COMMUNITY BASED REDEVELOPMENT OF CHITAR OLI, MAHAL, NAGPUR

A DISSERTATION

Submitted in partial fulfillment of the requirements for the award of the degree of

MASTER OF ARCHITECTURE

By

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CERTIFICATE

It is certified that report entitled **"COMMUNITY BASED REDEVELOPMENT OF CHITAR OLI, MAHAL, NAGPUR"** which has been submitted by **MISS. Snehal H. Punwatkar**, for partial fulfillment of the requirement for the award of the degree of **Master of Architecture**, submitted in Department of Architecture and Planning, Indian Institute of Technology- Roorkee, is the student's own work by her under my supervision and guidance. The matter embodied in this dissertation has not been submitted by her for the award of any other degree of this or any other institute.

Date: 14·6·2012

Place: Roorkee

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CANDIDATE DECLARATION

I hereby certify that this report entitled **"COMMUNITY BASED REDEVELOPMENT OF CHITAR OLI, MAHAL, NAGPUR"** which has been submitted in partial fulfilment of the requirement for the award of the degree of **Master Architecture**, submitted in Department of Architecture and Planning, Indian Institute of Technology- Roorkee, is an authentic record of my own work carried out during the period from July 2011 to June 2012, under supervision and guidance of **Prof S.Y. Kulkarni** , Department of Architecture and Planning, Indian Institute of Technology, Roorkee, India.

The matter embodied in this dissertation has not been submitted by me for the award of any other degree of this or any other institute.

Date: 14/06/12 .

Place: Roorkee

(SNEHAL PUNWATKAR)

This is to certify that the above statement made by the candidate is correct to the best of my knowledge.

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(SNEHAL H. PUNWATKAR)

EXECUTIVE SUMMARY

INTRODUCTION:

Nagpur, the orange city of Maharashtra is also the largest city in central India. Nagpur UA is the 13th largest urban conglomeration in India. In addition to being the seat of annual winter session of Maharashtra state assembly "Vidhan Sabha", Nagpur is also a major commercial and political centre of the Vidarbha region of Maharashtra. As Nagpur lies in Maharashtra Ganesha festival is the major festival which is celebrated there. The 'chitar oli' is one of the streets in old Nagpur with cultural heritage due to the activity of idol making. As it lies in the core of Nagpur city, it is very congested area. T here was number o f communities in old Nagpur which were involved in traditional art forms such as weaving, pottery, etc. Presently, most of them have degenerated as they have changed their occupation.

PURPOSE

Because of the cultural heritage of chitar oli area, it has been in a very dilapidated and poor condition over the years. The streets are very narrow and in that also 2/3 of the space is occupied by the sculptors leave a small space for movement. And during the peak period, that small space is also occupied by them for the display of idols for sale. This leads to the congestion in traffic because of loading and unloading of idols. And the buildings are also found in very dilapidated condition. The family size is increasing but the dwelling size is still the same. Problems have to be faces by the residents in rainy season due to dilapidated condition of the building. No typical character of street is observed as the growth is organic. But there are some buildings which have traditional features like wooden 'Jali', projected wooden beams etc. Hence the main aim of this project is to study the community's living and working environment and problems faced by them and redevelop the street to provide them comfortable and feasible work and living environment.

OBJECTIVES

Many other activities other than murti making are prevalent in the lane. Congested working and living space is discouraging the murti making, leading to down fall in number of artists, instead of rising in demand. Hence the objectives of this project is to save the fast deteriorating community of sculptors and its environment, by providing them better living and working space, in terms of better infra structure and urban amenities for all the masses, to explore the opportunities in developing their skills as a state of arts and crafts and to suggest methods and solutions for environmental up-gradation through better infrastructure facilities by keeping its heritage value.

The Dissertation discusses the following:

- Redevelopment of the space in terms of streets in which the street forms, proportions, its relationship with buildings, its priorities and parameters.
- Redevelopment of streetscape in which public urban space, communal urban space, hard urban space and soft urban space has been identified.
- Heritage conservations along with the bye-laws of Development Control Rules, Nagpur in which minimum plot area for various uses, rod width and permissible heights, FAR for congested areas and setbacks for the same has been discussed

METHODOLOGY

The aim of this study is to redevelop the congested area of Chitar oli so that its character and spatial functionality is maintained. Different kind of cases with the same or almost same interface surrounding has been selected which has helped in assessing and making the inferences out of it. Two cases, Kumortuli, Kolkata and Nanded, Maharashtra have been analyzed with respect to parameters like functionality, access and linkages, uses and activities and place imageability. The analysis and assessment from the literature or data collected from various sources and case studies helps in understanding the problems faced by the idol makers, built forms and open spaces. The understanding from the above helps in designing the redevelopment of the existing case of Chitar Oli for better solutions. With the help of designing, certain suggestions and recommendations have been proposed.

RECOMMENDATIONS

This dissertation addresses design issues in artisan road of Nagpur. It also discusses the measures to enhance the quality of spaces Best practices recommended in this dissertation are listed below:

- Working area for artists- sufficient height for murti making should be considered.
- Street- The street should be made vehicle free to encourage the pedestrian movement and to feel the space.
- Semi open spaces- for visitors and tourists who are interested in watching the process of making idols.
- Safety and security- Whenever possible, different elements of public furniture must be combined to enhance overall convenience, security and appearance; to facilitate maintenance; and to prevent cluttering.
- Define clear boundaries between public, semi-public/private, and private spaces.
- Parking- Encourage placement of parking along the rear and sides of street-oriented buildings.
- Build multiple small parking lots instead of one large lot.
- Landscape- The landscaping of properties adjacent to public and communal urban spaces must contribute to the quality of those spaces and must complement their overall design.
- Use water conservation through the use of drought-tolerant landscape, porous materials, and reclaimed water where available.

PROPOSALS:

This street is a communal urban space. The activity is mainly related to sculpture making and painting. This lane was allotted to sculptors and painters centuries ago. Due to urban sprawl and increasing population the image of the street is being deteriorated. To improve the condition of the street following proposals are made:

- Pedestrian Street.
- Access and linkages
- Workshops
- Exhibition hall
- Community spaces.
- Parking lots
- Widening of streets.
- Streetscape elements.

CONCLUSION

India is diverse country. There are many cultures and festival celebrated with vigor. Ganesh festival is one of them. It is celebrated in Maharashtra in full joy. Many sculptures are also made every year on a large scale. One such community is still active in Nagpur who makes sculptures and painting. This community is staying in chitar oli since centuries. In this paper redevelopment proposals are discussed which will help in improving the condition of chitar oli. These proposals will not only redevelop the area but will attract tourists.While redeveloping the street space certain parameters should be considered such as scale and proportion. Certain pockets are proposed /designed for people to interact as there are no interaction spaces due to traffic flow. This will create the sense of belongingness within the people. There were no workshops or exhibition hall for the artist living there. Hence workshop area and exhibit area is proposed. This will also give them a platform to get recognized. This will also attract the visitors and tourists which can also help in raising funds. The pedestrian street will encourage the street activities and will also provide a foreground to feel the place. This will improve the quality of life of the community. It will also increase the tourists and visitors which will help them increase their sale. The redevelopment will encourage the young artists and hence it will affect tradition and culture in a positive way.

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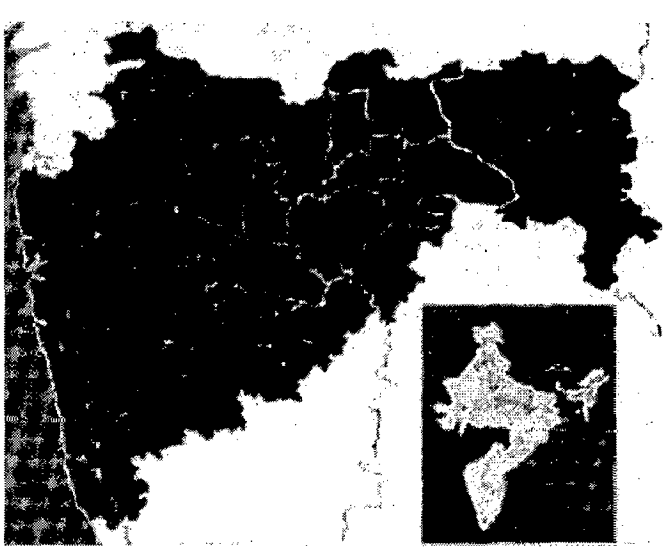
CHAPTER 1. INTRODUCTION

Nagpur is the city in the state of Maharashtra, the largest city in the central India. It has population of around 2,420,000. Nagpur UA is the 13th largest conglomeration in India. In addition to being the seat of annual winter session of Maharashtra state assembly "vidarbha Region". Nagpur is also a major and commercial centre of Vidarbha region of Maharashtra, and also is famous as "orange city" throughout the country as the major trade centre of oranges that are cultivated in the Nagpur region.



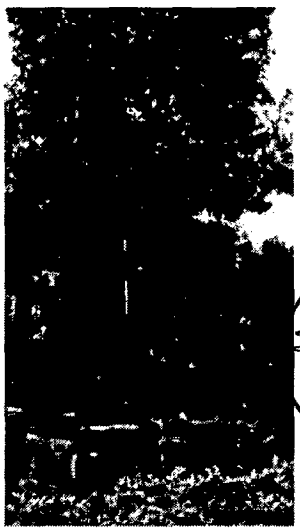


Figure 1location of Nagpur and image of zero mile, Nagpur

Nagpur lies specifically at the centre of India. The zero mile indicated the geographical center of the country

Nagpur is the second capital of Maharashtra; practically it is situated at the center of the country. It is located on the cross road of north-south, east-west routes by rail, road and air. It is the largest city in the central India with population of 2.5 million. This makes it 13th largest conglomeration in India.

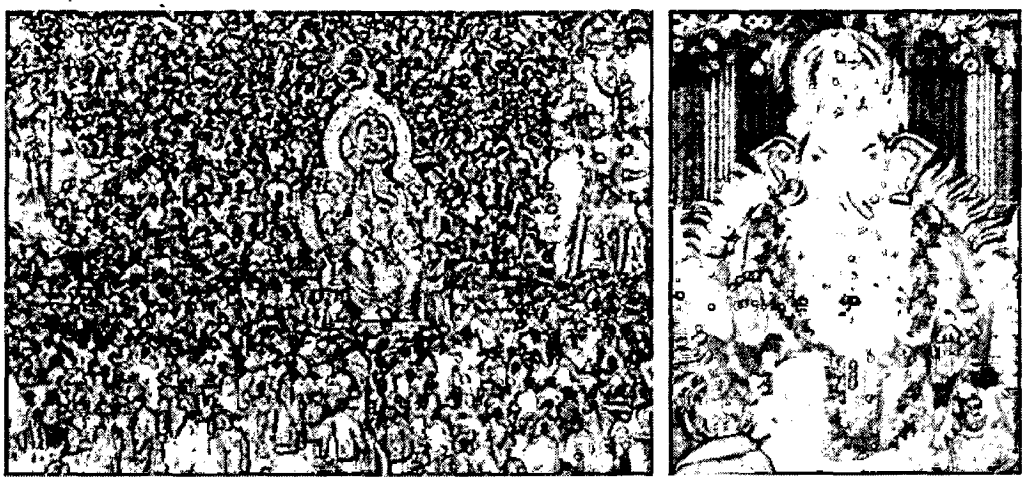


Figure 2 Image of Lord Ganesh on Ganesh festival.

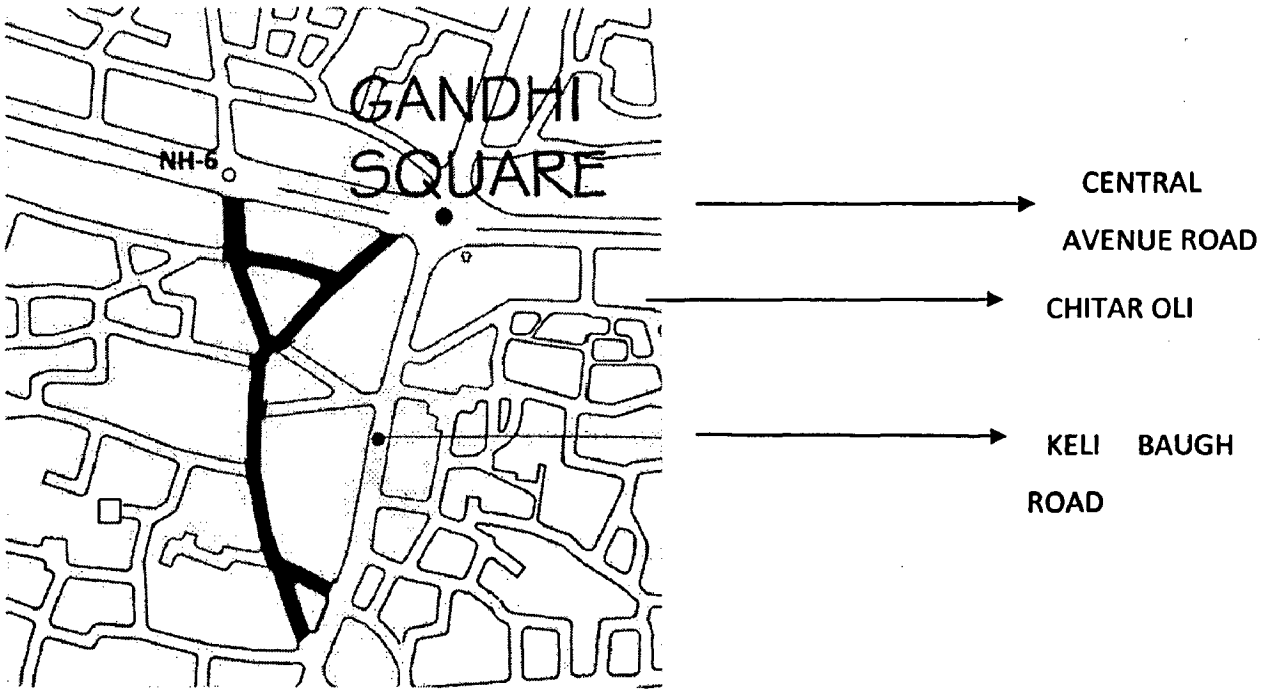
Ganesh is one of the most important and widely worshipped gods in central India. Ganesh is worshipped at the beginning of every event. The emotions of Indians towards Ganesh worship were appropriately utilized by "Bal Gangadhar Tilak", an activist- for mass awakening and evoking a feeling of patriotism amongst masses; in our fight for freedom from the rule of British. Ganesh worship was just a household affair till 19th century; it was made public activity by Tilak in early 20th century. Every year, in the month of August or September, this festival is celebrated with vigor.

The scale and enthusiasm of this celebration is magnifying every year. Beautiful Ganesh idols, made up of mud, painted and decorated; are ceremoniously installed at a public place and are worshipped for ten days. About **2000 idols** were worshipped publically in year 2007 in Nagpur, apart from thousands of small idols worshipped at the household level. After ten days, the idols are again ceremoniously immersed in water and hence every year, there is a new demand for idols.

1.1 STUDY AREA:

The 'chitar oli' is one of the streets in old Nagpur with **cultural heritage** due to the activity of **idol making.** There were number o f communities in old Nagpur which were involved in traditional art forms such as weaving, pottery, etc. Presently, **most of them have degenerated as they have changed their occupation.**

Figure 3 Idols made in chitar oli.



But one such community is **still active** as the demand for that art form is increasing – **murtikar or sculptors and painter of chitar oli.**

Murtikars of this area are involved in the craft of idol making of **Ganesh for festivals and for Durga Festival as well.**

Chitar Oli is not a very remarkable architectural heritage but it is related to **heritage activity** which has a tradition of hundreds of years.

Figure 4 Painters of chitar oli.

1.1.1 Reason for allocation:

This area was allotted to sculptors and painters by Bhoslas centuries ago, due to availability of raw material and water for making sculptures. The Nag river and Lakkadgang area (wholesale market for wood) was located close by. The growth is organic. The settlement is not planned. This is the reasons why the growth is haphazard.

1.1.2 Present scenario:

Many other activities other than murti making are prevalent in the lane. Congested working and living space is discouraging the murti making, leading to down fall in number of artists, instead of rising in demand.

1.1.3 Space required by artists:

Storage space for raw materials, moulding of murtis, drying, and staking.

There is typical linear form followed in plan of residence. It consists of a working area in the front façade and residence on the upper floors. The activities such as Mud mixing and storage are at the back of the working area. In the peak season such as ganesh utsav display of murtis is done in the front by arranging a temporary shade.

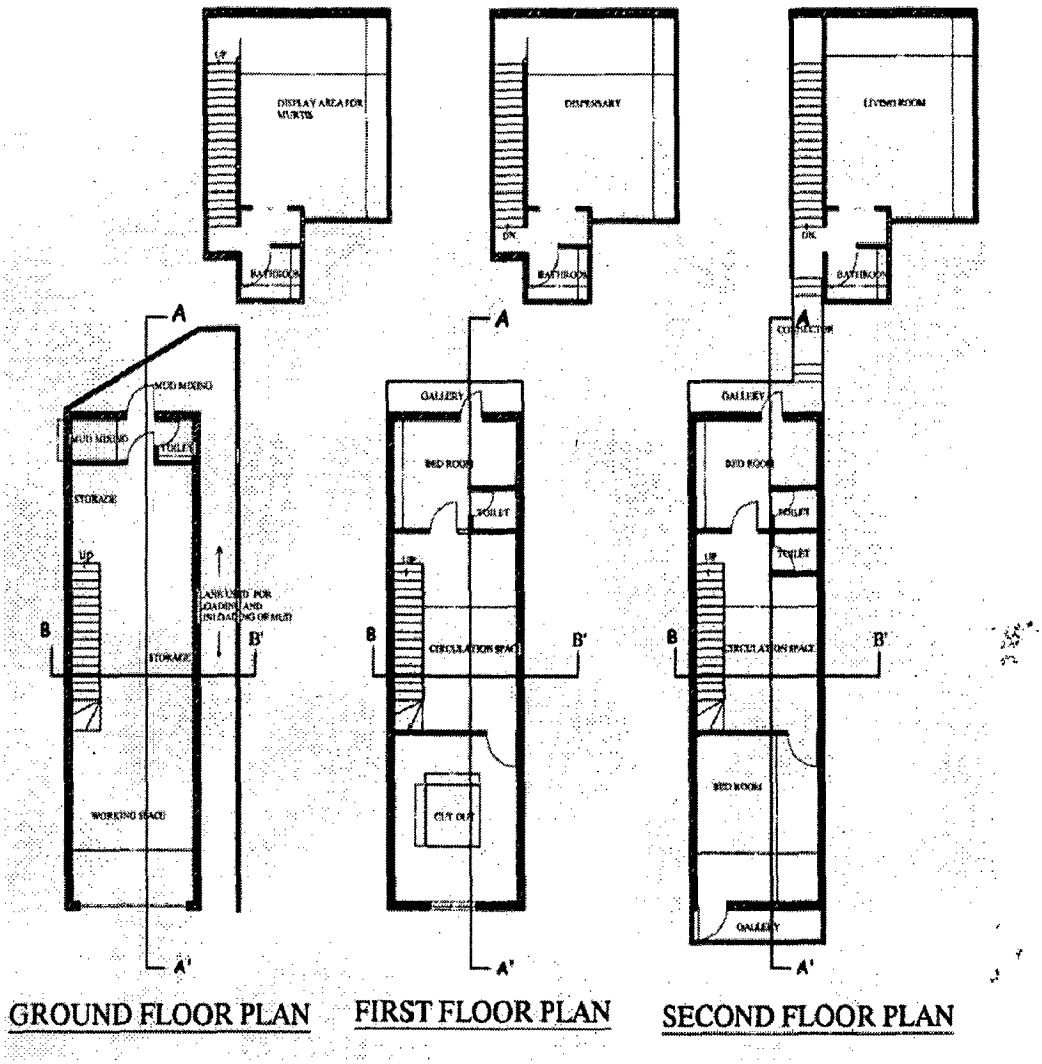


Figure 5 Typical plan of Chitar Oli

Figure 6 Linear planning

1.2 IDENTIFICATION OF PROBLEM:

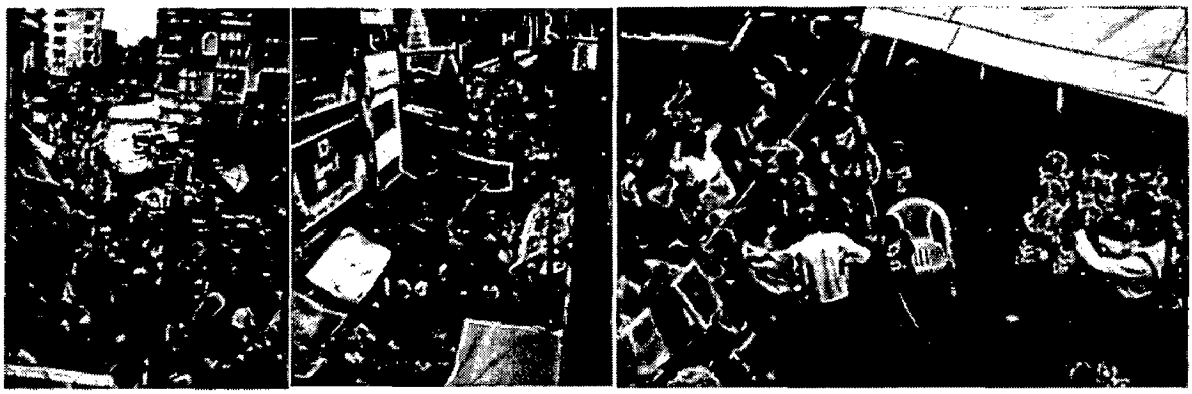


Figure 7 Congested area of chitar oli

As the area is situated in the core area of Nagpur, it is one of the congested areas of the city. Streets are narrow and 2/3rd of the space is occupied by sculptures, leaving very small space for movement.

Figure 8 Figure showing 2/3rd road space occupied by sculptures.

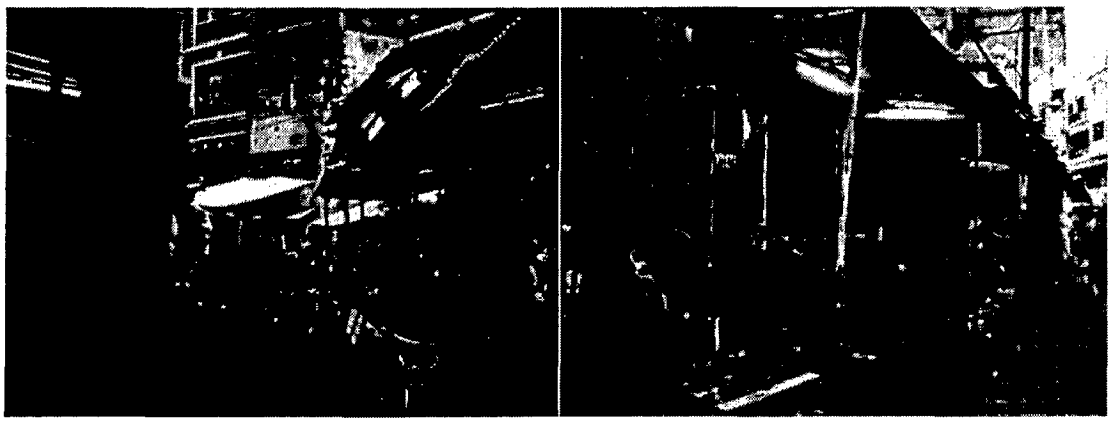


Figure 9 Showing temporary sheds created by the owners occupying 2/3rd of road space

During peak time of festival, the road space is used for making idols as well as for display of idols for sale by creating temporary shed to prevent idols from rain. (Fig. 7)

Very less space for working as a result artists have to extend their working area on the street. Earlier this place was not public and it had a different environment. Artists, from their workplaces used to talk with each other, share jokes, sit together, and laugh together but at the same time they could keep an eye on their shops. Today this activity is interrupted by the traffic flow. The vehicles are parked along the road.

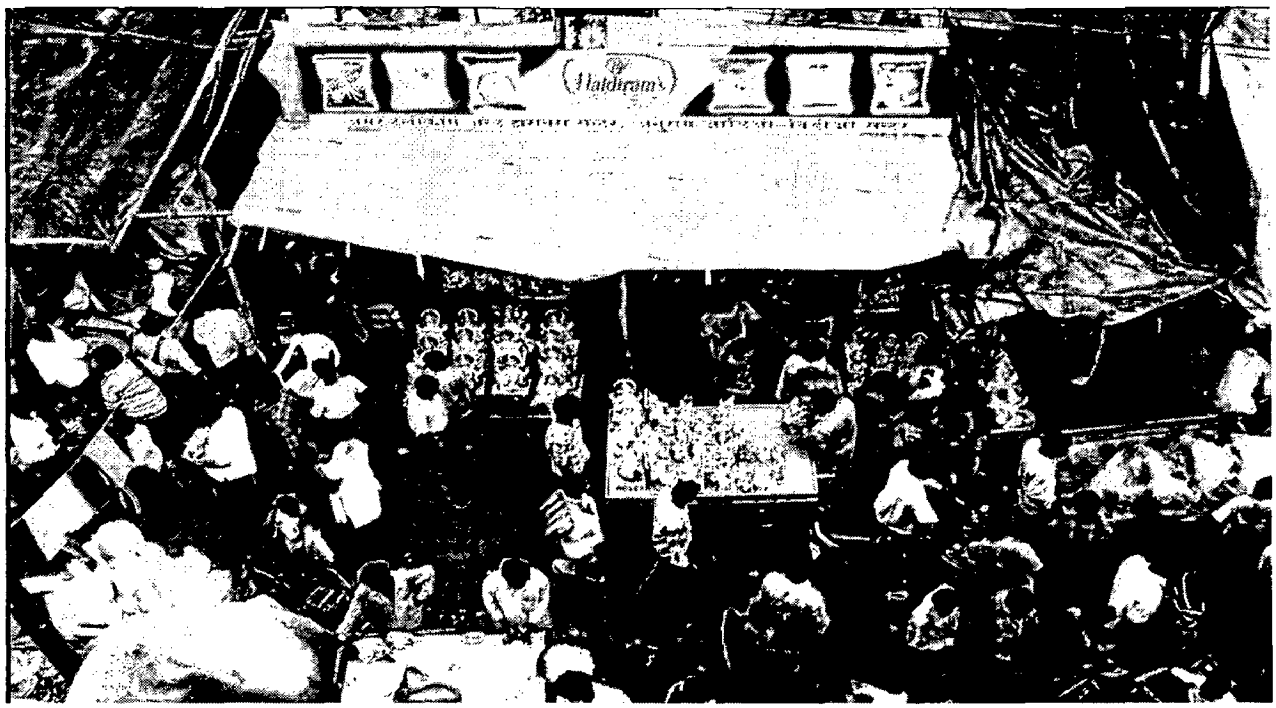


Figure 10 Chitar Oli in festive season

Figure 11 Buildings in dilapidated condition

Old buildings consists the traditional elements in the building like wooden brackets, extending wooden girders and joists, 'jaali' pattern on doors windows and ventilators, large span doors with wooden foldable shutters. Presently due to increasing population there is

need of space. To fulfill this requirement new construction is coming up. This is done by adding floors on existing old buildings, but due to money factor no attention is given to the elevation treatment causing monotonous character throughout the lane. The physical characters discussed above are the identity of this area. But this is vanishing due to negligence while constructing new buildings.

Most of the buildings are in dilapidated condition. The family size is increasing but the dwelling size is still the same. Problems have to be faces by the residents in rainy season due to dilapidated condition of the building.

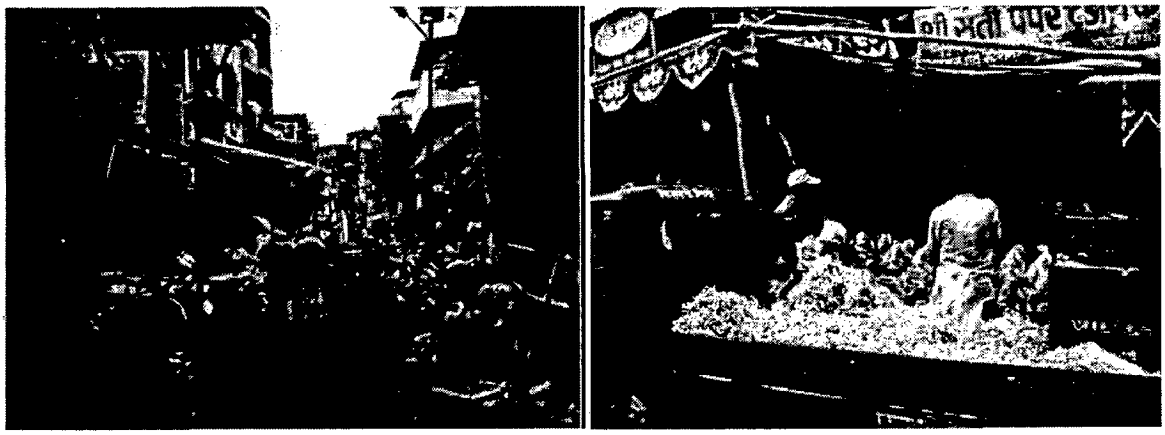
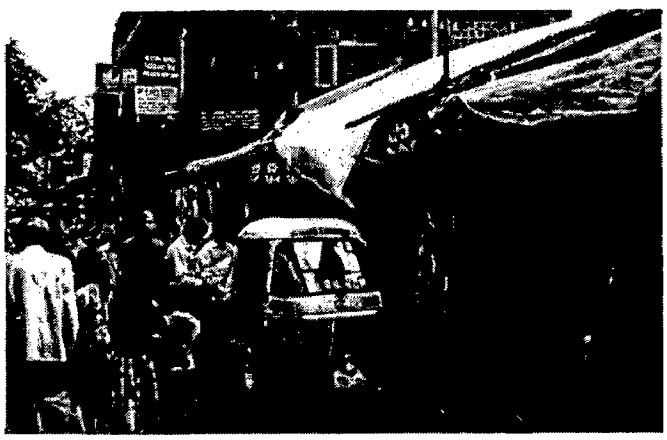


Figure 12 loading unloading along the street

No proper place for parking causing traffic hindrances. In the peak time parking is the main reason for congestion. No parking area for visitors as well as residents is present nearby. Due to security reasons the residents park their two wheelers inside the house.



Due to loading unloading of sculptures in front of shop, creates traffic congestion.

Figure 13 Traffic congestion due to loading unloading

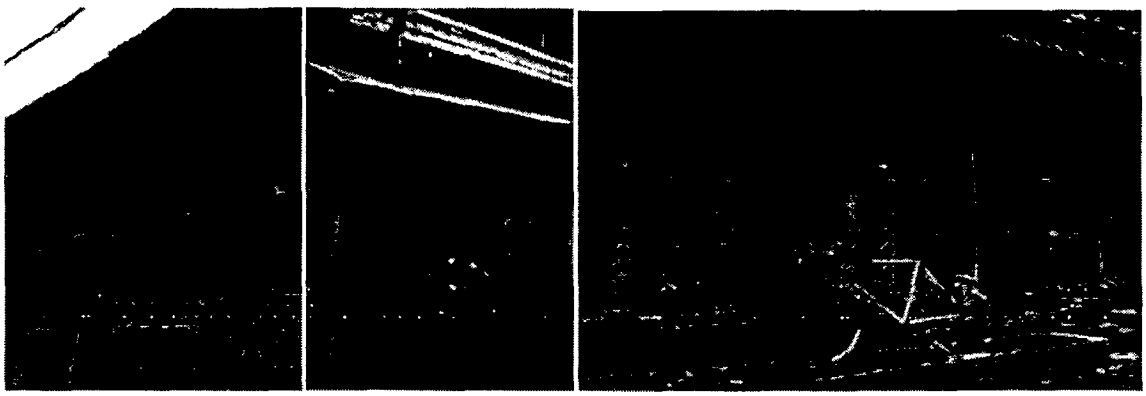


Figure 14 wooden beams and jaali

The character of the street is dominated by the traditional houses. The Street is a communal urban space (semi- public urban spaces). The dwellings are compactly arranged having no setbacks. The ventilation is through front and rear side of the dwelling. In some cases there are common walls on three sides. The height of the dwelling varies. Minimum height of the building is G+1. The floors vary from G+1 to G+3 as new construction is coming up, while some owners have added floors to accommodate their extended family. The building material used for construction is timber, stone, brick, mud, bamboo etc.

No typical character of street is observed as the growth is organic. But there are some buildings which have traditional features like wooden 'Jali', projected wooden beams etc.

Infrastructure problems: There is no proper drainage system as the waste water and rain water flows along the road. There is no dustbin there is no street furniture for visitors like benches, dustbins, drinking water facility etc. the basic requirement of the neighborhood like daily need shops, dispensaries is not present. No vegetation is present like shrubs, small landscapes etc.

Hence there are many issues which need attention, to cope up the changing lifestyle of the people.

1.3 AIM

As *'Chitar oli'* is a age old settlement of community belongs to *"murtikars" and "chitrakars"* (sculptors and painters) and posses a great heritage value .The Aim of my dissertation is to study the community's living and working environment and problems faced by them and redevelop the street to provide them comfortable and feasible work and living environment.

1.4 OBJECTIVES

- To provide better living and working space, with urban amenities for the artisan living in chitar oli.
- To provide display space for their products and explore the opportunities in developing the skills of the sculptors and painters as a state of arts and crafts.
- To suggest proposals for redevelopment of chitar oli in context of present situation

1.5 SCOPE AND LIMITATIONS:

Study will be limited to the area of ***"Chitar oli"*** **(street) in *"Mahal"*** area of Nagpur.

The study intends to promote better living and in addition, it intends to help better future development by keeping its heritage value intact.

1.6 METHODOLOGY:

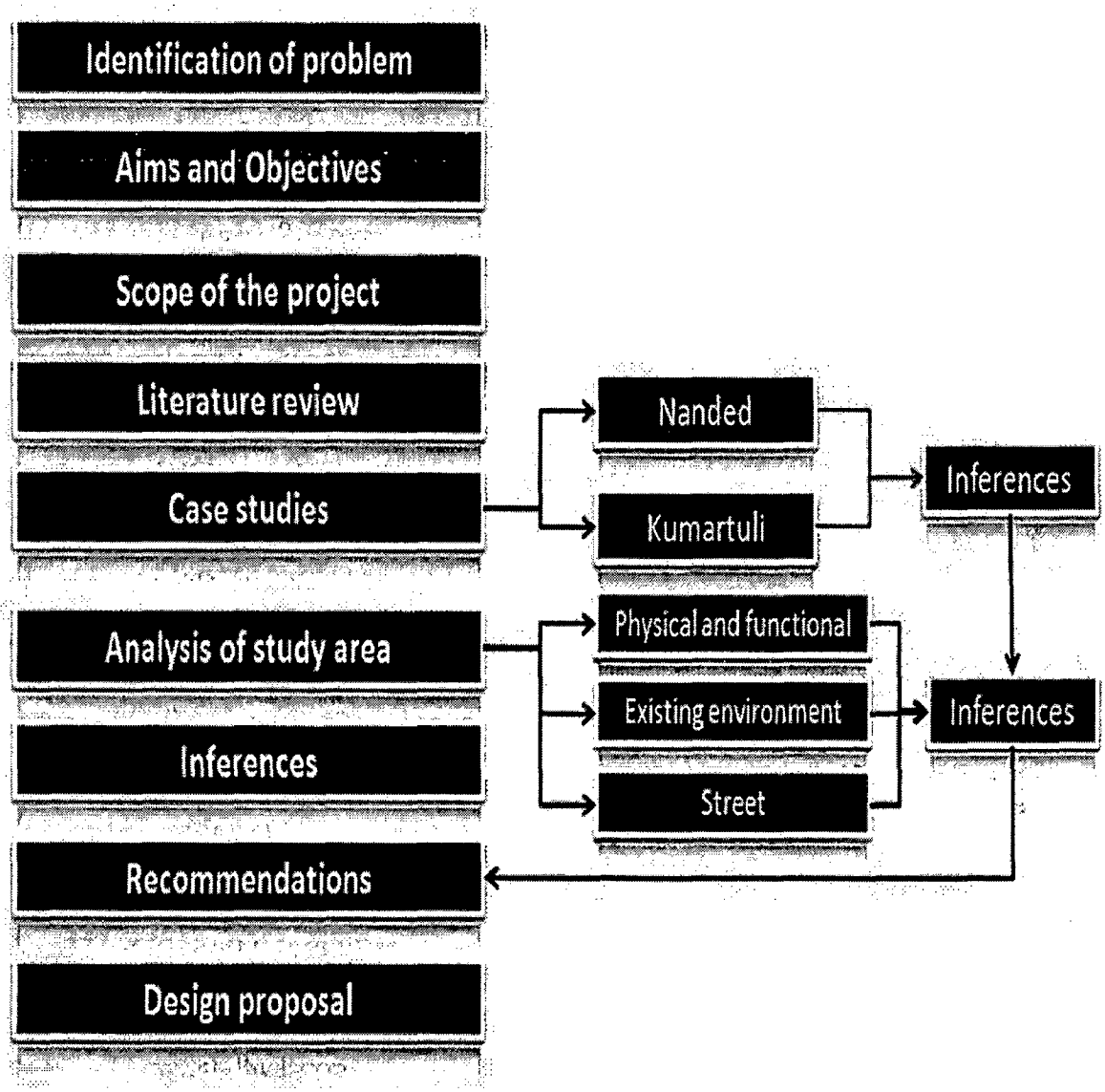


Figure 15 Methodology

The street in addition to being a physical component in the city is asocial fact. It can be analyzed in terms of who owns, uses and controls it. It also have three dimensional physical form which may not determine social structures does inhibit certain activities and make other possible. The street provides a link between buildings, both within the street and the city at large.

As a link it facilitates the movement of people as pedestrians or within vehicles and also the movement of goods to sustain the wider market and some particular uses within the street.

It has the less tangible function in facilitating communication and interaction between people and groups - 'thus serving to bind together the social order of the *polis*, or what in current parlance would be called the local urban community.[3]

Its expressive function also includes its use as a site for casual interaction, including recreation, conversation, and entertainment, as well as its use as a site for ritual observances.

The street, however, is also a common area which serves a group not just one family: the type of neighbors.

The physical factors like street use, user density, land-use mix, pedestrian vehicle interaction appears to be most essential in planning of a street.

2.2.2 Urban Linkages

2.2.2.1 Primary streets:

The width of the street is maximum. There is tremendous social interaction on the streets. Architectural features are richer and more frequent.[4]

2.2.2.2 Secondary streets:

These are perpendicular to the primary streets. These end up usually either in a cul-de-sac or tertiary street. Small amount of commercial activity flows here.

[3]Definition of street [available online] : http://www.angelfire.com/ar/corei/ch2.pdf
[4]Nanded waghala city munciple corporation
[available online] http://nwmcnanded.org/HERITAGERESTORATION%20AND%20CONSERVATION.htm

2.2.2.3 Tertiary streets:

The tertiary streets are purely residential with few small shops. The height-width ratio is such that they remain shaded for most part of the day.

2.2.3 Street forms:

Street form can be analyzed in terms of **scale, proportion, contrast, rhythm or connections** to other streets and squares. For many generations the street has provided urban communities with **public open space right outside their homes.** [5]

As stated in the book 'urban design –streets and squares'- 'Streets should be for staying in, and not just for moving through, the way they are today.'

In the words of Norberg-Schulz the street, in the past . . . was a "small universe' where the **character of the district and of the town** as a whole was presented in **condensed form** to the visitor.

2.2.4 Street proportions:

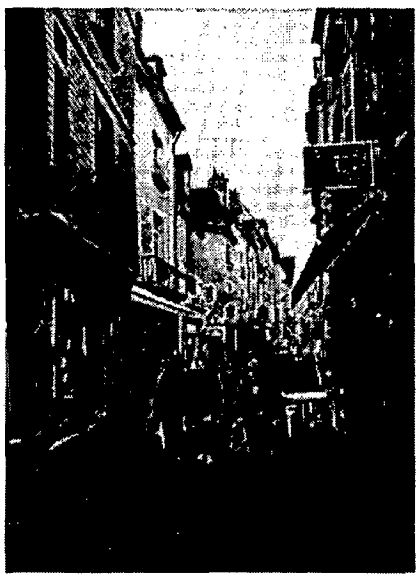


Figure 16 pedestrian street (source: book-Urban design streets and squares)

When streets are narrow, 6-9 m (20-30 ft) and flanking buildings three or four storey it gives 'the sense of completeness and enclosure to the pictures in the streets . . .'

The narrow pedestrian city street with continuous enclosing walls slightly higher than street width is most successful for their purpose as well as being an attractive place.

[5] Vahid Ahmadi, Dr. Adi Irfan, Ar. Mastor Surat, Prof. Dr. M. Fauzi M.(2009) Sustainable Design for Open Spaces by ModifyTraditional Neighborhood Centers in Iran Zain, [online] http://www.scribd.com/doc/51637755/Sustainable-Design-for-Open-Spaces-by-Modify-Traditional-Neighborhood-Centers-in-Iran

2.2.5 Public streets:

Greater consideration should be given to the need for privacy & defensible spaces. The main pedestrian or the vehicular networks within an area requires a different design approach to the quiet residential streets.

For many generations the street has provided urban communities with public open space right outside their homes.[6]

In the design of the residential street a proper balance is necessary among privacy, defensible space, access for the car and safe pedestrian use of the street. Family security is served well by the home on a plot enclosed on three sides of the neighbouring plots. The street scene is completed with small front gardens, low hedges and protruding bay windows.

No two places are identical and there is no such thing as a blueprint for good design. Good design always arises from a thorough and caring understanding of place and context. [7]

2.2.6 Relationship between streets and buildings:

Good urban design is important if we produce attractive, high-quality, sustainable places in which people will want to live, work and relax.

- First, good design is very important as it brings the rundown, neglected places back to life.
- Second, the creation of successful places depends on the skills of designers. The planning system plays a key role in delivering better design.
- Finally we should know that no two spaces are identical. Also there is no such thing as blueprint for a good design. The good design always arises from a thorough and caring understanding of places and context.

[6] Vahid Ahmadi, Dr. Adi Irfan, Ar. Mastor Surat, Prof. Dr. M. Fauzi M.(2009) Sustainable Design for Open Spaces by ModifyTraditional Neighborhood Centers in Iran Zain,
[online] http://www.scribd.com/doc/51637755/Sustainable-Design-for-Open-Spaces-by-Modify-Traditional-Neighborhood-Centers-in-Iran

[7] [online]
http://webarchive.nationalarchives.gov.uk/20110118095356/http:/www.cabe.org.uk/publications/by-design

2.2.6.1 Streets for Strong Economy:

Livable Streets also support strong local economics beyond improving the life.

Pedestrian streets draw more foot traffic in commercial district.

Streets are the key determinants of the neighborhood livability.

It provides the direction and access to the homes, buildings, neighborhood for pedestrian as well as variety of vehicle types.[8]

It provides a **place for human communication**: a place in which children can play, neighbors meet, and residents can go for a walk or bicycle ride. The design of residential streets, together with the amount and speed of traffic they carry, contributes significantly to a sense of community, neighbourhood feeling, and perceptions of safety and comfort.

Other aspects of livability are also affected by the width of the street.To maintain and develop the narrow streets is less costly and they present fewer surfaces, reducing runoff and water quality problems.

The speed of automobiles on the neighborhood street is an important issue. Where **streets are wide and traffic will move fast.**The ability of emergency vehicle to reach quickly on the site of fire or medical emergency totally depends on the street width. The expectations by emergency vehicles and the residents are same, that neighborhood streets should provide sufficient width to cater the affected area as quick as possible.

2.2.7 Street design priorities and parameters:

2.2.7.1 Design Priorities

The user priorities governing the design of all urban streets shall be:

Priority - Pedestrians

All streets must be safe and pleasant for pedestrians of all ages and abilities.

Priority - Transit Users

[8] Neighborhood stake holders (2000) Neighborhood street design guidelines [available online] http://www.oregon.gov/LCD/docs/publications/neighstreet.pdf?ga=t

Transit riders are among the most efficient users of street space.

Priority - Bicyclists

Bicycle riders are vulnerable users, and their safety must be considered during design. They are also among the most efficient users of street space.

Priority - Motor vehicles

The accommodation of motor vehicle traffic is important to the continuing growth. However, when considering traffic accommodation on urban streets, it is essential that the non-driving options be at least as attractive as those that involve the use of private motor vehicles.

2.2.7.2 Design parameters and considerations:

When undertaking the design of urban streets, it is imperative to balance the needs of all travellers:

- Pedestrians
- Transit riders
- Bicyclists
- Motor vehicle drivers

In order to design a successful street incorporating an attractive and welcoming pedestrian environment, it is important to establish standard design criteria for all users. The following design dimensions and parameters shall be considered and used where appropriate for street design.

2.2.7.3 Pedestrian:

Pedestrians have unique needs and characteristics that shall be considered as part of every street design project. These include:

Shelter, shade, protection, and comfort to address extreme temperatures and solar exposure, particularly during the humid summer months.

Cultural needs, such as privacy for women and accessibility

Pedestrians walk at speeds ranging from 0.8 to 1.8 meters per second. For safety in critical situations, such as estimating pedestrian crossing times at junctions, designers shall accommodate a walking speed of 1.0 meter per second.

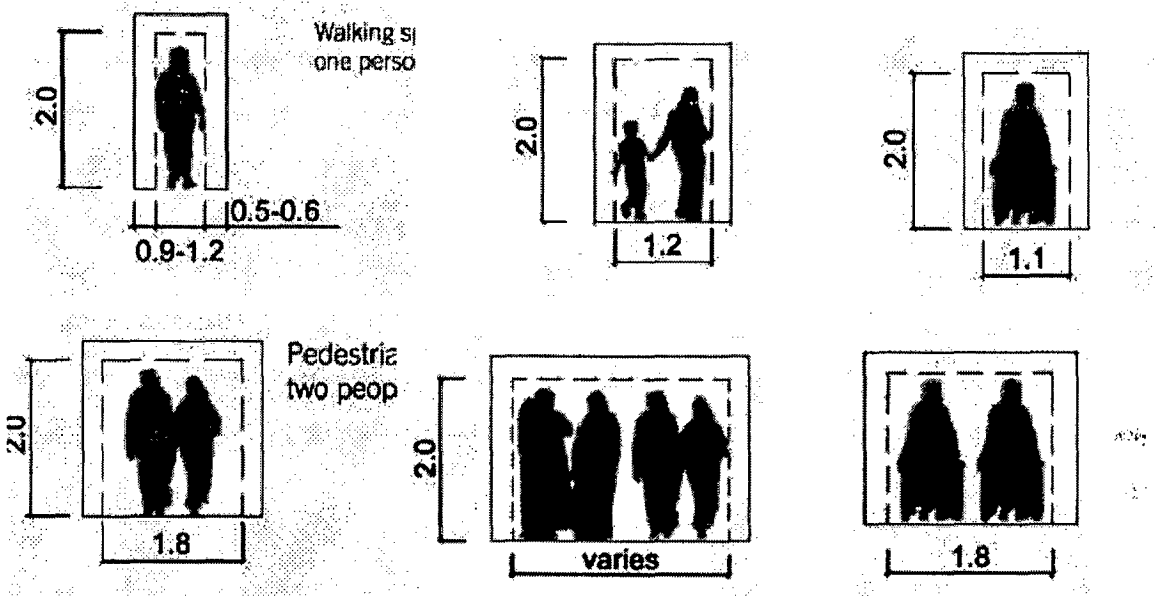


Figure 17 Pedestrian Design Dimensions (meters)

2.2.7.4 Bicycles:

Bicycles provide an extremely efficient means of transport. All urban street design for new and reconstructed streets shall accommodate bicyclists.

Bicycle facilities may be provided in the pedestrian realm in the form of cycle tracks, or within the travelled way as bicycle lanes or yield lanes. Cycle tracks and bicycle lanes are dedicated bicycle paths, whereas yield lanes are not delineated and share motor vehicle travel lanes.

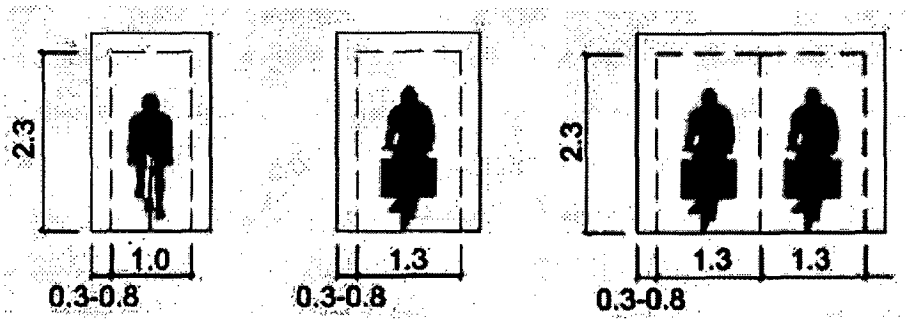


Figure 18 Bicycle Design Dimensions (meters)

source: (Urban Design-Street and squares)

2.2.7.5 Motor Vehicles:

Design parameters for motor vehicles include parking standards, street cross sections, and junction design details.

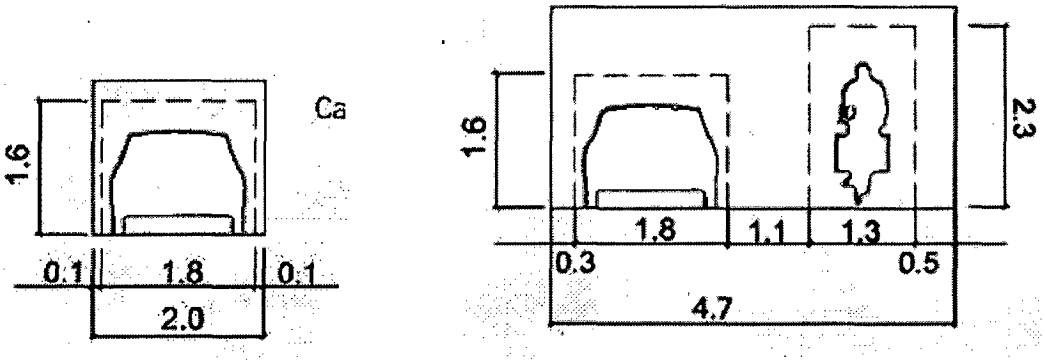


Figure 19 Motor Vehicle Design Dimensions

source: (Urban Design-Street and squares)

2.2.7.6 Emergency Vehicles:

The general principle concerning emergency service vehicles is to design streets so that they may use more of the street than automobiles may legally and properly use.

When proposing narrow, single-lane streets, designers shall work closely with Emergency Services to ensure adequate emergency vehicle access while maintaining high levels of traffic safety.

Consideration should be given to:

Locating fire stations and providing adequate staffing so that smaller, more specialized emergency service vehicles that are compatible with narrow streets can be used.

Providing frequent fire hydrants with a sufficiently high level of water pressure in order to reduce fire truck size and the need for added on-truck water storage and pumping.

Creating connected street networks that allow emergency vehicle access to all buildings, and providing alternate routes should one street be blocked.

Providing staging areas on narrow streets to accommodate stabilizers and access to onboard equipment.

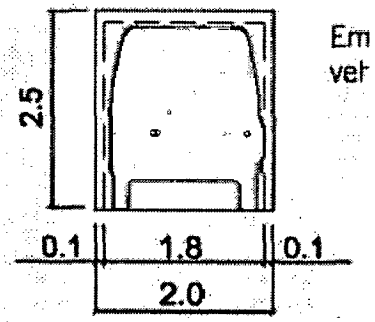
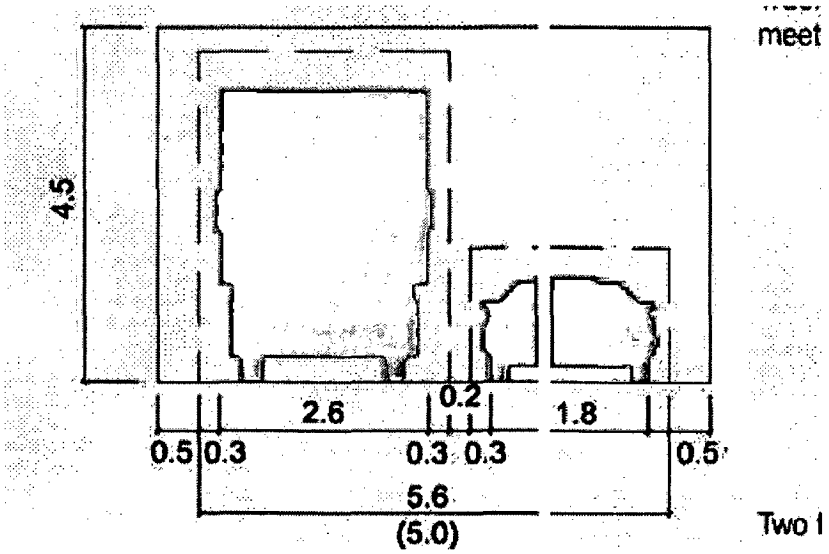


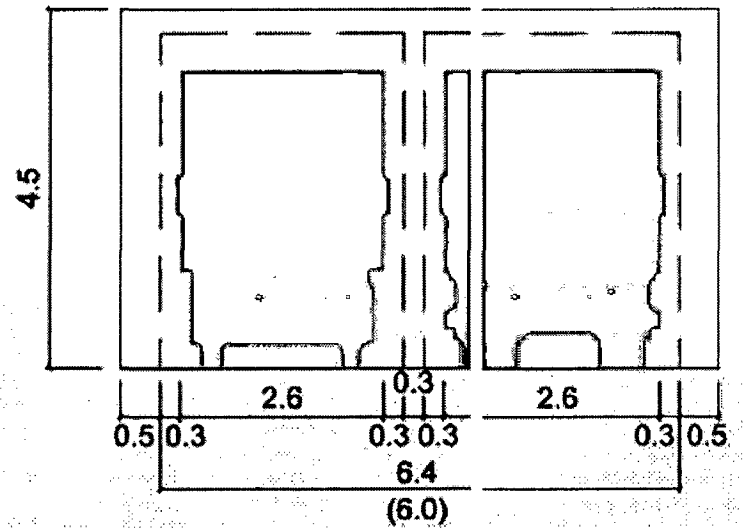
Figure 20 Emergency Vehicle Design Dimensions

source: (Urban Design-Street and squares)

2.2.7.7 Servicing:

Developments that attract heavy goods vehicles will require areas where trucks may be turned safely and conveniently, parked securely when not in use, and loaded easily and efficiently without disrupting other traffic. New developments that require this type of facility must accommodate movement within their site boundary and not create larger than necessary streets to accommodate this activity.





2.2.7.8 Universal Design:

Universal Design accommodates all potential users in the design process. This type of design includes people with special needs, such as those with mobility and visual impairments, and more vulnerable users such as older adults and children. Universal Design goes beyond accessible design by promoting approaches and solutions that can benefit everyone.

2.2.7.9 Vertical Separation:

Pedestrian- and vehicle-dominant spaces across the street right-of-way will be separated vertically, such that pedestrians are elevated above motor vehicles.

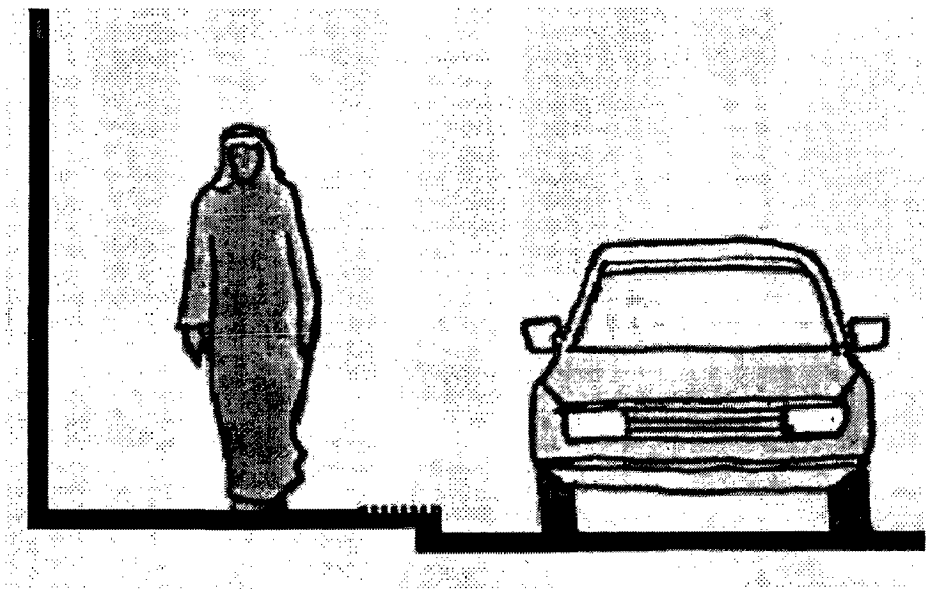


Figure 21 Pedestrian and Vehicle Vertical

As pedestrians cross a vehicle-dominant space (such as the traveled way), they must transition down the curb to a lower level, therefore being made aware that they have entered another space that requires more cautious and considered movement.

• Conversely, when a vehicle crosses a pedestrian dominant space, such as a side access lane, the vehicle will be elevated to the level of the pedestrian and must give priority to the pedestrian.

• Curb heights are maintained at 150 mm in part to discourage motorists from driving and parking on sidewalks.

• Similar treatment applies to transit and bicycle facilities, depending on their location within the street right-of-way.

The inclusion of additional separation measures such as bollards will need to be considered.

2.3 STREETSCAPE:

2.3.1 Basic definitions:

2.3.1.1 Public urban space:

Public urban spaces the internal or the external spaces which are reachable to the general public without restrictions or control, regardless of ownership. Boulevards, streets, malls and arcades etc. are the examples of the public urban spaces. Particularly hard urban spaces are the manmade structures. The character is further specified by a mixture of streetscape elements and these activities takes place within the space and on the adjacent side.[9]

2.3.1.2 Communal urban space:

As we know that public urban spaces are accessible to all, but the communal urban spaces are accessible only to a specific group of people and their visitors. These are also called as semi- public urban spaces. These spaces includes huge community spaces within the housing schemes or large office parks. Spaces used exclusively by smaller and homogeneous

[9] [available online] Streetscape design guidelines http://www.scribd.com/doc/56700627/Streets-Cape-Design-Guidelines

groups of people (such as individual families; circles of friends; religious congregations; social clubs; and political, business or other organisations) are private spaces and should not be referred to as communal.[10]

2.3.1.3 Hard urban space

These are the spaces which are built or constructed and are often well defined communal urban spaces and public spaces. These spaces are supposed to cater people on the foot, either completely or all together with the people in motor vehicles. They include:

Mixed mode streets; the streets which are meant for vehicular traffic, but it also accommodate the non-motorized vehicles.

Pedestrian streets, malls and arcades.

Markets and

Parking areas that are often used for the other purpose.

2.3.1.4 Soft urban spaces:

It includes recreational areas, parks and further inbuilt areas with primarily vegetated and porous surfaces.

2.3.2 Streetscape elements:

The decorative and functional elements which are placed, erected, suspended or planted in the public urban spaces come under streetscape elements. They consist of public utilities and amenities. Visible elements of services infrastructure, traffic signals, street trees, lights and other horticulture elements, advertising sign public furniture, and decorations.

2.3.3 Heritage Conservation:

The General Conference of UNESCO in 1972 noted that the cultural heritage and the natural heritage are increasingly threatened with destruction not only by the traditional causes of decay, but also by changing social and economic conditions which aggravate the situation with even more formidable phenomena of damage or destruction.

[10] http://www.scribd.com/doc/56700627/Streets-Cape-Design-Guidelines

The main aim of heritage conservation is to make sure that the cultural importance of that place is reserved for the generations to come. In other words "conservation means all the process of to upkeep places so as to retain the cultural importance. It generally includes the maintenance. It could also include preservation, restoration, adaptation and reconstruction. It can also be used in combination of more than one of the above"

Hence conservation doesn't necessarily mean that the place should be kept as it is without allowing the change. With the time buildings and places need to change and adapt different circumstances and needs of the user or occupier.

2.4 BY LAWS- DCR (DEVELOPMENT CONTROL RULES) NAGPUR.

MINIMUM PLOT AREAS FOR VARIOUS USES

Sr. No.	Land Use	Plot area	Type of Development
(1)	(2)	(3)	(4)
1.	Residential and Commercial (except those in 2,3 & 4 below.)	(i) 50 and above but upto 125 sq. m. width between 4.5 to 8 m.	Row
		(ii) 125 & above but less than 250 width 8 to 12 m.	Row/Semidetached
		(iii) 250 & above with width above 12 m., with no dimension less than 12 m.	Semidetached/ Detached
2.	Plots in public housing / High density Housing / Sites and Services I Slum up gradation / reconstruction scheme	20 with minimum width of 3.6 m. or the size as prescribed by Govt. from time to time	Row
3.	Petrol Filling station-		
	(a) Without service bay	545 (with one dimension not less than 16.75 m.)	Detached.
	(b) With service bay	1100 (with one dimension not less than 30.5 m.)	Detached.
4.	Cinema theatre assembly hall	3 sq. m., per seat including parking requirements	
5.	Mangal Karyalaya	1000	Detached.
6.	4 and 5 star Hotel in independent plot	2500	Detached.
7.	3 Star Hotel when in independent plot	1000	Detached.
8.	Industrial	300 (with width not less than 15 m.)	Detached.

Development Control Regulations 2000 25

Table 1 Minimum plot area for various uses

2.4.1 Road width and height:

	Road Width		Maximum Permissible Height
	1		2
1.	Upto 6 m .	..	1.5 times width of the road+front marginal open speace within the premises.
2.	6 m. to 10 m.	..	10 m.+ front marginal distance within the premises.
3.	Other roads above 10 m.		Sum of the width of the road + front marginal distance.

Table 2 Road width and permissible height

2.4.2 FAR:

RESIDENTIAL:

Floors Space Index.

*(a) The permissible FAR for plots upto 1000 sq. mt. area shall be 1.00 and more than 1000 sq. mt. area 1.25 for purely residential and also mix residential and commercial or other use.

Provided further that in the redevelopment scheme of a property in congested area.

(I) The, size .of the tenements in redevelopment scheme should not be smaller than 15 sq. mt. and larger than 55 sq. mt. in area.

*(II) Where the No. of existing tenements exceeds the permissible density of 250 tenements per Ha., the development scheme should accommodate all the existing tenements, as far as possible subject to condition the proposed FSI does not exceeds 25% above the permissible FSI of 1.00

*(III) Where the existing tenement density is less than 250 tenements per Ha., the redevelopment scheme may accommodate the No. of tenements so that the FSI exceed 1.00 and the tenement density does not exceed 250 per Ha.

Table 3 FAR for congested area

2.4.3 Setbacks for congested area:

*(b) Front Open Spaces - The minimum set back from the existing or proposed road shall be as under:-

(i) For streets 7.5 to 12 m. in width - 2.00 m.

(ii) For streets. 12 m & above in width - 3.00 m.

(iii) Side & rear open spaces shall be as below.:

*	Resi. Plot Area	Sides	Rear
	Below 180 sq. mt.	1.00 m.	1.00 m.
	Above 180 & below 270 sq. mt.	2.00 m.	2.00 m.
	Above 270 sq. mt.	3.00 m.	3.00 m.

For common wall construction depth or/ and width shall not be more than 8 mts.

Table 4 Setbacks for congested area

* (iv) for streets less than 7.5 mts. In width, no setback shall be prescribed subject to condition that no lane shall be less than 4.5 mts. in width clear of structural projection. For lanes less than 4.5 mt width a setback of 2.25 mt. shall be prescribed from the centre line of such lane. Streets less than 4.5 mt shall be treated as lanes only. When they served as access to the properties fronting on them. Where the

2.5 WHAT MAKES A PLACE SUCCESSFUL?

Great public spaces are those spaces where social and economical exchanges takes place, the cultures are mixed, celebrations are held friends run to each other. They act as front porches of our buildings, neighbourhoods and schools & libraries, where one can interact with each other. These spaces provide a stage for our public lives.[11]

After evaluating many public spaces all over the world, it has been found that the successful places have 4 major qualities: they are accessible; people are busy in various activities; the space is comfortable and has a good image; and finally, it is sociable place; one place where people could meet each other and could talk to people when they come to visit. The PPS has observed and evolved the Place Diagram. It act as a tool which will help in judging any place, either it is good or awful.[12]

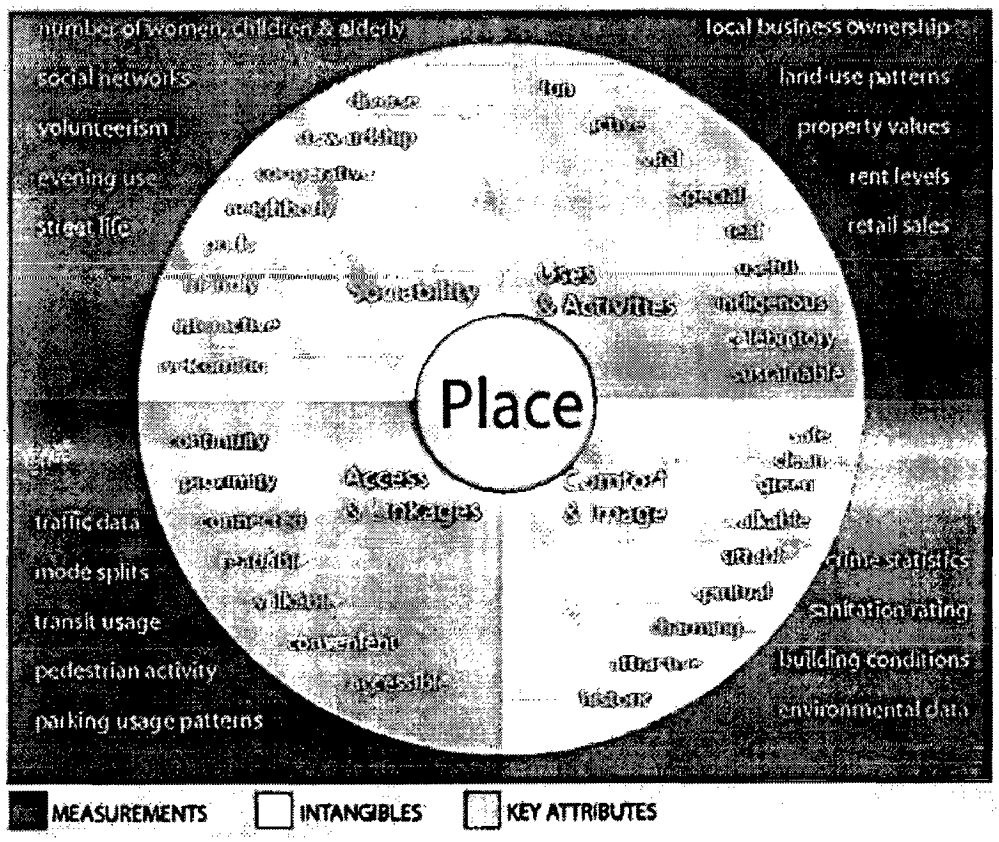


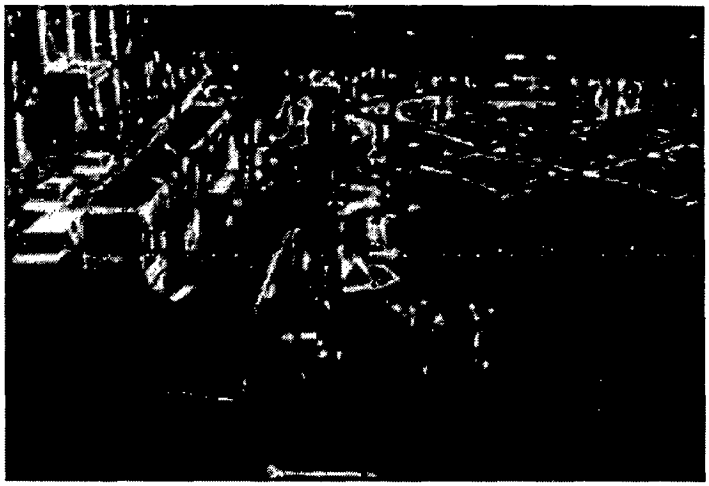
Figure 22 PPS Diagram

[11] housing, city planning and environmental management department, Streetscape design http://placemakingchicago.com/about/great.asp

[12] http://placemakingchicago.com/about/great.asp

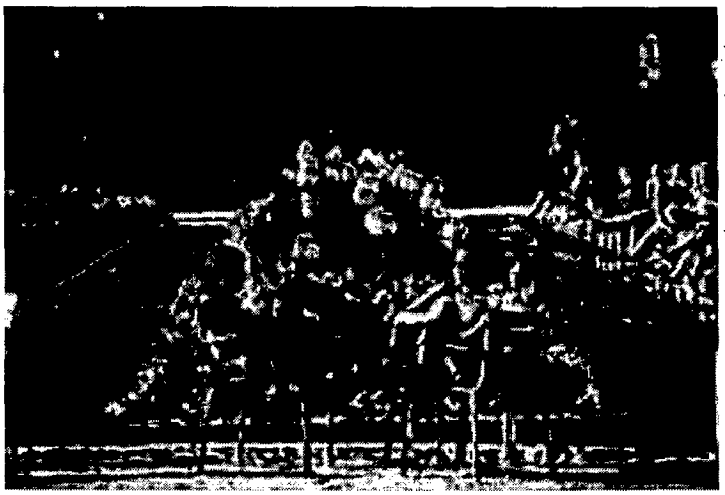
2.5.1 Access & Linkages

A successful public space is very easy to get through; it is visible both from close and a distance. The space edges are important as well. For example, rather than walking by a blank wall or empty lot it is always interesting and generally safer to walk by a row of shops. Accessible spaces always have a high parking turnover and, ideally they are convenient to public transit.[13]



2.5.2 Comfort & Image

When the space is found comfortable and presentable it is the key ingredient of success. Perceptions about safety, cleanliness and space available to sit are included in comfort. The importance of giving people a choice to sit wherever they want is usually underestimated.



2.5.3 Uses & Activities

Activities play a very important role in public places. When people find reasons of doing something they come over the place again and again. If there is nothing to do, the space will always be empty and usually implies that there is something wrong.

[13] Project for public spaces [online]http://www.pps.org/reference/strategies-for-place-based-development/

2.5.4 Sociability:

To achieve this feature of sociability is difficult to achieve, but once it is acquired it becomes the distinctive feature. When we see friends and family.\, meet our neighbors, and begin to feel comfortable then we tend to feel a strong sense of place or attachment to our community.

2.6 SUMMARY

The area has very old building with no elevation similarities, there are improper signage's, and lack of basic amenities thus it calls for Urban Redevelopment

The area is having its distinct architectural, cultural and political values and hence the conservation of this heritage is essential

Aesthetic factors such as scale and proportion are by no means the only considerations in street design; other factors may of necessity be of greater significance.

One such practical consideration conditioning street form is **climate.**

If the building bye laws are followed properly then most of the problems like setbacks and street width can be maintained properly

For proper designing of the area there should be proper access, linkages, comfortable for the user, beautiful place image, defined uses and activities and socially viable.

CHAPTER 3. CASE STUDY

3.1 KUMORTULI – KOLKATA

3.1.1 Introduction

Kumortuli is a traditionally India's potters town in northern Kolkata. It does not only supply the clay idols of Hindu Gods and goddesses inside the Kolkata, but a number of Idols are exported. It is called as one of the seven wonders in Kolkata.

Kumortuli supplies sculptures to about 93 countries worldwide with the new names of the countries getting added every year. The demand is increasing from the East Eauropean and soviet Union countries, where religious ceremonies were banned previously.[14]

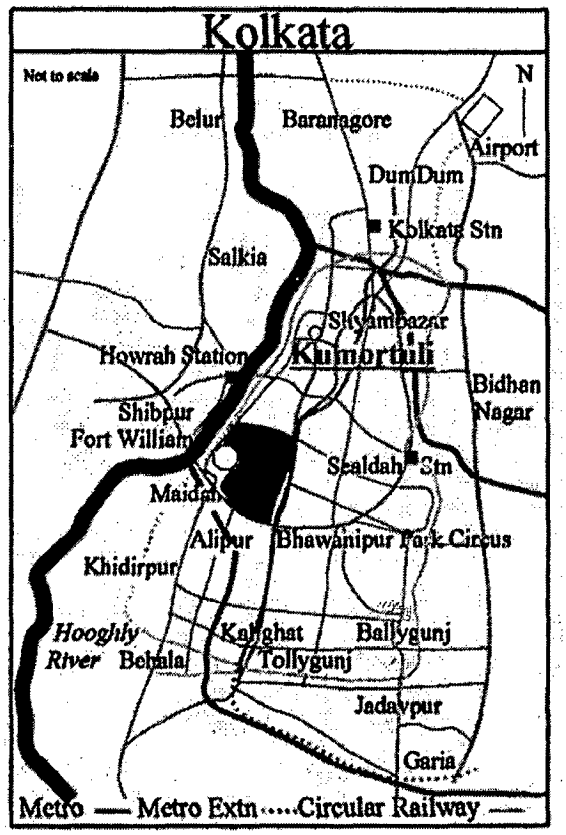


Figure 23 Map showing location of chitar oli

3.1.2 Location:

Kumortuli area is situated in ward no. 9 of KMC (Kolkata municipal Corporation), specifically between rabindra sarani and hoogly river. It is between Shobhabazar and Ahiritola. In this map Kumartuli is shown in between Bartala, Shyampur, Jorasanko, Jorabanganand Hoogly River.

3.1.3 Analysis of the area:

3.1.3.1 Authority:

This area comes under thika land. Earlier it was under Municipal Corporation but now the authority of this land is under KMDA (Kolkata Metropolitan Development Authority).

The owners in this area are structure owners not the land owners. But survey has shown that people wants land ownership.

There are also some conflicts between owners and tenants.

[14] Wikipedia, google.com (accessed feb 2012) http://en.wikipedia.org/wiki/Nanded

Development here is mixed use i.e. commercial as well as residential.

3.1.3.2 Site

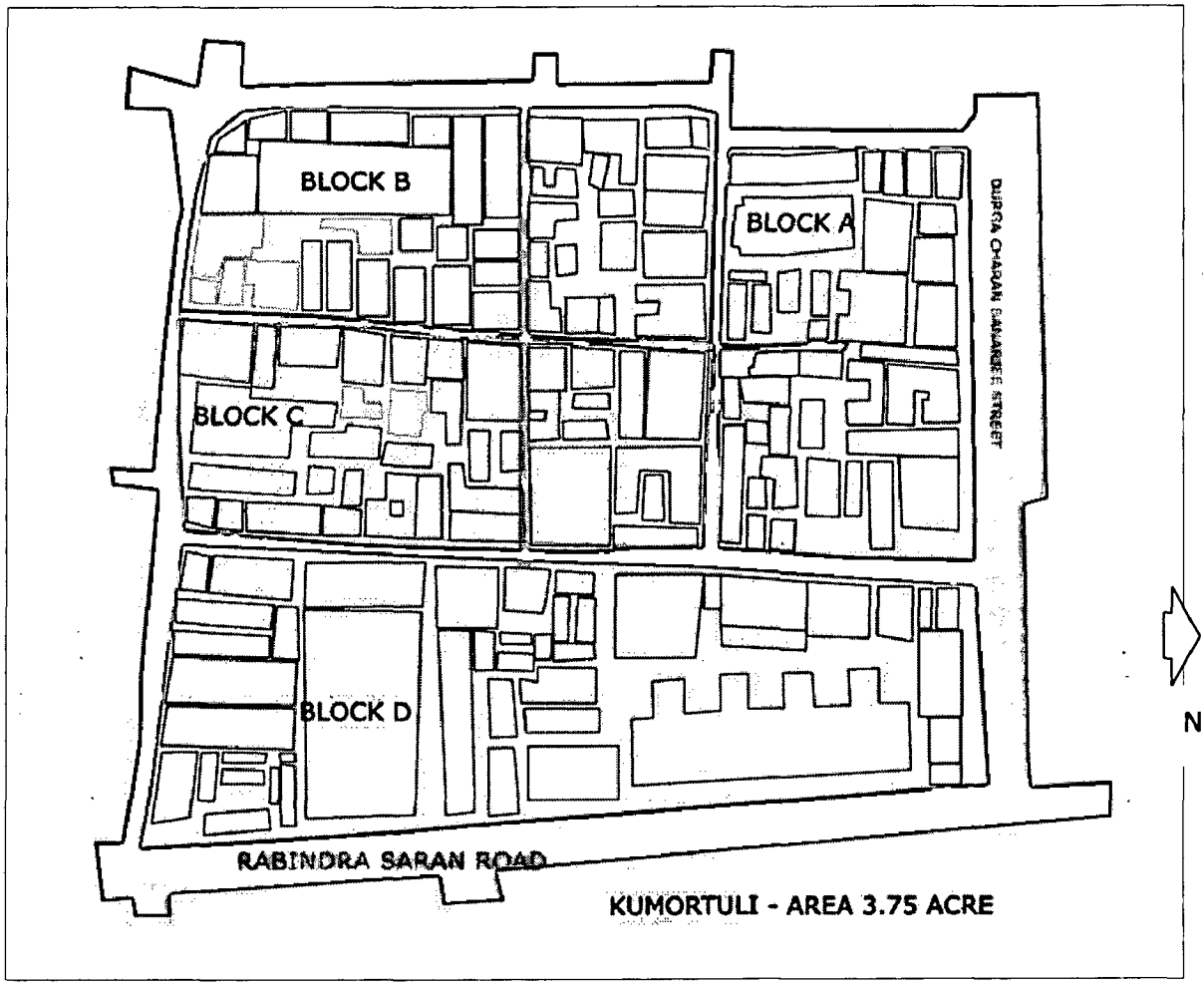


Table 5 Plan kumartuli, Kolkata

Area is 3.75 acres the road layout divides the site into 4 blocks Block A, B, C and D. Block D does not come under redevelopment scheme. The main access to the area is through the rabindrasaran road and durga charan banergee road. There are mixed used buildings. Some buildings are single storey structures while some are G+1 structures. The godowns are on the rear part of the area. There are many private residential buildings, temples, godowns which are under dispute and cannot be considered in redevelopment scheme. The activities are divided into 2 types: mritshilpi- sculpture making and solshilpi- decoration work. The survey done by the KMDA dept. Kolkata shows: (refer fig below)

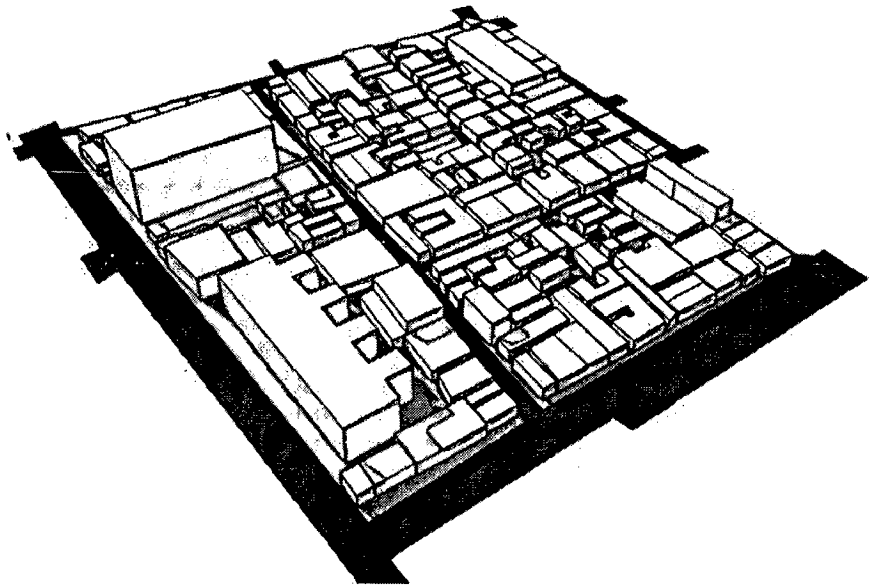


Figure 24 3D view of Existing Site

BLOCK	FAMILY UNIT	MRIT-SHILPI(A)	SOLASHILPI (B)	GODOWNS (C)	ESTABLISHMENTS (D)	TOTAL (A+B+C+D)
BLOCK A	171	26	9	8	15	58
BLOCK B	126	51	1	10	13	75
BLOCK C	147	66	20	7	4	97
BLOCK D	72	20	13	3	10	46
	516	163	43	28	42	276

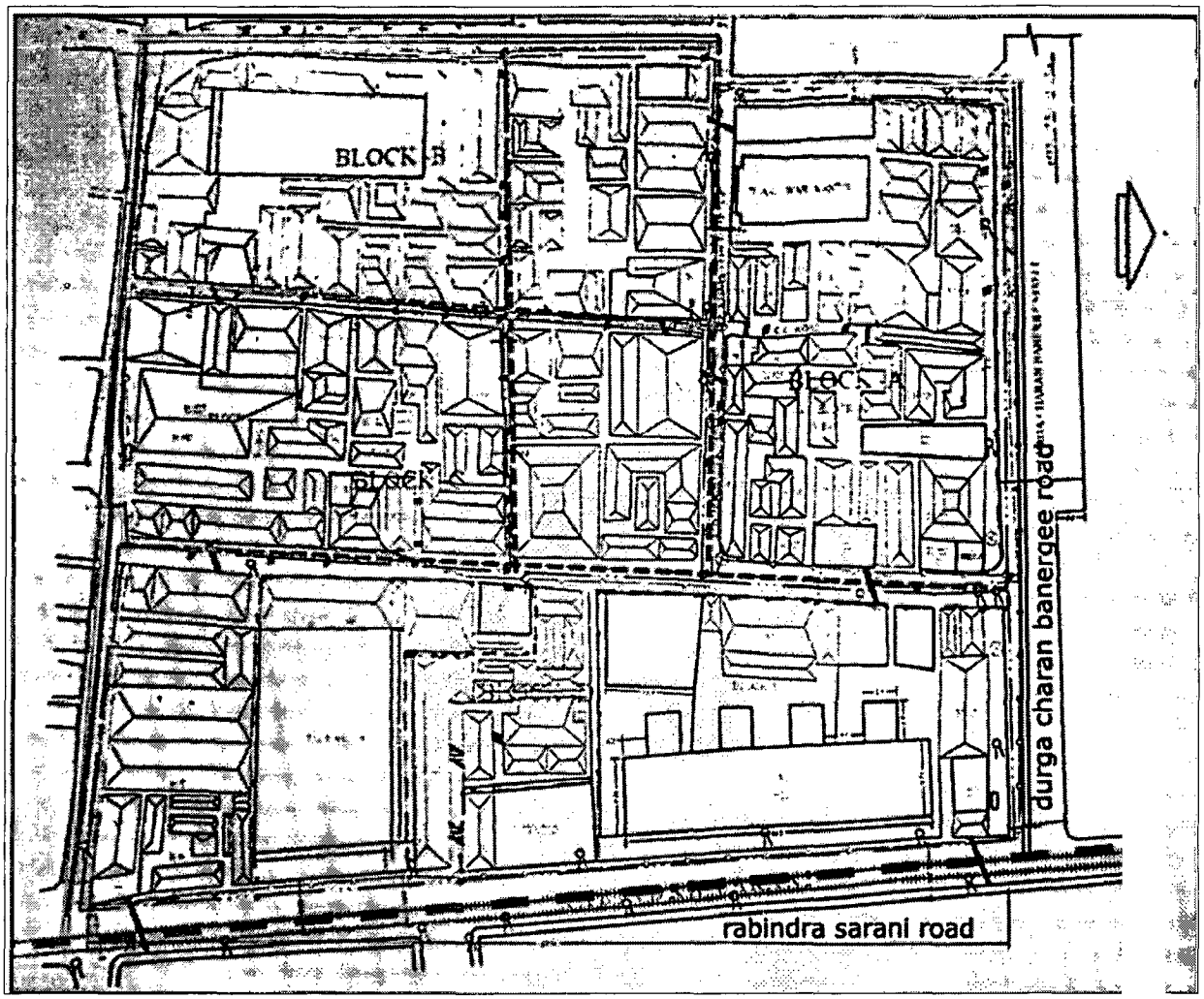
[15]

Figure 25 table showing no. of dwellings and family unit

3.1.3.3 Roads

The main roads approaching the site are "Rabindra Saran" road and "Durga Charan Banerjee" street of width 12m and 10 mm respectively. The internal roads are narrow having width of 3-4 m, while some roads are narrower than 3 m. These roads are also used as working space for making idols and occupy half of the road width leaving very less space for movement.

[15] Source: KMDA dept. Kolkata.



[16]

Figure 26 Road network in Kumartull

3.1.3.4 Buildings:

- Buildings in this area are in dilapidated condition as being 3 century old settlement. The material used for construction is wood, bamboo, straw, mud and bricks.
- For roofing thatch, bamboo, Mangalore tiles, asbestos panels or GI sheets are used.
- The structures are single floor except for temples and godowns.
- Most of the structures are temporary sheds which is used as living as well as working space.
- No typical architectural feature is followed.

[16] Source: KMDA dep, Kolkata

Majority of the buildings are single floor.

[17]Figure 27 building in kumartuli

3.1.3.5 Roof:

- Every structure in Kumortuli is having sloping roof except for residential complex which is on the rabindra saran road.
- Materials used for roofs are thatch, bamboo and GI sheets.

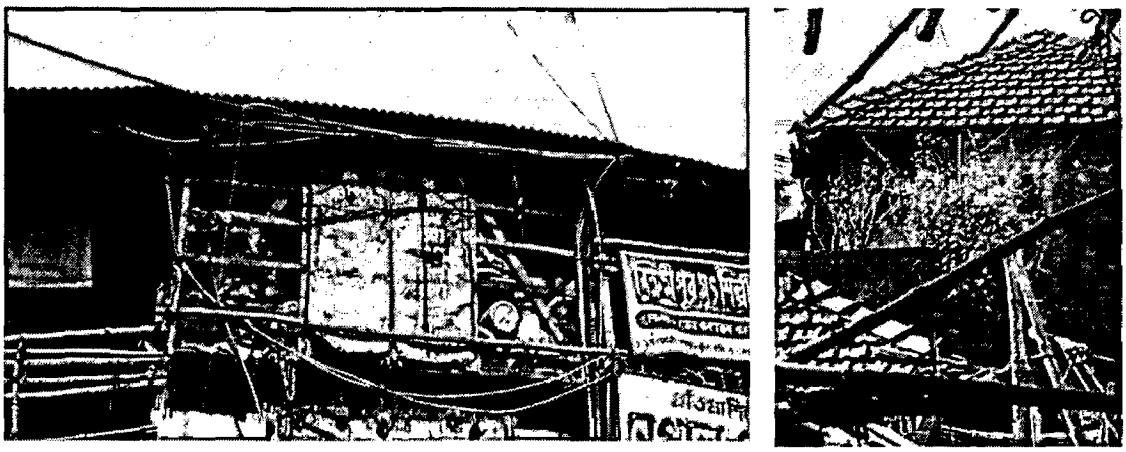


Figure 28 Roofing pattern

[17] Source: self clicked photographs.

3.1.3.6 Working space:

- No standard working area is followed.
- There are small as well as large working spaces.
- Roads are used as working space for making sculptures.
- The preparation process like mixing of clay, thatch, making base frames is done on the road side.
- Drying of sculptures is also done along the road.
- No separate working space. Living area is also used as working space.

Figure 29 Working space in kumartuli

3.1.4 Identification of the problem:

The activity pattern is same as the chitar oli. The space requirement depends upon the scale of the sculptures but the area is divided according to the present available space and available clear height. Following are the problems identified in kumortuli.

- There is no defined space for working and drying of sculptures.
- Building structures are in dilapidated condition.
- No proper space for movement.
- Absence of parking space.
- No open space present in the site.
- Absence of basic amenities.
- Unhygienic condition.

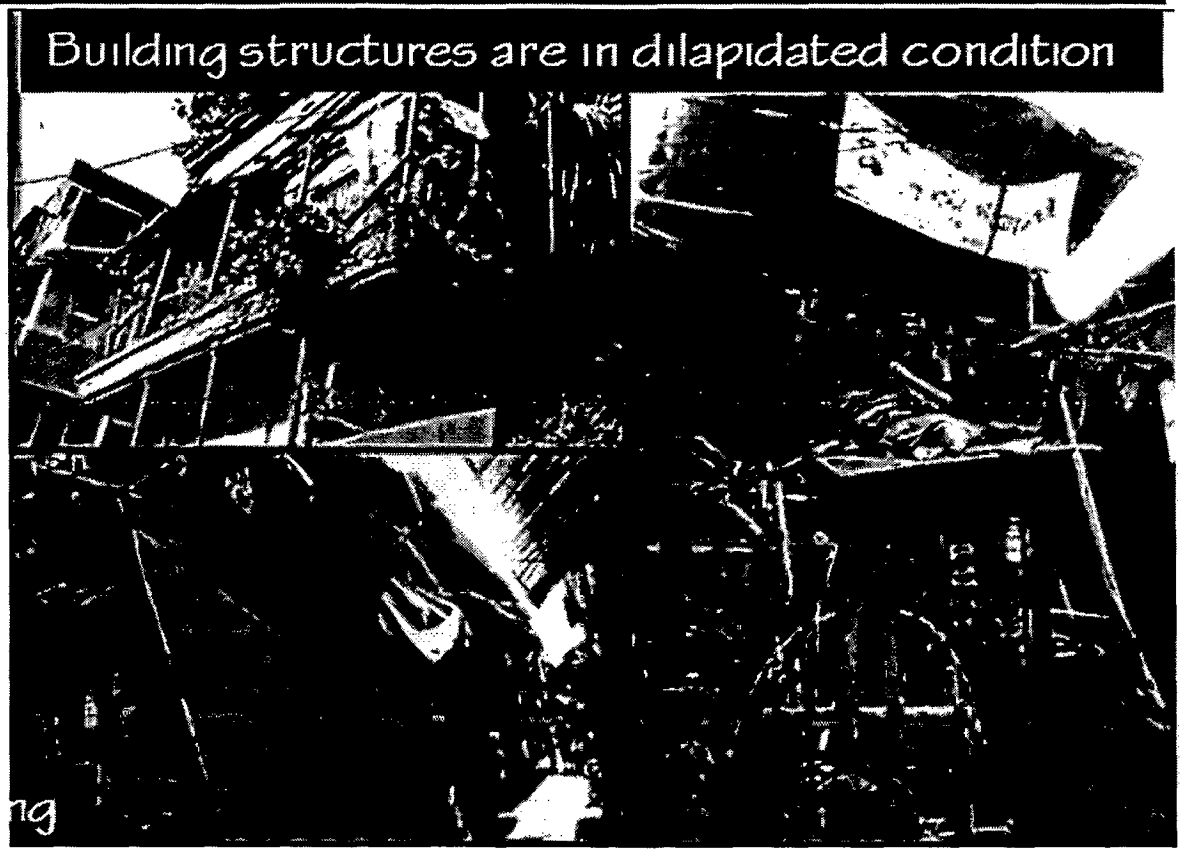


Figure 30 identification of the problem building condition

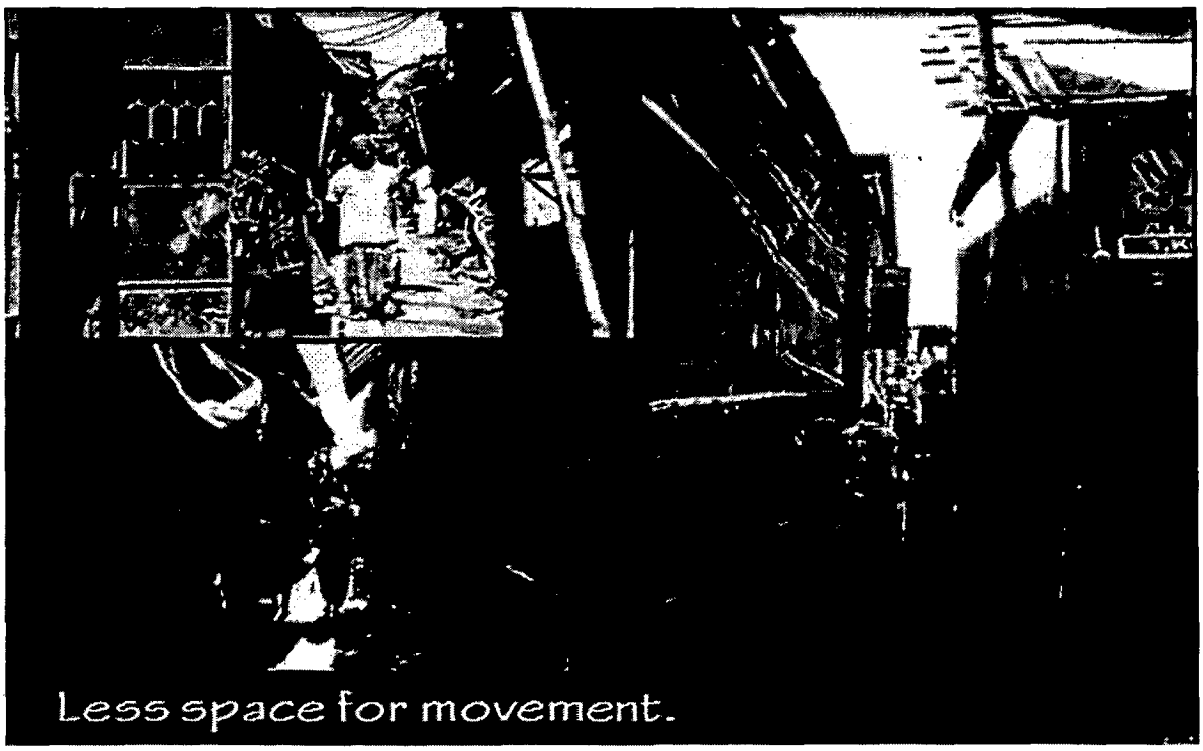


Figure 31 Working space problem

3.1.5 Proposed solution by KMDA:

- This redevelopment project comes under JNNURM.
- The redevelopment will be done in phases.
- Block D does not come under redevelopment scheme.

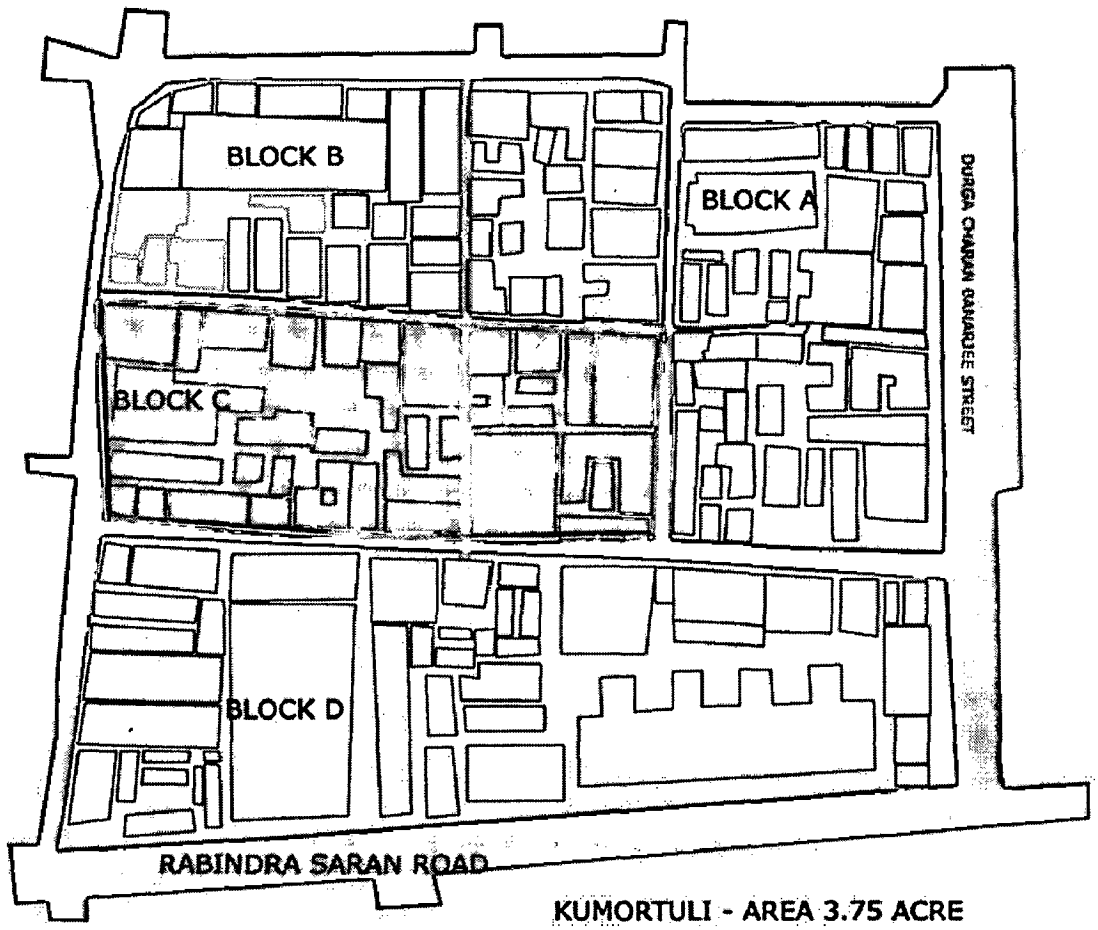


Figure 32 Plan showing proposed area on site

People staying in block C will be shifted to a rehabilitation centre making adaptive reuse of godowns. In rehabilitation centre g+2 structures is made with common toilets and also a common working space for sculptors.

PROPOSED FACILITIES ARE:

- Individual flats
- Work space for "mrit shilpi" and "sola shilpi"
- Space for godowns.
- Space for establishments.
- Health center
- Training center
- Exhibition cum sale area
- Seminar hall
- Park
- Stage with community hall
- Dormitory
- International standard toilet
- Pay and use toilet
- CESE transformers
- Parking for hand-carts and rickshaws
- 7m wide road
- Street lights
- Drainage system
- Pavements and landscaping
- Garbage bins

3.1.5.1 Plan

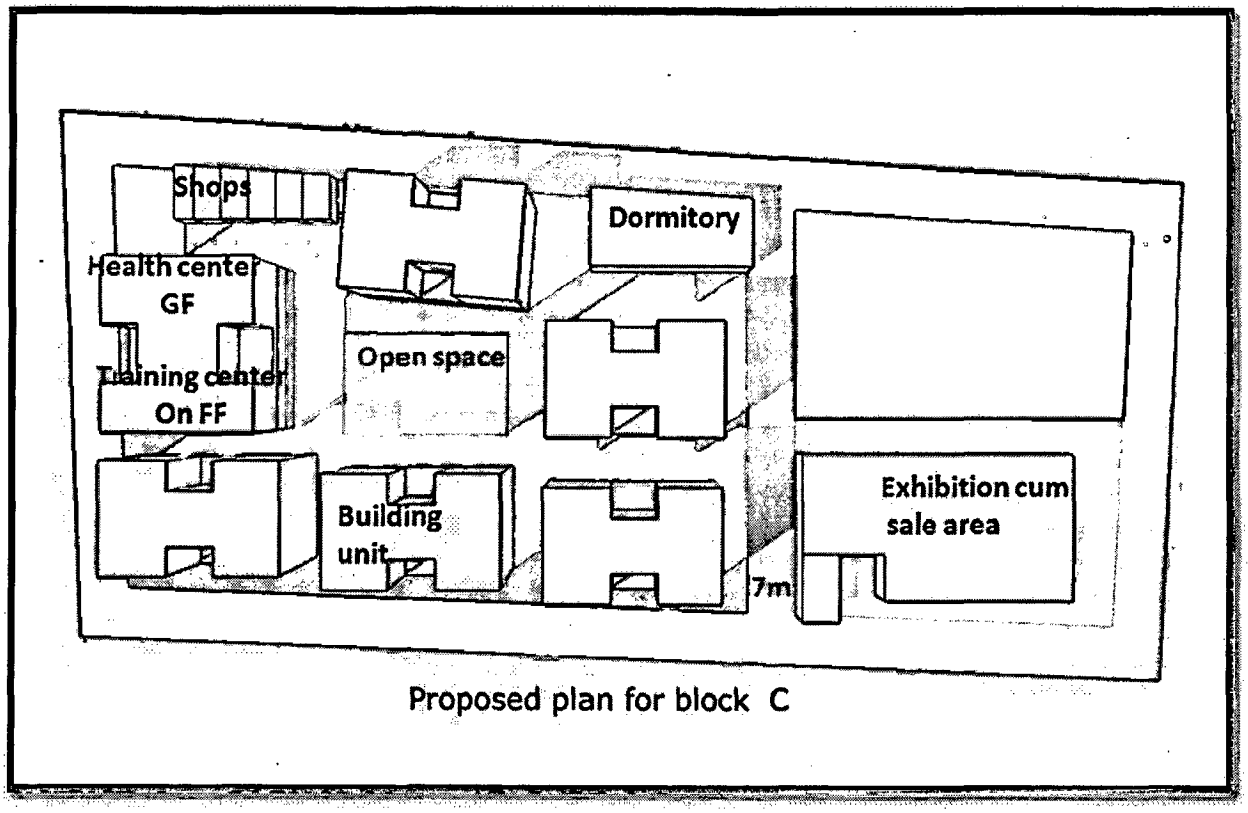


Figure 33 Proposed plan of block C

The above plan shows the arrangement of the cluster and the facilities provided in the block:

- Building units
- Health centre
- Training centre
- Dormitory
- Exhibition cum sale area
- Open space
- Shops (tea shops, daily need shops)

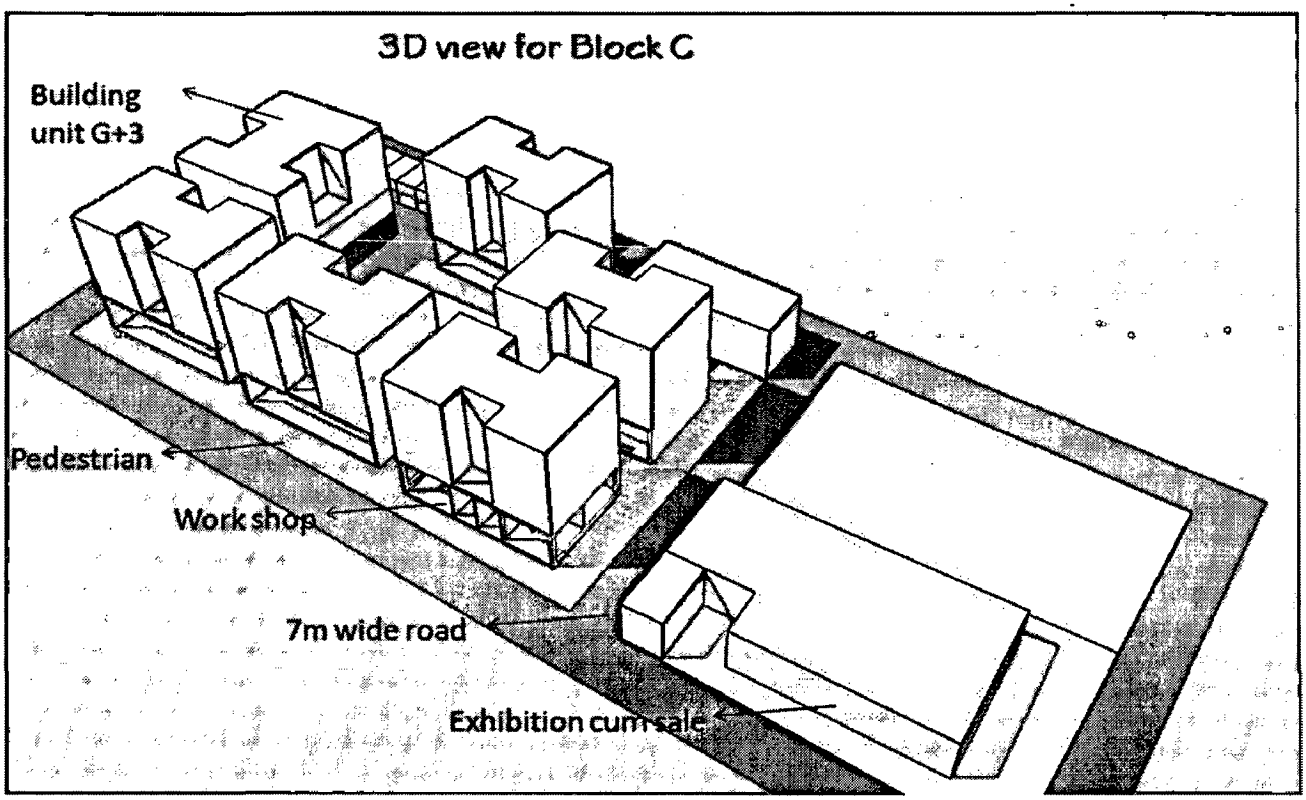


Figure 34 3D view of Block C

3.1.5.2 Typical Building block:

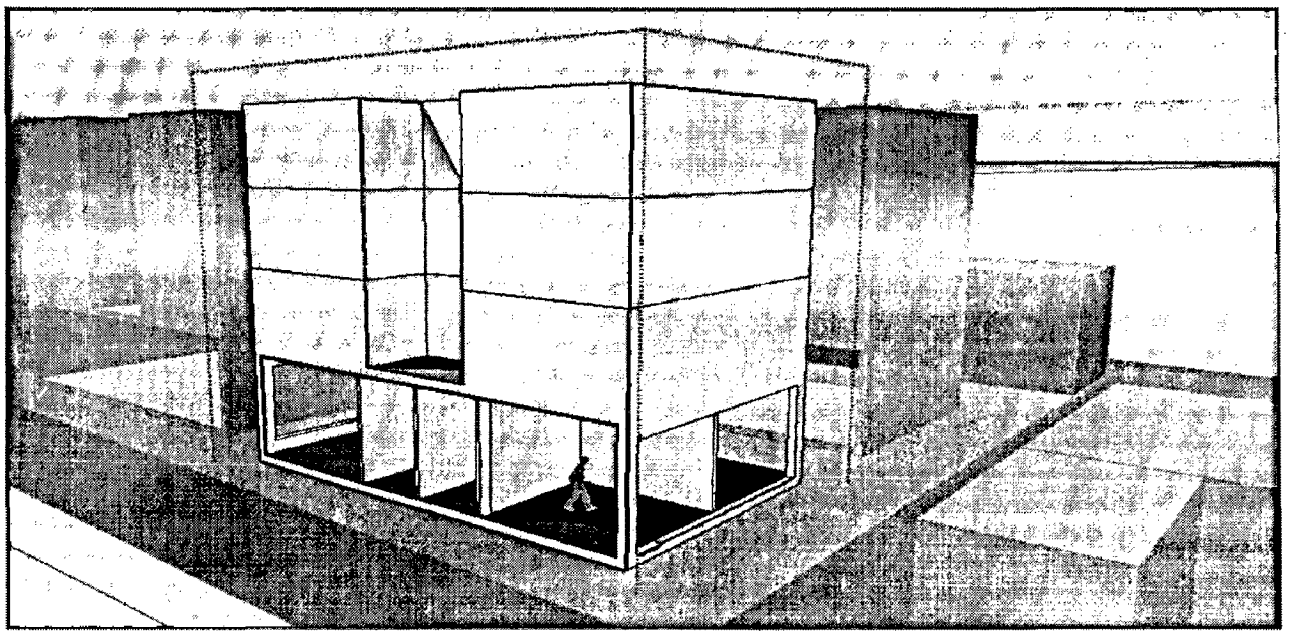


Figure 35 Single building block

- Typical building block consists of G+ 4 structures.
- Working space on ground floor

- Clear height is 4.5 m.
- Residence/ flats on upper floors.
- Each block consists of 12 units.
- Clear height 3m.
- There is no standard followed for working space. Different space provided for every individual.
- Structure is R.C.C.
- Terrace is provided on first floor for drying of small sculptures.
- Setback from road is 3-4 m. allowing the space to be used for drying of sculptures.
- Distance between two blocks is minimum 3-4 m.

3.1.5.3 Merits and demerits:

3.1.5.3.1 Merits:

- The redevelopment will provide a definite work space which will help in solving the problem of congestion.
- Better infrastructure will improve the standard of living and hygienic environment.

3.1.5.3.2 Demerits:

- No standards are followed for working spaces.
- Parking space is not provided for residence.

3.1.6 Summary:

From above case study it is observed that working space has given preference while planning as it is the only means of livelihood for the community. Dormitory is designed considering the workers, who come for shorter duration. Considering the tourist point of view an exhibition cum sale area is proposed which will not only raise their economy but will also provide a platform to the artists. The condition of the problem is similar to chitar oli but the redevelopment context is different.

3.2 NANDED, MAHARASHTRA:

3.2.1 Introduction:

In the Marathwada region of Maharashtra Nande is the 2nd largest city. It is famous for the the Hazur sahib Gurudwara. It is important holy place for the Sikh faith. This famous gurudwara has recently celebrated the 300 yrs in 2008. This gurudwara is the replica of the golden temple of Amritsar. It was once famous as the district of Sanskrit poets. Nanded is a town of great antiquity and famous for its Muslim Sufi shrines.[18]

3.2.2 Location:

Nanded is situated in the eastern part of the state of Maharashtra. The physical boundary is adjacent to two other states i.e. Andhra Pradesh and Karnataka. The city is located on the northern bank of the river Godavari (figure 32). It flows through the city. The Ghats and temples have made it one of the holiest places for Hindus.

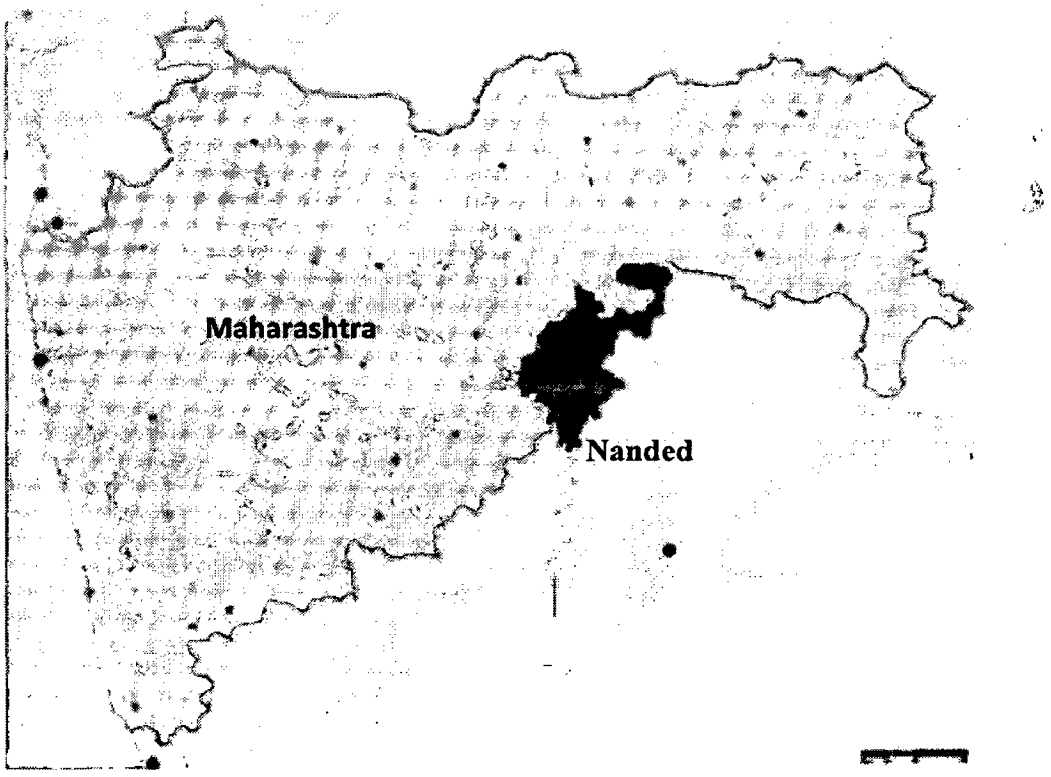
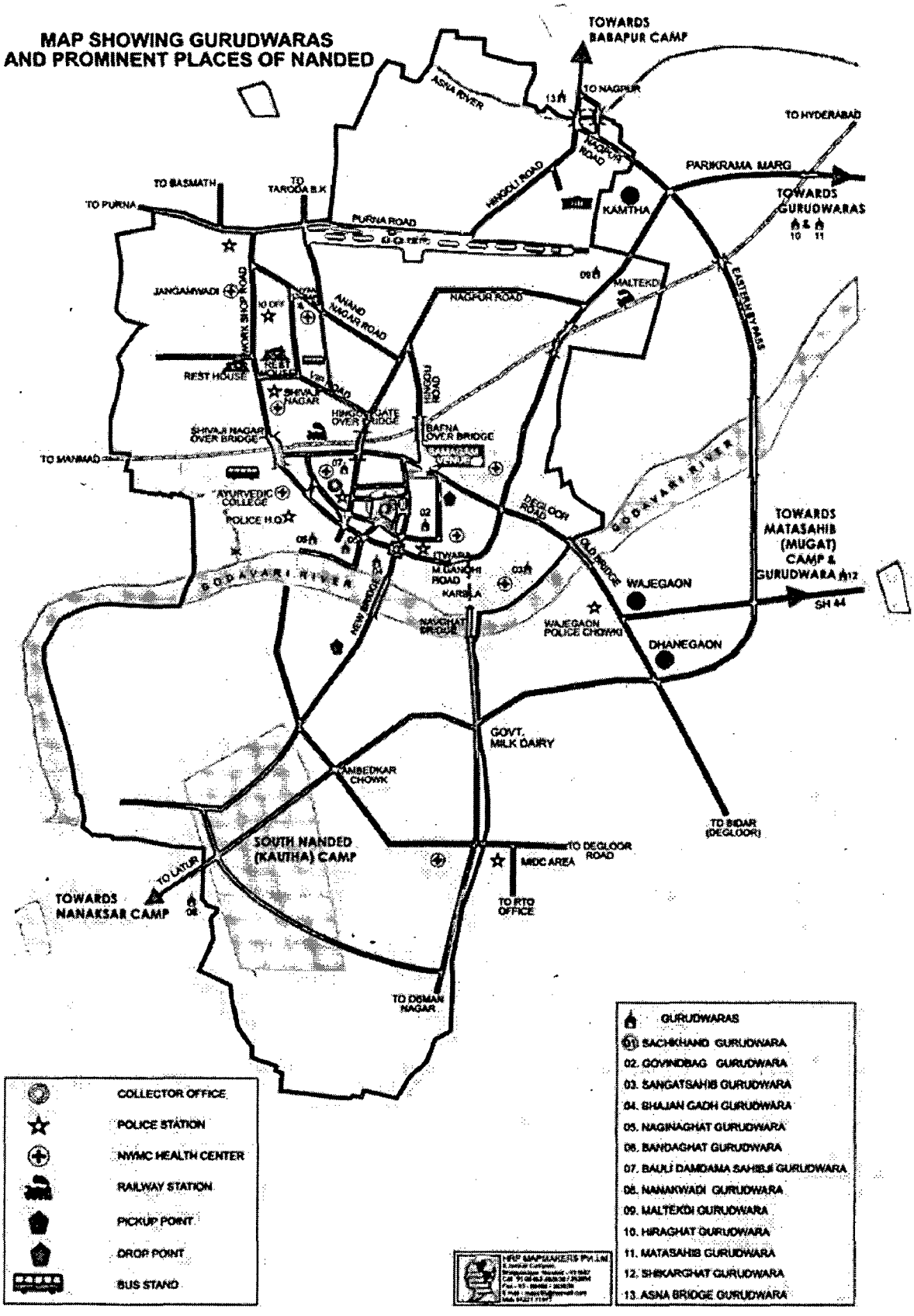


Figure 36 map showing location of Nanded

[18] http://en.wikipedia.org/wiki/Nanded)

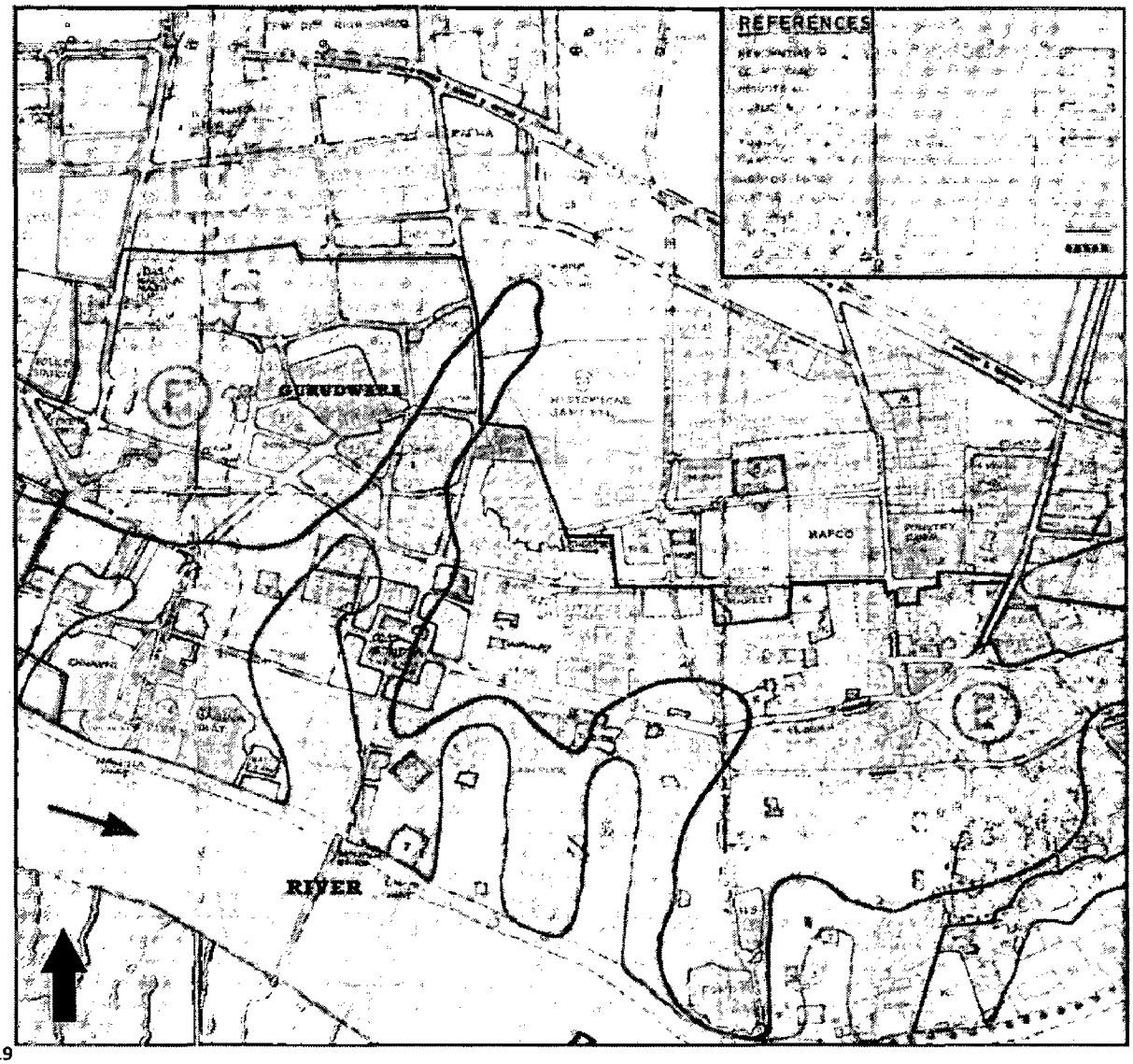


Map 1 Important places and Gurudwara in Nanded

3.2.3 Analysis of the area:

3.2.3.1 Site:

The project area is near the Sachkhand Gurudwara. The following map shows the land use plan of the area. The total length of the area near Gurudwara to be redeveloped

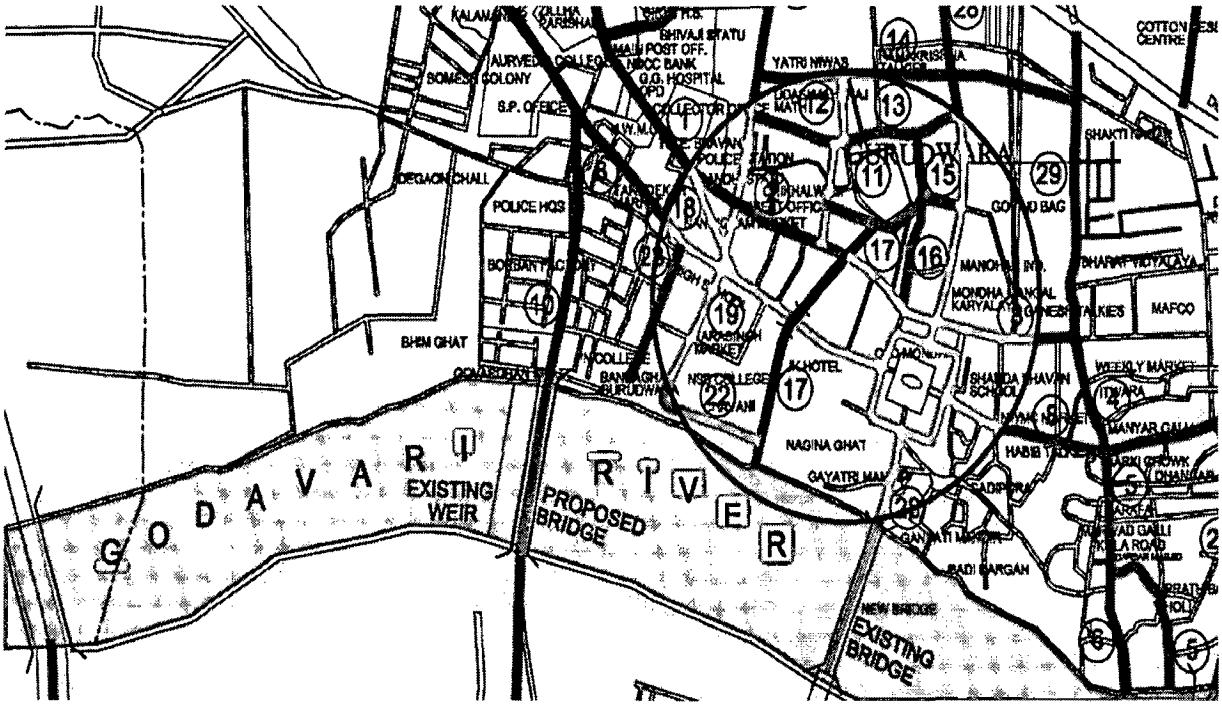


[19]

Map 2 Land use map of area near Gurudwara, Nanded

The above map shows the area surrounding the Gurudwara is residential area. The area is congested. There is only one main road leading to Gurudwara, the other roads are narrow.

[19] Nanded gazetteer.



Map 3 Site area near Gurudwara

LEGEND:

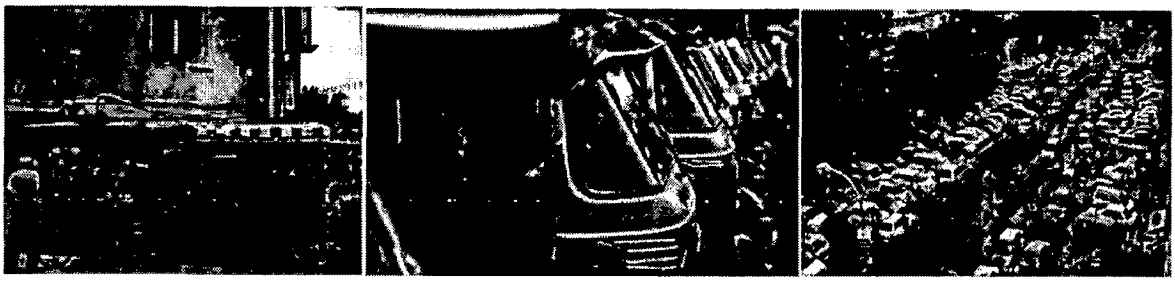
15M D.P. WIDTH	———
18M D.P. WIDTH	———
20M D.P. WIDTH	———
24M D.P. WIDTH	———
30M D.P. WIDTH	———
PROJECT ROB/BRIDGE	][

3.2.4 Identification of the problem:

Streets near Gurudwara are narrow. Thousands of pilgrimage arrives in Nanded every day.due to which the streets are congested.

Figure 37 Congested street near Gurudwara

A larger percentage of road space was taken by hawkers, public vehicles, (auto rickshaws) and private vehicles.



- There was no parking space.
- No road side amenities.
- No foot path or sidewalks

Figure 38 Absence of footpath on streets

Figure 40 Slums of nanded near gurudwara

Figure 39 Narrow streets near gurudwara

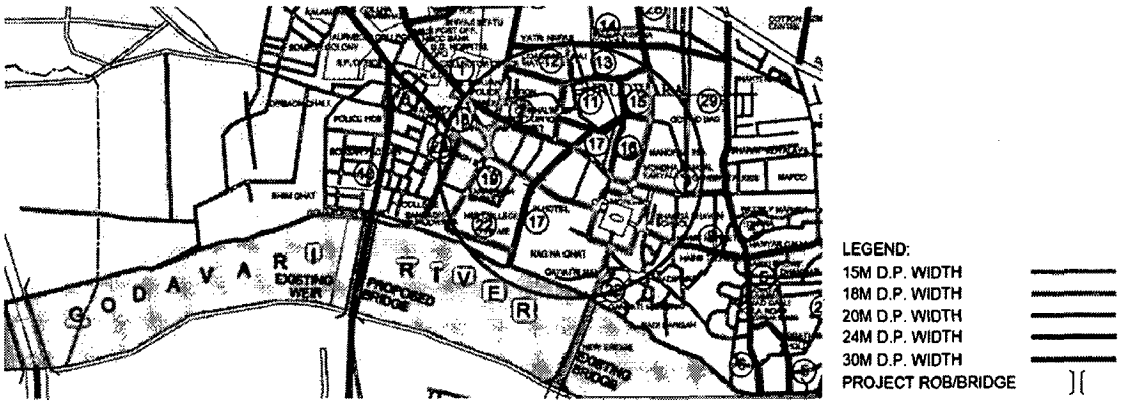
3.2.5 Proposed solution:

This project comes under JNNURM.

The road design principles were:

- Equal allocation of road space for all users with priority to pedestrian access, safety and environment.
- Segregation of slow and fast moving traffic by developing NMV(non motorized vehicle)
- Proper placement of service utilities along the road in multiutility zone.

Concept: **Every individual has the equal right on the street.**



Proposed Street Section – Pedestrian Street around Sachkhand Gurudwara 15m(green in color).

Right of Way: Pedestrian Street with NMV Lane on 1 Side

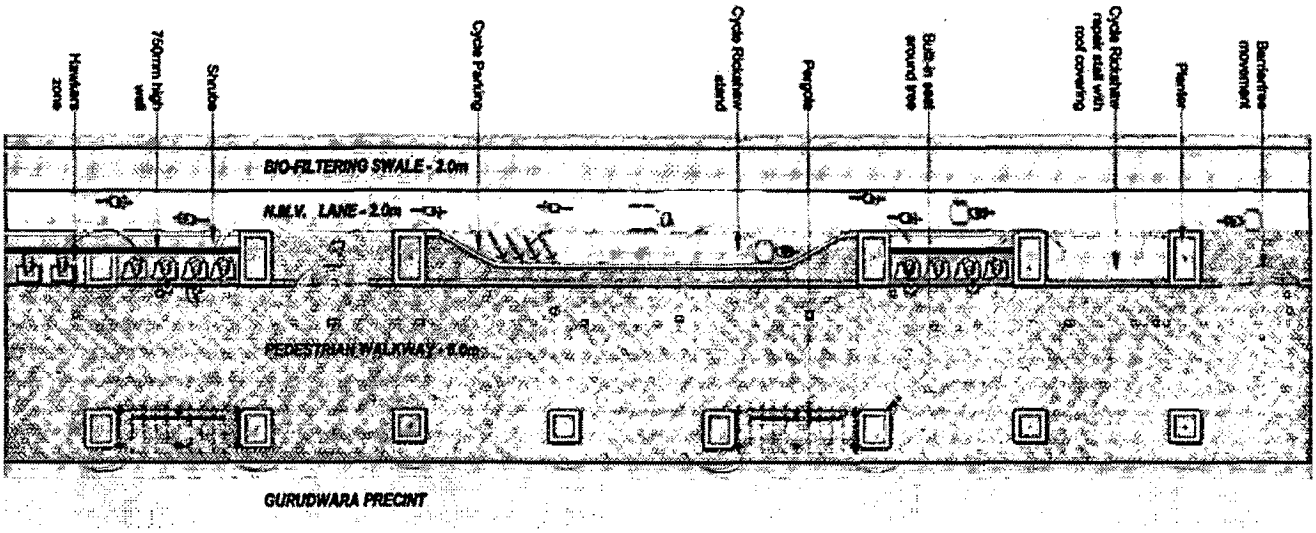


Figure 41 Proposed pedestrian streets near gurudwara

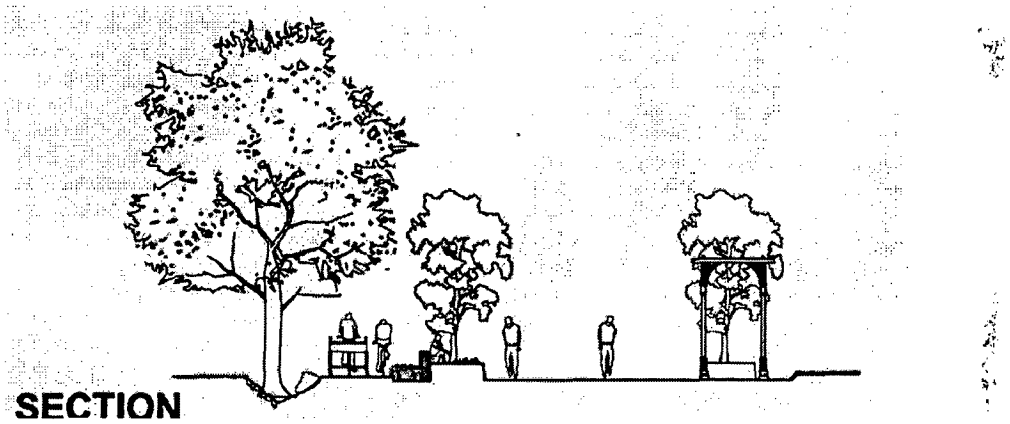


Figure 42 Section through the pedestrian road

3.2.5.1 Proposed components of design:

- *Raised platform for Hawkers*
- *Cycle Rickshaw Stand*
- *Cycle Parking*
- *Dedicated Cycle Rickshaw repair stall*
- *Built-in seat around trees*
- *Pergolas for shade*
- *Cycle Rickshaw Stand*

Road No: 11, 12 ,13, 15, 16
Location: Around Sachkhand Gurudwara
Total Length: 2.38 Km.

Road no. 17 is an important street as it connects the Ghats and the Gurudwara. It was a residential street but due to the increasing tourist's population, people started opening shops on the ground floor and converted into Commercial Street. This changed the land use plan near Gurudwara. The dwellings along the road were listed under mixed land use. The street became congested due to the activity of shopping and slowly hawkers started encroaching the road space. Parked vehicles also occupied the street leaving small space for movement.

Considering the importance of the street, redevelopment proposal for road no. 17 was made under the JNNURM project along with the other roads.

Proposals:[20]

- It was proposed that the entire street would be made pedestrian blocking the motorized vehicle.
- Widening of the street.
- Sidewalks
- Raised platforms for hawkers
- Street lighting
- Street furniture like benches, dust bins, Pergolas for shade, poles for advertising etc.
- Cycle parking
- Cycle rickshaw stand

Process:

- Survey for understanding the existing condition of the streets.
- Identifying the buildings which acquired the road space.
- Traffic survey to understand the no. of vehicles passing through the streets.
- Design process considering the locality and the use of the street.
- Demolishing the encroaching dwellings and widening the road.
- Construction of the street, pavements, sidewalk, etc.

[20] JNNURM Department, Nanded.

- Special consideration for pedestrian, providing sidewalks by level difference.
- Plantation at regular intervals for shade along the street.
- Street furniture.

Following are the images showing condition before and after redevelopment of streets.

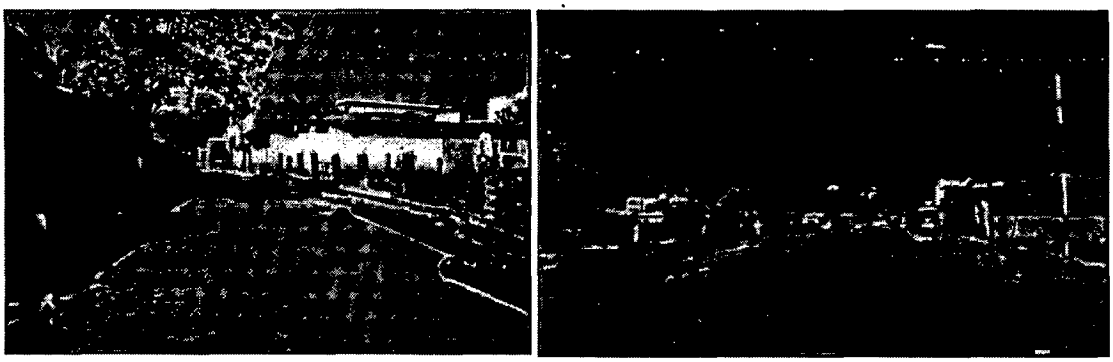


Figure 43 Road no. 16 road abutting Gurudwara

- This road was widen from 5 Mt. To 15 Mt.
- The yellow building is the reference.

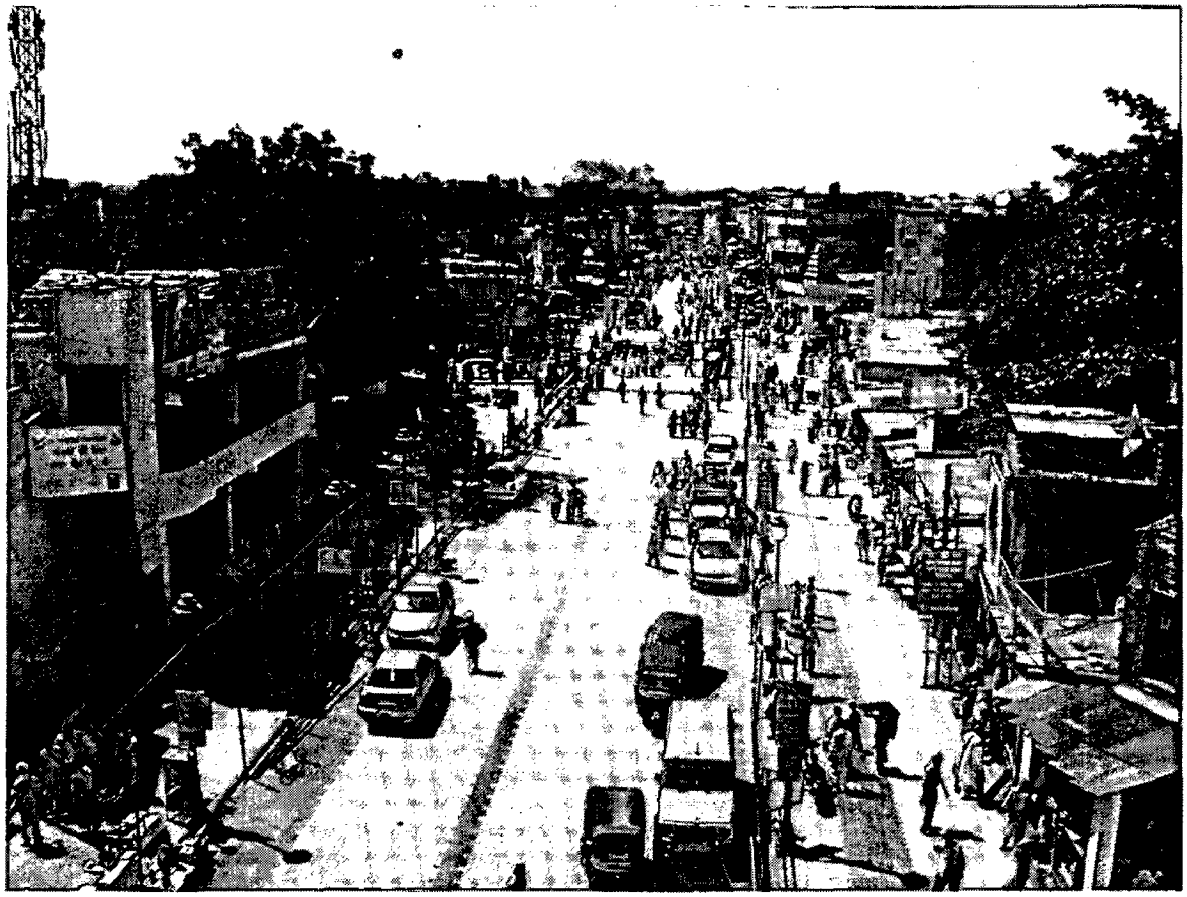


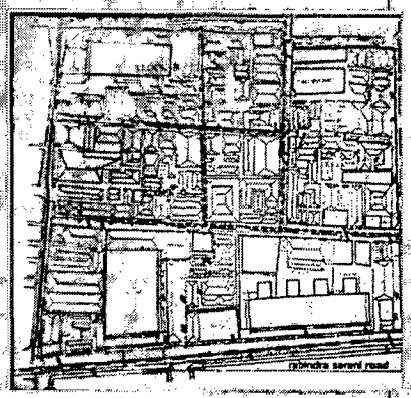
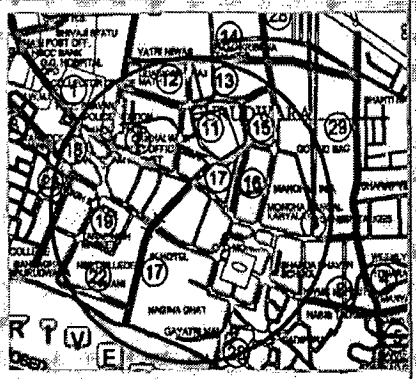
Figure 44 Road no. 17 connecting Gurudwara and ghat

- This road was widen from 10Mt. To 18 Mt.
- Maximum area for pedestrian and non motorized vehicles

3.2.6 Summary:

- Roads near Gurudwara were given special attention considering the use of the street.
- Most of the streets were made NMV lanes to encourage the pedestrian movement.
- The width of the sidewalk was increased to provide sufficient space for people engaged in shopping.
- Special pockets were created for spaces like sit outs, pergola, benches.
- Raised platforms for hawkers to avoid the encroachment on the roads.

3.3 COMPARATIVE ANALYSIS OF CASE STUDIES:

Parameters		Kumartuli	Nanded	Inferences
Site area		3.75 Acres	Length ~2.5 Km.	
User group		Artisan communal space mixed use- commercial and residential	Mixed – residential and commercial.	
Map				
Circulation	before	Streets in linear grid pattern. Narrow streets in internal area, wide streets on periphery.	Streets are in irregular pattern. Narrow streets around Gurudwar.	
	after	Streets are dividing area into blocks.		
Street width	before	Internal road width -3-4M Peripheral road 10-12 M	Internal road width 2-6 M Peripheral street- 10-12M	Road widening as an important part of redeveop ment

	after	Internal streets 6-9M No change in peripheral streets.	Internal streets 15-18M Main street 18-25M Internal streets near gurudwara – pedestrian.	Drastic change is observed in street widening
Open spaces and recreational spaces	before	Absence of open spaces. No community spaces	Historical garden present. Gurudwara nearby.	Open spaces are required in residential redevelopment
	after	Proposed open space between clusters	No proposal for open space. Redevelopment limited to streets.	
Massing of built and unbuilt areas	Before	Congested built spaces. No setbacks. No open spaces.	Narrow streets, congested area Proposals for streets not for built-up spaces.	Setbacks give the breathing space for buildings.
	after	Setbacks followed. Open spaces proposed.	While redevelopment streets were widen by demolishing the buildings.	
Amenities	before	Absence of amenities inside the area of kumartuli.	NA	Basic need and special requirements are important in redeveloping area for the betterment of people
	after	Proposed amenities like- health units, dormitory, exhibition cum sale area, daily needs shops.	NA	
Working area	Before	No specified area for working, No area for storage	NA	

	after	Working area specified. Storage area attached with the working area	NA	

Conclusions:

While redeveloping the area the analysis of the site is very important showing the positive and negative aspects of the site. These points will help in design process and understanding the site and its problems in a better way. Public participation is also important while designing, as the new ideas and best ideas comes from the user itself. For the sculptors or any other person engaged in commercial activity the working area is more important than the residential area. The pedestrian movement is equally important as it has the sense place. More urban spaces should be designed for interaction and gathering minimizing the traffic movement.

The context of the above studies is different as they have minimum relevance with the project site. But there are some parameters which are similar and can be helpful to understand the problem and can be followed to tackle the situation. In case of kumartuli the scale of the project is different but the conditions are similar. But the methodology used to redevelop the area is not feasible as they have demolished the entire area.

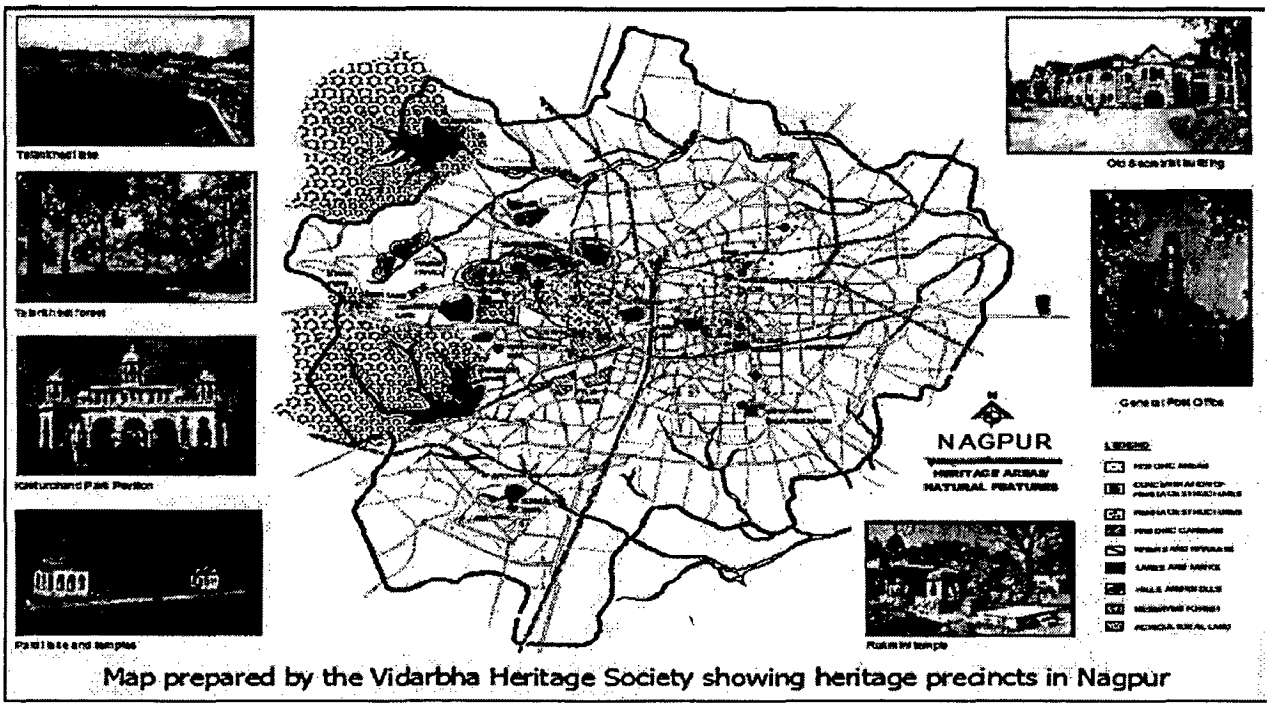
In case of Nanded the streets are made pedestrian to tackle the situation of congestion by considering the surrounding area, usage, and activity. The required area was demolished and pedestrian were given importance while designing the street. Though the activity and settlement pattern is different but this method is workable and can be helpful in making design proposals for chitar oli.

CHAPTER 4. PROJECT AREA: CHITAR OLI

4.1 CHITAR OLI:

4.1.1 Origin of the place:

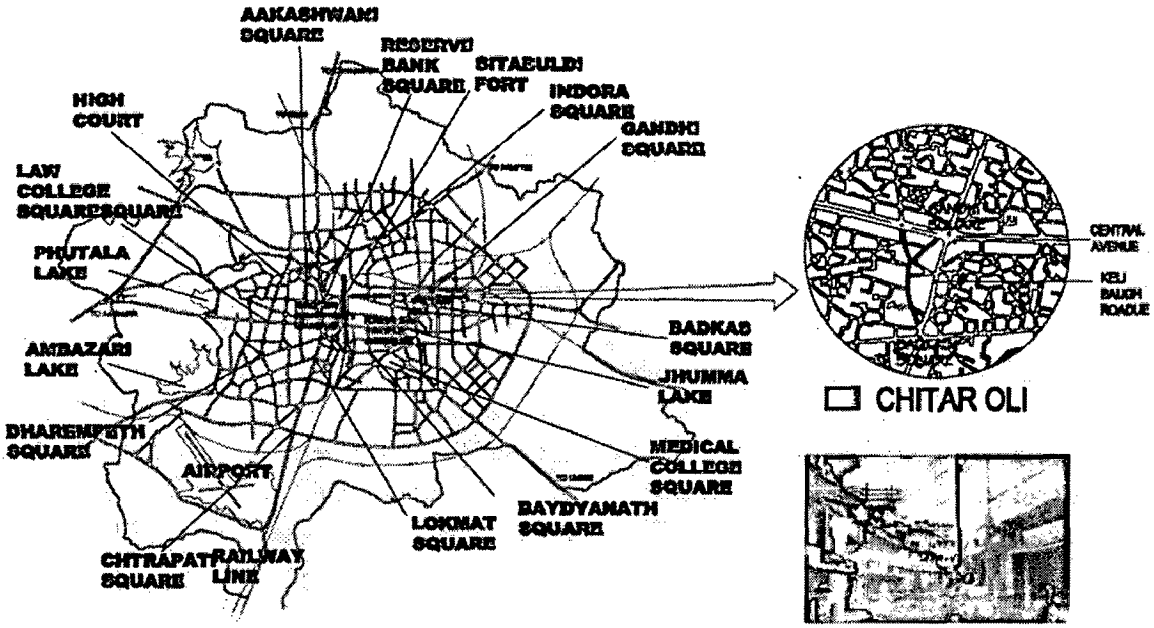
Gonds controlled the large area of Gond-Wana before Bhonsales took over in 1743. Bhonsales were Maratha warriors with close ties with western India. As such they established themselves at Nagpur at the western edge of their large kingdom. Golden period of Bhonsale regime was 1775 to 1800 during which, in a relatively short period, many prominent public works such as tanks & temples came into existence.



Map 4 Heritage precincts in Nagpur

4.1.2 Introduction to the area:

Chitar oli is situated in the central eastern part of Nagpur. The main access is through CA (Central Avenue) and Badkas square. This area was allotted to the artists during bhosala period centuries ago. Reasons for allocation: source of mud for murti making, the Nag River was located nearby. Lakkargang- wholesale wood market was also situated near.



Map 5 Location of chitar oli

4.2 ANALYSIS:

4.2.1 Analysis of the community activity:

This artisan community is situated here since three centuries. The main occupation here is making sculptures and paintings. The other commercial activities are also related to sculpture making.

The space required by the artists depends on the scale of the sculpture. Earlier the scale of the sculptures used to be small but with time and increasing demand the scale is increasing year by year. The size of the sculpture is increasing but the spaces are still the small. To cope up this problem artists are extending their working spaces on street by erecting temporary sheds. This reduces the right of way resulting in congestion in pedestrian as well as vehicular traffic.

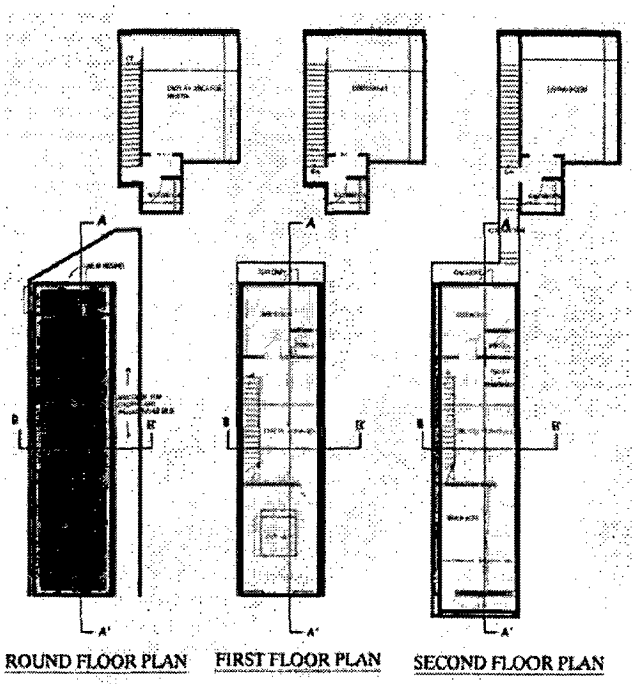
It is observed that about 1.5-2M of space is encroached in peak time by erecting temporary shed by artists. Following is the type of spaces required for making sculptures and paintings.

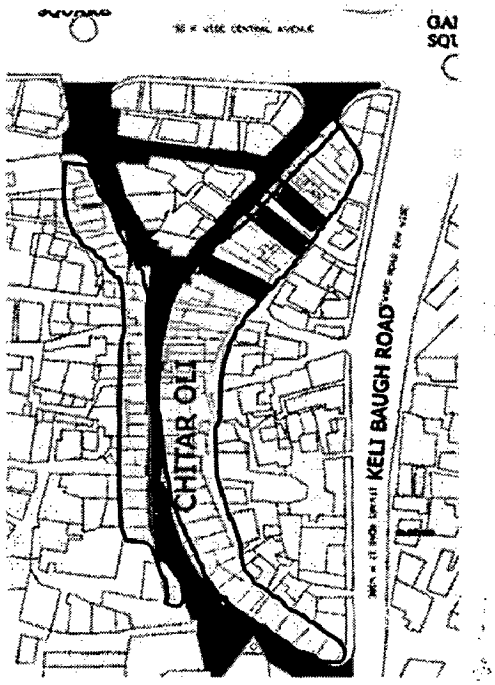
Working space: This space is divided into three types:

i. Mixing area: Mixing of mud, straw, water etc.

ii. Preparation area: Making base, molding, painting etc.

iii. Drying space: For drying of sculptures. This space is generally outside Working area.





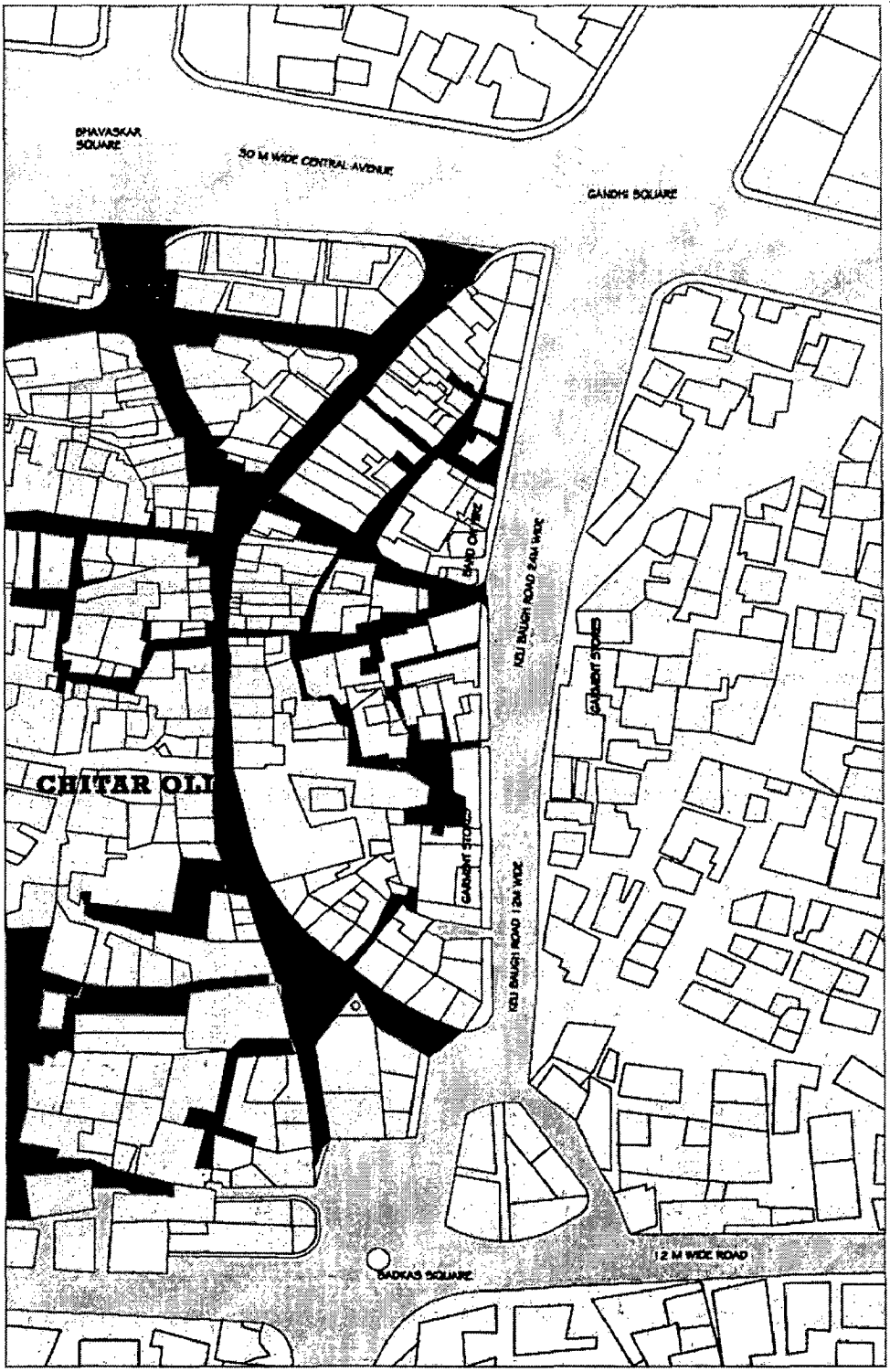
The main activity performed along the streets and lanes of this area is making sculptures and paintings. The area is very compact with no setbacks. The growth is unplanned and chaotic. Buildings share common walls on both sides. This is because earlier the family structure was large and so the houses. But with time their children got married and house got divided equally with the no. of offspring. That is why the typical planning of the dwelling is linear. The working area is on ground floor while residential on upper floors.

4.2.2 Analysis of existing environment:

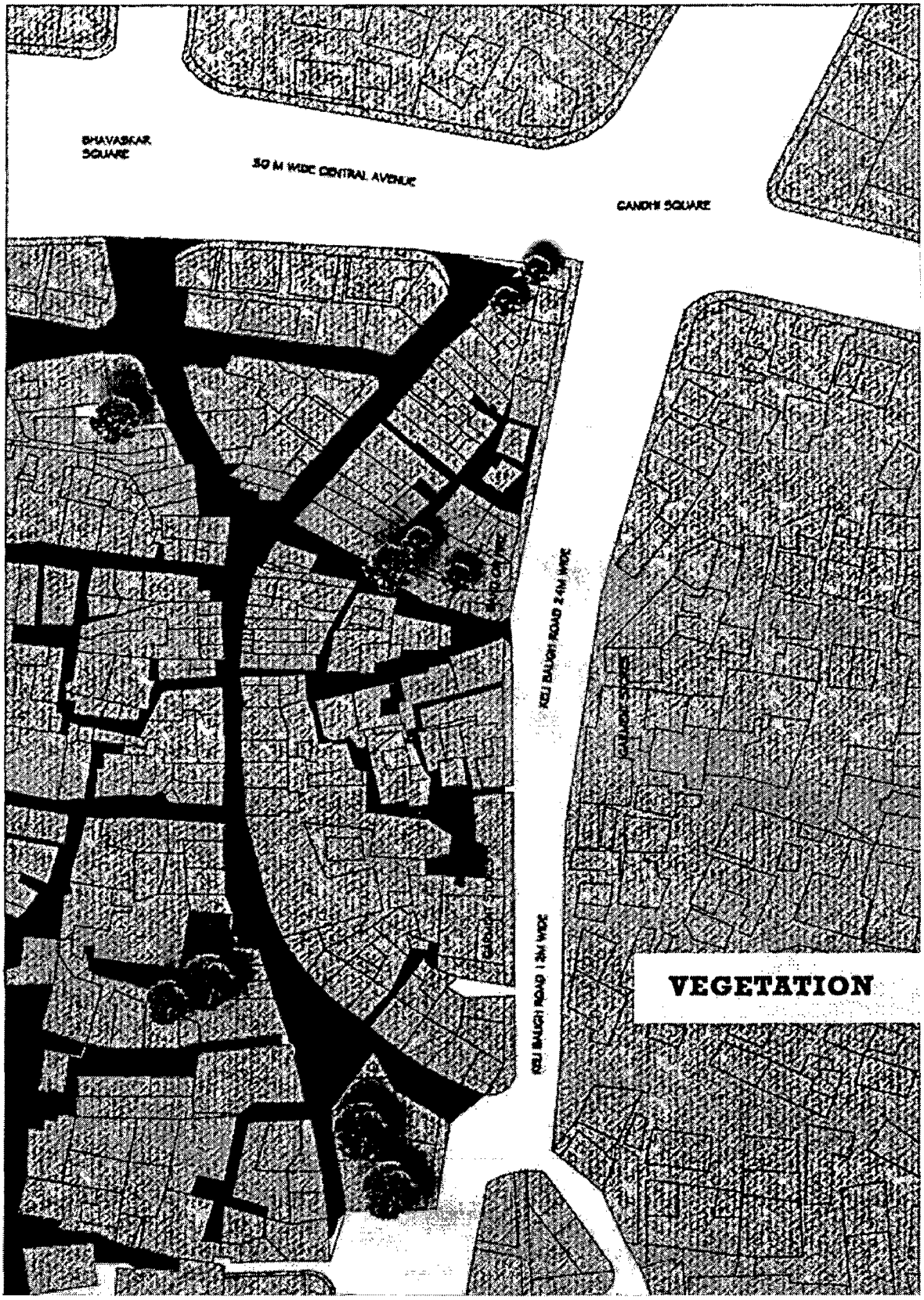
Chitar oli is a narrow street walled by continuous buildings on both sides which are mainly mixed building types. Earlier there were no automobiles, so the street is narrow. The other reason is the climate of the city, as Nagpur is hot and dry this was made purposely to cut off the sun rays penetrating the lane. The height of the building is greater than the width of the street. Dwellings are made up of wood, stone or burnt bricks with lime mortar. Working area is on ground floor and living area is either behind the work area or on the upper floors. At that time there was no development around this area, ample of open space was available, so there is no planned open space or community space.

- The map below shows the main street and the other lanes. The **width of the street** varies from 3-8 Mt.
- The **width of lanes** varies from 1.3-5 Mt.
- The main **access** to the street is from Bhavaskar road, Gandhi square and Badkas square.
- No landscaping elements along the street.
- The street is mixed mode, where this street is not only for the vehicular traffic, but it also contain non-motorized users, and a variety of economic and social activities.
- No specified parking area present.
- Absence of streetscape elements.
- **Surfacing**- Metalled but Uneven surface of the road
- No footpaths.
- **Encroachment** on the street by extending the steps and the plinth of the structure.

Figure 45 existing open space in chitar oli



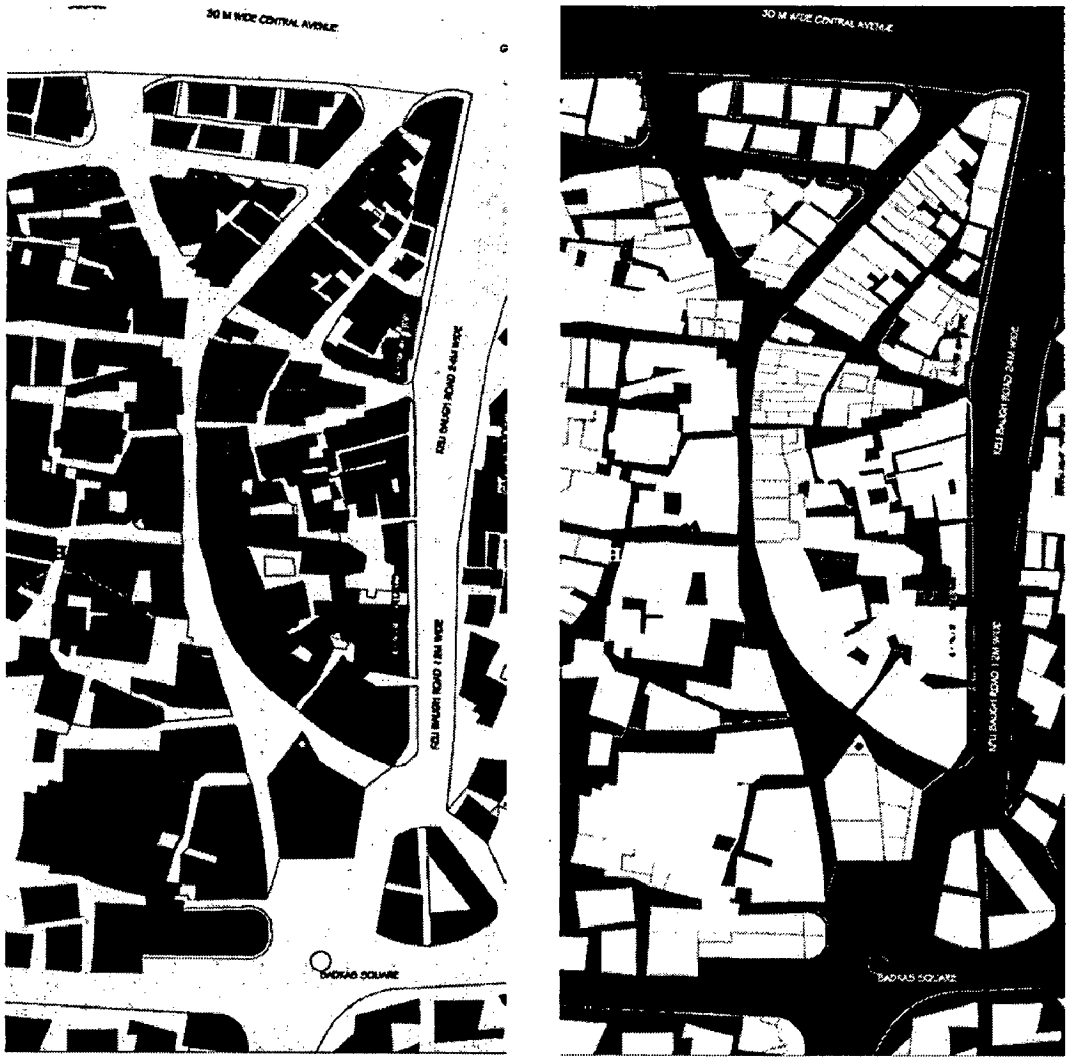
Map 6 Chitar oli - Street and lanes



Map 7 Existing trees

4.2.3 Analysis of built environment:

4.2.3.1 Built up



Map 8 Built space and open space in 'chitar oli'

- The above map (map no **8**) shows the relationship between **built up and open spaces.**
- The street is a **communal urban space** (semi- public urban spaces)
- The area is congested with very small lanes.
- **Problem in accessing** the interiors of the area.
- The dwellings are compactly arranged having no setbacks.
- The **ventilation** is through front and rear side of the dwelling.

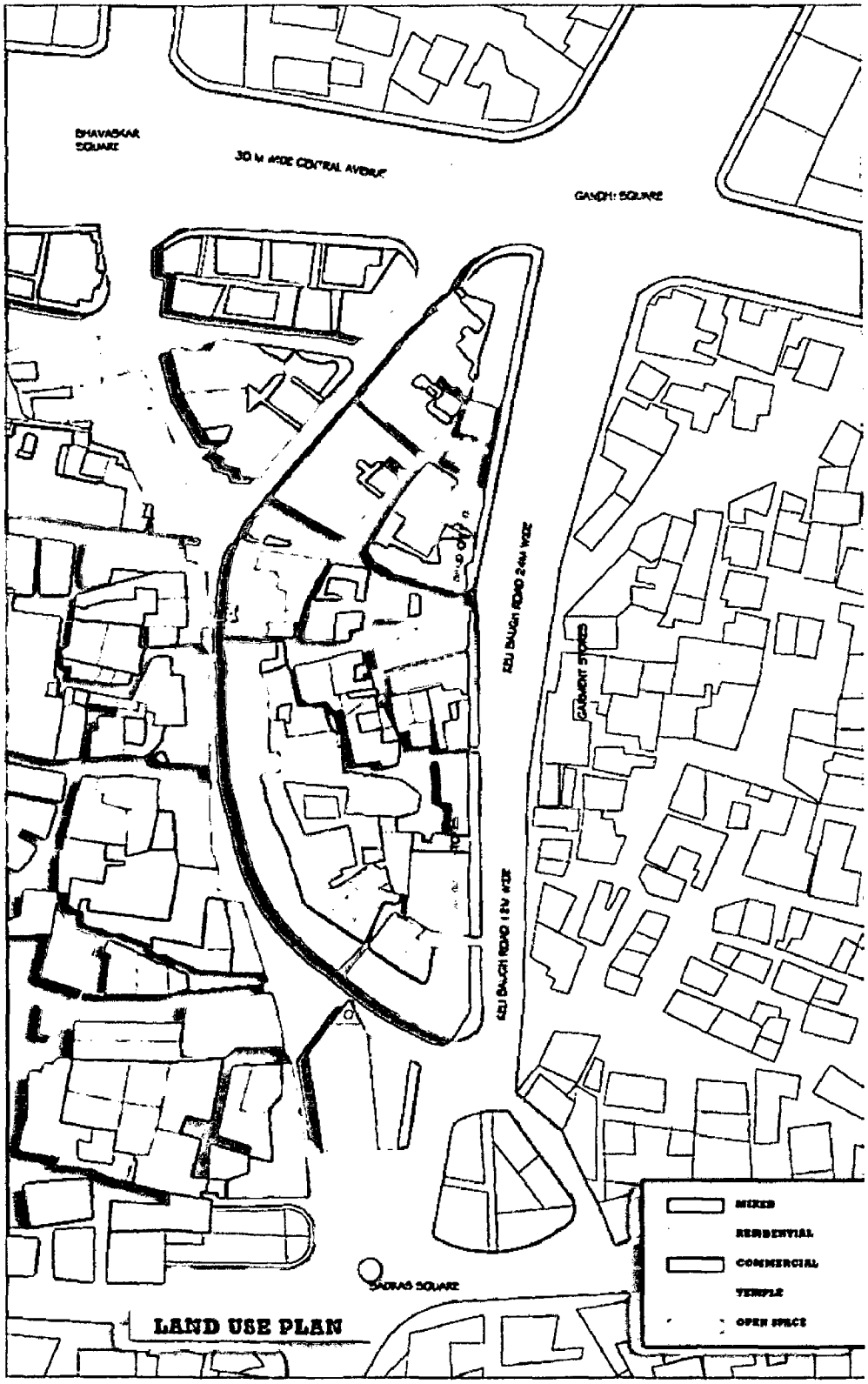
- In some cases there are common walls on three sides.
- Open spaces- It is observed that there are very less open spaces in the locality.
- It shows there is only 3% of open space.
- **The height of the dwelling varies**. The floors vary from G+1 to G+3.
- But basically the front buildings are not higher than G+2.
- The building material used for construction is wooden, stone, brick, mud, bamboo etc.

Figure 46 Buildings having common wall

Figure 47 Existing open space in chitar oli

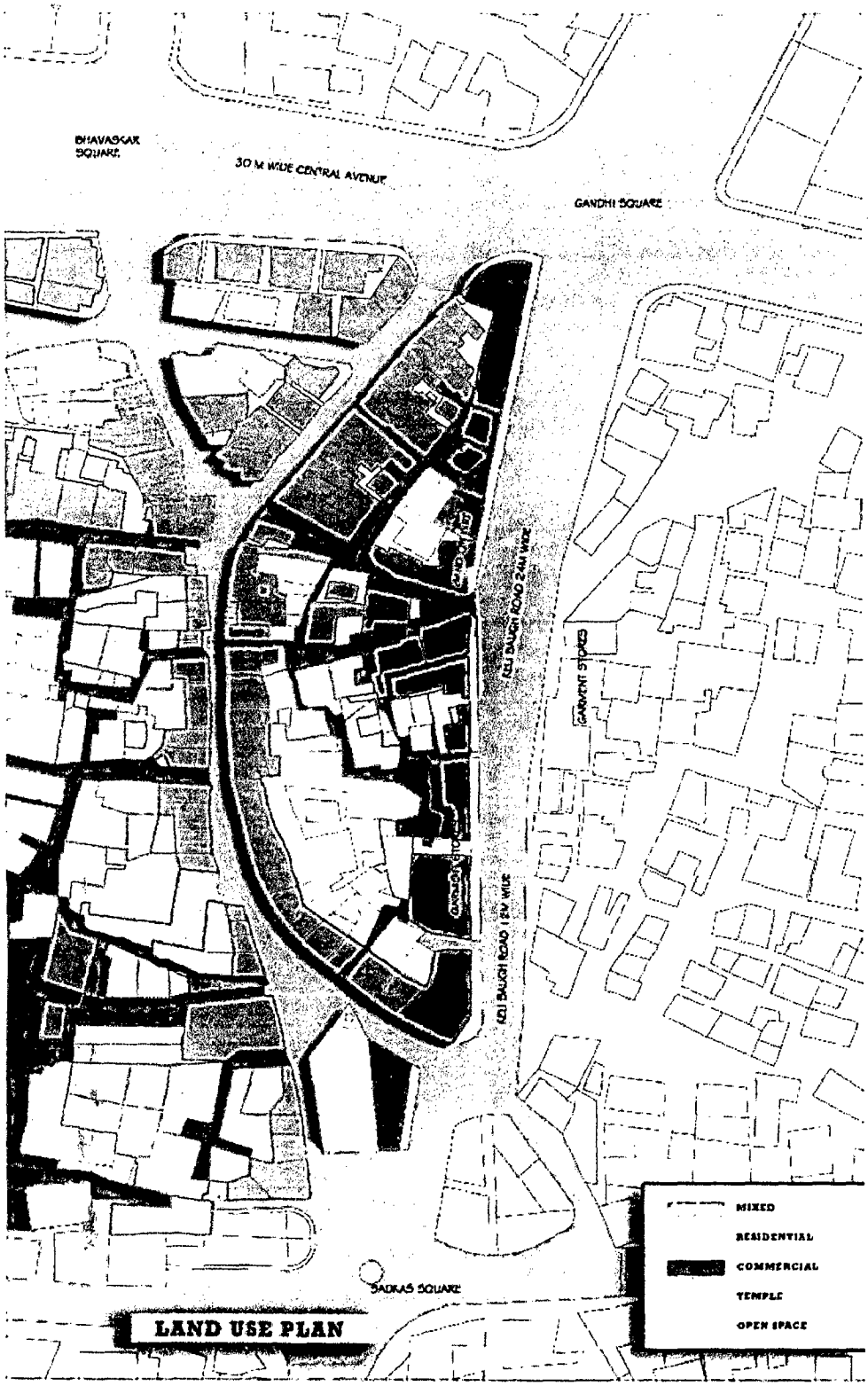
[21] Source: self clicked photographs

4.2.3.2 Land use plan of Chitar oli area:



Map 9 Land Use map of Chitar oli

4.2.3.2 Land use plan of Chitar oli area:



Map 9 Land Use map of Chitar oli

- The above map shows the land use map of chitar oli.
- From the map it is observed that the mixed use development is along the road.
- The mixed used dwelling contains commercial activity on ground floor and residential on upper floors.
- It generally has shops of murtkars and chitrakars.
- The red strip along the keli baugh road is completely commercial.

Figure 48 Mixed use buildings

The above images shows that there is commercial activity on ground floor and residential on upper floors. This situation of every building along the main street of chitar oli. It shows buildings are very old. Some structures are built up of timber. The buildings along the internal lanes are completely residential as all the major activities occur along the main street. There is no community space within the area as well as around the area.

4.2.3.3 Encroachment:

Figure 49 Property map

Figure 50 Google Earth Map- present situation and encroachment

- The above maps show the property map and Google Earth map. The yellow lines are the building profile while the red color indicates the encroachment on the streets.
- Streets are been encroached by extending the plinth area or by construction of steps in front of the entrance.

Map 10 Encroachment by adding stepsThis encroachment has reduced the right of way.

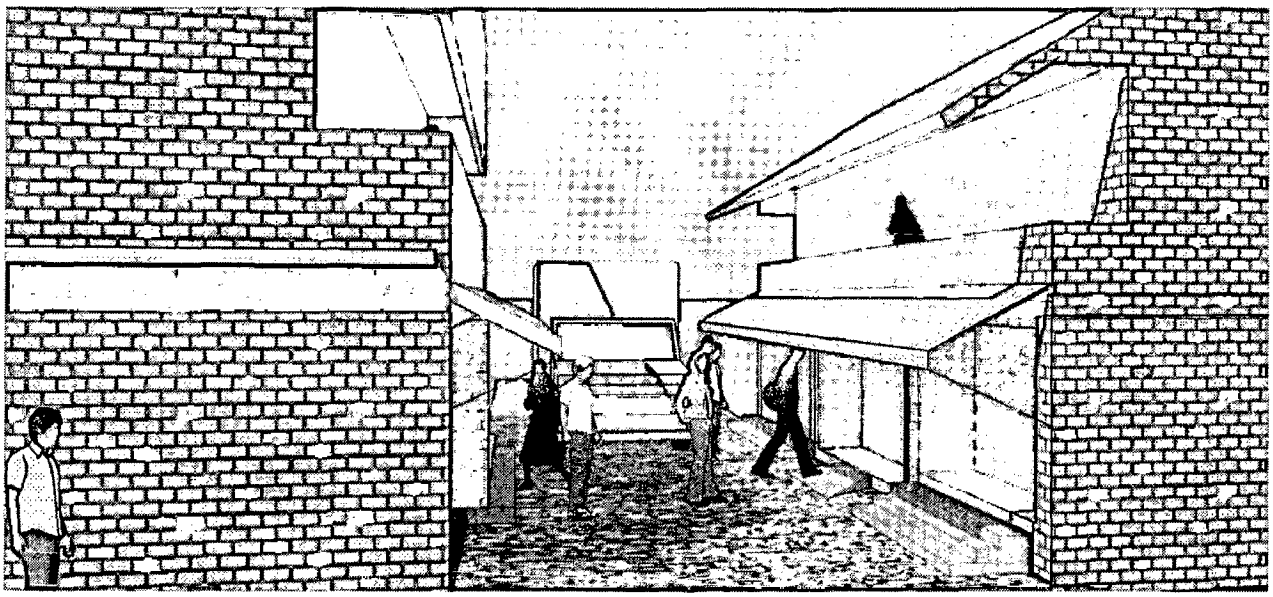
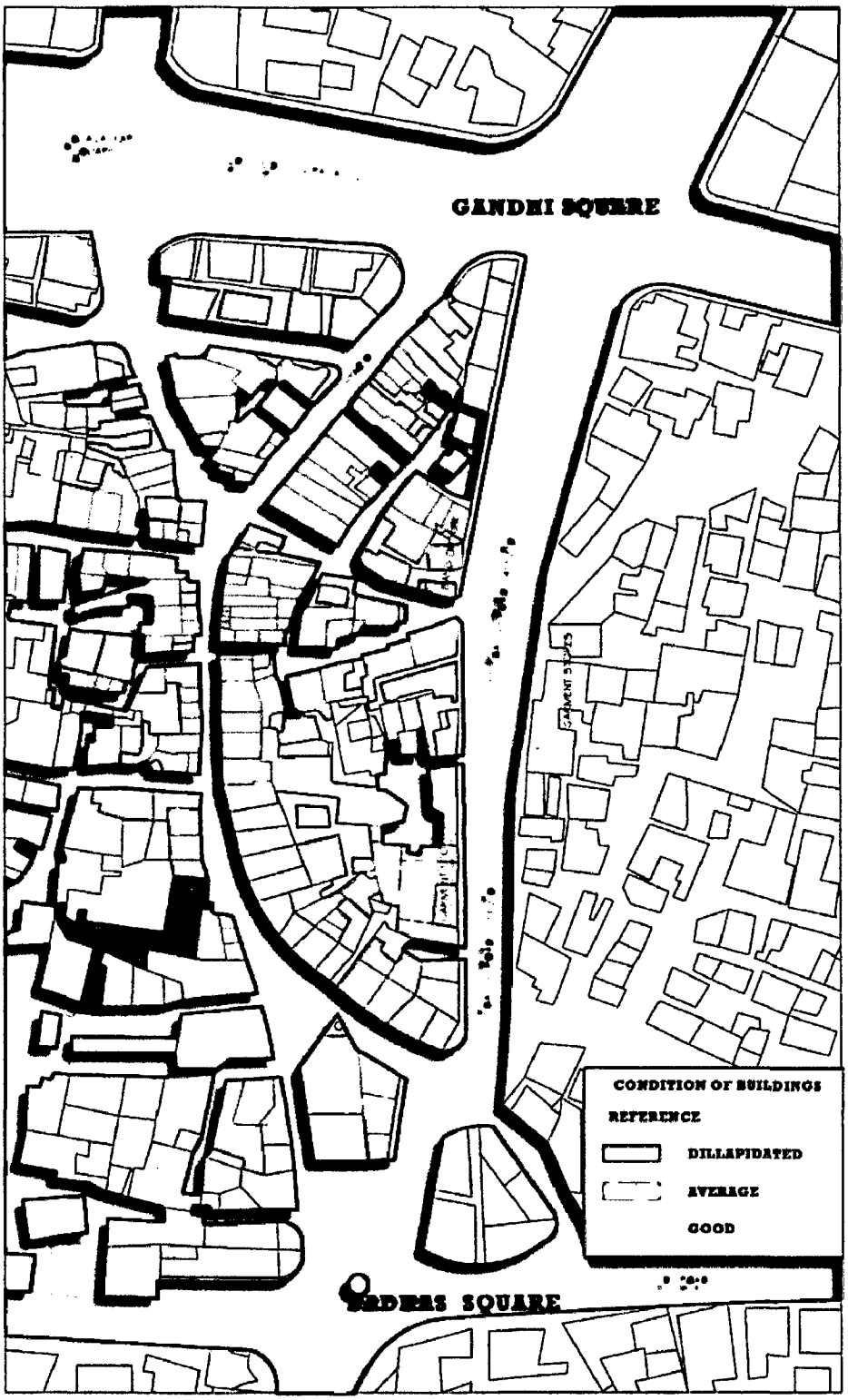


Figure 51 Sketch showing encroachment by extending plinth and steps.

These extended steps are used for display of small sculptures and other articles. The temporary sheds are erected to prevent the items from the sun and rain. This creates hindrances for the heavy vehicles passing through this street for loading, unloading. Due to this traffic jam occurs and creates congestion.

4.2.4 Building condition:



Map 11 condition of building along Chitar Oli Street

The map above shows the condition of the building. It is categorized in three types; good, average, and dilapidated. It is observed that the dilapidated buildings are mostly in the central and north side of the site. The building material use is Wood, stone, mud.

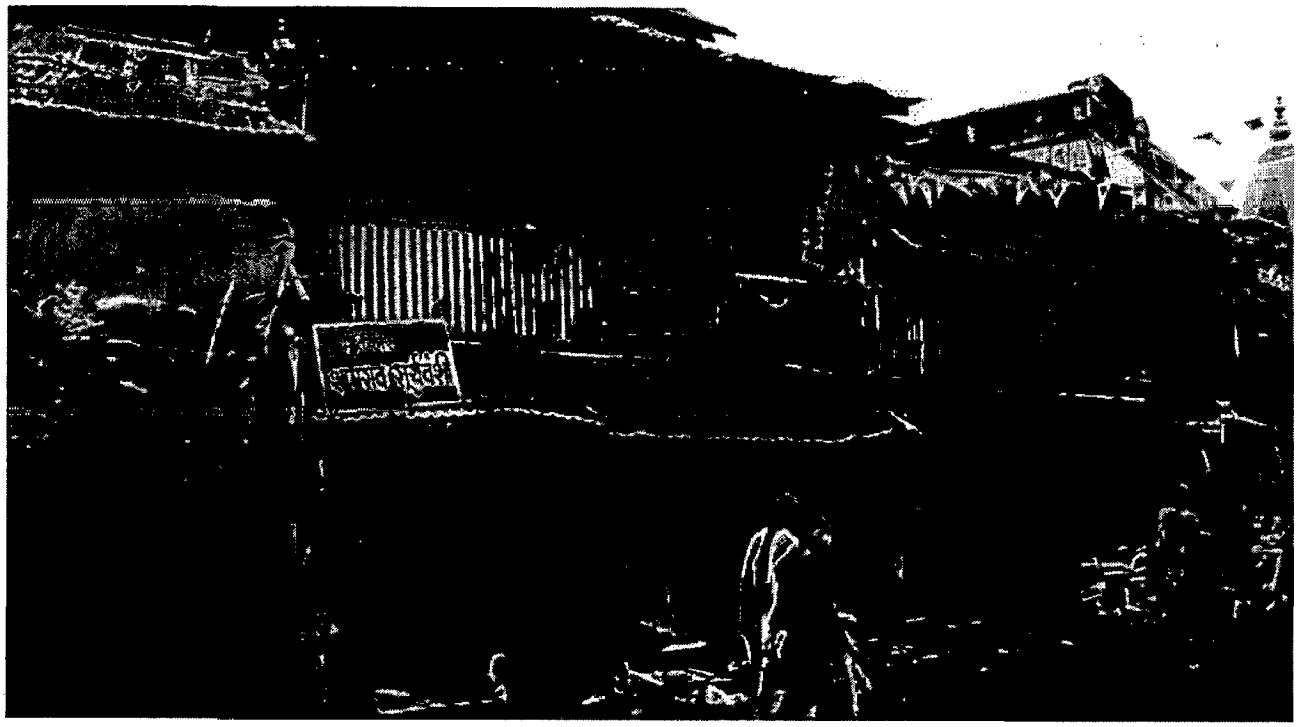


Figure 52 Building condition in Chitar Oli

It is inferred from the data that 24% of the buildings are 100-150years old, 40% are 50-80 years old, and 36% are 5-30 years old. The structural status of 68% buildings is pucca, 22% are semi pucca, and 11% are kuccha. The well maintained structures are 40% and poorly maintained are 60%. Old buildings are constructed in load bearing structure with brick/stone walls and timber floors. Ground floor is used as workshop and display area and first floor for living. Majority of traditional houses are physically in poor condition in terms of facade, quality of space, and structural system. Buildings which are very old are having sloping roof while other buildings have flat roof.

4.3 DETAILED ANALYSIS AT STREET LEVEL:

4.3.1 Streetscape characteristics:

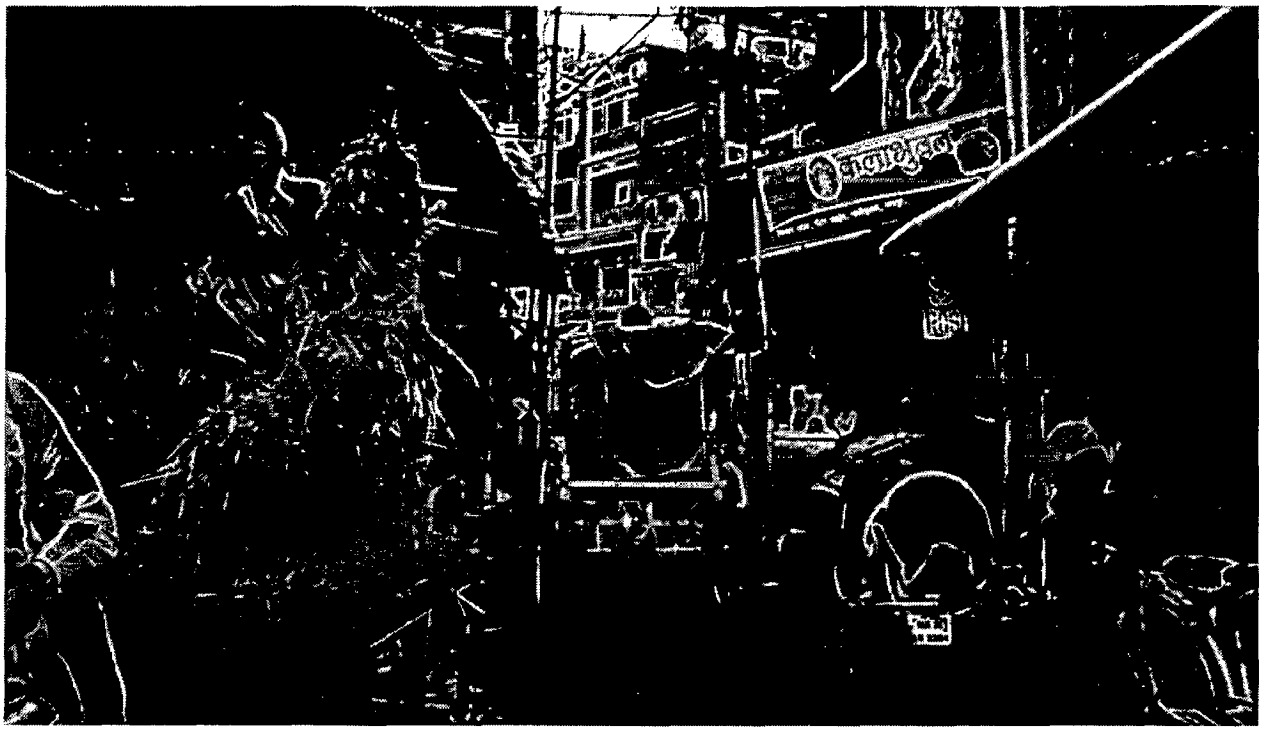


Figure 53 Chitar oli main street

- There are no sidewalks.
- No parking area. Vehicles are parked on the roadside.
- The streets lights are placed at a very long distance. So the street is in the dark most of the time at night.
- No trees along the road
- Absence of street furniture on the road.eg. Benches, dustbins etc.

4.3.2 Physical and functionality analysis:

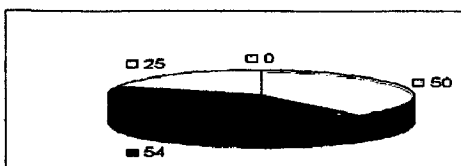
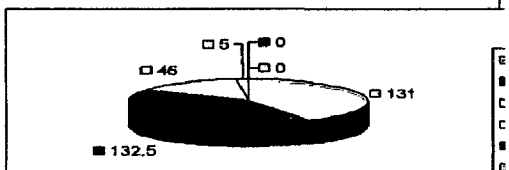
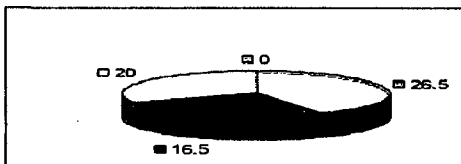
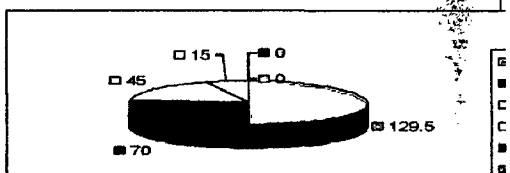
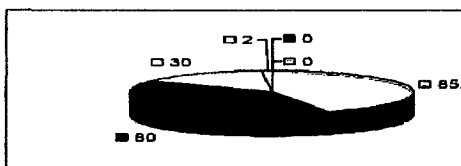
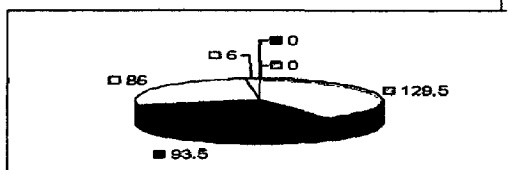
4.3.2.1 Traffic flow survey:

From the study carried in chitar oli, at various locations & various times on the site and the data provide by the dept off "traffic engineering and transport planning"

The survey was carried at three different times on site: 9-10 am, 3-4 pm, and 5-6 pm.

The survey was carried in the various directions

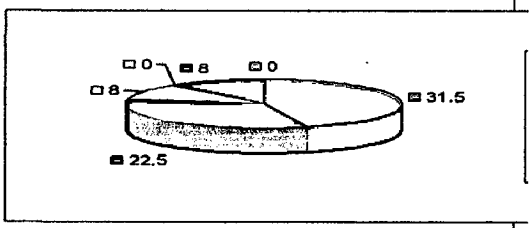
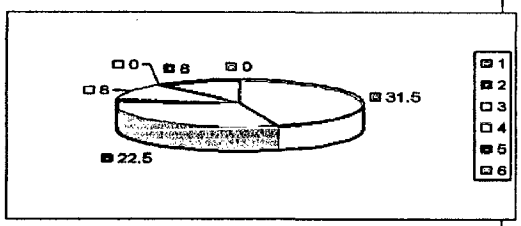
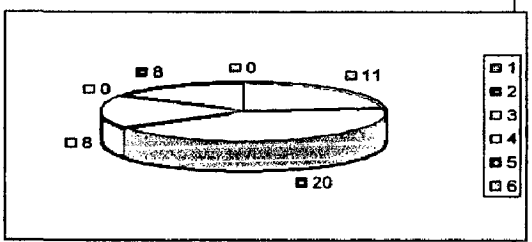
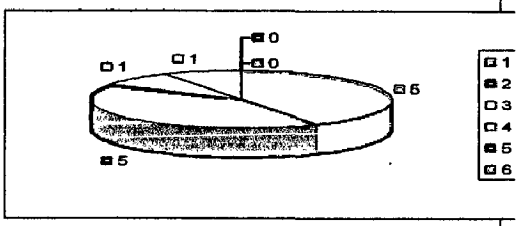
4.3.2.1.1 Traffic flow chart between Bhavskar square and Chitar oli

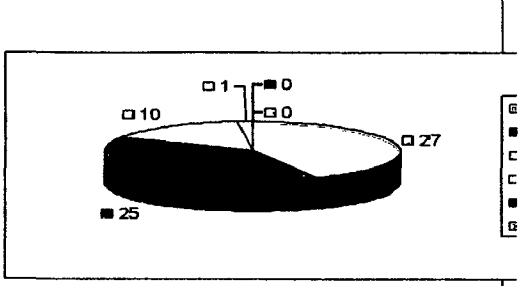
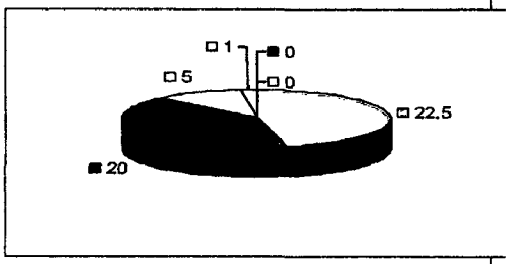
Direction / time	Bhavaskar square to chitar oli	Chitar oli to bhavaskar square
9 am-10am		
P/hr.	125	87
Total PCU	129	314
3am-4am		
P/hr.	100	85
Total PCU	63	259
5am-6am		
P/hr.	225	227
Total PCU	198	315

Inferences:

- Traffic mainly consists of working people and school going children. The road width is sufficient to carry the traffic but at times problem is created when the school starts.
- Mostly the traffic consists of the 2wheelers and cycles.
- Not much change is observed in pedestrian traffic.
- The traffic increases considerably in evening hours.
- At times problems are caused during closing time of schools.

4.3.2.1.2 Traffic flow chart between Gandhi square and chitar oli.

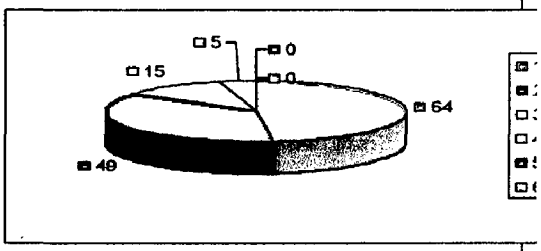
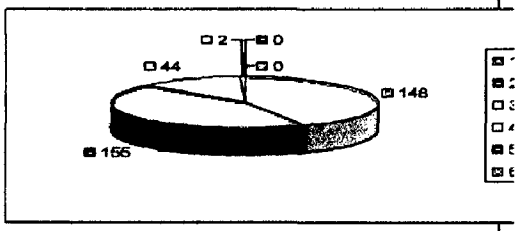
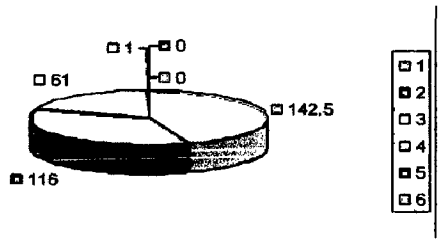
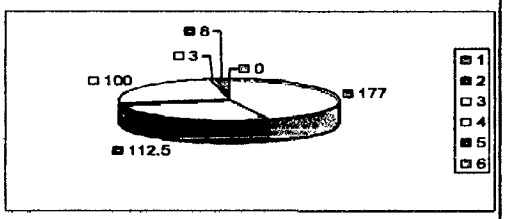
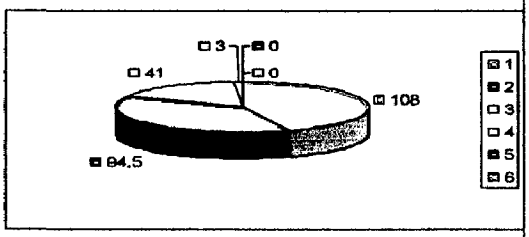
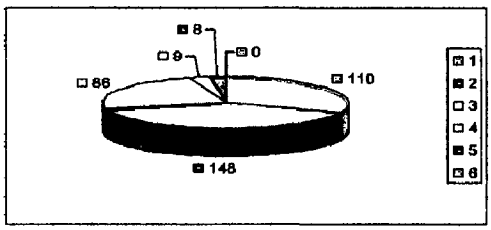
Direction/time	Gandhi square to chitar oli	Chitar oli to Gandhi square
9 am-10am		
P/hr.	86	41
Total PCU	70	28
3am-4am		
P/hr.	62	42

Total PCU	47	10
5am-6am		
P/hr.	35	50
Total PCU	63	49

Inferences:

- The traffic on this lane is very less. Mostly it has the pedestrian traffic.
- The vehicular traffic is mostly diverted to the lane meeting the bhavaskar square.
- The traffic on this lane is almost negligible in the noon hours.
- The pedestrian traffic is more in this lane as compared to vehicular traffic.
- The traffic on this lane in evening hours also is considerably less.
- The vehicular and pedestrian traffic is almost equal in evening hours.

4.3.2.1.3 Traffic flow between chitar oli and badkas square

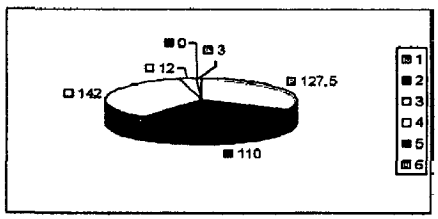
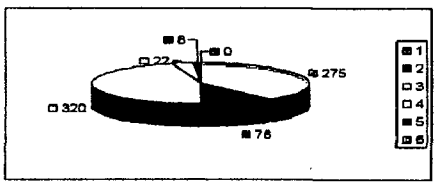
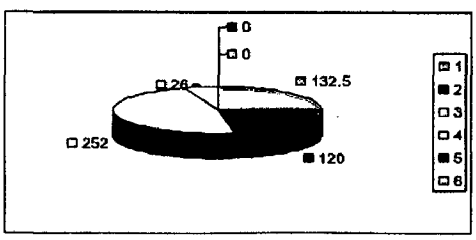
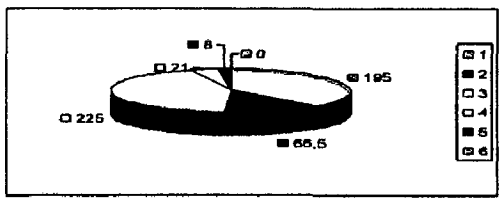
Direction / time	Chitar oli to badkas square	Badkas square to chitar oli
9 am-10am		
P/hr.	206	205
Total PCU	113	349
3am-4am		
P/hr.	278	230
Total PCU	320	402
5am-6am		
P/hr.	261	235

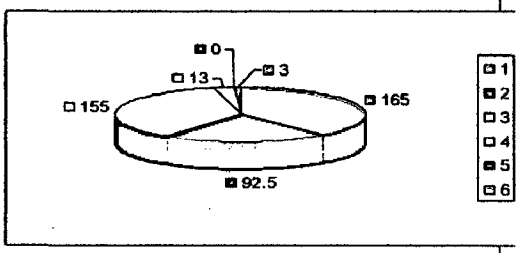
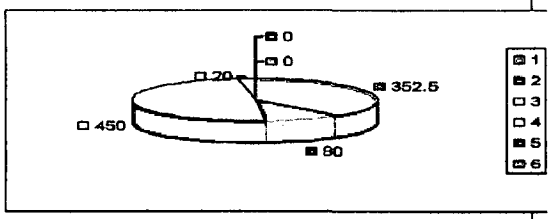
Total PCU	247	361

Inferences:

- The traffic going out to badkas square is less as compared to the Traffic coming into the chitar oli. The intensity of pedestrian traffics almost equal.
- The vehicular traffic is steady in this lane during the noon hours.
- The vehicular traffic increases steadily in evening hours but there is considerable increase in the pedestrian flow of traffic on this road in evening.

4.3.2.1.4 Traffic flow between Badkas square and Gandhi square:

Direction / time	Badkas square to Gandhi square	Gandhi square to badkas square
9 am-10am		
P/hr.	138	189
Total PCU	395	711
3am-4am		

P/hr.	130	160
Total PCU	530	516
5am-6am		
P/hr.	162	225
Total PCU	428	913

Inferences:

- The main city traffic in this area is through this road. The traffic coming towards Badkas square is more as compared to traffic going from it towards Gandhi square.
- There is consistent flow of traffic on this main urban road also in noon.
- The volume of pedestrian n vehicular traffic decreases considerably in noon.
- There is considerable increase in the vehicular traffic flow on this road in evening.
- The pedestrian traffic increases steadily.

4.3.3 Present issues and problem of the street:

Present scenario: There were number of communities in old Nagpur which were involved in traditional art forms such as weaving, pottery, etc. Presently, most of them have degenerated as they have changed their occupation. Amongst all, murtikar and chitrakars are still active. But due to many other activities other than murtimaking which are coming

up in the lane and due to congested living and working condition, it is leading to downfall in numbers of artists, instead of rise in demand of murtis.

Issues to be tackled:

- To conserve and increase the heritage activity of murtimaking.
- To provide favorable conditions for socio-economic growth and development of the artists.
- To tackle architecture related problems during redeveloping the lane and its surroundings.
- To improve the quality of the space.

CHAPTER 5. REVITALIZING STRATEGIES (RECOMMENDATIONS):

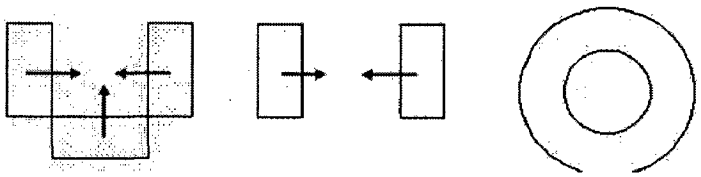
5.1 DESIGN:

Scale: scale of the building should be in proportion to human scale.

Width: Width of the side walk should be greater to avoid congestion.

Architectural projections: Canopies or awnings should be provided for pedestrian and to bring their attention to recreational activity on the ground.

Street furniture: Modular arrangement of the street furniture should be designed: for eg.



5.2 SOFT URBAN SPACES:

There must be places to walk for the pleasure of walking. There must be places to watch people and places where one can be seen.

There must be places to stand without leaving the sidewalk, places to sit, places for people to gather, and places to be alone.

5.3 VISUAL ASPECTS:

Building and landscape characters should be used which will blend with the natural environment and should not create visual or other conflicts.

Architecture features to establish and define a building appeal should be provided. It will also enhance the neighborhood character.

Street frontage should be created with architectural and landscape interests. It will enhance the pedestrian experience and provide visual appeal to streetscape.

5.4 HISTORIC CHARACTER:

The context of landmarks, historic street, and areas which give a community a sense of place or history should be respected.

The development of the property should be reviewed within conservation areas so that the important aspects of the community character are maintained.

Characters of neighbourhood should be identified and preserved.

5.5 STREETSCAPES:

Street furniture: benches, street lights, dustbins, provision of food courts for visitors.

Elevation: special attention should be given to the elevation treatment. The new construction should match the surrounding and should have the essence of traditional character.

Provide open spaces for residents, children, and senior citizens.

5.6 PEDESTRIAN SCALE STREET LIGHTING:

The need of lighting for pedestrian is different from the vehicular traffic lighting needs and hence, it should be designed and incorporated in the overall lighting approach for the street

MAIN PRINCIPLES:

Mobility - To provide safety and security for pedestrian optimal lighting should be provided.

-On the pedestrian walk zone the lighting poles must not be on the right of way.

Safety/Comfort – Optimal lighting should be provided for the pedestrian.

- Pedestrian lights must be positioned lower to focus on the pavements.

Ecology – full cut-off lighting fixture should be provided to avoid the spillage and wastage of light and energy. It will also reduce the night sky pollution.

5.7 LANDSCAPE:

The landscaping of the site which is adjoining public and communal urban spaces should add the quality of the spaces. This will compliment the overall design.

The structure should be enhanced by the design and landscaping material. We should create and define the private and public spaces. Shade, aesthetic appeal, & environmental benefits should also be provided.

Maximum trees should be planted for their shading and livability benefits.

- Water conservation methods should be used through drought tolerance landscape, porous materials and water should be reclaimed where available.
- The existing character of the neighborhood should be complemented by the landscaping materials and design.
- The trees which can spread on the surrounding street should be identified and planted.
- The trees should be located in such a style that it does not obstruct the ground illumination through the street lights.
- Paved or surfaced area should be shaded especially parking lots.

5.8 PARKING:

- Encourage shared parking: instead of each site having its own large parking lots, multiple sites should share parking. This will need less overall parking area and will encourage pedestrian friendly environment.
- The placement of parking should be along the side and rear sides of the streets.
- Elements like building material, landscape and detailing should be used to complement the surrounding neighborhood.
- Well defined, dedicated pedestrian entrance should be provided.
- The use of attendants, gate, or natural lighting in the parking area should be provided to promote safety and security.
- Design clear and attractive pedestrian pathways and signs that link parking and destinations.

Rather than building one large parking lot small multiple parking lots should be designed.

- For shade in parking area trees and other landscape should be provided. It will also help in screening and filtering of storm water runoff.

5.9 UTILITIES:

- Visual and functional impact of utility system & equipment which are on streets, public realm and sidewalks should be minimized.
- Overhead utility wires and poles, and overhead structures such as those which are associated with the supplying electric, community antenna television, communication or similar services should be converted to underground.
- Traffic operational features and similar facilities such as streetlight and street signs must be located on poles. This will minimize the mess, improve safety, and maximize the access for pedestrian particularly at the sidewalk ramps & intersections.
- To afford the proper positioning of the vertical elements the other utilities of street like storm drain & vaults must be cautiously located.

5.10 SAFETY AND SECURITY:

- Scale of pedestrian lighting and techniques should be considered for adequate security but care should be taken to avoid glare and flood lighting.
- All the public furniture must be placed in such a manner that it will not provide the hiding spaces for criminal elements.
- Clear boundaries should be defined between public, semi-public/private spaces.
- As far as possible, different elements of the public furniture should be combined to avoid inconvenience and to improve the overall security and appearance; to help maintaining and prevent cluttering.

5.11 WORKING SPACE:

- For artists- sufficient height for murti making should be considered.
- Flexibility in height is also important issue.
- Storage and drying spaces.
- Semi open spaces- for visitors and tourists who are interested in watching the process of making idols.
- The street should be made vehicle free to encourage the pedestrian movement and to feel the space.
- Barrier free design should be incorporated.
- Change in bylaws: - relaxation in by-laws.
-

5.12 AMENITIES

- Workshops: For the learners, for tourists who are interested in watching the process of murti making.
- Exhibition hall: For sale of the sculptures and paintings. This will encourage the art
- Artists will get a platform and also act as a source of income.

CHAPTER 6. DESIGN PROPOSAL

This street is a communal urban space. The activity is mainly related to sculpture making and painting. This lane was allotted to sculptors and painters centuries ago. Due to urban sprawl and increasing population the image of the street is being deteriorated. To improve the condition of the street following proposals are made:

6.1 PEDESTRIAN STREET:

Chitar oli was allotted specially to the sculptors and painters. Earlier there was no traffic or any movement. So the streets are narrow. This was a communal urban space; general public was not allowed to enter this area. Earlier people used to gather on streets, children used to play on the road without any fear of traffic. It used to be a lively atmosphere.

But after industrialization and urban sprawl the quality of life began to deteriorate. As this is century old settlement and is still active it is the duty of architects and planners to save this heritage activity and retain the quality of life with the help of architecture.

6.1.1 Congestion:

From the traffic flow analysis it is observed that there is heavy traffic flow between Badkas square and Bhavaskar square. The reason was to avoid the signal at Gandhi square. The people travelling from chitar oli use this street just to save time. They are not concerned with the activity going on the street

6.1.1.1 Issues:

It is observed from traffic survey that maximum traffic flow is between Badkas square - bhavaskar square, and Badkas square- Gandhi square. From the chart it is observed that maximum people travelling from chitar oli are trying to avoid the signal at Gandhi square.

- This creates congestion.
- Encroachment on streets.
- Narrow Street.
- Vehicles parked along the street reducing the usable width.

6.1.1.2 Proposal:

- To avoid this congestion the main street of chitar oli should be made pedestrian.
- The encroached area should be demolished.
- Widening of road wherever possible by demolishing the encroached building.
- Parking lots should be provided for visitors as well as for residents.
- The main access will be from CA road and Badkas Square.
- Parking lots should be provided near main entry.

The map below shows the proposed schematic plan of the street. The area indicated in red color would be demolished. The purple color indicates that the street area would be made pedestrian. It will solve the traffic and congestion problem. The nomenclature is as followed:

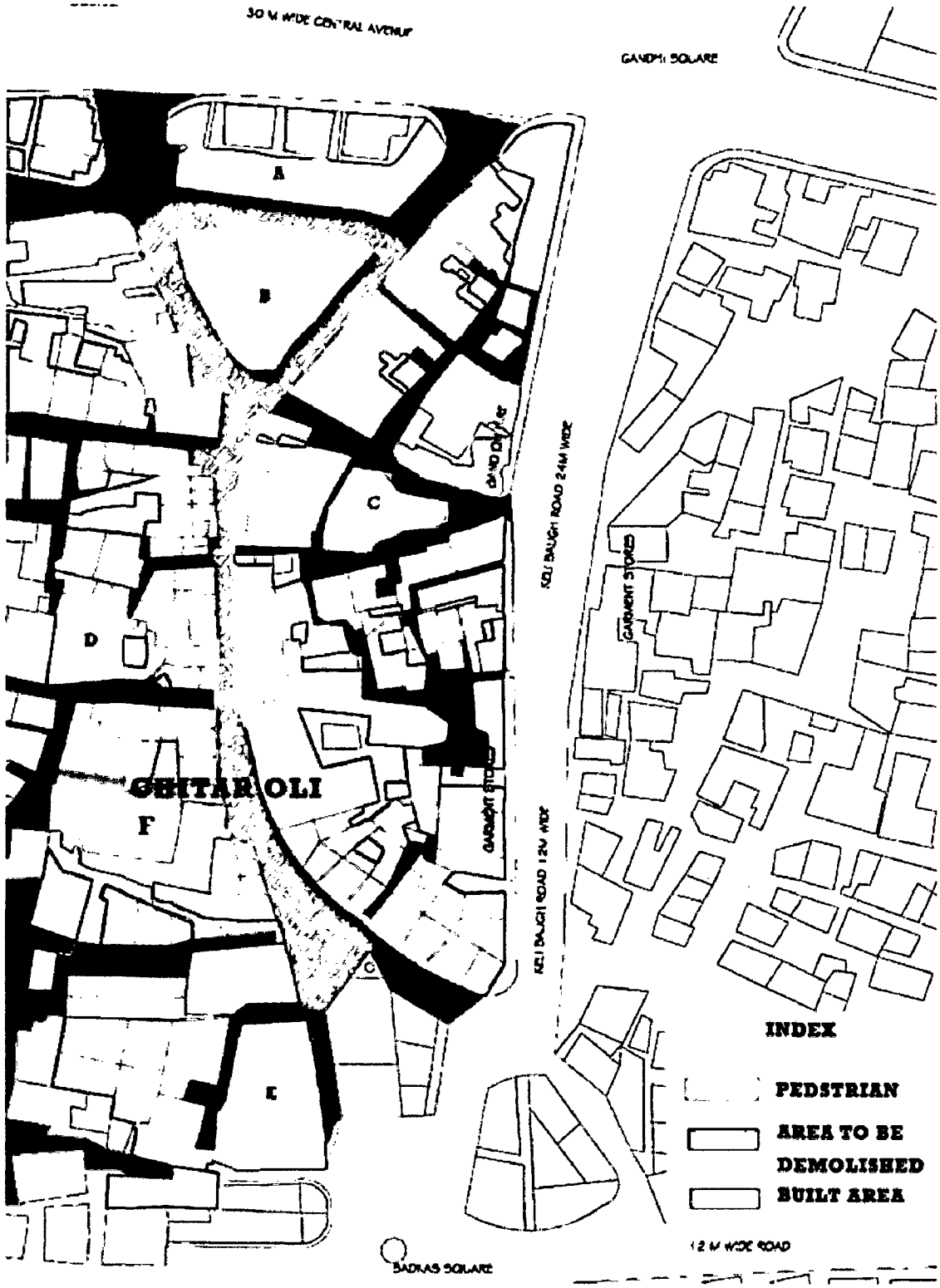
A, D, E- proposed parking lot.

B- Proposed workshop cum exhibition area.

C- Proposed open space.

F- Proposed multistory residential bldg for people whose dwellings would be demolished.

The proposed open space shall be a multipurpose space. It could be used as working space for making large sculptures during peak time. The parking spaces are provided for both the users, i.e. residents as well as visitors. It is within a reachable distance. Two parking lots are provided on either side of the street ends. This will encourage the visitors to wander around the space on foot.



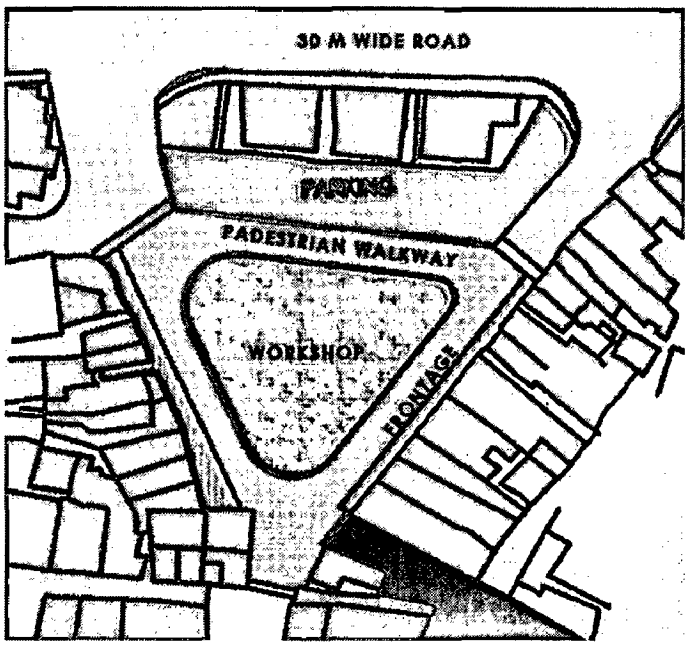
Map 12 Area to be demolished and proposed pedestrian way

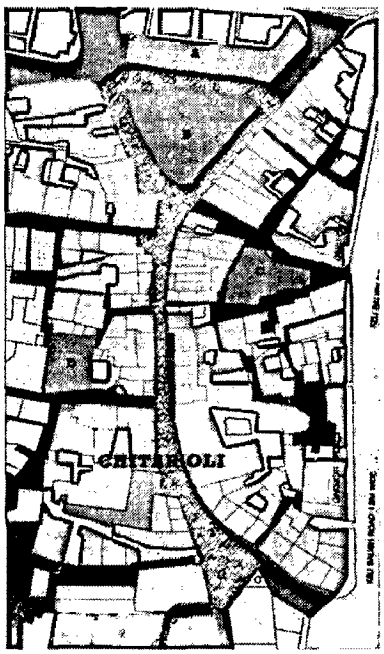
6.1.2 Width of the street:

The pedestrian street is divided in to three parts according to the zones and width of the street.(refer map 14 below)

The street A-

- A is on north side of the area and is surrounded majorly by murtikar.
- There would be frontage (covered passage) of 2 M on one side and the entire width of the street will be pedestrian.
- The width will vary from 8-10M.



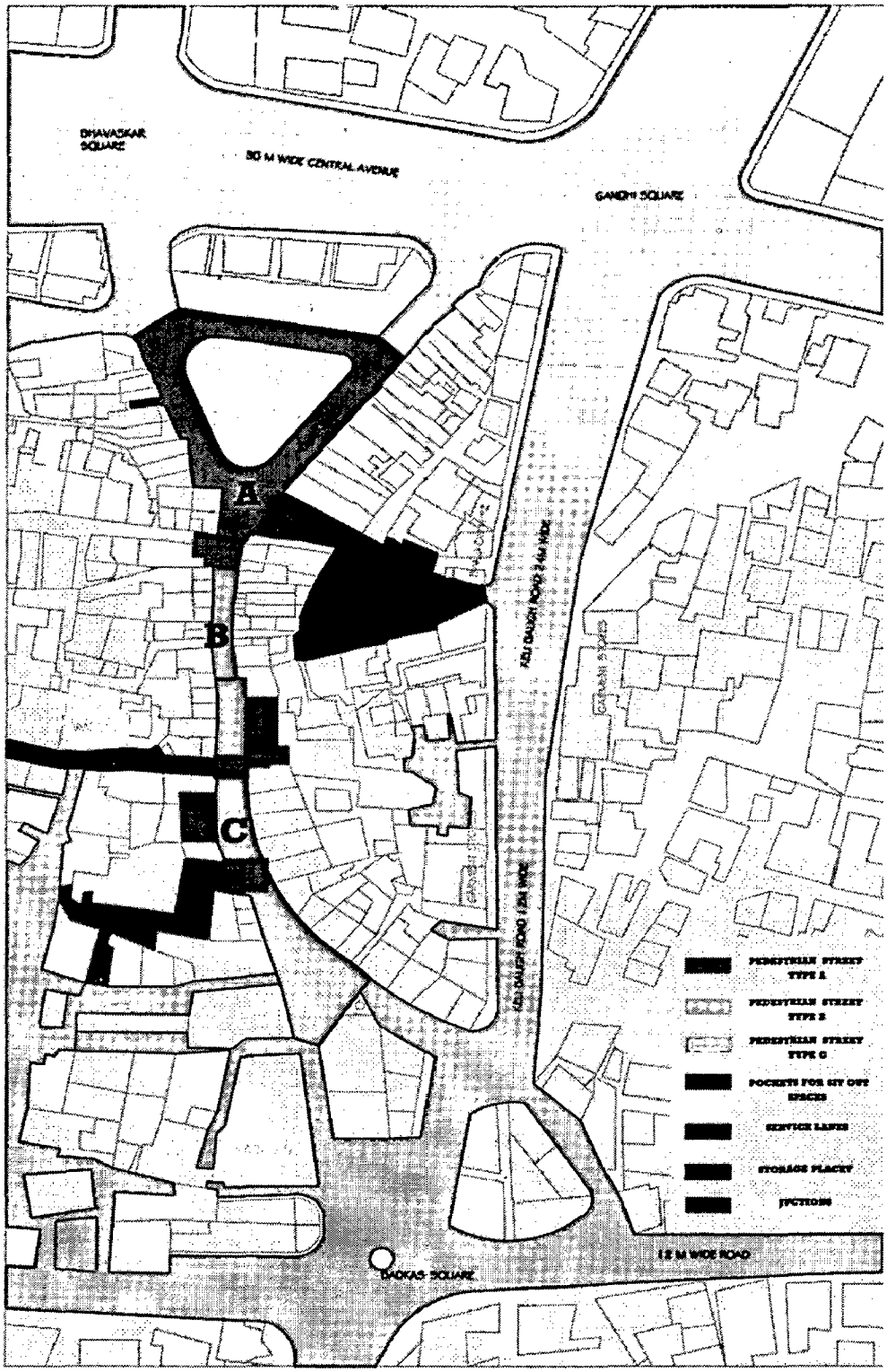


The **street** B-

- The width of this street would be between 4-7M as the encroached area will be demolished.
- This street will be partially covered by pergola.
- Frontage would be given to shopkeepers on both sides.

The street C-

- The width of this area is wider than other two 6-10 M
- The shops along this road are newly established.



Map 13 Proposed pedestrian area

INDEX

STREET A- WIDTH 6- 9 M

STREET B- WIDTH 4-7 M

STREET C - WIDTH 8-10 M

P- PARKING AREA

JUNCTIONS

SOCIAL INTERACTION SPACES/ POCKETS

SERVICE ROAD FOR EMERGENCY VEHICLES

COMMUNITY BASED REDEVELOPMENT OF CHITAR OLI MAHAL, NAGPUR

A - STREET A

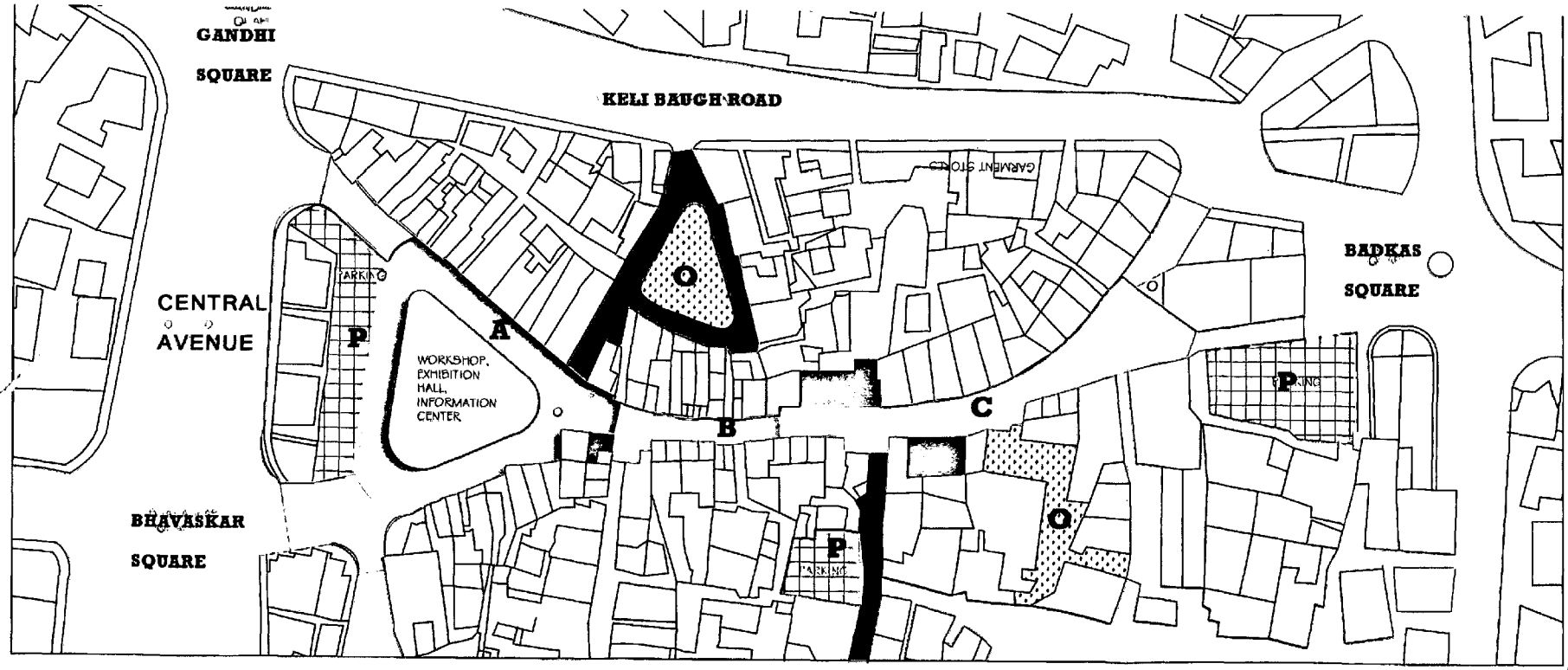
B - STREET B

C - STREET C

P - PARKING AREA

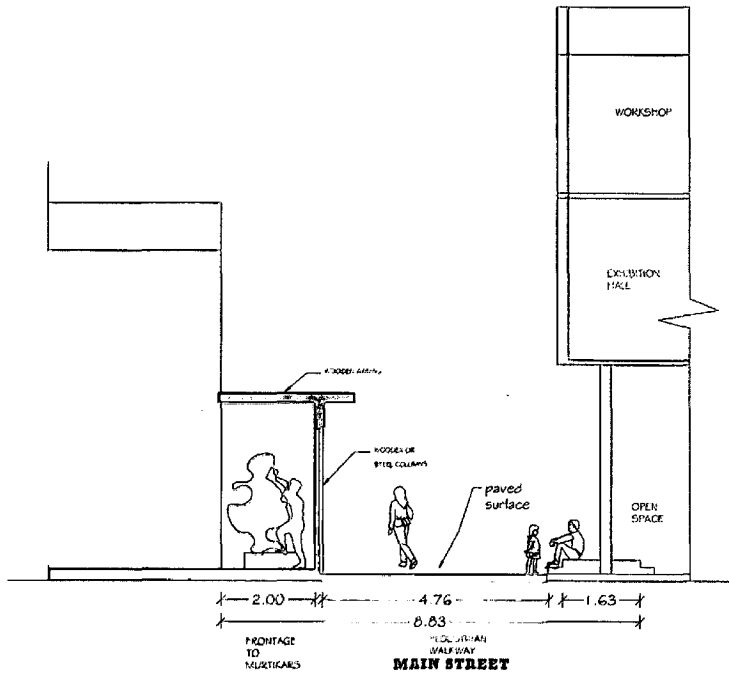
O - OPEN SPACE

THE STREET IS DIVIDED IN THREE PARTS A,B AND C. THE WIDTH IS INCREASED BY DEMOLISHING THE ENCROACHED AREA. THE WIDTH IS SPECIFIED IN THE INDEX SERVICE ROADS ARE PROVIDED ON EITHER SIDE OF THE STREET FOR EMERGENCY VEHICLES AND LOADING UNLOADING. PARKING AREA PROVIDED FOR VISITORS AS WELL AS FOR RESIDENTS THE VOILET BLOCKS INDICATES THE PUBLIC GATHERING SPACES.

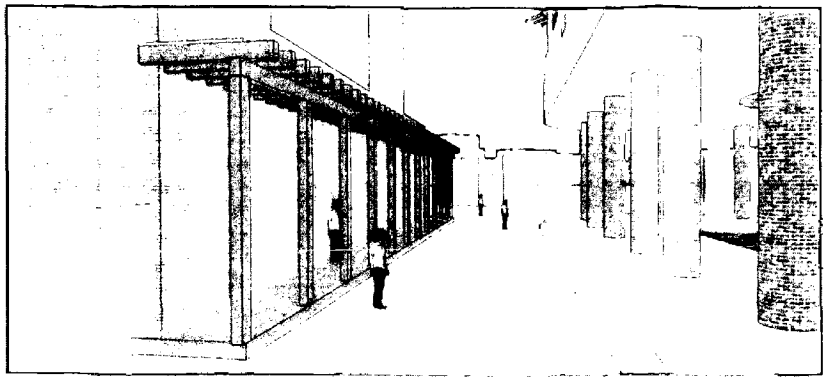


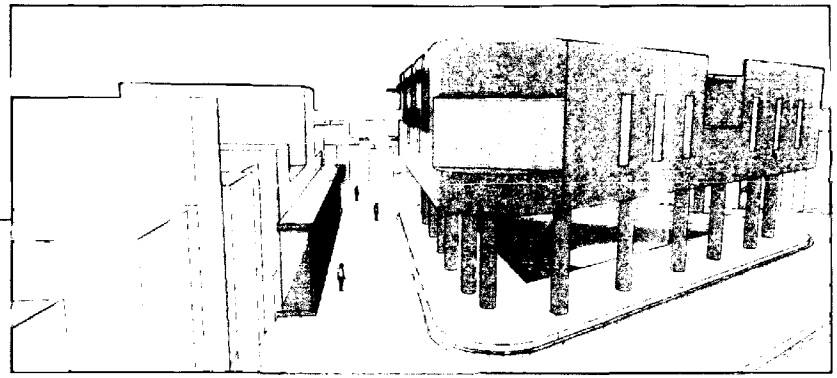
SNEHAL H. PUNWATKAR
IIT ROORKEE

PROPOSED SCHEMATIC PLAN OF CHITAR OLI

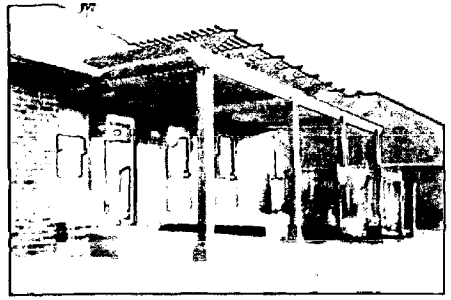


SECTION THROUGH STREET A



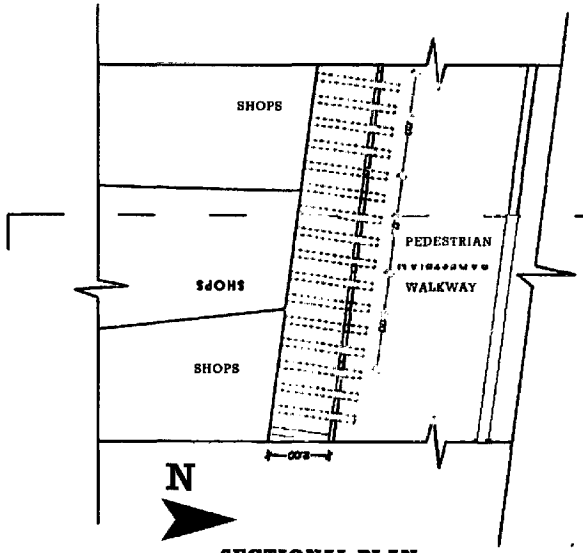


VIEW STREET A



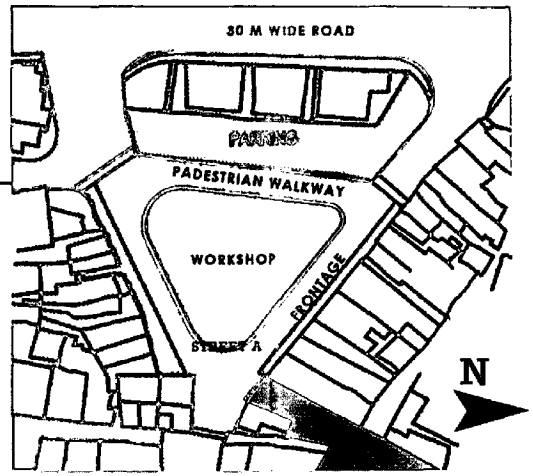
PERGOLA CONCEPT

STREET A - THE STREET IS MADE PEDESTRIAN WITH TILED SURFACE. THE WIDTH OF THE STREET IS INCREASED FROM 4-6M TO 6-9M. A CONTINEOUS CORRIDOR IS PROVIDE FOR SCULPTURES WITH WOODEN SHED OVERHEAD. THE WOODEN JOISTS ARE PROJECTED MATHCHING THE TRADITIONAL CHARACTERS OF THE STREET. THE STEPS IIN FRONT IF THE SHOPS WILL PROVIDE THE SITTING SPACE FOR VISITORS. HERE VISITORS CAN SIT AND WATCH THE PROCESS OF MAKING SCULPTURES.

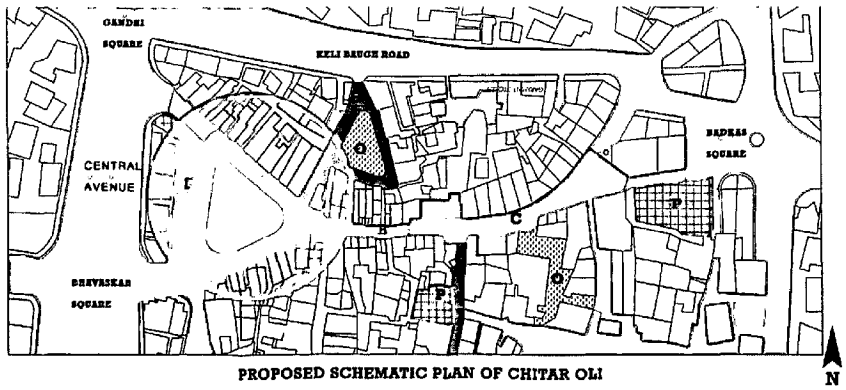


SECTIONAL PLAN

OF STREET A



PLAN STEET A

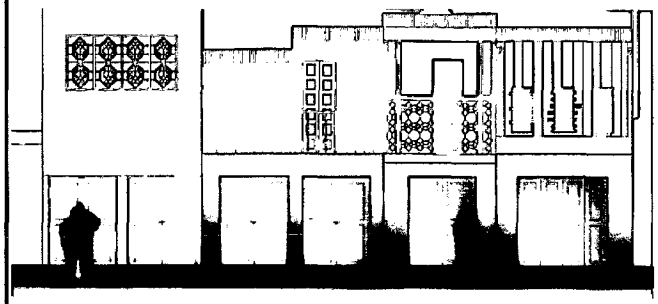


PROPOSED SCHEMATIC PLAN OF CHITAR OLI

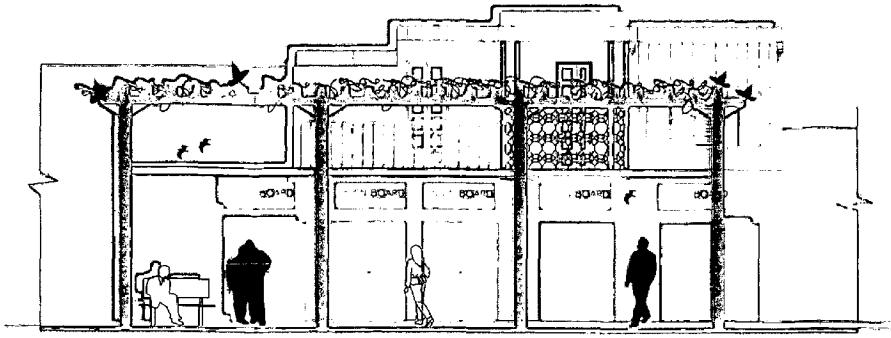
KEY PLAN

DETAIL OF STREET A

SNEHAL H PUNWATKAR
IIT ROORKEE

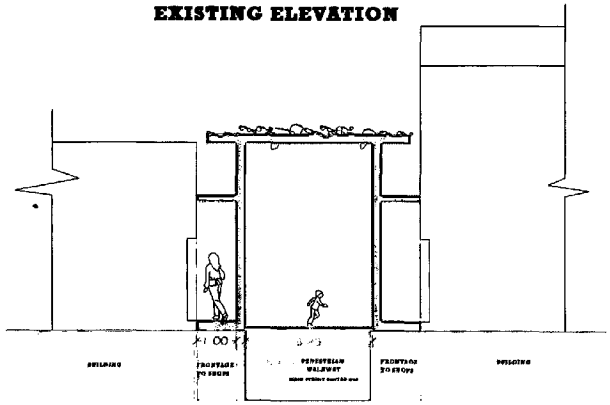


EXISTING ELEVATION

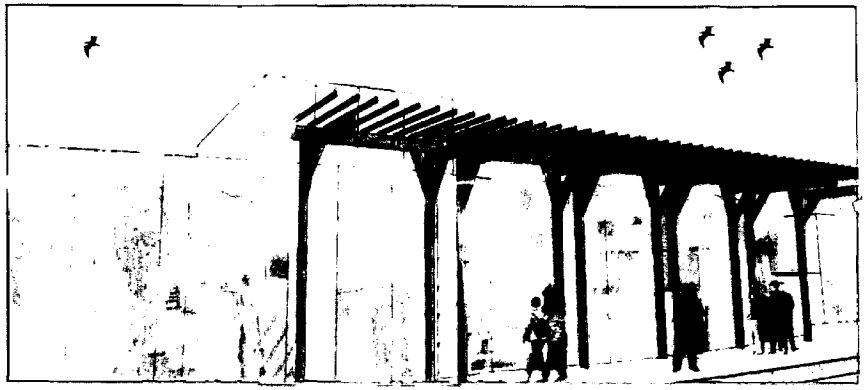


PROPOSED ELEVATION

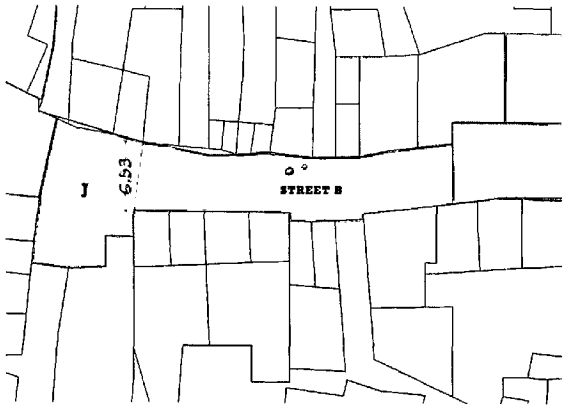
PERGOLA CONCEPT



PROPOSED SECTION

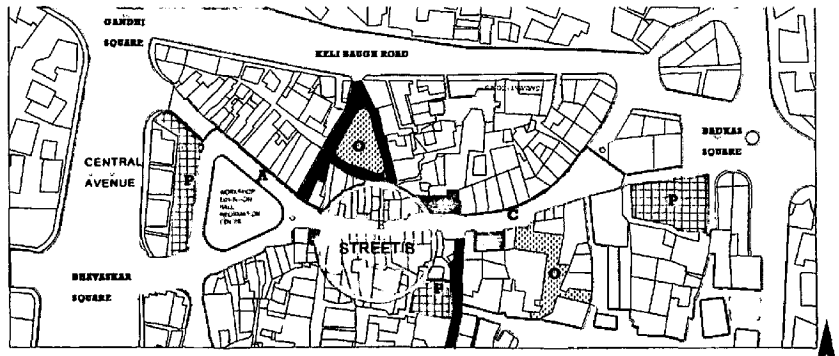


VIEW AT STREET B



PLAN OF STREET B

STREET B - THE WIDTH OF THE STREET IS INCREASED BY DEMOLISHING THE ENCROACHED AREA. THIS STREET IS COVERED BY WOODEN PERGOLA . HERE THE ACTIVITY PATTERN CHANGES. THE SHOPS ARE SMALLER AND ARE GENERALLY SELLING THE ARTICLES ASSOCIATED WITH THE ACTIVITY OF MAKING SCULPTURES. STREET FURNITURES ARE ADDED TO THIS AREA AS IT IS UNDER SHADE.



PROPOSED SCHEMATIC PLAN OF CHITAR OLI

KEY PLAN

DETAIL OF STREET B

SNEHAL H PUNWATKAR
IIT ROORKEE

6.2 ACCESS AND LINKAGES:

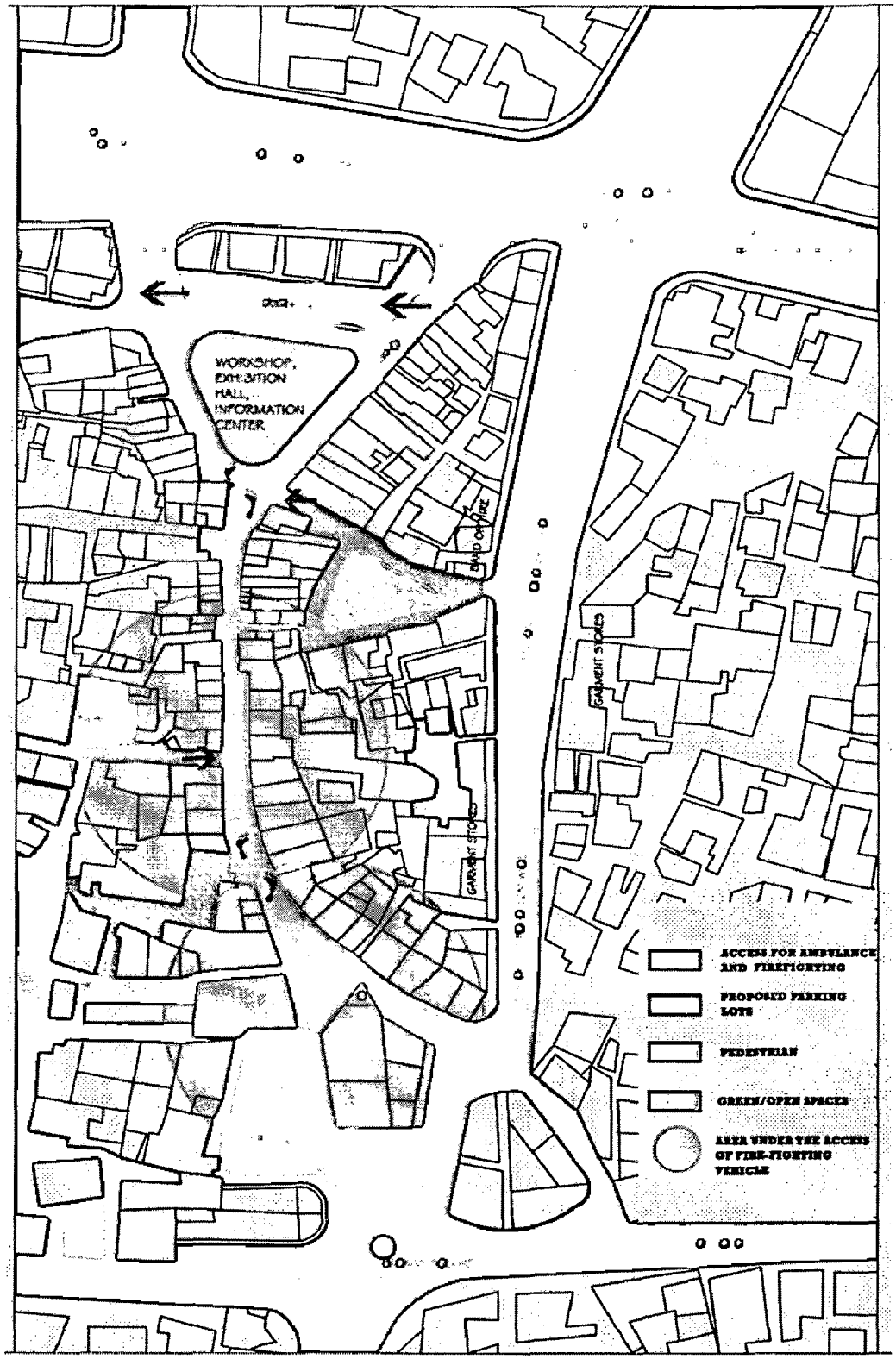
6.2.1 Issues:

- After making the street pedestrian there will be trouble for loading unloading, access for emergency vehicle like ambulance and fire fighting vehicle.
- No space for large size sculptures so they are made in internal lanes blocking the pedestrian flow.
- No parking for residents as well as visitors. Vehicles are parked on street. This creates problem for pedestrians.

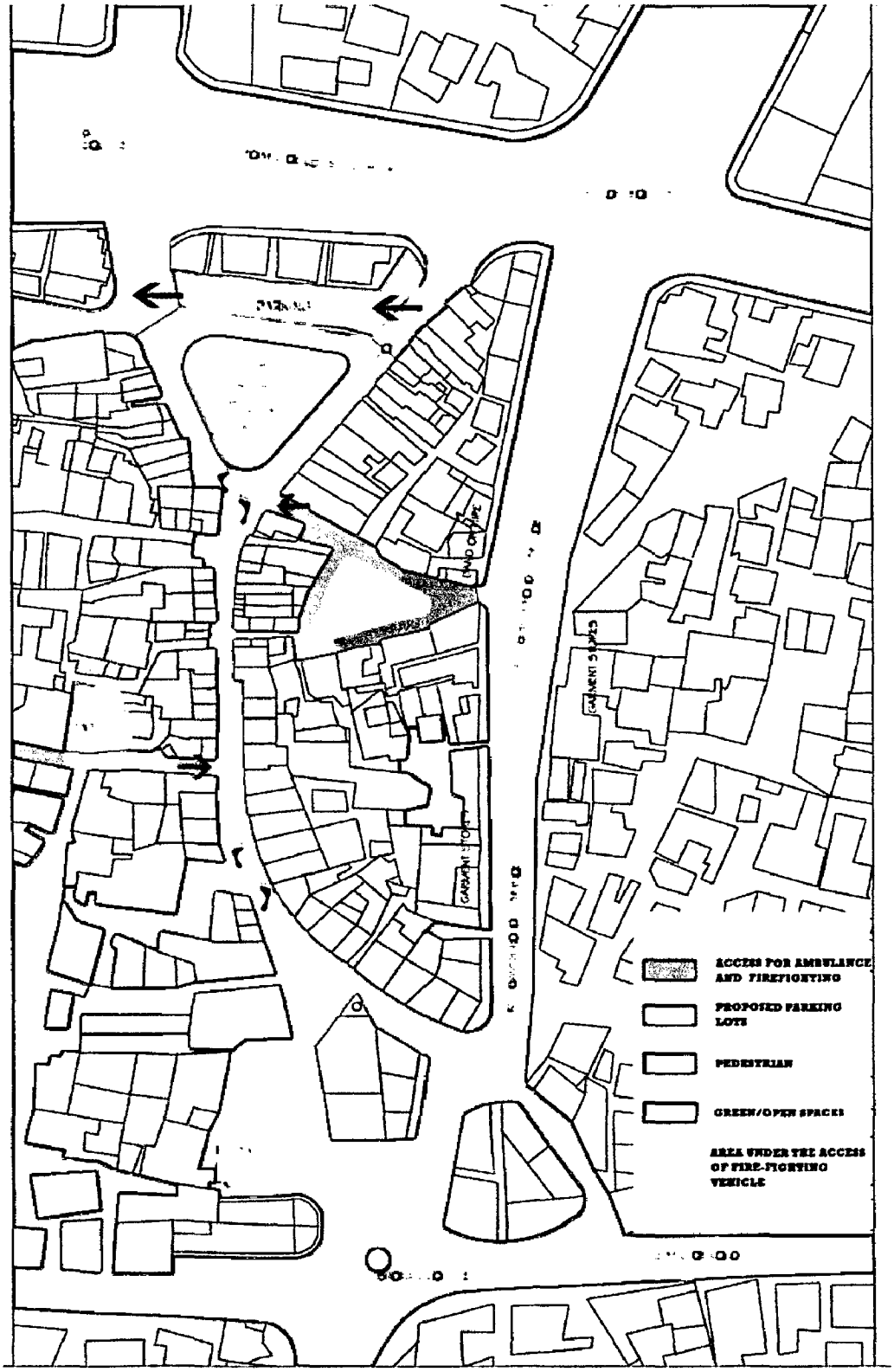
6.2.2 Proposal:

- Emergency access from two sides, one from kelibaugh road and other from the south west side.(refer map 14)
- The emergency access road can cater the area in case of fire. The maximum accessible area by fire brigade is within the radius of 30M.
- Figure below shows the area accessed by the firefighting vehicle.
- The width of the lane is increased from 2.5 to 5-6M.
- An open space is provided on the right side (refer map 14). This can be used as working space for making sculptures of bigger size in peak time.
- This will be semi open space which will be covered with tensile structure. The height of this shed can be adjusted according to the height of the sculptures.

This emergency access road can also be used for loading unloading, but the vehicles would not be allowed on the main street as it would be entirely pedestrian. For easy access and loading unloading activity **a store area** would be provided near the junction of main street and emergency access. As the street would be pedestrian parking lots are provided on the ends of the street for visitors as well as for residents.



Map 14 Alternative access, parking lots, open spaces,area accessed by the Fire fighting vehicles



Map 14 Alternative access, parking lots, open spaces,area accessed by the Fire fighting vehicles

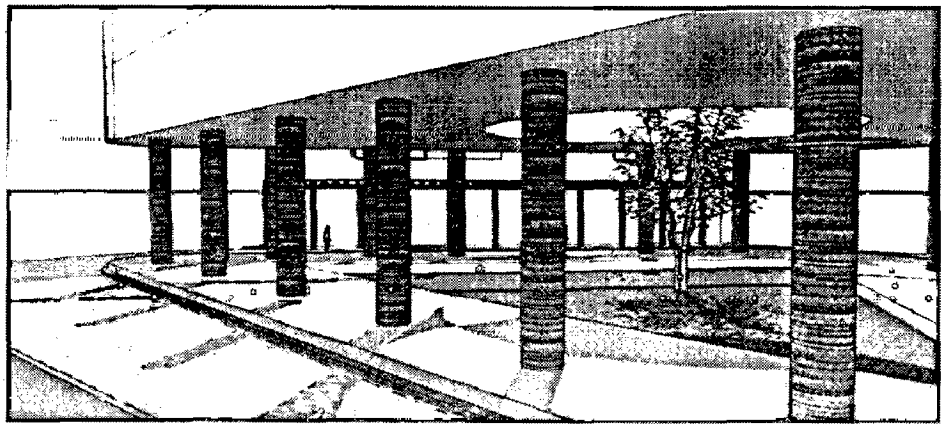


Figure 54 View from Bhavaskar sqauare

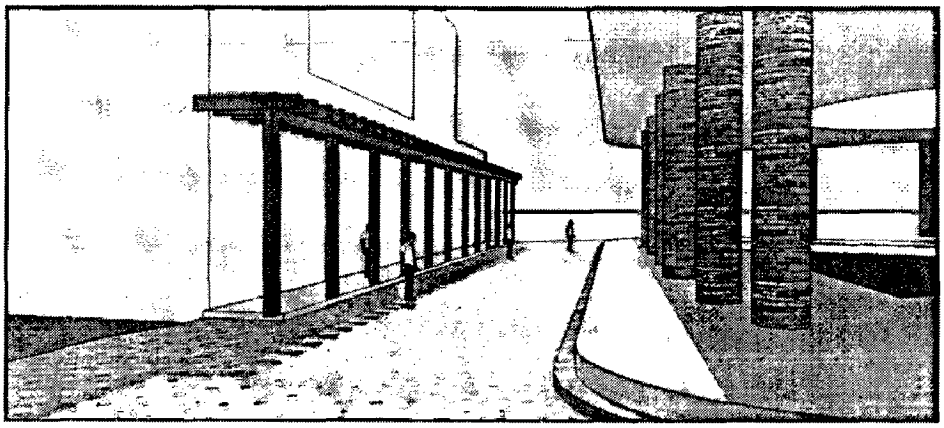


Figure 55 View from Central Avenue while entering the street.

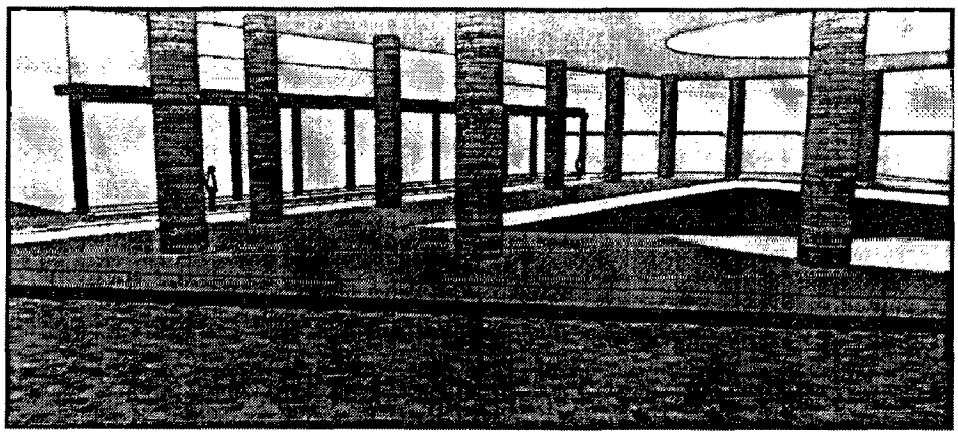


Figure 56 View from the proposed parking area, giving the overall scenario of the street

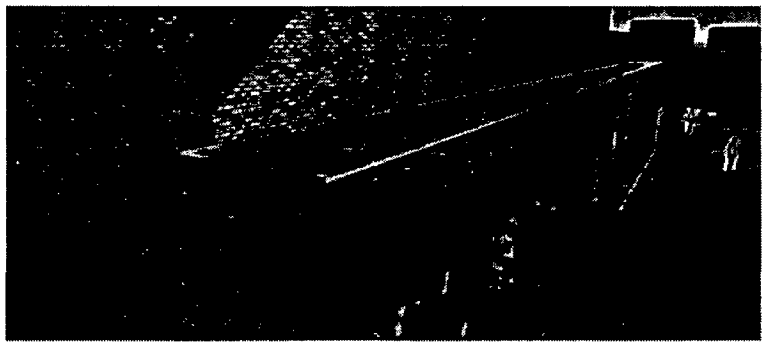
6.4 ARCHITECTURAL CHARACTERS:

Old buildings consists the traditional elements in the building like wooden brackets, extending wooden girders and joists, 'jaali' pattern on doors windows and ventilators, large span doors with wooden foldable shutters. Presently due to increasing population there is need of space. To fulfill this requirement new construction is coming up. This is done by adding floors on existing old buildings, but due to money factor no attention is given to the elevation treatment causing monotonous character throughout the lane.

In this project an attempt is made to retain the traditional character within the street.

6.4.1 Proposals

- A corridor of 2M wide is proposed in front of the working space. It would be covered by pergola with projecting wooden joists and beams.
- This character would be followed throughout the lane.



- The semi open space on street B will also follow this character.
- The workshop building will also follow the same. This will not make this new building alienated from the street. It would get merge with the surrounding.

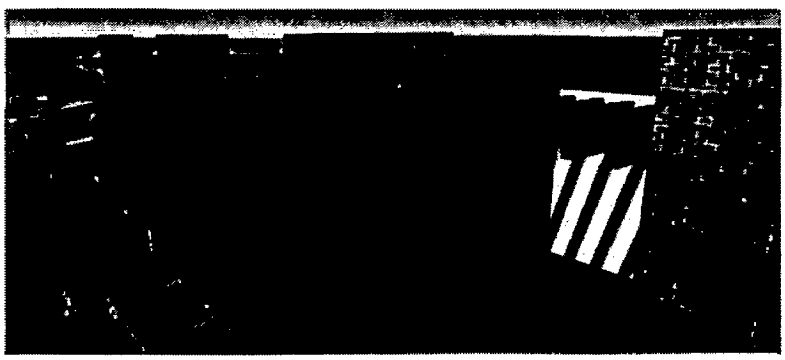


Figure 58 3D view of proposed workshop building showing projected beams and balconies

- For drying of sculptures and other articles, the space in front could be used. Also in peak time the open space below the workshop building could be used.
- While developing the street the water drainage system should be considered as there would be waste water and mud be thrown from each shop.
- The slope of the street is also important. This will automatically drain the waste water and other waste materials generated from the workshops.

6.5 CONCLUSIONS:

The city of Nagpur historically was known for various types of artists and craftsmen such as potters, weavers and sculptors & painters settlements. Out of these the chitar oli is the only settlement which is still active due to the increasing demand of the sculptures every year. It possesses a cultural heritage value. Presently the artists living in chitar oli are facing many problems related to their working and living activities. Congestion, insufficient working spaces, absence of drying and display spaces, unwanted traffic flow are some of the major issues.

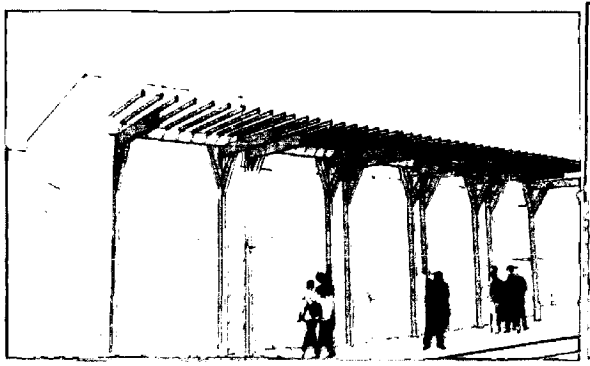
Being centuries old settlement the condition of houses in chitar oli is terrible, but these buildings still holds the traditional essence. Presently, to accommodate extending family new floors are added to the building overlooking the traditional character of existing structure.

From the analysis of the chitar oli it is observed that according to the present situation working space is inadequate and there is absence of drying and display spaces. The street space has been encroached by extending plinth and steps. Also in peak time 2/3rd space is encroached by erecting the temporary shed to cover the extended working space creating traffic congestion. Vehicular traffic is one of the main issues which is creating hindrances in the activity.

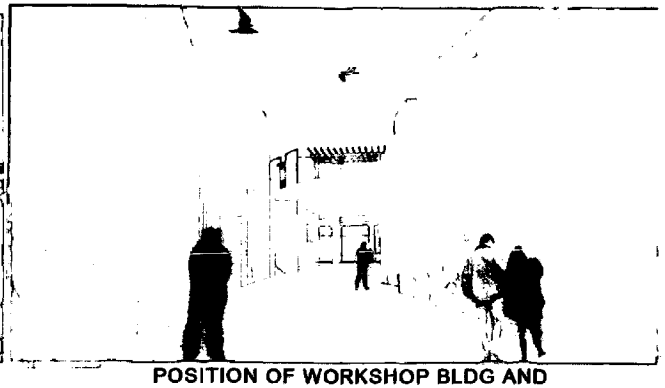
To solve the above problems of chitar oli some design suggestions and techniques are proposed for betterment of this artisan community. The main street would be made pedestrian to resolve the problem of traffic. It would be divided into 3 parts according to the activity pattern. Street A, B and C will differentiate the street into sculpture making, paintings & associate activities and new establishments respectively. Dilapidated buildings would be demolished to create urban pockets and people would be relocated to the proposed residential building near Badkas square. The working and display area problem would be worked out as extra working space would be provided in front of the shops along the main street of chitar oli. For display area an exhibition and workshop area is proposed within the triangular part of the street near Central Avenue. It will provide them a platform to display their talent on larger scale.

The public urban spaces & furniture are mostly proposed near the 'Hanuman Temple' of chitar oli as it is most interactive space of this community. Different pockets are created providing space for people to connect with each other.

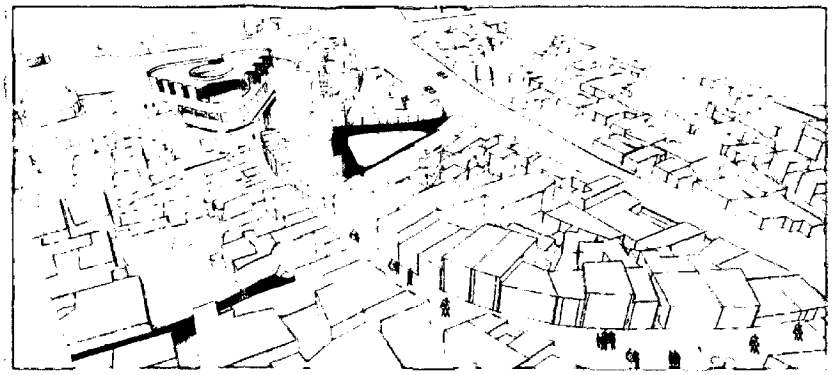
The architectural traditional characters is tried to merge with the modernity. The traditional characters like projecting wooden joists and beams, jaali pattern on windows and ventilators, projecting balconies, supporting brackets etc. are incorporated to give the new building a traditional look to merge with the surrounding buildings. While adding new developments the potential value of the cultural heritage as far as possible is tried to maintain.



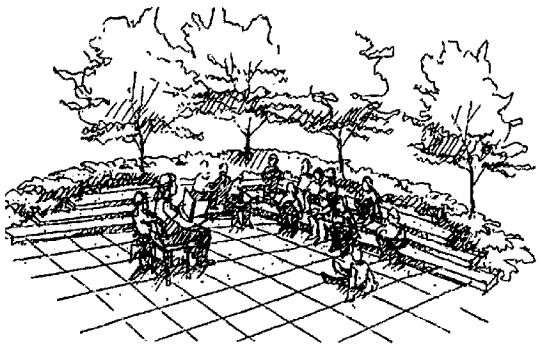
VIEW AT STREET B



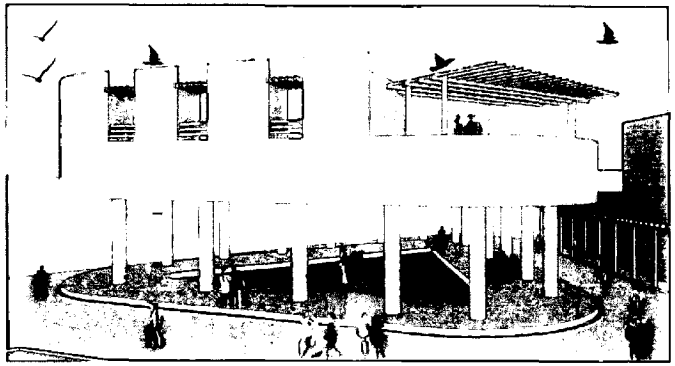
POSITION OF WORKSHOP BLDG AND
SURROUDING WALLED STRUCTURES CREATING VISTA



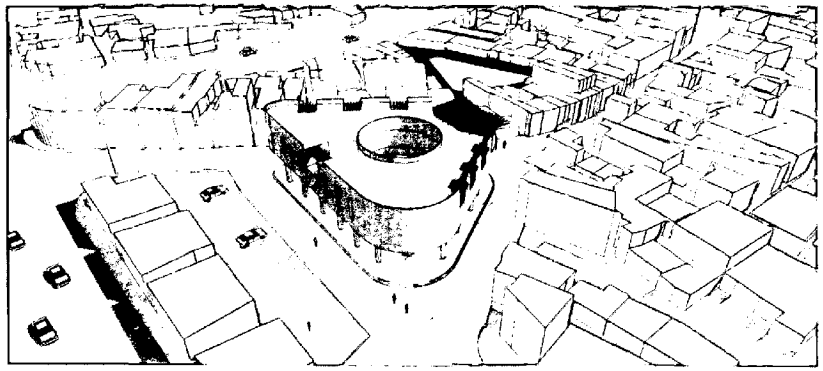
ARIAL VIEW OF PROPOSED PLAN



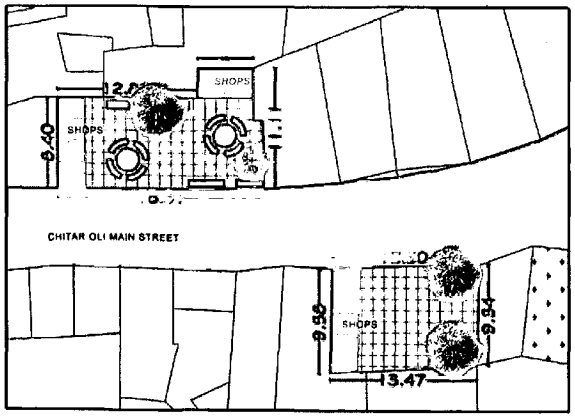
SKECH VIEW OF PUBLIC
GATHERING SPACES



SIDE VIEW OF BUILDING

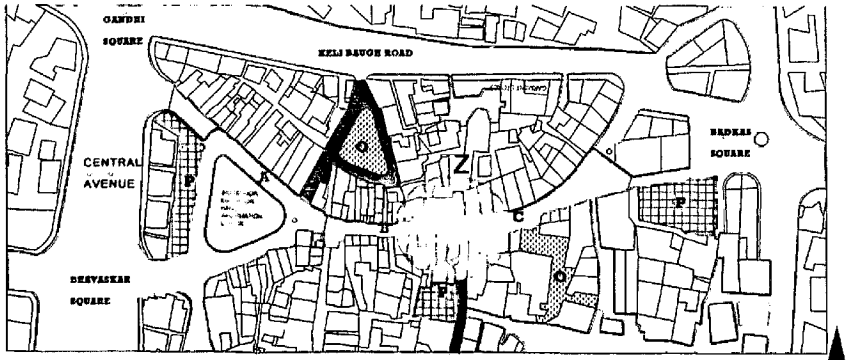


BIRDS EYE VIEW OF WORKSHOP BUILDING



DETAIL AT Z

THE WORKSHOP BUILDING IS PROPOSED AT THE TRIANGULAR JUNCTION. IT WILL ALSO HAVE THE EXHIBITION AREA AND TOURIST INFORMATION CENTER. IT WILL PROVIDE THE ARTIST COMMUNITY A PLATFORM TO DISPLAY THEIR TALENT. THE TRADITIONAL CHARACTERS ARE INCORPORATED IN THE BUILDING TO MATCH THE SURROUNDING BUILDINGS. THE PUBLIC SPACES ARE ALSO PROPOSED ALONG THE STREET TO ENCOURAGE THE GATHERING ACTIVITY. AT THE JUNCTIONS THE ROUND ABOUT OR SMALL LANDSCAPE WOULD BE DESIGNED TO ENHANCE THE CHARACTER OF THE STREET.



PROPOSED SCHEMATIC PLAN OF CHITAR OLI

KEY PLAN

WORKSHOP BUILDING, JUNCTION AND SIT-OUT SPACES

SNEHAL PUNWATKAR
IIT ROORKEE

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