24 Using the 'Development Plan—Town Planning Scheme' Mechanism to Appropriate Land and Build Urban Infrastructure

Shirley Ballaney and Bimal Patel*

Introduction

Cities in India are facing three distinct challenges in the development of urban infrastructure. The first challenge is to adhere to a development plan in the face of a strong tendency towards unplanned growth. Second, when land is acquired under the Land Acquisition Act, 1894, a major equity issue arises relating the disparity between those who lose land for a given project and those who do not, but are located close to the project area. This disparity is due to the fact that those who lose land are not only displaced, but also get compensation that does not take into account the potential increment in value of their property due to the project, while those in close vicinity of the project are better off on both these counts. Finally, city authorities do not have adequate resources to finance infrastructure and are not in a position to capture the incremental value of land in the absence of a legal and policy framework. The Gujarat Town Planning and Urban Development Act (GTPUDA), 1976 provides for an effective mechanism that addresses these challenges through a two-stage process called 'Development Plan–Town Planning Scheme' mechanism (or the DP–TPS mechanism in short), which works fairly well in Gujarat.

This chapter showcases the preparation and implementation of this mechanism to deliver serviced land for urban expansion in the periphery of cities, which currently constitutes its most extensive use. The chapter also briefly lists the reasons underlying the efficacy of the mechanism.

The Challenge of Delivering Serviced Land for Urban Expansion

Continuing urbanization and increasing affluence indicate that in the coming decades, vast amounts of built space will have to be added to India's towns and cities. While some of this addition will be accommodated by the densification of existing urban areas, most will have to be accommodated by the expansion of towns and cities into the surrounding countryside. In India, the surrounding countryside is hardly unutilized and usually under cultivation. The agricultural landscape usually consists of irregularly shaped plots in a mosaic and is rarely available in large tracts under single ownership public or private. Therefore, in almost all cases, the first challenge in expanding out into the surrounding countryside involves converting a fragmented agricultural landscape into a serviced landscape, fit for urban uses.[1] This conversion has

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[1] European cities faced a similar challenge during the nineteenth century when, in the wake of the Industrial Revolution, cities rapidly expanded. European responses to the problem are available in Thomas Hall, *Planning Europe's Capital Cities: Aspects of Nineteenth-Century*

to be on a large scale and not a plot at a time and entails a number of coordinated actions by the public authority. They are mentioned below.

- an area has to be delimited where all landowners can be legally forced to accept the reorganization of their holdings to make the area suitable for urban use;
- landowners have to be identified, their holdings established, and processes put in place for communicating with them;
- irregularly shaped plots have to be reshaped in a more suitable manner for building modern buildings on them; land has to be appropriated for providing a number of common infrastructure facilities, for example, streets, water supply, drainage, electrical facilities, public transport, parks, schools as well as for meeting social and cultural objectives, for example, housing for the poor and museums;
- the infrastructure and amenities have to be planned and built;
- all the above including infrastructure and amenities have to be paid for; ideally the administrative, capital and operations, and maintenance costs for all of the above should be financed by capturing the increment in land value arising as a result of the transformation. This requires the increment in land value to be estimated in a fair and consistent manner;
- ideally the above should be achieved through a consensual process with minimal use of coercion. It is, therefore, necessary to co-opt the landowners into the transformation and note their opinions, suggestions, and objections. It is also necessary to establish a due process for redressing their grievances; and
- lastly, once a serviced urban landscape has been created, it is necessary to regulate private development on plots to ensure that development is harmonious and consistent with the planning objectives for the area and the infrastructure provided.

It is clear that managing all of the above actions in a time-bound and coordinated manner poses a truly formidable technical, administrative and legal challenge.

Methods of Converting Agricultural Land into Serviced Urban Land

LAISSEZ-FAIRE

Given the complexity of bringing into effect a systematic and a *priori* conversion of agricultural land into serviced urban land in the jurisdictional and administrative context of India, most Indian cities have adopted a laissez faire approach. Urban development, led by landowners or developers, is allowed to creep out into the surrounding countryside—a plot or a layout at a time. Usually, a blind eye is turned to such creeping urbanization. Sometimes, a minimal attempt is made to plan or regulate the development and to levy charges. Once an area is built up and if the residents are able to bring sufficient political pressure to bear on the administration, rudimentary infrastructure facilities such as streets, water supply and drainage are provided to the extent that it is physically possible. Letting things be is easy, it requires little foresight and effort on the part of public authorities.[2]

LAISSEZ-FAIRE WITH MINIMAL PLANNING

This is a variation on the laissez faire approach where an attempt is made to ensure that, in the midst of creeping, haphazard urban expansion, at least a 'right of way' is left open for subsequent provision of trunk infrastructure. The manner in which this is done is as follows. The right of way sought to be left open is drawn up in a statutory city-wide development plan in the form of a network of major roads in the periphery of the city, where it is expected (or zoned) to grow.[3] Land for building the network of roads is forcefully appropriated using the Land Acquisition Act. Even though the very drawing up of roads in the statutory plan results in raising land prices in the areas adjacent to the roads, no attempt is made to charge the cost of building roads to those areas. Roads are built usually after development takes place in the vicinity of the roads. Development, which usually takes place in a creeping (plot-at-a-time) haphazard manner, is sometimes regulated to enable the collection of development charges. However, there is usually no systematic attempt to assess and levy betterment charges.

Urban Development, 1997. With ample non-agricultural land available for urban expansion, cities in the United States could respond very differently; see John W. Reps, *The Making of Urban America: A History of City Planning in the United States*, 1965.

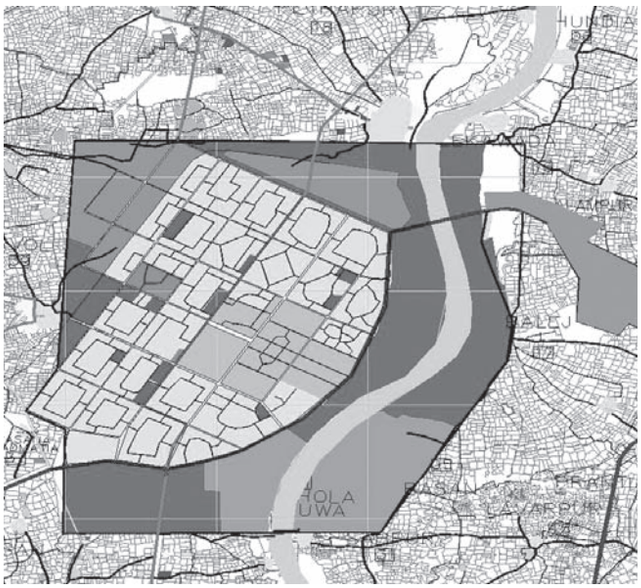
[2] It can be argued that though the laissez faire approach results in a sub-optimal solution, it is better than a forceful administration totally thwarting city expansion. As the Chinese, Cuban, and South African experiences have shown, forcefully thwarting city expansion can impose high social and economic costs and lead to build up of pressures that eventually require drastic corrections.

[3] More ambitious development plans also draw up and reserve land for social amenities such as parks and schools in the areas zoned for expansion. For our purpose here, no distinction needs to be made between land reserved for roads and for other facilities.

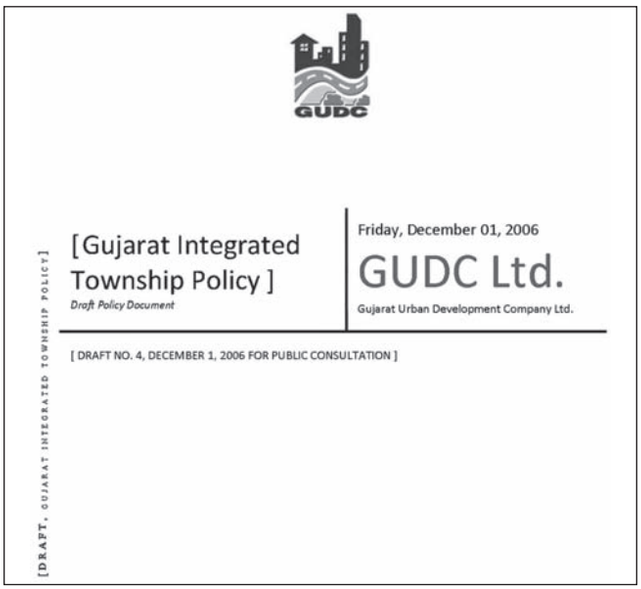
Land reserved for roads, and therefore condemned for acquisition, is often encroached upon, usually with the full support of owners of such land for whom this is often more beneficial than receiving compensation in lieu of acquisition. If the land is actually acquired, availability of finance for building infrastructure remains a major issue. This is in contrast to the windfall profits that accrue to landowners whose land is not reserved.[4] In addition to this, haphazard development forces subsequent provision of subsidiary infrastructure to be sub-optimal or inefficient.

24.1a: Laissez-faire Development

24.1b: DP + Laissez-faire Development



24.1c: Land Acquisition + Development



24.1d: Private Townships

Figure 24.1: Methods of Converting Agricultural Land into Serviced Urban Land

Source: Fig. 24.1a and 24.b—Google Earth; Fig. 24.1c—EPC and Fig. 24.1d—GUDC.

[4] Urban development planning of this type generates vicious politics between owners whose land is reserved and who stand to lose much and other landowners in the vicinity who stand to gain much. Such a mode of planning has done much to spur corruption and undermine the very idea of city planning.

PUBLIC LAND DEVELOPMENT AGENCIES

A number of cities have constituted powerful public land development agencies, which are charged with the responsibility of providing serviced land for urban expansion. Such agencies are empowered to make statutory city development plans, prepare detailed plans for plotting areas, and design and provide them with social and physical infrastructure. They have the muscle to forcefully acquire peripheral land using the Land Acquisition Act and to raise finances for building infrastructure.[5] When developed, plots are sold at market prices to defray development costs.

Though this seems an effective approach which gives very high flexibility to envision, plan, and build new urban areas, in practice however, the functioning of public land development agencies has been far from sterling, and today the approach is widely considered to be unviable. The fundamental problems with this approach are as follows. First, this approach seeks to transfer more or less the entire increment in land value resulting from the urbanization to the public agency. By dislocating and dispossessing those whose lands are acquired, this approach imposes very high tangible and intangible costs on them. Slowly, as landowners (farmers) in areas surrounding cities wizen up to this, it becomes politically more and more difficult and economically more and more costly to acquire vast tracts of agricultural land.[6] Second, because the agency enjoys a monopoly, there is no mechanism to ensure its efficient functioning and has no reason for it to heed the nature of demand. Serviced land provided by such agencies tends to be costly and unaffordable for vast sections of the urban population, either because of operational inefficiencies or because of the adoption of unaffordable planning and engineering standards. Third, the opaque structure of public land development agencies, combined with vast flows of finance, has turned such agencies into unwieldy behemoths, also widely considered to be highly corrupt.

PRIVATE TOWNSHIP DEVELOPMENT

Today, with the increased pace of development and higher aspiration levels, it has become clear that alternatives to haphazard laissez faire development and ineffective public agencies are urgently required. There is also a greater willingness to experiment with market mechanisms and to partner with the private sector. On account of this, a number of state governments are announcing 'Township Policies'.[7] Here, private developers are encouraged to privately assemble agricultural land in the countryside, wherever they think it is viable to develop serviced urban land or land and buildings ('townships'). Government support is provided in a number of ways. Some states help with land acquisition. Others only promise regulatory support; re-zoning of the land in statutory development plans, and quick 'singe-window' approvals. Most assist by providing connectivity to existing infrastructure. Developers are expected to privately raise finances and invest in building infrastructure and/or buildings. Though a number of township policies have been announced, considerable confusion continues to prevail and it seems to be too early to say how this mode of land conversion will play out in the long run.

THE DEVELOPMENT PLAN AND TOWN PLANNING SCHEME MECHANISM

This mode of developing serviced urban land from agricultural land evolved during the early twentieth century in the erstwhile Bombay State Presidency. Today it is used only in Gujarat. It is a two-stage process which is defined in the GTPUDA, 1976[8] a macro-planning stage and a micro-planning stage. First, the Development Authority[9] of a town or city draws up a statutory, decadal development plan (DP) for the town or city as a whole; showing where the city is expected to expand into the surrounding countryside. In these new expansion areas, which are usually a mosaic of agricultural plots, the network

[5] The Delhi Development Authority is the best example of such an agency. This strategy was precisely used in building new towns such as Chandigarh, Gandhinagar, and Bhuvaneshwar. Here however, the objective of providing land for urban expansion was complemented by objectives of identity politics; see Ravi Kalia, *Chandigarh: In Search of an Identity*, 1987.

[6] City Planning, when combined with this implementation approach, has also contributed to a vitiated politics surrounding city planning and done much to discredit the very notion of city planning.

[7] Townships are analogous to Special Economic Zones (SEZs) and the distinctions are insignificant for our purpose here.

[8] This Act was a revision and extension of the Bombay Town Planning Act, 1954, which was based on the even older Bombay Town Planning Act of 1915. The 1976 Act has also been subsequently refined. The latest amendment was made in 2000.

[9] The Development Authority is also constituted (or designated) under the provisions of the GTPUDA, 1976. The Act provides a completely integrated framework for defining an agency, empowering it to plan, and providing it a mechanism to implement its plan. The GTPUD Act 1976 is administered by the Urban Development and Urban Housing Department, and therefore, Development Authorities report to it.

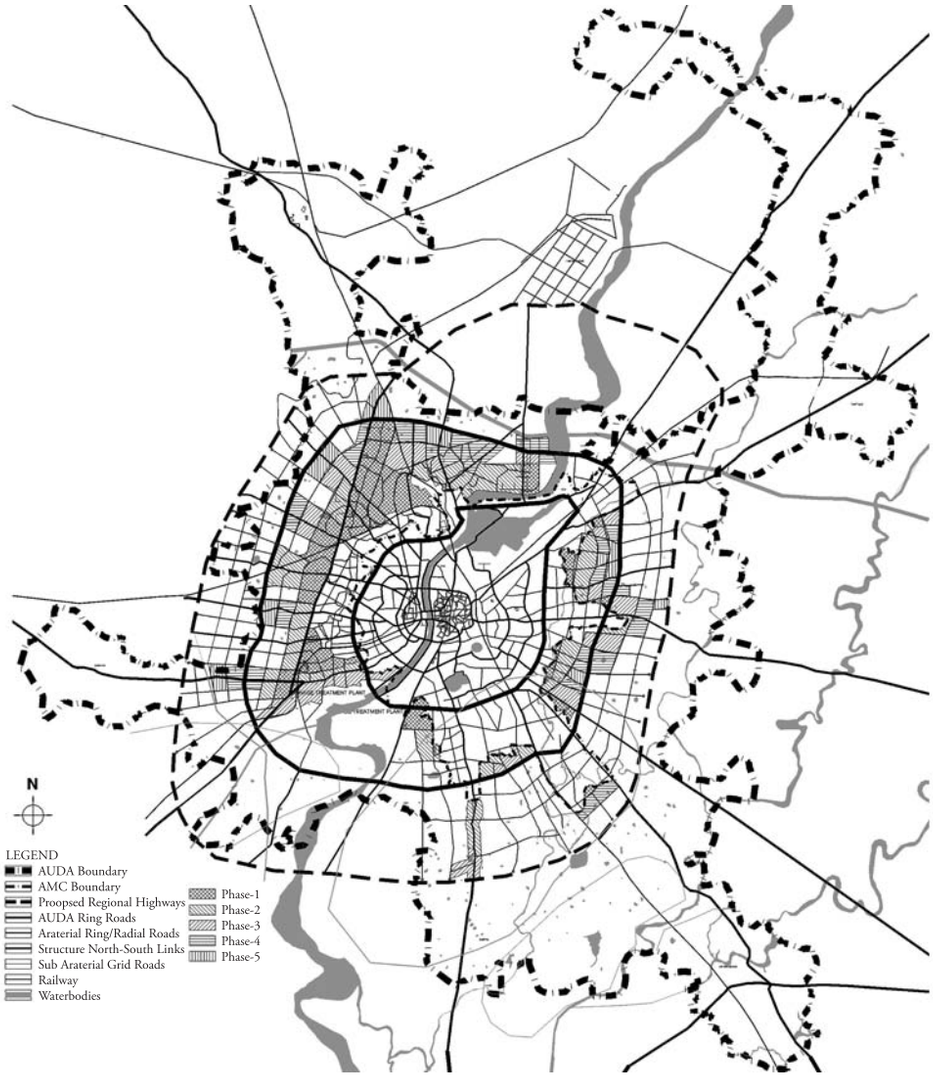


Figure 24.2: Sequence of Town Planning Schemes in the Ahmedabad Development Plan

Source: Environmental Planning Collaborative (EPC).

of major roads and routes for trunk infrastructure is also drawn up.[10] In the second stage, the expansion area is then divided into a number of smaller areas usually between 1 and 2 sq km each. Figure 24.2 shows agricultural areas surrounding Ahmedabad zoned for urban expansion and delineated into a quilt of smaller areas. The Development Authority then, in a phased manner, takes up each of these smaller areas for the development of a Town Planning Scheme (TPS) there, which is a detailed land reconstitution, infrastructure development, and financing proposal rolled into one.

The Process of Preparing a TPS: An Example[11]

The process of preparing a typical Town Planning Scheme in the periphery of the city is being focused upon here. The example used is TPS No. 90 Vinzol 2[12] in Ahmedabad. The area of this scheme, measuring 82 ha and consisting

[10] The Development Plan is supposed to be a comprehensive strategic document for the development of the city. It is expected to address a variety of city-wide issues besides growth management in the periphery, for example, zoning and infrastructure development in the existing areas, urban transport and policies for issues such as heritage protection, economic development, and environmental protection. Its preparation also allows for limited public participation. What concerns us here is growth management at the periphery.

[11] This section is based on a paper by Shirley Ballaney, *The Town Planning Mechanism in Gujarat, India* 2008.

[12] Prepared for Ahmedabad Municipal Corporation (AMC) by EPC Development Planning and Management Pvt Ltd (EPCDPM), Ahmedabad.

of 80 separate plots of land around Vinzol village in the southern periphery of Ahmedabad, was zoned for urban expansion in the Ahmedabad Urban Development Authority's Development Plan prepared in 1999. Being close to the Mehmedabad Highway and the Sardar Patel Ring Road, it was envisaged that the area would come under intense growth pressure from surrounding industries. As Figure 24.3 shows, in the north the TPS is bounded by the Khari river, on the west by the Mumbai-Ahmedabad Railway line, and on the east and south by other town planning schemes. At the time of preparing the TPS, most of the land was vacant with Vinzol village within it.

SURVEYING, PREPARING THE BASE MAP, PLANNING, AND ESTABLISHING BONAFIDE OWNERSHIP

Surveying the Area

At the outset the area over which a TPS is to be planned is surveyed in detail. Various topographic features, buildings, structures, trees, fences, infrastructure, etc. are marked including all private possessions that may have to be compensated for when the plan is implemented.

Box 24.1
Town Planning Scheme in Practice:
A Case Study of Sardar Patel Ring Road in Ahmedabad

B.R. Balachandran

The Ahmedabad Urban Development Authority (AUDA) published the Revised Development Plan for Ahmedabad in 1997. In this plan, a ring road was proposed around the urban agglomeration of Ahmedabad. During the period of response from the public, AUDA received thousands of objections from owners of land along the proposed ring road alignment. After some serious introspection, AUDA came up with a revised proposal which was published in 1999 and sanctioned in 2002. The revised proposal received very few objections. The publication of the revised proposal was accompanied by an initiative for implementation, which has few parallels in the country.

The proposed ring road was about 76 km long and 60 meters wide. Typically, the Right Of Way for such roads is appropriated using the land acquisition method. However, AUDA decided to use a combination of minimal land acquisition and an extensive use of the TPS mechanism. This requires some explanation. There are primarily two processes adopted by the Gujarat government for appropriation of land for development purposes—Land Acquisition and Land Pooling. Land Acquisition is carried out under the Land Acquisition Act (LAA), whereas Land Pooling is carried out using the provisions relating to Town Planning Schemes in the Gujarat Town Planning and Urban Development Act (GTPUDA). While the LAA can be used in both urban and rural areas, land pooling is applicable only in an urban area: to be more precise, in a Development Area designated under the provisions of GTPUDA.

The LAA enables the government to acquire privately owned land for a bonafide public purpose. While the government can initiate land acquisition for a public purpose directly through the LAA, the process can also be initiated through the provisions of other legislations such as the Gujarat Industrial Development Act (GIDA) or the GTPUDA. For example, if the land was required for an industrial estate to be established by the Gujarat Industrial Development Corporation (GIDC), then the acquisition process would be initiated through the relevant provisions of GIDA. If the land was required for development of a major urban road, proposed in a Development Plan sanctioned under GTPUDA, then the acquisition proceedings would be initiated under the relevant provisions of that Act. In any land acquisition process, the Government retains the option of a negotiated purchase subject to conditions that ensure a reasonable price.

At the time of publishing the revised Development Plan itself, AUDA had tentatively delineated Town Planning Schemes all along the alignment of the proposed Ring Road. Soon after, AUDA initiated an outreach programme and contacted all the landowners affected by the ring road and those owning land in the surrounding area. The AUDA explained the TPSmechanism to them and offered the opportunity to participate in the benefits of building the ring road by undertaking these schemes along the length of the Ring Road, on either side of the alignment. Most of the farmers owning the land agreed to the scheme. A large portion of the 'Right of Way' (RoW) was handed over by the farmers to AUDA on mere verbal assurance. The preparation of the TP Schemes and all the documentation followed later.

Land in approximately 1 km wide belt along the Ring Road was reorganized, creating this road. The original landowners got back land amounting to more than 60 per cent area of their original land holding in locations very close to, if not overlapping their original holdings. Minimal development rights were provided to the properties under the land use zoning proposed in the development plan. As a result, today, one can see large numbers of farmhouse layouts along the Ring Road. While substantial amount of the land in the area has changed hands after the implementation of the Town Planning Schemes, many original owners have retained their lands. Not only that, the original owners were also able to reap the benefits of the land value appreciation that happened as a result of the Ring Road construction as well as implementation of the TPS.

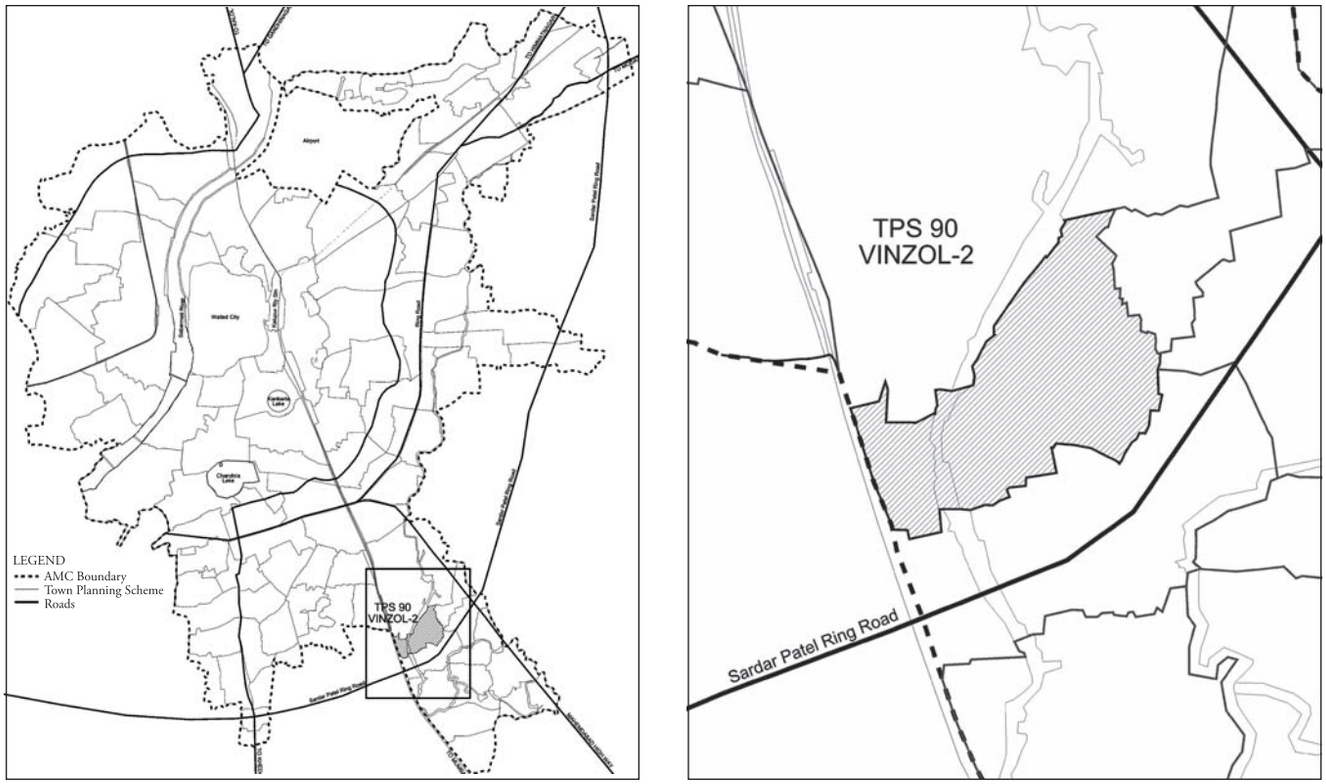


Figure 24.3: Location Map of TPS 90 Vinzol 2

Figure 24.4 shows the physical features surveyed and a Base map for TPS 90 Vinzol 2.

Compiling Land Ownership Details

While the area is being surveyed, existing cadastral maps and records are obtained from the relevant office of the Revenue Department and compiled in a prescribed format. Name of the owners, plot area, type of tenure, and encumbrances on the land are compiled. While preparing the TPS, the tenure and encumbrances on a plot remain unaffected.

Preparing a Base Map

The detailed ground survey and existing cadastral maps are collated to prepare a 'Base Map'. Discrepancies are resolved in favour of the plot area in cadastral records unless a portion of the plot has been acquired or has been sub divided/amalgamated and the records have not been updated.[13] By custom, the base map prepared by the Development Authority is approved and authorized by relevant officers of the Revenue Department. Figure 24.4 shows the base map for the TP Scheme.

Establishing Boundaries of the TPS

The boundary of the TPS is now clearly marked on the base map. Planning considerations, physical features, and other administrative boundaries are taken into consideration while doing this. At this juncture, the intention to prepare a TPS for the area is published in local newspapers. This is the first stage at which the Authority is required to inform landowners. Figure 24.5 shows the boundary of the TPS.

Marking Original Plots on the Base Map

Development a new plan for the area begins by clearly identifying 'Original Plots' (OPs) on the base map and giving each a serial number referred to as the OP number. At this stage, contiguous plots held by the same owner are consolidated as single OPs, and this simplifies subsequent planning and reduces land fragmentation. The map showing the OPs is referred to as the OP Plan in Figure 24.5.

Planning Roads

Any major (city-level) roads, already indicated in the DP (see 3.5 above) and passing though the TPS area are first

[13] For example, if a plot owner has encroached upon a neighbour's plot and thus the plot appears larger than what the record shows, the boundaries of the plot are corrected in the base map to truly reflect the area in the record.

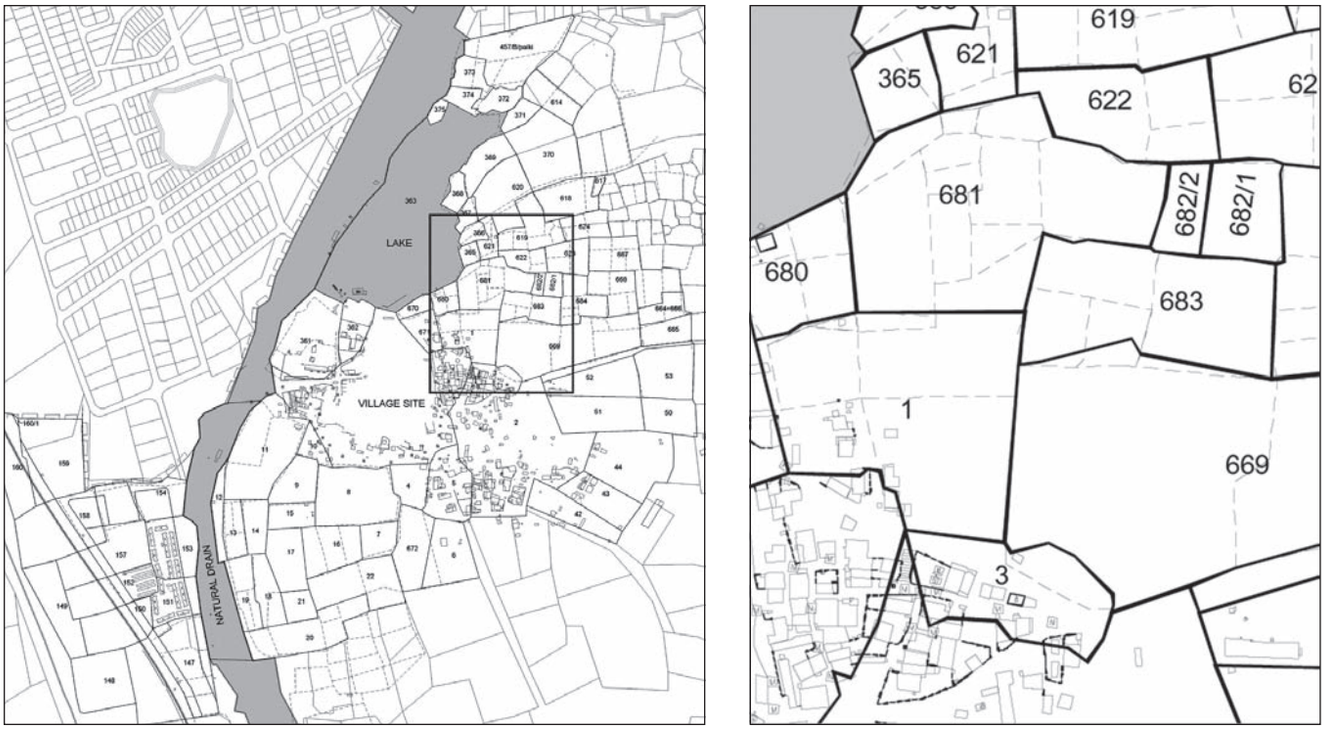


Figure 24.4: Physical Features Surveyed and Base Map for TPS 90 Vinzol 2

Source: EPC Development Planning and Mangement (EPCDPM)

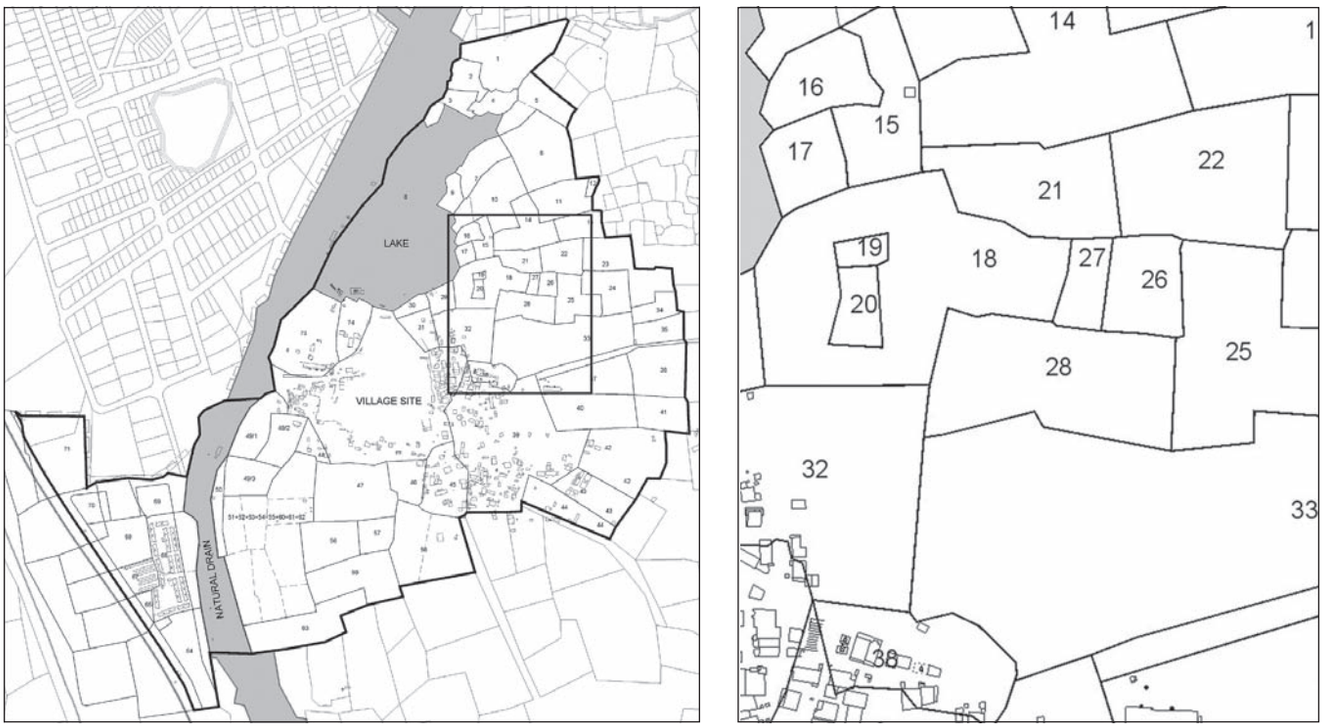


Figure 24.5: TPS area with the Boundary and OP Plan

Source: EPC Development Planning and Management (EPCDPM).

drawn up on the OP Map. Following this, the subsidiary road network is designed and drawn up. While doing this, the planner has to envision the future urban character of the area and keep a number of issues related to planning, transportation, and urban design in mind. Efficiency of the road network (that is, proportion of the land used up for the road network) is also a key parameter governing the design of the network of roads. Figure 24.6 shows the road network for the TPS.

Plots for Public Use

Following determination of the road network, plots for a variety of public uses such as schools, parks, health facilities, and housing for economically weaker sections are drawn up. Increasingly, plots are also being set aside for the Development Authority's land bank[14]—to be sold to raise finances for infrastructure development. A key design concern at this stage is to keep the total proportion of land allotted for public plots within the prevailing norm. Figure 24.6 shows the road network and amenity plots in the TPS.

Tabulating Ownership and Original Plot Details

The 'F Form' as it is called, shown in Figure 24.7, is the key statutorily prescribed format in which operative information regarding the TPS is tabulated. First, ownership details of each OP are tabulated, followed by its area (see Figure 24.7A). Based on available land sales data from within the TPS area, each OP's value is estimated and tabulated. While doing so, increments in value, expected on account of the implementation of the TPS, are not taken into consideration.

ESTIMATING THE COST OF DEVELOPMENT, VALUATION, AND COMPUTING BETTERMENT CHARGES

Tabulating Final Plot Sizes

At this stage, the total land area used up for roads and plots for public uses is calculated as a proportion (percentage) of the total land area of the TPS. This is a key figure usually predetermined. Each OP's area is reduced by this proportion and tabulated as the area of the 'final plot' (FP) to be allocated to each OP holder. In other words,

Figure 24.6 Road Network and Amenity Plots in the TPS

Source: EPC Development Planning and Management (EPCDPM).

[14] This being a relatively recent practice, a clear policy for use of land banks has not emerged as yet. The Ahmedabad Urban Development Authority has begun auctioning such plots to raise finances for infrastructure development.

Figure 24.7: F Form

Form F (Rule 21 and 35)

Draft Town Planning Scheme No. 90 (Vinzol–2), Ahmedabad, Redistribution and Valuations Statement

The Gujarat Town Planning and Urban Development Act–1976

No.	Name of the Owner	Tenure	Survey No.	Original Plot No.	Original Plot Area in	Original Plot Value in Rupees: Without reference to value of structures	Original Plot Value in Rupees: Inclusive of structure	Final Plot No.	Final Plot Area in	Final Plot Value in Rupees: Undeveloped: Without reference to value of structures	Final Plot Value in Rupees: Undeveloped: Inclusive of structure	Final Plot Value in Rupees: Developed: Without reference to value of structures	Final Plot Value in Rupees: Developed: Inclusive of structures	Contribution(+) Compensation(–) under Sec. 80 Colmn 9(b)-Column 6(b)	Increment Sec. 78) Column 10(a)–Colmn 9(a)	Contribution Sec. 79) 50% of Colmn 12	Addition to (+) or deduction from (–) Contribution to be under other sec.	Net demand from (+) or by (–) owner being the addition of Columns 11, 13, 14	Remarks
1	2	3	3(a)	4	5	6(a)	6(b)	7	8	9(a)	(9b)	10(a)	10(b)	11	12	13	14	15	16
1	Karshanbhai Gandabhai, Ramanbhai Jeevanbhai		457/ Paiki	1	21904	547600	547600	1/1 1/2	6133 7010 13143	328572	328572	2821208 3329665 6150872	6150872	–2190028	5822300	2911150		2692122	
2	Gajaraben wd/o Punjali Sartanji, Gitaben d/o Punjaji or Collector, Ahemdabad for GOG	RT	373	2	4755	118875	118875	2	2853	71329	71329	1355246	1355246	–47546	1283918	641959		594413	
3	Gauchar, Vinzol Gram Panchayata		374 375	3	1416 3035 4451	111275	111275	3	2670	66762	66762	1228416	1228416	–44513	1161654	580827		536314	
4	Keshavlal Ishwarlal, Baldevdas Ishvarlal		372	4	3845	96125	96125	4	2307	57677	57677	1107403	1107403	–38448	1049726	524863		4866415	
5	Prafull Harishankar and Bhikhaji Manuji V.K. of Lalji Maharaj, Samarsang Ramsingh, Anilkumar Shankarlal		614 371	5	6576 3035 9611	240275	240275	5	5767	144172	144172	2912264	2912264	–96104	2768093	1284046		1287943	
6	Prafull Harishankar and Bhikhaji Manuji V.K. of Lalji Maharajm Samarsang Ramsingh, Anilkumar Shankarlal Mahipatsang Manuji or Collector, Ahemdabad of GOG	RT	370/1 370/2	6	17705	531150	531150	6	10623	286828	286828	5598453	5598453	–244322	5311625	2655813		2411490	
7	Bharatsingh Raghuji, Virubhai Raghuji or Collector, Ahemdabad of GOG	RT	369	7	6779	169475	169475	7	4069	101715	101715	1932585	1932585	–67760	1830870	915435		847675	
					(A)						(B)						(C)		

Fig. 24.7 (*Contd.*)

Fig. 24.7 (*Contd.*)

1	2	3	3(a)	4	5	6(a)	6(b)	7	8	9(a)	(9b)	10(a)	10(b)	11	12	13	14	15	16
8	Waste Land of Talav, Vinzol Gram Panchayata		363	8	81241	2031025	2031025	8	81241	2031025	2031025	2031025	2031025	0	0	0		0	
9	Hamantsang Jesangji or Collector, Ahemdabad for GOG	RT	368	9	2833	70825	70825	9	1700	42491	42491	807324	807324	–28334	764834	382417		354083	
10	Yashvant Kanjibhai, Jashvant Kanjibhai, Raisang Kanjibhai, Jitubhai Kanjibhai, Chinubhai Kanjibhai, Laljibhai Kanjibhai, Sajanben Kanjibhai, or Collector, Ahemdabad for GOG	RT	367	10	12039	421860	421860	10	8438	295317	295317	4218810	4218810	–126543	3923493	1961747		1835203	
11	Bharatsingh Raghuji, Virubhai Raghuji, Bhikhabhai Manuji or Bank of India		618	11	9004	425229	495220	11	5403	162078	162078	2755321	2755321	–333142	2593243	1296622		963479	
12	Private Property of Ramsangji, Jesangji V.K. of Nikanth Mahadev or Ambalal Chaganlal		617	12	809	52585	52585	12	485	26685	26685	259571	259571	–25900	232886	116443		90543	
13	Mahipatsingh Manuji		624	13	5463	273150	273150	13	3278	163884	163884	1704394	1704394	–109266	1540510	770255		660989	
14	Arjanbhai Phuljibhai, Gajaraben Mobatsang, Udiben Mobatsang, Bhikhabhai Mobatsang, Manvaben Mobatsang		619	14	9409	517495	517495	14	5645	310479	310479	2935436	2935436	–207016	2624958	1312479		1105463	
15	Javansingh Amarsang, Udaising Amarsang		621	15	2833	118986	118986	15	1699	71372	71372	861565	861565	–47614	790193	395097		347483	
16	Ramjibhai Motibhai and Dhiruji Aluji V.K. of Nilkanth Mahadev Temple		366	16	1922	57660	57660	16	1153	46129	46129	570849	570849	–11531	524720	262360		250829	
17	Javansingh Amarsingh, Udaising Amarsing or Gujrat State Co. Op. Bank		365	17	1619	5665	56665	17	971	33992	33992	471027	471027	–22673	437036	218518		195844	
					(A)						(B)					(C)			

Notes: (A) Indicating Ownership, Original Plots and Original Plot Values;
(B) Indicating the Final Plot Values; and
(C) Indicating the Compensation and Betterment Charges.

each OP holder gets a smaller FP. The percentage of land deducted from each OP is the same as the percentage of land of the TPS used up for roads and plots for public uses. Thus, each landowner contributes the same proportion of his land for the creation of public facilities.

Delineating Final Plots

After road and amenity plots are drawn up and sizes of FPs tabulated, they are designed and drawn up. At this stage, the planner has to envision the future character of the area and reshape each of the plots. As far as it is possible, the FP is allotted in the same location as the OP; and the OP is trimmed to make it smaller. Figure 24.8 shows a drawing of the proposed road network, amenity plots, and the FPs.

Tabulating Semi-final Values and Computing Compensation

The process of valuation is continued further. A semi-final (SF) value is ascribed to each FP. Usually, this is the same as the OP value. In some instances, however, there can be a marginal change in the value of the OP—it may increase or decrease owing to the planning proposals such as zone changes, changes in plot shape, changes in the plot size, certain development control regulations, a substantial shift in plots, and proximity to features that may negatively impact development, etc. The compensation for the land appropriated is now calculated. The compensation to be paid to each landowner is the difference between the product of 'OP value and OP area' and 'SF value and FP area.'

Estimating Cost of Infrastructure and the TPS

The TPSs infrastructure is designed and its cost is estimated. Prevailing norms are followed to set engineering standards. Infrastructure normally includes roads, street lighting, water supply and sewerage, and storm water drainage. Next, the total costs of the TPS are worked out. Apart from the cost of infrastructure, these include compensation to be paid to each landowner, administrative, and legal costs involved in preparing and implementing the TPS.

Establishing the value of FPs and Computing Betterment Charges

The total cost of the TPS is divided by the total land that is given as FPs. This gives the cost of development per unit area of land, which is then to be loaded on all FPs with some consideration to location-related advantage. The value of the FP is the sum of the cost of development and the SF value. Figure 24.7(B) shows the F Form at this point. Next, the total increment or increase in the value

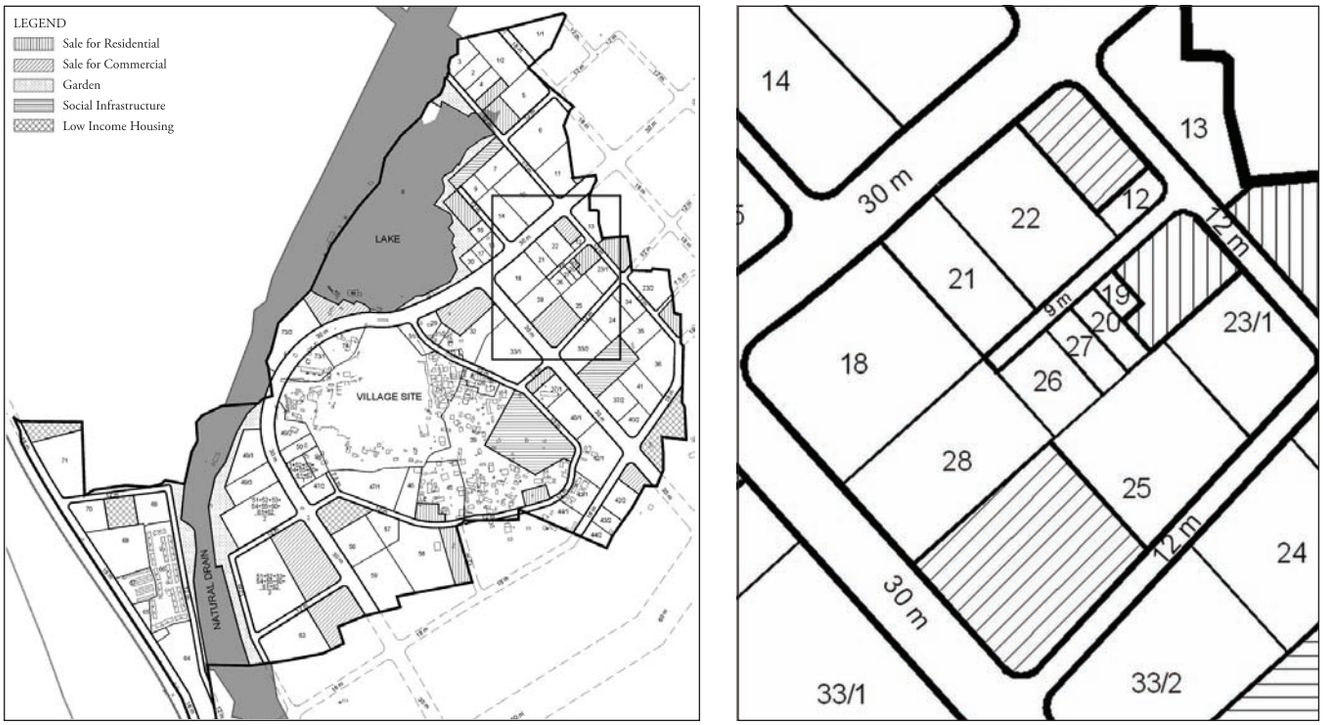


Figure 24.8: Delineation of Final Plots in the TPS

Source: EPC Development Planning and Management (EPCDPM).

for each plot of land is worked out. This is the product of both FP value and FP area. The GTPUDA stipulates that about half of the increment can be taken by the Development Authority to finance the cost of works and administrative expenses of preparing the TPS. Taking 50 per cent of the increment in the land value from each plot and deducting the compensation to be paid for the land appropriated, the net demand or betterment charges are estimated. With this, the F Form is complete. Figure 24.7 (A+B+C) shows the final F Form.

PUBLIC PARTICIPATION AND CONSENSUAL DECISION-MAKING

Meeting of Landowners

At this stage, a public meeting of landowners is called to present the draft TPS proposal and to solicit their opinions and objections, if any. A Notice inviting all owners to attend the meeting is published in the newspapers. The meeting is held in a public venue and is conducted by the urban planning staff of the Development Authority. The objective of the meeting is to clarify the procedures and proposals of the TPS and to build consensus.

Modifying the TPS and Appropriating Land for Roads

Based on objections and suggestions raised during the landowners' meeting and on written objections and suggestions sent in by individual owners, the Development Authority subsequently modifies the TPS. Modifications are aimed at ensuring that all 'reasonable' objections are addressed. The modified TPS is sent to the state government for approval. At this stage, it is referred to as the 'Draft TPS' and upon approval, it is referred to as the 'Sanctioned Draft TPS'. After sanction, the Development Authority can take physical possession of the land designated for roads.

Appointment of the Town Planning Officer

On approval of the Draft TPS, the state government appoints a quasi–judicial officer called a Town Planning Officer (TPO) to finalize the Sanctioned Draft TPS. The TPO is supposed to systematically and individually hear each landowner on concerns regarding physical attributes of the final plot, compensation, and betterment charges being levied. The TPO is responsible for modifying the TPS as he sees fit, finalizing it, overseeing actual demarcation of the reconstituted plots, and handing over possession of TPS plots to land-owners. On account of this, TPOs are required to be technically competent, and by custom, are selected from the pool of urban planners available with the stategovernment.

Hearings by the TPO and Modifications

Three individual hearings are given to each landowner in the TPS. The first two hearings focus on physical proposals of the TPS, landowners are individually notified regarding the opportunity to be heard and submissions or presentations are duly recorded in writing. The TPS is modified twice and referred to as the 'Preliminary TPS'. Notice of 'Award of the Preliminary TPS' is published in local newspapers and the TPS is once again sent to the state government for its approval. After grant of approval, it is referred to as the 'Sanctioned Preliminary Scheme'. This implies that the Development Authority now owns all plots for public use. The TPO undertakes a third set of individual hearings at this stage, which are focused solely on financial issues.

Finalizing the TPS

Based on the hearings and on any clarifications or opinions sought by him from the state government, the TPO makes final modifications to the financial proposals of the Scheme. The TPS, thus modified, is referred to as the Final TPS, which is notified as the 'Award of the Final TPS' in the local papers. Appeals against the Final TPS can only be made in the Board of Appeals constituted for the purpose by the state government. Once appeals are resolved, the state government is required to sanction the Final TPS within three months.

Why does the Two Stage DP–TP Mechanism Work?

Anyone trying to first understand the two stage DP–TP mechanism[15] invariably finds it to be complicated, tedious, unwieldy, long, and ultimately unusable. Indeed, it is a tedious process. Many reforms are urgently necessary.[16] However, even with all its flaws, it has been and remains a very effective planning, infrastructure development, financing, and implementation tool and the best argument in its favour is simply that it works. This can be clearly

[15] As explained above, this is the how the process whereby a city-wide development plan is followed by a number of smaller area TP Schemes is locally referred to.

[16] The authors have recently completed a detailed, World Bank- funded study of urban land management and planning in Gujarat for the Urban Development and Urban Housing Department of the state government, 'Streamlining Urban Planning and Land Management Practices, 2008', which identifies key institutional and legislative reforms required to improve the Development Plan and TPS processes.

seen in that the DP–TP Mechanism has been used for managing Ahmedabad's growth over the last century, on account of which the city not only has an effective road network but manages to build infrastructure before urban expansion takes place in the periphery.

Managing urban expansion in the periphery of cities is only one use to which the DP–TP mechanism can be put. Considered in abstraction, it can easily be seen that the DP process is a powerful strategic planning tool and that the TPS process is a general purpose techno-legal mechanism for delimiting an area and, within it:

- reconstituting properties;
- appropriating land;
- levying charges for infrastructure provision and for other costs;
- levying betterment charges;
- formally informing landowners of proposed plans;
- compensating dispossessed landowners;
- seeking a majority consent and recording their suggestions and objections; and
- for empowering quasi-judicial officers for redressing grievances.

The 'Town Planning Scheme' mechanism is, therefore, a powerful and well-coordinated statutory tool for simultaneously preparing a detailed land appropriation, land readjustment and infrastructure-building plan, a mechanism for financing and implementing the plan, and a mechanism for involving landowners in the process. Being a general purpose mechanism, it can and has been used for addressing a variety of urban land appropriation and infrastructure provision problems. Just in the last decade, it has been used, for example, to reorganize properties to build new roads within the extremely dense-walled city of Bhuj after the 2001 earthquake; to appropriate approximately 4 sq. km of land to build a 60 m wide and 76 km long ring road circling Ahmedabad[17]; to appropriate 150 ha of land for an educational campus near Gandhinagar[18]; and to finance and build infrastructure while regularizing a swathe of irregular construction.[19]

The real question is not whether the versatile DP–TP mechanism works. Nor is it whether it should be extensively used or not. The interesting question is: why does the DP–TP mechanism work? Most people attribute the success of this method to Gujarati pragmatism. While Gujarati pragmatism, to the extent that it really exists, may well make it work better or faster. In our view, success of the DP–TP mechanism results from the following:

1. The DP–TP mechanism is specified in robust-enabling legislation. The GTPUDA's roots can be found in the Bombay Town Planning Act of 1915. It has been continually improved, and by now, is well tested in court. Further reforms are underway.
2. The mechanism promotes and enables the Development Authority to think and plan at both the macro-level and at the micro level. The bane of a lot of infrastructure planning is a geographically focused view. The DP–TP mechanism requires planners to think at a city- wide level and then allows them to undertake very detailed planning.
3. This mechanism is a spatial planning tool that promotes a comprehensive approach. When developing a spatial plan, a planner is forced to simultaneously deal with all the complexities of an urban area—roads, variety land uses, buildings, infrastructure, traffic, rights of way, and so on. Thinking in a sector-based engineering fashion in the urban context and not anticipating how one piece of infrastructure is linked with the rest and how all the infrastructure connects with living environments in an area is often the main reason why projects fail.
4. This mechanism is simultaneously one of planning and implementation. Not only does it allow the Development Authority to plan on paper, but also provides it tools to raise finances, distribute cost, appropriate land and implement its proposals. Moreover, it provides considerable flexibility since costs and benefits can be valued and allocated in the form of land, location, money, or development rights.
5. It enables coordination across an array of very different tasks. No doubt, in the absence of such a mechanism, many of the tasks described above—to transform peripheral agricultural land for urban use—can be accomplished using existing legislations. Private property can be appropriated using the Land Acquisition Act. Land for low-income housing can be appropriated using the Land Ceiling Act. Municipal legislation allows levying of betterment charges. Revenue laws specify mechanisms for reordering property holdings. However, it would be extremely difficult to

[17] Shirley Ballaney, 'A Participatory Approach to Creating Urban Infrastructure' Sardar Patel Ring Road, Ahmedabad, 2003.

[18] TPS No. 19, Raysan Randesan and TPS 20 Koba, prepared for the Gandhinagar Urban Development Authority, prepared by EPC Development Planning and Management Pvt Ltd (EPCDPM).

[19] TPS No. 97, Naroda North, prepared for Ahmedabad Municipal Corporation, prepared by Environmental Planning Collaborative (EPC).

work with such disparate laws. A number of different authorities and departments would have to work in tandem while being governed by both different government departments and legal clocks. Moreover, many of these legislations are widely considered to be clumsy, outdated, impractical, and unfair. Solving complex urban problems requires a single legal mechanism, under a single control, working towards a single objective.

6. The DP–TP mechanism is simultaneously a technical and legal mechanism. Speaking in more broader terms, it is simultaneously a technical and a governance mechanism. Using it requires paying attention to both technical issues such as engineering, finance, and urban design and governance issues such as deliberative decision making, consensus building, and redressal of grievances.
7. This mechanism is relatively inexpensive. Land does not have to be paid for and infrastructure, planning, administrative (and indeed all other) costs can be realized from the increments in land value. The Development Authority can be simply a 'no-profit-no-loss' facilitator.
8. The mechanism works because professionally competent urban planners are available and because they have a relatively strong and institutionalized role for city planning in the local government.
9. A profoundly pragmatic political approach underpins this mechanism. Property rights are respected, costs are distributed, and all owners lose the same proportion of land. Benefits are shared and owners keep a substantial portion of developed land and increment in land value. Planning seeks to use the land market and not thwart it. Landowners are kept involved in the planning process and their grievances are heard and redressed.
10. Ultimately, the mechanism works because it is widely perceived to be fair and equitable.

Summary and Conclusions

To sum up, the chapter strategically highlights that the Gujarat Town Planning and Urban Development Act (GTPUDA), 1976 provides for an effective two-stage techno-legal process for urban planning and implementation through the 'DP–TP Scheme' mechanism. The first stage involves preparation and ratification of a strategic, city-wide Development Plan. The second stage involves preparation and implementation of one or more TPSs to realize proposals of the Development Plan. This stage is quite elaborate and involves a wide range of activities such as delimiting an area, and within it, reconstituting properties, appropriating land, levying betterment charges to finance infrastructure provision, compensating dispossessed landowners, formally informing landowners of proposed plans, seeking a majority consent and recording their suggestions and objections, and empowering quasi-judicial officers for redressal of grievances. The TPS process is thus a powerful and well-coordinated statutory tool, which involves not only a detailed land appropriation, land readjustment, and infrastructure development plan but also a mechanism for financing and implementing the plan, thus involving the landowners in the process. There is evidence that the use of this mechanism to appropriate land can be a more effective instrument than the process defined by the Land Acquisition Act, 1894. This mechanism, which currently works as an instrument of only town planning, can potentially, be used for other infrastructure projects as well.

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