

Introduction to Urban Planning
Prof. Harshit Sosan Lakra
Department of Agriculture and Planning
Indian Institute of Technology - Roorkee

Module No # 02
Lecture No # 10
Town Planning Scheme (Town Planning Schemes)

Welcome to the Course of Urban Planning. In this section today we are further going to explore Town Planning Schemes as an example of Local Area Plan within the larger ambit of different levels of plans. As we had seen earlier examples of Local Area Plans include Zonal Plan, Sub-City Plan, Town Planning Schemes, Ward Committee Plan, Coastal Zone Management Plan, Urban Redevelopment Plan. So today we are going to cover Town Planning Schemes.

(Refer Slide Time: 01:00)

COVERAGE

- ① **Concept of Town Planning Scheme**
- ② **Terminologies**
- ③ **Areas where it is applied**
- ④ **Components of TPS and Redistribution Process**
- ⑤ **Merits and shortcomings of the Scheme**
- ⑥ **Techniques of Reconstitution**
- ⑦ **Case Examples**
- ⑧ **Town Planning Procedure**
- ⑨ **View of Transitions**

Accordingly, the coverage of the section will include Concept of Town Planning Scheme, terminologies involved, areas where it is applied, components of Town Planning Scheme and redistribution process, merits and short coming of the scheme, techniques of reconstitution, we will look at case examples, we will also look at the Town Planning procedure and then lastly we will view the transitions which have really taken place on ground.

(Refer Slide Time: 01:31)

LEARNING OUTCOMES

- ① Describe the concept and Identify Terminologies
- ② Review its Applicability
- ③ Identify Components of TPS
- ④ Review the Process, Techniques and Merits
- ⑤ Discusses and Review the Case Studies

The learning outcomes targeted in this lecture today are; you should be able to describe concept and identify terminologies, should be able to review its applicability, you should be able to identify components of Town Planning Scheme, you will be able to review the process, techniques and merits, you will be able to discuss and review the case studies.

(Refer Slide Time: 01:59)



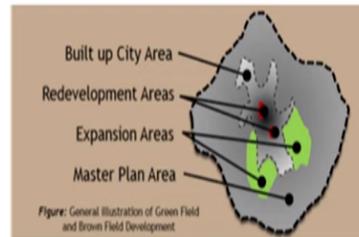
Now looking at the concept of Town Planning Scheme, as we know that the Local Area Plans are the part of Development Plan, Town Planning Scheme are also part of the Development Plan and we can say are the building blocks in realization of the Development Plan of the city.

(Refer Slide Time: 02:17)

Concept of TPS

Introduction to TPS

In India TPS is mostly applied in peri-urban areas, for the planning and designing of greenfield projects, or partially developed areas, such as new towns.



(ADBI,2019)

In India, Town Planning Scheme is mostly applied in peri-urban areas for the planning and designing of the greenfield projects or partially developed areas such as new towns.

(Refer Slide Time: 02:32)

Concept of TPS

Introduction to TPS

- The scheme is also used for infrastructure development through the consolidation of land.
- TPS used for core area revitalization and post-disaster areas in the country.
- Gujarat has applied it for post-disaster rehabilitation in Bhuj, following a strong earthquake in 2001.

(ADBI,2019)

The scheme is also used for infrastructure development through the consolidation of lands such as roads and public parks. Town Planning Scheme has also been used for core area revitalization and post-disaster areas in the Country. The State of Gujarat has applied it for post-disaster rehabilitation in Bhuj, following a strong earth quake in 2001. However, the cases are very limited.

(Refer Slide Time: 02:58)

Concept of TPS

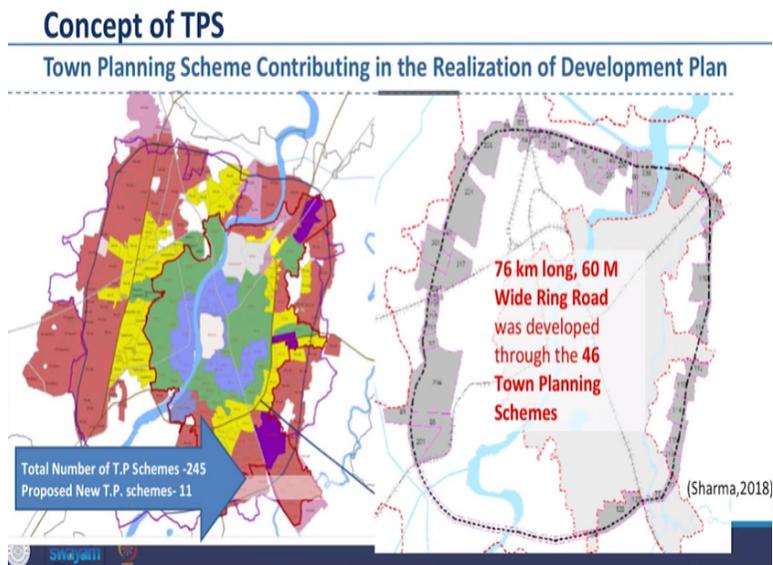
Introduction to TPS

- In the Development plan the planning is done at a *Macro level* for the entire city for larger time frame without specific details for the smaller areas.
- TPS, the planning is undertaken at *Micro level*, where, the detailed plan is prepared for the smaller areas ranging from 50 to 500 hectares or more.

(ADBI,2019)

In the Development Plan the planning is done at a macro level for the entire city for larger time frame without specific details for the smaller areas. Whereas in Town Planning Scheme the planning is undertaken at a micro level, where the detailed plan is prepared for the smaller areas ranging from 50 to 500 hectares or more land.

(Refer Slide Time: 03:26)



In this image of Ahmedabad City of Gujarat, we can see that how 46 Town Planning Schemes together contributed in the realization of 76-kilometer-long and 6-meter-wide ring road proposed for the city in the Development Plan.

(Refer Slide Time: 03:45)

Concept of TPS

Introduction to TPS

TPS is distinct from other types, owing to its planning process.

The planning process under TPS, consists of

- **Merging and Redistribution** of land parcels in the urban expansion zone.

(ADB,2019)

Town Planning Scheme is distinct from other types, owing to its planning process. The planning process under Town Planning Scheme consists of merging and redistribution of land parcels in the urban expansion zone.

(Refer Slide Time: 04:02)

Concept of TPS

Introduction of TPS

- The basic concept of the TPS is to pool together all the land under different ownerships, and redistribute it in a properly reconstituted form after carving out the required land for
 - **Open Spaces**
 - **Social Infrastructure**
 - **Services**
 - **Housing for the Economically Weaker Section of the Population**
 - **Road Network.**

(ADB,2019)

The basic concept of Town Planning Scheme is to pool together all the land under different ownerships and redistribute it in a properly reconstituted form after carving out the required land for open spaces, social infrastructure, services, housing for the economically weaker section of the population and the road network. The core purpose of Town Planning Scheme mechanism is to service the land with the infrastructure and the amenities in the peri-urban areas which are likely to grow haphazardly in the absence of any regulated plan.

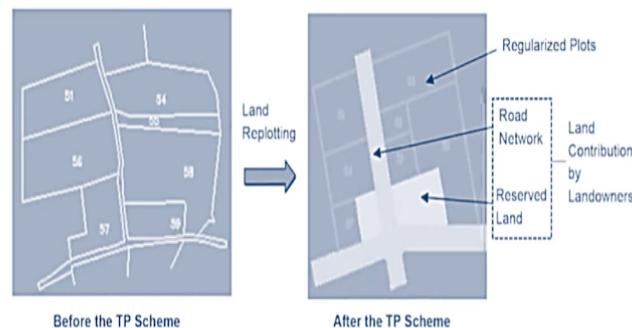
(Refer Slide Time: 04:36)

- The core purpose, of TPS mechanism, is to service the land, with the infrastructure and amenities in the peri-urban areas, which, are likely, to grow, haphazardly, in the absence of any regulated plan.

(Refer Slide Time: 04:39)

Concept of TPS

Introduction of TPS



(ADBI,2019)

We are seeing the image which illustrates this land pooling mechanism. It shows the irregular plots reconfigured into proper shapes by laying the road network and the contribution of part land by land owners for reserving a parcel of land for sale on the open market. In this method the Public Planning Agencies or development authority temporarily brings together a group of land owners for planning under the ages of State Level Town or Urban Planning Act.

(Refer Slide Time: 05:21)

- In this method, the public planning agency or development authority, temporarily brings together a group of landowners for planning under the aegis of the state-level town or urban planning act.
- This process, enables the development authority to develop land without fully acquiring it and gives it positive control over the design and the growth of the peri-urban area.

(ADB, 2019)

This process enables the development authority to develop land for without fully acquiring it and giving it positive control over the design and the growth of peri-urban area.

(Refer Slide Time: 05:28)

Concept of TPS

Introduction to TPS

Fundamental Objective of the Technique:

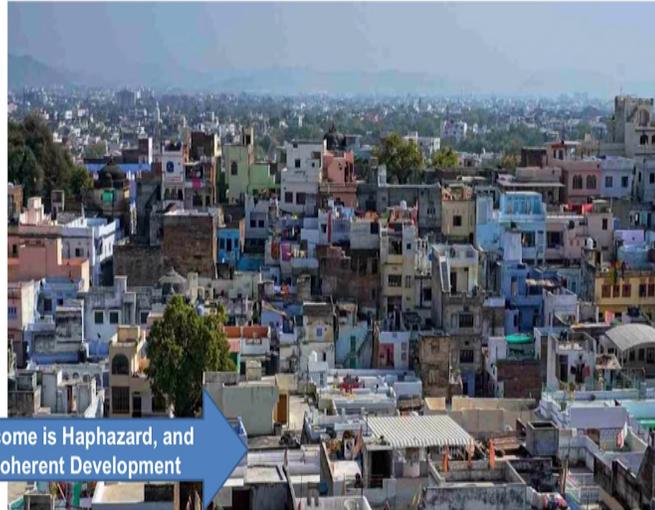
- *Availability of land for development* at minimum cost to Development Authorities and effective improvement of the environment.
- *The Readjustment technique* is hence beneficial to the owners, local authorities and the town.
- Used to unlock the value of land, that was previously subdued by plot fragmentation and land ownership patterns which are incompatible with the optimal use of land.

(ADB, 2019)

Availability of land for development at minimum cost to Development Authorities and effective improvement of the environment is the fundamental objective of the technique. The readjustment technique is hence beneficial to the owners, local authorities and the town. Further they can corporate and provide a proportional contribution towards the cost. Town Planning Scheme is a mechanism that is used to unlock the value of the land that was previously subdued by plot fragmentation and land ownership patterns which are incompatible with the optimal use of land.

In many urban areas, land is typically divided into many small irregulars shaped and sized plots, each with the different land holder, holding particular interest.

(Refer Slide Time: 06:21)



Outcome is Haphazard, and Incoherent Development

Arial view of the Urban sprawl in Nagpur

(Rani, 2019)

The outcome is often haphazard. An incoherent development with little reference to planning guidelines, poor infrastructure, inadequate provision of services and lack of public space.
(Refer Slide Time: 06:36)



Arial view of the Urban sprawl in Mumbai

Kapur, 2020)

In some cases, unplanned development leads to sprouting of informal settlements where large number poor people are cramped into restricted areas with poor living conditions and insecure tenure.
(Refer Slide Time: 06:49)

Concept of TPS

- TPS is one way of acquiring land.

Land acquisition is another way to provide land for development purpose. Land acquisition may not be the most suitable mechanism for procuring land and servicing it.

Problems of Land acquisition:

- It affect lives and livelihoods by **displacing people**
- It Takes **away land rights** from the landowners
- Sometimes **does not** capture the **land value** appropriately
- Affects the **compensation** possibly making it financially non-lucrative for the landowners.

(ADBI, 2019)

Land pooling as we see in Town Planning Scheme is one way of acquiring land. Land acquisition is another way for provide land for development purpose however, it is growing concern in many countries that and acquisition may not be the most suitable mechanism for procuring land and servicing it. It tends to effect life and lively hood by displacing people, takes away land rights from landowners and sometimes does not capture the land value appropriately, effecting the compensation and thus possibly making it financially non-lucrative for the landowners. Town Planning Scheme is used extensively throughout the world.

(Refer Slide Time: 07:35)

Concept of TPS

Geographic Spread



Scheveningenin, Holland, 19th century



Berlin, Germany , 19th century

(Skyscraper city,2021)

The roots of Town Planning Scheme can be traced from Holland and Germany in the 1890's. It was quickly adopted for Urban Development across the globe. It played a leading role when urbanization peaked in Seoul and Tokyo from the 1960's until 1980's. It has also been used in smaller Korean towns, it has been used across several other countries such as Germany, Holland, Nepal, Indonesia and Australia.

(Refer Slide Time: 08:04)

Concept of TPS

Town Planning Scheme in India is referred as

- Land readjustment
- Land pooling
- Land consolidation
- Land Reconstitution

(Mathur, 2013; ADBI, 2019).

In India we mostly refer the process as Town Planning Scheme. It is also referred as land readjustment, land pooling, land consolidation and land reconstitution.

(Refer Slide Time: 08:17)

Concept of TPS

Variation of TPS among countries

- Structure
- Implementation
- Approval Procedure
- Land Value Capture
- Eligibility of the Use
- Implementation by Public authority with no or limited private involvement

(Mathur, 2013; ADBI, 2019).

The core idea remains the same however, may differ between countries in terms of its structuring, implementation and approval procedure, land value capturing and eligibility of the use of this mechanism. Furthermore, only the designated public authority implements it with no or limited involvement of the private sector.

(Refer Slide Time: 08:41)

Areas where the Mechanism of TPS is Adopted

Now looking at the areas where this mechanism is used. In India we see that Town Planning Scheme is more frequently employed to urbanize peri-urban rural land.

(Refer Slide Time: 08:58)

- In other international examples we can see that It has also been used to redevelop existing urban areas, such as, Rotterdam City Center.

(Mathur, 2013)

In other international examples we can see that it has also been used to redevelop existing urban areas such as Rotterdam City Center.

(Refer Slide Time: 09:04)

Mechanism Adopted in TPS

Case: City of Rotterdam



The city of Rotterdam was rebuilt dramatically after World War 2 with this method. This method transformed city and incorporated new roads, cycling roads, green spaces, court yards and parks into the City Center. As we can see this City Center in Rotterdam developed through this mechanism.

(Refer Slide Time: 09:26)

Mechanism Adopted in TPS

Case: Japan

Japan used this scheme extensively for reconstructing post-WWII areas and continues to apply it to the following development areas.

- New town development in Peri-urban areas
- Post-disaster reconstruction
- City center and station area Redevelopment
- Improvement of congested and wooden residential areas
- Integrated Land Readjustment with railway development
- Small-scale Land Re-adjustment for land consolidation in urbanized areas

(Un Habitat, 2018)

(Refer Slide Time: 09:31)

Mechanism Adopted in TPS

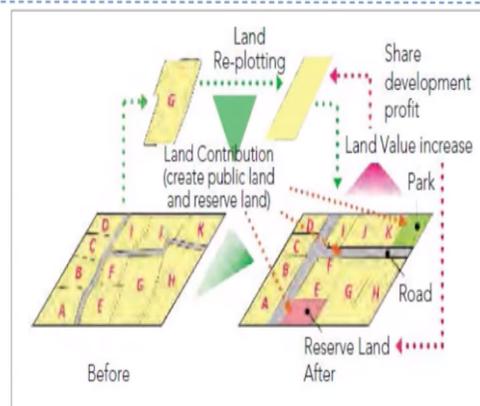
Case: Japan



Japan used this scheme extensively for reconstructing post World War II areas and continues to apply it to the various development areas including New Town Development in peri-urban areas, post-disaster reconstruction, city center and stationery area redevelopment, improvement of congested and wooden residential areas, integrated land, readjustment with railway developments, small scale re-adjustments for land consolidation in urbanized areas.
(Refer Slide Time: 09:58)

Mechanism Adopted in TPS

Case: Japan



Source: Case Study, Land Readjustment in Japan, World Bank Group.

(Un Habitat, 2018)

This image presents an example of the typical implementation of scheme for land consolidation and urban expansion in Japan.

(Refer Slide Time: 10:07)

Mechanism Adopted in TPS

Case: Lie De Village in Guangzhou, China,



(Photograph: Pan, 2017)



(Photograph: Pan, 2017)

(Un Habitat, 2018)

Looking at the case of Urban Renewal in China using this mechanism, we see the transformation case of Lie De village, one of the 52 villages in the city identified by Municipal Government for complete transformation.

(Refer Slide Time: 10:28)

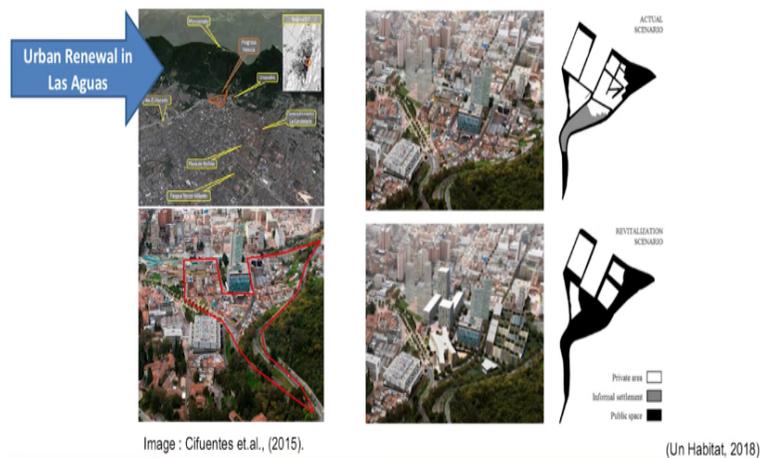
- Now, Looking at the case of Urban Renewal in Colombia using this mechanism.
- The area of intervention is located in the Las Aguas neighborhood.
- Primary use of the land nearly 38% in the zone that was residential and nearly 21 % parking creating unsafe urban vacuum.

Now looking at the case of Urban Renewal in Colombia using this mechanism. The area of intervention is located in Las Aguas neighborhood.

(Refer Slide Time: 10:32)

Mechanism Adopted in TPS

Case: Colombia, Fenicia Project



Primary use of the land nearly 38% in the zone was residential and nearly 21% parking, creating unsafe urban vacuum. The final urban proposal resulting from the discussion with neighborhood actors and the city authorities gave a new reconfiguration of the public and private space and increased public areas.

(Refer Slide Time: 10:57)

Mechanism Adopted in TPS

Case Study : Addis Ababa, Ethiopia



Now we look at the Lidata case of land readjustment for informal settlement upgradation at Addis Ababa, Ethiopia. Lidata's redevelopment process was initiated when residents submitted a petition to the city. Lidata was one of the earliest settlements with no formal land ownership and Development Plan.

(Refer Slide Time: 11:20)

Mechanism Adopted in TPS

Case : Lidata, Addis Ababa, Ethiopia

Key Positive Outcomes

- The land readjustment scheme increased housing supply by over 2,300 units.
- The rent-to-buy system was also vital for redistributing wealth and empowering the poor.
- The project also achieved a well-balanced land use with adaptive and responsive adjustments to all stakeholders' demands of land for public and private housing and commercial development as well as public roads and open space.

(Un Habitat, 2018)

Among the key positive outcomes, the Land Readjustment Scheme increased housing supply by over 2,300 units. The rent to buy system was also vital for redistributing wealth and empowering the poor, in this case. The project also achieved a well balanced land use with adaptive and responsive adjustments to all stake holders' demands of land for public and private housing and commercial development as well as public roads and open space. Now we look at the case of Slum Redevelopment in our Country in Nagpur.

(Refer Slide Time: 11:58)

Mechanism Adopted in TPS

Case: Nagpur, India



(Un Habitat, 2018)

A large slum extending 1.9 hectares called Jattarodi with nearly 1,000 people living in 279 households with average family size of 4.45 per house was taken up for transition. Such intervention allowed to review the potential of such tool for both the city and slum residence to capture the land value.

(Refer Slide Time: 12:26)

Components of TPS

Moving forward now we see components of Town Planning Scheme.
(Refer Slide Time: 12:31)

Components of TPS

- ① Public Agency

- ② Landowner Participation

- ③ Subsidy for Infrastructure Funding

- ④ Coordination with the Higher Level Planning

(Mathur, 2013).

First component is the public agency which plays a key role, second the land owner participation, third the subsidy for infrastructure funding and the coordination with the higher level planning.

(Refer Slide Time: 12:47)

Components of TPS

① Public Agency

States undertake the process by appropriating and consolidating a portion of land from the land rights holders for infrastructure development and **returning the replotted, reshaped, and regularized parcels** of serviced land.

(Mathur, 2013).

Looking at the role of public agency; States undertake the process by appropriating and consolidating a portion of land from land right holders for infrastructure development and returning the replotted, reshaped and regularized parcels of serviced land.

(Refer Slide Time: 13:06)

Components of TPS

Public Agency helps in achieving multiple objectives:

- **Providing infrastructure and Public Facilities** in an organized manner
- Increasing the **usage and values of land**
- Containing haphazard development through **systematic land use planning**
- Public agency **does not incur the land acquisition cost.**
- Public agency is **able to finance the urban development** through the **betterment charges and the sale of land.**

(Mathur, 2013).

This helps in achieving multiple objectives. One providing infrastructure and public facilities in an organized manner. Then increasing the usage and values of land containing haphazard development through systemic land use planning. public agency does not incur the land acquisition cost for this kind of development. Public agency is able to finance the Urban Development through the determent charges and the sale of land.

(Refer Slide Time: 13:37)

Components of TPS

② Landowners' Participation.

Landowners' Participation is usually mandatory.

- The written consent of the majority of the landowners is required for all projects.
- There are few Exceptions : In cases where participation is voluntary, consent of simple majority of landowners is required.
- Exception case: Like In Holland, the project requires the approval of either the majority of the landowners

(Mathur, 2013).

Now considering the land owner participation. Land owner participation is usually mandatory. The written consent of the majority of the landowners is required for all projects. There are few exceptions in cases where participation is voluntary, consent of simple majority of landowners is required. We can see in the exception case like in Holland, the project requires the approval of either the majority of the landowners or of the project is for agriculture purpose, the land owners whose holdings constitute the majority of land area, their consent would be sufficient.

(Refer Slide Time: 14:17)

Components of TPS

Land owner participation:

Exception examples:

- Rotterdam City: Compulsory Readjustment was adopted to rebuild the 158-ha Rotterdam City Center after World War II.
- Japan: Government can initiate LPR projects without the landowners' consent where "important planning goals are at stake"

(Mathur, 2013).

Other example as we saw in Rotterdam City, compulsory readjustment was adapted to rebuild the 158 hectares Rotterdam City Center after World War II. In Japan the Government can initiate the project without the land owners consent where important planning goals are at stake.

(Refer Slide Time: 14:39)

Components of TPS

3 Subsidy for infrastructure funding

- Requirements vary among countries, ranging from entirely self-financing TPS projects in Korea and Gujarat where the betterment charges and the revenues from the sale of land fund the project are used.
- Japan: Tax revenues are used to acquire land for the construction of arterial roads.
- Europe: The local governments typically bear a portion of the infrastructure costs.

(Mathur, 2013).

Now looking at the subsidy component. Subsidy for infrastructure funding requirements vary among countries ranging from entirely self-financing Town Planning Scheme project in Korea and Gujarat where the betterment charges and the revenues from the sale of land fund the project. In Japan tax revenue are used to acquire land for the construction of arterial roads. In Europe the Local Government typically bear a portion of infrastructure cost.

(Refer Slide Time: 15:09)

Components of TPS

4 Coordination with higher-level planning

The TPS projects typically must be consistent with the higher level (i.e., city and regional) plans.

For example,

- **Holland**, an TPS project should be consistent with the regional plan.
- **Finland and Japan**, it should be consistent with the local or the city plan.

(Mathur, 2013).

Now looking at coordination of the Town Planning Scheme with the higher level of planning. The Town Planning Scheme projects typically must be consistent with the higher level that is with the city and Regional Plans. For example, in Holland a Town Planning Scheme project should be consistent with the Regional Plan. Similarly, in Finland and Japan it should be consistent with the local or the city plan.

(Refer Slide Time: 15:39)

Land Redistribution

Now we will look at how the land distribution is done.

(Refer Slide Time: 15:41)

Land Redistribution

- ① The size of the final plot (FP) is in proportion to the size of the original plot (OP), and its location is as close as possible to the original plot.
- ② Value capture financing (VCF) tools such as **betterment or development charges** and **the sale of reserved plots** are used to finance the provision of urban infrastructure and amenities under the TP Scheme.

(ADB, 2019)

The size of the final plot like after the redistribution we call it final plot is in proportion to the size of the original plot and its location is as close as possible to the original plot. Value capturing financing tools such as betterment or development charges and the sales of reserved plots are used to finance the provision of urban in structure and amenities under Town Planning Scheme.

(Refer Slide Time: 16:11)

Land Redistribution

- ③ Development authorities levy betterment charges on **landowners to offset the cost of infrastructure & service provision** and sell the reserved plots on the open market to finance the overall project development cost.
- ④ A landowner typically parts with up to 25%–50% (as per the Practicing Urban Planner 2018) of his or her land and pays betterment charges for the development of the FP (with the provision of infrastructure and services).

(ADBI, 2019)

Development authorities levy betterment charges on landowners to offset the cost of infrastructure and service provision and sell the reserved plots on the open market to finance the overall project development cost. A landowner typically parts with up to 25 to 50% of the land, his or her land, and pays betterment charges for the development of the final plot with the provision of infrastructure and services.

(Refer Slide Time: 16:41)

Land Redistribution

- ⑤ Local-level development authorities do not engage private developers directly for implementation
- ⑥ Under this scheme the development authority reserves land for housing for the economically weaker section (5%–10%) which it offers to low-income households on the basis of the drawing of lots at a subsidized value when the construction is complete.

(ADBI, 2019)

Local level development authorities implement this scheme under the directives of the State Government and they do not engage private developers directly for the implementation. Under this scheme the development authority has the mandate to reserve land for housing for economically weaker section of the society nearly 5 to 10% of the land which it offers to low income household on the basis of the drawing of lots at a subsidized value when the construction is complete.

(Refer Slide Time: 17:13)

Merits of the TPS

We will now look at commonly acknowledged merits of Town Planning Scheme in India. The process has had a historical presence since 1915 and since then the Legislation has improved continuously to suit the changing context of development.

(Refer Slide Time: 17:31)

Merits of the TPS

- ① The scheme is a “win-win” one in which **landowners receive serviced land with incremented value and the development agency controls haphazard fringe development and promotes planned urban growth.**
-

(Mathur, 2013)

The scheme is a “win-win” one in which land owner receives service land with incremental value and the development agency controls haphazard fringe development and promotes planned urban growth.

(Refer Slide Time: 17:45)

Merits of the TPS

- ③ The TP Scheme respects land rights.
- ④ The extensive consultation process with the landowners makes them part of the planning process, which minimizes the potential resistance to development.
- ⑤ The procedure gives ample opportunities to the owners to put forward their point of view to the authority and raise objections.

(Mathur, 2013)

The Town Planning Scheme respects land rights it does not displace land owners, but gives them regularize plot in the same parcel of land, as close as possible to their original plot. Unlike the land acquisition mechanism which entails forced displacement. The extensive consultation process with the land owners makes them part of the planning process which minimize the potential resistance to the development. The procedure gives ample opportunities to the owners to put forward their point of view to the authority and raise objections if any.

(Refer Slide Time: 18:25)

Merits of the TPS

- ⑥ The process is **transparent**, follows a set procedure, and is fair, as all owners lose the same proportion of land.
- ⑦ The landowners offset the development cost by contributing betterment charges and, through the sale of reserved land, making it a self-financing model, at least partially if not fully.
- ⑧ It is mandatory for the TP Scheme to reserve some areas for the economically weaker section of the society, promoting equitable and inclusive social development

(Mathur, 2013)

The process is transparent, follows the set procedure and is fair as all owners lose the same proportion of land. The land owners offset the development cost by contributing betterment charges and through the sale of reserved land, making it a self-financing model at least partially if not fully. It is mandatory for the Town Planning Scheme to reserve some areas for economically weaker section of the society, promoting equitable and inclusive social development.

(Refer Slide Time: 19:00)

Merits of the TPS

Monetary Benefits

- ① The public agency does not incur the land acquisition cost.
 - ② The public agency is able to finance urban development through betterment charges and the sale of land.
 - ③ The landowners gain from the appreciation in the land value due to the provision of infrastructure
-

(Mathur, 2013)

If you look at the monetary benefit of this scheme, we see Town Planning Scheme offers three key monetary benefits. The public agency does not incur the land acquisition cost, the public agency is able to finance Urban Development through betterment charges and the sale of land, the land owners gain from the appreciation in the land value due to the provision of infrastructure.

(Refer Slide Time: 19:37)

- In rapidly growing urban areas, the land value gain on the remaining land parcel often far exceeds the sum of the betterment charges paid by the landowner and the monetary value of the un-serviced land transferred by the landowner to the public agency.

In rapidly growing urban areas the land value gain on remaining land parcel often far exceeds the sum of betterment charges paid by the land owners and the monetary value of the un-service land transferred by the land owners to the public agency.

(Refer Slide Time: 19:41)

Shortcomings of the TPS

Now reviewing the shortcomings of the Town Planning Scheme concept and procedure that impede the scalability of this tool.

(Refer Slide Time: 19:49)

Shortcomings of TPS

- ① The method is very comprehensive and hence time consuming.
 - While the state governments typically allocate 2–4 years to planning and implementing the TP Scheme from the time of notification or showing intent, the process usually takes longer than that given the amount of consultations and delays in the approval required at multiple stages.
 - In some places in Gujarat, the TP Scheme has remained unfinished for more than 15–20 years.

(ADBI, 2019)

We see that method is very comprehensive and hence time consuming. While the State Government typically allocates 2 to 4 years to planning and implementation. The Town Planning Scheme from the time of notification or showing intent, the process usually takes longer than that given the amount of consultation and the delay in the approval required at multiple stages. In some places in Gujarat, the Town Planning Scheme has remained unfinished for more than 15 to 20 years.

(Refer Slide Time: 20:23)

Shortcomings of of TPS

- ② Requires established guidelines and trained planners and officials.
- ③ The success of the scheme is highly reliant on the role of the Town Planning Officer (TPO) .

(ADBI, 2019)

The complexity in executing the scheme requires established guidelines and trained planners and officials and the development authorities do not always have appropriate human resources. The success of this scheme is highly reliant on the role of the Town Planning Officer, TPO and if this position holder is not a strong candidate then the scheme becomes a challenge.

(Refer Slide Time: 20:47)

Shortcomings of of TPS

- ④ Due to the inordinate delays in finalizing schemes, the cost of infrastructure provision usually increases creating a viability gap in meeting the project development cost.
- ⑤ Only registered landowners are engaged in the consultation processes during the planning, designing, and implementation of the scheme.

(ADBI, 2019)

An assessment of betterment charges takes place at the beginning of the process. When the scheme is under preparation to fund the infrastructure development cost. Due to inordinate delay in finalizing schemes the cost of infrastructure provision usually increases creating viability gap in meeting the project development cost. The Town Planning Scheme discriminates against land lease holders and renters by not allowing them to participate in the consultation process during the planning, designing and implementation of the scheme. Only registered land owners are engaged.

(Refer Slide Time: 21:27)

Techniques Involved in the Plot Reconstitution Process

Now we will look at techniques involved in the plot reconstitution process.
(Refer Slide Time: 21:33)

Techniques Involved in the Plot Reconstitution Process



(ADBI, 2019)

We see that the first declaration of intention is made with the related areas, then the draft scheme, the layout is prepared. Thereafter preliminary scheme is prepared indicating the reconstitution. Then the final scheme evaluation and redistribution is undertaken, it is then open for appeal and modification to look at any litigations. Then the final sanction of the scheme implementation is made.

(Refer Slide Time: 22:07)

Role of Town Planning Officer

In this entire process we look at the role of Town Planning Officer.
(Refer Slide Time: 22:11)

Role of Town Planning Officer

- ① Town Planning Officer (TPO) a quasi-judicial officer is appointed the following the approval of the draft TP Scheme.
- ② The TPO's task is to deal with each landowner on :
 - **The Physical Planning Proposal** —the shape and location of the final plot
 - **The Financial Proposal** —the compensation and betterment issues.

(Mathur, 2013)

Town Planning Officer a quasi-judicial officer is appointed following the approval of draft Town Planning Scheme. The Town Planning Officer's task is to deal with each land owner on two cases; the physical planning proposal, where the shape and location of the final plot is decided and the other on the final proposal the compensation and the betterment issues are discussed.
(Refer Slide Time: 22:38)

Role of Town Planning Officer

- ③ Eventually, the **TPO** demarcates the final plot on the ground and hands it over to the owner.
- ④ The TPO divides the sanctioned draft TP Scheme into two parts to enable better functioning:
Preliminary TP Scheme : to deal with the physical planning proposal.
Final TP Scheme: to deal with the financial proposal.

(Mathur, 2013)

Eventually the Town Planning Officer demarcates the final plot on the ground and hands it over to the owner. The Town Planning Officer divides the sanctioned draft Town Planning Scheme into two parts to enable better functioning. Preliminary Town Planning Scheme to deal with the physical planning proposal and a Final Town Planning Scheme to deal with the financial proposal.

(Refer Slide Time: 23:01)

Role of Town Planning Officer

- ⑤ The TPO hears the grievances and objections of each landowner on the physical and fiscal plans and revises the preliminary and the final scheme, respectively.
- ⑥ For the finalization of the preliminary scheme, the TPO can seek inputs from the state government, local authority, and development authority.

The Town Planning Officer hears the grievances and objection of each land owner on the physical and fiscal plans and revises the preliminary and the final scheme respectively. For the finalization of the preliminary scheme, the Town Planning Officer can seek inputs from the State Government, local authority and the development authority.

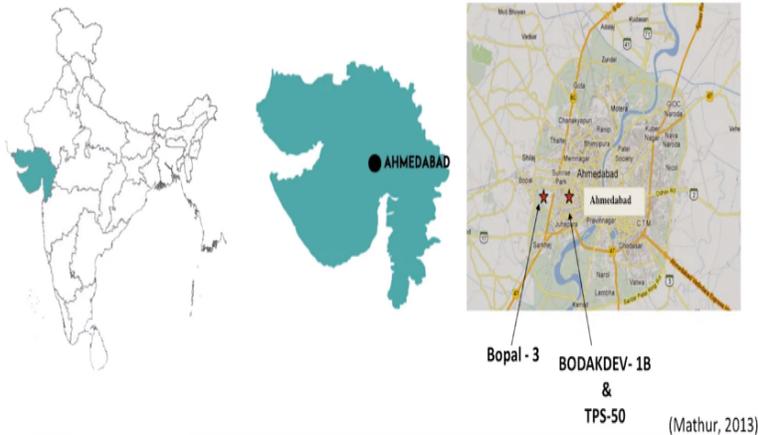
(Refer Slide Time: 23:23)

Case Examples : Ahmedabad

Now we look at the case examples from Ahmedabad to understand the plot redistribution.
(Refer Slide Time: 23:29)

Case Study

Case of Ahmedabad



In case of Town Planning Scheme Bhopal -3, Bodakdev – 1B and Town Planning Scheme 50.
(Refer Slide Time: 23:38)

Case Study

Case of Ahmedabad

Table 3
Betterment charge calculation.

	A	B	C	D	E	F	G	H	I	J
	Original land value (Rs./sq. m.)	Original plot size (sq. m.)	Total original value (Rs.)	Final land value (Rs./sq. m.)	Final plot size (sq. m.)	Total value of the final plot (Rs.)	Increase in value for the property owner	Total betterment charges payable	Net benefit for the property owner	Betterment charges (Rs./sq. m.)
	A	B	C	D	E	F	F - C	(F - C)/2	G - H	G/E
Scenario 1: 40% land deduction	1000	500	500,000	2500	300	750,000	250,000	125,000	125,000	417
Scenario 2: 20% land deduction	1000	500	500,000	2500	400	1,000,000	500,000	250,000	250,000	625
Scenario 3: no land deduction	1000	500	500,000	2500	500	1,250,000	750,000	375,000	375,000	750

Rs. is short for Rupees, the Indian currency.
sq.m. is acronym for square meter.

(Mathur, 2013)

We see in this table how much final land parcel was given to land owner, percentage of land which meant for infrastructure and facilities such as roads and low income housing and the land which was reserved for sale.

(Refer Slide Time: 23:52)

Case Study

Case of Ahmedabad

Table 2
Land deduction break-up.

Deduction	Percent of total plot area		
	Bodakdev-1B	TPS-50	Bopal-3 ^a
0%	1%	5%	9%
1-20%	6%	12%	71%
21-30%	76%	0%	7%
31-40%	18%	83%	13%
Average	25%	36%	15%

^a Analysis based on partial data. Source: form "F" of the TP Scheme reports obtained from the Ahmedabad Urban Development Authority.

(Mathur, 2013)

We now see the land deduction breakup for the three Town Planning Scheme. Average deduction was from 15 to 36%. In this table we see how systematically betterment charges are calculated based on percentage of land deducted, original plot, final plot and their respective land values.

(Refer Slide Time: 24:13)

TPS Procedure

Now we look at the Town Planning procedure.

(Refer Slide Time: 24:18)

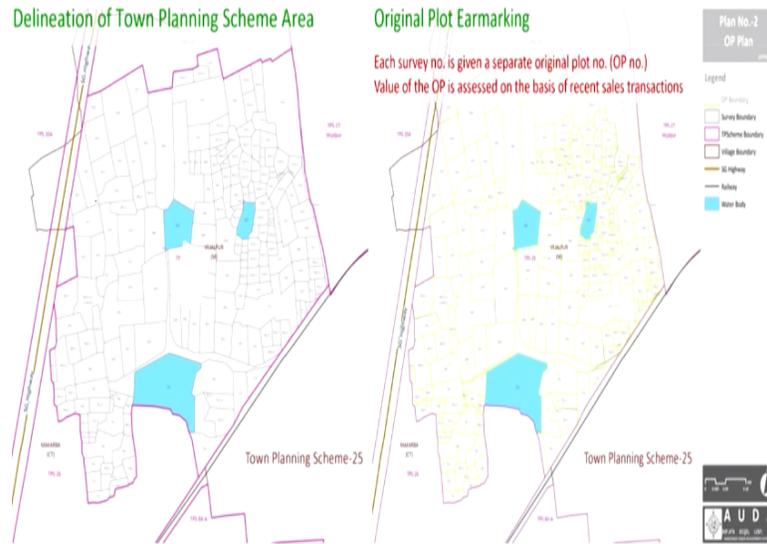
TPS Procedure

- The Process of planning and executing the TP scheme is comprehensive and long, involving many steps; for instance, it has 50 steps for Gujarat (Parekh 2018).
- It typically takes up to 4 years to implement the scheme, and completion should ideally take place within the stipulated time, as the act of the state determines.

(Mathur, 2013)

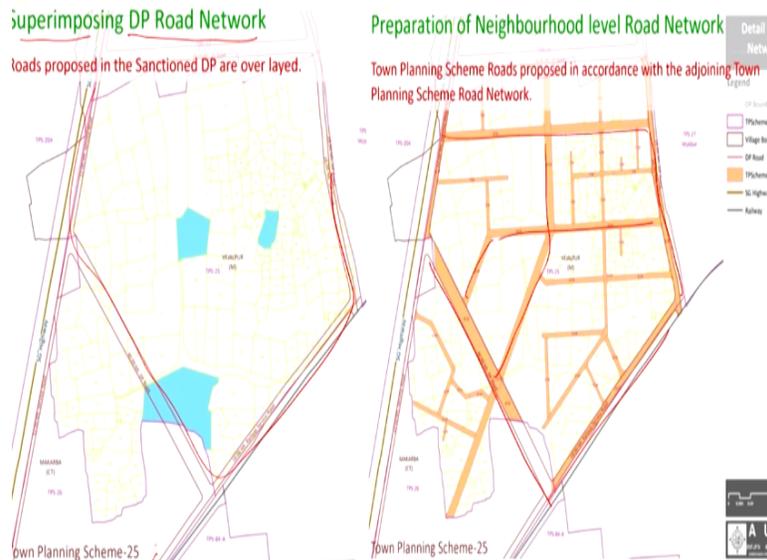
The process of planning and executing the Town Planning Scheme is comprehensive and long, involving many steps; for instance, it has 50 steps for Gujarat. It typically takes up to 4 years to implement scheme and completion should ideally take place within the stipulated time, as the act of the State determines.

(Refer Slide Time: 24:41)



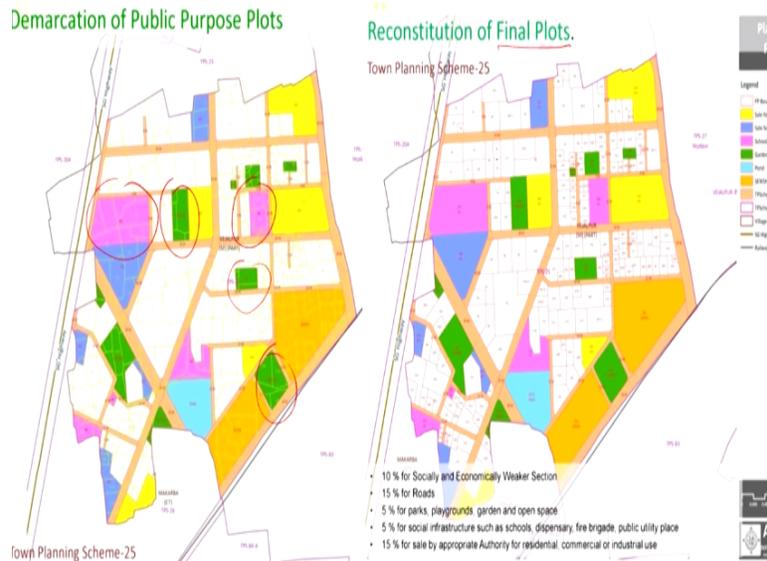
We will now look at step wise this procedure and how it looks on ground. We see that there is delineation of Town Planning Scheme area where the Town Planning has to come so that area is identified. Then we see the original plot you are marking, so the original plots are marked, each and every original plots are marked.

(Refer Slide time: 25:21)



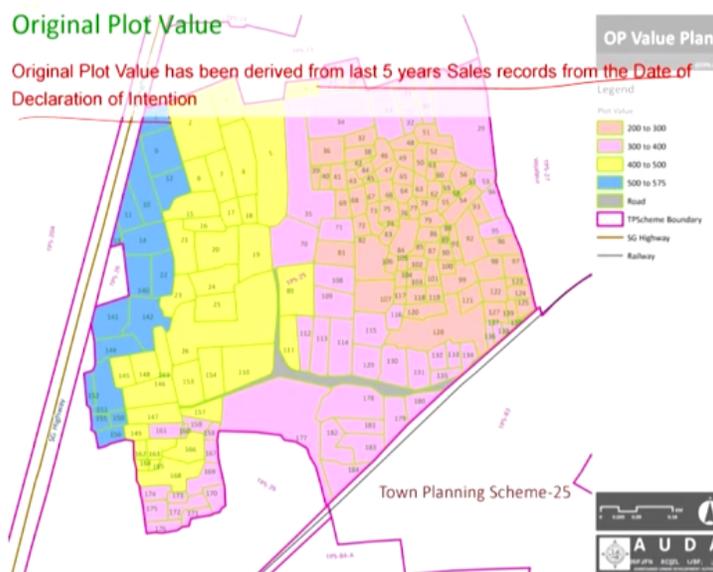
Thereafter as per the Development Plan, road networks are super-imposed. So you see that the road network has been super-imposed over it and then the neighborhood level road network is repaired, you can see all neighborhood level network which is coming up here. This we are looking the Town Planning Scheme 25 of Ahmedabad.

(Refer Slide Time: 25:54)



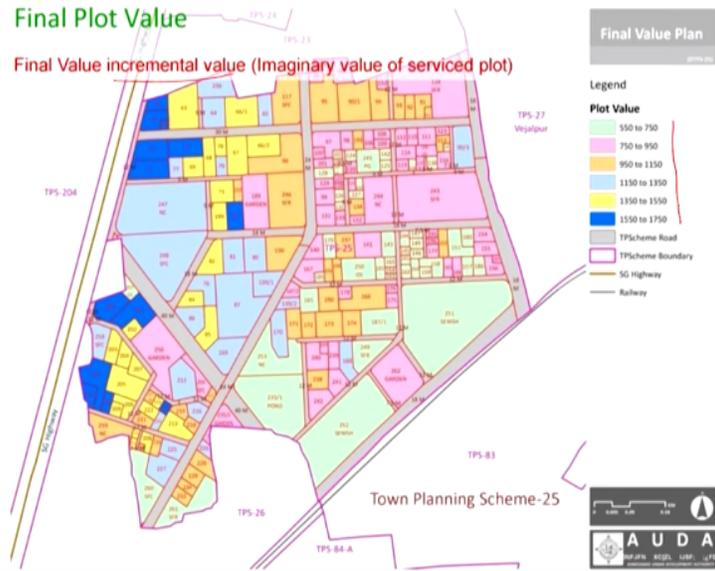
Thereafter we see all the land required for public purpose are demarcated in this area. Like we see school areas here, another public area here and all the green area for garden and other purposes which are demarcated for public purposes. Thereafter we see the reconstitution of the final plots. So you see that how was the initial plot and now you can see very well organized final plots here.

(Refer Slide Time: 26:28)



After this original plot value is taken which is derived from last 5 years' sales record from the Date of Declaration of Intention and then semi plot value is determined on the respective of the original plot. Then finally the final plot value is worked out on the incremental value and this plot has all the services which it has. So you can see the range of the plot values here as per the services it gets.

(Refer Slide Time: 26:38)



(Refer Slide Time: 27:09)

Prescribed Form for Financial Calculations (F Form)

DRAFT TOWN PLANNING SCHEME NO. 25, VEJAPUR, THE GUJARAT TOWN PLANNING ACT 1966											
THE GUJARAT TOWN PLANNING ACT 1966											
Sl. No.	Name of the owner	Type of plot	Area in sq. mt.	ORIGINAL PLOT				FINAL PLOT			
				No.	Area in sq. mt.	Value in Rupees	Area in sq. mt.	Value in Rupees	Without reference to value of structure	Inclusion of value of structure	Without reference to value of structure
1	2	3	4	5	6	7	8	9	10	11	
VILLAGE MOYERA											
1	Collector, Ahmedabad for Govt. of Gujarat		279	1	12,848	527,280	527,280	1	8,203	1204650	1204650
2	State, Gujarat for Govt. of Gujarat		279	2	11,632	172,080	172,080	2	7,208	888,000	888,000
FORM F											
(RULE 27 AND 36)											
DRAFT TOWN PLANNING SCHEME NO. 27, CHARSOLA, AHMEDABAD											
THE GUJARAT TOWN PLANNING ACT 1966											
No.	Area in sq. mt.	FINAL PLOT				CONTRIBUTION (+) OR DEDUCTION (-) UNDER SEC. 80 COLU. 5(b)	Contribution (+) or Deduction (-) 50% of Colu. 5(a)	Contribution (+) or Deduction (-) 50% of Colu. 5(a)	addition (+) or deduction (-) on Form (1)	Net amount (+) or (-) being the addition of Colu. 5(a) 11,13,14	Remarks
		Without reference to value of structure	Inclusion of value of structure	Without reference to value of structure	Inclusion of value of structure						
1	2	3(a)	3(b)	4(a)	4(b)	5	6	7	8	9	10
1	8,831	124430	124430	488600	488600	727700	363850	363850		1084270	

This is the prescribed form for financial calculation what are made as per the original plot and then the final plot here and we see how implementation takes place and the cost and other things are worked out.

(Refer Slide Time: 27:20)

Implementation of DP Through TP Scheme

	Zoned Area	Zoned area Implemented Through TPS	Zoned area to be Implemented
Physical Implementation	319.76	283.97 (88.80%)	35.79 (11.20%)

(Area in sq.km.)

Sr. No.	Infrastructure Component	Estimate of proposed work under RDP-2011		Actual Work done/under process			
		Length in Km. / Area in Sq. Mt./ Numbers	Estimated Cost Rs. In Cr.	Length in Km./ Area in Sq. Mt./ Numbers	% (Physical)	Total Exp. Rs. In Cr.	% (Financial)
1	Roads and Street light	1471.9 Km	1412.26	985	89.58	834.09	67.36
2	Bridges, Fly – overs, etc.	13 Num.	202.5	17 No.	131.00	157.46	77.76
3	Physical Infrastructure	434.43 Sq.km.	674.25	206.54	47.54	272.01	39.38
4	Open Spaces/ Garden	725 Hct.	145	57.95 Hct.	7.99	27.38	18.88
5	Treatment Plants (WTP & STP)	--	--	585 MLD	--	249.73	--
6	Social Infrastructure	--	--	--	--	304.23	--
	Fiscal Implementation	--	2434.36	--	--	1844.9	75.78

(Refer Slide Time: 27: 28)

Prescribed Form for Financial Calculations (G Form)

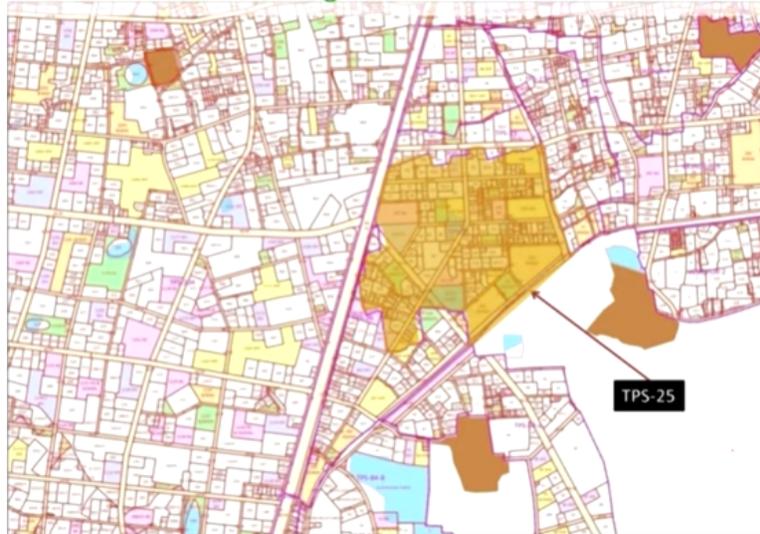
1	Expenditure under Clause 40(3)(b), (c), (d),(f),(g)and (h)	397871600
2	Other expenditure	--
3	Expenses shown in the redistribution and Valuation Statement	278485227
4	Cost of publication section 41(2) and 42(1) or (2) rule 13 to 18	1000000
5	Compensation u/s 49(2) Legal expenses u/s 77(2)(e) section 82	1000000
6	Cost of demarcation salaries of T.P.O and Board of appeal and others u/s 61(2)	2500000
	Total Expenditure Total (a)	680856827
7	Total of increments (col 12 of form f)	1271777581
8	Proportion of increment to be contributed by each holder (section 79) 50%	635888790
	Total contribution u/s 79 (b)	635888790
	Net Cost to Authority a-b	44968037

Expenditure for Infrastructure services are estimated and Total cost of Scheme calculated .

This is a prescribed form for financial calculation. So you see here all the expenditure other expenditure which are being taken care of and all these calculations are made.

(Refer Slide Time: 27:42)

Mosaic of 7 Town Planning Schemes



Here you can see how all the town plans, we can see the mosaic of 7 Town Planning Schemes here, including the Town Planning Scheme 25 here. So we see how the organized structure comes up.

(Refer Slide Time: 27:56)

Agricultural Raw Land to(Image of 2001)



We can see here in this plan image that how through the scheme the peri-urban area, the agricultural raw land, you can see here, which is the image of 2001.

(Refer Slide Time: 28:10)

.... Urbanized Developed Land (Image of 2011)



How it gets transformed into the urbanized development when we see the image of 2011. Now we will see the transformation on ground in Ahmedabad from 2000 to 2017. We will see how the development in the city is organized through this scheme.

(Refer Slide Time: 28:33)

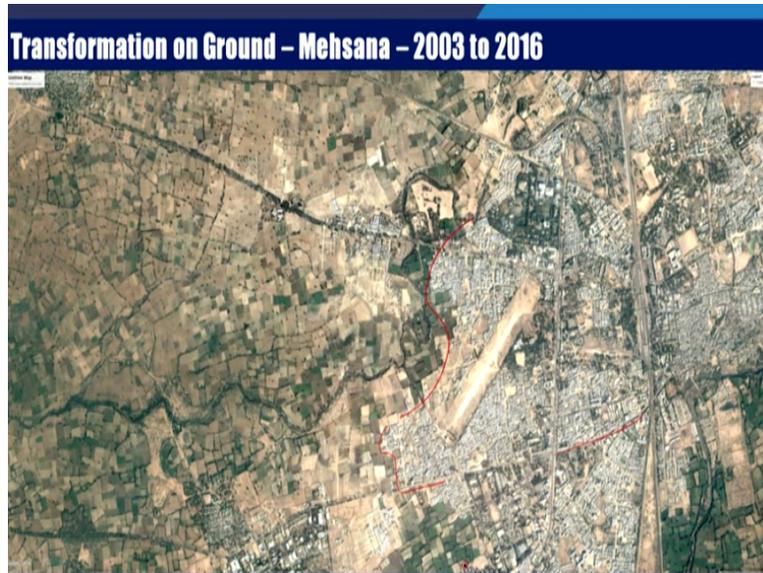
Transformation on Ground

Case: Ahmedabad



So here we see transformation on ground 2000 to 2017. Similarly, we see organized transformation in Mehsana from 2003 to 2016.

(Refer Slide Time: 28:47)



You can see all the structured development in these areas, you can see all these plotted developments here around these areas.

(Refer Slide Time: 28:57)

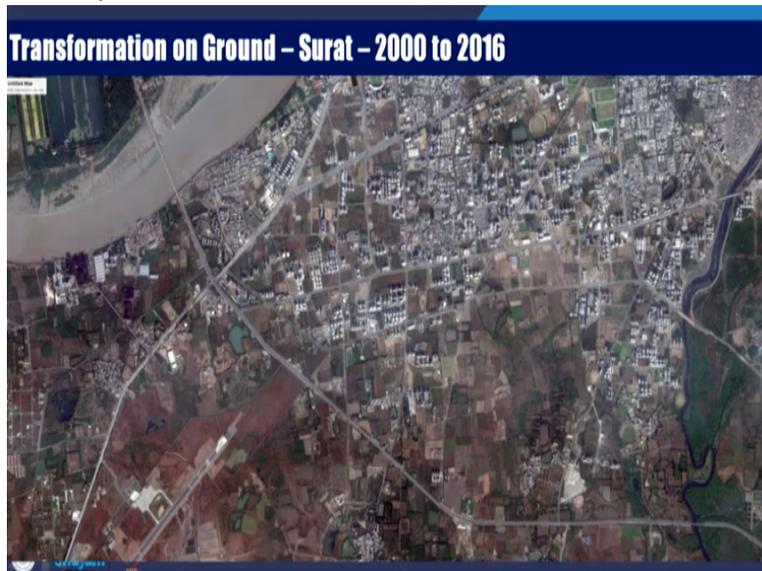


You can further see how this has expanded, area has expanded with the implementation of guided planning. Likewise, in this image of Surat we see structured development from 2000 to 2016.

(Refer Slide Time: 29:16)



You can see the image of Surat from 2000 to 2016 and how it's ranging.
(Refer Slide Time: 29:22)



We see how the plotted development is taking place. You can see where gradually how each area is developing in a very organized manner. Likewise, you will in the series of images of Baner and Handewadi in Pune how Urban Development was guided gradually through these schemes.
(Refer Slide Time: 29:48)

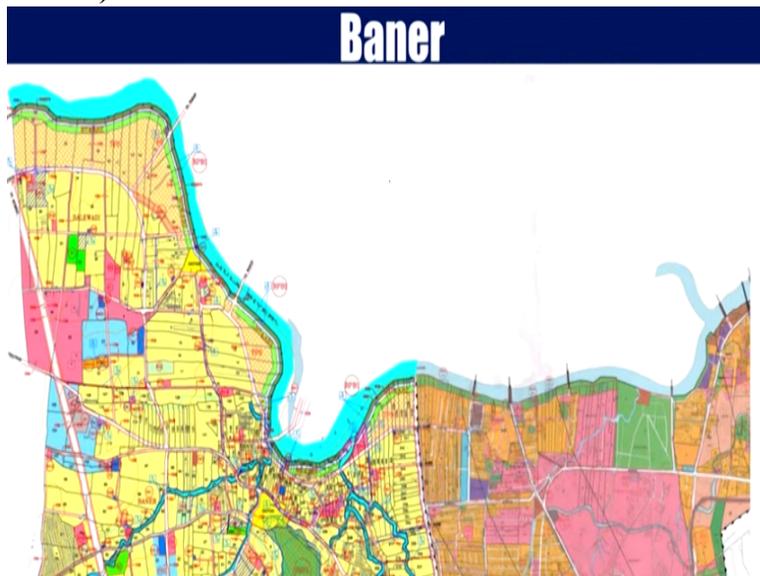
Transformation on Ground

Case: Pune



I have borrowed these slides from the lecture of Professor of Utpal Sharma. So we can see here how these developments are taking place on ground. We can see in the case of Baner in Pune, here can see the Baner area and Handewadi area. So we see how the gradual transformation is taking place, you can see all the plotted area here.

(Refer Slide Time: 30:17)

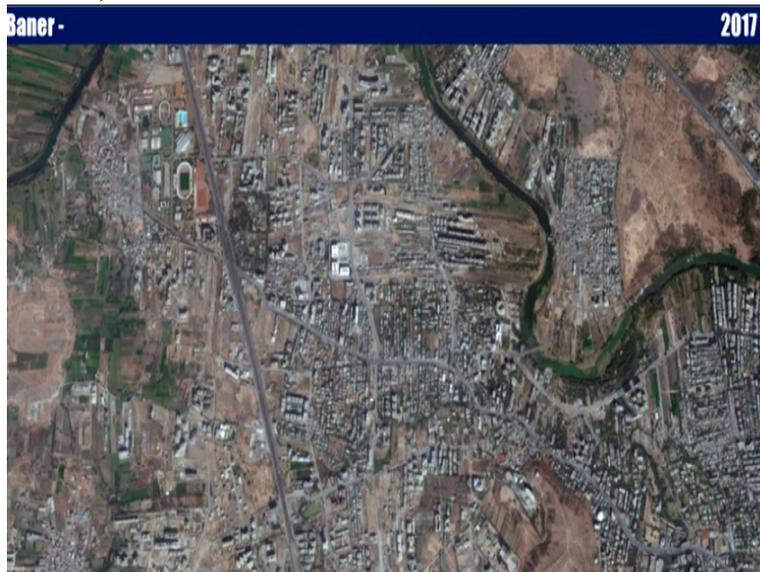


(Refer Slide Time: 30:21)



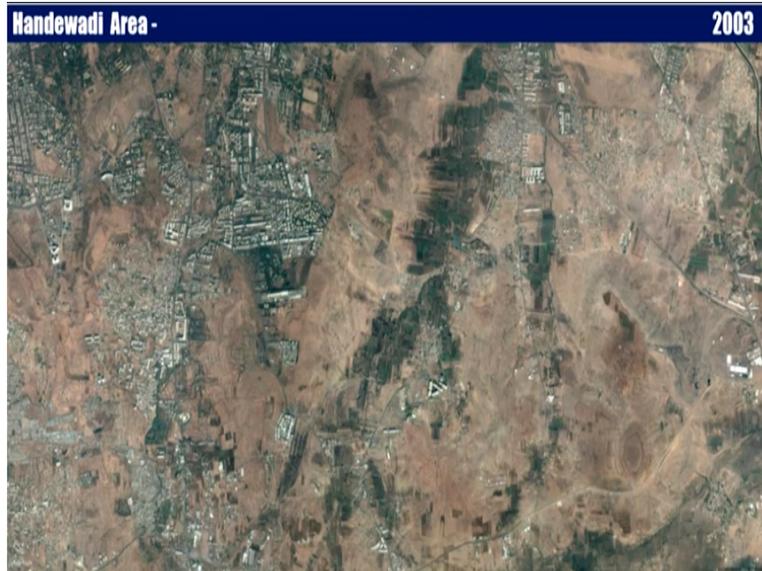
So this is a close up of Baner we can see here and then you see how gradually this area will take note of these areas, how these areas are gradually growing, all the structures are gradually coming up along with the roads. So you see how it is getting densified and urbanization is taking place along the guided routes.

(Refer Slide Time: 30:49)



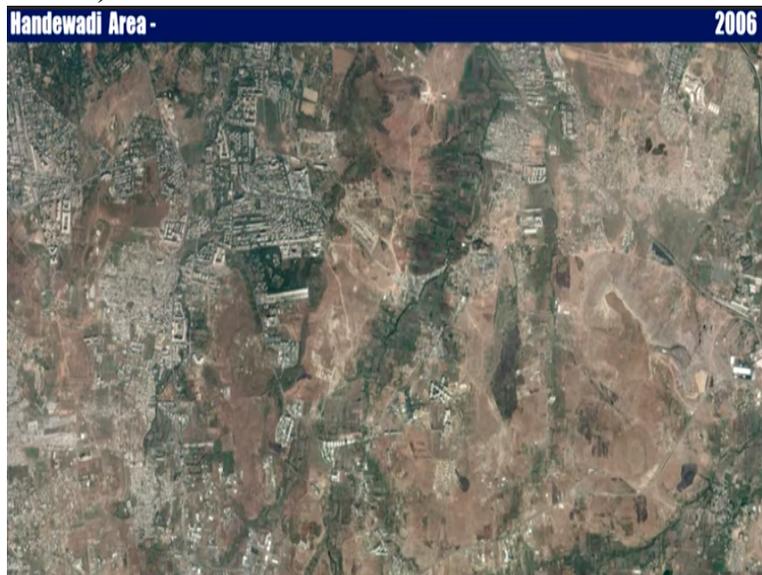
So we see in 2017 how the structured development has come up which as access to road and all the services.

(Refer Slide Time: 30: 58)



Now we see Handewadi Area, this is the image of 2003 where we see very less development. But gradually we will see how with these scheme how it is guided, the development is being guided.

(Refer Slide Time: 31:11)

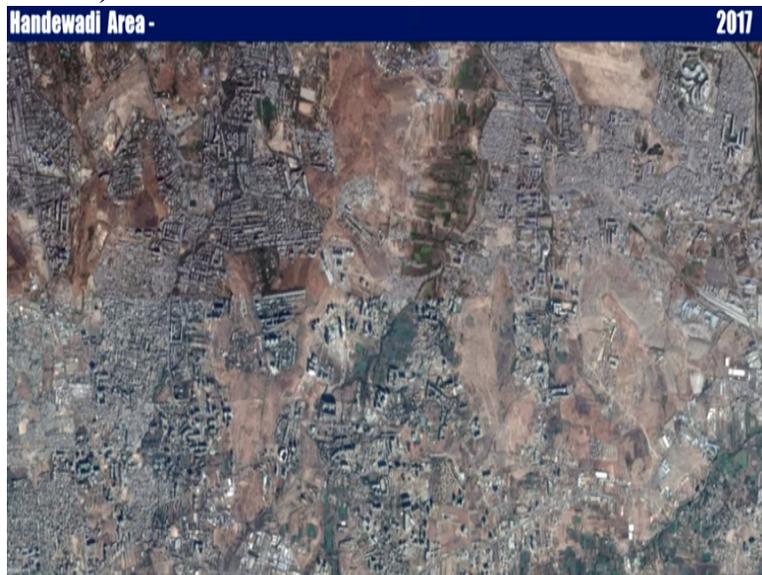


You see how all these buildings which you can see in the image is coming up.
(Refer Slide Time: 31:16)



See the expansion which is happening across and how the densification is happening, the guided urbanization we can see here in this area.

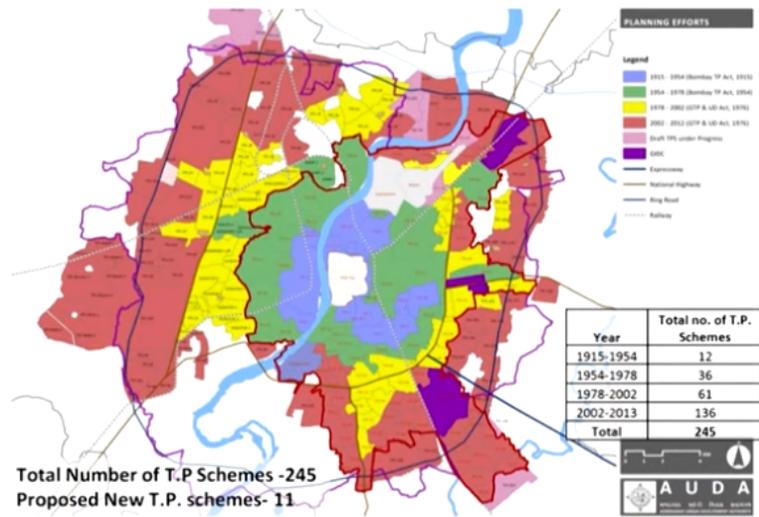
(Refer Slide Time: 31:21)



So we see 2017 image, you can see how the plotted development has happened in the Handewadi Area in Pune.

(Refer Slide Time: 31:37)

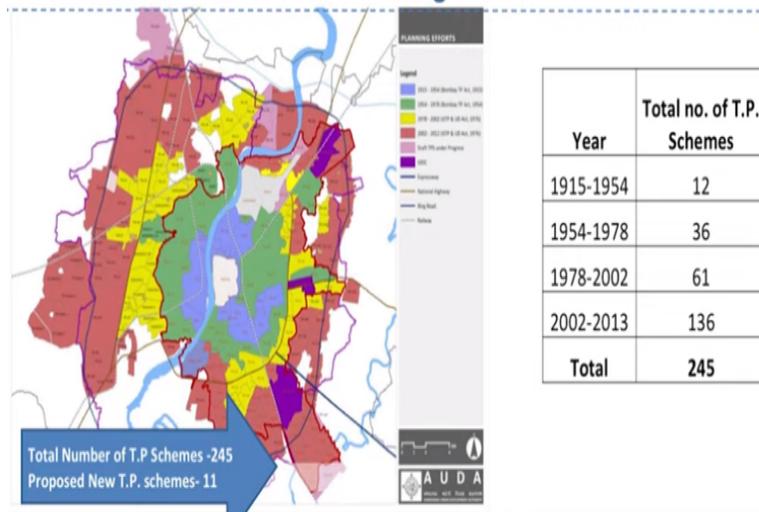
Ahmedabad



Now we will take a view of transition which has taken place in Ahmedabad, Gujarat through the Town Planning Scheme.

(Refer Slide Time: 31:53)

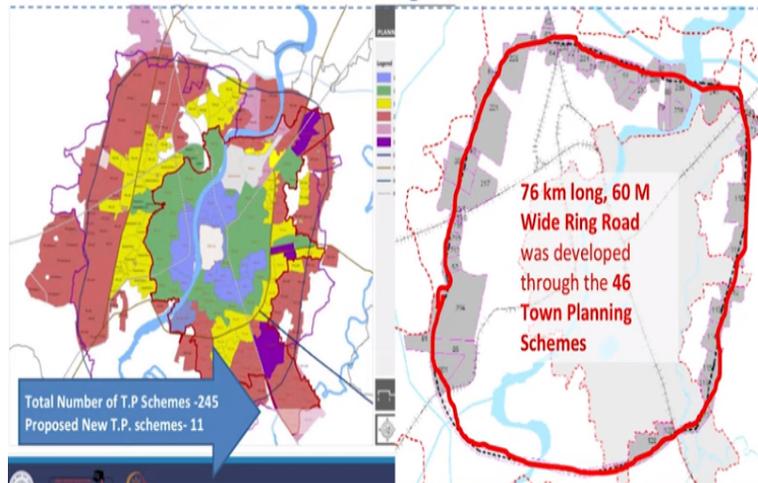
Case Ahmedabad: Town Planning Scheme's



We see here that total number of Town Planning Scheme nearly 245 and proposed new Town Planning Schemes are 11.

(Refer Slide Time: 32:01)

Case Ahmedabad: Town Planning Scheme's



Through these they have been able to create the 76-kilometer-long and 60-meter-wide ring road through these Town Planning Schemes. So you see how it accesses a building block as well that it allows realization of this entire ring road which was proposed in the Development Plan through small Town Planning Schemes. Now we will look at the case of transition of Bopal in Ahmedabad, we will see how it transformed from 2000 to 2017.

(Refer Slides Time: 32:52)

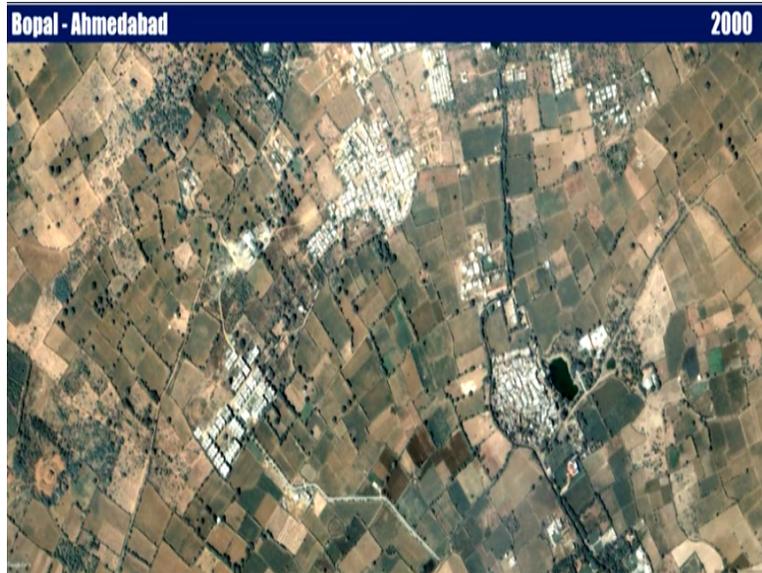


Bopal, Ambali, Area - Ahmedabad

2000

We are looking at the Bopal, Ambali Area in Ahmedabad, 2000 the Town Planning Schemes.

(Refer Slide Time: 33:01)



(Refer Slide Time: 33:10)



We see the image taken in 2000, you can see how less the development is and eventually, gradually how the development is increasing the plotting development is happening.

(Refer Slide Time: 33:15)



(Refer Slide Time: 33:19)



We see in these areas, this is the image taken in 2006.

(Refer Slide Time: 33:23)



(Refer Slide Time: 33:27)



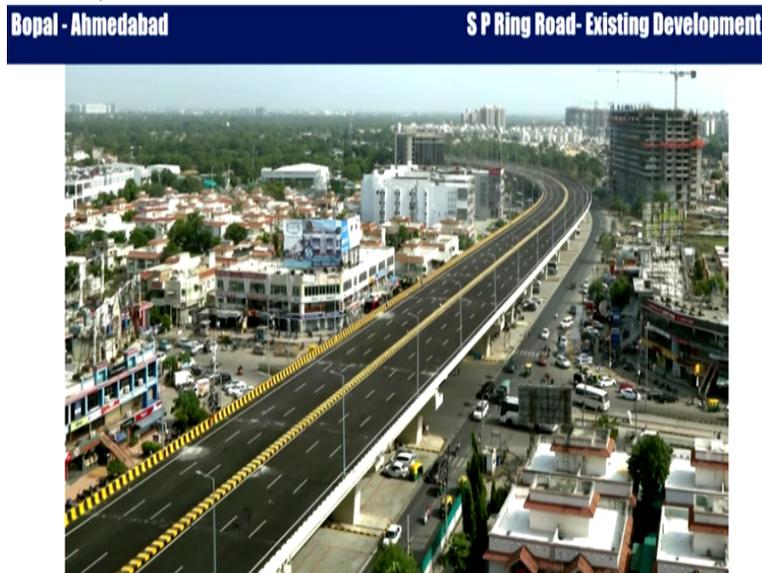
See the structure development happening, you can see again all these densification and urbanization taking place in this area.

(Refer Slide Time: 33:36)



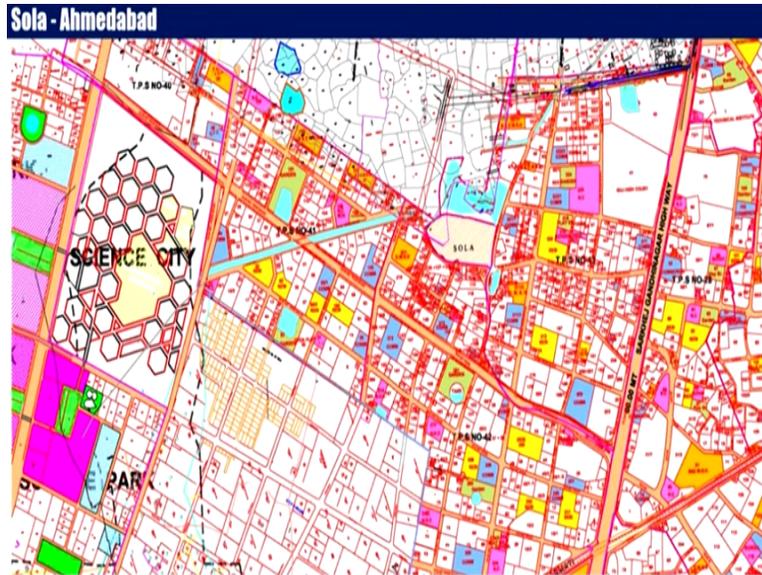
So we see this 2017 image, so you see the structure and high density growth here, all these residential buildings coming here. So this is how we see the transformation really gradually looks on ground when these planning schemes are executed.

(Refer Slide Time: 33:59)

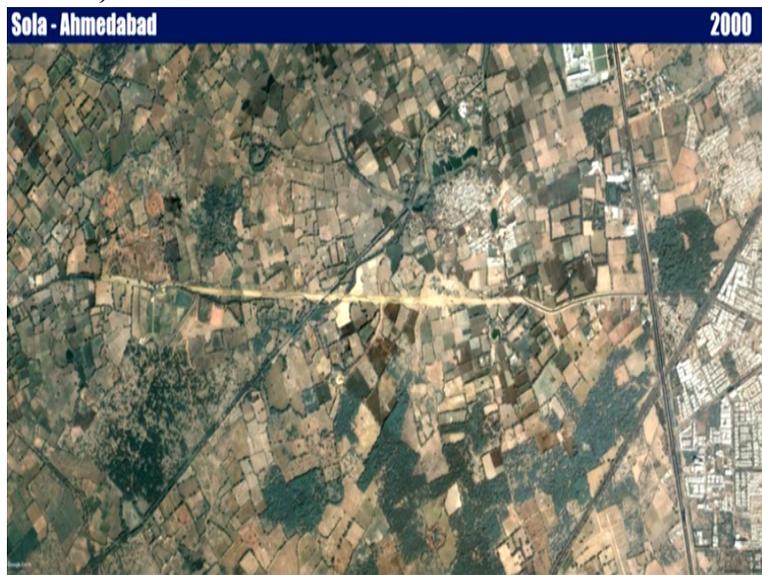


You see through this example that this SP ring road was developed through the execution of Planning Scheme in the area.

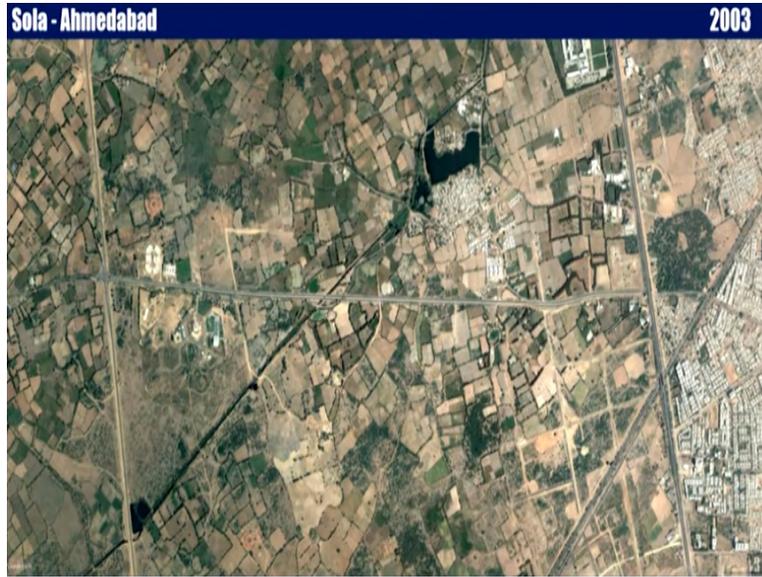
(Refer Slide Time: 34: 12)



We look at other example in Sola Ahmedabad.
(Refer Slide Time: 34:15)



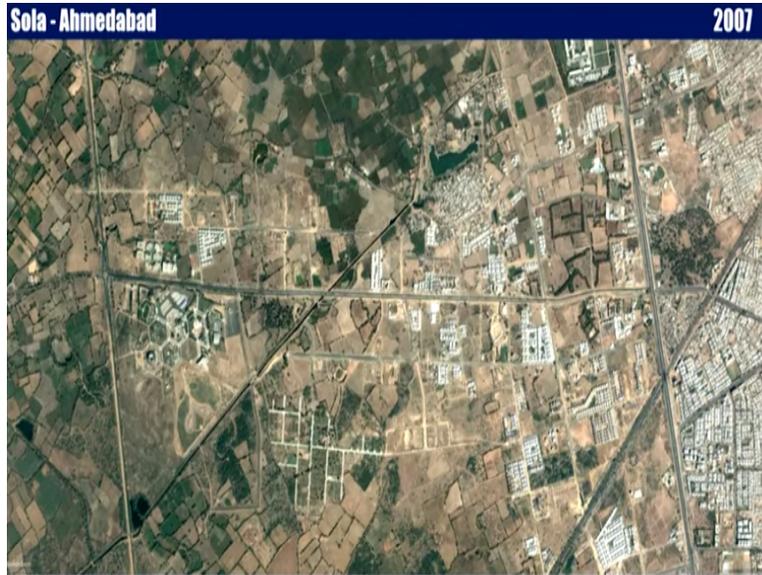
We again see how the area is developing. You can see in 2000 there is more of agriculture area.
(Refer Slide Time: 34:24)



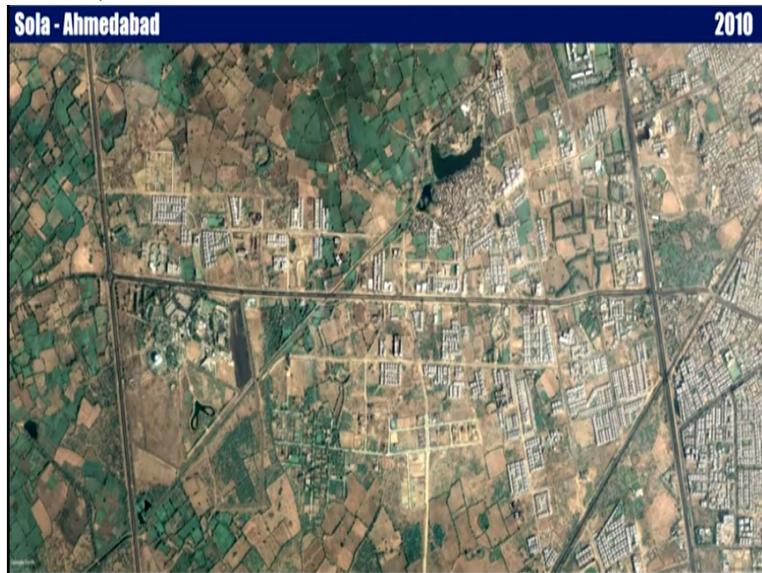
(Refer Slide Time: 34:28)



(Refer Slide Time: 34:31)



Then, eventually you see how the roads are being developed. Further road network is intensified and then the guided plotted development is taking place.
(Refer Slide Time: 34:36)



(Refer Slide Time: 34:39)



(Refer Slide Time: 34:43)



Further we see how dense it is becoming and the structured development which you can witness here. So this is the 2017 image which you can see of this area.

(Refer Slide Time: 34:56)

Outcomes of TPS

Regional Level Infrastructure

- 76 km. long and 60 mts. wide Sardar Patel Ring Road

City Level Infrastructure Land for

- Socially and Economically Weaker Section People
- Water Supply
- Sewerage
- Recreational
- Social Infrastructure etc.
- City Level Road Network

So we see that through Town Planning Scheme we have been able to achieve regional level infrastructure, as you have seen that the ring road was created. You could also see that city level infrastructure was created for socially and economically weaker section people, water supply, sewerage, recreational, social infrastructure and all was provided and then also city level road network was created.

(Refer Slide Time: 35:20)

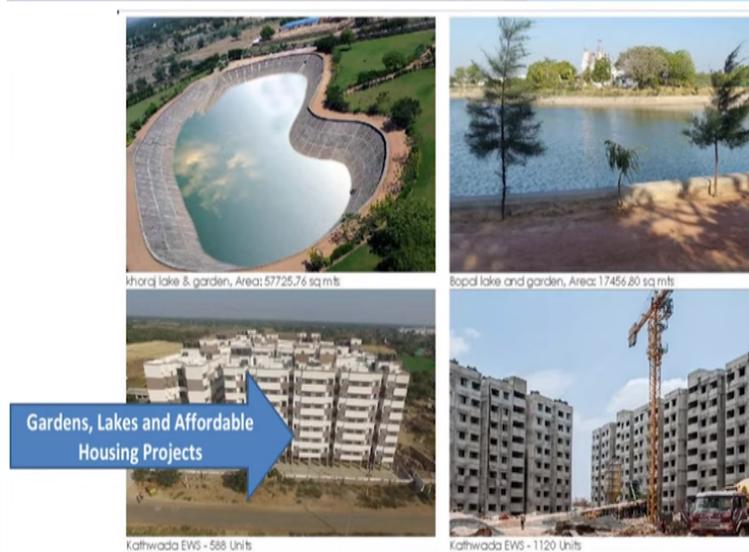
Outcomes of TPS

Neighborhood Level Infrastructure

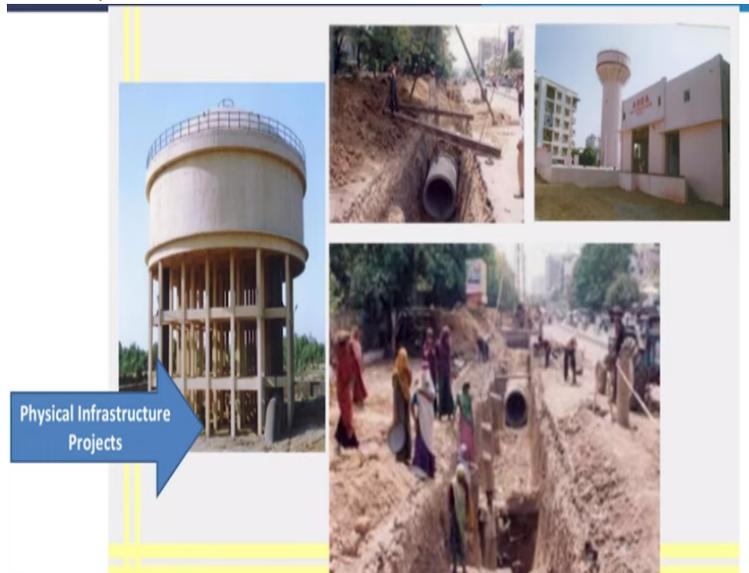
- Water Supply Network
- Sewerage Network
- Neighborhood level Recreational
- Neighborhood level Road Network
- Neighborhood level Lighting
- Land for Civic Center and Neighbor Center (for Public Utility Services)
- Land for Educational Purposes

Likewise, you also see that neighborhood level infrastructure was also created through these schemes including water supply networks, sewerage networks, neighborhood level recreational areas. Neighborhood level road network, neighborhood level lighting, land for civic center and neighborhood center and other public utility services were provided, land for educational purposes were taken out.

(Refer Slide Time: 35:59)



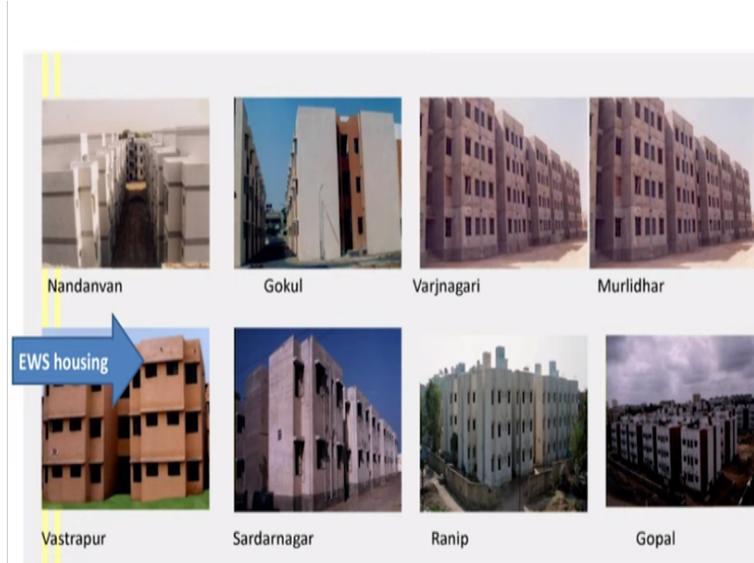
So we see the glimpses of all the work which was done. Through this Town Planning Scheme, we were able to create gardens, lakes and affordable housing projects.
(Refer Slide Time: 36:02)



(Refer Slide Time: 36:05)



We were able to create the physical infrastructure projects, we were able to create sports complexes and recreational facilities, as you can see in the image here.
(Refer Slide Time: 36:11)



(Refer Slide Time: 36:13)



We were able to create EWS housing, we were able to create roads, bridges and flyovers. So as you have seen what is really happening on ground and how these schemes have been employed to local, employed as a tool of Local Area Planning and basically used for realization of the development plan.

(Refer Slide Time: 36:38)

Summary

- ① Concept of Town Planning Scheme
- ② Terminologies
- ③ Areas where it is applied
- ④ Components of TPS and Redistribution Process
- ⑤ Merits and shortcomings of the Scheme
- ⑥ Techniques of reconstitution
- ⑦ Case Examples
- ⑧ Town Planning Procedure
- ⑨ View of Transitions

So summarizing what we have learnt today, we have seen the concept of Town Planning Scheme. We looked at various terminologies, we looked at where these can be applied. We looked at the components of Town Planning Scheme and the redistribution process. We also looked at the merits and short comings of the scheme, we also looked at the techniques of reconstitution. We looked at the case examples, we looked at the Town Planning procedure and we viewed how transition is taking place on ground.

(Refer Slide Time: 37:06)

References

1. Cifuentes, A. & Lufkin, Sophie & Riera Pérez, Maria & Rey, Emmanuel. (2015). Sustainability assessment of an urban neighbourhood revitalization project in Bogotá, by transposition of a European indicator system to the Colombian context. 79-92. 10.2495/SC150081.
2. Sharma, Utpal, Lecture 2017, TP Scheme Workshop
3. Vibhu Jain, (2019), *EXAMINING THE TOWN PLANNING SCHEME OF INDIA AND LESSONS FROM LAND READJUSTMENT IN JAPAN*, ADBI Working Paper Series
4. Mathur, S. (2013). *Use of land pooling and reconstitution for urban development: Experiences from Gujarat, India. Habitat International*, 38, 199–206. UTPAL
5. UN HABITAT, 2018 Global Experiences in Land Readjustment, Urban Legal Case Studies: Volume 7
6. <https://researchmatters.in/news/urban-growth-and-peri-urban-agriculture%E2%80%93insight-nagpur>
7. <http://amrut.gov.in/upload/newsrelease/5d6f8bda8c3fd7amrutbook.pdf>

So these were the references used.

(Refer Slide Time: 37:08)

Suggested Reading and Watch

(to contemplate Town Planning Schemes)

- <https://www.youtube.com/watch?v=kwlGqVLauk>
- <https://www.youtube.com/watch?v=jiunW-JbvOo&t=9s>
- <https://www.youtube.com/watch?v=rntlZfi-eik>
- <https://www.youtube.com/watch?v=h7dcr-vZt8M>
- <https://www.youtube.com/watch?v=p-ZA9JJXZQ0>
- <https://www.youtube.com/watch?v=CFNPx7jejPM>



Our coverage was limited with the scope to make you aware of the topic. There are enormous readings and movies available to explore. Few are suggested here, this is not an extensive list. You may feel free to suggest more from your experience.

(Refer Slide Time: 37:23)



Please feel free to ask Questions.

Let us know about any Concerns you have



Do share your Opinions, Experiences and Suggestions.

Looking forward to Interacting and



Co-learning with you while exploring Cities and Urban Planning.



Please feel free to ask questions, let us know about your concerns you have, do share your opinions, experiences and suggestions. Looking forward to interacting and co-learning with you while exploring cities and Urban Planning, thank you.