the checklist provided by the authority. The authority scrutinizes the documents and, in consultation with the SPA holder, identifies broadly the 40 percent of the land (40 percent is used in this example) to be handed over to the authority.
- The authority publishes the scheme in local newspapers and also displays it at prominent locations in village panchayat offices, inviting suggestions and objections from land owners, the public, or any other stakeholder.
- The authority's chief land and survey officer examines suggestions and objections and refers them to the concerned revenue authority if there are any serious defects. Based on the recommendations of the revenue authority, the authority, in consultation with the SPA holder, may drop land parcels with serious material defects.
- The authority then issues a letter of intent to landowners, seeking further documents such as joint land measurement, detailed layout indicating the land share of all participating landowners, layout based on provisions of development control regulations, and the exact percentage of land to be handed over to authority, and then submits the plans along with a registered cooperation agreement signed by all landowners.
- The concerned survey and land records department prepares a joint measurement plan of the scheme after the letter of intent is issued. The SPA holder submits the detailed plan for the 60 percent of land to be returned to landowners, taking into account the joint measurement plan, to the authority.
- The authority takes its percentage share of land by signing a surrender deed with landowners in the prescribed format and issues property cards to all participating landowners simultaneously.
- The authority issues outline development permission and layout permission for the percentage of land held by the landowners.
- Landowners develop layout amenities (internal roads, recreational open spaces, and local amenities) on the land in their possession as per authority's norms and sell plots or apartments on the open market.
- After the approval of the interim development plan, the authority develops the trunk infrastructure and other reservations as per the interim development plan on the land in their possession.

Enabling planned and serviced land

Land designated in the interim development plan for public purpose reservations such as basic infrastructure and social amenities can be obtained through the scheme or compulsorily acquired using provisions of RFCTLARR Act 2013 from nonparticipating landowners. While all the trunk infrastructure facilities (main roads, electric lines, water supply and sewerage main lines) and social amenities will be developed by the authority, the internal layout amenities such as roads

and open spaces are to be developed within a fixed time and maintained by the landowner (CIDCO n.d.). CIDCO intends to provide the trunk facilities within 7 to 10 years from the date of sanction of an interim development plan. However, the pace at which the infrastructure progresses depends on the success of the NAINA Scheme and speedy land acquisition (CIDCO n.d.). As per the development control regulations, in the layout developed by the landowners, at least 5 percent of the area must be used for amenities such as education, daily bazaar, and health care facilities (CIDCO 2017). All developments of more than 0.4 hectares must also make provisions for affordable housing (for those belonging to the economically weaker section [EWS] or low-income group [LIG]) (CIDCO 2017). To avoid disaggregated development in the master plan area, the nonparticipating landowners are disincentivised by receiving no extra incentive FSI. CIDCO envisages that 80 percent of the land in the interim development plan would be aggregated through the NAINA Scheme and the remaining 20 percent through compulsory acquisition under the RFCTLARR Act 2013 (CIDCO 2017).

Financing model

The land required for basic infrastructure and social amenities becomes available through the NAINA Scheme. The capital for developing the infrastructure is envisaged to be obtained through the following components:

- Development charges as per the provisions of the MRTP Act, 1966 payable by all applicants seeking permission to develop land, which will be used only to provide public amenities, maintenance, and improvement of the area (CIDCO 2017);
- Leasing of land in the growth centres by CIDCO for mixed land use;
- Sale of plots for schools, community centres, and so on at concessional rates to other government bodies or trusts to develop the facilities; and
- FSI-linked premiums imposed on nonparticipating land owners.

Impact of the NAINA Scheme

CIDCO received 341 applications for building permits for NAINA from 2013 to January 2018 (CIDCO 2018). Out of this, five applicants were granted occupancy certificates, while the remaining applications are still in process (CIDCO 2018). Because an affordable housing component is integrated into the scheme, several developers expect NAINA Township to be one of the biggest suppliers of affordable housing in Navi Mumbai (Srivastava 2014). NAINA's pilot project, however, received strong opposition from the people in 23 villages included in the plan, because they said project-affected

people were not informed about the plan (Anvekar 2014). Impact of the scheme cannot be fully ascertained, because it is in an ongoing process.

Strengths

- The NAINA Scheme takes an integrated approach to development by including the expansion of gaothans through separate regulations and norms. Additionally, the authority has framed separate criteria and regulations for integrating government-approved special township projects and rental housing schemes of the Mumbai Metropolitan Region Development Authority (MMRDA).
- Landowners are incentivised through additional development rights to provide affordable housing, which is to be sold to the authority at a predetermined rate.
- Developments on the assembled land must adhere to the interim plan's reservations and norms, enabling planned development of basic infrastructure and social amenities.

Challenges

- The NAINA Scheme lacks clarity in the duration allowed for completing the process, the accessibility to information, and the responsibilities of the concerned authority in implementing the trunk infrastructure amenities.
- The scheme has no rehabilitation strategies for the landless families who were dependent on the land that is aggregated. CIDCO states that since there is no bulk acquisition of land, there will be no project-affected persons, hence they have no rehabilitation programmes (CIDCO n.d.).
- The scheme has no conflict redressal mechanisms.
- Because the success of the scheme depends on the willingness of landowners to voluntarily aggregate their land for development, there could be delays. According to Olson, even if all individuals in a group are rational and self-interested and would gain as a group if they act to achieve their common interest, they may still not voluntarily act to achieve a common interest (Olson 1965; 1971).

3.4 The Joint Development Model (JDM)

Various public private partnership (PPP) land development models are used in different parts of the country. These models vary in their approach and operation. Public private partnerships were formalised in 1991 in Uttar Pradesh under a state government order that empowered 20 development authorities to licence private developers to develop land and construct houses according to a master plan (PADCO, Inc 1991).

In Gujarat, a public private partnership typology known as the Parshwanath Model started operation in 1967 in Ahmedabad, where a private corporate developer, the Parshwanath Group, obtained land from farmers through purchase agreements and developed it into affordable housing (PADCO, Inc 1991). In Ghaziabad, Uttar Pradesh, a private company entered into a joint venture with the Ghaziabad Development Authority to provide roads, street lighting, security, water supply, and power on about 81 hectares (Khanna 2004). While many PPP models have been used across states, the Joint Development Model of Haryana was chosen for this study because it has been used extensively across the state with over 1,702 licences issued to private developers over a land area of more than 14,167 hectares (DTCP n.d.b).

The Joint Development Model (JDM), Haryana

Background

In the 1960s, Haryana's Department of Urban Estates acquired a large amount of land to develop (Bedi 2014). The department carried out the planned development of urban areas and was regulated by the Punjab Urban Estates (Development and Regulation) Act, 1963 and its rules. A number of other state departments such as the public works department, the health department, and others also carried out development activities in the urban areas. However, the involvement of multiple departments and delays in arranging finance slowed development of the urban areas (Monitoring Cell, HUDA n.d.). To overcome these difficulties, the Department of Urban Estates was converted into the Haryana Urban Development Authority (HUDA), and became a statutory body under the Haryana Urban Development Authority Act, 1977 to execute urban development projects in various towns. During the same period, the Haryana Development and Regulation of Urban Areas (HDRUA) Act, 1975, which regulates ill-planned and haphazard urban growth in or around towns, permitted private developers to participate in urban development (HDRUA Act 1975 n.d.). This public private partnership model of land development is commonly termed the Joint Development Model (JDM) of Haryana and is applicable to all the urban areas of the state. JDM of Haryana is hereafter referred as JDM.

Characteristics of the JDM

In the JDM, private developers in collaboration with HUDA carry out large-scale land development in designated urban areas. Private developers acquire land through market price negotiations and then carry out the development as prescribed in the HDRUA Act 1975 and its rules. HUDA issues licences to the private

developers (or “colonisers”) for converting land parcels into “colonies.”²³ A licence to develop a colony is granted for five years and can be renewed for two more years on payment of prescribed fees to the concerned authority.

JDM Process

A flowchart of this process is in Appendix E. The process described below is documented from various sections in the Haryana Development and Regulations of Urban Areas Act, 1975 and its rules.

- Private developers acquire land falling in different potential²⁴ zones directly from the landowners at negotiated market prices.
- Private developers then apply to the concerned authority for a license to develop this land as a colony in conformity with the land-use master plan after payment of licence fees, scrutiny fees, and conversion charges if any, and providing a layout plan.
- The authority scrutinizes the application and investigates matters relating to the land parcels (HDRUA Act 1975 n.d.) such as:
 - its extent, location and title;
 - the developer's financial capacity to develop a colony;
 - the layout of the colony and development works planned; and
 - conformity of the development schemes of the colony to those in the neighbouring areas.
- The authority grants a licence after enquiry and after the applicant furnishes a bank guarantee²⁵ of 25 percent of the estimated cost of the development for residential, commercial, or industrial purposes; and 37.5 percent for a cyber city or cyber park. Other conditions to be fulfilled by the private developers as per the HDRUA Act 1975 rules include:
 - depositing 30 percent of the money realised from plot holders in a separate bank account;
 - paying a proportionate external development charge for all the trunk infrastructure facilities (which include main lines of roads, drainage, sewerage, water supply, and electricity) that will be developed by the authority;
 - undertaking the responsibility of maintenance of all roads, open spaces, public parks and public health services within the colony for five years from the date of issue of the completion certificate, unless he/she is exempted from it;
 - constructing or subcontracting social amenities such as schools, hospitals, community centres, and other community buildings on the land set apart for this purpose, or handing over the land

for reservation and paying the proportionate cost of developing such amenities to the concerned authority;

- permitting the concerned authority to inspect execution of the layout and the development works in the colony; and
- entering into a bilateral agreement with the concerned authority for development of colonies.
- The private developer submits to the concerned authority the authenticated copy of his or her advertisement for the sale of plots in the colony and terms of the agreement between the developer and each of the plot holders.
- The authority creates an urban development fund for urban development works in the state, which will receive infrastructure charges paid by the private developers, (this can be passed onto plot holders), and grants from local authorities and other authorities involved in the land development process.
- The private developer constructs the internal development works according to the layout plan using the amount deposited in a separate bank account within the licence period (five to seven years). Private developers deposit 30 percent of the money realised from plot holders in a separate bank account within 10 days of its realisation which must be used for internal development works. Developers retain 70 percent of the money toward meeting the cost of land and external development works. The private developer also needs to fulfil the following conditions while carrying out the development:
 - assign 20 percent of the residential plots in a plotted colony development for tenants who qualify for the EWS or LIG categories, which shall be sold at subsidised prices, as directed by the concerned authority;
 - assign 25 percent of the residential plots to the “no profit no loss” category, according to the eligibility and allotment criteria of such plots and the rates at which they are to be sold as prescribed by the authority; and
 - for group housing projects, assign 15 percent of flats for EWS or LIG categories to be sold at subsidised rates as directed by the concerned authority.
- The authority develops all the trunk external infrastructure facilities.
- The authority issues a completion certificate after it recovers infrastructure charges from the developer.
- The private developer sells the developed plots/flats in the open market for profit.

- The private developer maintains roads, open spaces, public parks, and public health services for five years from the date of issue of completion certificate unless they have been relieved from this responsibility by the authority. In such cases, roads, open spaces and other such facilities are to be transferred to the government free of cost.

Ensuring planned and serviced land

The HDRUA Act 1975 stipulates that the external infrastructure is to be developed by the government agency and the internal infrastructure and amenities within the colony by the private developer respectively in conformity with the overall development plan. This ensures the supply of planned and serviced land through the mechanism.

The government authority develops external trunk infrastructure such as water supply, sewerage, drains, treatment and disposal of sewage, sullage, and storm water, roads, electrical works, solid waste management and disposal.

Private developers develop the colonies, including the internal infrastructure such as metalling of roads, paving of footpaths, turfing and planting of trees in open spaces, street lighting, adequate and wholesome water supply, sewers and drains, and the treatment and disposal of wastewater to the satisfaction of the director of HUDA (HDRUA 1975 n.d.). Thirty percent of the amount the private developers get from the plotters are to be used for developing colony’s internal infrastructure. The mechanism ensures that adequate educational, health, recreational, and cultural amenities as per the master plan are provided by the private developer. The authority also keeps a portion of the developer’s bank guarantee for five years to ensure the upkeep and maintenance of group housing colonies.

Financing model

The cost of developing external trunk infrastructure is partially funded through external development charges paid by the developer. The developer also deposits infrastructure development charges, which has to be used to develop major infrastructure projects in Haryana and stimulate socioeconomic growth. The developer is also liable to pay scrutiny fees, licence charges, and conversion charges (fees paid for a change of land uses) as part of the development of colonies. The HDRUA Act stipulates that when a private developer makes a net profit above 15 percent after the completion of the project period, they must deposit this surplus in the state government treasury or spend this money for further infrastructure. The private developer makes

a profit through the sale of plots and flats in the open market. Cost of developing the internal infrastructure in the colonies is borne by the private developer.

Impact of the JDM

From 1981 until January 2018, a total of 1,702 licences were issued to private developers who developed 14,167 hectares for residential, commercial, institutional, and industrial uses through JDM. Ninety-three percent of the total land area (which is 12,893 hectares) for which the licences were issued was developed for residential purposes through 1,251 licences (DTCP n.d.b). This included the affordable housing projects as well. The remaining licences were issued for commercial and information technology cyber parks, and cyber city developments. The Gurgaon–Manesar urban complex has attracted the highest number of JDM-licenced developments with about 31 percent (6,931 hectares) of its land earmarked for licenced colonies, which are in various stages of development (DTCP n.d.b). It is reported that about 8,000 hectares have already been developed for residential, commercial, institutional, and industrial purposes by HUDA and licenced colonisers (DTCP 2012).

Strengths

- It was reported that landowners preferred the negotiated land purchase system rather than having their land acquired through compulsory acquisition by the government, which offered lower compensation rates (Joardar 2006) prior to the enactment of RFCTLARR Act 2013. However, it should be noted that, with the introduction of Haryana’s Resettlement and Rehabilitation Policy, 2010, the state is expected to offer better compensation packages for compulsory land acquisition. With the revised compensation offered under the RFCTLARR Act 2013, the landowners can negotiate for a higher price in a negotiated purchase.
- The potential for growth of cities like Gurgaon (because of proximity to Delhi and the international airport) was leveraged by the government along with private developers who used JDM to consolidate, develop, and supply planned and serviced land.
- Affordable housing is integrated into the development of group housing and plotted colony developments though post-development benefits are largely captured by the private developers.
- By engaging the resources of private developers in urban development, the financial burden of developing physical infrastructure and amenities is transferred from the authority to the private developers.
- Private developers developed their colonies largely within the stipulated time framework. The restrictions on the quantity of land they could acquire was removed by the HDRUA Act 1975, making it possible for them to assemble parcels that exceeded the limits set by the Urban Land Ceiling and Regulation Act (ULCRA), 1975. While this is debatable, it was one of the key factors that led to the success of JDM in Haryana (Rajagopalan and Tabarrok 2014).

Challenges

- The HDRUA Act regulations have no provisions to ensure that the private developer assembles land parcels that are contiguous with developed land. Reports state that private developers, guided by profit motives, have built colonies at remote locations where they could cheaply assemble land through negotiations with local landowners (Joardar 2006; Bedi 2014). Although HUDA has notified areas that are contiguous with built-up areas, private developers have assembled land near the limits of future urbanisable areas of the master plan (Joardar 2006). This practice has led to noncontiguous, fragmented development of the urban peripheries (Joardar 2006).
- Most of the residential group housing colonies built in Gurgaon are gated communities with large block sizes. The lack of a structured road network impedes walkability and options for motorists to take any alternate routes. Because they are gated communities, their internal open spaces, parks, and road networks are inaccessible to the public.
- There are no enforcement mechanisms in the HDRUA Act regulations to ensure that private developers actually deposit any profit over 15 percent in the state treasury as required. It is reported that private developers often bypass the rule, some by accepting a partial completion certificate rather than a final completion certificate which requires a final audit report (Sharma, J. P. 2015). Without the final audit report, the actual profit cannot be ascertained.
- The original landowners do not gain benefits from land value increments, and the landless project-affected families are left out of the process.
- There is a reported lack of close monitoring of the plot allocations for the intended low-income groups (Joardar 2006). Private developers may place the affordable housing plots in less attractive locations, where the land is less costly. Model guidelines for urban land policy state that JDM has catered to the housing needs of middle- and high-income groups, ignoring the EWS group (TCPO 2007). Bedi (2014)

states that as builders contravene the norms and EWS-qualified people rely on informal alternatives for housing (Bedi 2014). According to Joardar (2006), lots or dwelling units targeted for EWS have sometimes been diverted to the middle or high-income housing by developers in collusion with government authority officials.

- The mechanism has no provisions for skill development or other compensation strategies for project-affected persons; nor does it include any provision for arriving at the land value and compensation offered to the original land owners. There is no internal grievance redressal system and it lacks public participation.
- Development of trunk infrastructure has been delayed because there is no requirement in the HDRUA Act to ensure implementation by the authority within a stipulated time period. In Gurgaon, while private colonies were developed with high-quality infrastructure, the trunk infrastructure was not completed primarily because Rs. 230,000 crores (US\$ 3.43 billion) unpaid external development charges were due from developers to HUDA (The Tribune 2015). It is reported that, with multiple agencies (HUDA, private developers, and the municipal corporation) governing the city, implementing a holistic plan for Gurgaon is nearly impossible (Kumar and Mishra 2012).

3.5 Accommodation Reservation and Transferable Development Rights (AR-TDR)

Inspired by the transferable development rights (TDR) policy implemented in the United States for preserving natural spaces and agricultural land threatened by urban expansion, TDR principles were introduced in Mumbai in Maharashtra state (Zerah 2014). In the United States TDR is a strategy to transfer growth from a place where a community would like to see less development to a place where it would like to see more development (Kaplowitz, Machember, and Pruetz 2007).

Accommodation reservation (AR) means that when a land parcel is reserved for public purpose in the master plan, landowners hand over a portion of their land to the authority to accommodate the public purpose or even construct the amenity at no cost to the authority (MCGM 2016b). As compensation, the landowner is allowed to construct the total allowed built-up area of the original plot on the remaining parcel of land, following land-use regulations. TDRs allow the owner to transfer or sell this additional development right (MCGM 2016b). AR and TDR were introduced to

incentivise private owners to provide built-up areas for designated purposes or make land available for public spaces respectively.

It is used to a lesser degree in states such as Karnataka, Gujarat, and erstwhile Andhra Pradesh, and extensively in the city of Mumbai, Maharashtra (CASUMM 2007). Thus, the AR and TDR mechanisms used in Mumbai as per its development control regulations and the Maharashtra Regional and Town Planning (MRTP) Act, 1966 are documented in this paper.

Accommodation Reservation and Transferable Development Rights, Mumbai, Maharashtra

Background

Compulsory acquisition of land designated for the public purposes in Mumbai's 1967 master plan was not financially viable for the Municipal Corporation of Greater Mumbai (MCGM), due to the limited availability of land and its exorbitant costs (Phatak 2013). When the master plan was revised in 1991, the concept of transferrable development rights and accommodation reservation were introduced through the development control regulations (DCR) for Greater Mumbai (IDFC Policy Group 2010). The MRTP Act 1966 was amended to legitimise this alternative form of acquiring land (Phatak 2013). To shift urbanisation pressures to north Mumbai where congestion was lower, and to decongest the Island city (IDFC Policy Group 2010), TDRs could be used only outside the Island city of Mumbai and to the north of the plot from where they were generated. In 1997, the use of TDRs, originally granted only for road building and public amenities as per the master plan, was extended for slum rehabilitation projects (Nainan 2008).

After the enactment of the RFCTLARR Act 2013, the Government of Maharashtra felt it necessary to allow fair compensation for taking land for public purposes. As a result, in 2016, the state Urban Development Department amended the AR and TDR policies (Government of Maharashtra 2016). AR-TDR of Mumbai is hereafter referred to as AR-TDR.

Characteristics of AR - TDR

Under this mechanism, the landowner who surrenders land for a public purpose is entitled to additional transferrable development rights irrespective of the development potential of the land surrendered to the authority. Compensation in the form of a TDR is permissible for the following purposes (Government of Maharashtra 2016):

- Land under reservation for public purposes that is

subject to acquisition, proposed in the draft or final development plan prepared under the MRTP Act 1966

- Land under any deemed reservations according to any regulations prepared under the MRTP Act 1966
- Land under any new road or road widening proposed under provisions of Mumbai Municipal Corporation Act, 1888
- Development or construction of amenities on reserved land (accommodation reservation)
- Unused development rights designated as floor space index of any structure declared as a heritage structure under provisions of the DCR. This is referred to as the heritage TDR
- Construction of housing for slum dwellers according to regulations prepared under the MRTP Act 1966. This is referred to as the Slum TDR
- Purposes notified by the government through modifications or new additions to the sanctioned DCR.

Floor space index allowed: The DCR of Greater Mumbai permits an FSI of 1.33 to 3 in the Island city and an FSI of 1 to 2.5 in the suburbs and extended suburbs of Mumbai for residential and commercial developments, with a restriction to 0.5 and 0.75 in certain areas of suburbs and extended suburbs (MCGM 2018). The variation is based on road widths with a higher FSI granted for buildings on wider roads. Through TDR, the landowner can avail additional development rights at the rate of 2.5 times the area of surrendered land if the area under reservation is in Mumbai city (or the Island city), and 2 times the area of surrendered land if the area surrendered is in the Mumbai suburbs or extended suburbs. The landowner can also avail additional development rights in the form of FSI on the remaining portion of the same land parcel in his possession.

Additional incentive TDR to the extent of 20 percent, 15 percent, 10 percent, and 5 percent of the surrendered land areas is granted if the proposals for granting TDR is submitted to the authority within 1,2,3 and 5 years respectively from the date of notification of the revised TDR policy (Government of Maharashtra 2016). However this additional incentive TDR cannot be availed for TDR generated from construction of social amenities, reserved roads, slum TDR, or heritage TDR. The amount of additional development rights generated for a reserved road, or a reservation in various zones such as a low-density zone, hazardous zone, or coastal regulation zones will be decided separately by the government. When the landowner hands over the constructed amenity on the surrendered plot of land (under AR), at his own cost, he/she is granted a TDR in the form of FSI under the following formula:

TDR for the constructed amenity in square meters = $1.25 \times \text{Cost of construction of the amenity in rupees as per the rate of construction mentioned in the annual statement of rates (ASR) for the year in which the construction commenced} / \text{Land rate per square meter as per the ASR for the same year.}$

The constructed amenity must be semi-detached to the structures of other permissible development proposed by the owner on the remaining parcel of land. The operation and maintenance of such developed amenities shall be entrusted to an appropriate agency as per the guidelines prescribed by the commissioner of the planning authority (MCGM 2018).

Development rights certificates: TDR will be issued in the form of a development rights certificate (DRC) only after the land/amenity is surrendered free of cost and free from all encumbrances to the concerned authority. The DRC can be sold by the landowner in the open market. The concerned authority shall allow transfer of DRC under conditions prescribed in the regulations. A TDR could be used as an adjunct to the AR or separately depending on the choice of the owner (MCGM 2016b). The TDR is linked to the road width at different locations in the Island city and suburbs. Restrictions on the maximum permissible FSI with respect to road width (such as FSI 0.67 if road width is between 9 meters and 12 meters in the Island city) are not applicable if the permissible FSI is more than the basic FSI in schemes such as the Slum Rehabilitation Scheme, Urban Renewal Scheme, or Metro Influence Zone, in which specific government provisions apply. The DCR restricts the use of TDR in areas where the permissible FSI is less than 1 and in areas marked as no-development zones, tourism development zones, or other areas listed in the revised TDR policy (See (Government of Maharashtra 2016) for list of areas, where TDR cannot be used in Mumbai).

AR-TDR process

A flowchart of this process is in Appendix F.

- After receiving a notification for acquisition of land reserved for public purposes in the master plan, a landowner submits an application expressing his willingness to surrender land to the concerned department. If the land owner does not volunteer to surrender the land, the department concerned can acquire land through compulsory acquisition under the National Land Acquisition Act (Negi 2012).
- The landowner submits an application (or proposal) for the issue of DRC in the development plan department along with the required documents and scrutiny fees.
- The legal department of the authority scrutinizes the

documents submitted (see Annexure II of (MCGM n.d.b.) for the list of documents required).

- Within seven days of receiving the scrutiny fees, the concerned department issues a letter fixing the priority for the proposal, followed by sanction of the priority within 15 days.
- The concerned department forwards the letter to the survey officer and the legal department simultaneously for title clearance certificates. If any document required for the title clearance is not furnished by the owner, the owner will be informed within seven days of the receipt of the file in the legal department. If the owner fails to produce the document within 15 days, the file is returned to the development plan section.
- If there is no dispute with the title, within 60 days of receipt of the file, the authority's legal department issues a title clearance certificate along with a deed of declaration and indemnity bond (draft) and a right-of-way agreement if any.
- The authority concerned issues a letter of intent, on receipt of the title clearance and joint measurement survey which contains a list of requirements to be met by the applicant within 15 days.
- On compliance with the requirements in the letter of intent, the department issues a letter of eligibility and takes possession of the land within seven days of approval from the concerned officer.
- The concerned authority submits the report requesting TDR from the officer concerned within 15 days, after the land owner submits a Property Registration card in the name of the MCGM.
- The owner receives a DRC²⁶ on sanction of the TDR report by the municipal commissioner, which is to be signed in the presence of the representative of the chief planner of the development plan department of MCGM. A DRC is issued within 180 days from the date of application by the landowner.
- The authority concerned publishes information on the use of the TDR on receiving plots in advance from time to time in a phased annual programme. The municipal commissioner maintains a register of all transactions related to the grant or use of development rights certificates.

Ensuring planned and serviced land

In a built-up context, AR-TDR ensures the addition of amenities and services on land assigned for various public purposes such as roads, social amenities (education, health, markets, and cemeteries) and open spaces. In a densely built city such as Mumbai, TDR mechanisms obtain land for purposes such as nalla widening, road widening, conserving heritage buildings, redeveloping cessed buildings, implementing urban

renewal schemes, and providing transit tenements (temporary accommodations provided for the project-affected people of urban renewal plans or slum upgrading projects).

Financing model

The landowner gets transferable development rights instead of monetary compensation for either surrendering land or constructing desired amenities. Hence, the land or amenity is obtained by the authority free of cost. The authority benefits from not having to pay for the land or amenities and the process is faster than that of compulsory acquisition through the National Land Acquisition Act. The authority gets infrastructure improvement charges, which are based on the construction cost and the amount of development rights utilised through TDRs, and development charges for undertaking development in the receiving zone. The authority also gets legal fees and scrutiny charges for processing the TDR application form. If the landowner doesn't use the additional development rights on the remaining portion of land, he can use them in the form of TDR.

Impact of AR-TDR

By 2015, through TDR, MCGM had acquired about 306 hectares for public purpose reservations and about 109 hectares for road widening in Greater Mumbai (MCGM n.d.a.). The TDR program was also responsible for construction of 105,000–150,000 units of slum replacement housing over 10 years in Mumbai (Chandy 2007). In India, TDR has been seen less as an urban land-use planning tool, but rather as a financing instrument for urban governments (IDFC Policy Group 2010). The Maharashtra state government used TDR to fund large projects within and outside Mumbai. For instance, using the TDR mechanism, 42.5 percent of the cost of the Mumbai Urban Transport Project was contributed by the state government for carrying out 75 percent of the resettlement of the project-affected people.

Although TDR was seen as a policy to decongest the city, its rampant use resulted in unplanned growth and sprawl outside the Island city (Bharuchal 2017). In many parts of the city, the use of TDR created a burden on infrastructure facilities such as drainage, open spaces, and roads (Bharuchal 2017). With the revision of the policy that links TDR with road width, population growth could be directed to areas with better infrastructure hence reducing congestion (HDFC Realty n.d.). However, the removal of restrictions on the use of TDR in the Island city could result in an increase in real estate development there (HDFC Realty n.d.)

Strengths

- The TDR enables acquiring land for public purpose reservations in developed areas and maximises the development of sites with high development potential (such as sites with better infrastructure, proximity, and site characteristics).
- The process of issuing a DRC takes less than a year, thus landowners can cash in on the development potential of their land earlier than with other methods of land acquisition.
- The mechanism is efficient in providing the necessary infrastructure services in heavily congested areas, wherein TDR is offered to a private entity to build the infrastructure in accordance with the width of the road.
- The mechanism enables a supply of built-up area free of cost for resettlement of transit tenements and affordable housing tenements in Greater Mumbai.

Challenges

- There are no provisions in the regulations that require land owners to use their development rights in an area where the land value is comparable to the land they turned over. It is reported that landowners have had to agree to transfer their development rights from a high value area to a low value area without any weightage for the price differential (Phatak 2000).
- As these mechanisms heavily rely on the demand for real estate, it is reported that AR is likely to fail in contexts where the land prices are low or are less than the construction cost (TCPO 2007). It is also reported that TDRs were never used in a planned manner and that market forces determine where they are used.
- There is no mandate for public participation and hence the decisions and details on the use of TDR are not easily accessible thereby reducing the transparency of the mechanism.
- Absorptive capacity and appropriate physical infrastructure, other than the presence of a wider road, in the zones that receive TDR are not ascertained.
- While accommodation reservation has resulted in construction of public amenities, there are no provisions to closely monitor the quality and design of these amenities. Similarly, due to a lack of monitoring of TDRs, implementation of reservations in the master plan has remained partial in the city of Mumbai. It is also observed that many

additional development rights were transferred to locations with inadequate infrastructure services and road widths, causing haphazard development.

3.6 Cluster Redevelopment Scheme (CRS)

The Cluster Redevelopment Scheme (CRS) brings together a group of derelict buildings, extending over a minimum prescribed area, for redevelopment by a government agency or a private developer. The land belonging to different owners are pooled by various methods and development is undertaken by an agency or a private developer, called the promoter.

This method was first introduced to redevelop areas of the Island city of Mumbai, Maharashtra, which is documented in this section. It is proposed to be extended to Navi Mumbai, but its presence in other states²⁷ is not known. CRS of Mumbai (hereafter CRS) was envisaged to promote planned urban regeneration of decaying urban areas, improve roads and public transport, and provide adequate open spaces and social amenities. Further CRS aims to build well-spaced buildings with adequate light and ventilation, fire safety, and aesthetic values. It also aims to arrest the abuse of redevelopment incentives by setting priorities for redevelopment of areas with a large number of dilapidated buildings (MTSU 2012).

Cluster Redevelopment Scheme, Mumbai, Maharashtra

Background

The urban core of Mumbai city has many dilapidated buildings and the landlords lack incentives to make repairs due to archaic laws that prevent them from charging market-rate rents (Acharya 2013). Considering the need for reconstruction of these buildings, a clause on the redevelopment of cessed buildings²⁸ was introduced in the development control regulations (DCR) of Greater Mumbai in 1991*. Under this clause, private developers could redevelop cessed buildings with the consent of the tenants and following other conditions prescribed in the rules. However, abuse of this provision distorted the housing market and did not achieve urban renewal in a planned way (MTSU 2012). Hence in 2009, a Cluster Redevelopment Scheme (CRS) was introduced to enable a holistic renewal of Mumbai's dilapidated areas. Rules** were framed to apply CRS for cessed buildings, government, and semigovernment buildings that are at least 30 years old and other slum areas that are notified in the Island city.

* Section 33 (7) of the Development Control Regulations of Mumbai, 1991

** Section 33(9) of DCR, 1991

Characteristics of CRS

CRS (also known as cluster development scheme) refers to any scheme for the redevelopment of a cluster of buildings and structures (urban renewal cluster) over a minimum area of 0.4 hectares in Mumbai city and one hectare in the Mumbai suburbs and extended suburbs. Such clusters should be bound by a physical boundary and be accessible by an existing or proposed road (minimum 18 meters wide) in the master plan or CRS (MCGM 2018) or by a road notified by the municipal corporation under Mumbai Municipal Corporation Act, 1888. Redevelopment of such clusters can be undertaken by the Maharashtra Housing and Area Development Authority (MHADA) or the Municipal Corporation of Greater Mumbai (MCGM) or jointly with landowners, cooperative housing societies, or through a developer (also called a promoter). The land under the CRS will be treated as one plot for the computation of FSI. The promoter can assemble land for redevelopment using any of the following methods:

- purchase land belonging to the state government, MCGM, MHADA, or an agency under state government;
- exchange land with suitable land of equivalent value as per land rates in the annual statement of rates;
- procure development rights over such land;
- transfer all land included in the CRS to a legal entity; or
- acquire land, provided the promoter purchases rights to at least 70 percent of the land in the cluster and there are dangerous buildings in the remaining land in the CRS.

Each eligible tenant gets a carpet area (floor space) equivalent to the area he or she occupied in the old building plus an additional area for a residential or residential and commercial tenement based on the size of the cluster (MCGM 2016b). Each eligible slum dweller gets a carpet area of 25 square meters. The promoter undertaking CRS receives a percentage of built-up area that could be sold on the open market and the government agency (MHADA/MCGM or MMRDA) receives built-up area that can be used either for tenements for project-affected people²⁹ or transit accommodations, or sold as affordable housing with the permission of the government.

CRS process

A flowchart of this process is in Appendix F.

- The municipal commissioner of the designated authority conducts an impact assessment of the

CRS on the city and its infrastructure, traffic, and environment, then finalises the clusters for redevelopment. A high-powered committee headed by the municipal commissioner is constituted to review the scheme, suggest improvements, and grant approvals.

- A promoter, subject to the approval of the commissioner (through a letter of intent), chooses clusters identified in the development plan or under the cluster development plan for the concerned area. The developer seeks the “irrevocable written consent” of 51 percent of eligible tenants in each building or 70 percent of the eligible tenants in the overall scheme and of the landholder prior to initiating the process, which is necessary for approval (MCGM 2018).
- The authority identifies eligible tenants as per the criteria prescribed in the Development Control Regulations for Greater Mumbai and certifies the irrevocable written consent of the tenants.
- The promoter assembles land through purchase, exchange, transfer, procurement of development rights, or acquisition as specified in the previous section.
- The promoter submits a CRS proposal along with proof of ownership or procurement of development rights for at least 70 percent of land within one year from the date of issue of letter of intent.
- The promoter arrives at the rehabilitation entitlements to the eligible tenants;
- After construction of new tenements, each occupant/tenant must be given ownership of a unit with a carpet area equivalent to the area occupied by the occupant/tenant in the old building. Basic entitlement for an occupant is 27.88 square meters and 25 square meters for a slum dweller.
- The promoter receives an incentive FSI in addition to the permissible FSI (the total permissible FSI is 4). Incentive FSI is calculated according to the formula below (MCGM 2018):

$$\text{Incentive FSI} = \frac{\text{Land Rate in Rupees per Square Meter of the land included in the CRS}}{\text{Rate of Construction in Rupees/square meter}}$$

- CRS can avail an FSI of 4 or the sum of the Rehabilitation FSI + Incentive FSI, whichever is more.
- The promoter and MHADA share the balance FSI*, which can be used for tenements for project-affected people, transit accommodation, or for affordable housing.

* If the total of the rehabilitation FSI and the incentive FSI is below 4, then the balance FSI over and above the Rehabilitation FSI + Incentive FSI, which is calculated based on the ratio of land rate and construction rate up to the limit of 4, will be shared between MHADA and the developer.

- The promoter provides accommodation for eligible tenants in transit camps or rental units during the construction phase of the CRS. These are to be demolished after a full occupation certificate is issued by concerned authority.
- The promoter implements the scheme in phases if the area is more than 8,000 square meters, and incentive FSI will be released to the promoter after approval of the last phase of construction.
- The promoter maintains the cluster redeveloped through the corpus fund created for the scheme for 10 years.
- The authority levies development cess on the promoter for off-site infrastructure around the developed cluster.

Enabling planned and serviced land

In the CRS, the promoter chooses the cluster to redevelop from those identified for urban renewal in the cluster development plan prepared by the commissioner or development plan (which contains well-defined clusters) and based on the impact assessment study. Through the CRS, a group of dilapidated buildings that have poor or no access to infrastructure such as adequate roads, open spaces, or sewage treatment facilities are upgraded through redevelopment. The CRS ensures holistic infill development of housing, complete with infrastructure such as wider road networks, footpaths, and open spaces. A high-powered committee appointed for the scheme ensures that the reservations made in the development plan get implemented through the scheme. To ensure the development of these reservations, the promoter must hand over a built-up area equal to 60 percent of the basic FSI under such reservations to the authority free of cost. The scheme also mandates that 10 percent of the scheme area be devoted to recreational open spaces.

Financing model

The scheme is implemented through promoters who bear the cost of construction as well as the cost of assembling the land. CRS provides an avenue to profitably redevelop dilapidated structures because the promoter gets incentive FSI (additional development rights) to build additional apartments that can be sold for a profit in the open market. Different percentages of incentive FSI for various ranges of amalgamated plots are used for cluster development. Incentive FSI provided to the developer cross subsidises the cost of developing new and structurally safe houses for the existing tenants free of cost (Mehta n.d.). MCGM charges the promoter a cess at the rate of 100 percent of the development charge, subject to a minimum of Rs. 5,000 (US\$ 73) per square meter for a built-up

area over and above the existing built-up area for the rehabilitation and free sale components. This development cess is in addition to the development charges levied as per section 124 of the MRTP Act 1966 (MCGM 2016b). The promoter should also create a corpus fund of a minimum of Rs. 50,000 (US\$ 733) per tenement (MCGM 2016b). This amount can be deposited as directed by the high-powered committee for the maintenance of the rehabilitated buildings for 10 years.

Impacts of CRS

According to a 2009 newspaper article, at least 15 developers had lined up 35 to 40 projects to be submitted to MCGM for approval (Nandy 2009). One Avighna Park in Parel, a development of on 2.6 hectares, was the first cluster redevelopment project approved by the Municipal Corporation of Mumbai (Figure 5). Its land was acquired in 2006 (Balakrishnan 2013). Bhendi Bazaar, a densely populated location in Mumbai, is being redeveloped by the Saifee Burhani Upliftment Trust (SBUT)³⁰ under CRS and is expected to create more open spaces for parks, parking, and other amenities (Bharadwaj 2015). In 2015, Maharashtra announced extension of CRS to Navi Mumbai, considering the prevailing unauthorised construction in gaathan (village) areas with narrow roads and poor public amenities. In 2017, cluster redevelopment schemes in Thane, Maharashtra were approved by the state government. The CRS of Thane is expected to bring in 10,000 new buildings and 1.25 lakh (0.125 million) new homes in phases (Pol 2017).

Strengths

- The scheme moves eligible tenants into better housing in the same location and develops public amenities such as open spaces and wider road networks on land that would otherwise remain inaccessible for public purposes.
- The scheme mandates an impact assessment on the surrounding areas and vice versa. This study helps to better plan the infrastructure facilities for the area and decrease the impact of the project on existing infrastructure and the environment.
- Beneficiaries of the CRS could include occupiers who are paying or liable to pay rent, rent-free tenants, licensees occupying any land or building, and persons liable to pay the owner damages for the use and occupation of any land or building as defined in the Slum Act (see Maharashtra Slum Areas Improvement, Clearance and Redevelopment Act, 1971) (Maharashtra Act No. XXVIII of 1971).
- Reasonable opportunities are provided to promoters to appeal decisions of the high-powered committee constituted for the CRS.

Figure 5 | **Aerial Views of a Cluster Chosen for Redevelopment in Mumbai City Before and After Cluster Redevelopment**

A. Prior to Redevelopment: Islam Mill Compound, Mumbai, 2002



B. Post Cluster Redevelopment: One Avighna Park, Mumbai, 2018



Image Source: Google Earth

Challenges

- Mechanisms to prevent malpractice while obtaining the consent from the tenants are not clear, leaving the possibility that the consent might be obtained through coercion.
- There is no scope for tenants to participate in the scheme's planning and implementation.
- The CRS regulations do not state that the details of the scheme will be publicly shared and do not provide time estimates for the process.
- There is no separate grievance redressal system that allows the state government or an appointed officer to deal with complaints and appeals. Thus there is not much transparency.

4. COMPARATIVE ANALYSIS OF THE LEGAL ASPECTS OF THE MECHANISMS

The parameters to evaluate whether the mechanisms are efficient and equitable are explained, and then each mechanism is measured against the parameters in Table 2. Finally the different approaches of the mechanisms are discussed by parameter.

4.1. Parameters to Enable a Comparative Analysis

The nine parameters identified through a literature review to define the aspects that make an equitable and efficient land acquisition policy are described briefly below.

1. Recognition of Public Purpose

Public purpose generally indicates land designated in a master plan for common uses such as physical infrastructure, roads, open spaces, social amenities, and affordable housing. While public purposes are often listed in a mechanism's enabling legislation, there could also be a clearly stated process by which a public purpose could be derived for a particular context. Analysis was done to ascertain the clarity of public purpose designations and the comprehensiveness of the mechanism's legislation.

2. Public Purpose Land Secured

While the parameter "recognition of public purposes" analyses the types of public purposes that can be implemented, parameter 2 analyses whether a mechanism assigns a clear percentage of land to each public purpose. This measure will help to gauge how much public purpose land can be secured under a mechanism. Allocations of land or built-up areas for affordable housing are also analysed to understand whether the mechanisms have provisions for all income categories.

3. Operational Process

Each mechanism takes a different approach to acquire land for public purposes. While some involve landowners directly, others rely on private developers. Provision of internal and external infrastructure is a key factor in ensuring that land is planned and serviced through the mechanism. Under the operational process, the method of land acquisition and clarity about who takes responsibility for internal and external infrastructure provision and public purpose implementation are stated. Analysis ascertained whether the legislation clearly defines the entire process step by step with timelines, whether the roles and responsibilities of all stakeholders are clear and well defined, and whether the valuation of land matches the existing market value. Restrictions on the quantity and type of land assembled and the presence of checks and balances that reduce the scope for ambiguity were also analysed.

4. Enabling Framework

While some mechanisms have a legislative framework, others are enabled by a government order or as a part of a legally mandated master plan or related development control regulation. Analysis was conducted to ascertain whether a legal framework enables the mechanism and whether there is a macro-level guidance plan (master plan) that prevents piecemeal development and contributes to holistic and sustainable development.

5. Compensation, Resettlement, and Rehabilitation

Analysis was conducted to ascertain the range of legal compensation terms available to affected persons, such as monetary benefits, land in exchange for land, or additional development rights. It also ascertained what sort of resettlement and rehabilitation provisions are offered to the project-affected persons.

6. Recognition of Rights

The Constitution of India states that no person shall be deprived of his property save by authority of law. Compensation is often awarded only to persons who possess an undisputed legal title to the land being acquired. Landless tenants, wage-labourers, sharecroppers and others who derive a livelihood from the land but do not possess a legal title are rarely compensated. Analysis was conducted to ascertain the criteria for beneficiary identification, and whether the rights of landless project-affected people to benefits is acknowledged.

7. Participation Mandates

Participation of all stakeholders affected at various stages of land assembly increases the transparency of the mechanism. It reduces discretionary or arbitrary decisions and reduces inordinate delays arising from disagreements and protests. Analysis was conducted to ascertain whether legislation mandates involvement of all the project-affected people, the stages at which participation is sought, nature of participation, and provisions for seeking consent from project-affected people prior to initiating the process of acquiring land.

8. Cost-Recovery and Post-Development Benefits

The financial viability of a mechanism depends on its cost-recovery components and benefits. Analysis was conducted to ascertain whether the government agency or private developer, or both, can recover costs of infrastructure provision and land development. To assess the feasibility, replicability, and acceptance of the mechanism, the analysis determined whether post-development benefits and land value increments accrue to all stakeholders or whether the original landowners were disconnected after the initial sale.

9. Grievance Redressal and Jurisdiction of Courts

Acquiring land for public purposes involves several inherent challenges that must be addressed in a transparent and consistent manner. Analysis was conducted to understand institutional arrangements to manage grievances, including those arising from information asymmetry and mal-administration, and options to access courts if grievance redressals are unsatisfactory.

4.2. Comparing the Mechanisms

This comparative analysis evaluates the process and other aspects of the legislation empowering each case described in Chapter 3 but not how the specific projects work on ground. Each parameter will have an enforcement issue if it is not implemented as specified. The issues with the legal frameworks are not separated from the enforcement issues of each parameter. Measuring the mechanisms against the parameters and categorising them based on the importance of different parameters to various stakeholders will require further information based on implementation of the mechanisms. This could be attempted only after future research. Differences or commonalities in the legislative or enabling frameworks of the mechanisms compared with the parameters are briefly assessed in Table 2.

Table 2 | **Measuring the Six Mechanisms against Nine Parameters for Equitable and Efficient Urban Land Acquisition and Development**Parameter 1 - **Recognition of public purpose**

TOWN PLANNING SCHEME (TPS), GUJARAT	LAND POOLING SCHEME (LPS), AMRAVATI	NAVI MUMBAI AIRPORT INFLUENCE NOTIFIED AREA (NAINA) SCHEME	JOINT DEVELOPMENT MODEL (JDM), HARYANA STATE	ACCOMMODATION RESERVATION AND TRANSFERABLE DEVELOPMENT RIGHTS (AR-TDR), MUMBAI	CLUSTER REDEVELOPMENT SCHEME (CRS), MUMBAI
<p>Intent: Urban extension, greenfield development and urban redevelopment.</p> <p>Physical Infrastructure: Transport facilities, communication networks, streets, roads, bridges, drainage, sewerage, lighting, water supply.</p> <p>Social Infrastructure: Open spaces, gardens, recreation ground, school, market, green belt, dairies, affordable housing, and preservation of objects of historic and national interest, and religious purposes.</p> <p>Clarity: Listing of public purposes present with area development authority or state government having discretion to add purposes if they are consistent with the provision of the act. Land needed for TPS is deemed to be land for a public purpose within the meaning of the Land Acquisition Act, 1894.</p>	<p>Intent: Greenfield capital city development.</p> <p>Physical Infrastructure: Transport facilities, communication networks, roads and streets, water supply, drainage, sewerage, lighting.</p> <p>Social Infrastructure: Open spaces, gardens, recreation grounds, schools, dispensary markets, green belt, preservation of objects of historic or national interest, affordable housing.</p> <p>Clarity: Listing of public purposes present, with authority or state government having discretion to add purposes from time to time.</p>	<p>Intent: Greenfield development in the adjacent area of a proposed international airport.</p> <p>Physical Infrastructure: Roads, water supply, sewerage and waste water recycling, drainage and river training, solid waste management, power.</p> <p>Social Infrastructure: School, college, school playgrounds, daily bazaar, open spaces, clinics, creche, religious amenity, health club and gymnasium.</p> <p>Clarity: Accompanying interim development plan provides list of public purposes envisaged to be implemented. More uses can be added from time to time, as approved by the state government.</p>	<p>Intent: Urban extension area development.</p> <p>Physical Infrastructure: Roads, footpaths, water supply, sewerage, sullage, and storm water drains.</p> <p>Social Infrastructure: Open spaces, public park, public health services, turfing and plantation with trees in open spaces, schools, hospitals, community centres and community buildings.</p> <p>Clarity: List of purposes is present, but more can be added if the director of the town planning department thinks it necessary.</p>	<p>Intent: Urban retrofitting and infill development.</p> <p>Physical Infrastructure: Public utilities and facilities (fire station, service industrial estate), municipal services (road depot, police station, municipal facilities, transport garage, scrap yard, water supply, sewerage, storm water drains, and solid waste management³), toilets, transport (truck terminus, bus facilities, parking lot).</p> <p>Social Infrastructure: Education, health, public open spaces, housing (public and affordable housing), public offices, social amenities (homeless shelter, cultural facility, public convenience, old age home, art gallery, leisure park), care centre, multiple purpose housing for working women.</p> <p>Clarity: Development control regulations (DCRs) accompanying the development plan provides clear list of public purposes with subcategories of uses to be provided through AR.</p>	<p>Main Intent: Redevelopment of cluster of dilapidated and old buildings having different characteristics (cessed buildings, buildings unfit for human habitation, authorised buildings over 30 years of age belonging to central/state/semi government and slum areas^b) identified under the cluster development plan or development plan.</p> <p>Physical Infrastructure: Roads, parking lots and other reservations mandated in the development plan (DP) for this area.</p> <p>Social Infrastructure: Open spaces and other amenity reservations made in the master plan. Fire stations/ hospitals/police stations/schools as approved by high-powered committee other than master plan reservations.</p> <p>Clarity: List of purposes present. All the reservations of land uses in the master plan shall be rearranged, if necessary, in the area under the cluster development plan.</p>

Parameter 2 - Public purpose land secured

TOWN PLANNING SCHEME (TPS), GUJARAT	LAND POOLING SCHEME (LPS), AMRAVATI	NAVI MUMBAI AIRPORT INFLUENCE NOTIFIED AREA (NAINA) SCHEME	JOINT DEVELOPMENT MODEL (JDM), HARYANA STATE	ACCOMMODATION RESERVATION AND TRANSFERABLE DEVELOPMENT RIGHTS (AR-TDR), MUMBAI	CLUSTER REDEVELOPMENT SCHEME (CRS), MUMBAI
<p>Percent of public purpose land secured: Roads: 15% Parks, playgrounds, gardens and Open spaces: 5% School, dispensary, fire brigade and public utility place: 5% Land reserved for sale by appropriate authority (cost recovery): 15%.</p> <p>Affordable housing: Earmark 10 % of land for affordable housing. Percentage of public purpose land can vary based on the nature of proposed development.</p>	<p>Percent of public purpose land secured: Roads and utility: 30% Parks, playgrounds, gardens and open space: 10% School, dispensary and other community facilities: 5%.</p> <p>A share of total land area is given to authority to sell to pay for costs of development.</p> <p>Affordable Housing: Earmark 5% of land for affordable housing. Percentage of public purpose land may be altered by authority, depending upon the nature of existing and proposed development.</p>	<p>Percent of public purpose land secured: Public purpose percent not specified in the scheme itself but is expected to be realised as specified in the interim development plan: 5% of land retained by landowners to be developed for education, daily bazaar and health facilities and 10% of a layout measuring 0.40 ha and above to be reserved as recreational open space.</p> <p>Affordable Housing: 20% of the net plot area to be reserved for such housing or 20% built-up area to be developed for affordable housing tenements and sold at the rate prescribed in annex 4 of the sanctioned Development Control and Promotion Regulations of NAINA interim development plan.</p>	<p>Percent of public purpose land secured: Roads, open spaces and common facilities: 20% of the gross land area, in a low- density eco-friendly colony, 45% in a plotted or group housing colony development within the colonies: Educational, health, recreational and cultural amenities as per the norms and standards in the development plan. Developer can construct or transfer such land to the government.</p> <p>Affordable Housing: Land: 20% of developed plots in plotted developments for affordable housing (plot sizes of 50/75/100/125 square meters). Built-up area: 15% of flats developed in group housing for affordable housing with the area of each not less than 18.6</p>	<p>Percent of public purpose land secured: Realisation of intended specific public purpose such as open spaces, markets, schools, health facilities and such other purposes as specified in the city development plan.</p> <p>Low-Income Housing: Land or built-up area for low-income housing could be attained through AR and TDR.</p>	<p>Percent of public purpose land secured: Realisation of reservation of public purposes (open spaces, road networks and other amenities) as per the development plan in the areas undertaken for redevelopment through the scheme or realisation of amenities such as fire stations, hospitals, police stations, schools as approved by the high-powered committee. Layout recreational open space: 10 % of the cluster development plot area.</p> <p>Affordable Housing: Dwelling unit reservation for any EWS household (subject to qualification) within a redevelopment area/ building.</p>

Parameter 3 - Operational process

TOWN PLANNING SCHEME (TPS), GUJARAT	LAND POOLING SCHEME (LPS), AMRAVATI	NAVI MUMBAI AIRPORT INFLUENCE NOTIFIED AREA (NAINA) SCHEME	JOINT DEVELOPMENT MODEL (JDM), HARYANA STATE	ACCOMMODATION RESERVATION AND TRANSFERABLE DEVELOPMENT RIGHTS (AR-TDR), MUMBAI	CLUSTER REDEVELOPMENT SCHEME (CRS), MUMBAI
<p>Method of land acquisition/assembly: Land pooling and readjustment with notional consolidation of land by various landowners facilitated by a government authority.</p> <p>Clarity of infrastructure provisioning: Internal Infrastructure: All provisions on individual plots owned by private individuals to be provided by landowner; External Infrastructure: Provided by public agency (area development authority/concerned authority).</p> <p>Valuation of land: Based on market value on the date of declaration of intention to prepare scheme.</p> <p>Restrictions: No restriction on quantity of land. Land being developed, likely to be used for building purposes, or already built upon are permitted. Clarity of operational process: Single clear legal document. A development- plan-guided process, TPS serves as a second-tier micro plan with public notification of the scheme, clear description of stages with timelines, public hearings, and suggestions and objections being invited at various stages.</p> <p>Timeliness: About 3 years 4 months for entire process as per act. Execution to be done in 2 years from date of sanction of preliminary scheme.</p>	<p>Method of land acquisition/assembly: Land pooling and readjustment. Legal consolidation of land by transfer of ownership to a land pooling agency (which is the concerned government authority). Clarity of infrastructure provisioning: Internal Infrastructure: All provisions on plots owned by private individuals to be provided by landowner; External Infrastructure: Provided by public agency (concerned authority) or developer, in case the LPS is undertaken by the developer.</p> <p>Valuation of land: Based on prevailing Registration and Stamps Department guidelines or resolution on the date of declaration of intention to prepare a scheme. Restrictions: No restriction on the quantity of the land or the type of land to be acquired.</p> <p>Clarity of operational process: Single clear legal document. A development -plan guided process, LPS serves as a second-tier micro plan with public notification of the scheme, clear description of stages with timelines, public hearings, and suggestions and objections invited at various stages.</p> <p>Timeliness: 315 days from the notification until physical marking of roads and amenities on land as per act.</p>	<p>Method of land acquisition/assembly: Voluntary land sharing and incentivised aggregation. Aggregation of minimum specified land area by land owners through a special power of attorney holder and surrender of prescribed (40 - 50 %) land to government authority for trunk facilities.</p> <p>Clarity of Infrastructure provisioning: Internal Infrastructure: To be developed by landowners/developer in consultation with authority. External Infrastructure: Public agency (area development authority) or private party can lease land for providing infrastructure.</p> <p>Valuation of land: Based on prevailing rates as per the Annual Schedule of Rates published by Registration Department, CIDCO.</p> <p>Restrictions: Prescribed minimum land area for aggregation is 7.5 hectares in non-urban village and 4 hectares in urban villages. No restriction on type of land.</p> <p>Clarity of operational process: Multiple government documents must be referred to understand the details of the scheme. It is an interim-development-plan guided process, with NAINA Scheme as a pilot land development model. Detailed process of the NAINA Scheme is available as a separate document. No time framework is prescribed and provision for public input only for the process of granting development permissions to landowners.</p> <p>Timeliness: No time period specified. Government envisages 8 - 10 years for the execution of city-level infrastructure after the approval of interim development plan.</p>	<p>Method of land acquisition/assembly: Purchase of contiguous land parcels through market price negotiations by private developers and development of land after receiving licence from government authority.</p> <p>Clarity of Infrastructure provisioning: Internal infrastructure: To be executed by developer in accordance with approved design and specifications; External Infrastructure: Town level infrastructure to be provided by development authority.</p> <p>Valuation of Land: Market price negotiation for purchase of land from landowners. Restrictions: Developers applying for a license are to avoid land proposed for agriculture use, lands already under other schemes, unprofitable family partitions, land for unprofitable factory labour housing, and lands less than 0.1 hectare. Minimum area of land required is based on the development potential zone classification of urban areas of the state.</p> <p>Clarity of operational process: Enabling act and rules present in two separate acts, however no clarity on the step-by step process of the land development model. Validity period of licence specified and no timeline for the completion of infrastructure by government. No scope for public participation in the process. Timeliness: Licence to private developers issued for a fixed time period. No time limit for developing external infrastructure works by government.</p>	<p>Method of land acquisition/ assembly: Transfer of plot reserved for public purpose in the form of a vacant plot or as a developed amenity to the concerned authority by the landowner in exchange of additional development potential (as additional FSI / Transferable Development Right).</p> <p>Clarity of infrastructure provisioning: Internal Infrastructure: Facilities on portion of land under individual ownership to be built as per regulations by individual. External Infrastructure: Developed by government authority or by individual if he surrenders land with built-up area.</p> <p>Valuation of land: Ready Reckoner rates given in the annual statement of rates, Department of Registration and Stamps in Maharashtra on the date of notification or declaration of the development plan.</p> <p>Restrictions: No restriction on quantity of land. Use of TDR is restricted in certain cases (such as coastal areas, ecologically sensitive areas, and other as prescribed in the development control regulations). TDR to be consistent with the prevailing DCR.</p> <p>Clarity of operational process: Multiple documents must be referenced to understand the process. Process is in government manual, however no clarity in the steps involved. No scope for public participation in the process.</p> <p>Timeliness: MRTP Act 1966 requires land to be acquired within 10 years of sanctioning of development plan or else owner may initiate process to release land from reservations. Timelines for issue of Development Rights Certificate from the date of its application is 180 days. Timeline for implementation of the specific purpose for which the land is acquired is not mentioned in the regulation.</p>	<p>Method of land acquisition/assembly: Assembling land through (1) purchase, (2) exchange of lands with lands of equivalent value, (3) procurement of development rights, (4) transfer of all land to a legal authority, where different landholders have stakes proportionate to their share in the total land under CRS and (5) acquisition by government in case promoter has purchased or procured development rights over at least 70 % of the land, and with the concerned authority declaring that they are dangerous buildings on the balance land.</p> <p>Clarity of infrastructure provisioning: Internal infrastructure: Private promoter who undertakes the CRS or government agency if they undertake the scheme External infrastructure: Not applicable.</p> <p>Valuation of land: Ready Reckoner rates given in the annual statement of rates, Department of Registration and Stamps in Maharashtra Restriction: Size of land should be a minimum of 0.4 hectare in the city and 1 hectare in the suburbs.</p> <p>Clarity of operational process: Lacks clarity on the step-by- step procedure to be followed. No clearly defined land assembling process. Only redevelopment process is given in the regulation. No time framework or public consultations mandated during the process.</p> <p>Timeliness: MRTP Act 1966 requires land reserved, allocated or designated for purposes under the act to be acquired within 10 years of sanctioning of development plan. Time for completing the execution of the scheme is not specified after the land/ scheme is taken up by the promoter.</p>

Parameter 4 - **Enabling frameworks**

TOWN PLANNING SCHEME (TPS), GUJARAT	LAND POOLING SCHEME (LPS), AMRAVATI	NAVI MUMBAI AIRPORT INFLUENCE NOTIFIED AREA (NAINA) SCHEME	JOINT DEVELOPMENT MODEL (JDM), HARYANA STATE	ACCOMMODATION RESERVATION AND TRANSFERABLE DEVELOPMENT RIGHTS (AR-TDR), MUMBAI	CLUSTER REDEVELOPMENT SCHEME (CRS), MUMBAI
<p>Enabling Framework: The Gujarat Town Planning and Urban Development Act, 1976 and Gujarat Town Planning and Urban Development Rules, 1979.</p> <p>Macro and micro planning: Development plan designates land-use reservations typically avoiding piecemeal development; a recent amendment also allows TPS to be taken up as per directions issued by a general or special order by the state government from time to time but should be contiguous to another TPS.</p>	<p>Enabling Framework: The Andhra Pradesh Capital Region Development Authority Act (APCRDA) 2014; Andhra Pradesh Capital City Land Pooling Scheme (Formulation and Implementation) Rules, 2015.</p> <p>Macro and Micro planning: Development plan designates land-use reservations typically avoiding piecemeal development. A layout plan is prepared within the framework of approved development plan. LPS to be implemented as per the layout plan.</p>	<p>Enabling Framework: Maharashtra Regional and Town Planning Act 1966; Interim development plan, Sanctioned Development Control and Promotion Regulations. No dedicated Act for the scheme.</p> <p>Macro and Micro planning: Interim development plan designates land-use reservations and infrastructure and social amenities; land for the same is expected to be achieved through the implementation of the NAINA Scheme.</p>	<p>Enabling Framework: Haryana Development and Regulation of Urban Areas Act, 1975; Haryana Development and Regulation of Urban Area Rules, 1976; The Punjab Scheduled Roads and Controlled Areas Restriction of Unregulated Development Act, 1963.</p> <p>Macro and Micro planning: The layout plan prepared by the developer is to be in conformity with the land uses allocated in the development plan. However, conformity to development plan came as a later addition and initially JDM operated outside the ambit of the development plan.</p>	<p>Enabling Framework: Maharashtra Regional and Town Planning Act 1966; Greater Mumbai Report on Draft Development Plan-2034; Revised TDR policy notified in November 2016 by the Urban Development Department, Mantralaya, Development Control Regulations (DCR) of Greater Mumbai.</p> <p>Macro and Micro planning: City Development plan and DCR designate public purpose uses. Individual plots acquired through AR/TDR for implementing the public purposes listed in development plan.</p>	<p>Enabling Framework: Maharashtra Regional and Town Planning Act 1966; Greater Mumbai -Report on Draft Development Plan-2034, Greater Mumbai- Draft Development Control Regulation-2034 DCR 33(9); Maharashtra Housing & Area Development Authority Act 1976.</p> <p>Macro and Micro planning: Clusters are identified in the cluster development plan or in a development plan prepared. No clusters should be identified without conducting an impact assessment study. Impact of scheme on city-level and sector level infrastructure, traffic and environment is assessed through this impact assessment study.</p>

Parameter 5 - Compensation, Rehabilitation and Resettlement (R&R)

TOWN PLANNING SCHEME (TPS), GUJARAT	LAND POOLING SCHEME (LPS), AMRAVATI	NAVI MUMBAI AIRPORT INFLUENCE NOTIFIED AREA (NAINA) SCHEME	JOINT DEVELOPMENT MODEL (JDM), HARYANA STATE	ACCOMMODATION RESERVATION AND TRANSFERABLE DEVELOPMENT RIGHTS (AR-TDR), MUMBAI	CLUSTER REDEVELOPMENT SCHEME (CRS), MUMBAI
<p>Range of compensation: Developed and serviced plot of higher land value, typically about 50% of original land parcel size is returned to landowner.</p> <p>Range of R&R Options: No skill development or capacity building programmes offered for the project-affected families.</p>	<p>Range of compensation: Developed and serviced plot of higher land value than the original land parcel (19 - 27% of original land parcel) returned to land owner. Annuity paid to land-owners for 10 years (amount varies based on the type of land surrendered); One-time additional payment for gardens such as lime/sapota/guava (Rs. 50,000).</p> <p>Range of R&R Options: Pension for landless affected families. Poor families get interest-free loans and agriculture loan waiver. Trainings with stipend offered to cultivating tenants, agricultural labourers and other needy persons, free education and medical facilities, old age homes, canteens, and other benefits under central and state schemes.</p>	<p>Range of compensation: 50 - 60 % of the original plot is returned along with incentive FSI to owners who willingly participate in the scheme (based on contribution). Compensation for land acquired in excess of specified percentage is in the form of TDR to the participating landowners. Land for reservations compulsorily acquired from nonparticipating landowners and compensated using provisions of RFCT-LARR, 2013.</p> <p>Range of R & R options: No clarity on the rehabilitation provisions for the landless project-affected families and no provision for training programmes for the project-affected people as there is no bulk acquisition through compulsory method.</p>	<p>Range of compensation: Not applicable, as original owners do not have a role beyond sale of land to the developer.</p> <p>Range of R & R options: No rehabilitation provisions for the landless project-affected families.</p>	<p>Range of compensation: Additional Development Rights or TDR in lieu of land/built-up area surrendered to the authority, which can be sold in the open market.</p> <p>Range of R & R options: Not applicable.</p>	<p>Range of compensation: Additional FSI for the promoter undertaking the scheme which can be sold for profit.</p> <p>Compensation for the landowners not clearly defined.</p> <p>Range of R & R options: A redeveloped dwelling unit with better amenities and services is provided to tenants of the original buildings.</p>

Parameter 6 - Recognition and Rights

<p>Beneficiaries: Landowners with land titles as per the official records. Joint ownership of plots is also recognised.</p> <p>Rights of landless persons: Only owners who have a legal right on the property are recognised. Landless project-affected persons are not recognised.</p>	<p>Beneficiaries: Landowners with legal title. Individual landowners and co-sharers identified as beneficiaries of the scheme.</p> <p>Rights of landless persons: Rights of landless affected persons are recognised and offered R & R components. A separate government order has provisions for identification and selection of landless beneficiaries in the scheme.</p>	<p>Beneficiaries: Landowners with legal title or developer who is a legal entity competent to hold, plan, develop and dispose land. Developer can include a cooperative society or joint venture of land owners.</p> <p>Rights of landless persons: Rights of landless are not recognised.</p>	<p>Beneficiaries: Rights of landowners beyond the scope of this model as land privately purchased through market price negotiation by developer. Developer with licence to colonise is a beneficiary.</p> <p>Rights of landless persons: Rights of landless are not recognised.</p>	<p>Beneficiaries: Landowner having property register card and also owning a title clearance certificate from a solicitor.</p> <p>Rights of landless persons: Rights of landless are not recognised.</p>	<p>Beneficiaries: Only tenancies created before 13/6/96 are eligible.</p> <p>Rights of landless persons: All the protected occupiers as defined in chapter IE of the Slum Act and orders issued thereunder and certified by concerned authority are recognised.</p>
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Parameter 7 - Participation Mandates

TOWN PLANNING SCHEME (TPS), GUJARAT	LAND POOLING SCHEME (LPS), AMRAVATI	NAVI MUMBAI AIRPORT INFLUENCE NOTIFIED AREA (NAINA) SCHEME	JOINT DEVELOPMENT MODEL (JDM), HARYANA STATE	ACCOMMODATION RESERVATION AND TRANSFERABLE DEVELOPMENT RIGHTS (AR-TDR), MUMBAI	CLUSTER REDEVELOPMENT SCHEME (CRS), MUMBAI
<p>Stages of Participation: Declaration of intent advertised, kept open for public inspection. Meeting of landowners to elicit public opinion and suggestions for making draft scheme. Plan advertised to seek objections before sanctioning draft, preliminary and final schemes regarding TPS proposals and compensation packages from the affected landowners.</p> <p>Consent required: No specific clause seeking consent of affected landowners.</p>	<p>Stages of participation: Objections and suggestions on the declaration of intent, landownership details and on the draft scheme and final scheme are sought from the landowners and interested persons.</p> <p>Consent required: Consent of landowners is sought as the first step in the process.</p>	<p>Stages of participation: No provision for public participation in the scheme, except that objections and suggestions sought while applying for development permissions by landowners. Objections and suggestions from public sought during the preparation of interim development plan as per MRTP Act mandate.</p> <p>Consent required: No clear mandate to seek consent from the project-affected people.</p>	<p>Stages of participation: Lacks public participation mandates in the process. Private developers construct colonies in accordance with approved design to the satisfaction of the Director, Town and Country Planning Department.</p> <p>Consent required: No provision to seek consent of the public while developing the colonies.</p>	<p>Stages of participation: Objections may be raised at draft development plan stages, but after sanctioning the plan, no participatory processes are mandated when land is taken through AR/TDR process.</p> <p>Consent required: No consent sought from landowners. Notice sent to landowners to surrender land. Willing landowners submit application for development rights certificate (DRC).</p>	<p>Stages of participation: No participation mandates for tenants in the planning and implementation of scheme.</p> <p>Consent required: Irrevocable registered written consent from 51% of tenants in each building or 70 % of eligible tenants of the entire scheme of all the authorised buildings on each plot involved in the scheme or as provided in Maharashtra Housing and Area Development Act, 1976 is required. No consent required if MHADA/MCGM undertake redevelopment directly on its own land.</p>

Parameter 8 - Cost Recovery Mechanism and Post-development Benefits

TOWN PLANNING SCHEME (TPS), GUJARAT	LAND POOLING SCHEME (LPS), AMRAVATI	NAVI MUMBAI AIRPORT INFLUENCE NOTIFIED AREA (NAINA) SCHEME	JOINT DEVELOPMENT MODEL (JDM), HARYANA STATE	ACCOMMODATION RESERVATION AND TRANSFERABLE DEVELOPMENT RIGHTS (AR-TDR), MUMBAI	CLUSTER REDEVELOPMENT SCHEME (CRS), MUMBAI
<p>Cost-recovery mechanism: Appropriate government authority recovers cost of developing land and infrastructure facilities through betterment levies and sale of plots.</p> <p>Benefits of land value increments: Accrue to government authority and landowners.</p> <p>Post-development beneficiaries: Government authority: Yes Individual landowners: Yes Developer/promoter: Typically not involved.</p>	<p>Cost-recovery mechanism: Appropriate government authority recovers through percentage of land kept aside as authority's share for infrastructure development cost recovery and through user charges levied. Development fund is created (loans, grants from state and centre and borrowings) specifically for capital city development.</p> <p>Benefits of land value increments: Accrue to government, individual landowners, and landless persons. Developer entity benefits if involved in the LPS.</p> <p>Post-development beneficiaries: Government: Yes Individual landowners: Yes Developer entity: Yes, if they take up LPS.</p>	<p>Cost-recovery mechanism: Development charges, floor space index (FSI) - linked premium charges (only nonparticipating landowners pay), leasing of land in the growth centre, and sale of social facility plots.</p> <p>Benefits of land value increments: Participating landowners/ developers accrue post-development benefits.</p> <p>Post-development beneficiaries: Government: Yes Individual landowners: Yes Developer: Yes, if involved in land aggregation.</p>	<p>Cost-recovery mechanism: Government authority recovers cost of developing external infrastructure through licence fee charged on colonisers, infrastructure development charges, external development charges, and percent of excess profit of developer. Developer/ coloniser recovers costs through sale and lease of plots or built-up area on the open market.</p> <p>Benefits of land value increments: Government authority: and private developer (colonisers) receive the benefits of development.</p> <p>Post-development beneficiaries: Government authority: Yes Private developer: Yes Original landowners: No, unless they are the developer of the colony.</p>	<p>Cost-recovery mechanism: Government acquires reservation land or built-up area of reservation without paying monetary compensation. The user of TDRs pays infrastructure improvement charges at the rate of 5 % of the construction cost as per prevailing annual schedule of rates.</p> <p>Benefits of land value increments: Benefits to public authority and to individuals who surrender only a portion of their land. TDR compensation received by owner can be sold on the open market.</p> <p>Post-development beneficiaries: Government authority: Yes Individual: Yes, if he transfers only a portion of land reserved for public purpose to authority.</p>	<p>Cost-recovery mechanism: Cost of redevelopment is borne by promoter who recovers cost through sale/lease of built-up area. Government agency receives a share of built-up area which could be used as tenements for project-affected people or as transit accommodation or sold as affordable housing. Government agency collects development cess (a tax on development) and development charges as per provisions of the MRTP Act, 1966 from the promoter.</p> <p>Benefits of land value increments: Accrue to both promoter (private or government) of the scheme and eligible tenants.</p> <p>Post-development beneficiaries: Government/cooperative societies: Yes Tenants: Yes Promoter: Yes</p>

Parameter 9 - Grievance Redressal and Jurisdiction of Courts

TOWN PLANNING SCHEME (TPS), GUJARAT	LAND POOLING SCHEME (LPS), AMRAVATI	NAVI MUMBAI AIRPORT INFLUENCE NOTIFIED AREA (NAINA) SCHEME	JOINT DEVELOPMENT MODEL (JDM), HARYANA STATE	ACCOMMODATION RESERVATION AND TRANSFERABLE DEVELOPMENT RIGHTS (AR-TDR), MUMBAI	CLUSTER REDEVELOPMENT SCHEME (CRS), MUMBAI
<p>Institutional arrangement: Board of appeals with principal judge of city civil court of Ahmedabad or District Judge as the president and two other assessors constituted to address grievances of the people. Decisions of board of appeals are final and binding. Board of appeals is not to be considered as the court.</p> <p>Access to courts: People can appeal to a court against decisions of the town planning officer in case of a disputed claim over land ownership.</p>	<p>Institutional arrangement: Concerned authority for land pooling scheme shall serve as the grievance redressal officer at any stage. Concerned authority shall be the appointed commissioner and includes such other officers along with staff, appointed by government for the purpose. Decision of such a committee shall be final. Further clarity on this is not provided in the LPS rules.</p> <p>Access to courts: The courts at two districts shall have exclusive jurisdiction to try and to entertain any disputes arising out of or in relation to the development agreement (between land owner and authority) subject to the arbitration clause present.</p>	<p>Institutional arrangement: There is no clear grievance redressal mechanism provided for in the scheme.</p> <p>Access to courts: There is no clarity on accessibility to courts.</p>	<p>Institutional arrangement: Any person aggrieved, can appeal to the Secretary to Government, Haryana, Town and Country Planning Department.</p> <p>Access to courts: No civil court shall have any jurisdiction to entertain or decide any question relating to matters falling under provision of Haryana Development and Regulation of Urban Areas (HDRUA) Act, 1975 or its rules.</p>	<p>Institutional arrangement: Does not mention a separate authority or board to address grievances.</p> <p>Access to courts: No clarity on accessibility to courts by the persons aggrieved in the process.</p>	<p>Institutional arrangement: No clear mandate for conflict resolution mechanism. Promoter can appeal against the decision of the high-powered committee to state government or to an officer appointed by state government. The high-powered committee is constituted for the CRS under section 47^e of the MRTP Act 1966.</p> <p>Access to court: No clarity on accessibility to courts by the persons aggrieved in the process of CRS.</p>

Notes:

- a. For a list of purposes that can be developed using AR and through TDR, see Table 4 of the Draft DCR of Greater Mumbai (MCGM 2016).
- b. As per section 33(9) of the DCR, a cluster may consist of a mix of structures such as (1) cessed buildings that attract the provision of Maharashtra Housing and Area Development Act, 1976, (2) Buildings at least 30 years of age belonging to different government agencies and other buildings which are certified as unfit for human habitation and slum areas. See pages 123 – 124 of section 33(9) of DCR (MCGM 2016).
- c. Section 47 of the MRTP Act states, “Any applicant aggrieved by an order granting permission on conditions or refusing permission may, within forty days of the date of communication of the order to him, prefer an appeal to the State Government or to an officer appointed by the State Government in this behalf, being an officer not below the rank of a Deputy Secretary to Government; and such appeal shall be made in such manner and accompanied by such fees (if any) as may be prescribed. The State Government or the officer so appointed may, after giving a reasonable opportunity to the appellant and the Planning Authority to be heard, by order dismiss the appeal.”

4.3. How the Mechanisms Compare Under Each Parameter

The following observations are based on a review of the legal frameworks of the six cases according to the nine parameters.

1. Recognition of Public Purpose

All six land acquisition mechanisms are preceded by a statutory master plan that sets out public purpose reservations. The listings are clear and unambiguous on what public purposes can be acquired, along with the broader intent that they are to serve such as acquiring land for urban extensions, urban renewal, and infill development. Mechanisms such as TPS and LPS also include a similar list. Mechanisms used predominantly for urban expansion, such as TPS, LPS, NAINA Scheme, and JDM, have scope to add newer public purposes to adapt to the changing needs of society. In every case, a statutory master plan allocates land-use reservations for various public purpose needs such as roads, infrastructure, and open spaces. Through TPS and LPS, land parcels are reconstituted to regular shaped plots with infrastructure services provided to the plot level, whereas through NAINA and JDM, infrastructure services are provided to the layout level by the government agency. However, a flaw in all the mechanisms is that none provides any recourse if the land is diverted for purposes other than those intended when the acquisition was made.

2. Public Purpose Land Secured

Of the six schemes, TPS and LPS explicitly define what percentage of land should be assigned for various public purpose reservations mandated by the master plan. For NAINA Scheme and JDM, which involve development of layouts and colonies by private developers or individual landowners, a total percentage of land for public purpose within each layout/colony is provided in the regulations. However, access to these public purposes in gated residential developments is limited to the residents of that development only. The AR -TDR is a tool to acquire land or built-up area for public purpose reservations made in the master plan free of cost and free from all encumbrances from the landowners. CRS ensures the renewal of dilapidated buildings and in the process, public purpose reservations proposed within the master plan are realised. While provisions for affordable housing are made within TPS, LPS, NAINA Scheme and JDM, there is uncertainty on the criteria for identifying the beneficiaries in all mechanisms except for JDM. There is no clarity on whether the tenants or occupiers of the land that has been acquired through these mechanisms will be considered as the eligible beneficiaries for new units.

3. Operational Process

TPS, LPS, and the NAINA Scheme employ variations of the land readjustment and pooling techniques for acquiring land, whereas the other three schemes are not very similar. The land pooling and readjustment method used in TPS and LPS is well defined in terms of process, steps, and timelines established through legal documents. Despite the timelines prescribed for TPS, its implementation has been affected by both administrative and procedural delays. According to the United Nations Human Settlement Programme Report 2013, procedures such as land-use conversion and issuance of no-objection certificates and other clearances have caused delays in the timely completion of land transactions and have affected the pace of project development (UN-HSP 2013). Land was assembled for Amravati through LPS within a year, yet it is unknown how long it will take to complete this project based in an agricultural setting. In NAINA Scheme, while there is a clear process, there are no timelines for each step. NAINA Scheme cannot yet be analysed for efficiency in its timeliness because it is an ongoing scheme. Some developers contend that CIDCO is deliberately going slow in granting permissions and approvals in time for the ambitious NAINA project (Sivadas 2016).

Mechanisms like JDM, AR-TDR, and CRS do not have the same clarity, and AR-TDR requires referencing multiple documents to ascertain the legal provisions. CRS lacks clarity on the compensation packages land owners get. Within the framework of the master plan, there is no mandate for JDM to follow a phased development to avoid assembling land in a piecemeal manner. While a licence period is specified for developing colonies in JDM, there are no timelines stipulated for developing the trunk infrastructure. In all the mechanisms, internal infrastructure services at the plot or layout level are to be developed by the individual or developer. Government authority is responsible for developing all external infrastructure such as major arterial roads, water supply networks, sewerage networks, and electric lines. They are also responsible for implementing external amenities such as parks, open spaces, and education and health facilities for which the authority has assembled land from the landowners. Reports suggest that private layouts were developed in Gurgaon through JDM on time, but the implementation of trunk infrastructure by the government authority has been delayed (Nallathiga 2009). While the master plan that precedes all mechanisms reserves land for development based on various criteria, TPS specifies additional types of land that can be reserved, such as land likely to be used for building purposes and land that is already built up. LPS does not impose restrictions

on the type of land. All the mechanisms, except TPS and LPS, specify a minimum land area that can be acquired for aggregation and development ranging from a few hectares (such as a park in an infill context) to a large-scale development involving over 10,000 hectares.

4. Enabling Framework

All mechanisms, except JDM and LPS, work under statewide planning legislation, which precedes all the land-acquiring mechanisms. JDM is enabled by the Punjab Scheduled Roads and Controlled Areas Restriction of Unregulated Development Act, 1963 mandating the preparation of a development plan and the Haryana Development and Regulation of Urban Areas (HDRUA) Act, 1975 to guide the planning and the land development mechanism. LPS has the Andhra Pradesh Capital Region Development Authority (APCRDA) Act, 2014, which mandates the preparation of a master plan and rules enabling the implementation of the land pooling mechanism. For NAINA Scheme, no single document governs the various components of the land-acquiring mechanism. For instance, NAINA Scheme implementation formats and frequently asked questions on the CIDCO websites had to be sourced to understand various components of the NAINA Scheme. All the land-acquiring mechanisms operate at the micro level to implement public land reservations as laid out within the master plan at the macro-level (city level). This facilitates a supply of planned and serviced land in all the six mechanisms.

5. Compensation, Resettlement, and Rehabilitation

Five of the mechanisms, but not the JDM, have provisions for a variety of compensation to landowners in the form of developed land, monetary benefits, or additional development rights. In TPS, the final value of plots is set by taking into account their locational advantages or disadvantages. LPS does not account for the location of land, but considers the type of land acquired (wet land or dry land) for valuation. NAINA Scheme looks into the location of land parcels (urban villages and land outside urban villages but within the interim development plan area) for arriving at compensation. In AR-TDR, the additional development rights granted depend on the location of the land surrendered. In CRS, the incentive FSI depends on the value of the land and the construction cost. Significantly, only the LPS includes rehabilitation and resettlement provisions that offer training with a stipend to tenants and other needy persons, free education, and medical facilities, making it more comprehensive than the other mechanisms as landless families constitute a large proportion of agricultural households in India. While there are many similarities between the TPS and LPS,

when it comes to compensation, LPS offers monetary benefits to beneficiaries (landowners surrendering the land) in addition to developed land and other rehabilitation and resettlement components. In JDM, because it is a negotiated transaction between the landowner and the developer, landowners do not gain from the post-development benefits, unless the landowner himself is the developer. In CRS, the compensation for landowners are not clearly detailed in the regulations. However it is important to note that in many cases the landowners are speculative land assemblers, developers, business people, and even politicians and bureaucrats who reap the benefits of land value increments.³¹

6. Recognition of Rights

All mechanisms recognise only individuals with a legal right to the property for disbursement of compensation. However, there may be individuals who inherited the property but do not possess a legal proof of ownership. Such customary property rights are not recognised in any of the mechanisms. The negative impact of land assembling will fall more on landowners with small landholdings, for whom loss of land is a loss of livelihood. Out of the six mechanisms, only LPS and CRS recognise the rights of landless project-affected families and slum dwellers (protected occupiers as defined in relevant slum acts) for disbursement of resettlement and rehabilitation components. Joint ownership of land is recognised by TPS, LPS, and NAINA Scheme, while the other mechanisms lack clarity on joint ownership. Recognition of rights is beyond the scope of JDM because the land is purchased privately through a negotiation with the legal title holder. Thus there are no stated rights in the legislation for landless tenants, labourers, or landowners without legal titles.

7. Participation Mandates

The macro-level master planning process mandates peoples' rights to raise objections and offer suggestions. At the micro level, only two (TPS and LPS) of the six mechanisms have provisions to seek objections and suggestions from affected persons during various stages of the scheme. In NAINA Scheme, there is a provision to make suggestions on the detailed layout submitted by the power-of-attorney holder. Consent of project-affected persons to participate in the mechanism is sought only in LPS and CRS. However, in CRS, there is no clarity on further participatory provisions. In TPS, the landowners affected are not given an option to choose whether they want the scheme in their area. While JDM and AR-TDR have no participatory mechanisms, the NAINA Scheme expects voluntary participation of the landowners in the land development

process. The NAINA Scheme further details how landowners can proceed with land aggregation and developments on the share of land in their possession.

8. Cost-Recovery Mechanisms and Post-Development Benefits

All the mechanisms have provisions for cost recovery to reduce the financial burden on the government authority. Amendments to the Gujarat town planning legislation allow a government agency to assemble plots for revenue generation in TPS, making it financially viable. TPS has a well-defined procedure for charging betterment levies reflecting the locational advantages and disadvantages of each plot. LPS lacks clarity on the percentage of land the government agency should set aside to sell for cost recovery and on the assumptions used for levying user charges. NAINA Scheme envisages cost recovery through development charges, FSI-linked premium charges, and sale of land in the growth centre. In the JDM, infrastructure development and external development charges are imposed on the developer and any net profit above 15 percent after the completion of the project must be turned over to the state or spent for further infrastructure or social amenities. However, there are no checks and balances to track the percentage of profit made, making enforcement weak. AR-TDR enables the implementation of public purpose reservations without much financial burden on the government authority by awarding additional development rights; and the government receives infrastructure improvement charges when the landowner later uses the development rights. In the CRS, the developer redevelops dilapidated areas and constructs affordable housing that is handed over to the agency free of charge. Though all mechanisms are financially viable, the success of a mechanism relies heavily on the market demand for serviced land. As a result, any mechanism may not be suitable in distant rural areas, across geographies and income groups, and will likely be affected by macroeconomic and market conditions.

TPS, LPS, and NAINA Scheme provide post-development benefits to both the government and landowners with land value increments accruing to both the parties, without displacing the landowners from the scheme area. Conversely, JDM displaces the original landowners and post-development land value gains accrue only to the private developer who buys land through market price negotiations. Through CRS, eligible tenants get a better accommodation with better public provisions in the same location as the original site. In AR-TDR, landowners typically surrender underutilised land parcels and hence do not get displaced in the process.

9. Grievance Redressal and Jurisdiction of Courts

Among the six mechanisms, only TPS has a clear grievance redressal mechanism and clarity on the jurisdiction of courts. The legislation enabling TPS mandates a separate board of appeals to address grievances and conflicts related to compensation. Conversely, the NAINA Scheme and AR-TDR do not mention grievance redressal provisions. In LPS, the implementing authority also acts as the grievance redressal officer, which could lead to a conflict of interest. Similarly, JDM lacks a clear grievance redressal mechanism giving only a provision to appeal to the secretary of the state government against any order of the planning department or any person appointed by the government. In the CRS, the promoter can appeal to the state government or an appointed government official against a decision of the high-powered committee that approves the scheme. While TPS and LPS provide some clarity on the jurisdiction of the courts in disputes, the NAINA Scheme, AR-TDR, and CRS lack clarity on the jurisdiction of the court. The legal provisions enabling JDM do not allow civil courts to interfere in matters falling under the provision of the HDRUA Act or Rules.

5. STRENGTHS AND AREAS OF IMPROVEMENT

Alternative land acquisition and development mechanisms, used alone or in combination to suit contextual needs have several benefits over other methods of acquiring land for the development of public purposes. They ensure an area development which is invaluable, however, there are also improvements required in certain areas.

Implementation of the macro-scaled city master plan at the micro level

The six cases enable the macro-scaled land use based master plans to acquire land and implement public purpose reservations at the micro scale when applied as intended. Implementation of land-use reservations for public purposes such as roads, open spaces, schools, health facilities, educational facilities, markets, and transport and communication facilities is possible through these mechanisms. The Town Planning Scheme (TPS), the Land Pooling Scheme (LPS), the Navi Mumbai Airport Influence Notified Area (NAINA) Scheme, and the Joint Development Model (JDM) follow an area development approach to plan and service urban extensions and greenfield areas. The Accommodation Reservation and Transferable Development Rights (AR-TDR) Scheme, and the Cluster Redevelopment

Scheme (CRS) contribute to infill addition or retrofitting of infrastructure amenities and the redevelopment of derelict neighbourhoods in an urban context. However, these mechanisms need improvements in their master planning and phasing processes in order to prevent isolated and fragmented pieces of land development in the city peripheries.

Accessibility to planned and serviced land for all income groups

The mechanisms predominantly used in urban extensions and greenfield developments ensure that planned and serviced land is accessible to all income groups by allocating a percentage of the land or built-up area for affordable housing. States often access central financial assistance such as the Pradhan Mantri Awaz Yojana (Housing for All Scheme – Urban) to construct affordable housing on these reserved lands. In CRS, tenants from different income groups living in dilapidated buildings are assured of improved housing. Additional floor space index is shared with the Maharashtra Housing and Area Development Authority and if it remains unused for transit tenements it can be used for affordable housing. Slum TDRs ensure improved housing in slums through slum redevelopment projects. While there are provisions in the mechanisms to ensure affordable housing and other public purposes, there need to be improvement in the accountability mechanisms to ensure that the intended public purposes are developed on the land acquired.

Strengthening the finances of city agencies

The tool of land value capture has been sparingly employed by most municipalities and development authorities, denying them a major source of revenue. Alternative land acquisition mechanisms enable value capture through land banking, land auction and sale, betterment levies, license fees, and sharing of excess profits along with receiving higher taxes from increased property values. Nonmonetary compensation methods such as transferable development rights reduce the burden on government agencies to pay upfront to compulsorily acquire land in developed areas so they can introduce infrastructure and amenities. By tapping into land value capture and methods of nonmonetary compensation, the urban local bodies and development authorities can improve their financial situation. However, accounting practices need to be improved so that the land value that is captured is recorded systematically and its use is better managed by the concerned government agencies.

Sharing land development risks, post-development benefits and improving participatory mandates

In all the six mechanisms, the public agency is in a partnership with either the land owners directly or with a private entity to acquire and develop the land. In the land readjustment and pooling mechanisms, the government agency does not pay for the acquired land upfront but rather provides infrastructure to offset landowner losses, while the landowners benefit from the increase in value of their remaining parcel of land, and they do not get displaced. This approach to acquiring land is less prone to resentment from the landowners, as they are not left out of post-development benefits (a challenge often cited) and lends to its replicability in other contexts. While the risks and benefits are shared between government and landowner or private developer, the landless project-affected people who are displaced through the land acquisition process need to be adequately compensated. Improvements in the participatory methods also need to be brought in so as to ensure that all stakeholders including the landless project-affected people have a say in the land acquisition process.

Replicating successes through contextually suitable legislative amendments

State town and country planning acts lay out the process of planning, development, and land acquisition in urban areas. Most town planning laws enacted after Indian Independence have provisions pertaining to town planning schemes (UN-HSP 2013). This legislative basis can be improved based on the experience of various mechanisms. For example, the success of the TPS in Gujarat is attributed to its numerous and timely revisions ensuring that it remained relevant to contemporary needs and the same process could be initiated in other state acts. States and cities now enacting legislation and rules to enable the use of alternative mechanisms can learn from the experience of other states.

6. RECOMMENDATIONS AND FURTHER RESEARCH

The use of alternative mechanisms as a mainstream method to acquire land for public purposes is relatively new and is currently being done only regionally. This will likely continue to be the case given the regional specificities, legislative legacies, political realities, and constitutional mandates. No single model can be applied uniformly or accepted by all stakeholders across varied

contexts because the success of each mechanism is influenced by the political economy, historic evolution and sociocultural context in which it is applied. Continued adaptation and updating according to the dynamic needs of a city or state is critical.

6.1. Recommendations

Recommendations to improve the documented mechanisms include adding provisions to: prevent remote, fragmented development; use urban design standards that promote walkability; streamline the process of acquiring land; institute checks and balances to make sure land is used for its intended purpose; ensure participation of all stakeholders; provide equitable compensation for all; adopt state policies that can be adapted to local needs; and build the capacity of agencies to implement these mechanisms.

Prevent distant, disconnected, and dispersed development

Alternative mechanisms can harness the rapidly expanding unplanned and unserved peripheries of Indian cities. Master plans while delineating urban extensions should discourage developments far beyond the peripheries that can stretch infrastructure, destroy natural resources, and diminish the amount of fertile land. Such urban extensions should be in contiguity with the existing built-up areas.

Approvals for alternative mechanisms to implement public purposes should be done in a phased manner taking into account the on-the-ground developments. For instance, a recent amendment to the Gujarat Town Planning and Urban Development (GTPUD) Act, 1976 states that a new Town Planning Scheme (TPS), which is taken up without rolling out a larger master plan, needs to be contiguous with another TPS. Similarly, when TDRs are used, a city-level assessment must be done in the master plan to see whether areas receiving additional density have adequate infrastructure, and are not in a distant periphery.

Introduce planning and urban design standards to ensure connectivity and walkability

Large gated communities with very large block sizes and cul-de-sacs that prevent thoroughfares and restrict the number of options to get from one point to another are seen predominantly in the Joint Development Mechanism (JDM). Many global cities specify acceptable block sizes and adopt street connectivity standards. Following international best practices in urban design should be required in the alternative mechanisms. A

local area planning amendment that touches upon these aspects was introduced into the GTPUD Act 1976, but links to the TPS at the micro level are weak.

Streamline the delivery of developed land

Some alternative mechanisms such as the TPS and JDM require state approvals before they can be implemented causing delays and limiting the autonomy of city agencies that implement land acquisition. Further, in mechanisms such as Navi Mumbai Airport Influence Notified Area (NAINA) Scheme and JDM, there is no time framework for government agencies to complete trunk external infrastructure. Other delays from litigation, landowner's refusals to give up the property, dated land records and ownership disputes are witnessed in many mechanisms and are also common with compulsory acquisition. A range of critical reforms must be instituted including functional autonomy for city agencies to manage land development, accountability of implementing agencies, and other reforms such as land record updating and digitisation.

Institute checks and balances

In some instances, land assigned for affordable housing was diverted to other uses. Other norms have been ignored by builders causing low-income people to continue to rely on informal housing. Appropriate checks and balances should be mandated in all alternative mechanisms to ensure that land is utilised for the intended purpose and compensation and rehabilitation schemes reach the intended beneficiaries.

Ensure participation of all affected stakeholders

Some schemes document detailed participatory processes, but participation is largely confined to those who hold a legal title to the land. Other than the Land Pooling Scheme (LPS), no scheme used for urban extensions explicitly considers the rights of tenants, who are a significant percentage of the population in both urban and rural areas. Participatory and consensus-building clauses must be introduced at various stages in the enabling frameworks to specifically include tenants. One of the bigger successes, Ahmedabad's Ring Road, was attributed to the proactive role of the Ahmedabad Urban Development Authority in building consensus for the project (UN-HSP 2013). Hence beyond setting up enabling frameworks, a concerted effort by the implementing agencies to implement them is needed. The objective of the acquisition should be conveyed to all affected people soon after the government authority declares its intention. This intention should clearly define the potential benefits to the area as well

as to individual landowners and affected tenants. Government agencies need to be capacitated and sensitised to work closely with project-affected people, explaining the project's benefits, convincing people, and winning their trust. It is also important to conduct an equity impact analysis of each project as implemented to bring about improvements in subsequent schemes.

Include equitable and fair compensation frameworks

The Right to Fair Compensation and Transparency in Land Acquisition, Rehabilitation and Resettlement (RFCTLARR) Act, 2013 introduced changes such as rehabilitation for landless project-affected people who lose their livelihood opportunities due to land acquisitions. Rehabilitation can be offered in the form of subsistence allowance, employment opportunities, skill development, and the provision of infrastructure and social amenities in the villages where the displaced families are rehabilitated. Only recently evolved schemes such as the LPS have included rehabilitation for landless project-affected people. All other mechanisms, while reserving land for affordable housing, are not clear about how the beneficiaries will be identified or even whether the landless project-affected people will benefit. Adapting and integrating rehabilitation provisions from the 2013 act could make the state-led alternative mechanisms equitable to all income groups with checks and balances in place to ensure implementation.

As a fixed percentage of land is reserved for affordable housing in all the mechanisms, the final beneficiaries of the housing could include the tenants (occupiers). This would ensure that landless project-affected people do not get displaced from their original location and could potentially reduce resettlement and rehabilitation costs.

A standard compensation system of deciding the percentage of land returned without considering the locational advantages and disadvantages of the original property does not ensure fair compensation to the landowners. The land valuation and determination of compensation should be on a sound technical basis with elements of the proportionality principle, equity, and fairness (Nair 2016b). A fair and equitable sharing of cost and development benefits between the authority and the landowner will ensure voluntary participation of the landowners in the land acquisition processes. A clear land acquisition mechanism should be embedded within the existing institutional and legal frameworks, and should take into account the requirement of different beneficiaries involved in the land acquisition process (Basnet 2012).

Adopt state policies that can be tailored to local needs. The scale and pace of India's impending urbanisation and the critical need to acquire planned and serviced land for development and public purposes while ensuring equity and efficiency will require a variety of locally relevant solutions. Land utilisation for urban needs span across redevelopment, retrofitting, expanding urban peripheries and greenfield areas. These diverse needs, which are present in all cities, require appropriate alternative mechanisms to plan and service land, thereby requiring the state to adopt a hybrid policy enabling the use of multiple alternatives.

Build the capacity of government staff to implement alternatives

The number of cities and states implementing alternative mechanisms is limited and any attempts at replication will require staff upgrades in capacities and capabilities. As most urban agencies continue to use compulsory land acquisition techniques, training programs and site visits to encourage peer-to-peer learning in alternative mechanisms must be undertaken. Learning how to use technology to reduce implementation timelines is also important. Modern technologies in data recording and physical surveys include global positioning systems, high-resolution satellite imagery, geographic information systems and AutoCAD software for conducting surveys can save significant time in mapping and creating a database for the TPS process (Panchal, et al. 2016). There must also be an efficient monitoring framework to ensure that implementation is recorded systematically and the corresponding land value gains are tracked and managed appropriately by the concerned government authorities.

6.2. Further Research

Further recommendations to improve the enforcement of the mechanisms cannot be suggested without undertaking more research. The impacts of the LPS and NAINA schemes can be assessed only after their complete execution. While this paper documents and compares various land acquisition mechanisms used in specific areas to better inform decision making on the use of alternatives, further research should involve interaction with various stakeholders and experts involved in the process. This could include cost-benefit analysis of the six mechanisms as practiced as well as newer distributive cost-benefit techniques. Further research could assess the percentage of affordable housing and public purpose reservations generated through the individual case examples. This information

will help ascertain the success or failure of each mechanism as a contributor to planned and serviced development in urban areas. More suggestions for bettering the mechanisms could be suggested after this research.

The case study examples could be evaluated to answer questions related to the quantum of investments made by public and private agencies and the returns on these investments accruing to each stakeholder and to the original land owner. It would be important to analyse to what extent the provisions of the legal framework such as participatory mandates, compensation disbursement, and conflict resolution mechanisms were followed.

Details on the institutional arrangement, transparency, and monitoring frameworks and other factors such as property titling, landownership issues, and property rights that affect the enforcement of the mechanisms will also need to be assessed in the future research. Analysis could also be conducted to ascertain whether the land value capture method used in each case study set in motion a virtuous cycle of reinvestment to acquire and service additional land. Further research is also required to understand if there are any state-led mechanisms not documented in this paper that have resulted in planned and serviced developments.

ABBREVIATIONS

APCCLPS	Andhra Pradesh Capital City Land Pooling Scheme
APCRDA	Andhra Pradesh Capital Region Development Authority
AR	Accommodation Reservation
ASR	Annual Statement of Rates
AUDA	Ahmedabad Urban Development Authority
BDA	Bengaluru Development Authority
CIDCO	City and Industrial Development Corporation of Maharashtra Ltd
CRS	Cluster Redevelopment Scheme
DCR	Development Control Regulation
DR	Development Rights
DRC	Development Rights Certificate
EWS	Economically Weaker Section
FAO	Food and Agriculture Organisation
FSI	Floor Space Index
GIS	Geographic Information Systems
GTPUD	Gujarat Town Planning and Urban Development
HDRUA	Haryana Development Regulations of Urban Area
HUDA	Haryana Urban Development Authority
JDM	Joint Development Model
LAA	Land Acquisition Act
LIG	Low-Income Group
LPS	Land Pooling Scheme
MCGM	Municipal Corporation of Greater Mumbai
MHADA	Maharashtra Housing and Area Development Authority
MHUPA	Ministry of Housing and Urban Poverty Alleviation
MoUD	Ministry of Urban Development
MRTP	Maharashtra Regional and Town Planning
NAINA	Navi Mumbai Airport Influence Notified Area
RFCTLARR	Right to Fair Compensation and Transparency in Land Acquisition, Rehabilitation and Resettlement
Rs	Rupees
SPA	Special Power of Attorney
Sqkm	Square kilometer
Sqm	Square meter
TCPO	Town and Country Planning Organisation
TDR	Transferable Development Right
TPO	Town Planning Officer
TPS	Town Planning Scheme
UN-HSP	United Nations Human Settlement Programme
URDPFI	Urban and Regional Development Plans Formulation and Implementation
URS	Urban Renewal Scheme

GLOSSARY

Additional development rights. Permission to build more densely than typically allowed on certain land. These rights have value to developers and are occasionally used as nonmonetary compensation in exchange for land donated for public amenities. They are usually given as an increased floor space allowance.

Affordable housing. The definition of affordable housing varies with region and income levels. Income level, size of dwelling unit, and affordability are the three parameters that give the generic representation of affordable housing at an all-India level. While the first two parameters are independent of each other, the third is correlated to income and property price (KPMG 2010). Generally, affordability is taken as three to four times the family's annual income. However, any affordability entitlement offered by the state or central government for individual dwelling units with a carpet area of not more than 60 square meters, is not more than five times the annual income of the household (MHUPA 2014).

Betterment levy. A fee that is levied on individuals benefitting from infrastructure services and social amenities provided by government authorities to offset the cost of providing the same.

Economically weaker section (EWS). Citizens or households whose annual income is below a threshold level are categorised as EWS. Central and state government set the minimum limit of annual income for different schemes. For instance, the Ministry of Housing and Urban Poverty Alleviation (MHUPA) classify an urban poor with annual household income of up to Rs. 1 lakh under the economically weaker section for affordable housing projects.

Greenfields. Unbuilt land outside the city limits usually agricultural or fallow lands. These are natural open spaces.

Infills. Small parcels of urban land that are vacant or contain derelict structures and that can be consolidated and redeveloped.

Infrastructure services. Includes roads, utilities, and water and sewer services. Trunk infrastructure includes the main arterial roads, pipelines, and power lines, which are provided by the government, whereas nontrunk infrastructure includes collector roads and water and power supply lines to the plots, which are usually developed within a subdivision by a private developer or individuals.

Land assembly. The process of forming a single site by bringing together a number of individual land parcels belonging to different landowners, usually for eventual development or redevelopment (Money Control n.d.).

Land lease. A voluntary transaction of land by private individuals or the government, in which the property rights, such as the use to which the land is put and the income derived, are transferred from the landowner to the tenant. The duration of lease is based on the set of agreements made between the landowner and the tenant. After the contract period is over, the contract is either renewed or land along with the built-up structure is handed back to the landowner. Land lease is used as a revenue-generating

mechanism by government agencies that rent government land to private entities or other government agencies for a fixed duration of years. Land lease is usually adopted at a small scale such as for educational institutions, residential buildings, hydroelectric projects, or solar parks.

Land value capture. A method by which government recovers all or part of the increase in property value that has resulted from a public infrastructure investment, land-use change, or other government action. This unearned increase that accrues to private properties is captured by the government to help in recovering public investment, and could also provide benefits to private sector partners. Techniques include imposing betterment levies, infrastructure cess, and area- and value-linked development charges.

Landless project-affected people. People who live on or derive an income from the land to be developed but do not own property (refer to endnote 2). Many of the schemes do not provide them any benefits or compensation for having to leave the land.

Market price negotiation. The negotiated land transaction made between a willing buyer and a willing seller (Money Control n.d.) A government agency, private developer, or individual buyer negotiates with a land owner to arrive at a mutually acceptable price to complete a property transfer transaction.

Master plan. Also called development plan or land-use plan, is a city- or region-wide plan that reserves land for roads, utilities, water, as well as schools, hospitals, parks, and other social amenities and designates where residential, commercial, and industrial activities can be located.

Planned land. Planned land includes the reshaping of irregular land parcels into more regular or rectangular shapes for urban use typically accompanied by a change in its designated use from agriculture to other urban uses following a master plan. The benefit of having regularly shaped parcels and straighter roads is that urban services (water supply, sewerage, electricity and drainage) may be more easily laid out. Land is often planned in such a manner in response to economic growth, demographic needs and projections of broader societal goals as envisaged in a master plan or development plan. Thus planned land indicates land that is envisaged to be developed in accordance with a master plan or a development plan.

Public purpose. Globally, many constitutions and laws allow compulsory acquisition of land for public purposes, public uses, and/or in public interest (FAO 2008). In practice, the terms public purpose and public interest tend to be used interchangeably (FAO 2008). The Food and Agriculture Organisation (FAO) of the United Nations' handbook³³ lists commonly accepted public purposes for compulsory acquisition, which include transportation, public buildings, public utilities for water, sewage, electricity, gas, communication, irrigation and drainage, dams and reservoirs, public parks, playgrounds, gardens, sports facilities, cemeteries and defence purposes (FAO 2008). The Law Commission of India in 1958 expressed its view in its tenth report on the Law of Acquisition and Requisitioning of Land that it was neither possible nor expedient to attempt

an exhaustive definition of public purposes. The report states that public purpose in acquisition of land should tend to promote the welfare of the community as distinct from the benefit conferred upon an individual (Law Commission of India 1958).

This paper addresses land designated for public purposes in the state town and country planning acts. While these acts do not explicitly define the term public purpose, land under private ownership could be acquired by the government authority for purposes such as road networks, utilities, open spaces, educational institutions, medical and public health institutions, markets, social welfare and cultural institutions, places for public entertainment or public assembly, religious buildings and government and other public buildings as may from time to time be approved by the respective state government (MRTP Act 1966; GTPUD Act 1976). While the determination of public purpose is under the judiciary review of the courts, they have generally left it largely to the domain of the administration and legislature (Nair 2016c). The National Land Acquisition Act, 2013 (updated as the Right to Fair Compensation and Transparency in Land Acquisition, Rehabilitation and Resettlement Act, 2013) provides a list of activities as public purposes such as public infrastructure projects, strategic projects for national security and defence, projects for project-affected families and housing for the economically weaker sections. However, no definition of the term public purpose itself is given.

Public purpose reservations. Land reserved in a master plan for the infrastructure services and social amenities that are needed to serve the community (see public purpose, above).

Reservation. Reservation is the designation of a parcel of land with a public purpose use which is to be developed as stipulated in the regulations of a master plan or development plan.

Serviced land. Land with access to physical infrastructure services such as roads, power, water, and sewerage.

Slum. Slum is defined by the National Sample Survey Organisation of the Ministry of Statistics and Programme Implementation as a compact area with at least 20 households having poorly built tenements, mostly of a temporary nature, crowded together usually with inadequate sanitary and drinking water facilities in unhygienic conditions. Certain areas notified as slums by municipalities, corporations, local bodies or development authorities are termed "notified slums." Slums are to be considered in urban areas only.

Social amenities. Social amenities are health, education, community facilities, open spaces, parks, playgrounds and such other uses designated in a master plan to meet the needs of a community.

Urban agglomeration. A continuous urban spread constituting a town and its adjoining outgrowths, or two or more physically contiguous towns together with or without outgrowths of such towns. An urban agglomeration must consist of at least a statutory town and its total population (i.e., all the constituents put together) should not be less than 20,000 as per the 2001 Census.

APPENDICES

Appendix A: Contents of a Draft Town Planning Scheme (TPS), Gujarat State

Contents of a Draft Town Planning Scheme as per Gujarat Town Planning and Urban Development (GTPUD) Act, 1976 and GTPUD Rules 1979 include:

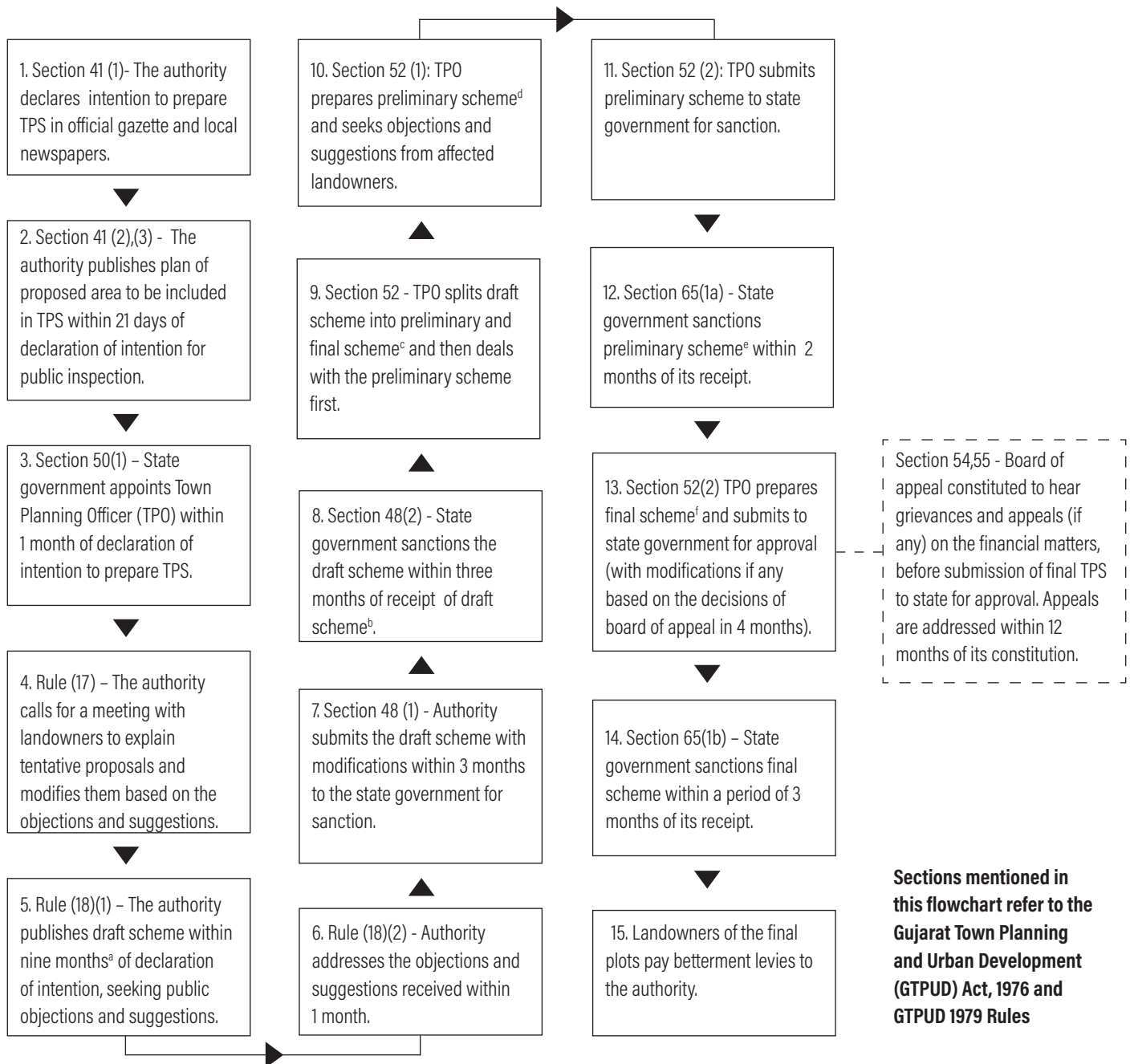
- Index map showing area included in the scheme and surroundings within reasonable limit
- Area, ownership, and tenure of each original plot
- Plan showing manner in which original plots are proposed to be altered
- Plan showing all details of plots in final scheme
- Estimates of all works contemplated in the scheme
- Tabulation of ownership details, original plot sizes, and value of original plots, value of developed plots, increment in land values, and contributions to be made by landowners for land value increments (in the statement form F)
- A statement in Form G showing financial expenditures of the scheme
- Regulations of control of development within the scheme area.

Urban area. The Census of India 2011 defines an urban area as (1) a place with a municipality, corporation, cantonment board or notified town area committee; (2) other places that satisfy the following criteria: (a) a minimum population of 5,000; (b) At least 75 percent of the male working population engaged in nonagricultural pursuits; and (c) a population density of at least 400 persons per square kilometer.

Urban extension. Areas beyond the city limits that can be planned and serviced for residential, commercial, institutional and/or industrial use.

Urban poor. Identification of poor in India is done by the state government on the basis of the Below Poverty Line (BPL) censuses, the latest being the Socio-Economic Caste Census 2011 (SECC 2011). BPL is the threshold level of income required to purchase goods and services necessary to satisfy the basic needs at the minimal socially acceptable level. Urban poor are those living below the poverty line defined for the urban areas.

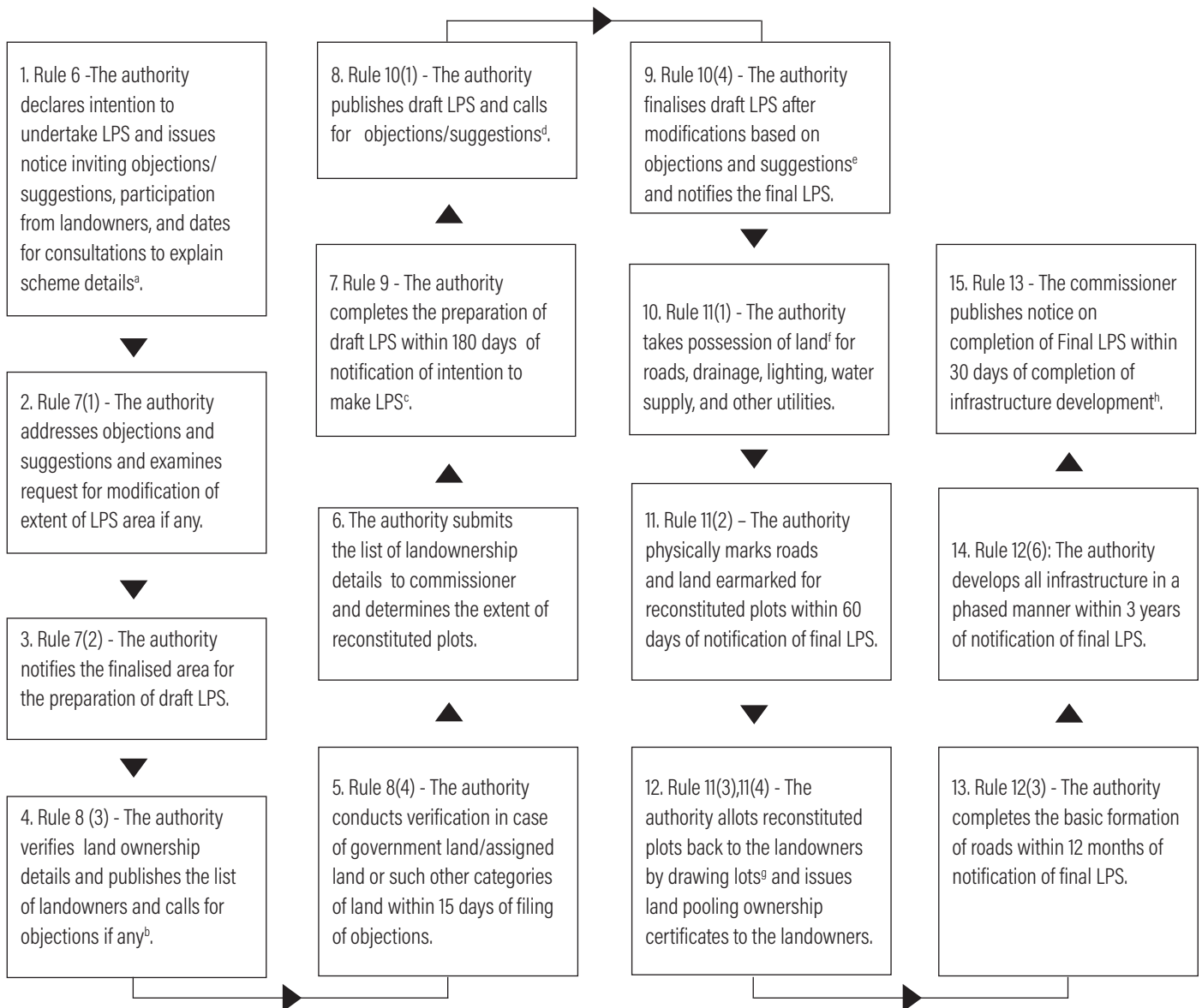
Appendix B: Flowchart for the Town Planning Scheme (TPS), Gujarat State



Footnotes

- This period of 9 months could be extended for additional 3 months for preparing and publishing draft TPS.
- The authority can take possession of the land reserved for public purposes after the sanction of draft scheme. Provision of Infrastructure by the authority begins at this stage with the laying out of roads.
- Within 12 months of appointment of a TPO, he/she splits draft scheme into preliminary and final scheme. In the preliminary scheme, the TPO determines and defines final plot areas, land for various public purposes, final plot sizes, and the time period for completion of works by the authority in the scheme area, and provides for transfer of rights from original plot to final plot. Affected people are given 20 days to raise objections. The plan is modified after two rounds of hearings with the landowners.
- After the preliminary scheme comes into effect, all lands reserved for public purposes are in absolute possession of the authority and all rights on the original plots that is reconstituted into final plots shall become the rights of the landowners as settled by the TPO.
- In the final scheme, which deals with the financial aspects of the scheme, the TPO tabulates increments in land values after infrastructure provisions, contributions to be paid by landowners which is calculated as (cost of infrastructure incurred on the plot – compensation to be given), net demand from each plot owner (50% of increment in land value (betterment levy) +/- contribution to be paid by landowner).
- Execution of the TPS is to be completed within 2 years from the sanction of the preliminary scheme.

Appendix C: Flowchart for the Land Pooling Scheme (LPS), Amravati, Andhra Pradesh State

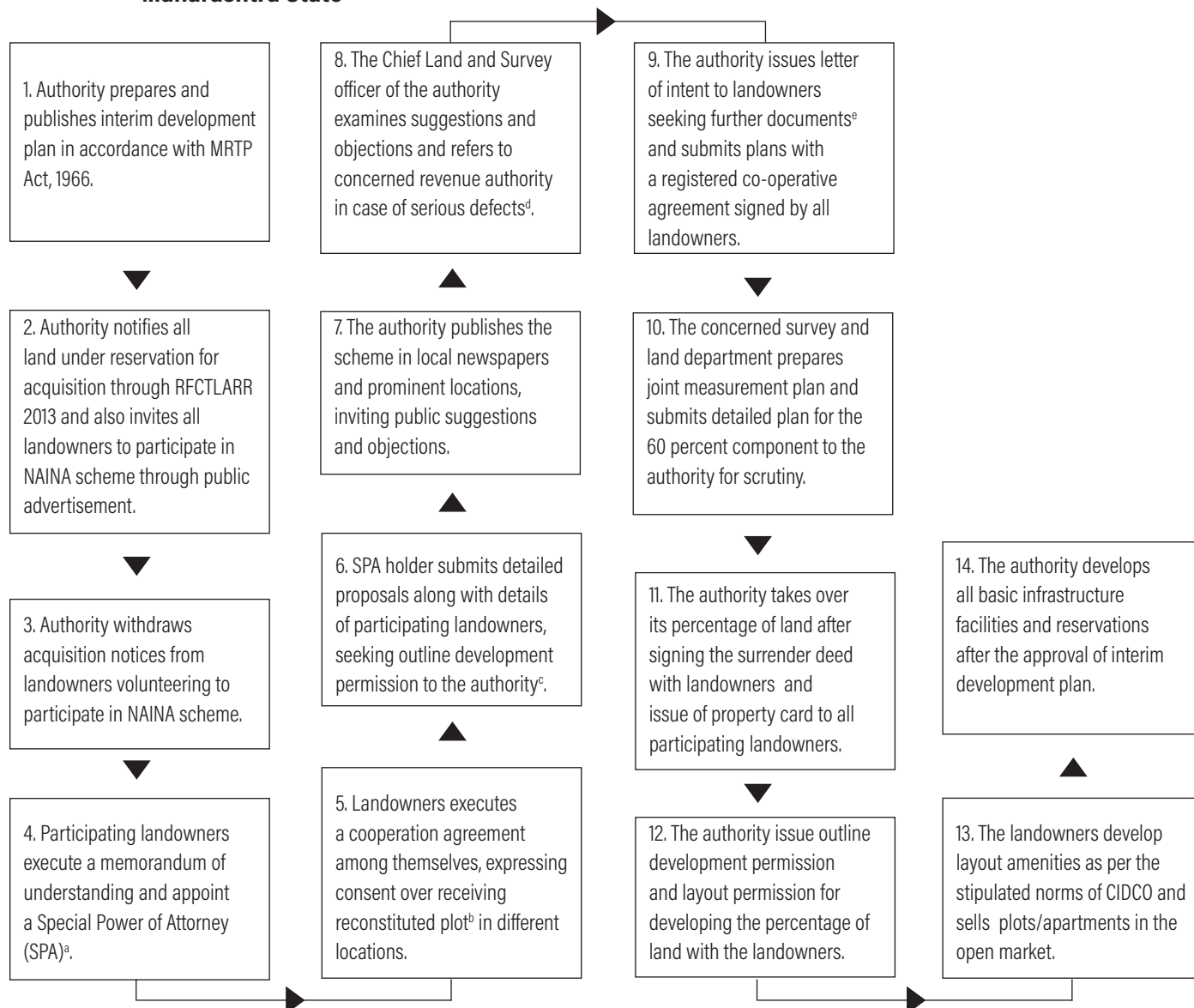


Sections mentioned in this flowchart refer to the Gujarat Town Planning and Urban Development (GTPUD) Act, 1976 and GTPUD 1979 Rules

Footnotes

- Authority issues notice inviting public objections and suggestions from landowners within 30 days of declaration of intention to undertake LPS.
- Authority verifies landownership titles with reference to revenue records and registration documents and conducts local enquiry within 7days of receipt of application from landowners participating in the scheme and calls for objections and suggestions within 15 days of publishing the list .
- Draft LPS scheme is prepared in consultation with landowners and includes final base map, final area statement, layout plan of existing and proposed infrastructure amenities as well as cost estimate of the scheme.
- After the approval of the draft LPS, the authority publishes the draft LPS in the prescribed format and calls for objections and suggestions from the land owners giving 30 days from the date of such notice.
- The authority considers objections and suggestions within 30 days from the last date of filing of such objections and modifies it and then the draft LPS becomes final LPS.
- The authority takes land from the landowners free from all encumbrances, within 15 days of notification of final LPS.
- The authority allots reconstituted plots to landowners in the presence of at least one third of the landowners after due publicity within 30 days of physical marking. The scheme ensures that the landowners get reconstituted plots in close proximity to the original land or within a radius of 5 km of the original plot, unless a specific planning concern warrants its shift.
- The authority maintains the common infrastructure and respective services including roads, street lighting, solid waste management, sewerage treatment facility, water supply, parks and play grounds or such other amenities through usage, consumption, and maintenance charges paid by the reconstituted plot owners.

Appendix D: Flowchart for the Navi Mumbai Airport Influence Notified Area (NAINA) Scheme, Navi Mumbai, Maharashtra State

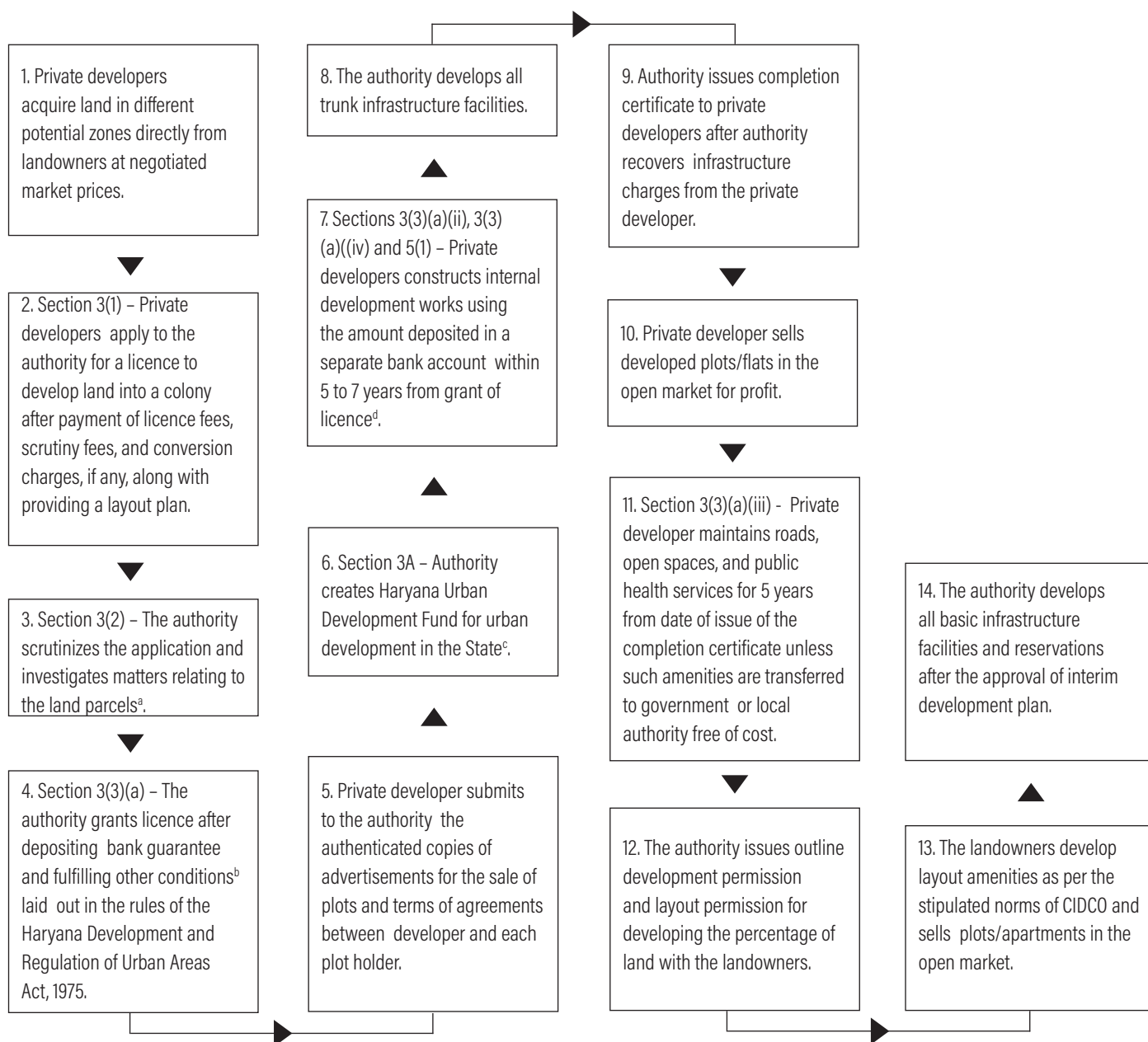


Note: Timeline is not specified in the document (Detailed Process Flow of NAINA Scheme (CIDCO n.d.)) which describe the process of NAINA scheme.

Footnotes

- a. A detailed process for applying for development permissions is prescribed by the authority, which includes scrutiny of legal documents of the land, joint measurement survey by the Survey and Land Records Department, scrutiny of details and preparation and approval of detailed layout plan with amenities.
- b. Landowners execute the cooperation agreement, after the reconstitution of plots are finalized in consultation with the authority and SPA holder.
- c. SPA holder submits detailed proposals in accordance with the checklist provided by the authority. The authority scrutinizes the document and in consultation with the SPA holder identifies broadly the 40 percent of the land (in this process description, the percentage of land to be handed over to authority is taken as 40 percent) to be handed over to authority.
- d. The authority in consultation with the SPA holder may drop land parcels with serious material defects, based on the recommendations of the revenue authority.
- e. Documents such joint land measurement, detailed layout indicating land share of all the participating land owners, layout based on the provisions of the development control regulations, exact percentage of land to be handed over to the authority is sought from the landowners through letter of intent.

Appendix E: Flowchart for the Joint Development Model (JDM), Haryana State

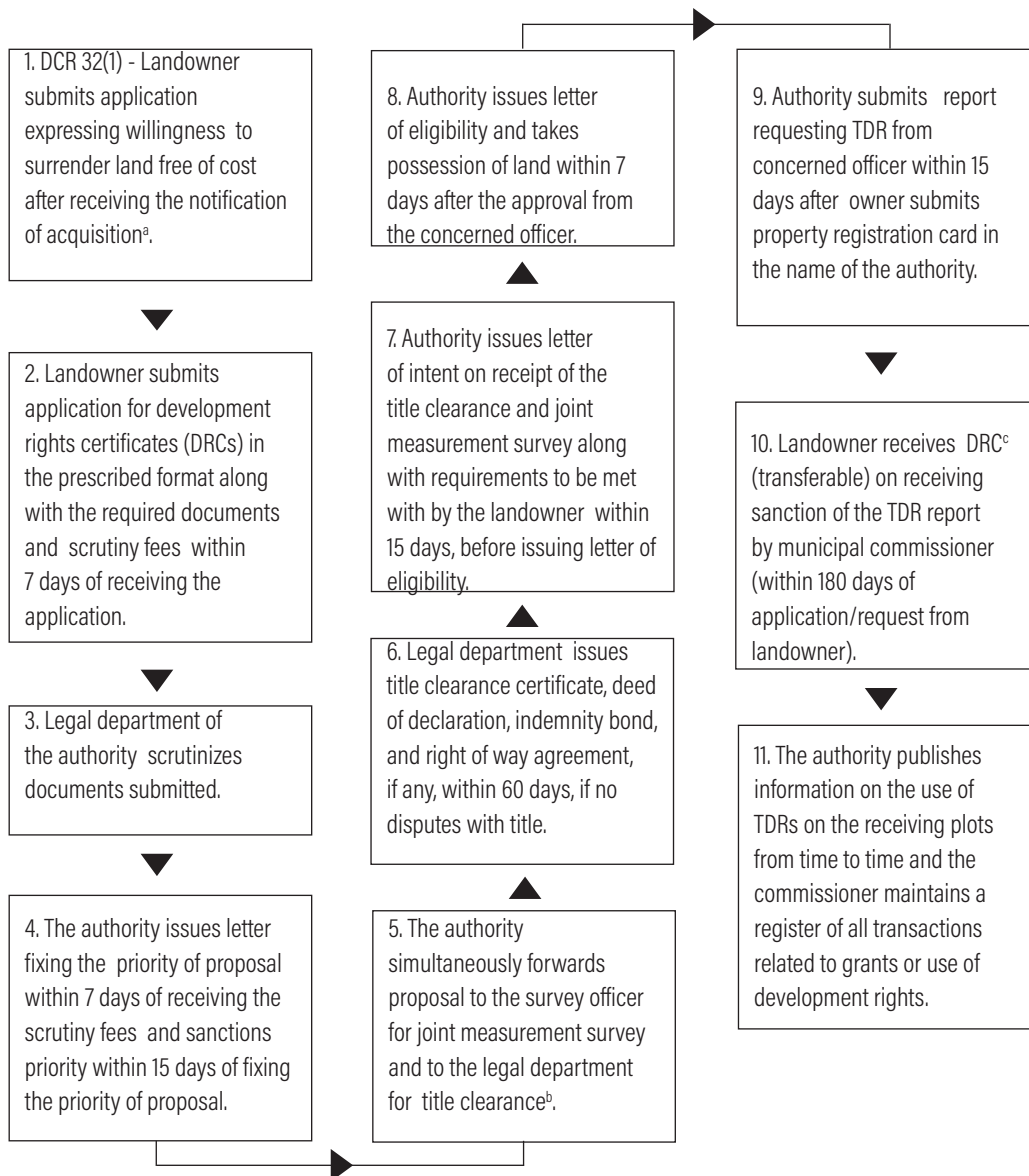


Sections mentioned in this flowchart refer to the Haryana Development and Regulation of Urban Areas Act, 1975.

Footnotes

- The authority investigates extent, location and title of land parcels, financial capacity of private developers to develop a colony, layout of colony and development works plan to be executed and conformity of the development schemes of the colony to those in the neighbouring areas.
- Bank guarantee to be deposited by private developers is (1) 25% of the cost of development works in residential/commercial or industrial purpose projects and (2) 30% for cyber city/cyber parks. Conditions to be fulfilled are prescribed in the section 'JDM Process'
- The Haryana Urban Development Fund will include infrastructure charges paid by the private developers (which can be passed onto plot holders) and grants from local authorities and other authorities involved in the land development process.
- Private developers need to deposit 30% of the money realised from plot holders in a separate bank account within 10 days of its realisation, which is to be used for internal development works. 70% of the money could be retained by owner for meeting the cost of getting land and for external development works. The conditions to be fulfilled toward meeting the affordable housing criteria is prescribed in the section 'JDM Process'

Appendix F: Flowchart for the Accommodation Reservation and Transferable Development Rights (AR-TDR), Mumbai, Maharashtra State

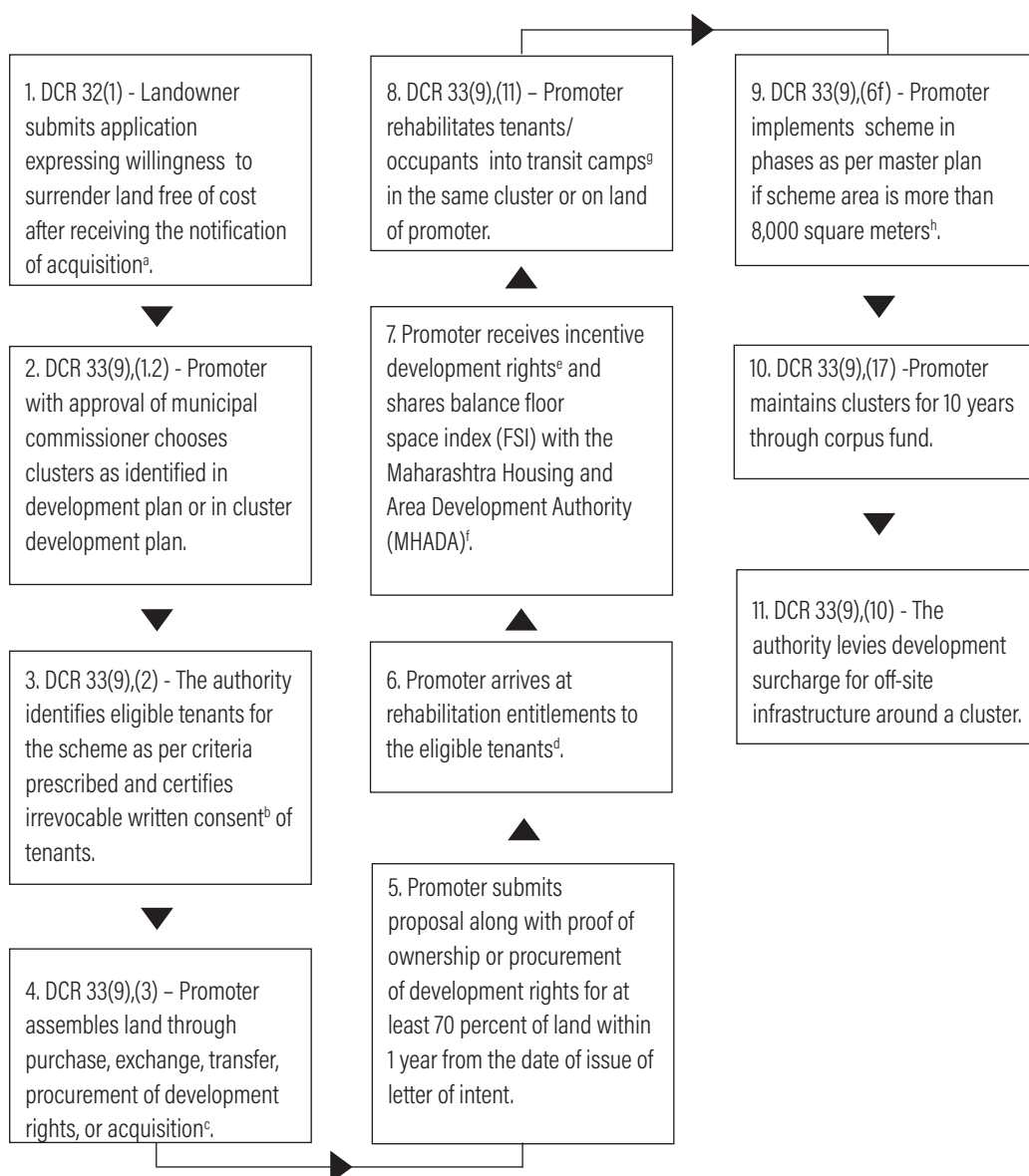


- DCR 32 (1) mentioned in this flowchart refers to the Draft Development Control Regulations for Greater Mumbai, 2034
- Steps mentioned in this flowchart are from Annexure II of Chapter 14 (Manual XIII) in the Handbook of Chief Engineer Development Plan, Municipal Corporation of Greater Mumbai

Footnotes

- a. The department concerned can acquire land through compulsory acquisition under the National Land Acquisition Act if the landowner does not volunteer to surrender the land reserved for public purposes.
- b. If any document required for the title clearance is not furnished by the owner, the owner will be informed within 7 days of the receipt of the file in the legal department. If the owner fails to produce the document within 15 days, the file is returned to the development plan section of the department.
- c. The Development Rights Certificate (DRC), states both in figures and in words, the floor space index (FSI) credit of the built-up area (BUA) in square meters for the concerned owner's reserved plot. The location, ready reckoner zone number, year of issue of DRC and ward in which the development rights are earned are also indicated.

Appendix G: Flowchart for the Cluster Redevelopment Scheme (CRS), Mumbai, Maharashtra State



Source : Regulation 33(9) of the Development Control and Promotion Regulations - 2034, MCGM

Footnotes

- a. A high-powered committee is constituted to review the scheme, suggest improvements, and grant approvals.
- b. The promoter seeks the "irrevocable written consent" of 51 percent of eligible tenants in each building or 70 percent of the eligible tenants in the overall scheme and of the landholder prior to initiating the process, which is necessary for approval.
- c. Five methods of land assembling are mentioned under the section on characteristics of CRS.
- d. After construction of new tenements, each occupant/tenant must be given ownership of a unit with a carpet area equivalent to the area occupied by the occupant/tenant in the old building. Basic entitlement for occupants will be 2788 square meters, and for slum dwellers, 25 square meters
- e. The calculation of incentive development rights is described in the section under CRS process.
- f. Balance FSI (after the rehabilitation FSI and incentive FSI) is to be shared with MHADA, which could be used as tenements for project-affected people or for transit accommodation, or for affordable housing.
- g. Transit camps to be demolished after full occupation certificate is issued by concerned authority.
- h. Minimum area of each phase to be 4,000 square meters with pro-rata use of total admissible FSI and balance incentive FSI will be released only after the approval of last phase.

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1. URDPFI classifies all government and semi government public offices, government land (use undetermined), police stations, police lines, education and research, medical and health, social, cultural and religious (including cremation and burial ground), utilities and services under public and semipublic use.
2. Landless, a term used especially for agricultural workers, refers to families or persons whose livelihood depends on land parcels over which they have no legal title or customary tenure rights. When these land parcels are appropriated for development projects, such families or persons lose their source of livelihood. The National Sample Survey Office (NSSO), Ministry of Statistics and Programme Implementation of India considers any rural household possessing less than or equal to 0.002 hectares of land as landless (Press Information Bureau 2014). RFCTLARR 2013 refers to state laws or other appropriate government bodies to define landless persons or class of persons.
3. Geometric Design standards for urban roads in plains (IRC 86-1983), Indian Road Congress, New Delhi, 1983
4. RFCTLARR Act, 2013 is related to land acquisition, compensation, rehabilitation and resettlement and applies when a government authority acquires holds and controls land for public sector undertakings and for public purposes (Ministry of Law and Justice 2013). However there is no mandate in the act to follow a master plan if the acquisition is undertaken for urban development projects, thereby it does not contribute to planned and serviced urban extensions.
5. BDA considered alternative methods to reduce the financial burden of land acquisition in the Peripheral Ring Road. However, the alternative method of returning developed plots instead of cash compensation through land readjustment and pooling technique have an area development approach and ensure that the post development benefits are shared between the landowners and the government authority. For more details see (Mathews, et al. 2017)
6. Ready Reckoner rates are government defined and annually published prices of land, and residential and commercial properties. However, in land transactions, the actual cost of the land is always underquoted to avoid paying high registration fees.
7. Land pooling and readjustment techniques originated in Germany, see (Sandhu 2004) and (Suzuki, Murakami, et al. 2015). TDR is used in the United States as a tool not just for preservation of agricultural areas, but also to encourage the more efficient use of infrastructure, the provision of affordable housing, and economic development in targeted areas, see (Otto 2010). Experiences of Shenzhen in land value capture components through rail plus property development is discussed in (Xue and Fang 2017).
8. See Mishra (2017) which discusses TPS of Gujarat as the principal method of land assembly for planned development and expansion of cities. Chari (2015) and Nair (2013 and 2016) discuss the land pooling strategy for Amravati as the alternative to compulsory acquisition.
9. The Bombay Presidency or Bombay Province was an administrative subdivision (presidency) of British India from 1843 to 1936. It included parts of today's Maharashtra and Gujarat states.
10. Erstwhile Bombay is renamed Mumbai.
11. A land redistribution scheme in Germany commonly called the Lex Adickes (Lex meaning law, Adickes being the name of the creator of the law (Mullin 1976).
12. Affordable housing in TPS refer to the housing provided for the economically weaker section.
13. A 2014 amendment to the GTPUD Act 1976 enables governments to use TPS through a special order, in which case there would be no master plan processes preceding a town planning scheme. Landowners in the area adjacent to the TPS area can also request the government authority to take up a TPS for their area.

14. The town planning scheme can be undertaken by an appropriate authority as per the GTPUD Act 1976. Appropriate authority includes the urban development authority or an area development authority.
15. The TPO tabulates: increments in land values after infrastructure provisions; contributions to be paid by landowners, which is calculated as (cost of infrastructure incurred on the plot (-) compensation to be given to the landowner); and net demand (fees to be paid by landowner) from each plot owner (50 percent of increment in land value (betterment levy (+/-) contribution to be paid by landowner).
16. As calculated in May, 2018.
17. Merriam Webster defines solatium as a compensation (monetary) given as a solace for suffering loss, or injured feelings. As per RFCL-TARR 2013, the solatium amount shall be in addition to the compensation payable to any person whose land has been acquired.
18. See Swaminathan S. Aiyar's opinion piece in the Times of India August 8, 2015 (Aiyar 2015).
19. A developer entity is an individual, company, association, or body of individuals (incorporated or not) a cooperative society, a corporate body, or an agency (national or international) to whom a licence is given to undertake development works within the framework of a plan or development scheme duly approved under the APCRD Act, 2014.
20. The Government of Andhra Pradesh over time assigned government land to landless poor persons who had no other means of livelihood under AP assigned lands (Prohibition of Transfers) Act, 1975.
21. The City and Industrial Development Corporation of Maharashtra Ltd. (CIDCO) is a company wholly owned by the Government of Maharashtra incorporated on March 17, 1970 with the aim of creating a new planned, self-sufficient, and sustainable city on the mainland across Thane creek adjoining Mumbai.
22. Urban villages are gaothans that have been engulfed by urbanisation and in the NAINA Scheme are designated with a buffer of 200 meters around the old village settlement.
23. A colony is an area of land divided or proposed to be divided into plots or flats for residential, commercial, industrial, or cyber city / cyber park purposes or for construction of flats in the form of group housing or for the construction of integrated commercial complexes or for division into plots for a low-density eco-friendly colony (as per the Haryana Development and Regulation of Urban Areas Act, 1975).
24. For the purpose of granting licences, the HUDA has divided the state into zones according to their development potential such as hyper potential (urban area in and around Gurgaon and the Gurgaon- Manesar Urban complex), medium potential and low potential zones (see DTCP n.d.a).
25. A Bank guarantee is the guarantee from a bank or a lending institution ensuring that the liabilities of the debtor will be met, if the debtor fails to meet the contractual obligations. It is usually a percentage of the total money required for the contract.
26. The Development Rights Certificate states both in figures and in words, the FSI credit of the built-up area in square meters of the concerned owner's reserved plot, its location, ready reckoner zone number, year of issue of Development Rights Certificate, and ward in which the development rights were earned.
27. In 2016, the Gujarat state government announced the Redevelopment of Public Housing Policy to redevelop dilapidated public housing colonies through a public-private partnership model (ET Reality 2016), which is a variation of CRS. However there is no documentation of the policy in the public domain yet.
28. Cessed buildings are residential buildings constructed prior to the 1960s in Maharashtra; the government collects tax or cess from the residents or tenants of these buildings.
29. MHADA receives tenements from the promoter and offers it free of cost to MCGM or Mumbai Metropolitan Region Development Authority for use as housing for the project-affected people or as transit accommodation. In case these agencies do not require such tenements, then MHADA can use them for project-affected people, tenements, or transit accommodation or sell them as affordable housing after the approval by the state government (MCGM 2016).
30. Saifee Burhani Upliftment Trust (SBUT) is a public charitable trust established specifically for undertaking the cluster redevelopment scheme of Bhendi Bazaar (Master and David 2015).
31. Nair, Reshmy, 2017, Correspondence between Reshmy Nair, (Administrative Staff College of India, Hyderabad) and WRI India, November 2017.
32. Several states such as Tamil Nadu, Andhra Pradesh, Karnataka, Maharashtra, and Gujarat have experimented with a large number of land-based fiscal tools (Phatak 2013). However many of these tools are not in active use in the states. See (Phatak 2013) for details on land-based fiscal tools.
33. Refer to FAO Land Tenure Studies page 11, section 2.11 (FAO 2008).

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We start with data. We conduct independent research and draw on the latest technology to develop new insights and recommendations. Our rigorous analysis identifies risks, unveils opportunities, and informs smart strategies. We focus our efforts on influential and emerging economies where the future of sustainability will be determined.

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