

# Town Development Scheme as a Tool to Build Urban Infrastructure - Case Study: Kamal Vihar, Raipur

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## ABSTRACT

This paper attempts to document the entire process of Town Development Scheme through Land Pooling and Readjustment Method adopted by various Development Authorities in Indian cities. The Town Development Scheme can act as a prototype for settlements of similar nature where development works can be carried out through public participation. The paper concludes by probing into the entire process of planning and implementation works undertaken in Kamal Vihar in Raipur City which has been one of the successful examples of the scheme.

## Keywords:

**Town Development Scheme, Urban Infrastructure, Land Pooling, Readjustment Method**

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## INTRODUCTION

Raipur is the capital city of the state of Chhattisgarh. This city was once the capital of the Haihaya kings. The earliest evidence of the existence of the city can be found back in the 9<sup>th</sup> century. Some of the ruins of evidence are still present in the southern part of modern Raipur. According to chronological records, kings of Satvahanadynasty ruled Raipur from 2<sup>nd</sup>-3<sup>rd</sup> century AD. Then in 4<sup>th</sup> century AD king Samudragupta conquered the region. Later, Nala kings also dominated the region in 5<sup>th</sup>-6<sup>th</sup> century AD. Finally king Ramachandra established his kingdom over here and made Raipur as the capital of his kingdom. The city was given the name as 'Raipur' after Ramachandra's son Brahmdeo Rai. Ramachandra's dynasty came to an end after the death of king Amarsingh Deo and the dynasty was conquered by Bhonsla's of Nagpur. Then in 1854 the territory came under British rule and they made Chhattisgarh as a separate administrative area with its district headquarters at Raipur. After Independence, Raipur came under Central Provinces and Berar. Then for many years it was part of Madhya Pradesh. Then on 1<sup>st</sup> November 2000, the state of Chhattisgarh was carved from Madhya Pradesh and Raipur was made the capital city of Chhattisgarh.

Raipur is situated between 22° 33' N to 21°14'N Latitude and 82° 6' to 81°38'E Longitude. The total population of

Raipur city according to Census of India, 2011 is 10, 10,087. The total municipal area of the city is around 188 sq. km. Raipur has warm climate, with mean maximum temperature in May being 41.4°C, relative humidity is around 75% and annual rainfall around 1400mm. Mahanadi River is the primary river of Raipur. Water supply for the city is met by Kharun River, a tributary of Mahanadi, which has been dammed at Mahadeoghat.

## APPROACHES TO IMPLEMENT DEVELOPMENT PLAN

There are, by and large, two approaches for the implementation of the development plan. In the first approach, the planning agencies and the development authority acquires land from the owners by giving them the appropriate compensation for the land which is acquired. Then the authority re-plans them in the desirable or appropriate manner. This is known as 'Land acquisition' method. In the second approach, the planning agency and the development authority brings together the land of a group of owners and then re-plans the area by providing appropriate infrastructure and then returns the percent of the land to their original owners. This is known as 'Land readjustment and pooling' method. Both the approaches are discussed below.

## LAND ACQUISITION METHOD

In this method, the planning agency and the development authority acquires land for public purpose under the Land acquisition Act, 1894. The land under this act can only be acquired for the benefit of the public as a whole. Compensation is being paid by the concerned authority to the land owners whose land is being acquired for public purpose. The compensation is to be paid on the market price of the area, but generally compensation is paid marginally higher than the market price of land to avoid opposition by the land owners. The concerned authority then develops the land and provide basic infrastructure services such as roads, public amenities etc. according to the master plan of that area.

Under land acquisition adequate amount of urban land can be rapidly generated for public purpose, but it has its own demerits. It does not benefit the original land owners. The original land owners are generally thrown off their land. There are many loop holes for corruption in this process.

## LAND POOLING AND READJUSTMENT METHOD

Land pooling is a perfectly legal method of land development that avoids land acquisition. It is a two-step planning process. Firstly a city level development plan is prepared to identify areas for urban growth and to define city level infrastructure to it. This step is done by

Town and country planning department. In the second step many neighborhood level Town development schemes are prepared on Land pooling model so as to implement the development plan. In this first the detailed plan is prepared, laying out the roads, plots for social amenities. The remaining land is then readjusted into final plots for the original owners. The final plots are proportionally less in area as compared to original plots. The final plots are placed as close as possible to the original plots. A betterment charge based on the cost of infrastructure to be laid is levied on the land owners. Finally the infrastructure is provided by the funds of the betterment charges.

This method benefits the original owners of the plots. But this method is time consuming as the procedure prescribed for preparation and implementation of such scheme is complicated and involves public participation.

## TOWN DEVELOPMENT SCHEME (TDS): CASE STUDY OF KAMAL VIHAR, RAIPUR.

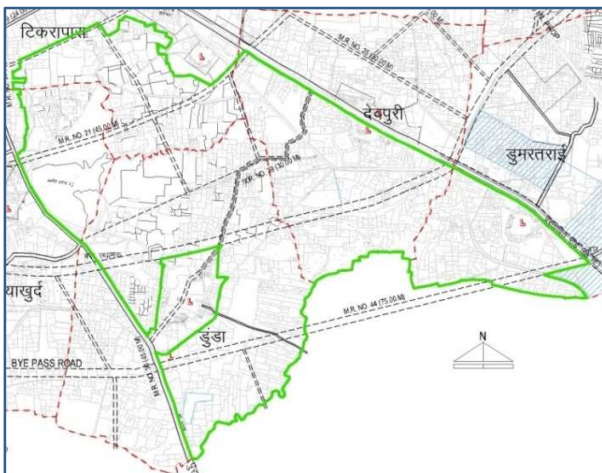
The process of preparation of the Town development scheme (TDS) is been discussed over here. The TDS No. 4, Kamal Vihar, Raipur is taken as a case study. The total area of Kamal Vihar is 647.84 hectares. It is divided into 15 sectors.

## SURVEYING AND DEFINING BOUNDARY OF THE ENTIRE PROJECT AREA

The area in which TDS is being proposed is surveyed in detail. All the topographical features such as trees, fences, water bodies, electric poles, compound walls, etc. are surveyed. All the private possessions that may have to be compensated are also marked. The outer boundary of the TDS planning area is marked.

### MARKING THE CADASTRAL BOUNDARIES AND TABULATING AREA OF EACH OWNERSHIP

All the cadastral maps and records are obtained from relevant offices of the revenue department. The cadastral boundaries are marked. The area of each plot, name of the owners, and type of tenure and encumbrances of the land are compiled in a prescribed format. Generally the tenure and encumbrances on a plot remains the same while preparing TDS.



### PREPARING A BASE MAP

All the cadastral records, spatial records (maps) collected from various agencies and with detailed survey data the base map is prepared. All the discrepancies regarding the plot size are resolved at this stage. This base map is then required to be approved and authorized by the relevant officer of the Revenue department. The original plots

are also drafted on the base map. All the plots are given 'original plot' (OP) numbers.

### MARKING THE BOUNDARIES OF TDS

Now the boundaries of the TDS are marked on the base map. At this stage the intention of the development authority to prepare a TDS is published in the local newspaper. The authority also collects all the records pertaining to land prices from the register

of land transactions. Past sales record of the existing land plots are collected the according to the valuation principles the original plot (OP) value is attributed to all

the plots. This is the value of the land plot before any king of infrastructure development.

### LAYOUT OF ROADS IN PLANNING AREA

Existing roads which passes through the planning area are tried to be retained first. Then other roads are planned keeping in view various principles of transportation planning, urban planning and urban design. It is tried to keep the road network efficient as compared to other land uses.



### TABULATION OF FINAL PLOT SIZES

At this stage, estimate is prepared for the proposed infrastructure. Then assessment of market rates of developed plots (of different land uses) is made. Approximate area required for community facilities such as hospitals, schools, housing for EWS is worked out (based on development plan and other legal provisions). Returns from plots reserved for community facilities are estimated. Then estimation is done of the total land (developed plots) which is required to be retained so as to fully finance the scheme. Then the final developed plot area left after deducting the area required to be retained to finance the scheme, area required for roads and other infrastructure facilities is calculated. Then from the final developed plot area left, percentage of developed plots to be returned is worked out. The percentage of developed land to be

returned was worked out at 35% in the case of Kamal Vihar.

Roads in planning area

### REDISTRIBUTION OF PLOTS

At this stage, area calculation for each land holder is carried out and final plot area to be returned to Land holders in the scheme area is tabulated. Layout Plans of each sector is drawn and final plot of original Land Holders is marked (as near to his original land as possible). If the land use of the original land of an individual is commercial; the owner is allotted a proportionate commercial plot in the scheme.

### LANDOWNER'S MEETING (PUBLIC PARTICIPATION)



The authority publishes a notice in the local newspaper inviting all the land owners to attend the meeting. The draft proposal is being presented before the land owners and their objections and suggestions are been heard.

#### **APPROVAL OF THE DRAFT SCHEME**

After considering all the objections and suggestions of the land owners the authority make such modifications therein as it may deem fit and then prepares the modified draft scheme. This draft scheme is then approved by the director of the authority and then it is called the final scheme.

#### **FORMATION OF A COMMITTEE**

After the approval of the final scheme, the authority constitutes a committee consisting of the Chief executive officer of

the said authority, an officer nominated by the Director, Chief executive officer of such urban local body within whose jurisdiction the town development scheme is situated and Chief executive officer of the ZilaPanchayat in case the scheme lies wholly or partly in his jurisdiction.

#### **HEARINGS AND MODIFICATIONS BY THE COMMITTEE**

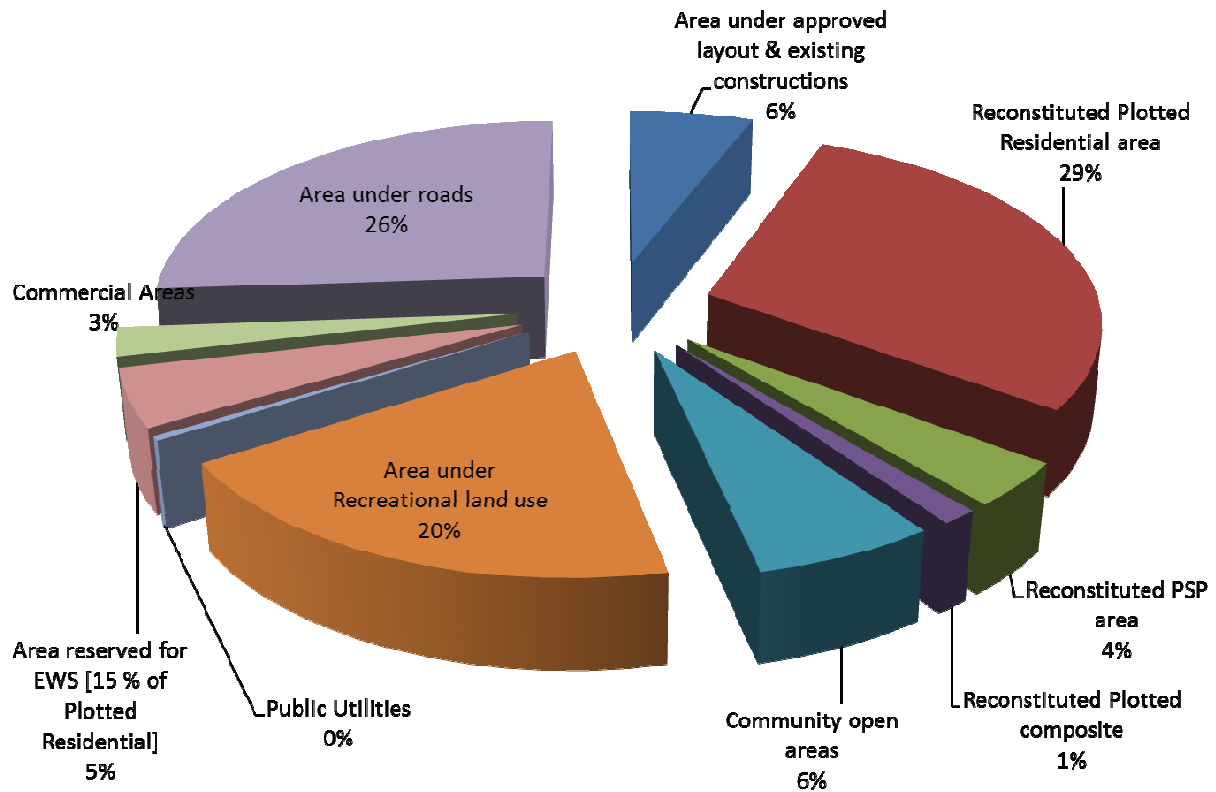
Committee considers the objections and suggestions and individual hearings are given to each landholder on physical and financial proposal of the TDS. Based on recommendations, the committee suitably modifies the scheme and notifies the Final scheme in the Gazette. Important at this stage is to have a legal provision that vests all lands required for public purpose with the Authority, so that development works may be initiated, before allotment of developed plots.

### SCHEME LAYOUT (KAMAL VIHAR)



Kamal Vihar Layout Plan

## LAND DISTRIBUTION



Total available scheme area – 647.84 ha.

## INFRASTRUCTURE DEVELOPMENT

- The road network is provided with curbs, green verges, walkways and cycle tracks
- An integrated network of Underground Storm Sewer is provided.
- 24 X 7 supply of water.
- Underground Sewerage Network and Decentralized STP
- Treated Sewage Network for irrigation and pond recharge
- Underground network of electric cables.



- Underground network of Tele-communication and data cable.
- Landscaped Gardens and dedicated Play Areas

### **BENEFIT TO LAND HOLDERS**

- Individual land holders got the developed plots with world class infrastructure.
- The value of developed plot got increased by about four times the value of original land.

### **CONCLUSIONS**

To sum up, Town Development scheme is a strong alternate to provide world class Infrastructure in the existing city. The

### **REFERENCES**

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scheme provides a good financial model as it is based on Public participation and it does not force the executing organization to acquire land by land acquisition. The TDS can become an important mechanism for the development organizations to provide quality urban infrastructure as it is based on land pooling and readjustment. Thus other development organizations can think to use the scheme for other infrastructure projects in the near future.

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