SPATIO TEMPORAL STUDY OF SLUMS IN PANCHAVATI ZONE OF NASHIK CITY

A GEOGRAPHICAL STUDY

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(Sunil Laxman Shinde)

Research Student

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A) Introduction

The number of people living in slum communities has been increasing rapidly in the megacities of developing countries over the past 20 years. Indeed, although there are already at least one billion people living in slums today, it is projected that this number will double by 2030. Despite such a large-scale presence of deteriorated living conditions, the research on the formation and expansion of slums is generally lacking. Therefore, it is important to enhance our knowledge on the unprecedented expansion of slums. The earlier studies described the creation and growth of the slums but not sufficiently focussed the welfare policies. As a result, there has been a gradual application of planning procedures and slum policies that are often designed for developed countries.

Scholars often consider urbanization a positive factor for the economic growth of developing countries (Beall and Fox 2009). Unfortunately, economic growth and urban poverty may coexist in a society when high levels of socio-economic inequalities are present. These qualities are manifested in extremely poor housing conditions within city slums. Developing countries have more and more people living in cities. The population, living in slums in these cities are consistently rising.

This rapid and continual urbanization combined with rising intra-urban social inequality is expected to aggravate the slum situation in developing countries, it was not the case in its earlier than in any other time in history. The issue of poor housing conditions in slums has received a renewed focus from policy maker worldwide. Both the global scale the issue has an increased concern worldwide so it makes a research tool for policy makes.

After the Second World War, third world countries have launched a concentrated programed of industrialization. With rapid industrialization and urbanization, the number of spreading slums and its intensity has increased. Perhaps slums are the most common sights in all large cities of India.

I) Nature and Magnitude of Slums

For the first time in the world history, the number of slum dwellers is more in urban areas than in rural areas. The proportion of urban population is predicted to be over 75 percent by the year 2100. Researchers estimate that most of this population growth will take place in cities of the developing world by 2020.

Unfortunately, along with the rise of the general population of the cities the population of slum dwellers also has risen. As per the latest and the main worldwide estimate accessible to date, around 924 million individuals, or 33% of the world's urban populace, live in ghettos. This number is anticipated to increase to 2 billion individuals by 2030 if appropriate moves are not made. Ghetto tenants in Asian urban areas represent 60 percent of the world's aggregate ghetto occupants, or 554 million individuals. 158 million of these Asian ghetto tenants, or 17% of the world's aggregate, dwell in Indian urban communities. As far as the ghetto occurrence rate, which compares to 55% of India's urban populace, which implies that one out of two urban inhabitants of India live in ghettos. The ghetto rate is higher in India than the normal frequency rate in many developing nations, which remains at 43% and substantially higher than that of developed nations, which remains at just 6%.

The data given above estimating the slum population is based on the definition suggested by UN-Habitat, one of the most widely used definitions of slums. The proportion of urban population living in slums is only considered for the analysis. Rural population is not considered for the calculation of the slum incidence rate.

According to the definition, a household is a slum household if it lacks any one or more of the following five elements: i) access to water, ii) access to sanitation, iii) secured tenure, iv) durable housing and v) sufficient living area. An advantage of this definition is that it defines a slum at the household level. Most other definitions define a slum at the neighbourhood level It is tough to classify living condition of the slums.

Many recognize that the proliferation of slums is one of the most complex and pressing challenges that developing countries face today. An inappropriate housing condition for the urban poor is becoming an important concern for policymakers in developing countries.

Furthermore, it is recognized that slums adversely affect the wellbeing of the entire city, raising wide ranging concerns such from public health to safety. It is a matter of international importance, especially in the developing countries about the expansion of the slums. As a response, Target 11 of the Millennium Development Goals (MDG) was proposed that aims to significantly improve the lives of 100 million slum dwellers by 2020. Several donor countries are also acting on the issue of slums. For example, the United States has introduced a bill, which proposes to increase aid for "Shelter, Land and Urban Management" (SLUM) in developing countries.

State Govt. & Local government bodies plan to make the cities slum free. This slum issue is not confined to India only but is a world phenomenon, especially in the developing countries. They take various measures to improve slum situation by adopting certain policies. For example, in Kenya, their commitment to address the challenge of slums now appears in the national development agenda.

In India, the issue of slums has recently received significant political salience. For instance, the Jawaharlal Nehru National Urban Renewal Mission (JNNURM) highlights slum issues as a key task. The former president (Abdul Kalam) of India had announced a policy targeted to make India slum-free within the next five years, which had resulted in a massive housing program for slum dwellers called Rajiv Awas Yojana.

Slums are recognized as a matter of significance globally. The policy makers have shifted their focus to address this challenge. However, slums are not a new phenomenon and several policy actions in the past have attempted to resolve this issue. Unfortunately, none of them proved to be a panacea to making cities slum free. It is evident that there is a lot to be done and responses are required to address this challenge.

Such a task is difficult, especially when there is a gap between slum policies and the understanding of slum formation and expansion processes in literature that hasn't been bridged yet. In particular, the tools to predict the spatial aspects of slums that could assist with planning responses are limited. And the adaptive behaviour of

several actors, like households, developers and politicians in a city, influences slum policy outcomes is lesser understood.

II) Understanding Slums

What is a slum? What are the general characteristics of slums and the people who reside in slums? What are the factors that influence the formation and expansion of slums? Slum literature was reviewed to answer these questions. In particular, the review was conducted to identify relevant characteristics and factors in order to conceptualize Slums. For example, factors that influence the emergence of slums provide important processes for the model.

III) Defining Slums

The definition of slum varies widely from one country to another, even differing between cities and agencies within a country. For example, the definition of slums across governmental agencies within India is different and often depends on different parameters.

There are a few terms related with poor lodging conditions. Most predominant is the terms ghetto, casual settlement or squatter settlement. The contrasts between these terms emerge principally from the idea of settlements to which they allude. For instance, casual settlement underscores the impromptu idea of these settlements, though squatter settlement stresses illicit control of grounds or structures. Be that as it may, both these terms are progressively synonymous for ghettos. And, they are not totally unrelated classifications, i.e. a casual settlement could likewise be a squatter settlement.

This dissertation uses the term slum and does not differentiate between these three terms. Slums are also known by different names, often referring to different aspects or characteristics of slums. For example, in Pakistan, slums are known as katchiabadis (a term associated with huts made with building materials of non-permanent nature). Whereas, in Indonesia, slums are known as kampung (a term associated with a village-type settlement in an urban or rural area).There are a few terms alluding to ghettos, for example, Bidonvilles in previous French settlements, ghettos, shantytowns, ghettos or squatter settlements in earlier British provinces,

favelas, and so forth. There are several other local terms limited to just one or two cities. For example, ‘chawl’ refers to a specific housing type in Nashik and Mumbai.

Nonetheless, there have been numerous attempts to develop a definition that could be used to enumerate slums within monitoring instruments, such as national population census or demographic and health surveys. While there is an expansive accord on what is viewed as a ghetto, a few definitions win both in principle and practice. This section discusses some of the widely accepted definitions given by international developmental agencies and national governments in developing countries.

i) The Cities Alliance Definition

One applicable definition is offered by the association - Cities Alliance, which includes a worldwide coalition of urban areas, national governments, non-governmental and multilateral associations, for example, the World Bank and the UN-Habitat. The Cities Alliance’s definition centres on the issue of ghettos as reflected in their mantra "Urban communities Without Slums." In the "Urban areas Without Slums Action Plan," Cities Alliance gave the accompanying meaning of a ghetto: Slums are ignored parts of urban areas where lodging and living conditions are shockingly poor. Ghettos go from high-density, unsanitary focal city apartments to unconstrained squatter settlements without legitimate acknowledgment or rights, sprawling at the edge of urban communities. Ghettos have a long history and the existence of increasing ghettos affect persistently in the creating nations yet. (include the most exceedingly terrible condition particular in winning everybody names)

This definition gives a general depiction of a ghetto. The definition's fundamental parameters distinguishing ghettos are carelessness and lawful acknowledgment, apparently, by city governments as authentic and perceived parts of the city. Besides, there are two parameters that the definition unequivocally considers immaterial for characterizing ghettos: the area in a city, and the age of a ghetto.

ii) Census of India Definition

The definitions proposed by global improvement organizations are generally not necessarily acknowledged by their part nations. Many creating nations have their

own definition of a ghetto. As a rule, they are created to conduct a statistics. For instance, the Census of India gave the accompanying meaning of a ghetto for the 2001 enumeration: For the reason for Census of State govt. nearby govt. characterized the ghetto event urban communities and direct it by different control acts. 'Ghetto Act' (ii) All zones perceived as 'Ghetto' by State/Local Government and UT Administration, Housing and Slum Boards, which may have not been formally advised as ghetto under any according to act (iii) the territory having 300 populace or 60-70 houses which have less living assets, undesirable condition and absence of sterile and drinking water offices.

This definition depends on the lawful acknowledgment of different open experts to decide the ghetto status of a particular place (e.g. criteria (I) and (ii) in the definition). Furthermore, it accentuates thickness and congestion as vital criteria for qualifying a place as a ghetto. It additionally set an accentuation on poor lodging conditions and an absence of fundamental administrations.

iii) UN-Habitat Definitions

The United Nations Human Settlements Program (UNHCP), now alluded as UN-Habitat, is the United Nations' (UN) organization for human settlements. The U.N General get together prescribed and made it mandatory to have sanctuary to the general population in the urban communities. Along these lines, it might be advantageous to examine how the UN-Habitat characterizes a ghetto. One of the primary UN-Habitat definitions of a ghetto is as follows:

A ghetto is a coterminous settlement where the tenants are portrayed as having deficient lodging and fundamental administrations. A ghetto is frequently not perceived and tended to by general society specialists as a vital or equivalent piece of the city.

This definition accentuates poor physical states of lodging stock and an absence of fundamental administrations as vital components to distinguish ghetto regions. The definition is additionally unequivocal about spatial measurement of ghettos. The third component making this definition precise is the absence of acknowledgment of these territories as real voting demographics.

This definition though overtime underwent few corrections. The current definition was adjusted by the UN-Habitat to a gathering of people living under a similar rooftop in a urban territory which is taking the following i) The household which in unable to protect form hostile climate condition ii) The house having less space & members area more than three. iii) Pure drinking water facilities at easy access & reasonable price free from the forces evictions.

This definition is not similar to the various definitions mentioned above in two essential ways. Firstly, it adopts a wicked strategy in distinguishing ghettos. It perceives that not all ghettos are homogeneous and not all ghetto tenants experience the ill effects of a similar level of hardship. The extent of hardship relies upon the number of the five components that are missing inside a ghetto family, which is a noteworthy change over a dichotomous ghetto/non-slum approach of different definitions. For instance, this definition can give a distinction between the ghettos that need just water and the ghettos that need both water and sanitation. Interestingly, a straightforward dichotomous approach will regard both these territories as ghettos without making any refinement in view of the level of hardship.

Also, the updated definition depends on a solitary family unit's living condition instead of that of an area, as a whole this is an essential criterion from the past definitions since it doesn't depend on a base touching region or populace size to perceive a place as a ghetto. Conversely, Census of India's definition won't perceive a place with 60 or less family units as a ghetto.

This definition likewise has a practicability in deciding and identifying if a specific region is a ghetto. For instance, it is conceivable to unbiasedly quantify the congestion in a house or to decide if the house approaches the fundamental administrations or not.

The assortment of definitions presents a challenge scientists and policymakers when attempting to gauge ghettos. Specifically, the decision on a particular definition has immediate ramifications on the estimation of ghetto populace. Utilizing one definition to compute a city's ghetto populace can prompt a gauge that is very extraordinary when utilizing another definition. For instance, there are no less than threeto great degree diverse evaluations depicting the ghetto populace in India for the

year 2001.Following the definition exhibited, the Census of India (2001) detailed 52.4 million individuals living in ghettos. Conversely, an ongoing report from the Committee on Slum Statistics/Census amended the definition and back-estimated the quantity of ghetto tenants to 75.26 million out of 2001. Neither of these is close to the UN-Habitat's gauge of 157 million ghetto inhabitants that was characterised by the definition displayed in 2.1.3.

The decision of definition is quite compelling for policymakers since the identification of ghetto occupants has financial and political implications. For instance, a more noteworthy number of ghetto tenants may imply that a national government needs to dispense more assets for welfare programs. From the exploration perspective, the assortment of definitions crosswise over offices makes it hard to look at ghetto circumstances crosswise over spots. Also, when the definitions are continuously changing or evolving inside an organization, it results in confusion and dissects a ghetto.

Not only is this an issue of importance at the national level, but also at the lower forms like city level. For example, data on slums in Nashik too suffers from variations in definitions over time and across agencies, which in turn results in different estimates of slum population, limiting the validation of Slum.

B) Characteristics of Slums

Once a slum is defined, it is useful to explore the characteristics of slums to enhance our understanding of them. This section, therefore, reviews literature from various disciplines to identify common characteristics of slums and slum dwellers. Such qualities of ghettos relate to the area of ghettos, densities and congestion, the status of essential framework, the reasonableness of lodging in ghettos for urban poor, possession structure, private portability and movement examples of ghetto inhabitants and network building and administration. The attributes of ghetto occupants resonate with the financial states of the family units, their relocation conduct and the statistic piece. These characteristics of both slums and slum dwellers are useful in designing and conceptualizing the simulation model. For example, understanding general characteristics of slum locations guided the choice of spatial elements included in the environment of the model.

I) Location of Slums

Literature suggests that slum locations have several common characteristics across cities. For instance, slums are normally found in locations that are unsuitable for housing and urban development. These locations include hazardous sites such as river banks, steep slopes, solid waste disposal sites, vacant land along the railway tracks and wetlands. Areas that are prone to landslides, pollution, and fire; flooding that are unsuitable for human habitation is also correlated with slum locations. Slums are also found in unattractive areas such as cemeteries and graveyards e.g. city of the dead in Cairo, Egypt. They are located both in the central areas of cities as well as in the peripheries.

Although locational characteristics of slums in relation to land characteristics are well known, a complete understanding of slum locations with respect to each other and to other features of the city, such as places of employment, markets etc., does not exist. However, these characteristics of slum locations suggest that unattractiveness and/or hazardous locations are important features for the model.

II) Density and Overcrowding

Overcrowding is one of the key parameters that characterize slums in developing countries. In particular, slums have very high population densities compared to the rest of the city in which they are located. For example, Dharavi, a slum in Mumbai, has a density of 336,000 persons per sq. km, which is 11 times denser than the rest of the city of Mumbai, 29,500 persons per sq. km. In Nairobi, Kenya, the average slum density is 75,000 persons per sq. km, which is 25 times higher than in the planned parts of the city, 3000 persons per sq. km. Therefore, density is an important parameter for Simulation that can aid in identifying slum areas. The ratio of densities between slums and non-slums in a city is also used as a basis for validation.

III) Factors Influencing Emergence of Slums

This final section reviews the literature that identifies key factors of emergence of slum in the developing world. Such factors include rural-urban

migration, location choice factors, household preferences and location choices, planning and policies, and political and historical context.

IV) Rural-Urban Migration

Rural-urban migration is considered to be an important factor that influences slum formation in cities. Ullah concluded that the most migrants to Dhaka from rural Bangladesh ended up in slums. Mitra and Tsujita explored whether migrants improved their living conditions over time. The authors conducted a survey of individuals in the slums of New Delhi in 2006 to pursue whether migrants were likely to experience upward income mobility in their place of destination.

Their findings contradicted the view that migrants merely transfer poverty from rural areas to large cities. They found that, in the long term, migration improved the living standard for migrants. Thus, how long a household stays at a destination is an important variable for several reasons; how long a household has stayed in the city determines its income level, which may change the household's propensity to return. Hence a dynamic view of individual households, their post-migration income levels and duration of stay are explicitly modelled in Slum.

V) Location Choice Factors

Lall et al explored the factors that influence choice of location for slum dwellers in the city of Pune, India. They used a multivariate analysis of survey data.

The authors explored three major location choice factors suggested in the classical housing location choice literature from developed countries: commuting costs, local public goods and individual preferences for neighbourhood composition. The study found that location choices were based on housing quality, neighbourhood amenities and community structure in addition to the three classical factors. This finding has a major implication for policies that involve the relocation of slums, since slum dwellers assign a value to the location of slums, configuration of the community and amenities in the neighbourhood. The study quantified the welfare loss for slum dwellers for resettlement policy alternatives. The authors suggested that, while cities could achieve land use efficiency through the resettlement of slums, the concomitant welfare losses for slum dwellers would be high, particularly for those incurred by

difficulty in maintaining the same configuration of community structure at a new site. The negative preference towards forced relocation among slum dwellers is thus incorporated into Slum.

C) Planning and Policies influencing Emergence of Slums

The influence of planning process and policies on formation and expansion of slums is not well understood. Policies designed to improve the lives of slum dwellers could work against them. The mechanisms of such adverse relationships are often not understood. In a noteworthy study, Mata et al have shown one such mechanism. The authors examined the impacts of local zoning and land use policies on slum formation in Brazilian cities between 1980 and 2000. The authors provided a counterintuitive explanation that slum formation was higher in the cities that enacted pro-poor housing policies, such as smaller lot sizes. A smaller minimum lot size tends to provide a favourable framework for poor migrants in the city by increasing formal housing supply and potentially creating affordable housing. However, the author showed that migrants often took pro-poor housing policy as a positive signal in their migration decisions, and hence, the cities with pro-poor housing policies tended to attract more migrants compared to other cities lacking such policies. This, in turn, created a new demand in the city which offset the net effect of increased supply originally created by pro-poor housing policy.

Places where formal housing markets were perfectly flexible, it did not pose a problem because the housing supply would increase with higher demand. However, in developing and emerging countries like Brazil, formal housing markets are far from flexible both for housing prices and income shifts. Thus, whether slum formation would increase or decrease depends on the net effect of increased migration and market responses to the increased demand. Thus slum formation may increase despite pro-poor zoning policies or even because of such policies per se.

This study provided an important insight into the way policies that are intended to operate at one scale (i.e. city) might induce changes at a different scale (i.e. regional level migration), ultimately working against the intended outcomes. Models such as Slum could provide a tool to study such unintended outcomes of a policy change. Therefore, it is important to build a multi-scale linked system that

models both city level dynamics (e.g. housing market dynamics) and regional level dynamics (i.e. migration dynamics). Secondly, it is important to explicitly model the flexibility of a housing market.

In another study of 162 countries, Martinez and King illustrated how a policy change may work against its intended goal in the short run. The authors used cross-national data of property rights protection scores and growth indicators from 1995 to 2005. Authors found a positive relationship between property rights protection and a reduction in poverty. However, when they studied improvements in property rights protection, this association disappeared. In other words, the authors did not find a positive relationship between change and improvement in property rights protection and a reduction in poverty. Thus, when a policy that induces change in a regime, that change per se might not lead to the outcomes expected in the short term. This finding provides the basis for the usefulness of building dynamic models such as Slum to study the immediate impacts of policy changes.

D) Research Goals

Since the ancient period, the study of the population has been carried for the different reasons, not only in geography economics, social science, politics anthropology, psychology, social sciences but also in natural sciences like biological and medical sciences where the study of population is must. Urbanization has been increasing heavily because of the increasing rate of population. Due to this, the different types problems are also arising, which include, physical, social and economic problems. A lot of geographers conducted researches with attempts to solve these problems. The study of population is related to size, structural Changes and distribution. In a number of city within Maharashtra and the increasing population of these cities due to the lack of residential premises the growth of slums and distribution of fundamental facilities, has become a sudden disaster within the humanity.

Due to industrialization and migration in Nashik city, there have been changes in the residential premises that cause the increase of the slums. It is now necessary to study the slum. In these slums, the individual lives with a lower income source; and there is a hike in the price of land day by day. The people of the slum are unable to

purchase such expensive land. So they reside in these slums. They do not have the technical skills to increase their source of income. That is why they have no any other option than to dwell in slum, which is responsible for slums. For the development of these slums and to find out the problems of the slum, it is necessary to study the slums.

Nashik is an essential city of Maharashtra that stands out financially and socially from the most progressive States in India. Topographical vicinity to Mumbai (Economic capital of India) has quickened its development in post-autonomy years. Improvements of recent decades have totally changed this customary journey focus into a lively present day city and are ready to end up a city with worldwide connections. New Nashik has developed out of dreams, diligent work and ambitious soul of nearby and transient individuals.

Advancement of various financial exercises in and around Nashik has this basic topic of individuals' drive and activities, soul of steady learning and developing through encounters of local, national and worldwide sources and experimentations. The soul of enterprise can be followed in the folklore of Lord Rama who picked the riverbank of Godavari, the present Nashik, as his home amid his outcast. Nashik accordingly turned into a city of journey and gained the status of Banaras of South India.

The presentation is concerned with the patterns of slums in Nashik city. It may be worthwhile to have a glance of overall city for the purpose of giving a background of the study. According to temporary reports of 2011 Census of India, populace of Nashik in 2011 was 1,486,973; of which the number of male and female is 784,995 and 701,978 respectively. It is estimated that about 10% of the city area has been occupied by slums and constitutes about 14.44 % of the total population of the corporation. There are about 168 slums areas consisting of about 42,742 huts with a population of 2, 14,769 in the Nashik city. Panchavati is a historical part of the city and it is the largest slum Division which contributes 48 notified slums with 10,390 huts and a population of 52,193, which is 28.57 percent of all slums and contribute 24.30 percent of population of total slum population of Nashik city.

Today slums are a more acute problem in the rapidly growing urban centers in India, metropolitan cities in Maharashtra the problems created by slum areas like pressure on basic infrastructure & amenities creates socio-economic and demographic problems to study their problems and overcome on these problems the study of slums in Nashik city is informant.

It is implicitly or explicitly assumed in poverty studies that slums account for most of the poor in the cities. Mostly in cities poor people's living condition is unhealthy and lack of proper facilities. In such areas are steered as slum. They are forced to live in illegal and informal settlements because they cannot afford formal shelter, being excluded out of the housing markets. It is, however, important to realize that slums do not house all the urban poor, nor are all slum dwellers always poor. Income and employment deprivation may go together with deprivations in the area of housing, services (education, health and environment); such that the combination of deprivations makes it very difficult for households to get out of poverty.

So, the goal of this dissertation is twofold. First, it aspires to examine the spatiotemporal dynamics of slum formation and the expansion process. Second, it aims to build a framework that could serve as a decision support tool for urban planners and policymakers. The framework will serve as an urban laboratory to conduct policy experiments in a simulated environment. It aims to provide a tool to conduct policy experiments which are not always feasible to conduct in the real world.

E) Research Questions

This dissertation attempts to answer the following research questions: i) how do slums form and expand in a Nashik city? ii) Where and when are they formed? And finally iii) what kind of structural changes and/or policy interventions improve housing conditions for urban poor?

F) Main Objectives of the study

The objectives of the study are given below:

1) To identify the slum areas of Nashik City.
2) To study the slum pattern in Nashik City. I.e. size and nature.
3) To study the temporal changes of slum areas in Nashik city.

4) To study the Socio-economic status of slums population.
5) To study the problems of slums in Nashik City with special reference to Panchavati Zone.

G) Scope and Limitations

This model uses an approach that is exploratory in nature; hence the focus is on the development and testing of a framework. The validation is preliminary and is limited only to the city of Nashik, India. Nonetheless, the process is completely transparent and user-friendly so that method of research could be used not only for other cities in India, but for cities in other developing countries as well, albeit with local adaptation and customization.

H) Organization of the thesis

Chapter 1: Introduction

I) Nature and Magnitude of Slums

II) Understanding Slums

III) Defining Slums

i) The Cities Alliance Definition

ii) Census of India Definition

iii) UN-Habitat Definitions

B) Characteristics of Slums

I) Location of Slums

II) Density and Overcrowding

III) Factors Influencing Emergence of Slums

IV) Rural-Urban Migration

V) Location Choice Factors

C) Planning and Policies influencing Emergence of Slums

D) Research Goals

E) Research Questions

F) Main Objectives of the study

G) Scope and Limitations

H) Organization of the thesis

I) Introduction to Study Area

I) Physiographic

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III) Drainage

J) Social, Cultural and Economical characteristics

I) Land use, spatial growth and planning

II) Population characteristics

III) Transportation and Communication

IV) Economic status

V) Agriculture characteristics

VI) Tourism

K) History of Nashik city

L) Socio Economic Characteristics of Nashik city

A) Population Growth

I) Temporal Population Growth of city

II) Population Density

III) Age- Sex composition of Population

IV) Literacy composition

B) Economic Development of Nashik City

I) Administrative Function

II) Educational Function.

III) Banking Function.

IV) Health Function.

V) Communication and Transportation Function.

VI) Industrial Function.

VII) Market Function.

VIII) Recreation.

IX) Other

C) Industrial Development of Nashik City

D) Summary

M) Slums in Nashik City

A) Push and Pull factors or causes of rural migration to urban areas.

B) Classification of slums in Nashik City

I) Division Wise Slum

II) Locations of Slums

III) Ownership of Slums

IV) Declared/ Undeclared of Slums

V) Patterns

VI) Size

C) Spatial-Temporal changes of slums

I) Population Change

II) Change in Area

III) Spatio- Temporal Changes in Density of Slum

IV) Temporal Growth of Slum Population

V) Growth of slum

VI) According to Person

VII) Density Classification of Slum

VIII) Area Classification of Slum

IX) Area wise Classification of Slum

D) Summary

Chapter 2: Review of Literature

Chapter 3: Research Methodology

Chapter 4: Analysis and Interpretation

I) Introduction

II) Sample Households in the Slum

III) Patterns of Settlement

IV) Socio-economic Status of Households in Panchavati Slum area

V) Availability of Amenities in Panchavati Slums area

VI) Major Problems of Slum Dwellers

VII) Summary

Chapter 5:- Findings and Suggestions

I) Introduction to Study Area

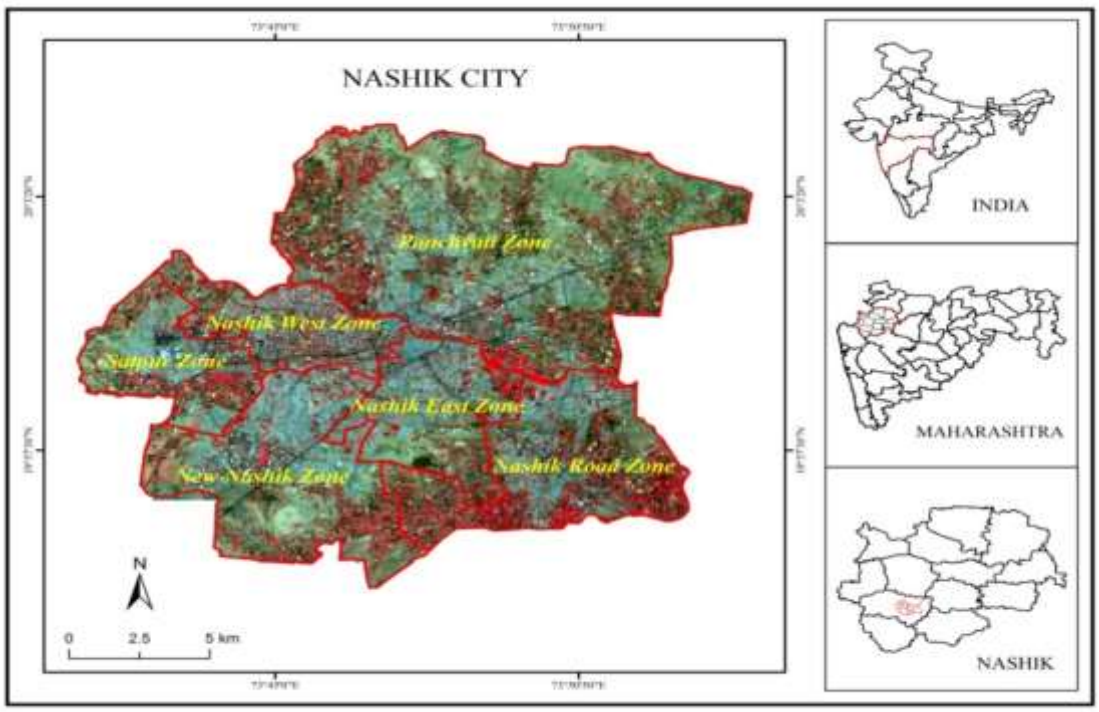
The Nashik Municipal Corporation area lying between 19^0-33' and 20^0-53 ' Northern Latitude and 73^0-16' and 73^0-66' East longitude, is bounded on the north by the northern boundary of Villages Gangapur, Anadawalli, Makhmalabad, Mhasrul and Adgoan. In the east by the eastern boundary of Villages Adgoan, Manur, Eklahara and Kotamgoan, on south by the northern boundary of the river Darna and Deolali Cantonment, on the West by the western boundary of the villages Chanchula, Pimplegoan-Bahula and Gangapur. The functional components of the area the Nashik city (the nucleus), Satpur, Ambad Industrial area and Anandawalli, Gangapur, Chunchala, Makhmalabad, Mhasrul predominantly residential area, all geared together from one unit. The second component is the Nashik Road area supported by the industrial activities at Eklahara Thermal power station, railway traction etc., the commercial activities around the Nashik Road railway station and the predominantly residential areas of the Deolali, Dasak, Chehdi, etc. Though these two are separate units they themselves have a strong inter relationship. The civic infrastructure however needs to be suitably coordinated to ensure compact and orderly development of the entire area in the future.

Nashik enjoys the status of the Divisional Headquarter of the newly constituted Nashik Administrative Division. Nashik is situated on the eastern slopes of the north-south Sahyadri ranges. The town Nashik lies on both sides of the river Godavari, Panchavati laying on the left bank with Tapovan, about 10 km. South-west of Nashik is the busy railway station of Central On the side of it and the Nashik on the right bank. Nashik Road, situated Railway. It is a fast developing area and has a tremendous developing potential in view of its advantageous situation, which has made it an ideal place for location of new industrial and commercial establishments.

Settlement example of this new region improvement depended on the British arranging standards. Street interfacing Nashik to Mumbai turned into the new point of convergence of city with its new forcing stone structures developed in neo gothic style, set over from streets and giving tree lined roads in the managerial zone. The British private quarters were vast cabins set in finished greenery enclosures, found far from office territories. Structures for District Court, Collector officers, Police central station and substantial structures lodging war workplaces and town lobby were a piece

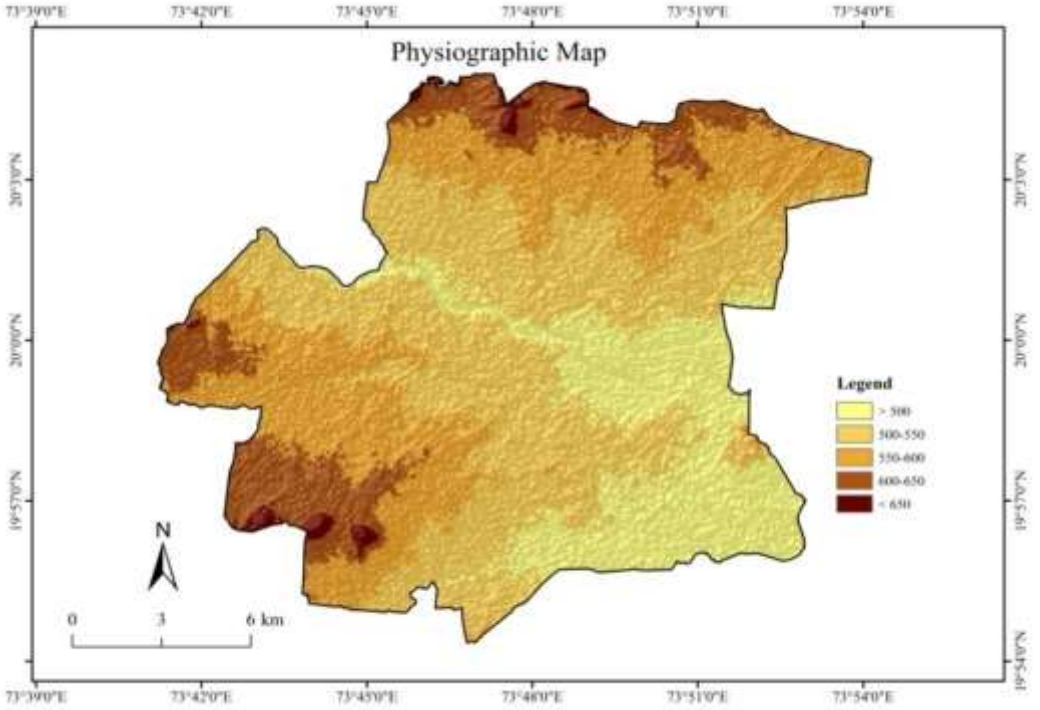
of the managerial complex. Indian experts like attorneys, specialists, directors and neo rich, arranged their local location close to this regulatory complex. Keen living arrangements in workmanship deco style, which were main stream in Europe, showed up in the city. English administer presented formal instruction and numerous schools were built. Firmly stuffed structures, slender avenues and different abodes ruled the customary settlement. Homes with gardens, set again from the boulevards ended up well known in the new private advancements. Inhabitants of new settlement were affected by British instruction. They were aware of Modern City improvement. This new class of individuals was dynamic and persuasive in political and social developments of the period. They had close contacts with urban areas like Mumbai, Pune and the outside world. This zone later turned into the focal point of political development and autonomy battle. The course of development, far from the old city towards Mumbai and Pune is emblematic. The development of city toward this path proceeded even after autonomy.

The Nashik Municipal Corporation covers an area about259.13 sq. km and includes within it the area of three erstwhile Municipal councils viz. Nashik. (about 58 sq. kms.) Nashik Road-Deolali (about 21 sq. kms.) and Satpur(about 12 sq. km) The surrounding 23 villages included within the limits have an aggregate area of about 160 sq. K.ms.



Map:1.1 Location Map of Study Area

I) Physiography



Map:1.2 Physiography of Nashik City

The river Godavari has been tapped for irrigation about 12 kms north-west of Nashik near village Gangapur. The Marathi proverb that "Nashik is settled on nine hills supports" the view the name Nashik is probably the Sanskrit "Navashikhar" or the nine peaks. Except the "Chitraghanta" on the North which is nearly isolated, hills on which Nashik is built are spurs stretching from a central place rather than the group of separate hills. About 5 kms to the south of Nashik-city, the Trimbak, Anjineri range ends in three isolated hills about 300 meter high. The highest on the extreme east (323 meter high) has the special interest of having a group of old Buddhist caves. The caves known as “PandavLeni” Caves are approachable from the Mumbai-Agra national highway. About 12 kms to the north, is the picturesque group of the Bhorgad-Ramsey hills with the sharp cone of the "ChamarLeni" caves hill (Jain Caves) stretching far to the east. Near Nasardi River, which runs in East-West direction about $1^{1/2}$ kms to the South of Nashik, the country grows richer. It is parallel to the productive field. To the North of Nasardi continues productive field and well tilled further. The lands between Nashik right canal and the north bank canal are also rich agricultural lands. Some of these lands close to the developed parts of the town are being used for non-agriculture purposes to meet the growing demand for urban land.

II) Climate

The atmosphere of Nashik is described by dryness with the exception of amid the south-west storm season. The year is believed to be of four seasons. Winter from December-February, Summer from March-May and the monsoon from June-September. It is followed by the post monsoon season during October-November.

Average maximum temperature during the summer period is max. 42.5^0 C. & minimum 21.5^0C and in winter season it max. 28.3^0 C. & minimum 6.0^0 C. The area is very humid during the south west monsoon, as it is cold in the post monsoon, and in the summer season the air is dry. The late spring is the driest piece of the year with relative stickiness somewhere in the range of 20 and 25 %only in afternoon.

The breezes are for the most part light to direct with some fortifying in the breeze compel amid the last piece of the late spring season and in the rainstorm season. After the monsoon season the wind direction is very in & in during the afternoon. In the cold season the winds blow from the bearings between South-West and North-West toward the beginning of the day and amongst North and West toward the evening. Amid the hot season the same occurs between south-west and north-west. Some of the storms and depressions from the Arabian Sea in the latter half of the summer and post monsoon seasons affect the area causing the widespread rain. Thunderstorms occur in the latter half of the hot season and in the post monsoon season.

III) Drainage

Natural drainage of the area is in North and North-East direction to the Godavari, South-West to the Nagjhari, which winds round to Nashik town to the South and East and joins the Godavari, West and North-West into Sarasvati which skirts the West and North-West of the town and falls into the Godavari near the Delhi Darwaja. A small area in the north of the Panchavati drains into the Aruna and considerable section of the South from both sides drains into the Vaghadi. The four minor streams, the Nagjhari, Sarasvati, Aruna and Vaghadi go dry during the fair weather and seldom have much water except during the heavy rains. Thus, the Godavari either directly or indirectly receives whole of the town's drainage. Prior to

the construction of the dam, the river bed used to go practically dry during the summer months unlike the large paved pools, which always contain water.

Now, the water is controlled and discharged from time to time to maintain the steady flow. These pools are considered to be holy and dip in them is believed to have purifying effects. The river Nasardi meets Godavari to the east of Takli. Besides the perennial river Darna forms the southern the boundary of the corporation area to which the river Waldevi running through the southern part of the area, meets near Chehdi.

The Nashik Municipal Corporation area is about 259.00 Sq.and the Yearly rainfall is 775 mm. There are three main river basins namely the Godavari, Nasardi and Waldevi River. All these rivers flow from west to east. There are major Nallas which meet the river at different places. The main nalas are as below.

Godavari River Left Side: Manur Nala, Nandur Nala, Kapila, Waghadi, Aruna Nala, Ramwadi Nala & Alandi River

Right Side: Nala near the sub village Bhangre Farm Nala, Bhoi Nala, Sarasvati Nala, Malhar Nalas Chopra Nala, Hirabag Nala, Anandvali Nala, Gangapur East side Nala.

Nasardi River:Right Side : Chunchale Village Nala, AmbadgaonNala, Tornanagar Nala , Mahale Farm Nala, Sadguru Nagar Nala, Rajeev Nagar Nala, Bajarangwadi Nala, DGP Nagar Nala.

Waldevi River: Left Side: Pathardi village west side Nala, Vadnergat Nala, Pimplagaon Khamb Nala, Rokdobawadi Nala.

J) Social, Cultural and Economical characteristics

I) Land use, spatial growth and planning

A development plan was prepared for Nashik City in the 1993. The land use as given in the development plan has been indicative the fact that the large increase in the population will be accommodated in the development plan area. The total development area in 2010 was about 27% of the total area with large areas under Agriculture (52.99%) and vacant land (14.25%). In future developed area is expected to increase to 52.84% keeping 43.61% for the no development zone and 3.57% for water bodies.

Table No: 1.1 NASHIK CITY: LAND USE (2010)

Sr. No.	Land use	Area (in Ha.)	% of DP	% of total area
1	Residential	1514.92	20.87	5.65
	Committed residential	1415.07	19.49	5.28
	Total	2929.99	40.36	10.93
2	Commercial	61.89	0.85	0.24
3	Industrial	1378.39	18.98	5.14
	Committed industrial	52.27	0.72	0.19
	Total	1430.66	19.7	5.33
4	Public and Semi Public	487.21	6.44	1.74
5	Public utility	83.67	1.15	0.31
6	Transportation Gardens playgrounds	799.22	11.01	2.98
7	Recreation	145.62	2.01	0.54
8	Military	943.7	13	3.52
9	CIDCO	398	5.48	1.48
	Total Developed Area	7260	100	27.07
10	Agriculture	14213.82		52.99
11	Water bodies	955.13		3.57
12	Vacant land	3823.42		14.25
13	Forest hill slopes	569.13		2.12
	Total area	26822		100

Source: - CDP under JNNURM for Nashik Municipal Corporation.

II) Population characteristics

As indicated by G. T. Trewartha, humans are not using the physical earth but in addition contribute to making it. Populace is human asset of the nation. The advancement of any zone is predominantly relying on its inhabitants. The monetary association of a locale has been a noteworthy impact on the spatial conveyance and attributes of human settlements. Along these lines populace is the essential textures of monetary exercises when all is said and done. According to 1991 census, the population of Nashik was 6,56,925, which has increased to 10,77,236 persons in the year 2001. The decadal growth rate in 1981-91 was 50.33 per cent, which further

increased in the decade 1991-2001, by 63.98 per cent. The density of population was 2,535 persons per sq. km in 1991 which has found to be increased 4,158 persons per sq. km. in 1991-2001.

III) Transportation and Communication

Transportation lines act as the lifeline for urban development, without which the concentration of population and economic progress of the urban areas are not possible. Transportation and communication plays an important role in the regional development by providing access to the local resources benefitting and growing industrial development. Accessibility and connectivity is an important aspect of economic development. Nashik is very much connected by streets, railroads and aviation routes with critical urban communities of the nation e.g. Mumbai, Kolkata, Delhi, Pune, and so forth.

Nashik is one of the significant street intersections of India. The Mumbai-Agra national parkway (NH-03) goes through Nashik. It is a four path turnpike (under development) and gives quick network to Mumbai. Nashik is likewise associated with Pune with Nashik-Pune National Highway. (No.- 50) Nashik has a noteworthy street intersection of real state expressways. It is associated with Surat by Nashik Surat Highway, Aurangabad, Mumbai, Pune, Ahmednagar, Dhule and numerous different urban communities. It has been seen as sensible and developed with respect to street framework in the previous couple of years or thereabouts. The expressway between Nashik and Mumbai is under construction and will be soon completed. It is built by a private company so it will be tolled & is multilane.

Nashik Road Railway Station is a critical railroad station on the Mumbai-Kalyan-Manmad-Bhusaval division of the Central Railway Division of Indian Railways which was the primary at any point jolted segment in India. The railroad station is around 11 km far from the downtown area (and henceforth called Nashik Road rather than Nashik). Panchavati Express is the vital train that moves from Nashik to Mumbai every day. Around 5000 individuals commute every day by this mode of transportation. It interfaces Nashik with Mumbai CST in precisely 3 hours. Nashik Road station is overcrowded and every day many trains commute up & down on this route that connect us to the rest of Maharashtra & India. Though there are so

many trains that run on this route to Mumbai but majority of the passengers go to Mumbai by the Panchavati express & the Godavari express which starts from Manmad station. Airline services are also available from Nashik, Kingfisher Airline facility provides daily flight in the accenting at 17.30 to Mumbai from the nearly Ozar station which is just 24km from Nashik. Nashik has another airplane terminal at Gandhinagar with a shorter runway and henceforth unfit for cutting edge traveler flying machine.

Air terminal development at Ozar is in advance. Air India is additionally giving administration to Hyderabad and Chennai from Nashik. The Govt. of Maharashtra is creating Ozar air terminal as a crisis game plan &a choice to Mumbai airplane terminal for crisis landing, if and when needed. At present, Ahmadabad airplane terminal is the elective arrival and fueling site for Mumbai-bound planes.

Nashik is connected with many towns and cities by Air, railway and roads. Road transport network is more important in this region for quick transportation of goods, agricultural commodities, e.g. grapes, onion, food grains, pulses and industrial product e.g. vehicles, electrical instruments, plastic material are transported to all over India and even abroad from Nashik.

IV) Economic status

Nashik is an important commercial and trading center of the state of Maharashtra. It is an important market place for agricultural produce and industrial products and commodities like cloth, general hardware, medical, chemical, vegetables, milk, grapes, guvamehrunbor etc. The annual turnover of the agriculture produce Market committee is about 50 cores and deals with market of grapes, onion, tomato, pomegranate, guava, wheat, maze, vegetables, along with the cattle's and cash crops.

Modern bequest NIEC (Nashik Industrial Co-agent Estate) was framed in the co-agent division in 1962. Around the same time Maharashtra, State Government likewise reacted by announcing MIDC (Maharashtra Industrial Development Corporation) Industrial Estate at Satpur Sector, 7 km frame Nashik. Hindustan Aeronautics restricted set up unit for creation of MIG filterers at Ozar, a town 20 km from Nashik City. In 1967 SICOM (State speculation Corporation of Maharashtra)

received Nashik as its development focus. Every one of these occasions expedited Nashik City the modern guide of India. MICO and ABB German multinational & Swedish multinational respectively established their engineering, electrical & pharmaceutical product units in Nashik. Crompton greaves, MICO, VIP, CIAT, Mahindra and Mahindra etc. are other important industries. Thermal power plant at Eklahra (220 MW), near Nashik Road, has greatly contributed to meet the power demand of the industries.

The success of Satpur MIDC created a further demand for additional industrial plots. In the year 1980 MIDC declared Ambad as the second industrial estate which is just 10km away from Nashik & situated on Nashik Mumbai Highway which has created SME's and workshops and provided opportunity for ladies at various factories. Achievement of NICE and NIMA at Satpur and Ambad was rehashed at Sinnar. Today, Sinnar MIDC is making arrangements for the future cutting edge enterprises. Nashik would today be able to flaunt a mechanical locale, which produces merchandise from pins to Airplanes!

Mechanical exercises of Nashik city and locale have developed drastically. In 1971 there were 394 enterprises in the region with added up to work of 19672,the majority of the work in private area was by locally established generation. Around 7000 people were occupied with Bidi making (Rolling of Tobacco in takes off). In 1997 there were 7,896 small scale businesses and 174 huge and medium ventures giving aggregate work to around 66000 specialists. Small scale enterprises gave work to around 32,500 people. Substantial number of businesses is of building units, trailed by electrical, hardware, plastic trim and agro-based ventures. The Industrial part is substantially more enhanced and autonomous. Open division work in foundations like Hindustan Aeronautics Ltd (7,800), Currency Note Press (5,000), and India Security Press (6,000), is huge. The part of industry in greening of the modern territories should be recognized. The once fruitless and dry scene of the regions encompassing the city is presently given a green cover by the cognizant endeavors of the mechanical network. All the industrial gave impetus to developed Nashik City as important, marketing, commercial and industrial center.

V) Agriculture characteristics

Agribusiness and related exercises for the most part don't frame a piece of urban economy. It was not considered for development in the event of Nashik. However, improvement and advancements have numerous shocks. Nashik has been fortunate to have this. Generally Nashik had been well known in India for its grapes. Onion was another horticultural product. Other than these two money crops, rural generation of Nashik was irrelevant. Dairy and poultry were likewise immature till the most recent couple of years because of nonattendance of administrations to the cultivating network. Recently, strawberries, tomatoes, paper, onions have established a very strong market identity all over the country. Packaging of such agricultural products and food processes has also become a cognizable business. Ventures, water system plans, power, new innovations like trickle water system, better seeds and different sources of information are adding up to increment underway. Grapes, all things considered, for table utilization or for making wines and grape juice, are cultivated by farmers for French and Australian companies, with systematic promotional efforts and creation of modern facilities. In the last two years a number of new wineries have risen in Maharashtra because of the state govt. is new policy created for the grape processing industry. Grape farmers own most of the new Wineries. They have invested everything from Rs. 50 lakh to Rs. 5 crores (from Rs. 5 million to Rs. 50 million) to set up their units and while it is early days as yet, some of the wines are of very good quality.

VI) Tourism

Tourism has been a conventional capacity of the city. Guests come to city on promising days in vast numbers, to have a dunk in streams of Godavari. Godavari is known as a sacred waterway. Individuals gather in extraordinary numbers at Nashik at regular intervals of twelve years, known as Kumbhamela. The last Kumbhamela was held in the year 2015 when around five million individuals visited Nashik. In typical years, voyagers visit to play out certain religious ceremonies on banks of Godavari, and at the various sanctuaries. The crude and excellent sanctuary of master Shiva is at trimbakeshwar on the other hand kalaram sanctuary in Nashik and supper vitality solvent i.e. shaktipeeth saptashringi sanctuary at Vani attracts such a large number of explorers and commits. All the above sanctuaries are focal point of fascination at

Nashik city. Present day sanctuary edifices like MuktiDham and church at Nashik Street have turned out to be new attractions for visitors. Sai Baba sanctuary at Shirdi in neighboring region pulls in individuals everything being equal.

K) History of Nashik city

Throughout human history, cities have played important role in transforming the society. They have been the scene and Setting of major social, economic and political change. The present urban pattern, although largely the creation of the last century, had its origin thousands of years ago in several of the very regions which are currently experiencing explosive urban growth.

According to the Hindu mythology Seven Kulu Mountains, have been described. In the vicinity of these mountains on the bank of south direction flowing is the sacred river Godavari. The Nashik city is situated among nine hills. Now a days it can be seen the chain of mountains around Nashik at the south of Nashik there is Pandav (Leni) caves at the north side, there is Chamar (leni) caves, at the distance of 30 Km there is most popular mountain Bramhagiri, (Trimbakeshwar) at the north side 70 Km. There is Saptashringi and the north east corner there at distance of 90 Km. Chandwad. Due to these hilly backgrounds around, the Nashik is a strong compound. In the old age there were Shrinagar i.e. "Sinnar" at the east, Govardhan i.e. "Gangapur", at the West at the north east there is Chandrapur i.e. "Chandwad" these were capital villages around Nashik. Nashik was centre place. It was a holy place that is why it may not be called as Capital Village. There was only way through Nashik to go from Gujrath - Khandesh at the Bank of Ocean. At the time of Great Emperor Shivaji, 267 forts were in Maharashtra, which was the main beam of Shivaji's State. Out of which 62 forts were located at Baglan which is in the region of Nashik. Most of these forts were destroyed by the British government.

Though, Nashik is distributed into two parts i.e. Panchavati and Nashik, it was a complete single piece for the native people. In ancient period the centre place was at Gadhi. Nashik is situated upon 9 hills according to the ancient period there was tradition of compound and "Ves" around the village. There were DurgaTek, Ganesh Tek, ChitraghantaTek, Dingar Ali Tek, MhasrulTek, JogwadaTek, PathanpuraTek, KokanipuraTek ves across the city.

There was "Ves" which was known as AsrachiVes, Bhagur Darwaja, Delhi Darwaja, Trimbak Darwaja, Nava Darwaja, Sati Darwaja, at the west side of Sunder Narayana Temple there were funereal land of the south it was called as Sati Darwaja. Around the Sunder Narayan Temple, there was Vitthal Wadi, Hirawadi and Ganeshwadi.

Due to the blessing of natural environment and the well grown flower Nashik was known as "Padmapur". In the ancient period i.e. "KrutYug" Before the three centuries, the Mughal Emperor i.e. Aurangzeb was also fascinated by the glory of Nashik City, that he had named the city "Gulshanabad".

There were so many problems which hindered the data collection because there is no registration of unauthorized slums.

For determining the Geographical area of Nashik city I have referred the Toposheet Plan of Nashik Municipal Corporation, I have adopted this method and the area is very vast and hence it was impossible to attend the working area.

Problems were also faced to define the boundaries because the slums of Nashik are distributed into "Wards", which causes to allocate the boundaries of study area.

In the matter of Religion, Politics & Culture from the ancient period, Nashik has got the great stage. In the consideration of this greatness of Nashik the historian had ironically said that "As the nose is the main organ of beauty of human that is the place of Nashik within India".

गोदाया: संनिधौ पुण्ये नासिकं नासिकापमं !!

The ancient nature of Nashik city and the history behind it is a very interesting story. During the Ramayana struggle, Lakshmana the brother of Rama had cut down the nose of Shurpanakha, the sister of "Ravana", from this incident this city known as "Nashik"

गकृतेत पद्मनगरं त्रेतायां तू त्रिकंट

व्दापारेतु जनस्थानं कहौ नासिक मुच्यते !!

These lines are extracted from "Padmapurana" which depicts the dignity of Nashik. Peshvas from Pune took keen interest in the renovation and development of Nashik city. Because of them new business started in Nashik. The peshvas innovated the old temples and the city flourished during this period. Mostly the new temples

are constructed in the 17th & 18th century in Nashik& its vicinity e.g. Trimbakshwer war, sinner and Anjneray.

Development of Railway line joining Mumbai was the most noteworthy advancement of the nineteenth century. Cable car was another expansion to the city, which wound up fundamental because of the separation amongst city and Railway station. Thruway associating Mumbai to North India going through Nashik was developed. In 1882 Nashik was delegated with a nearby self-government by sanctioning of metropolitan law by the British run the show.

Foundation of India Security Press in 1925 and Currency Note Press, in 1928 and Govt. of India Press In 1955 were major extra capacities requiring a workforce. Military cantonment zones at Deolali and cannons focus at Nashik Road were set up in war period (1918). Every one of these augmentations were outside the then city breaking points of Nashik, situated around 8-10 km. away close to the railroad station of Nashik Road. Presentation of power in 1929 brought about specific changes in the city. Dadasaheb Phalke of Nashik, pioneer of Indian silver screen created the primary Indian film in 1913. Metal and Copper utensils and gold and silver adornments were created in Nashik however their generation was locally situated. The rural creation in the region was constrained to couple of customary yields and grape, the organic product for which Nashik was acclaimed.

The banks or Ghats on the Godavari at Nashik are considered to be sacred. It is an old age belief of the people that by taking holy bath in the kundas, their since will be forgiven. The Godavari has unique importance in the history of Nashik. The Ghats on the banks of the Godavari River is the place where last rites of human beings are performed because of high religious importance especially at the Ramkund. People from all over India come to Nashik to take a holy bathe & to be free from all the sins. Also during some important days as per Hindus Calendar, numbers reach about 15 to 20 thousand pilgrims a day. There could be as much as three to four such occasions when pilgrims arrive here.

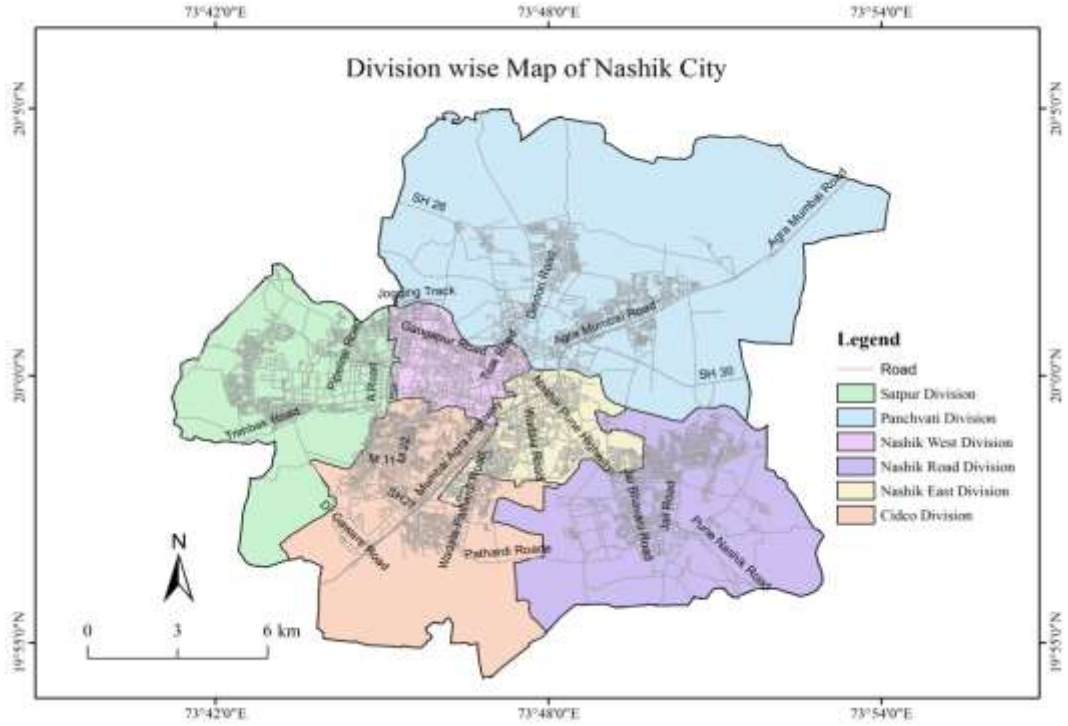
Kumbhamella is a glorious gathering of Sages & Saints as well as Pilgrims at a place on some specific days. The gathering is of 10 to 15 lakh people on a day at Nashik. Kumbhmela has a legendary background it is believed that the amount

kumbh while carrying as say was placed here for a while and the amount spoiled here in the Ramkunda. Do the people come to this place to attain the losha. The specific period is called and sinhastha which comes at every 12 years so Nashik has attained unique status in & the religious places.

L) Socio Economic Characteristics of Nashik city

The scenario of the city is the important aspect of geographical study; at least it provides a basis of the interest to geographers in urban areas. In Greek word Demography means study of people, i.e. Demos and Grapy means the people to draw or write. Thus demography is regarding about writings concerning the people.

The term 'Demography' was first used in 1855 by Gaillard. The following definitions of demography will further help in the understanding of its meaning. According to W.G. Barckely, "The numerical ratios of human population are known as demography". Philp M.Hauser and Dudly Ducan, "Demography is the study of the volume, space spread and consist of population, changes therein, and the components of such changes, which may be identified as fertility, mortality, migration and social mobility. Some scholars maintain that the beginning of demography should be traced from John Graunt's easy Natural and political observation made upon the Bills of mortality, in 1662, He defined technique of demographic analysis which is known as analysis approach. In contrast to it Thomas Robert- Malthus presented a problem-approach in demography. In fact, U.N.O. has said that, "Under demography, we study all determinants and consequences of population". Nowadays demography is an independent branch of knowledge and at the outset it was considered as a recapitulation of the population. Gradually it began to study population from empirical statistical and mathematics viewpoints. Today it studies, the size, the composition and distribution of population'. These characteristics of population organization are always changing. District of population may be studied according to communities and religious groups or according to fields of population. [6]From the above discussion, it is clear that the demographic characteristics of any city have got due to importance from the point of view of the socio-economic conditions. Hence in the present chapter an attempt has been made to study the population growth, population projection, density of population, accumulation of population etc. of Nashik city.



Map 1.3 Division wise Map of Nashik City

A) POPULATION GROWTH

i) TEMPORAL POPULATION GROWTH OF NASHIK CITY:

Nashik city is fourth important city in Maharashtra. It is a part of Golden Triangle of Mumbai-Pune-Nashik. Nashik is an important city of Maharashtra, economically and socially one of the most advanced states in India. "According 2011census population of city was 1,486,973, where as in 2001 it was 10, 77,236. In 1971 Nashik was classified as class one city by Census Authority of India. If it is compared with the 1901 census, the present population shows a fifty fold increase from 1901."

As indicated by G.T. Trewartha man isn't just the utilizer of physical earth yet additionally the make of social earth populace is a human asset of the nation and improvement of any zone is fundamentally rely on the inhabitants. The monetary association of district has been a critical impact on the spatial dissemination and attributes of human settlement. Along these lines the populace is the essential textures of monetary exercises as a rule. Population growth is the most fundamental demographic process with which all over demographic attributes are directly or indirectly associated and it is a vital index of a region's economic development, Social awakening, historical, cultural background and political ideology. Population growth determines the density, distribution, pattern and composition of population,

population growth refers to the growth of 'Human Population' in particular area during specific period of time. The growth may be positive or Negative. The population growth is closely related to urbanization. According to John I Clarke, the process of urbanization has many dimensions these are,

i. The proportion of population living in urban.

ii. The absolute number of urban dwellers.

iii. The growth of the proportion of people living in urban center.

iv. The rate of growth of numbers of people living in urban places.

Population growth is also related to factors like transportation and communication, development, markets, business, organizations, civil and administrative activities, educational facilities etc. Nashik city has observed growth of population with its surrounding regions. In the modern era the process of industrialization accelerates the rate of urbanization. Among the most important of these are the varying demographic structure of the population, measured in terms of its age and sex, and the rate at which population totals are changing. Population of Nashik recorded the highest growth rate between 1941-51Growth was the result of partition of India. Population growth rate started steadily after 1961 and Nashik recorded more than the average growth rate for India in two decades, between 1971-1982 the city limit was expanded and Nashik acquired the status of Municipal Corporation with a population of 4,32,000 persons. Growth rate of 63 percent for the decade 1971-81 and it continued in the decade 1981-91. In 2001 Nashik become a million plus city.

To understand the population growth in the study area is important as it holds the key to understand of entire demographic structure of the area. The growth of the population of Nashik city is considered from the decade 1901 to 2001. The table 3.1 and chart No. 3.1,gives a clear idea about the change in growth rate of Nashik city. In the absence of data prior to 1901 census it is not possible to analyze the growth trends of Nashik city during the 19th century and earlier. However population growth is considered for the period 1901 to 2001. It has increased from 21,490 in 1901 to 10, 77,236 persons in 2001, i.e. more than fifty fold increase. During the first decade of 20th century the annual growth rate of 3.3 percent was experienced According to census 1901 the population of Nashik was 21,490 and in 1911 it has found increase to 30,098. According to 1921 the population of Nashik city increased up to 38,230 with an increase of 27.02 percent and in the year 1931 population of Nashik city was

45,744 with an increase by 19.65 per cent and in 1941 the population of Nashik city increased to 52,386 with 14.52 per cent and the growth rate in this decade is the lowest. During these four decades population growth rate was decreasing slowly, but after 1951 to 2001 the population growth tremendously increased as in1951 the population was 97,042 which increased to 85.24 percent in the for coming years in this decade, population growth rate was highest because of partition of India, immigration from rural areas. The tremendous growth of population after 1951 decade of the 20thcentury 1961 to 2001 was attributed to city of Nashik as a part of Golden triangle of Mumbai, Pune, Nashik, Nashik is included in industrial cum service division there are two existing established Industrial estate. It is the Head Quarters of Nashik district and Revenue division famous city for 'Singhastha Kumbhmela' and it is connected to all major cities of India by Rail and Roads.

Table 1.2: Nashik city: Growth of population (1901 to 2011)

Sr.No.	Year	Total population	Absolute Growth	Growth in Percentage
1	1901	21,490	..	..
2	1911	30,098	8608	40.06
3	1921	38230	8132	27.02
4	1931	45744	7514	19.65
5	1941	52386	16642	14.52
6	1951	97042	44656	85.24
7	1961	131103	34061	35.10
8	1971	176091	44988	34.32
9	1981	262428	86337	49.03
10	1991	656925	394497	50.33
11	2001	1077236	420311	63.98
12	2011	1,486,973	409737	38.04

Source: - Census of India, District census Handbook Nashik District, 2001.& 2011

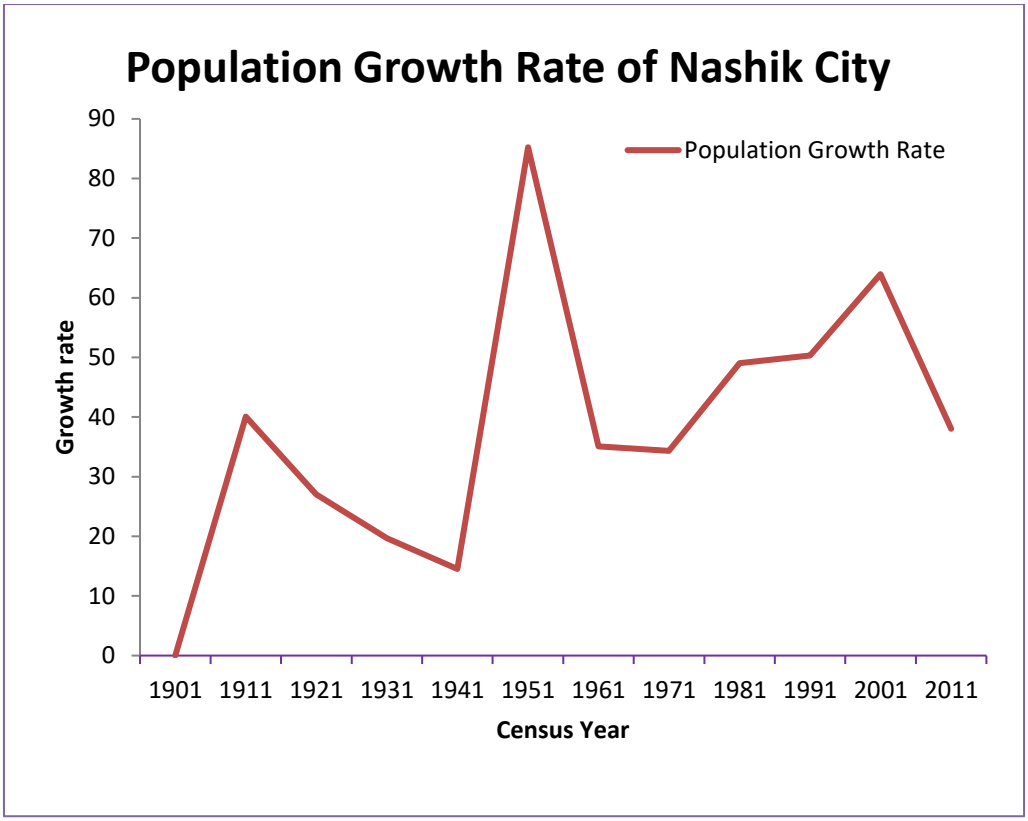


Figure No: 1.1 Population Growth rate of Nashik City

According to 1991 census population crossed 5 lakh mark and found to be 6, 56,925 persons the net increase in the population during this decade account to10, 77,236 persons by 50.33 per cent decadal growth rate. In the year 2001 population was recorded 10,77,236 and the 63.98 percent decadal growth rate the absolute increase in this decadal observed to 17,66,469persons. In 2011 growth rate of population declined 25.94, it is observed 38.04 percentage growth rate which is less than previous census.

SALIENT FEATURES OF GROWTH AND DEVELOPMENT:

Population growth rate has been constantly more than that of urban India, Maharashtra and nearest metro city of Mumbai between 1981-2001. Growth rate of Nashik49.03 per cent, 50.33 per cent, 50.33 per cent, 63.98 per cent, and63.98 per cent) is highest among the cities of Maharashtra (Mumbai, Pune, and Nagpur)

Table No: 1.3 Population in urban areas. (Population in lakhs)

Sr.No.	Census Year	All India	Maharashtra	Mumbai	Nashik
1	1951	624.44	92.01	29.67	01.49
2	1961	789.37	111.63	41.52	02.01
3	1971	1091.14	157.11	59.71	02.74
4	1981	1597.27	219.94	82.43	04.32
5	1991	2180.00	305.40	99.26	07.25
6	2001	2853.00	411.00	119.78	10.77
7	2011	12101.93	1123.74	124.42	14.87

Source: - CDP under JNNURM for Nashik Municipal Corporation.

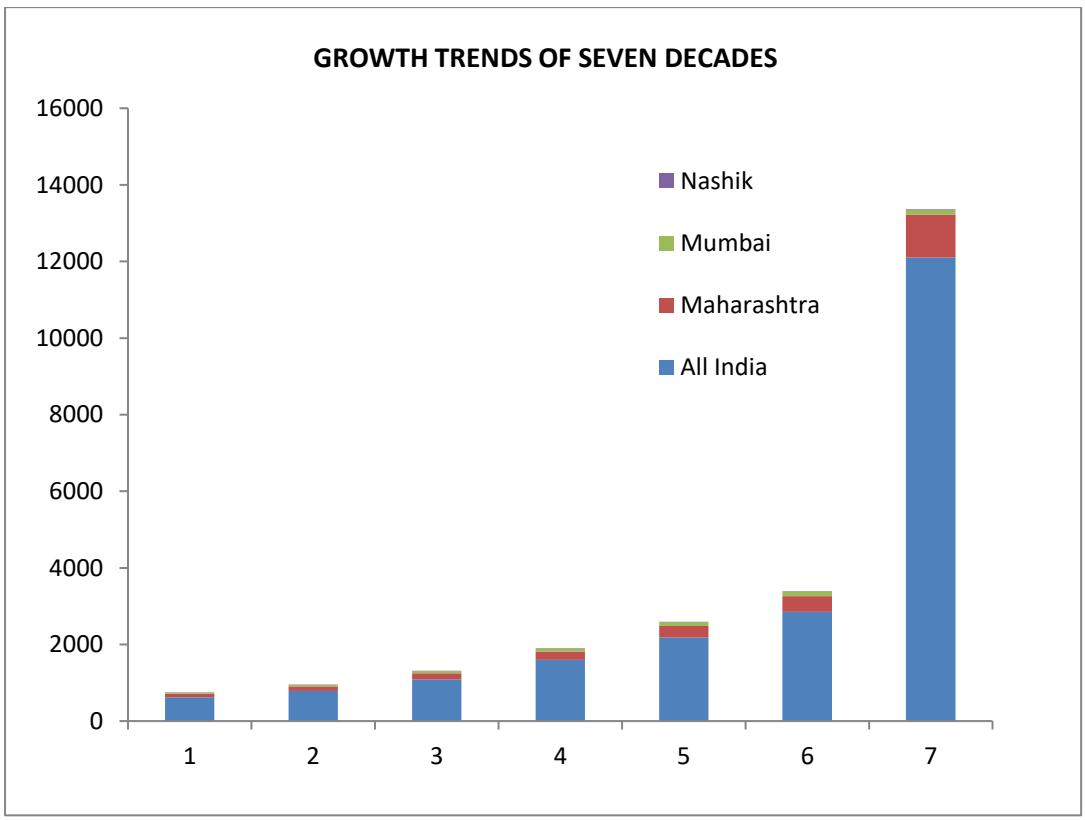


Figure No: 1.2 Growth Trend

Nashik has grown from a population 10, 77,236 to1,486,973 in 2011. It took Mumbai 157 years to grow from a base population of 70,000 in 1744 to a million in1901. Nashik has achieved this within a short period of 65 years, starting from 1945to year 2000. Nashik was seventh largest city in 1947 in Maharashtra after Mumbai, Pune, Nagpur, Sholapur, Ahmednagar and Amravati all having industrial activities. Now it is the fourth largest. Though Nashik is an industrial city it has got 13 percent working population in primary i.e. agriculture division and this is more than any of the large cities of Maharashtra, Nashik has the second highest working population in service Division (27 per cent) next to Aurangabad (31 per cent). Hence, Nashik is listed in "Industrial can services" category. [10] In the conclusion it is observed that the population of Nashik city has been continuously increasing from 1901 to 2011, minimum growth rate was recorded in1931 to 1941 decade because of severe drought in the study area, and maximum growth rate of population was recorded in 1941 to 2011. During these 60 years, Nashik has become fourth largest city in Maharashtra. A comparative decade wise growth rate of urban population of the study, are and Nashik district is shown in Table 1.3.

Table 1.4: Comparative Growth Rate of Population (1901 to 2011) (In percentage)

Sr.No.	Decade	Nashik city Population	Nashik District Urban population
1	1901-1911	40.06	02.97
2	1911-1921	27.02	06.57
3	1921-0931	19.65	06.61
4	1931-1941	14.52	21.47
5	1941-1951	85.24	110.26
6	1951-1961	35.10	28.39
7	1961-1971	34.32	42.84
8	1971-1981	49.03	36.80
10	1981-1991	50.33	47.51
11	1991-2001	63.98	41.52
12	2001-2011	38	58.67

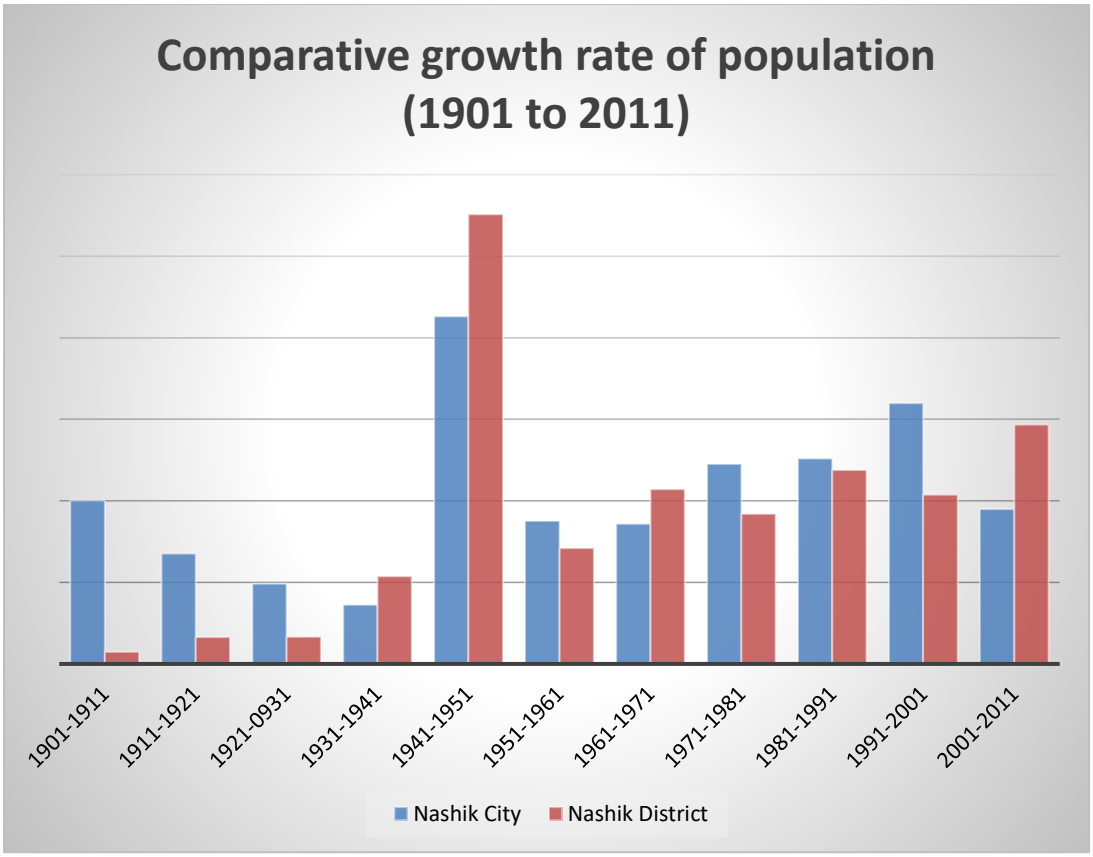


Figure No: 1.3 Comparative growth rates

The Table 1.3 and Figure 1.4 shows that, the trend of population growth of Nashik city, indicates gradual increase in population but growth rate of urban population in Nashik district shows decreasing trend in 1901-11 and 1921-31 decades. In decade 1901-11 Nashik city has observed population growth rate 40.06 percent but48the urban population of Nashik district was decreased by 2.97 percent. It is also observed that in decade 1931-41 population growth in Nashik city was 14.52 percent which was very low. While the decreasing trend of urban population of Nashik district shows 28.39 per cent. It is because of migration to urban areas.1941-51 highest growth rates in Nashik city (85.24 per cent) and Nashik District (110.26 per cent) it is because of migration from rural area. In all decades it is observed that there is a gradual increasing of population growth rate in Nashik city and Nashik district in urban population.

DIVISIONWISE GROWTH RATE OF POPULATION:

Table 1.5: Nashik city division wise growth rate of population

Sr.No.	Division	1991	2001		2011	
		Total Population	Total Population	Growth in Percentage	Total Population	Growth in Percentage
1	Cidco	112133	214256	91.07	306057	42.84
2	Nashik West	57698	123481	114.01	147204	19.21
3	Nashik East	169278	165423	-02.28	236755	43.12
4	Nashik Road	12931	190326	49.94	268927	41.29
5	Panchavati	111137	214950	93.41	293234	36.41
6	Satpur	79748	168800	111.67	233876	38.55

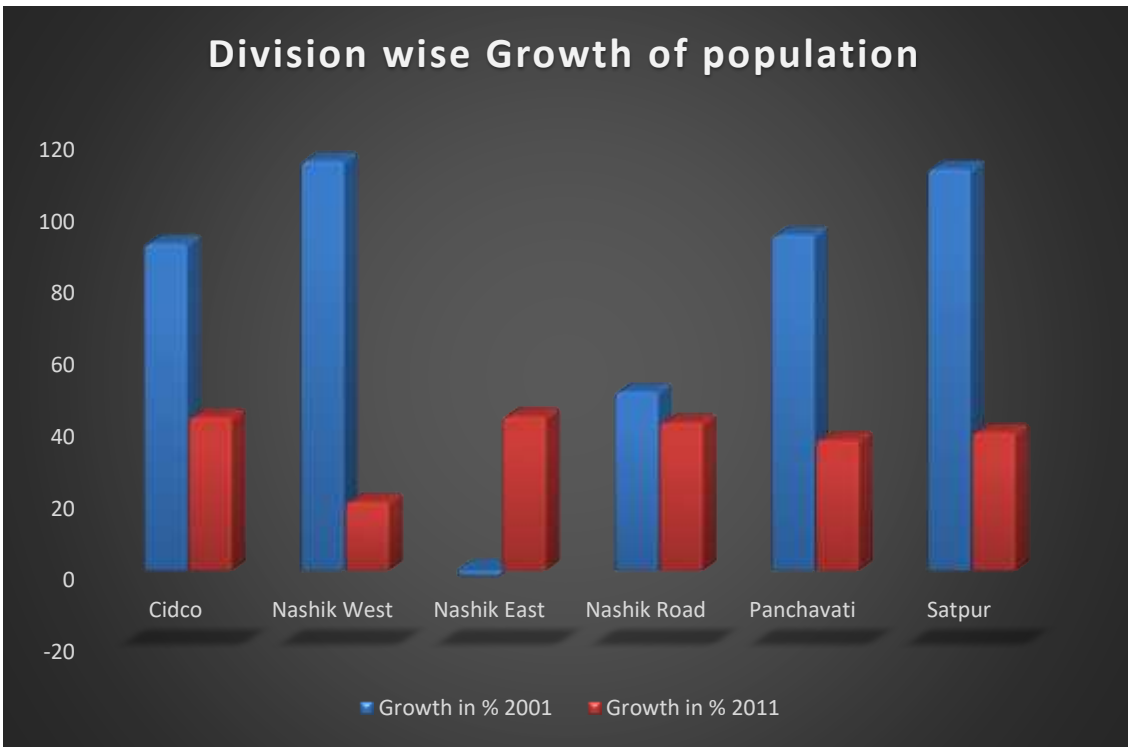


Figure No: 1.4 Division wise growth rate

A comparative analysis of division wise growth of population indicates that there are significant differences in the population growth in various division of Nashik city it observed that during the decade of During 1991-2001 decade the higher growth rate of population is observed in the Nashik west division (114.01 per cent) because of new colonies has developed in this division and lowest in the Nashik east division (02.28 percent) due to higher development area is not available for new development in Nashik west division scoters having higher population growth rate except Nashik road division than the city average (63.98 per cent)As compared to population growth rate of 1981-1991 decade to 1991-2001 itis observed that population growth rate of Nashik east division has decreased sharply (i.e. From 185.84 per cent, 02.28 per cent) and all divisions have experienced increasing trend of population growth which leads to increasing the population in future. Table 1.5 give clear idea about the growth of population

ii) DENSITY OF POPULATION:

The concept of population density relating number of people to the space occupied by them is one of the most intriguing and most hazardous correlations employed by geographers. In other words density of population indicates the man-land ratio. The measure of population in terms of numbers, degree of concentration size and spacing of settlement are the most fundamental aspects of the settlement geographer. It includes the analysis of relative concentration of man who acts as a pivotal force in making of geographical personality of an area and expresses the synthesis of all geographic phenomena operating in an area. It also provides a base for the analysis attributes of population. Besides the temporal variation, the intra-urban pattern of density distribution is of a great geographical significance for the reconstruction and planning of towns. To understand the characteristics of an area the geographer has to analyze various things such as population distribution density & demography. These things are essential to seek complete understanding of an area. There is a distinction between distribution and density of population. The former refers to be more locational (Spatial pattern) while the latter is more locational (Spatial pattern) while the latter is more proportional(man-land ratio).The Table 1.6 gives clear idea about the density population of Nashik city.

Table No: 1.6: Nashik city density of population (1951 to 2011)

Sr.No.	Year	Total Population.	Area in sq.km	Density of Population. per sq. km
1	1951	97042	58.28	1665
2	1961	131103	58.28	2249
3	1971	176091	58.28	3021
4	1981	262428	58.28	4503
5	1991	656925	259.10	2535
6	2001	1077236	259.10	4158
7	2011	1486053	259.10	5735

Source: -Census of India, District census Handbook Nashik District, 1991, 2001and 2011

Figure No: 1.8

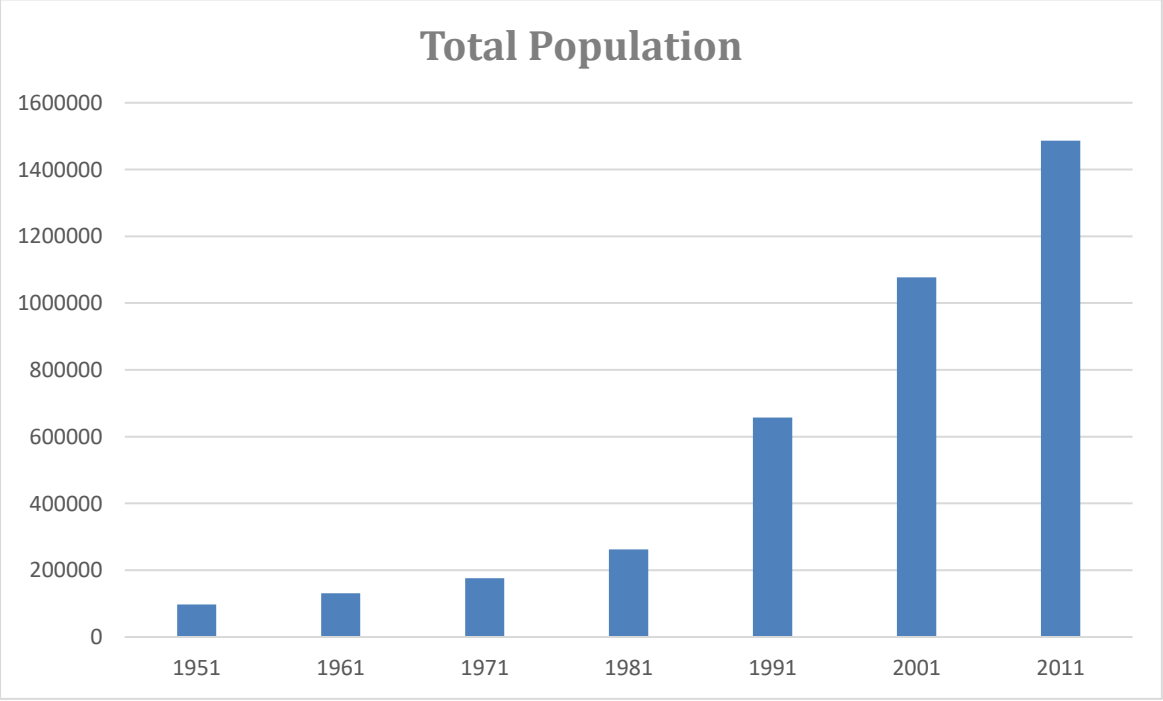


Figure No: 1.5 Nashik city density of population

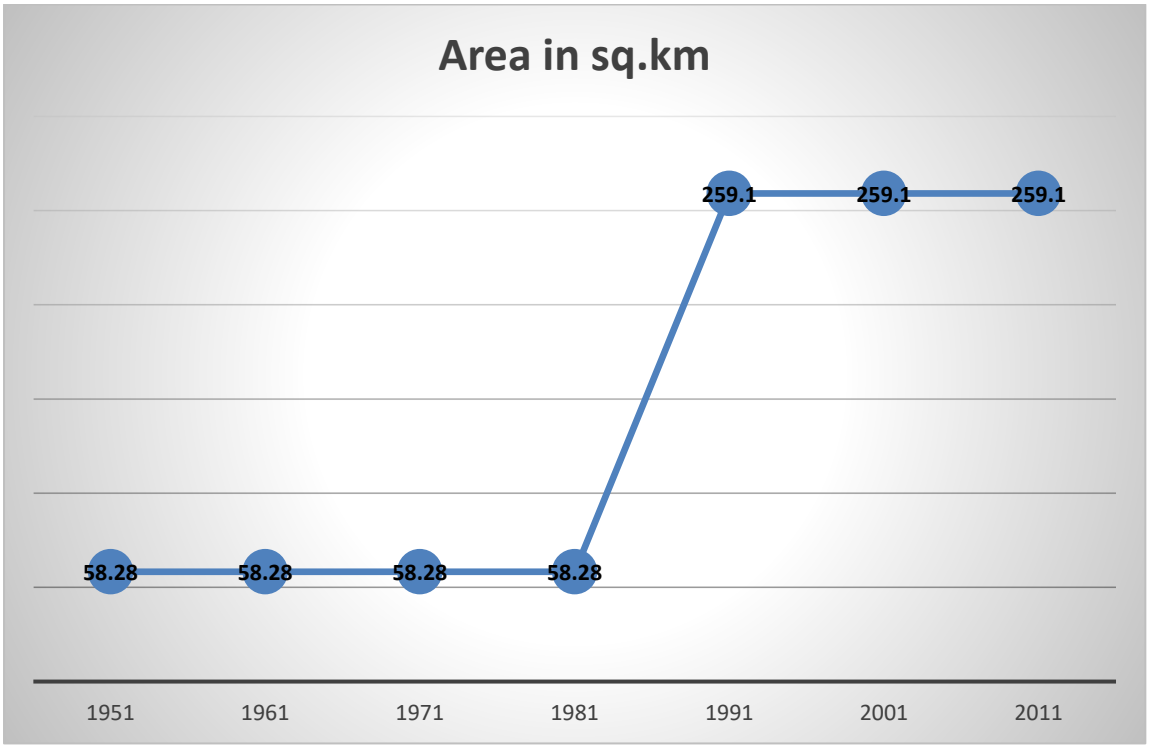


Figure No: 1.6 Ares in Sq. Kilometer

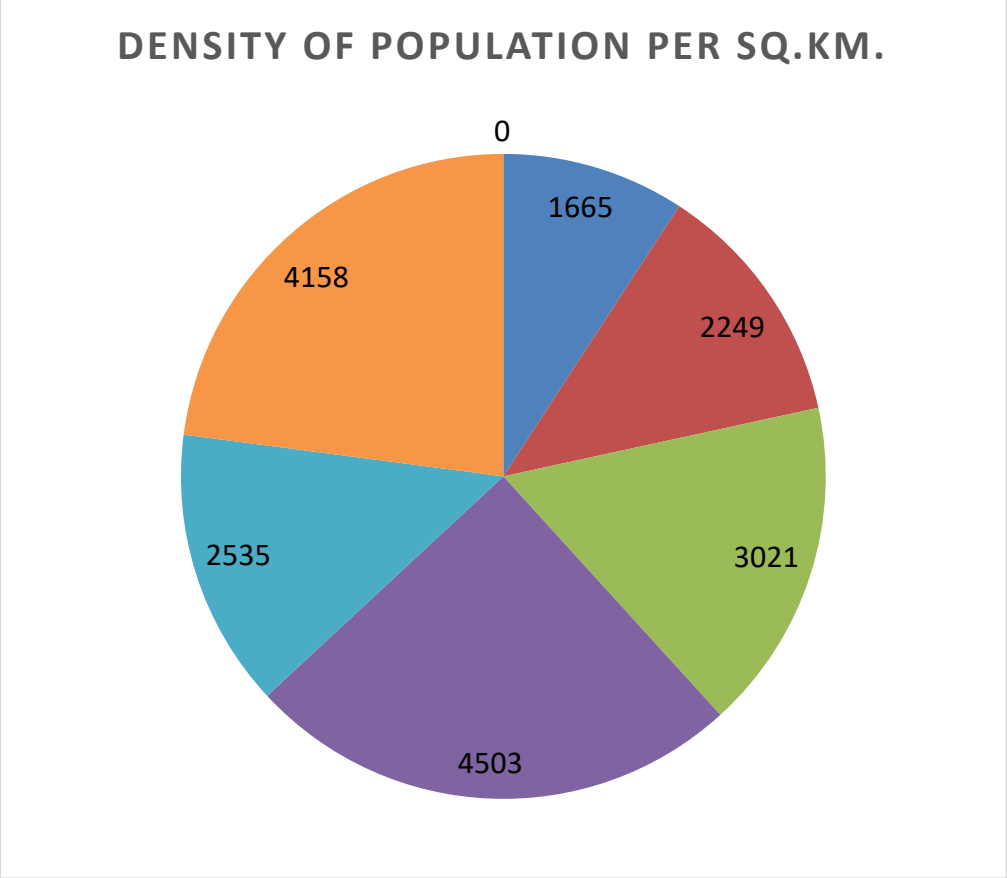


Figure No: 1.7 Density of Population

It is observed that the density of population has increased from 1951 to 1981.In 1951 the density was 1,665persons/sq.km, which was increased up to 4,503 in1981. But in 1991 population density has decreased i.e. 2,535 persons per sq.km, because of increase in area of Nashik city from 58.28 sq.km.to 259.10 sq. km. It has been found that density of population increased again in 2011 up to 5735 person persq.km, because of immigration from rural areas.

In the conclusion it is found that the population density of Nashik city has declined in a negative exponential manner with increasing distribution from the city center. Density of population with in Nashik city is found very high in old part with small multistoried antiquated buildings and narrow lanes and it is gradually decreases towards the periphery of the city and to the latter extension and recently developed areas in Nashik city.

Table 1.7: Nashik city division wise density of population

1991 TO 2011

Sr.No.	Division	Area in sq. km	Total Population			Density of population per. sq. km		
			1991	2001	2011	1991	2001	2011
1	Cidco	56.8	112133	214256	306057	1974	3772	5388
2	Nashik West	09.3	57698	123481	147204	6204	13278	15828
3	Nashik East	14.6	169278	165423	236755	11594	11330	16216
4	Nashik Road	32.7	126931	190326	268927	3882	5820	8224
5	Panchavati	108.7	111137	214950	293234	1022	1977	2697
6	Satpur	37.0	79748	168800	233876	2155	4562	6321

Source: - Census of India, District census Handbook Nashik District, 1991, 2001and 2011

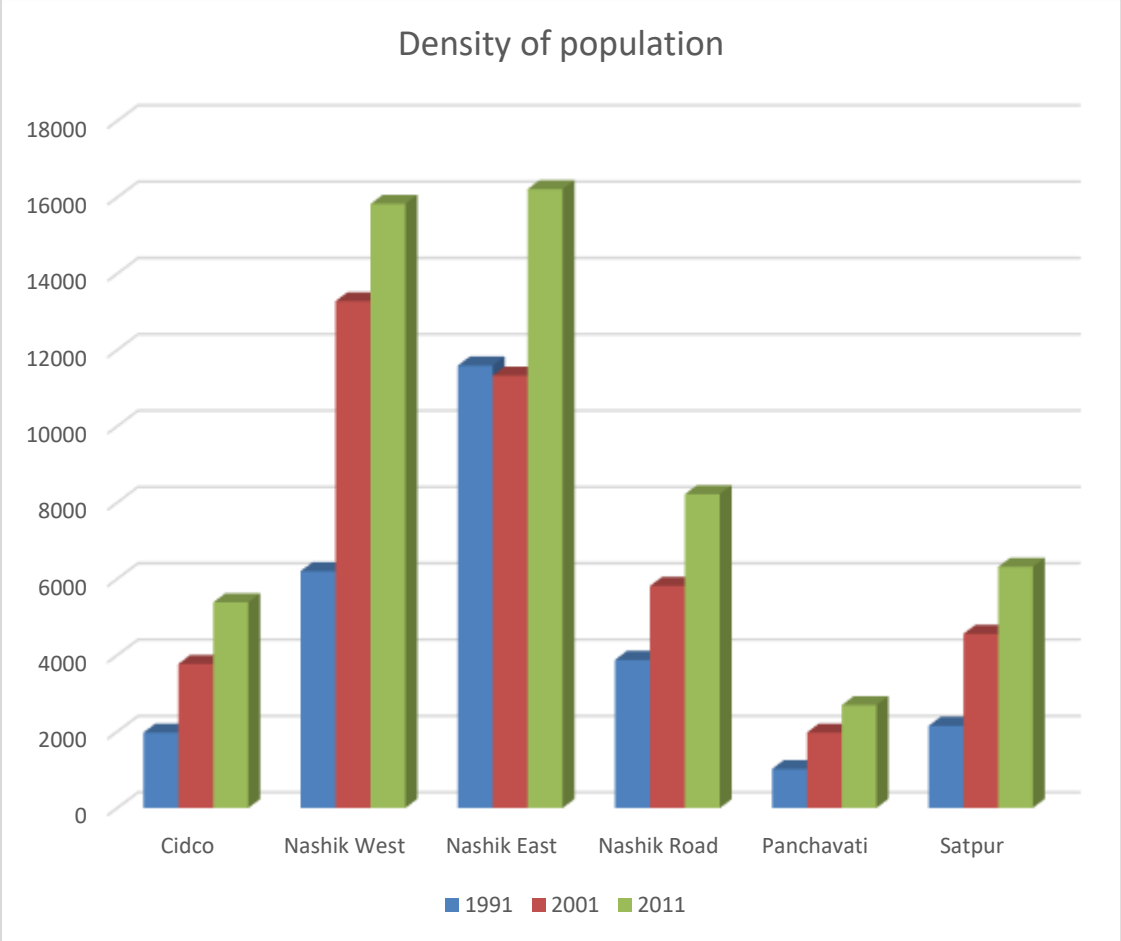


Figure No: 1.8 Division wise Density of Population

It is observed from Table 1.7 that the density of population has found highest in Nashik east division and Nashik west division which is triple as compared to sum of density of Panchavati, Nashik road, Satpur and Cidco division in 1991 decade and double in for decade2001 because Nashik east division and Nashik west division is the old Nashik city and having core area. In the decade 1991 the density of population of Panchavati, Nashik road, Satpur and Cidco division have become double in the decade 2001, because of migration from rural areas, in division No. is lightly increased from 1991 to 2001 decade.

III) AGE COMPOSITION OF POPULATION

The age and the sex structure of the population are the most important demographic characteristics that are captured by a census of a population. Age and sex are two attributes that largely influence an individual's role in society. An attempt will be made in this chapter to examine the various aspects of age and sex composition of the population of Nashik city data collected from Census of India, District census Handbook Nashik District, 2001and 2011

AGE STRUCTURE-

The age structure of a population, that is; the distribution of the population in different age groups, constitutes an important subject of demographic analysis and development planning. Age structural dynamics includes fertility, mortality and as well as related changes in family planning and social arrangements. The use of age structure goes beyond demographic analysis to other important areas. Public polices aim to improve the welfare of a population; population welfare in turn is determined and shaped by the needs of present and future population; a population's needs Graphic composition gives shape to the potential of the population demo by age-structural transition. In consideration of various uses of age data, information on age is routinely collected in every census and survey conducted in the country. As in most developing countries the quality of age reporting is a matter of contention. Age misreporting remains a problem in the census. Certain segments of the population do not know their dates of birth so it ultimately leaves the enumerator to estimate the age to the likeliest age to be. In some cases the estimates could be several years off from their actual age.

TABLE 1.8: AGE- COMPOSITION

Age Group	2001		2011	
	Population	Percentage	Population	Percentage
Child Proportion(0-6 Age)	789,398	15.81	827,935	13.56
Boys Proportion (0-6 Age)	411,061	15.87	438,050	13.87
Girls Proportion (0-6 Age)	378,337	15.75	389,885	13.22

Source- - Census of India, District census Handbook Nashik District, 2001and 2011

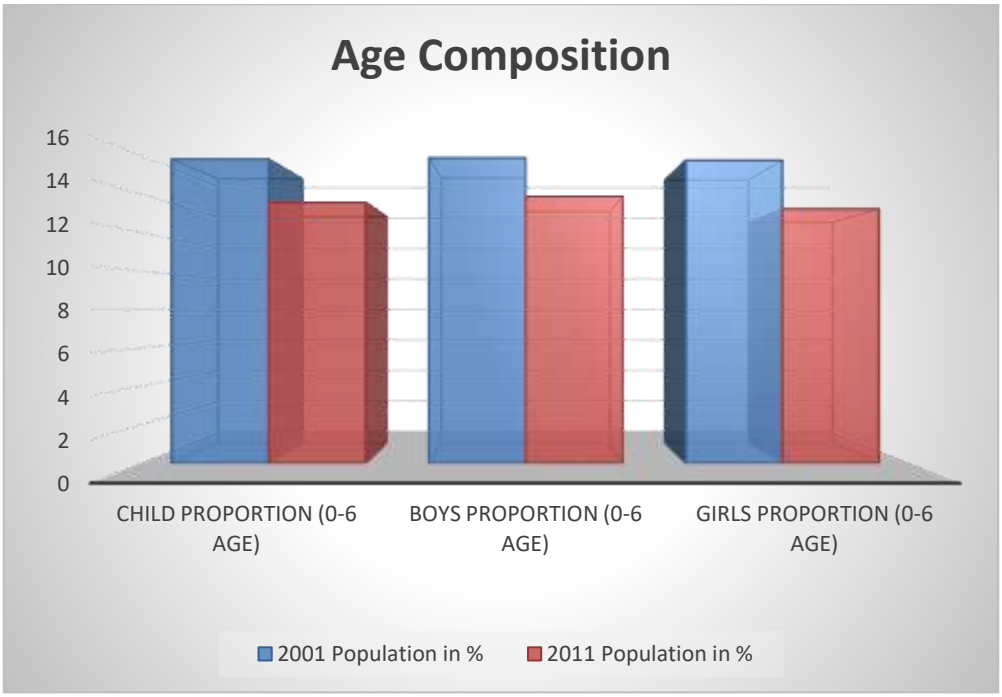


Figure No: 1.9 Age Structure

Above table shows that the age sex composition of Nashik city during the period 2001 and 2011.Child , boys and girls percentage decreasing from 15.81 to 13.56 , 15.87 to 13.87 and 15.75 to 13.22 respectively, because of modern life style, small family trends and busy schedule of the couples in the city, and also effect of new population policy.

SEX RATIO:

The sex ratio needs special mention for it is one of the related aspects of the socio-economic characteristics of the city. It plays the pivotal role in assessing their productive performances, mortality, occupational structure and the migratory character of the population. The sex is the most frequently used as demographic variable for studying the sex composition of a given population. As urbanization proceeds, there is a tendency for the sex ratio in rural and urban areas to become more discrepant. There is a tendency for males in the productive age-group to migrate to urban areas resulting in lows sex-ratio. Sex-ratio assumes importance in demographic

analysis because the nature of sex-ratio affects the different aspect of population, like marriage, birthrate, death rate and population growth. An analysis of the sex composition of Nashik city is of vital importance, as it not only indicates future population growth but also the degree of urbanization. Usually when urban communities reach advance stage of the life cycle the sex ratio declines because of problems arising out of urbanization like acute storage of housing, rising sort of living and sort of other related problems. As compared to India and Maharashtra, the sex-ratio is very lower in study region. In 1991sex-ratio was 927 and 934 for India and Maharashtra respectively while sex-ratio of Nashik city was 891females per 1000 males. In 2001 sex-ratio was 933 for India and922 for Maharashtra while sex-ratio of Nashik city was 871 females per 1000 males. Lower sex-ratio found in city because migration of male working population from rural to urban area of city.

TABLE 1.9: NASHIK CITY, SEX RATIO (1971 TO 2011)

Sr.No	Year	Male	Female	Total	Sex Ratio
1	1971	92792	83299	176091	898
2	1981	137289	125139	262428	911
3	1991	347422	309503	656925	891
4	2001	575737	501499	1077236	871
5	2011	782517	703536	1486053	899

Source: - Census of India, District census Handbook Nashik District, 1971, 1981, 1991, 2001& 2011

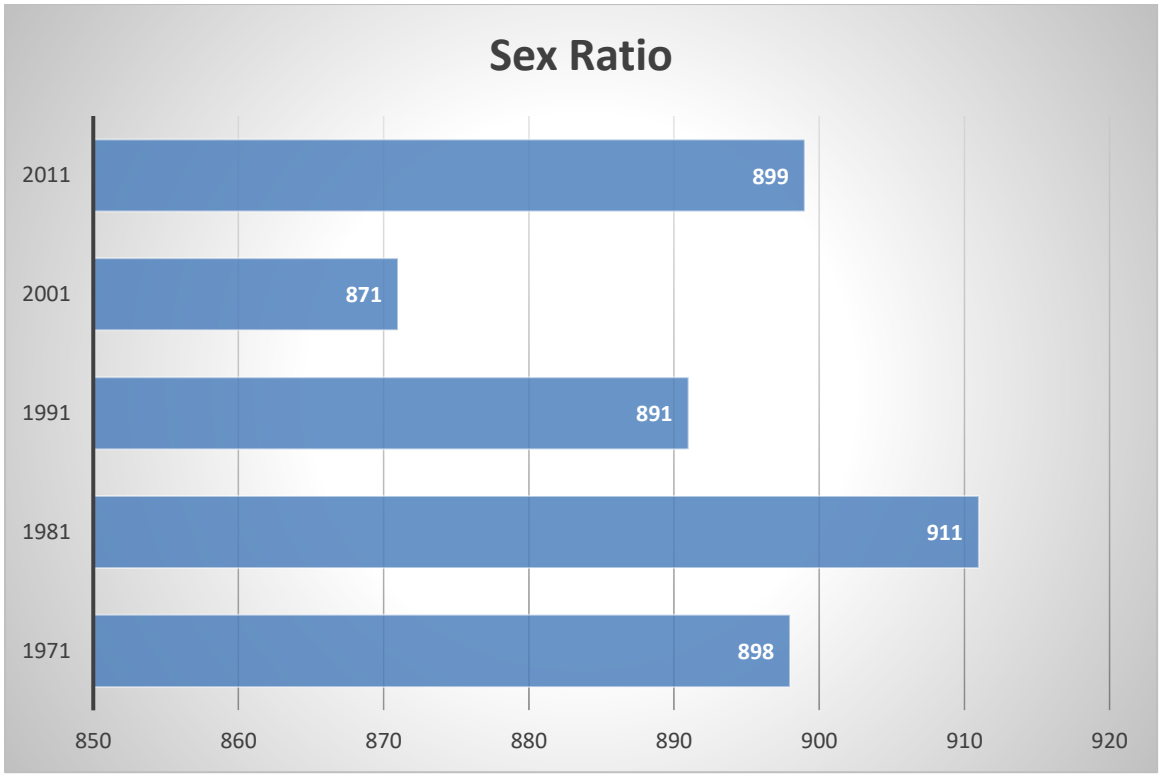


Figure No: 1.10 Sex Ratio

It is observed that there were 83,299 females against 92,792 males in 1971.This yields a ratio of 898 females every 1000 males. It is observed that sex-ratio increased in 1981 decade i.e. 911 females per 1000 males. But sex ratio slightly decreased in 2001 decades there were 5, 01,499females against 5,75,737 males which yields a ratio of 871 females every 1000 males.

The sex ratio of city as a whole and division wise shows different picture because some divisions have higher sex-ratio. For the purpose of analysis here an attempt has been made to study the division wise sex-ratio from 1991 to 2001. The Table 1.10 gives detail about the division wise sex ratio of the Nashik city.

TABLE 1.10: NASHIK CITY, DIVISIONWISE SEX RATIO

Division	1991			
	Male	Female	Total	Sex Ratio
Cidco	61581	50552	112133	821
Nashik West	30066	27632	57698	919
Nashik East	87607	81671	169278	932
Nashik Road	67057	59874	126931	893
Panchavati	57873	53264	111137	920
Satpur	43238	36510	79748	844
Total	347422	309503	656925	891

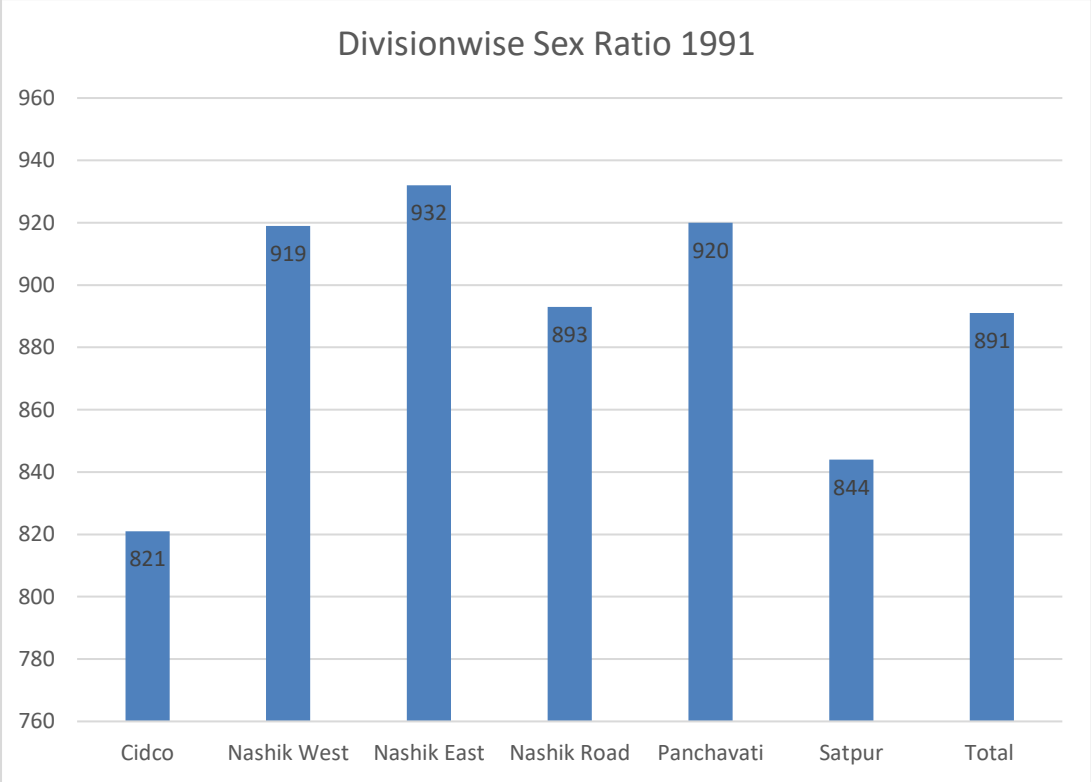


Figure No: 1.11 Division wise Sex Ratio-1991

TABLE 1.11: NASHIK CITY, DIVISIONWISE SEX RATIO

Division	2001			
	Male	Female	Total	Sex Ratio
Cidco	114906	99350	214256	865
Nashik West	63899	59582	123481	932
Nashik East	85742	79681	165423	929
Nashik Road	101852	88474	190326	869
Panchavati	116493	98457	214950	845
Satpur	92845	75955	168800	818
Total	575737	501499	1077237	871

It is observed from the Table No. 1.9 and 1.10 that higher sex-ratio in 1991 decade was recorded in division Nashik east and lowest was recorded in Cidco. In general sex-ratio indicates that division Panchavati and Nashik East and Nashik West have higher sex ratio than the average sex ratio 891 females and 1000 males. In 2001 decade highest sex ratio is recorded in division Nashik west and lowest is recorded in Satpur. One remarkable thing has been observed here in Panchavati division is that the sex ratio from 1991 to 2001 decade decreased rapidly because Satpur division is included in the MIDC area so male working population is observed to be more as compared to the females. It is also observed that the increasing trend of sex-ratio is observed in Nashik west and Cidco Division (i.e. 919 to 932 female's 1000 males and 821 to 865 females 1000 males).

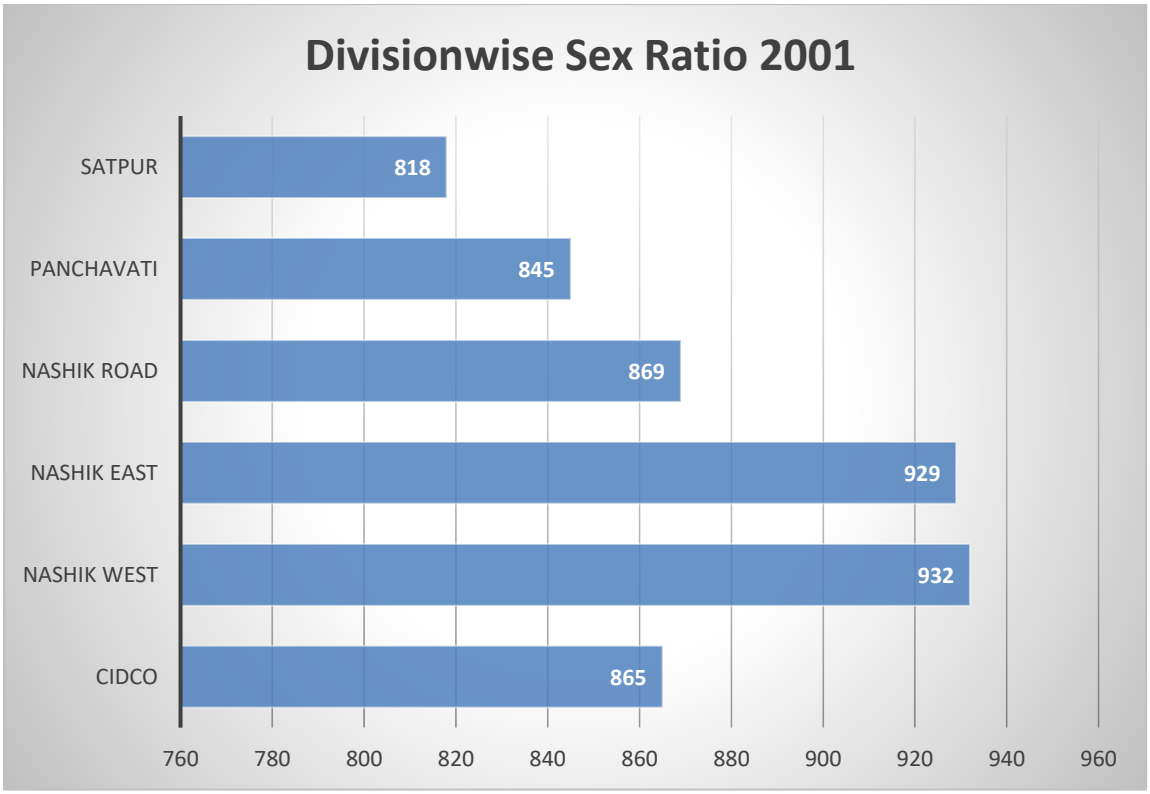


Figure No: 1.12 Division wise Sex Ratio-2001

TABLE 1.12: NASHIK CITY, DIVISIONWISE SEX RATIO

Division	2011			
	Male	Female	Total	Sex Ratio
Cidco	163239	142817	306056	875
Nashik West	74991	72213	147204	962
Nashik East	120377	116378	236755	966
Nashik Road	144680	124247	268927	858
Panchavati	154636	138598	293234	896
Satpur	124594	109283	233877	877
Total	782517	703536	1486053	899

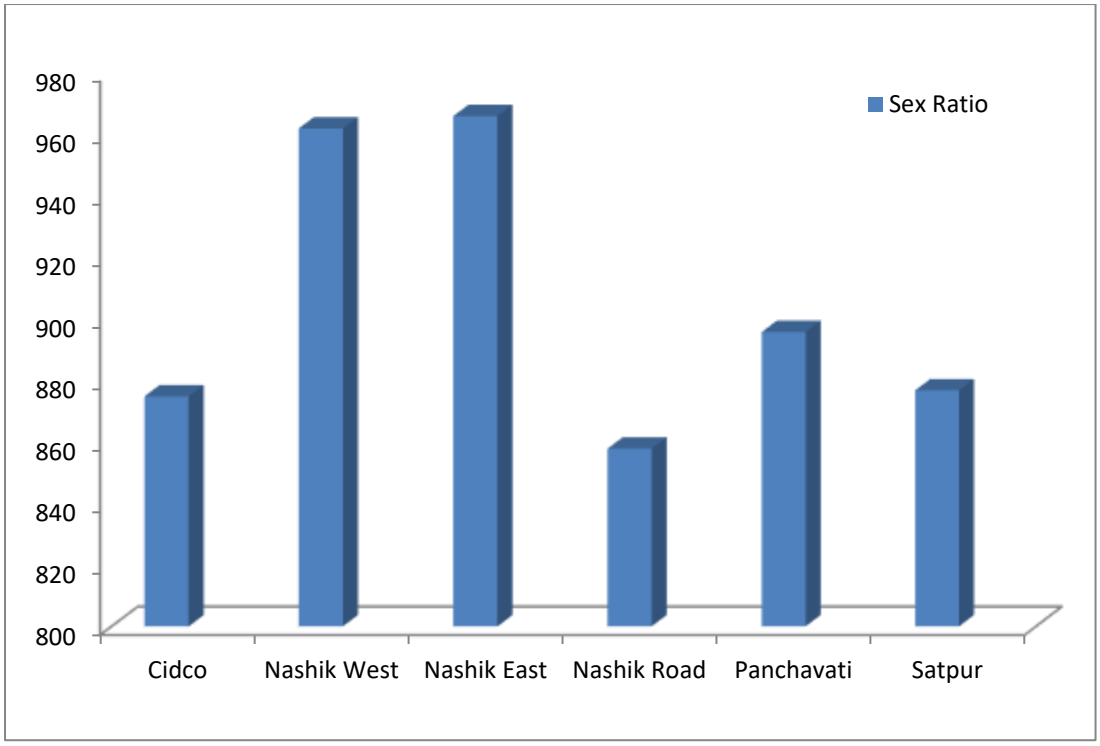


Figure No: 1.13 Division wise Sex Ratio-2011

It is observed from the Table No. 1.12 that higher sex-ratio in 2011 decade was recorded in division Nashik east and lowest was recorded in Cidco. In general sex-ratio indicates that division Nashik East and Nashik West have higher sex ratio than the average sex ratio 899 females and 1000 males. In 2011 decade highest sex ratio was recorded in division Nashik east and lowest is recorded in Cidco. One remarkable thing observed here in Panchavati division is that the sex ratio from 1991 to 2011 decade decreased rapidly because Satpur division is included in the MIDC area so male working population was observed to be more as compared to females.

IV) LITERACY COMPOSITION

After the advent of the dual skills of reading and writing the relevance of literacy to the cultural advancement enhanced significantly. Literature such as cost of education, degree of urbanization, general values system, standard of living, status of women and so on and so forth. 22 Therefore the analysis of literacy pattern and trend in/of city is of immense significance for the urban geographer.

TABLE 1.13: NASHIK CITY, LITERACY STRUCTURE (1971 TO 2011)

Year	Total Male lit.	% of Total Male Lit.	Total Female Lit.	% of Total Female Lit.
1971	66,586	71.76	42,700	51.26
1981	1,02,771	74.86	73,321	58.59
1991	2,58,325	74.35	1,88,023	60.75
2001	4,58,005	79.55	3,44,690	68.73
2011	643,543	82.71	534,903	76.12

Source: - * Census of India, District census Handbook Nashik District, 1971, 1981, 1991, 2001and 2011

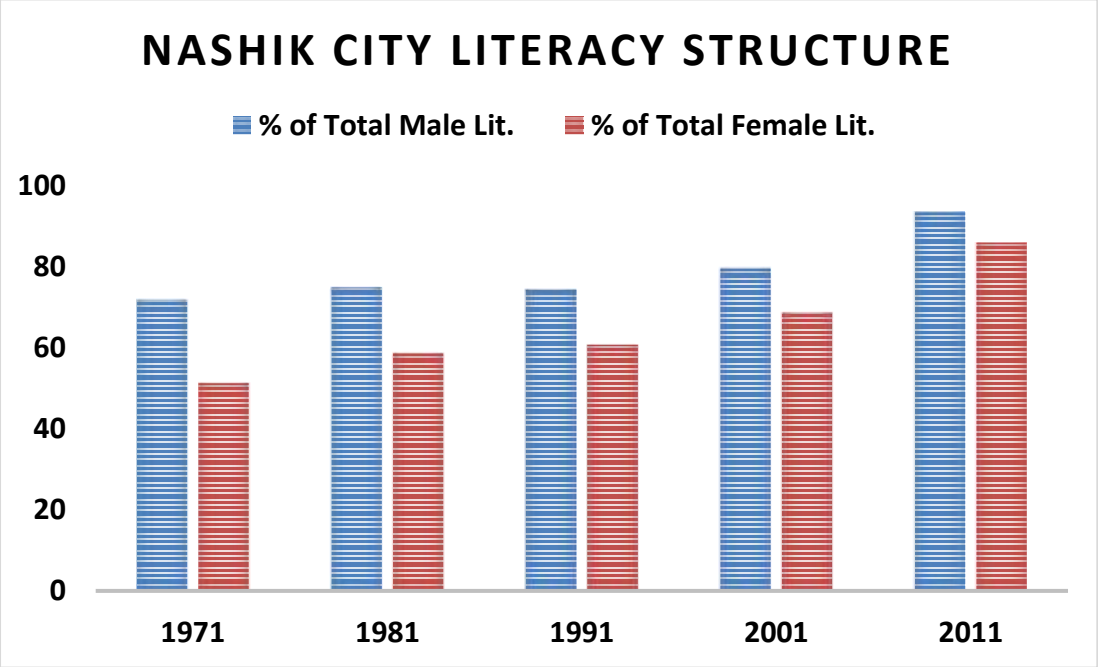


Figure No: 1.14 Literacy of Nashik City

A high level of literacy reflects the dynamic character of city population. The total literacy population of Nashik city was 67.10 per cent in 1981 which increased up to 74.51 per cent in 2001. It is observed that the male literacy rate is much higher than the female literacy rate. In 1981 only 58.59 percent of the females in the city were literate whereas 74.86 per cent of the males were literate. It was found that there was an increasing in literacy rate up to 68.73 per cent of females and 79.55 per cent of males in 2001, the general increase in literacy ratio, especially female literacy may be because of the increased provisions of educational facilities in the city. A number of primary secondary and higher education institutions. Some of them exclusively for women were established in city during the last four decades.

TABLE 1.14: NASHIK CITY, DIVISIONWISE LITERACY STRUCTURE

Division	Total Population	Literate Population	% of Total Division	Total Male	Literate Male	% of Total Division Male	Total Female Population	Total Literate Female	% to Total Division Female
Cidco	112133	77540	69.15	61581	46872	77.11	50552	30,668	60.67
Nashik West	57698	43729	75.79	30066	23727	78.91	27,632	20,002	72.39
Nashik East	169278	119310	70.48	87607	66619	76.04	81,671	52,691	64.52
Nashik Road	126931	87166	68.67	67057	50744	75.67	59,874	36,422	60.83
Panchavati	111137	68560	61.68	57873	40283	69.61	53,264	28,277	53.09
Satpur	79748	50043	62.75	43238	30080	69.57	36510	19963	54.68
Total	656925	446348	67.94	347422	258325	74.35	3,09,503	1,88,023	60.75

(YEAR 1991)

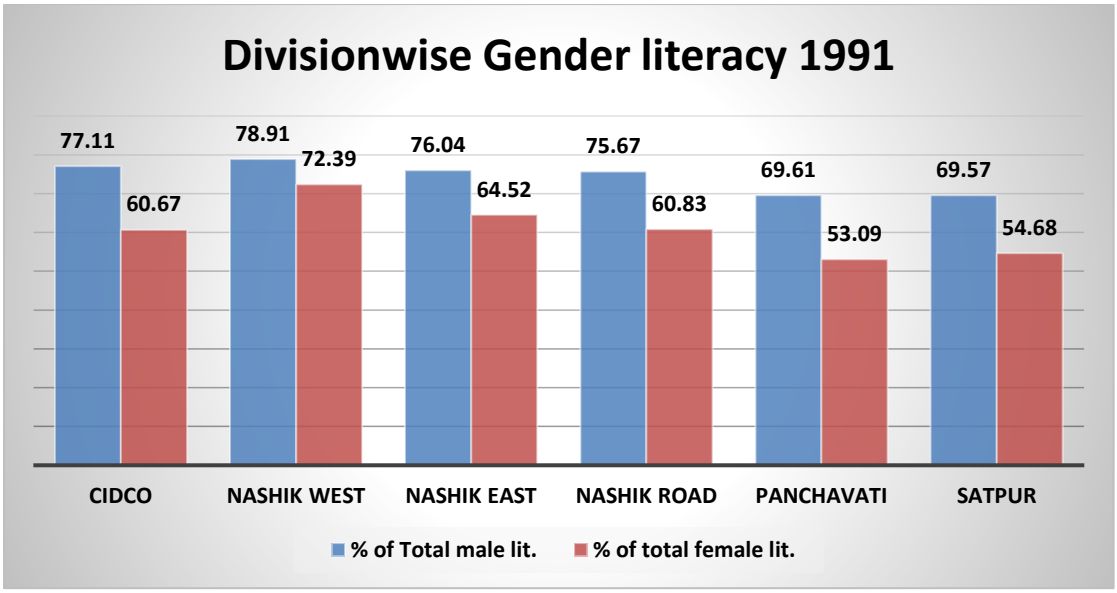


Figure No: 1.15 Division wise Literacy of Nashik City1991

A high level of literacy reflects the dynamic character of city population. The total literacy population of Nashik city was 67.10 per cent in 1981 which increased up to 74.51 per cent in 2001. It is observed that the male's literacy rate is much higher than the female's literacy rate. In 1981 only 58.59 per cent of the females in the city were literate; whereas 74.86 per cent of the males were literate. It was found that there was an increasing in literacy rate up to 68.73 percent of the females and 79.55 percent of the males in 2001 the general increase in literacy ratio especially female literacy may be because of the increased provisions of educational facilities in the city. A number of primary secondary and higher education institutions. Some of them exclusively for women were established in the city during the last three decades.

TABLE 1.15: NASHIK CITY, DIVISIONWISE LITERACY STRUCTURE 2001

Division	Total Population	Literate Population	% of Total Division	Total Male	Literate Male	% of Total Division Male	Total Female Population	Total Literate Female	% to Total Division Female
Cidco	2,14,256	1,61,596	75.42	1,14,906	91888	79.98	99,350	69,708	70.16
Nashik West	1,23,481	98,171	79.50	63,899	52955	82.87	59,582	45216	75.89
Nashik East	1,65,423	1,23,917	74.91	85,742	68233	79.58	79,681	55684	69.88
Nashik Road	1,90,326	1,42,956	75.11	1,01,852	81902	80.41	88,474	61054	69.01
Panchavati	2,14,950	1,53,037	71.20	1,16,493	90234	77.46	98,457	62803	63.79
Satpur	1,68,800	1,23,018	72.88	92,845	72793	78.40	75,955	50225	66.12
Total	10,77,236	8,02,695	74.51	5,75,737	4,58,005	79.55	5,01,499	3,44,690	68.73

Source: - Census of India, District census Handbook Nashik District, 2001.

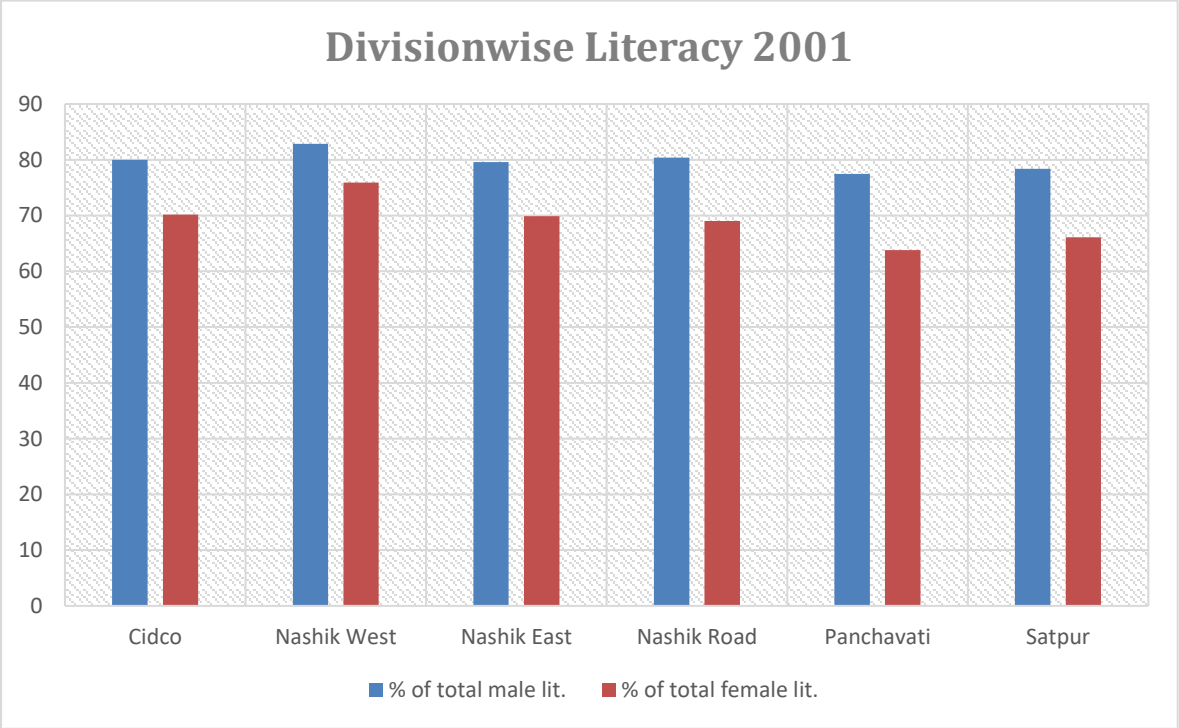


Figure No: 1.16 Division wise Literacy of Nashik City 2001

According to 2001 census, the Nashik west division has the highest total literacy rate of 79.50 per cent while lowest literacy rate has been noted in Panchavati division i.e. 71.20 percent the highest male literacy rate of 82.87 per cent is found in Nashik west division and lowest male literacy 78.40 per cent is observed in Satpur division. It is also observed that Nashik west division has found highest female literacy ratio and Panchavati Division has the lowest-female literacy rate i.e.75.89 percent and 63.79 percent respectively. Only Satpur division has lowest male literacy ratio than the average male literacy while Satpur and Panchavati division have lowest female literacy rate than average the total literacy is 74.51 percent with male having 79.55 percent and female accounts for 68.73 percent. There exist more variations in the percentage of total literacy rate from division to division ranging from 71.20 percent in Panchavati division to 79.50 percent and the Nashik west division.

TABLE 1.16: NASHIK CITY, DIVISIONWISE LITERACY STRUCTURE 2011

Division	Total Population	Literate Population	% of Total Division	Total Male	Literate Male	% of Total Division Male	Total Female Population	Total Literate Female	% to Total Division Female
Cidco	306056	235639	76.99	163239	133962	82.06	142817	101677	71.19
Nashik West	147204	117362	79.72	74991	61185	81.58	72213	56177	77.79
Nashik East	236755	184484	77.92	120377	96848	83.77	116378	87636	75.30
Nashik Road	268927	213580	79.41	144680	116546	80.55	124247	97034	78.09
Panchavati	293234	241705	82.42	154636	129884	83.99	138598	111821	80.68
Satpur	233877	185676	79.39	124594	105118	84.36	109283	80558	73.71
Total	1486053	1178446	79.30	782517	643543	82.71	703536	534903	76.12

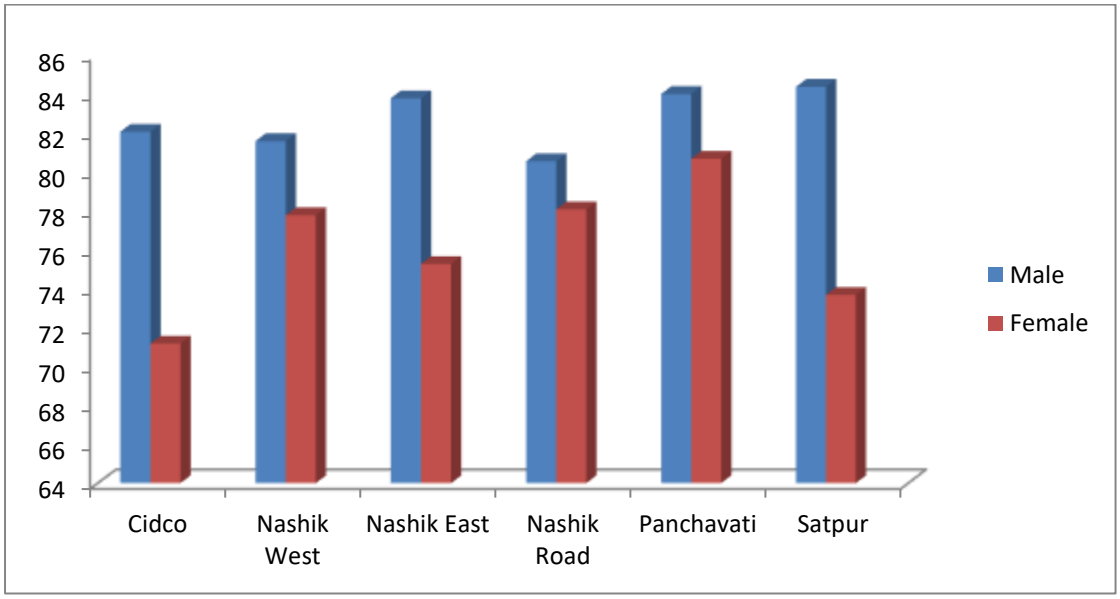


Figure No: 1.17 Division wise Literacy of Nashik City 2011

According to 2011 census, the Panchavati division has the highest total literacy rate of 82.42 per cent while lowest literacy rate has been noted in Nashik east division i.e. 77.92 percent the highest male literate rate of 84.36 per cent is found in Satpur division and lowest male literacy 80.55 per cent is observed in Nashik road division. It is also observed that Panchavati division is found to have the highest female literacy ratio and Cidco Division has noted lowest-female literacy rate i.e.71.19 percent. Only Nashik road division has the lowest male literacy ratio than the average male literacy while Cidco division have lowest female literacy rate than average the total literacy is 71.19 percent with male literacy having 82.71 percent and female literacy accounts for 76.12 percent. There exists a more variation in the percentage of total literacy rate from division to division.

b) ECONOMIC DEVELOPMENT-

Social means relating society or organization. Develop means meaning to unfold itself or to grow into fuller or mature condition. Mend means referring to an instrument of action, an act or process. Therefore quality of life is enjoyed by society and shared by its members. Social development refers to the progressive improvements in the living conditions Social development is about putting people at the center of development. This process must benefit people of all grounds. Groups and society, and the norms that facilitates such interaction, Economic development is the process by which a nation improves the economic, political, and social well-being of its people

Socio-economic development of Nashik City-

Socio-economic development of Nashik discussed as follows-

In the study area different types of facilities play an important role in the Social development to city itself and surrounding region.

There are various facilities which affect the development of city. These facilities are as follows:

1) Administrative Function.
2) Educational Function.
3) Banking Function.
4) Health Function.
5) Communication and Transportation Function.
6) Industrial Function.
7) Market Function.
8) Recreation.
9) Other.

LOCATION OF INDIVIDUAL FUNCTION:

In Nashik city, it is observed that each function has its own perfect location, where the function is necessary, and it is associated with other functions.

ADMINISTRATIVE FUNCTIONS:

Nashik is a tahsil as well as a district headquarter and revenue division and hence tahsil and district administrative offices are established in Nashik city through which different types of services are provided to the people. Tahsil and Government offices such as Tahsildar Office, Panchayat Samite, Court and Market Yard are the important offices. District Court, Tahsildar Office, Panchayat Samitee

are located near Bus station. The Market Yard is established near Dindori Road. The various services and facilities are provided to the people from tahsil office, such as distribution of food-grains to fair price shops, buying and selling of land, caste validity, apodictic work etc. Panchayat Samite supplies agricultural techniques and facilities to the rural area of the taluka. District Court is important for solving different types of problems created among the people. Market yard controls daily, bi-weekly, weekly markets and major fairs of the tahsil. Besides this Collector Office, District Court, Zillah Parishad, Public Works Department, Irrigation Department, Integrated Rural Development Project Office, Circuit House, Social Welfare, Employment Office, Town Planning Office and Police Station are the major district Government Offices. Alongside Collector Office, Public Works

Department and Circuit House are found near Central Bus Station. Zillah Parishad and Integrated Rural Development Project Office is located near new Central Bus Station. City Police Station is situated in central part of the city near Saharanpur Road. There are 11 police stations and 45 Police Chowckies in Cities.

EDUCATIONAL FUNCTION:

Education is a window through which we can see the whole world as well as unavoidable aspect of human life. In Nashik city, from primary education to higher education, all kinds of educational development is found. There were 318 primary schools, 233 high schools and 45 colleges in Nashik city in 2010-2011. Three underhand eighteen primary schools and Two hundred thirty three high schools are established in different parts of city, but most of them are concentrated near CBD area, College road, Gangapur road and Nashik road. These primary and secondary schools give facilities of education to the students of Nashik city as a whole and peripheral region, especially to the students coming from the rural areas. In, Nashik city it is observed that there are forty-five colleges of various faculties such as Arts, Commerce, Science, Engineering, M.S.W., M.B.A., education, Medical etc. and two Universities. These colleges and universities provide higher education facilities to the surrounding region. The students coming from different states and districts take their education from these institutions.

PRIMARY EDUCATIONAL FACILITIES:

There were 259 primary schools in the city as per the survey conducted during the year 2000-01. Total number of primary school going students in city was 1, 33,039and they were 12.35 per cent of 2001 population. Out of 259 primary schools, 85schools were run by Govt. institutions like Municipal Corporation and Zillha parishad and remaining 174 primary schools were run by private institutions.

TABLE 1.17: Number of primary schools, institutions, number of students and their percentage to total population in Nashik city (2000 TO 2012)

Sr.No.	Year	Primary School	Govt. Institutions	Private Institutions	Number of Students	% to Total population
1	2000-01	259	85	174	1,33,039	12.35
2	2005-06	270	90	180	1,77,572	13.85
3	2011-12	318	128	190	2,14,152	14.40

Source: - i) D. P. Report of Nashik city (2012) Town Planning Department.

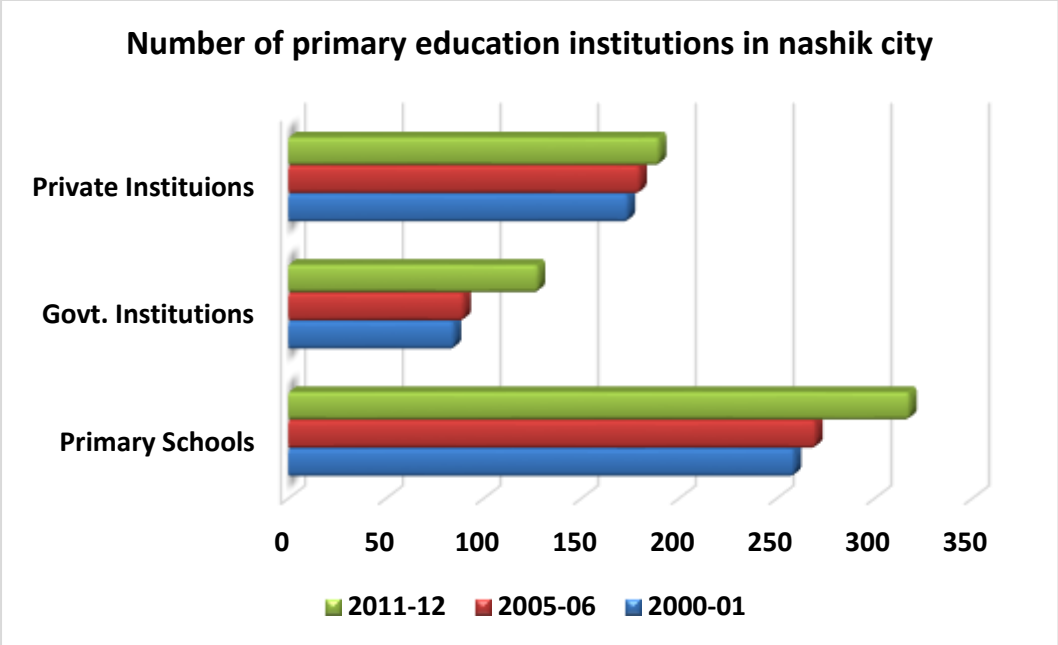


Figure No: 1.18 Primary Educations

In the year of 2005-2006 there were 270 primary schools in the city. Out of which 90 schools were run by Govt. Institution whereas 180 schools were run by private institutions. The numbers of students admitted in primary schools were1,77,572 which are 13.85 per cent of total population of 2006. Number of primary schools increased up to 318 in 2011-12 in which 128 schools are run by Government institution and 190 schools run by private institutions. There are 2,14,152 students admitted in primary schools which are 14.40 per cent of total population in 2011.Table IV-II and shows the continuous increase in primary school going student in study region. It is observed that the population surrounding the old municipal limit used to go to the primary schools which are situated in old municipal limits. It is very necessary to have well developed schools in the extended area in the neighborhood of the developed area.

SECONDARY EDUCATIONAL FACILITIES

Table-1.18: Number of schools important institutions, students and their percentage to total population in Nashik city.

(2000 TO 2012)

Sr. No.	Year	Secondary School	Govt. Institutions	Private Institutions	Number of Students	% to Total population
1	2000-01	65	6	63	98,244	9.12
2	2005-06	102	2	100	1,30,646	10.19
3	2011-12	133	6	127	1,53,901	10.35

Source: - i) D. P. Report of Nashik city (2012) Town Planning Department.

Figure No: 1.22

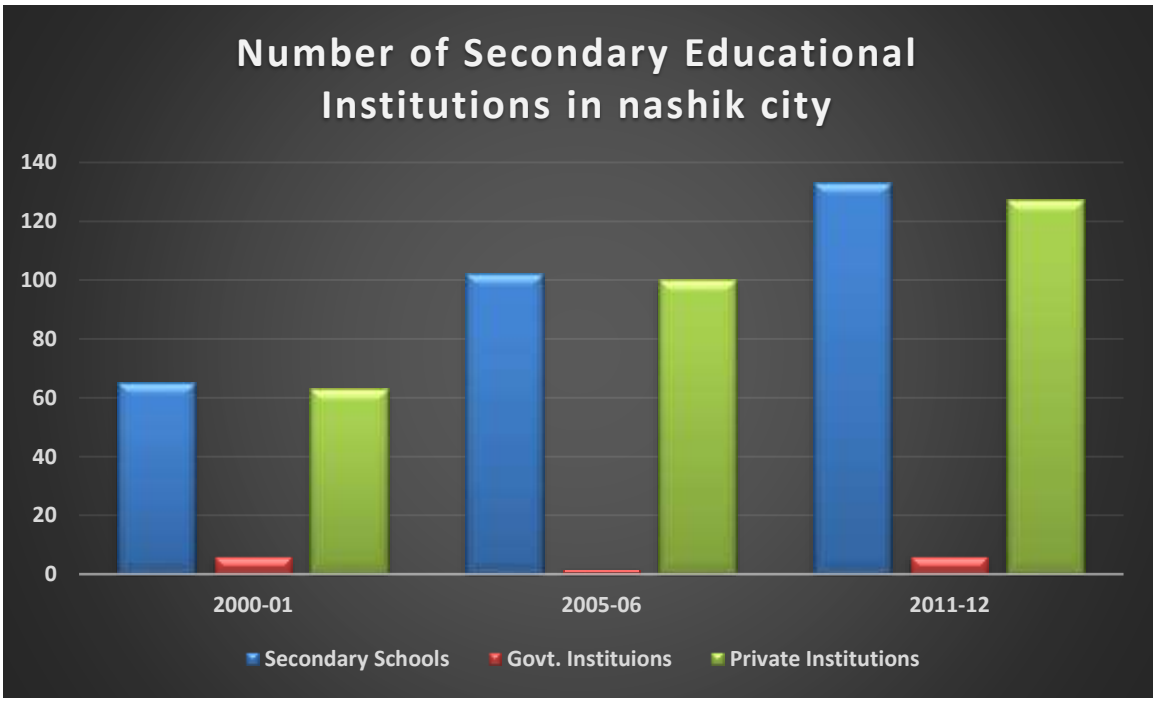


Figure No: 1.19 Secondary Education

C) INDUSTRIAL DEVELOPMENT OF NASHIK CITY-

Industrial Growth in Nashik- Pre-independence Period

During this period the whole district was humming with handicraft activities mainly engraving on gold, silver, copper and brass utensils, manufacturing locks, making paper and weaving textile items like coloure dsarees, Paithanee, carpets, blankets, silk cloth etc. Nearly 35000 artisans were engaged in these cottage-industrial activities.

The first sign of modern industry as such in this region can be traced back to 1882 when a Paper Mill at Yeola with an employment of 200 workers was started. The work of India Security Press, with a capital investment of Rs. 28 lacs was started in 1923 and printing work commenced in 1925. The printing of currency notes began in 1928.

Encouraged by the favorable conditions conducive to the industrial growth, the private division also stepped in. The era of modern industrialization started during the 4th decade of the 20th century with the establishment of the Walchand Group at Ravalgaon. In 1933 the first sugar factory was founded in Nashik District. That very year the first foundry was also started. In 1936 the first soap factory was witnessed by the Nashik cites, coinciding with the emergence of power loom division in Malegaon.

Nashik's contribution in Service Industrial Field, particularly in insurance division has been a pioneering one. The first Insurance Company, the Sahyadri Insurance Company commenced in 1936 at Nashik.

The first Cement Tiles Factory was taking place at Nashik in1943. During pre-independence period only Nashik entered into a very special cottage industry activity namely Beedi manufacturing. In the absence of its main raw material i.e. Tendu leaves, it is indeed a great achievement that this industry took a solid base and shape at Sinnar. It provided employment to thousands of illiterate and poor adivasees, especially women, in the drought-prone areas. Still this industry assumes a great importance in the rural economy not only in the district but even in the whole State of Maharashtra

Post-Independence period

We may, briefly note the major industrial happenings during the first two decades after India got independence

The government printing press with an investment of Rs. Two cores, was established. And small scale industries related to agricultural medicine & textile were started. During this period, Malegaon in Nashik District came up as a growing centre for power looms and principally for weaving coloure dsarees. During the first decade of the post-independence period the number of power looms doubled i.e. from 4000 to 8000 and by the end of 1970, the genuine amount of power looms reached the unbelievable 25000.

Modern Industrialization

Nashik is one of the fastest growing cities of India; the credit hugely goes to its

industrialization and development since 2002 with malls, new urban areas, infrastructure, educational institutions etc. A centre of medicinal companies such as in recent years, Nashik has also carved a niche for itself as India's "Napa Valley" and locally established wine brands such as "Sula" and "Zampa" have attained international acclaim. The natural benefits of geography and climate and abundant availability of water catalyzed this growth.

The industrial development of Nashik area may be thought of mainly in two periods, namely pre-independence and post-independence period. The post-independence period, we may divide, again in three stages i.e. from 1948 to 1960, 1960 to 1985 and the last one and a half decade of the 20th century.

In the year 1962 when the Satpur MIDC was established it become a vantage point in the development of Nashik especially in industries as it was declared to have come into existence with some land being handed over to Nashik Industrial Co-Op. Estate Limited; popularly called as NICE Area. During the first decade, 50 units, mainly pertaining to consumer products and ancillary units, investing about Rs. 25 crores and giving employment to 3000unemployed people was started. These include few large units also like MICO, Taparia, and VIP etc. During this period, MSEB started Thermal Power Unit at Eklahare near Nashik Road. Other few large units like Citric, Vindhya papers, Kirloskar Tractors etc. were established in private corporate division.

In this very decade, Nashik was placed on the world industrial and defense map of India as MIG Air-Craft Unit of the famous Hindustan Aeronautics Ltd (HAL) was started at Ozar in 1964. It is located 10 miles (16 km) from Nashik employing about 7000 people.

The major transformation of Nashik took place during the last fifteen years. The Satpur MIDC Area (636.98 hectares) was flooded with industrial activities. An additional MIDC Area of 520.55 hectares at Ambad was declared in 1980 and at Malegaon near Sinner an area of 587 hectares was added in 1988. At Sinner the Sinner Co-Op. Industrial Estate Ltd. came into existence on Shirdi Road at Musalgaon with an area of 103 hectares. Now Nashik produces almost everything from pin to Aeroplane. It also caters to the needs of agro-based industrial products and their export oriented processing. At present more than 175 large and medium industrial units are functioning with an investment of Rs1169 crores providing employment to more than 27000 workers .The total number of SSI units having permanent

registration is 7547 having an investment of Rs 325 cores and employing more than 30000 persons.

Apart from Satpur, Ambad and Sinnar, the district is having MIDC areas at Malegaon, Dindori, Vinchur, (Proposed) Peth and Surgana. Very recently water of Girna dam has been reserved for Malegaon MIDC area and in the coming years, a tremendous development of industrial activities in Malegaon MIDC can be witnessed.

The district is having industrial co-operative estates at Nashik, Sinnar, Malegaon, Manmad, Yeola, Pimpalgaon (Baswant), Kalwan, Igatpuri, Chandwad and Nandgaon. Efforts are also going on to have such an estate at Satana.

The development of special economic zone (SEZ) over 1010 hectares in Nashik has brought the most spectacular developments in the commercial real estate market of Nashik. The project carries with all unique features such as race track, city Theatre, Botanical Garden, IT zones, areas of education, the development of tourism, entertainment and other such things which makes it to stand out from others. The project has been backed and supported by the Maharashtra Industrial Corporation. It is being developed by Indiabulls and it will also have its own Thermal Power Station. Land acquisition is complete and other developments are being carried out. The company has planned to set up 1320MW Thermal Power Project in Sinnar. Total investments will be of around Rs 25,000 cores and it will create thousands of jobs.

D) Summary

In this chapter, socio economic characteristics are discussed. In the first phase of this chapter Temporal Population Growth of city, Population Density, Age- Sex composition of Population, Literacy composition was discussed. In the second phase of this chapter economic development of Nashik city was discussed. Lastly, industrial development of Nashik was discussed.

M) SLUMS IN NASHIK CITY

A) Push and Pull factors or causes of rural migration to urban areas.

B) Classification of slums in Nashik City

I) Division Wise Slum

II) Locations of Slums

III) Ownership of Slums

IV) Declared/ Undeclared of Slums

V) Patterns

VI) Size

C) Spatial-Temporal changes of slums

I) Population Change

II) Change in Area

III) Spatio- Temporal Changes in Density of Slum

IV) Temporal Growth of Slum Population

V) Growth of slum

VI) According to Person

VII) Density Classification of Slum

VIII) Area Classification of Slum

IX) Area Classification of Slum

D) Summary

INTRODUCTION:

Slum and squatters are considered as problem areas for urban development in the world. The slum dwellers in India are on the stake of danger because of ill physical condition of the houses. The presence of slum as part of urban habitat refers to condition of defective physical, social economic environment. 1The phenomenon of slum has come to be regarded as a major problem of urbanization. The worldwide increasing slum phenomenon in every city and growth of urban population nowadays has created a panic for cities growth and development. This is a serious problem not only to the cities but the environment also and if we want to overcome the issue we have to study the slums property to solve the problems, for providing more amenities to the telling masses.

A) Push and Pull Factors or Causes of Rural Migration to Urban Areas.

PULL AND PUSH FACTOR:

This traditional approach to the motivation takes, as a starting point, the differences in the characteristics of the two places, namely the place of origin and the place of destination researcher have attempted to determine whether people migrated because the circumstances prevailing at the place of origin pushed them out or whether they were lured by the attractive conditions in the new place. Different push factors affecting the place where it may be originated, it includes -high growth of natural rate of population creates population burden on the available resources: extinction The reasons of migration such as draught etamine natural calamities & gamine are vital one in 80 of the people are migrating from one place to the another. Manmade issues such as religious, political & social constrict forces people to migrate

from the place. Another major reason of migration is employment in search of work and employment the people are migrating from one place to another in search of work and employment.

PULL AND PUSH FACTOR OF NASHIK CITY

1. EMLOYMENT
2. EDUCATION
3. HEALTH FACILITIES
4. INDUSTRIES
5. MARKET
6. ACCESSIBILITY AND CONNECTIVITY
7. PILGRIM CENTER

1. EMPLOYMENT-

Most of the attraction of humans is employment; Nashik is a well-developed industrial area, the largest industrial area is located at Sinner M.I.D.C., Ambad and Satpur industrial area provides huge employment for skilled and unskilled people.

People from rural area around the city come in search of employment, most of them get jobs in industries but poor and unskilled, uneducated people remain unemployed. These people reside at open place along the road or river bank, making temporary shelter, which converted into slum area.

2. EDUCATION

Nashik city attracts the surrounding rural people for their higher education which is not available in rural areas. City offers engineering, medical, law and other higher education. Nashik city is one of the important educational canters in Maharashtra. Higher education facilities are well developed in the city. Government and Private Polytechnics Technical Schools I. T. I. etc. are catering the needs of technical education in various branches of Civil Electrical Mechanical Computer Chemical Engineering etc. The city also provides higher educational facilities in various faculties like Arts Commerce Science Engineering Medical Pharmacy Law Business Management Agricultural Science Education etc. Now there are 45 colleges located in the city. Two of the important higher educational facilities that are Y. C. M. O. University have been established on 1st July 1989 and Maharashtra University of Health Science situated in Nashik city at Dindori road.

3. HEALTH FACILITIES

There are various types of specialized health services according to different diseases in the city. There are 495 hospitals located in the city. Rural peoples are migrated for better treatment in the city.

4. INDUSTRIES

Industries play a vital role in economic development of a region. Nashik city is an important industrial city of the state of Maharashtra which is well connected by railway and roads to other important cities of India because raw material and labour force is available in the study region. The picture of industrial development of city has been changed during last two decades. The traditional industries have confined to agro based and process type like dal mills, oil mills, ginning etc. with availability of infrastructure facilities and liberal government policies implemented through various departments like M.I.D.C DIC SSIDCOM WMDC etc.

5. MARKET

Market occupies an important position in the economy of Nashik city. The city is biggest business centre of the agriculture produce in the Nashik district because city having favourable geographical location for it. It receives about 40 per cent of the market arrivals of the district i.e. 22.12 per cent of the total workforce of the district found engaged in the marketing of the study region. There are total 8,466 shops out of which 4,534 are municipal shops and the rest are private shops. The study region has the major advantages as the transit node for the various locations. National Highway No. 3 and National Highway No. 50 passes through the heart of the city and the main railway corridor are linkage to the city. It acts as the base station for the tourist who comes to see the famous Panchavati and Trimbak encourages the tourist's base commercial activities.

6. ACCESSIBILITY AND CONNECTIVITY

Nashik city is well connected by roads railways and airway with important cities of the country e.g. Mumbai Kolkata Delhi Pune etc. The road network is well developed in city. The Mumbai-Agra National Highway No.3 passes through the study region in west-east direction and Nashik-Pune National Highway No.50 passes through the study region in north-south direction. Nashik - Aurangabad road, Nashik-Jawahar road, Kalvan road and Peint road are the state highways by which Nashik is well connected to Maharashtra. Nashik city is one of the important railway stations on the Mumbai-Delhi broad gauge railway line of central railway. There is an air-strip at

Ozar outside the municipal limits. It is about 20 km away from Nashik and it is situated on Mumbai-Agra National Highway No.3.

7. PILGRIM CENTER

Nashik city has a mythological, historical & cultural background. The river Godavari flows through the city. Because of the mythological background & ancient temples Nashik has become one of the holiest places greetings for Hindus. In a true way the city can be called as the city of Temples.

B) CLASSIFICATION OF SLUMS IN NASHIK CITY

Introduction

Slums are classified on the basis of development and geographical Location.

1. Classifications on the basis of development of nation

A) Developed Nations slum- Originally formal, now grown informal Government sponsored and subsidized Government top-down

B) Developing Nations slum- Originally informal, striving to formalize Purely private, suspicious of the government Governed bottom-up

Classifications on the basis of geographical location - Inner City Slums, Near the core of the city, Easy accessibility to growing employment opportunities, Densely packed and decaying housing, Inadequate amenities, The slums are erected pm illegal land at the peripheries of the Nashik city. It becomes serious because of increasing population levels of geography, functionality, sociology, economy, and psychology etc.

On The Basis Of DDA (Delhi Development Authority) Guidelines – JuggiJhopri Clusters, Temporary dwellings of ordinary material, Occupied by construction work laborers, May or may not disappear after the end of construction period depending upon the rate of immigration and out- migration Slum Area, Area with buildings unfit for human habitation, Dilapidation, Overcrowding, Faulty arrangement and design, Hazardous , Unwholesome trade activities, Narrow inaccessible streets, Lack of light, ventilation, sanitation, Combination of any number of these factors Unauthorized Colonies, Found near new industries, May be within or outside the statutory limits of the city on the basis of location and type of industries Urbanized Villages, Peripheral villages adjacent to a municipal boundary, Within the statutory limits with the extension of municipal area Resettlement Colonies, Slum

dwellers occupying sites reserved for some specific use are shifted to new area, Small houses with basic civic amenities are provided, Located in the periphery of the city

I) Division Wise Slums

TABALE NO.1.19: DIVISION WISE SLUMS

Nashik Division	Total Slums
Cidco	19
Nashik west	16
Nashik east	25
Nashik Road	44
Panchavati	46
Satpur	18
Total	168

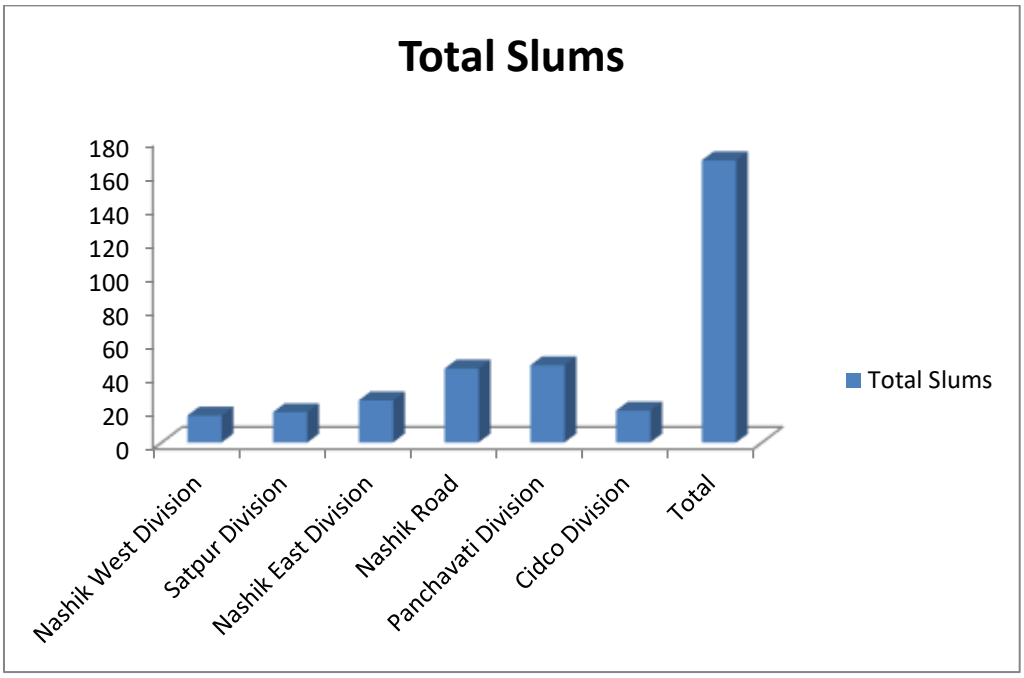
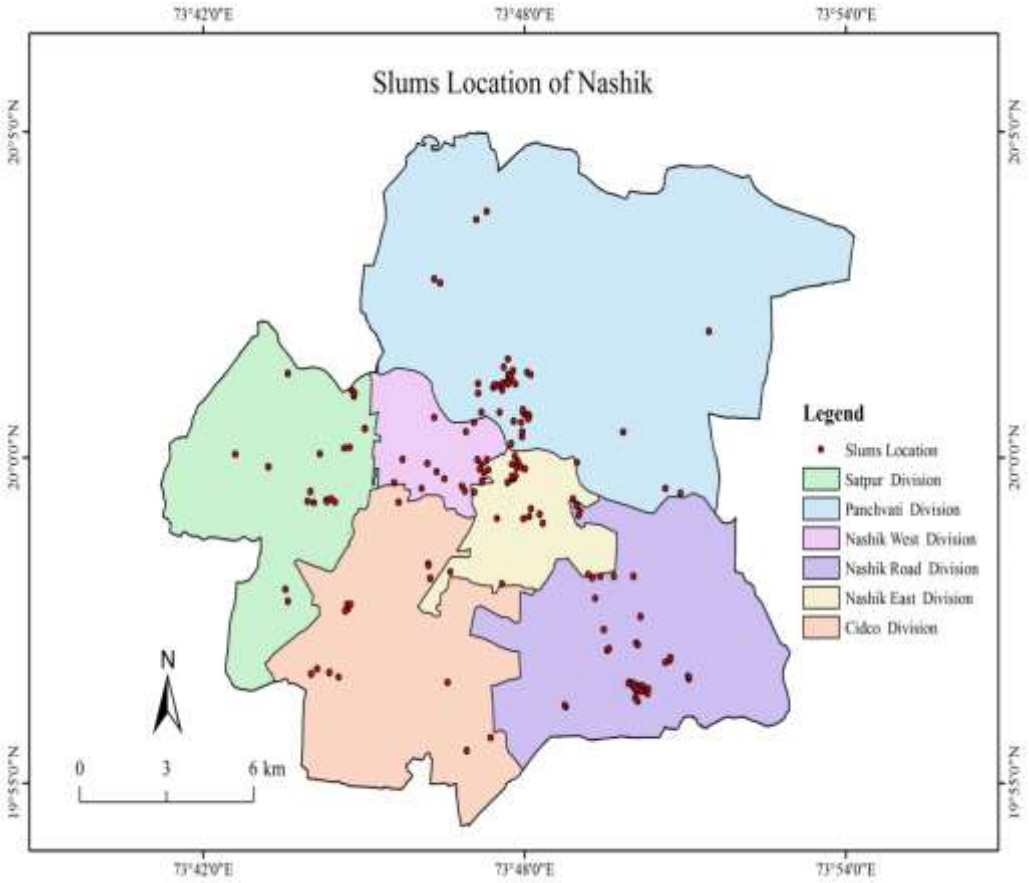
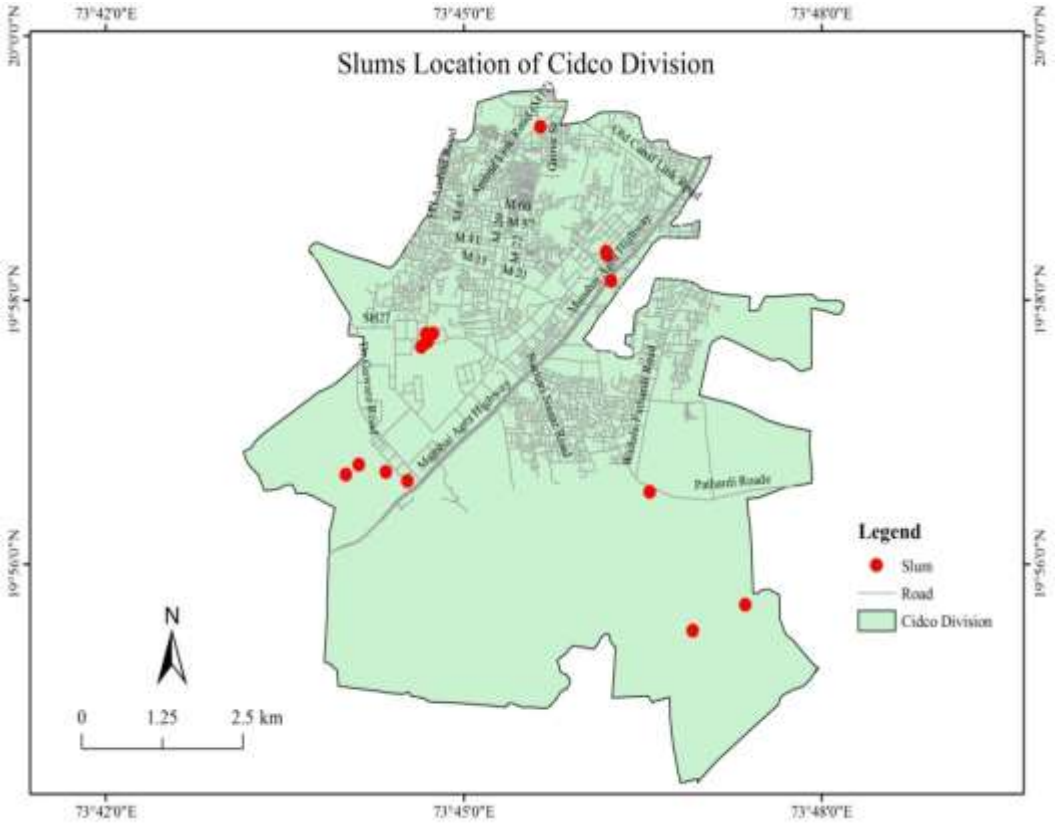


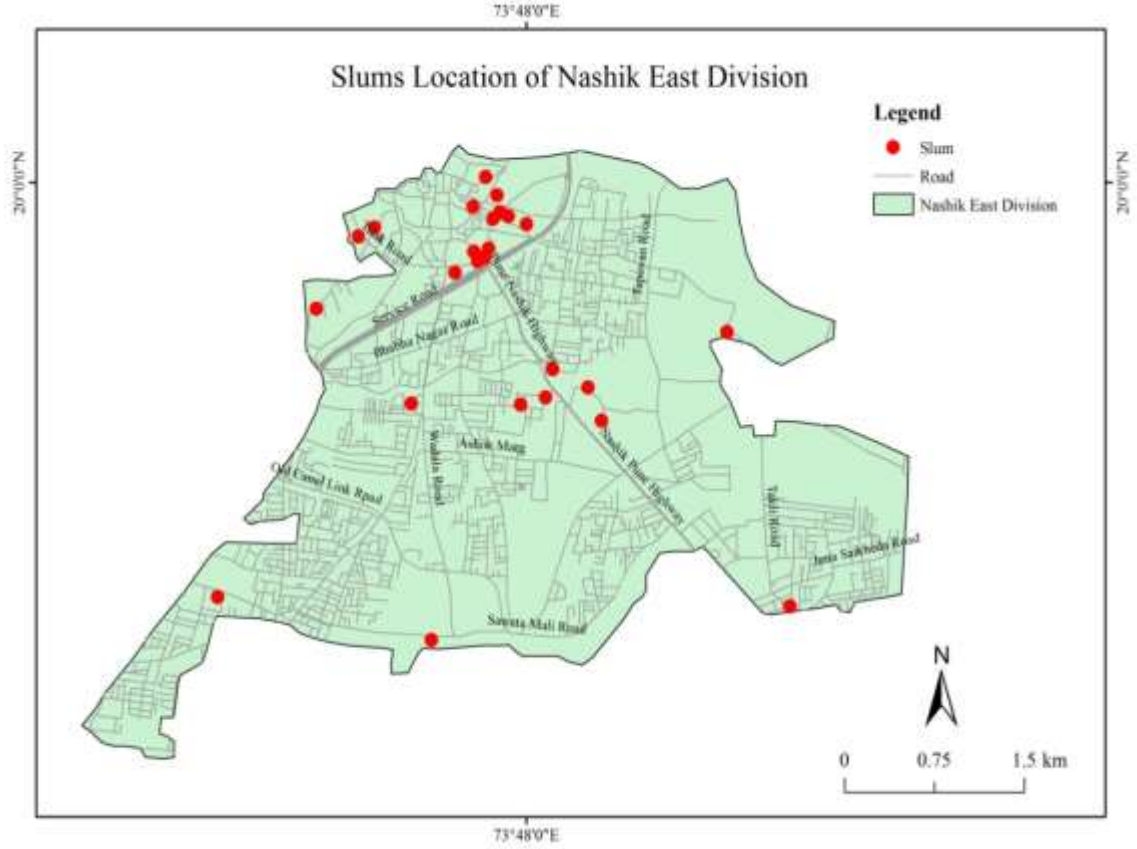
Figure No: 1.20 Number of Slums



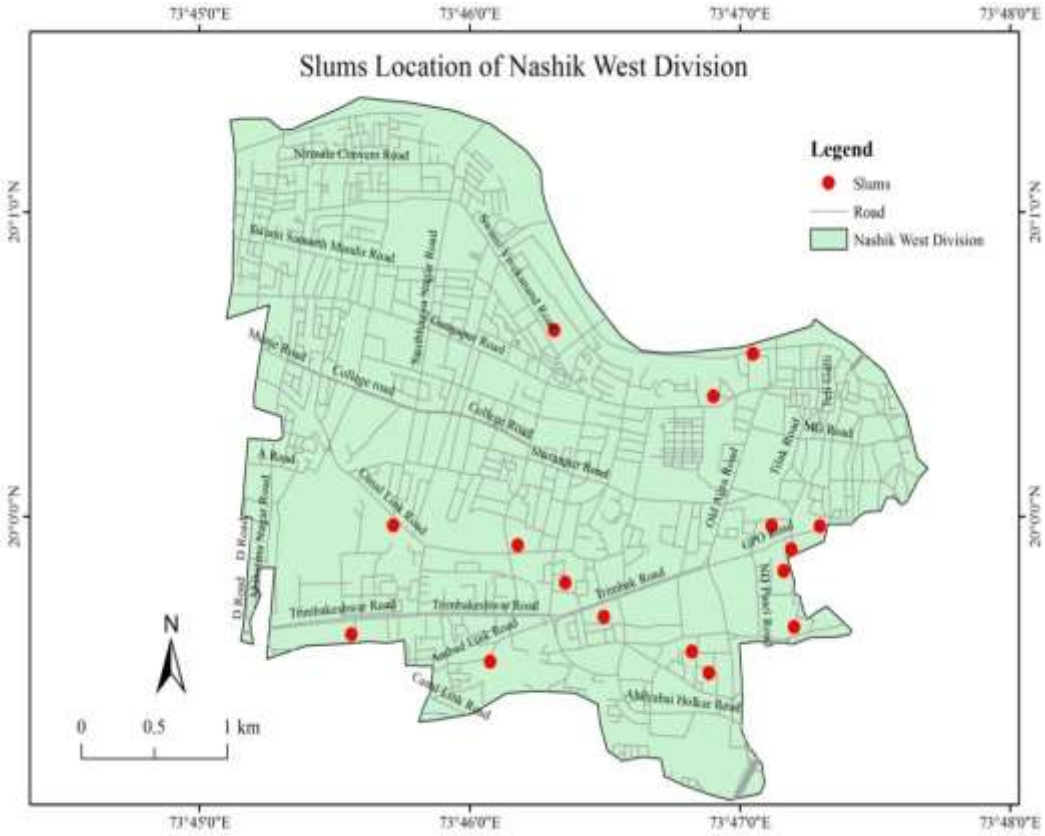
Map1.4 Location of Slums in Nashik City



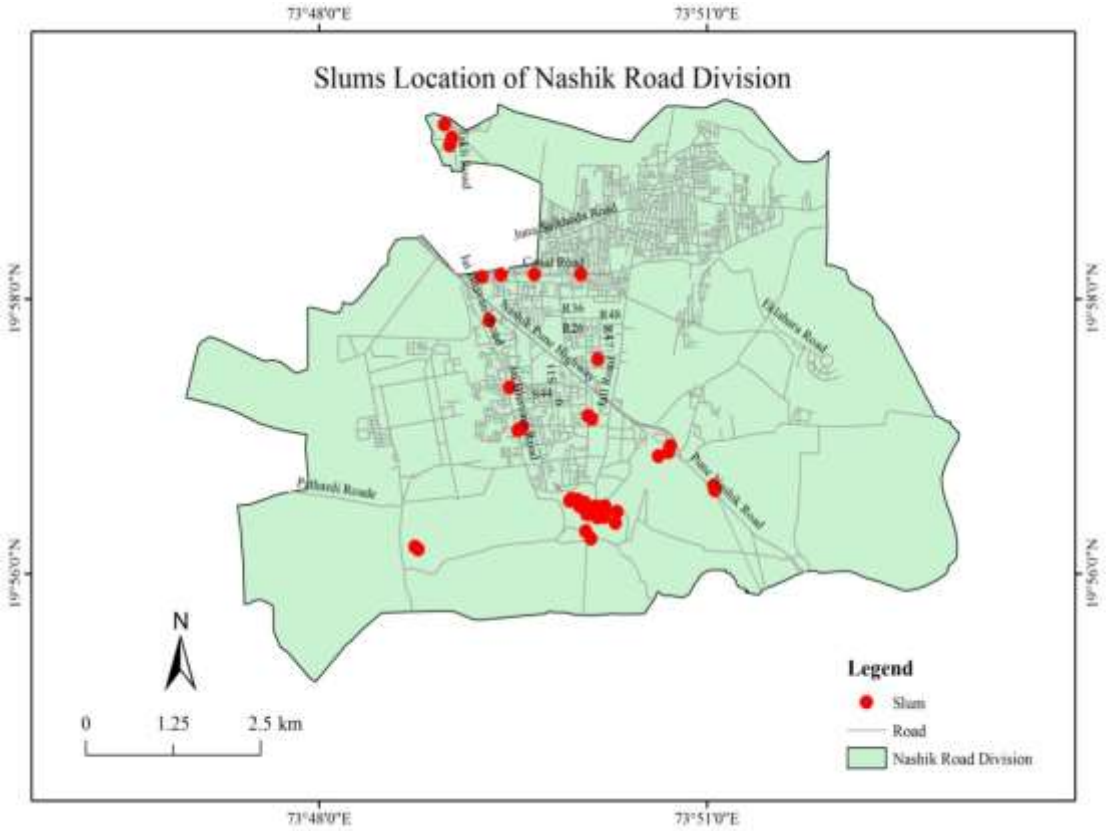
Map1.5 Location of Slums in CDICO Division of Nashik City



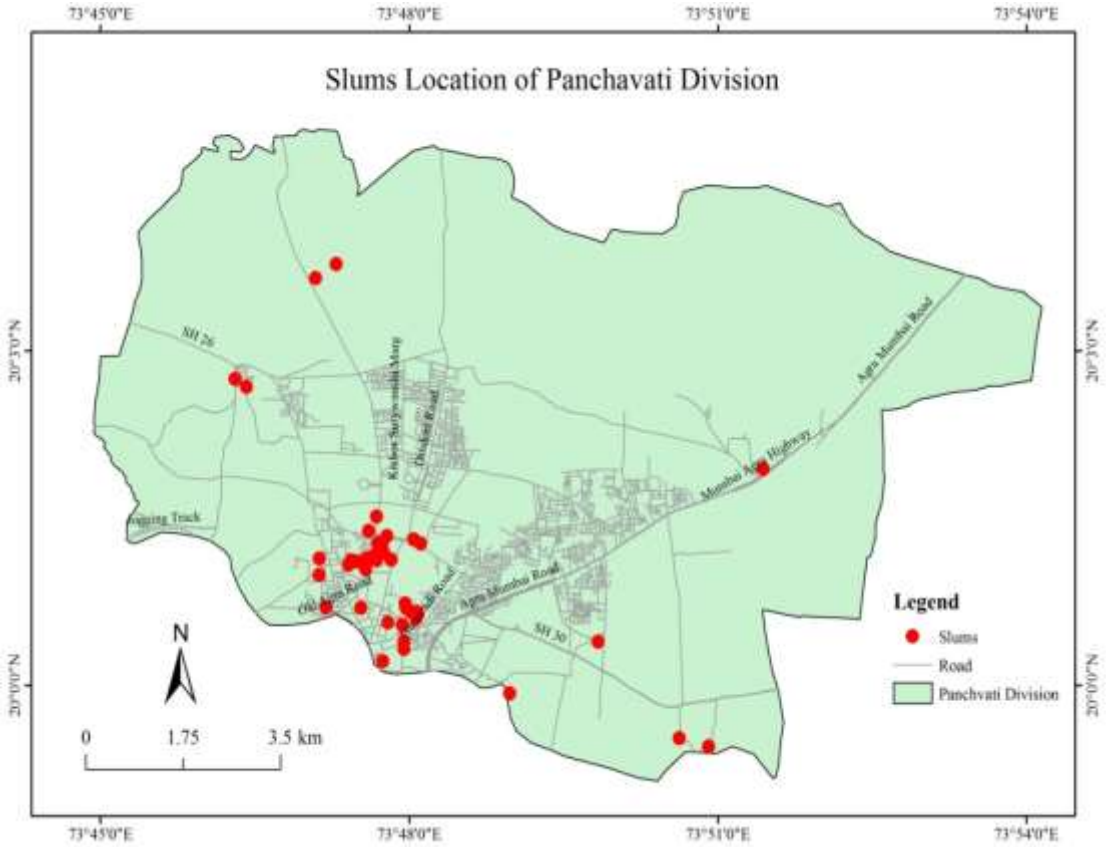
Map1.6 Location of Slums in Nashik East Division



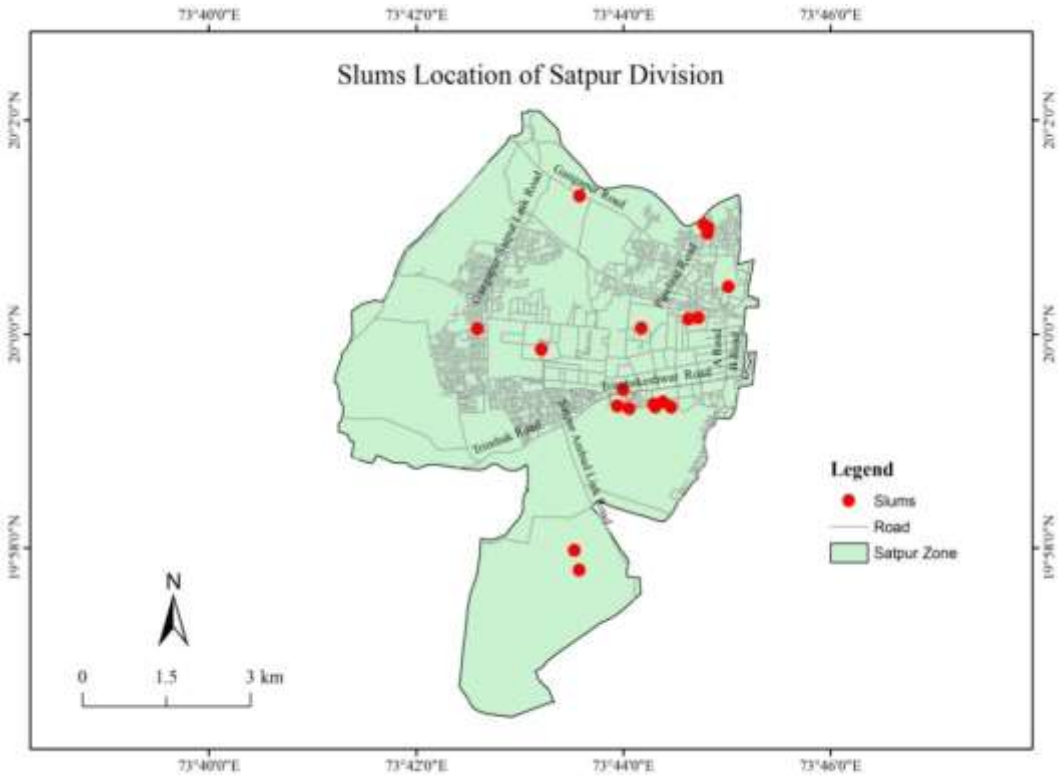
Map1.7 Location of Slums in Nashik West Division



Map1.8 Location of Slums in Nashik Road Division



Map1.9 Location of Slums in Panchavati Division



Map1.10 Location of Slums in Satpur Division

In the municipal corporation of Nashik there are 168 slum Areas. In which Panchavati Division is the highest one by area that has 46 slums. As compared to Panchavati Division, Nashik Road has 44 slums and the area of Nashik road division is smaller than Panchavati Area. On the other hand Nashik East Division has 25 Slums. Cidco Area has 18 Slums As a Parameter of slum Nashik West has very less i.e. 16 slums However Satpur Division has 18 Slums.

Panchavati is the largest Area by expansion and it has a very religious significance. It is a very ancient part as there are a lot of Ancient Temples so many people visit the Pilgrimages and because of pilgrims the people who are economically weak get employment. These Economically weak People dwell in slum areas. Every Twelve years the kumbha mela is held in Panchavati Area. For religious rituals the people from all around India visit Panchavati Ramkunda. The People who live in slums get opportunity to earn their lively hood during this period and it is because of which that Panchavati Area has more slums. Panchavati Area is a market place and farmers bring their vegetable goods to Panchavati to send it to Mumbai. The number of unskilled labor can be seen in the market yard that is why we can come across a lot slums in this area.

Nashik Road division has slums whose major cause is the Railway Station People in Search of the employment come to Nashik by rail root and they are settled in and around the railway station. The People who come to Nashik in search of employment Erect Slums on the Government land and hence the number of slum is increasing in the Nashik Road Division. Satpur is an industrial zone of Nashik City. In search of work people settle Satpur industrial area. Therefore slums are increasing in this part

Day by day new Nashik or Cidco suburban is expanding due to new developments, which has caused the increase of slums. Nashik west is a central part and by area it is the smallest one and hence there in chance for accommodating new slums so only 16 slums can be seen here.

TABALE NO.1.20: PERCENTAGE OF SLUMS

Nashik Division	Total Slums	%
Cidco	19	11.31
Nashik west	16	09.52
Nashik east	25	14.88
Nashik Road	44	26.19
Panchavati	46	27.38
Satpur	18	10.72
Total	168	100

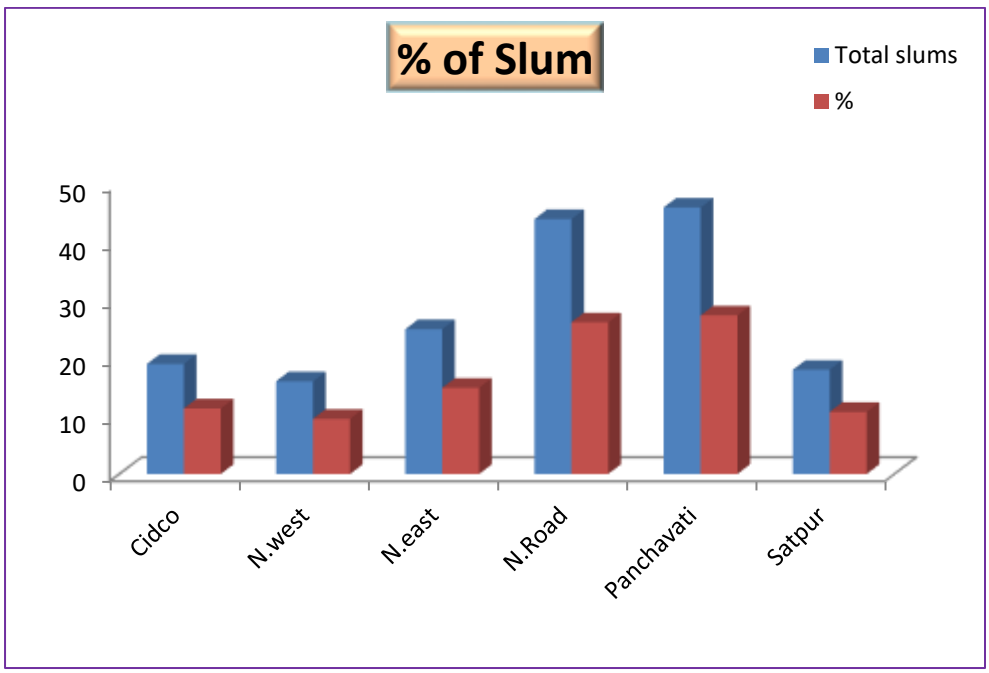


Figure No: 1.21 Percentages of Slums

II) LOCATIONS

TABLE NO.1.21: Location of Slums

Division	Near River	Near Drainage	Total Slums
Cidco	1	2	19
Nashik west	4	0	16
Nashik east	6	2	25
Nashik Road	7	1	44
Panchavati	8	3	46
Satpur	6	1	18
Total	32	9	168

Above table shows the location of slums in Nashik city. Among 19 slums of Cidco division one slum is located along river and two are located near drainage. In Panchavati division 8 slums located near river and 3 slums are located near drainage. Water is the main primitive need for slum dwellers so these slums are located near river and drainage.

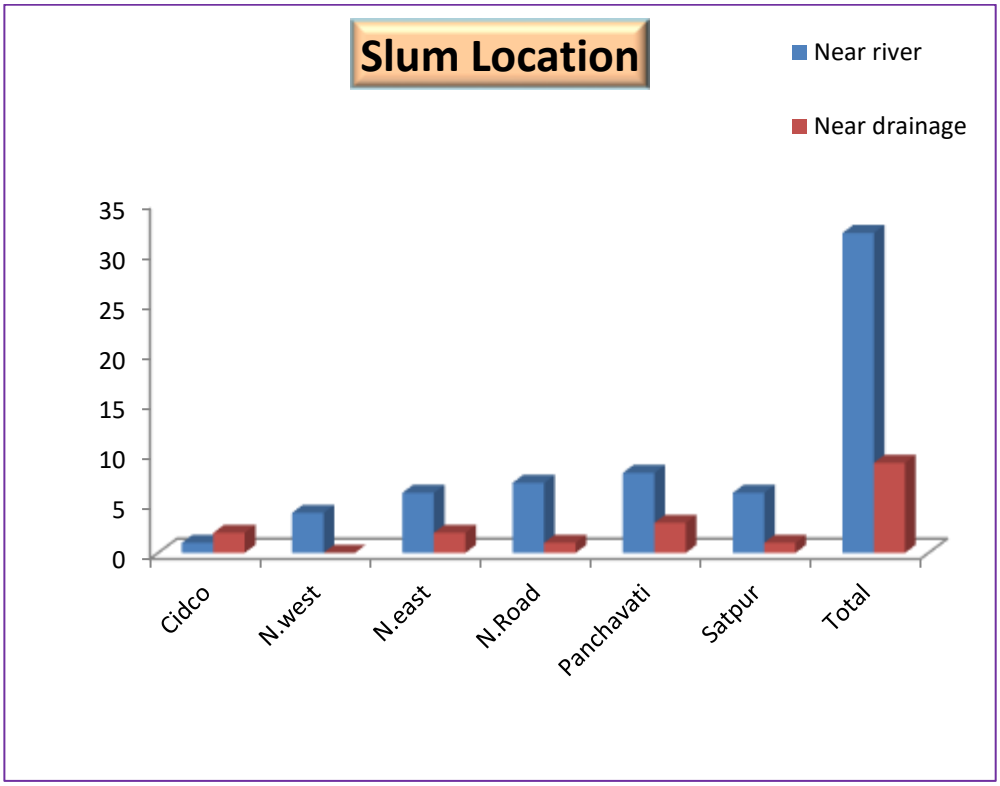


Figure No: 1.22 Locations of Slums

In Panchavati Division there are so many small rivers and drainages and hence more number of slums. Panchavati Division is beside by Godavari River and cannel therefore we can come across numbers of slums at the bank of Godavari River and the edges of cannel. People who are economically backward prefer to dwell at the edges of the cannel to meet their daily needs. Lesser Number of slums can be seen in the Cidco area. As compared to west of the area Nashik west which has no single slum on the edges of drainage out of 168 slums 2 slums are on the bank of river and slums are on the edges of the drainages.

III) Ownership of Slums

If we classify the slums in Nashik city, there are some slums on the government land, Municipal corporation land, and privately owned land. The highest slums i.e. 111 are situated on privately owned land. 32 slums are erected on government land and 25 slums are situated on Nashik municipal corporation land.

TABALE NO.1.22: DIVISION WISE LAND OWNER OF SLUMS

Division	Land owner			Total slums
	Government	Private	N.M.C	
Cidco	6	13	0	19
Nashik west	1	14	1	16
Nashik east	2	20	3	25
Nashik Road	9	35	0	44
Panchavati	7	28	11	46
Satpur	7	1	10	18
Total	32	111	25	168

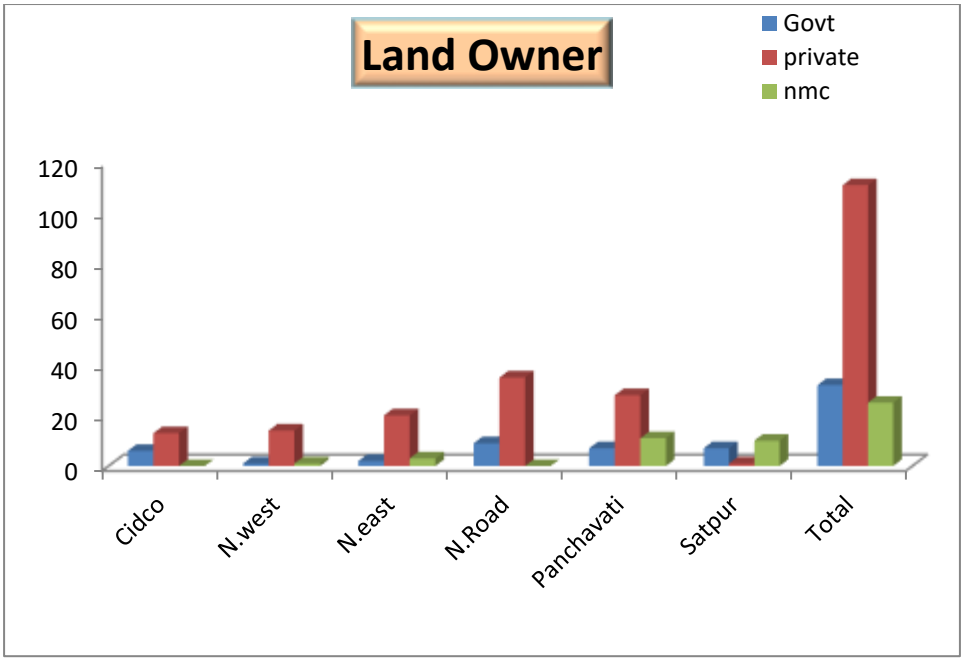


Figure No: 1.23 Land Owners

In terms of division, Nashik road division has highest number of 35 slums situated on privately owned land, Panchavati area has 28 slums and Nashik east has 20 slums situated. If surveyed, there is no single slum on municipal land in Cidco area and Nashik road because Cidco area has more government owned land. Nashik municipal corporation land is highly encroached by slum dwellers Panchavati area has 11 slums Satpur has 10 slums. Satpur and Ambad are industrial sectors so there are so many slums. Highest slums on government land i.e. 9 can be seen in Nashik road division note press, railway station is center of slums on the government land Panchavati & Satpur has 7 slums respectively.

IV) Declared/ Undeclared of Slums

TABALE NO.1.23:DIVISION UNDECLARED SLUMS WISE DECLARED

Division	Declared	Undeclared	Total Slums
Cidco	2	17	19
Nashik west	6	10	16
Nashik east	9	16	25
Nashik Road	18	26	44
Panchavati	15	31	46
Satpur	6	12	18
Total	56	112	168

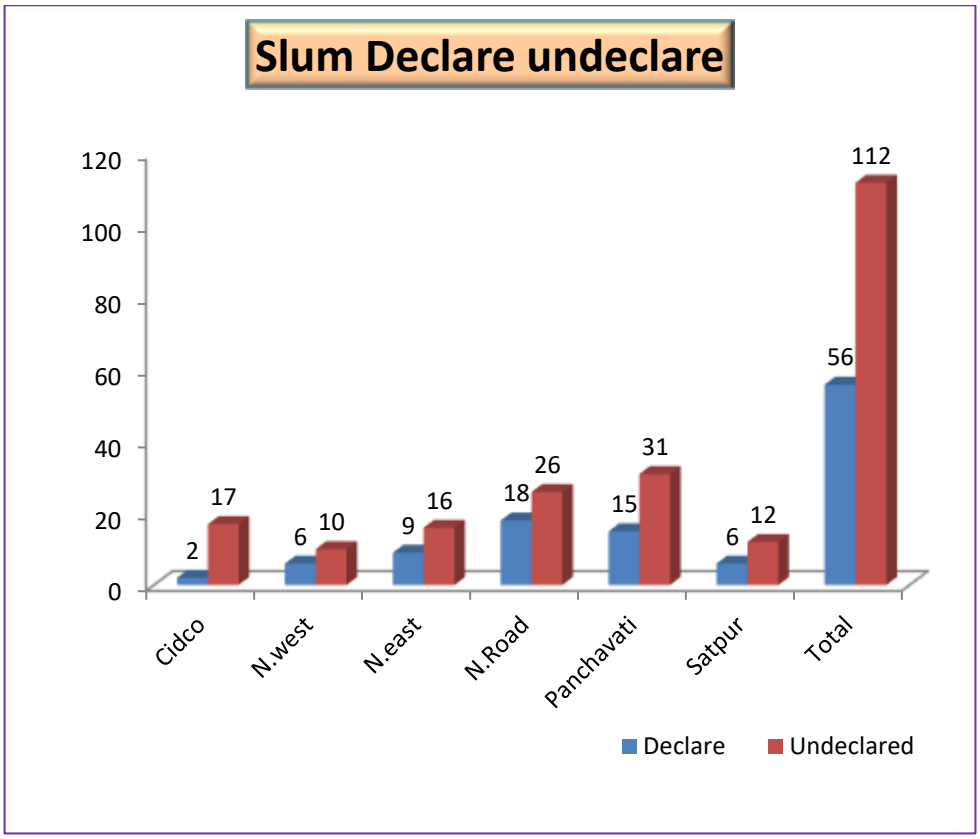


Figure No: 1.24 Status of Slums

TABLE NO.1.24: Division Wise Percentage Declared Undeclared Slums

Division	Declare %	Undeclared%	Total slums
Cidco	10.52	89.47	100
N.west	37.50	62.50	100
N.east	36.00	64.00	100
N.road	40.90	59.09	100
Panchavati	32.60	67.39	100
Satpur	33.33	66.66	100
Total	33.33	66.66	100

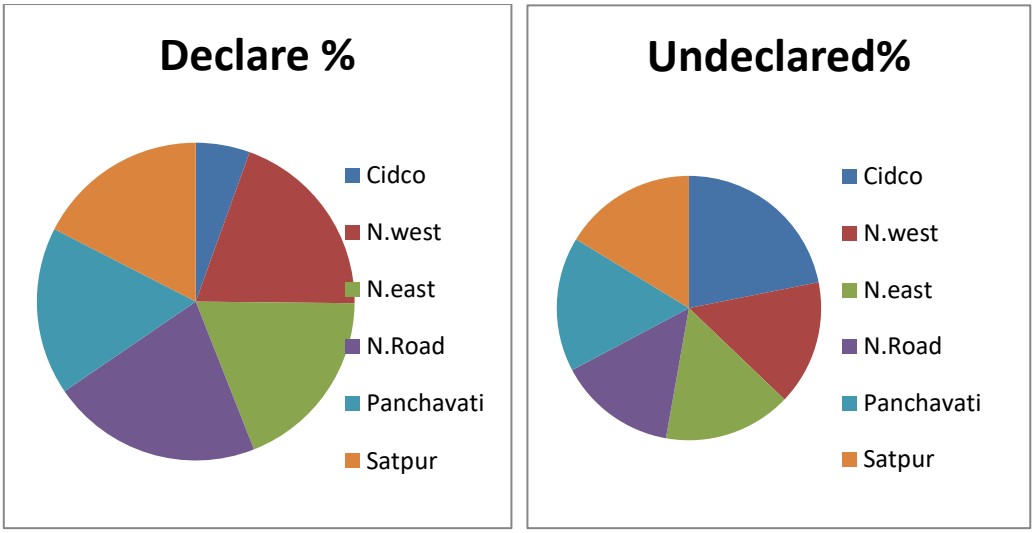


Figure No: 1.25 Division wise declared Undeclared Status of Slums

Nashik Municipal Corporation has declared some slums as legal but some slums are not legally acknowledged by Nashik Municipal Corporation. Out 168 slums 112 slums have no legal acknowledgement and 56 slums have legal acknowledgement. In Nashik Road Division there are 18 slums acknowledged by Municipal Corporation and 15 recognized slums are in Panchavati Division. The Lowest slum i.e. two is in Cidco division. Panchavati Division has highest unacknowledged 31 slums and 26 slums are in Nashik Road Division

V) Patterns

Various patterns of slums are observed in Nashik city.

TABLE NO.1.25: **DIVISION WISE PATTERN OF SLUMS**

Division	Triangle	Square	Rectangle	Circle	L Shape	Linier	Amorphous	Total
Cidco	2	4	2	1	2	2	6	19
N.West	2	3	2	2	1	2	4	16
N.East	2	3	4	3	4	2	7	25
N.Road	5	7	6	4	4	6	12	44
Panchavati	5	7	8	7	2	10	7	46
Satpur	1	2	3	1	2	6	3	18
Total	17	26	25	8	15	28	39	168

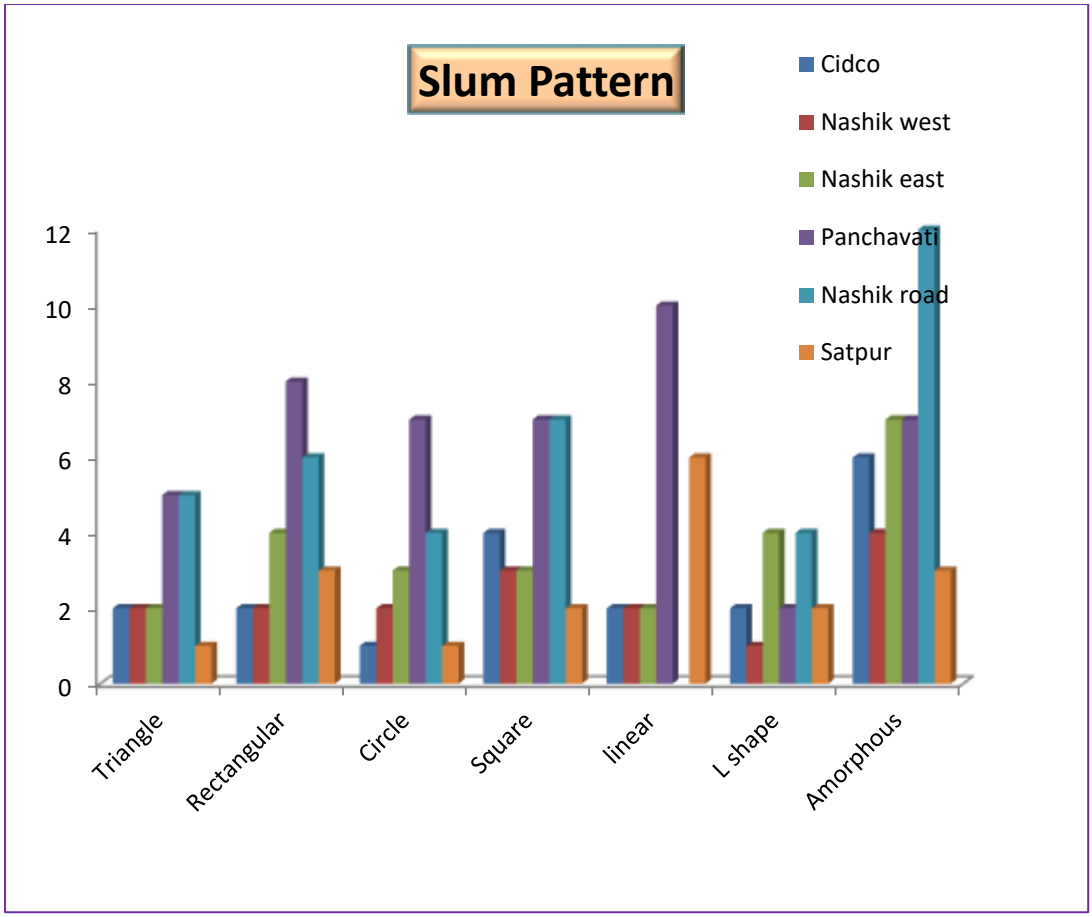


Figure No: 1.26 Slums patterns

Classification in terms of size & shape in settlement geography is of greater significance. There are 35 slums which are shapeless. The slums that exist at road side drainage side or river side there are 26 square shape huts and 25 are rectangle shape.

As per classification, Nashik road &Panchavati division have 5 triangle shape slums. Seven slums are square shape in the Panchavati & Nashik road division Panchavati has 8 rectangle huts that are found in Nashik road in Nashik road division. Circular huts are highest in number Panchavati division with7 while Nashik east & Nashik road division has 4 each the highest road side huts are in the Panchavati division while the highest shapeless slums are found in Nashik road division that is 12 these huts are erected on open space that is why that are shapeless.

VI) Size

Size of slums depends upon area occupied by slums.

TABALE NO.1.26: TOTAL AREA OF NASHIK CITY

Division	Area In Km
Nashik West	21.3541
Satpur	23.3950
Nashik East	26.2752
Nashik Road	41.5451
Cidco	48.4627
Panchavati	107.8408
Total	268.8729

Division wise area is shown in the table No.1.25, highest area is occupied by Panchavati division i.e. 107.8408 .K.m. Smallest area is occupied by west zone of Nashik city i.e. 21.3541 K.m.

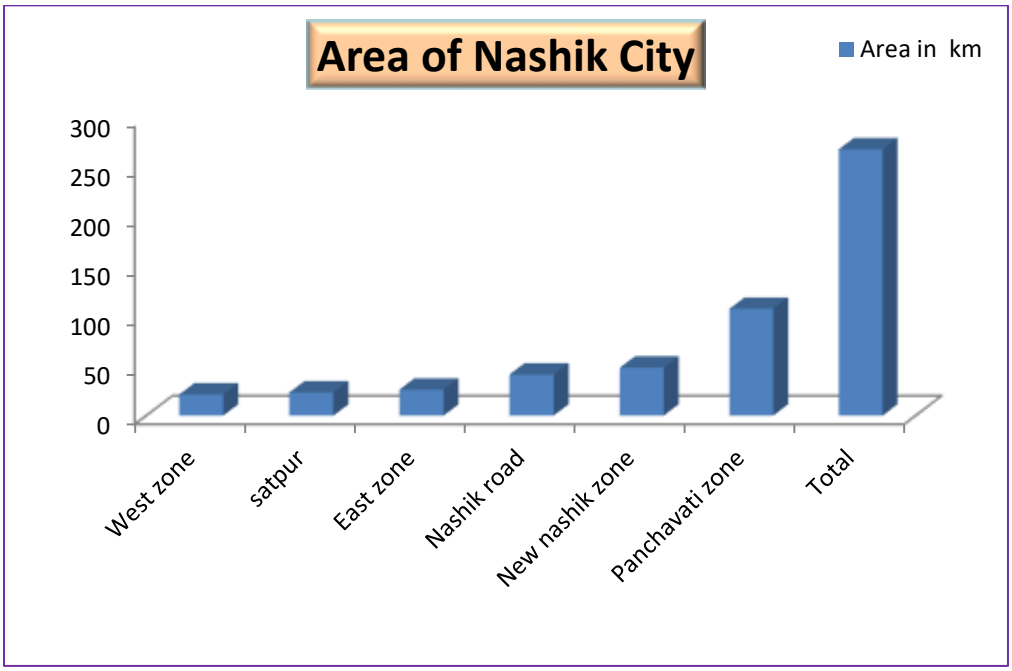


Figure No: 1.27 Area of City

TABLE NO.1.27: DIVISION WISE HUTMENTS AREA

Sr. No.	Division	Number of Slums	Number of Hutments	Area (in Sq. Meter)
01	Nashik West	16	3686	108745.79
02	Panchavati	46	10390	1031378.40
03	Nashik Road	44	8150	547521.86
04	Nashik East	25	6479	209138.66
05	CIDCO	19	6252	458623.49
06	Satpur	18	7785	346574.37
	Total	168	42742	2721982.57

Classification According to hutments & area -:

As per hutments & area there are 168 slums in the six divisions that has 42742 huts. Those huts have occupied 2596276.11sq.m area. The highest numbers of huts are in the Panchavati division with 10390, 8150 huts are in Nashik road area and Nashik west division has 3686 huts it seems to be less as compared to the Panchavati & Nashik road division. The highest area that is 1060117.82sq.m is occupied in the Panchavati division, lowest 633327.01sq.m area is occupied in the Nashik road division. The west area that is 108745.79sq.m is occupied in the Nashik west division.

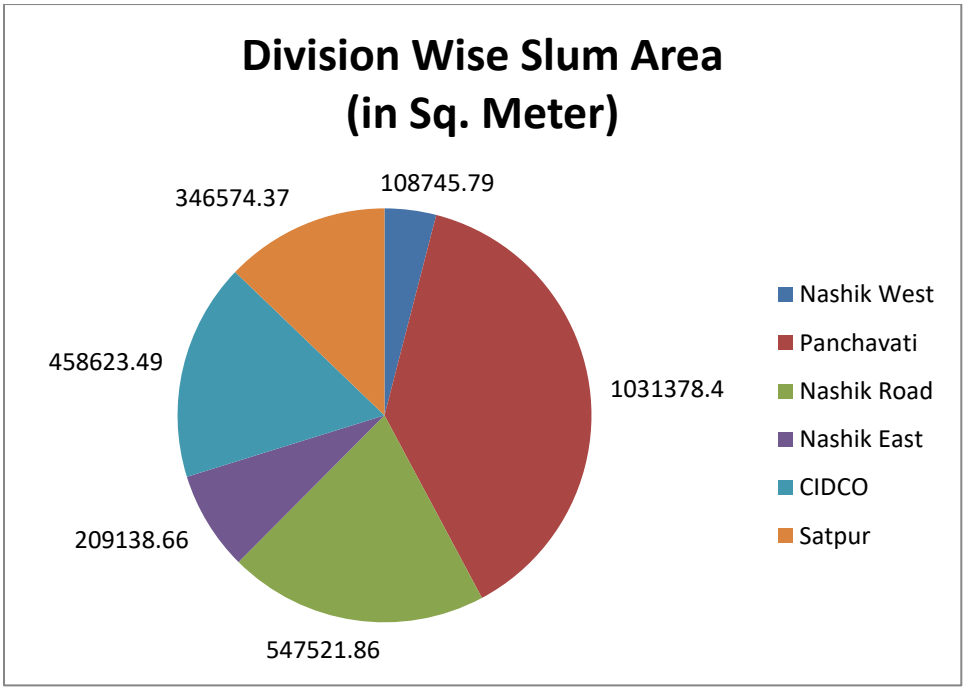


Figure No: 1.28 Division wise Slums area

Above chart no.1.38 shows division wise slum area in sq. meter. Highest area is occupied by Panchavati zone i.e. 1031378.4 sq. Meter and lowest area occupied by Cidco division i.e. 108745.79 sq. meters.

c) Spatial-Temporal changes of slums

I) Population Change

TABLE NO. 1.28: Percentage of population (before & after 1995 slums)

Sr. No.	Division	Percentage of population Before	Percentage of population after
1	CIDCO	9.11	35.50
2	NASHIK WEST	13.06	01.15
3	NASHIK EAST	18.20	14.07
4	NASHIK ROAD	8.94	08.46
5	PANCHAVATI	30.33	20.06
6	SATPUR	20.34	20.73

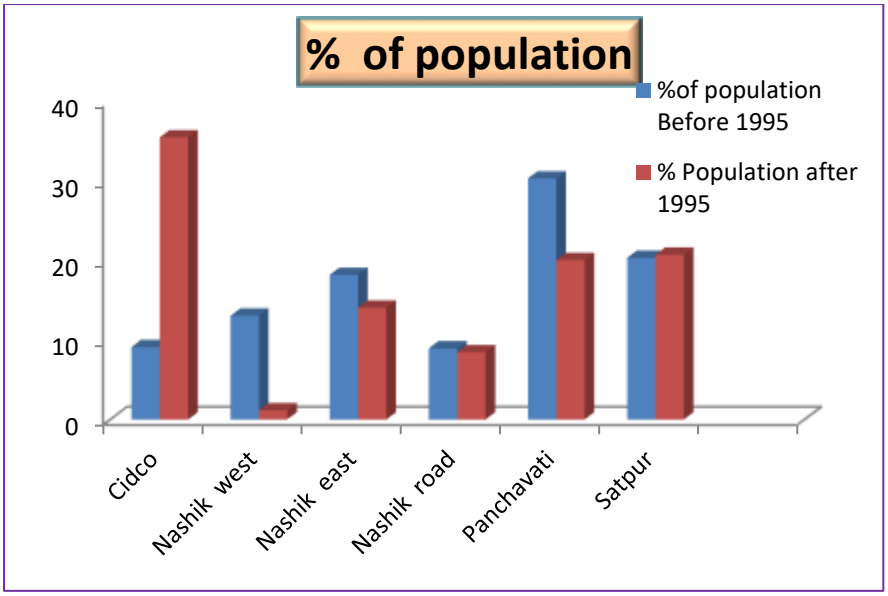


Figure No: 1.29 Percentage of Population

Figure no. 1.26 shows the percentage of population before and after 1995, Cidco division shows highest growth, Nashik west division shows slight growth. Above 35 percent of population growth registered in Cidco division and below 2 percent growth registered in Nashik west division. Cidco division is near industrial area having more open space to increasing slum population but Nashik west division are core and congested area of the city which has no empty space for further increasing slum population.

II) Change in Area

TABALE NO.1.29: Growth in area of slums (before & after 1995 slums)

Sr. No.	Division	Percentage of Area before	Percentage of Area after
1	CIDCO	14.12	35.96
2	NASHIK WEST	05.46	02.48
3	NASHIK EAST	12.64	10.07
4	NASHIK ROAD	33.94	08.79
5	PANCHAVATI	19.27	26.38
6	SATPUR	14.52	16.29

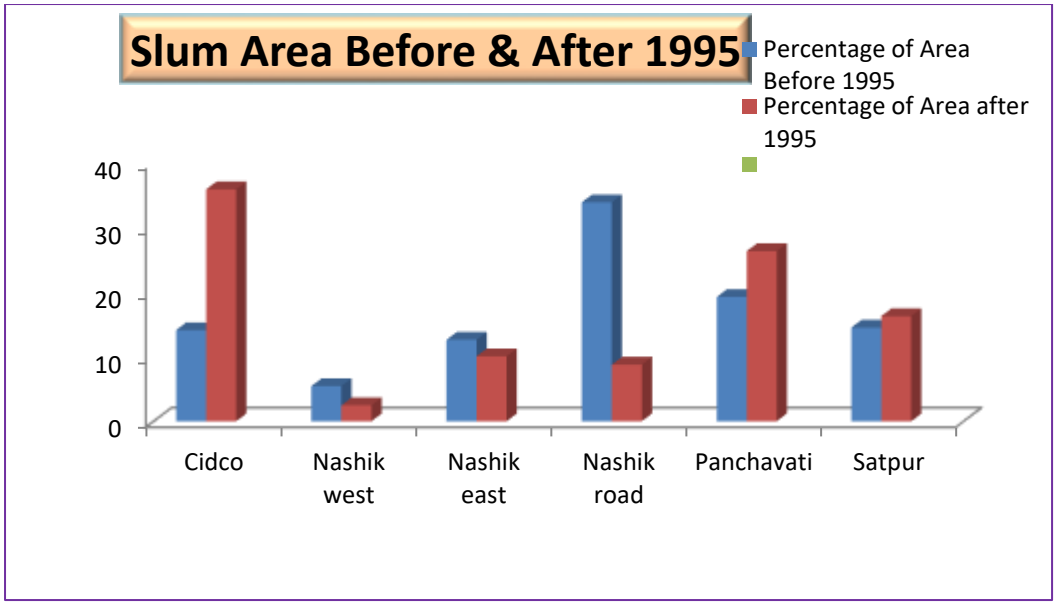


Figure No: 1.30 Division wise Slums area before, after 1995

Above Figure no. 1.40 shows changes in areas of slums before and after 1995, slum areais seen to be the highest increasing in Cidco division and the lowest area increased is in Nashik West division. Cidco division registered 35.96 percent growth in area because more empty space owned by government is available and nearness of Satpur industrial area leads to increasing area of slum. Slight growth registered in Nashik west Division because it is located in the core area of the city which has no open or empty space, it is more congested than any other division of the city so it is registered slight growth of area of slum.

III) Spatio- Temporal Changes in Density of Slum

TABLE NO. 1.30: DENSITY BEFORE AND AFTER 1995

Sr. No.	Division	Density Before	Density After
1	Cidco	19	12
2	Nashik west	5	25
3	Nashik east	9	8
4	Nashik road	47	12
5	Panchavati	8	15
6	Satpur	9	9

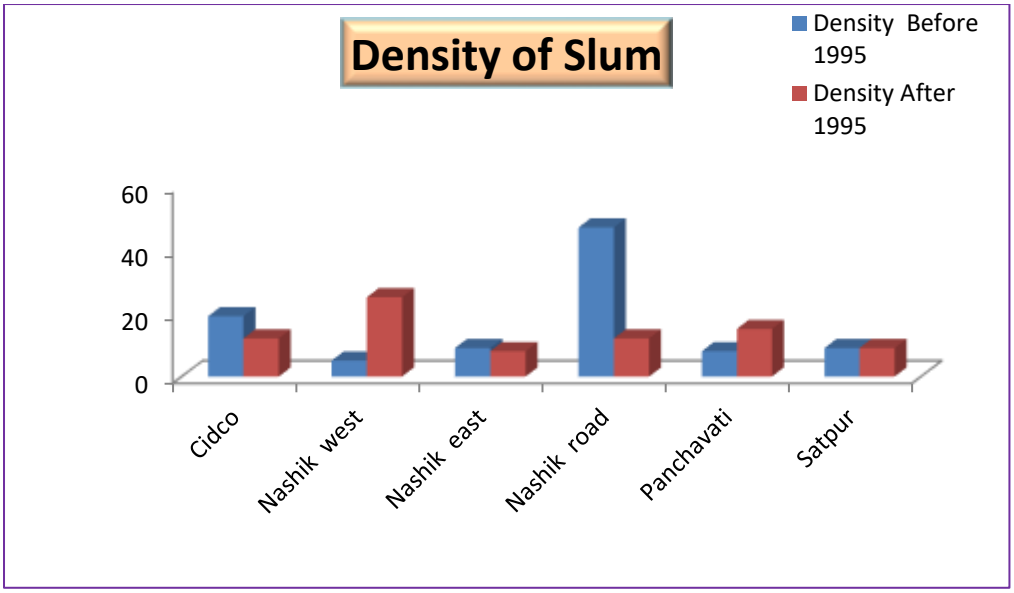


Figure No: 1.31 Density of Slums

Above Figure no. 1.28 shows density of slum before and after 1995. It is observed that highest density is observed in Nashik Road division before 1995 with 47, lowest density observed in Nashik West Division before 1995 with 5. Changes in density observed after 1995. Highest density in Nashik i.e. 25 and lowest density observed in Nashik East i.e. 8.

IV) Temporal Growth of Slum Population

TABLE NO.1.31: TEMPORAL GROWTH

Sr.	Year	Total Population	Slum Population
1	1971	274482	24150
2	1981	432044	58147
3	1991	656925	85664
4	2001	1077256	90350
5	2011	1486973	128012

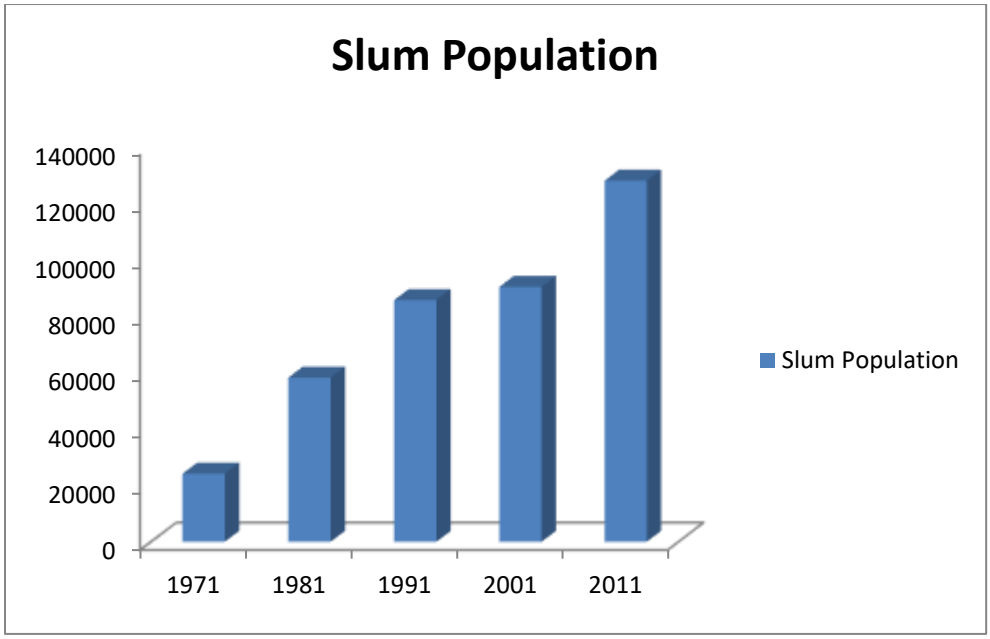


Figure No: 1.32 Slum Population

Above Figure no. 1.29 shows temporal growth of slum population, it is observed that since 1971 towards 2011, slum population is continuously increasing in Nashik city. In 1971from 24150, slum populations increased to 128012 in 2011. In the first ten years i.e. from 1971 to 1981 slum population becomes double. In 1972 drought condition occurred in Maharashtra. Rural area of Nashik district, dominated by agricultural activities, due to drought conditions farm labors of rural area had to migrate to Nashik city, so the slum population doubled in that period

V) Growth of slum

TABALE NO.1.32: SLUMS BEFORE AND AFTER 1995

DIVISION	BEFORE 1995	AFTER 1995	TOTAL SLUMS
CIDCO	7	12	19
NASHIK WEST	15	1	16
NASHIK EAST	14	11	25
NASHIK ROAD	31	13	44
PANCHAVATI	28	18	46
SATPUR	9	9	18
TOTAL	104	64	168

If thought by establishment it can be classified in to two parts: i) before 1995 establishment and ii) after 1995 establishment. In 1995 there were 104 huts and on the other hand 64 slums were established after 1995. The huts which were established before 1995 were 31 in numbers strutted in Nashik road division below it 28 huts are in the Panchavati division. In the Cidco division there are 7 huts established before 1995 seems to be less as compound to the two parts i.e. Nashik road &Panchavati.

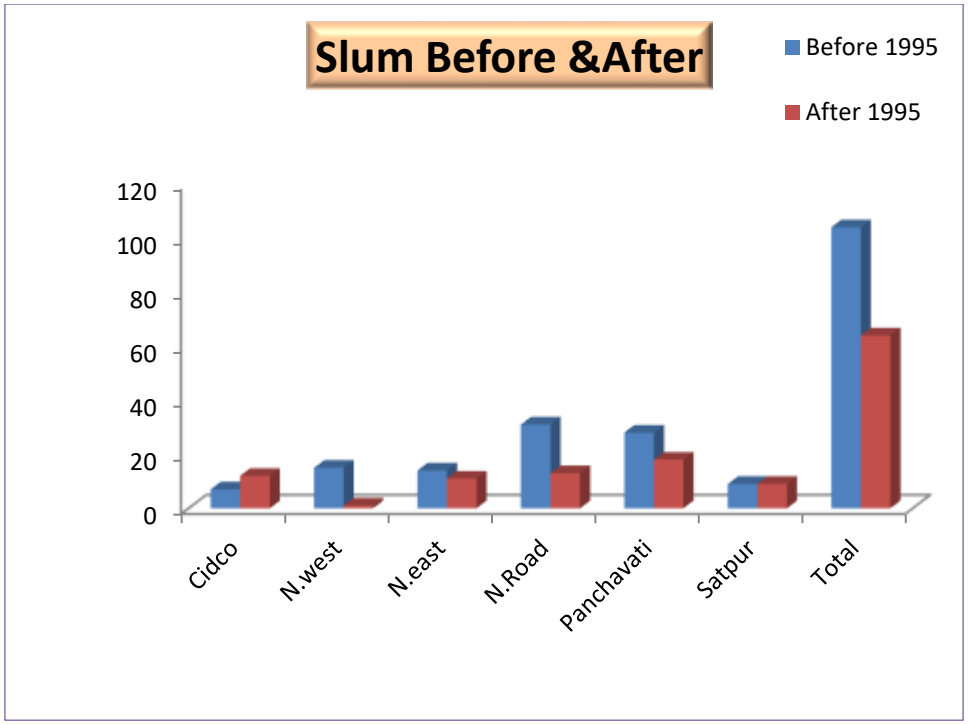


Figure No: 1.33 Slums before after 1995

After 1995 the highest numbers of huts were established. That is, 18 in the Panchavati division below it 10 huts are in Satpur division and the co west i.e. 1 in Nashik west division.

VI) According to Person

TABALE NO.1.33: POPULATION WISE SLUMS (NO. OF PERSONS)

Division	0 to 500	501 to 1000	1001 to 1500	1501 to2000	2001 to 2500	2501 to 3000	above 3000	Total
Cidco	7	3	-	2	2	1	4	19
Nashik West	5	4	3	2	1	-	1	16
Nashik East	9	5	5	-	4	-	2	25
Nashik Road	18	9	8	4	4	1	-	44
Panchavati	19	15	4	4	1	1	2	46
Satpur	6	3	1	2	-	1	5	18
Total	64	39	21	14	12	4	14	168

Above table shows a population with class interval of 500 residing in slums. 64 slums having 0 to 500 population, 39 slums have 501 to 1000 population, 21 slums having 1001 to 1500 population, 14 slums having 1501 to 2000 population, 12 slums having 2001 to 2500 population, 4 slums having 2501 to 3000 population and 14 slums having above 3000 population. Slums with small population are larger in number i.e. 64 slums having 0 to 500 population, which are scattered along the road side. Largest slums are in Panchavati division with 19 slums and lowest in Nashik west which is 5 slums in this class.

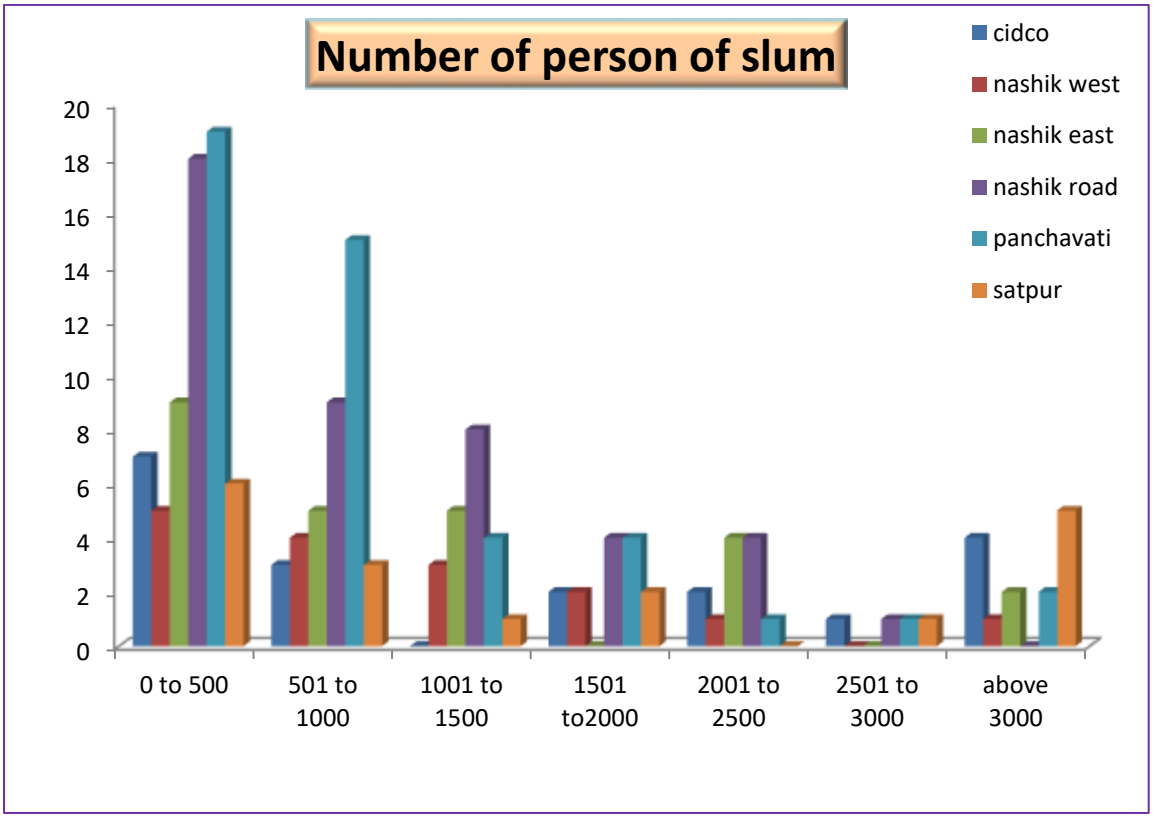


Figure No: 1.34 Number of Households of slum

If classified as per population residing in slums there are largest 64 slums having up to 5000 population. The slums with a population of 501 to 1000 are 39 in number. There are 4 slums having 2501 to 3000 population.

By division having 0 to 500 population 19 slums are in the Panchavati division on the other are no slums having 2500 to 3000 population in the east & the west division newly erected but lack of space such slums having to less population but numbers are increased

VII) Density Classification of Slum

TABALE NO.1.34: DENSITY WISE SLUMS

DIVISION	0 to5	6 to 10	11 to 15	16 to 20	above 20	Total
CIDCO	1	7	8	2	1	19
NASHIK WEST	7	7	-	-	2	16
NASHIK EAST	8	9	4	3	1	25
NASHIK ROAD	3	22	13	3	3	44
PANCHAVATI	5	21	12	4	4	46
SATPUR	1	14	1	2	-	18
TOTAL	25	80	38	14	11	168

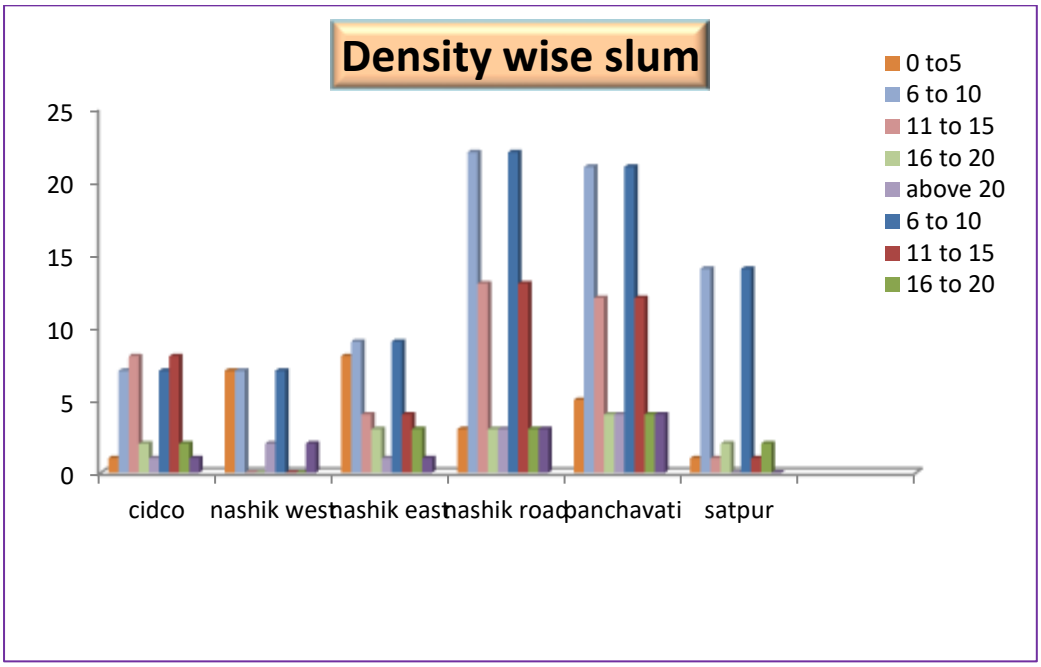


Figure No: 1.35 Density wise Slums area

Above table shows density in slums with class interval of 5. 25 slums having 0 to 5 persons, 80 slums have 6to 10 persons, 38 slums having 11 to 15 persons, 14 slums having 16 to 20 persons, 11 slums having above 20persons.Small density slums are larger in number i.e. 64 slums having 0 to 5 persons.

VIII) Area wise Classification of Slum

TABALE NO.1.35: AREA WISE SLUM (AREA IN SQ MERER)

Division	0 to 5000	5001 to 10000	10001 to 20000	20001 to 30000	30001 to 40000	40001 to 50000	Above 50000	Total
Cidco	5	4	4	2	1	1	2	19
Nashik West	7	7	-	-	-	-	2	16
Nashik East	11	3	7	-	2	1	1	25
Nashik Road	19	5	16	3	1	-	-	44
Panchavati	20	12	6	6	-	-	2	46
Satpur	6	3	3	-	3	1	2	18
Total	**68**	**34**	**36**	**11**	**7**	**3**	**9**	**168**

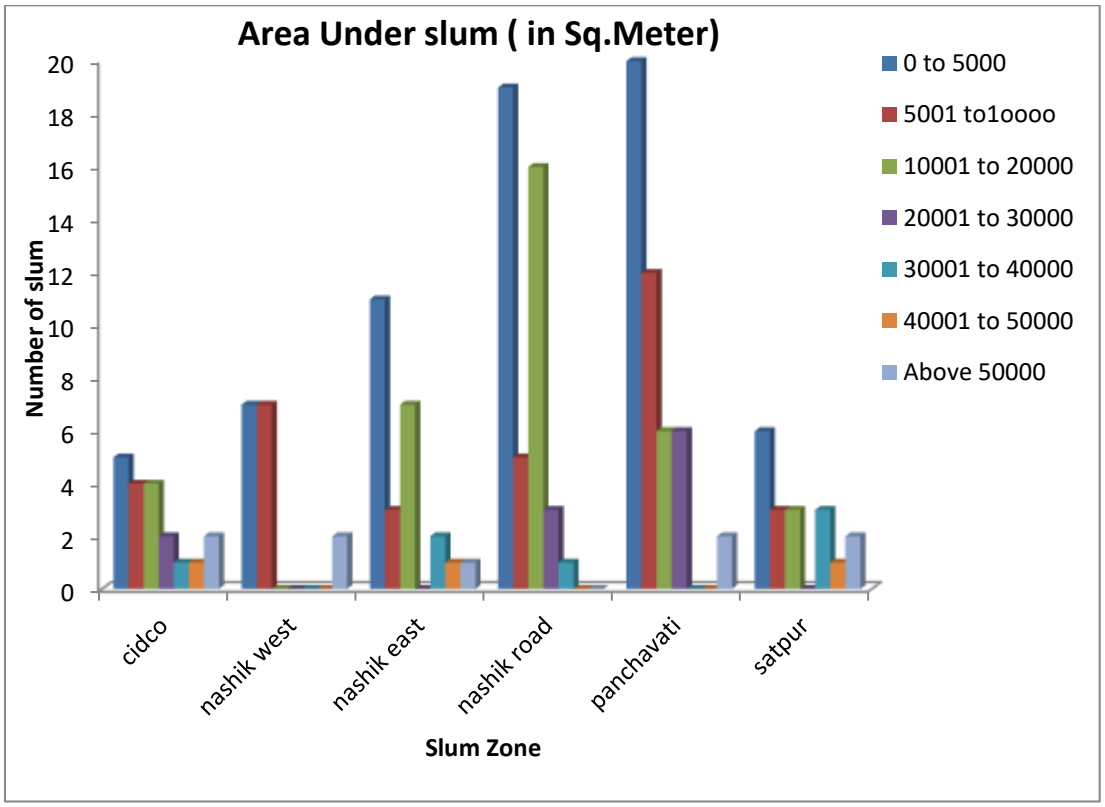


Figure No: 1.36 Area under slums

IX) Area wise slums (sq. meters) -:

Classification as per area in Nashik city there are 68 slums having 0 to 5000sq.m. In which the Panchavati division has 20, Nashik road division has 19, Nashik east has 11& the lowest i.e. 5 slums are in the Cidco division. There are 34 slums having 5001 to 10000sq.m in which the Panchavati division has the highest i.e. 12. 7(seven) slums in Nashik west and Satpur and Nashik west have 3 slums each. Thirty six (36) slums having between 10001 to 20000 sq. m. are found with highest number i.e. 16 in Nashik road division, Nashik east has 7 slums. Panchavati division has 6 slums and Nashik west has no such slums. In Nashik city there are 11 slums having 20001 to 30000sq.m. in which the Panchavati has 6 Nashik road has 3.and the Cidco has 2 slums Nashik east & Nashik west have no such slums. There are seven (7) slums that have 30001 to 40000sq.m. in which 3 are found in the Satpur division. Nashik east has 2 and the Cidco & Nashik road have 1 (one) slum each having 40001 to 50000 sq. m. area. There are three slums in Nashik city in which Satpur. Nashik east & Cidco have 1 (one) slum each. Nine slums are existing with 50000sq.m. area in which Panchavati, Nashik road, Cidco & Nashik west have 2 (two) slums each and 1 slum is existing in Nashik east.

D) Summary

In the first section of this chapter discussions were made on the pull and push factors of Nashik city. In this section pull and push factors affect the city population which leads to an increase in the numbers of slum population. Pull factors like employment, education, health facilities, industries, market, accessibility and connectivity and pilgrim center attract the surrounding population towards city.

In the second section of this chapter classification of slums in Nashik city is discussed. In this section division wise, location wise, according to ownership, according to declared and undeclared slums, patterns and size of slums are discussed.

In the last section of this chapter Spatial-Temporal change of slums is discussed. In this section of the chapter Population Change, Change in Area, Spatio-Temporal Changes in Density, of Slum, Temporal Growth of Slum Population, Growth of slum, According to Person, Density Classification of Slum, Area Classification of Slum and Area Classification of Slum are discussed. In this way slums in Nashik city are discussed.

CHAPTER 2

REVIEW OF LITERATURE

Introduction

The Issue of Urban Geography in India has risen as a standout amongst the most difficult issues in the last 50 years. An assortment of methodologies has been seen in progress brought out on urban advancement.

In perspective of the above investigation, it appears to be applicable here to survey some past works identified with the subject under examination. The commitment in this field came for the most part from town organizers and geographers proceeded with disregard different parts of spatial investigation of urban development, urban arranging and issues.

Hari Har Singh (1973) discusses the "Residential structure of Kanpur, Uttar Pradesh, India". Kanpur, the largest industrial metropolis in Northern India between Delhi and Calcutta has a wide variety of residential areas with their distinct socio-economic characteristics, together with also widely varying mixed residential areas. The author has dealt with the chronic problem of residential accommodation in respect of not only the fast growing population but also in relation to the growth rate of the building activity. He has surveyed the growth rate of houses according to its variation in various time periods. Further, he discusses that the residential problem is not aggravated only because of population growth per se, but also because of the encroachment of industrial, commercial, ware-housing, educational, banking and office accommodation etc. upon the residential areas. Special focus has been laid on the various characteristics of residential areas like planned and non-planned residences, slum-development, labor-colonies, the Ahatas and rural cells engulfed within the city's limits, indicating slow change in their character.

Kusum Lata Taneja (1973) discusses the "Morphology of Residential Areas in Indian Cities". The study based on the sample survey of 35 class I Indian cities shows that the residential areas share nearly 48 % of the total developed area of the Indian cities and happens to be the largest component of urban space in spite of the fact that all other urban functions make and attempt to outbid the residential areas and make successful encroachment upon them. There also seems to be considerable amount of mixing of residential areas with other functional areas, because of the unplanned and mixed development as also of the chance erected blocks and houses. The author has

also analyzed the profile of the residential landscape in view of the social and economic gradations, architectural styles, government and privately initiated building organizations, etc. Critical appraisal has been made of the density of population, density of houses and types of residential areas including slums for some important sample cities.

Madhya Pradesh, with over fifteen million urban population ranks seventh among the states of India. during the decade 1981-91 the increase in urban population was two times (44.98%) than that of rural population (22.11%) with regard to the process of growth the cities of the state are passing through a transition from their old morphology to new pattern of urban structure. The uneven development of cities gives rise to haphazard growth of population in cities. Most of the migrants form to haphazard growth of population in cities. Most of the migrants from villages and small urban centers are moving into larger cities due to greater job opportunities. Any increase in city population due to in migration adds considerably to slum population. Of 4.9 million urban dwellers of class I cities, over one million (21.3%) reside in the 686 slum pockets of the fourteen cities. Slum population ranges between 28.1 per cent in Jabalpur and 6.6 per cent in Rewa. It has generally been observed that the slum population grows two to three times faster than in other areas of an urban center.

Mr. H. U. Brijlani. (1977) had to grapple with a variety of problems characterized by rapid population growth, urbanization, inadequate administrative structure, limited financial resources and ecological apathy. The book as such deals with a variety of urban problems, like poverty and over population, slums, the legal provisions, transport problems in congested areas, pollution, and quality of life in cities and case studies in urban planning. The book fulfills need of highlighting urban problems in the context of a developing country and deals with situations that call for an approach different from what has been adopted in the rich developed countries of the west.

A study by **K. M. Kulkarni (1981)** in the city of Nasik examines the structure, functions and spatial relationship of an Indian city that is both ancient and modern. Nasik and the adjoining Panchavati are places mentioned in the Ramayana for their sanctity and even today these holy spots draw their devotees from far and wide especially during the time of the Samantha fair. Today, Nasik is also known for its industries located in the new industrial areas and the not too distant MIG factory at

Ozar. The Deolali cantonment is a vestige of the dualism of the British colonial towns though this differentiation in landscape is fast disappearing. It could be said that in both these aspects, antiquity and modern functions, as well as in several others, Nasik represents an average, Indian city.

While studies of Indian town are not wanting Dr. Kulkarni claims that in his approach , data collection and processing , his field work and cartographic as well as quantitative techniques and in his comparative analysis of the Indian 'one lakh' city there is something new . Readers will find that his claim is certainly well substantiated. Some of his findings are impressive and provoke a further study of Indian cities of the same size. His conclusion regarding continual crowding of the old core, the outward 'swirl of the city dwellers to commute to the Godavari , the middle class residential areas on the immediate margins of the city , limits, raise the important question as to how far these aspects are typical characteristics' of the moderns Indian city.

One of the important questions that Dr. Kulkarni tries to answer is; how far a city in the penumbra of a metropolis can be turned, with planning into a counter magnet. Dr. Kulkarni's findings as regards the potential role of Nasik vis-à-vis Bombay are largely negative. Nasik plays-and will continue to do so in the near future-a secondary and supporting role to the Bombay metropolis, and any wishful thinking on containing a metropolis by inducing as a planning strategy, counter magnets, must be tempered with the reality that Dr. Kulkarni has identified in the case of Nasik. From a review of the current trends in research in Indian urban geography, it appears, happily, that the phase of land use models, morphology, and similar static spatial expressions, is over.

Our attention needs to be directed more to the urban man and his struggle with all its ramifications of overcrowding as well as retail trading patterns; and above all the constraints of poverty and distance in urban areas, offer for the geographer a seminal field to test the theoretical foundations of urban geography as identified by western geographers, and also to suggest measures for planning the Indian towns of the future. It is on the basis of such studies that we may hope to find clues to relieve the urban stress engendered both by the adverse impact of social and economic

institutions on the urban poor, and the heavy claims that the urban society makes on natural resources like water and energy form the surrounding regions

Arup Mitra (1993), in paper 'Status of Basic Services in Indian Cities' focuses on the nature of relationship between the size of the city and the percentage of slum population. Author has delineated some factors governing the growth of slums. His empirical evidence tends to suggest that rapid urbanization creates considerable urban disseminates. The first section makes an evaluation of the existing data on slum population. Section second examines various estimates of population with practically no access to basic amenities. Some of the major factors explaining the growth of slums in the cities are highlighted in third section and the findings are summarized in fourth section.

Archana Ghosh (1993), 'Status of Water Supply and Sanitation Facilities in Urban India –An overview' The most common problem facing urban population in a majority of the developing countries is the limited access to almost all the basic services like health, shelter and particularly water supply and sanitation facilities. The level of services is below the standard requirement in both quality and quantity. The inadequate services while affect all sections of the society, poorer suffer the most. The slum localities in developing countries have either no access or very limited access to piped water supply and sanitation facilities. The inevitable consequences of these countries, recent data shows that 30 per cent of all reported cases of illness and 40 per cent of death in urban areas in Pakistan are attributed to sanitary system. Indonesia has placed itself among those countries having the highest incidence of water – borne diseases. The inadequate sanitary system Indonesia has placed it among having the highest incidence of water-borne diseases. In Nigeria, poor urban colonies get 12 liters of water per capita per day and because of the unhygienic typhoid, fever, dysentery, diarrhea, cholera and guinea worm.

India is no exception. High infant and child mortality reflects the poor state of public health and environmental hygiene in urban areas. It is estimated that in India 26 per cent of child deaths are caused by water- borne diseases like diarrhea and dysentery (NIUA, 1991) which is responsible for child and infant morbidity. Five hundred per 1000 infants and 200 per 1000 pre-school children suffer from these diseases.

As the decade has passed now, it is worthwhile to review the prevailing situation. The present paper is an attempt in this regard. It provides an overview of the situation in urban India as a whole and in different size-class of cities as far as these two services is concerned in terms of coverage and quality. The emphasis is on metropolitan cities, class1 and class2 towns. Analysis shows that even with the emphasis given on these two urban services at various levels and occasions, most of the higher order cities, (even though they are better served than the other lower order towns) are deficient in service level and that there are large-scale disparities in the availability of the services at inter- city, and intra- city levels. Even within a city, more affluent localities are better served than the other. In the squatter and slum settlements, nearly 40 to 50 per cent of the population of which live in metropolitan and other major towns, the services are available just for namesake. It also becomes clear that economic development of a state do not always ensure better availability of these services to its people. Many developed states have fared not so well in providing basic services to all sections of the people.

Meenu John (1994) in Patterns of urban change in India Varanasi studied on slums in Antapur town. She studied the causes for the growth of slums and spatial patterns of slum.

Zodage, S. B. (2001) has given a nitty gritty record of urban development and its effect on condition in Kolhapur city. The topographical setting of the area, statistic attributes i.e. decadal development rate of populace, thickness, sex proportion, ward shrewd populace and word related structure of city and areas, development, populace qualities of various rural areas have been examined. He additionally considered distinctive issues i.e. living arrangement, transportation, water supply, and well-being of the city. The statistic trademark, area, appropriation and word related structure of ghettos of the city are additionally portrayed. The city improvement and getting ready for future advancement have been examined and propose different arrangements. The Gibb's technique is connected for the populace development rate and populace projection. He likewise examined suburbia and ghetto regions of the city by utilizing the hands on work technique.

Concentrate by **Sidhartha and Mukharjee (2002)** found that ghettos are zones of substandard, stuffed, weakened, rotting and broken down lodging possessed by poor,

the jobless, the unemployable and workers situated on significant land neighboring the CBD in the created nations. Socially, ghettos have a tendency to be segregated from the indication of urban culture and show neurotic social side effect.

Doddarasalah (2002) made investigation of the populace development of Mysore city. The target of paper was to examine the development of populace in Mysore city and to discover the spatial extension of the city. They gathered information from registration of India 1961-2001.The examination uncovered that there was a decrease in normal development rates and advancement of IT and different businesses. The rate of physical development of city was not same in every one of the decades. Increment of populace and efficient exercises have been trailed by spatial extension of urban region. Development brings issues like shortage of room, lodging framework, administrations and loss of rural land.

According to **S. Bhole and Shailaja Bhangale (2004),**'A Geographical Study of Urban Slums Centers in Jalgaon District, Maharashtra', The phenomenon of slum has to be regarded as a problem of urbanization. Today, no Indian city is free form slums. Day by day slum problems appears to be more acute in class on cities and metropolitan cities. East Khandesh cities are not exception for this problem: these are thirteen urban centers with 124 slums in the regions. In this research, investigators have collected primary data with help of questionnaire survey, field observation and interviews of the expert besides secondary data. Role of geographical environment on origin and location of slums in the study regions have been analyzed by statistical methods. Causes of slums like pull and push factors for slum dwellers have been studied in- depth. Location aspects of slums are also studied by various environmental factors. Site and situation of slums, factors related to location of slums have been examined.

According to Sabir Ali (2004), Although the geographical area of the national capital has not shown any increase, the large scale immigration of people from other states to Delhi has given rise to the existence and growth of unauthorized colonies, slum and jhuggi- jhonpri clusters.

In Delhi, several residential areas called ‘resettlement colonies’ were developed to shelter the squatters and are known as “resettlement colonies”. Several

community latrines have been constructed for the use by these residents. The main objectives of this case study are to understand the sanitation situation in selected resettlement colonies and to evaluate the performance of the sulabh community toilets constructed for the population of resettlement colonies where the cholera epidemic had broken out. It also evaluates the solid waste management system of two resettlement colonies.

Jha et al. (2005) examined urban commitment in the ghettos of New Delhi, India. They utilized a blend of quantitative and subjective strategies that they called "participatory econometrics" to recognize vote based responsiveness and administration. The creators found that similarly "wealthier" ghettos would do well to access to formal administration of the city, while poor ghetto networks got to formal administration through a casual pioneer who wipes out the consistent danger of annihilation, burglary and indeterminate property rights. Ethnically homogenous networks frequently reproduce their current administration structure at the provincial beginning. Conversely, more up to date or ethnically various ghettos distinguish casual pioneers who accomplish their experts through political associations, instruction and systems administration abilities. In particular, this investigation gave a summed up comprehension of the inside administration of ghettos, giving a contribution to Slum. For instance, the part of neighborhood pioneers in activating networks to oppose expulsion weights, and acquiring network offices. For example, a fundamental foundation is demonstrated expressively in Slum.

Antony Vinoth Kumar, J., Pathan, S. K. what's more, Bhanderi, R. J. (2007) have contemplated the spatio-transient investigation to screen urban development. They plan to screen the urban development of Indore city. They utilize remote detecting and GIS strategies and Shannon entropy. They classified the city into four rectangular zones and ascertained urban developed zone and its development rate for various periods. The Shannon treatment proved to be great to decide the spatial focus or scattering of developed zone.

Dalal, S. (2007) watch a few conditions of Gujarat and Haryana, India and contemplated infrastructural offices and populace development. He has discovered that decrease in populace of class III towns or medium towns are quicker than in class I and class II towns. The investigation finds unequal urbanization in India as a major

issue. He endeavours to break down the populace development of medium towns of modern province of Gujarat and horticultural prosperous territory of Haryana.

Asamin, E., Isa, H. E. what's more, Mahesh J. M. (2007) have considered effect of urbanization, Immigration on Zahedan city in Iran. The unsystematic extension of urban areas and absence of urban advancement postures challenges in the developing nations. Spontaneous urbanization in the Zahedan city adversely affects foundation, deficiency of drinking water, obstructing of sewage framework and increment in social, temperate and social heterogeneity and development of ghettos.

Shivalingappa, Doddarasaiah G. B. N. (2007) has considered the patterns and measurements of movement in the Mysore city. The information is obtained from relocation table of Karnataka statistics. Movement from provincial to urban has been expanded. Male relocation is higher than the female one. They relocate because of business and marriage Work is the major purpose behind movement.

Vaidya, Chetan (2007) managed the issue identifying with urban decentralization in India. He has proposed certain measures to make urban neighbourhood bodies to perform adequately. Urban India needs advertise based assets and open private organization to handle reserves issue. The fast urbanization has prompted immense speculation request. State fund commission ought to distinguish charges, client charges and expenses to be demanded by ULB's.

Apurbarabe, Ghosh and Ina, Dhar Raoy (2007) have examined flow in the conveyance of ghettos in Kolkata. They investigate the development of ghettos in Kolkata as far as spatial variety. They concentrated on to discover the mean focuses of ghetto populace. There has been propensity of ghetto extension towards the fringe zone.

Mishra, R. N. furthermore, Sharma, Pawan Kumar (2007) have examined practical examples of towns in Rajasthan. Elements of town impact its morphology and constitute the perfect power of the city life. It offers a decent base for provincial advancement arranging. A target of paper was to group every urban focus of Rajasthan based on the town capacities. The towns have been grouped into four classifications as per very particular, reasonably specific and less particular towns.

They demonstrated incredible variation in the predominant capacities and their local appropriation.

Khadake, P. A. (2007) has given precise data in urban geology of Jalgaon city and Kumbhar, A. A. has likewise contemplated data about urban topography of Satara. Mandal, R. B. has given a natty gritty record about urban data in Urban Geography.

Ramakrishna, S. (2007) has contemplated air contamination in Hyderabad city. Urban region has developed quickly. City is impromptu; relocation from locale and absence of sufficient transport framework has brought about disordered movement framework. Target of paper is to familiarize towards the bigger issue of urban air contamination in India and to examine the issue because of transport.

Datta, P. (2007) has considered urbanization in India. Urbanization is a change from customary provincial financial to present day urban one. Financial, politico-regulatory and geological procedures are related to urbanization. Urbanization is firmly identified with mechanical development. The paper has attempted to light up the procedure of urbanization in India. They examined and broke down the evaluation information painstakingly. It is discovered that there has been ceaseless grouping of populace in class I town as opposed to in medium and residential communities. Globalization, advancement and privatization are tending to negative procedure of urbanization. Redirection of speculation is prescribed to create solid financial base for little and medium urban communities.

Chattopadhyay, Basudha (2007) examines economical urban improvement in India. They have expounded issues identifying with supportable urban improvement and city framework in India. Supportable urban improvement is accomplishing a harmony between urban advancement and natural security to guarantee value in work, shield premise administrations, social framework and transportation in urban regions. Condition and social cost of urbanization is high however there are a few inadequacies of framework, water, sewage framework, squander water and strong waste. Productive practices like reused water for cultivating, rain water harvesting, ecoparks, water administrations, vitality administrations ought to be advanced. The simple credits and tax reductions ought to be advanced. Reasonable urban and building are critical for thick urban communities with consummate administration.

Pandey, K.K. (2007) has concentrated on the part of lodging in the creating comprehensive urban communities. The term implies have a feeling of proprietorship, pride, common regard, co-appointment. Furthermore, reasonable living condition, the part of lodging is viewed as critical. People in general part have neglected to address lodging issues. Government gave houses to all on open private association bases. It will help drawing in or redirecting relocation, business openings, industry and exchange.

Singh, Ravi S. (2008) have considered patterns and land examples of urbanization in Arunachal Pradesh. They investigated the idea of urbanization. They gathered information from enumeration of India and local examples of urbanization. They found that urbanization in Arunachal Pradesh is very steady. Impact of market drive and extending free enterprise is solid.

Singh, Abha Lakshmi and Siddiqui, Mansoor Alam (2008) have made an endeavour to survey the impact of city extensions on the farmland, particularly on loss of rural land and change of horticultural land to non-agrarian employments. The information was gathered from far reaching study of around 130 towns, polls and meetings. The city populace has expanded 5 times and the region has expanded 6 times. Developed grounds are used for private purposes. The normal scene near the city is likewise crushed.

Sastry, G. S. (2008) has analyzed the example and issues of urbanization in the province of Karnataka. Changing assets base and ecological conditions have brought quick change from essential to non-essential exercises. The worthwhile area of the state for modern and business improvement has advanced in urbanization. The foundation has assumed significant part in urbanization.

Chakravarty,Upasana and Nissar A. Barua (2008) the subject of their examination was work age in urban casual segment. Urban casual part has turned out to be expansive specialist organization. The paper is to think about the business created in his segment from 1991 to 2001 in Guwahati. The part of this segment has turned out to be urgent in poor and ignorant populace, so it is of vital importance to take care of this issue. Casual factor contributes 86-90% of urban communities add up to business.

Singh,Yadvinder and Rajinder Kaur (2008) manages the urban biological system of Jalander city. Foundation with modern and populace development they considered advancement and extension of the city. They evaluate industrialization and its interface with urban improvement concerning ecological debasement. Living state of urban high society individuals is great and lower class individuals in ghetto are pitiful. Natural debasement occurred because of contamination, because of extreme thickness of car and modern colour and transfer of squanders and sewage water.

Saini, Vipin (2008) has considered the urban sprawl of Bikaner city. The goal is to distinguish the examples of urban extension and to examine the causal variables of the urban development in Bikaner city. The examined geological sheets, dynamic wonder of urban sprawl and land utilize change. He discovers that territory of the city has expanded quicker than populace. The city has extended from walled city along significant streets and railroad tracts.

Singh, R.B. what's more, Anand, Subhash (2008) has contemplated current status of Municipal strong waste administration hones in Delhi and this investigation for the most part centres around the need to do ecological effect evaluation investigations of transfer and treatment technique. It talks about the creation and qualities of Municipal strong waste in Delhi, the wellsprings of wastage, transportation of this waste, handling of waste, isolation and reusing process. The investigation demonstrates that Municipal strong misuse of Delhi is profoundly biodegradable in nature which has higher dampness substance and low calorific esteem and it is more appropriate for the purpose of fertilizing the soil. There is no obvious standard for the position of waste material.

Bhaduri, Sukla (2008) has considered development of customized transport in super urban communities of India and its effects. Metropolitan urban communities are encountering increment in customized engine vehicles. Financial development, simple accessibility of advances, the expanding urbanization has expanded the request of individual engine vehicles. It is observed that Kolkata and Mumbai have better open transport framework. The bikes have driven unfavourable effect like more ethical route blockage, diminishment in speed, increment in mishaps and high vitality utilization and outflow.

Gajendra Singh, Jaideep Singh and Jai Singh (2008) creators have considered air contamination because of activity in Jaipur. They have attempted to think about number of vehicles and spatial examples of air contamination and propose a few cures. The city is isolated into 4 gatherings, for example, touchy, business, private and mechanical territories. They were afraid that pink city would transform into dark city.

Saha, Bikramjit (2008) has featured urbanization and levels of advancement in Coach Behar area from monetary perspective, if the level of urbanization is higher, the phase of financial improvement will be higher. Creator has endeavoured to uncover the levels of advancement in the six metropolitan towns. The target of this paper is to clarify the present situation in urbanization and levels of advancements. He chose 43 pointers of statistic, financial and foundation to evaluate the levels of advancement with measurable method of institutionalized score. Date, V. S. (1999) has likewise talked about the changing transportation situation of Pune City.

Tripathi, V. K. (2008) has portrayed patterns of urbanization, issues and arranging of residential areas in Ballia locale. He has assessed the patterns and urbanization and resulting issues confronting Ballia area of Uttar Pradesh. The urban populace development of the locale has been influenced by horticultural industry. Better therapeutic offices and foundation of open offices in urban communities pulled the rustic populace. Because of overwhelming movement, city faces numerous issues. Substantial movement stream has made the city exceptionally congested. Numerous geographers have set up different parts of various urban communities in urban geology. In above present investigations an endeavour will be made to contemplate the Nashik city in urban topography. The investigations of statistic trademark, word related structure, investigation of various suburb development and ghettos, issues and anticipating future advancement, and so forth are the most critical perspectives that should be considered and can't be disregarded. This examination work is covering these different vital angles.

Neekhra (2008) found a comparative affinity for return movement among ghetto occupants in Bhopal, India. A multivariate relapse utilizing overview information showed that individuals moved to urban areas for work openings, yet in the event that they later discovered work in their beginning, they might want to return as opposed to living in a ghetto. In any case, the study found that the inclination of return relocation

was brought down in ghettos with better civilities. These are imperative bits of knowledge and recommend that populace does not generally stream one way. There is a small amount of ghetto inhabitants who come back to their inception and are consequently eager to reverse-migrate.

Singh, Rana P.B. also, R.K. Chaturvedi (2009)centre around the subject of examples of thickness and its angles in residential areas of the Ganga, Ghaghara, Doab in Eastern Uttar Pradesh. They examined the varieties in the thickness of populace in towns of Ballia region. Square astute investigation was attempted. They examined about 9 towns. The thickness inclination was likewise watched.

Khan, Sayeed Ahmad (2009) considered urban development in India andit's future prospects. They examined the development rates of urban populace and net decadal development of urban populace. They anticipated the likelihood of future pattern and investigated the idea of these patterns. In corporate quantitative approach technique was received. They additionally got information from India Infrastructural Report and Planning Commission of India. The examination has demonstrated that the urban development has declined yet urban populace has expanded. It will influence the urban framework and condition.

Saxena, Shipra (2009) have examined water supply for urban poor in India. In ghetto zone, water supply circumstance is extremely woeful. Individuals don't have government water supply. They orchestrate water by illicitly bringing water from government water providing funnels. Ghettos are situated in contaminated, unhygienic zones. Ladies and youngsters are affected the most. Kids free valuable training hours. Living in ghettos in a way builds the cost as far as paying off casual segment merchants and opportunity cost. Individuals have the limit and ability to pay however the administration is hesitant.

Guchhait, Sanat K. what's more, Abhik Dasgupta (2009) contemplated spatiality and zoning of urban capacities in North-Easter of Kolkata. They concentrated on useful characterization of towns of Kolkata metropolitan regions. Civil units are examined. Utilitarian affiliation is examined by progressive plotting of connection estimation of adjoining regions. Utilitarian chorology is clarified by graphically plotting Z score esteem. The area remainder esteems changed into Z esteems.

Khandelwal, Shweta (2009) have learned about urban sprawl of Jaipur metropolitan, being old arranged and famous city the development of populace because of deluge of displaced people from Pakistan. They analysed the reasons for fast development of urbanization and its effect of land utilize designs and proposed procedures for arrive utilize getting ready for future. They got this from registration handbook, field work, meetings, and dialogues. It uncovers that the procedure of quick development of industry and urbanization depend on changes, for example, fast development of populace and development of auxiliary and tertiary monetary exercises and changes in arrive utilize designs.

Gangawata, Sonal and Khan, M.Z.A. (2009) creators contemplated financial and practical structure of Bundi city. They contemplated the recorded foundation and present status of the city. They likewise watched the adjustment in statistic status and its effect on economy and word related structure. They centres around the advancement of useful structure of private, mechanical, instructive, open place, government and semi government territories based on introduce situation of the city. The investigation demonstrates that changing patterns of populace and constrained framework. Tourism has turned out to be real wellspring of living.

Ryngnga, P. K. what's more, Kharsyntiew, Erica (2009) have examined the current street transport, change in structure of street and investigate how the change has influenced the city and its populace. With the assistance of geological guide, satellite overview, books, diaries, they reasoned that there is a great assorted variety of streets in state roadway, nearby boulevards. The streets have widened. Augmentation of street has taken after unpredictable example. New street demonstrates spread of urbanization in new territories and made different issues.

Fazel, Shahab (2009) has contemplated future private requests, some urban periphery models. They examined arrive utilize and arrive cover change in Saharanpur city and evaluated exhibit interest for private land. The examination depended on essential and optional information source from study of India maps. A land change show was created evaluating future request. Study territory was recorded a steady increment in its populace. The examination demonstrates that urbanization procedure has gulped prolific land.

Fakhruddin and Nigar Alam (2009) they examined movement issues in Jamshedpur town. It is the quickest developing town in Jharkhand. There is fast development of vehicular populace. They recognize the principle course of activity clog and factors behind this blockage. They watched movement zones and information from area transport office. Activity issue is conspicuous on Mango Bridge, purulia, dimna streets and Jugsalai railroad course. Because of the nonappearance of all-inclusive strategy, area of mechanical and private exercises various way, poor activity administration, absence of expansion of streets and parking spots, movement issues have increased.

Singh, Abha Lakshmi and Mohd, Salahuddin (2009) have contemplated tending to squander related issues in Aligarh city. The paper aims at the utilization of urban waste water in periurban cultivating. In the paper, an endeavour has been made to look at the seepage and sewerage arrangement of the city, utilization of urban waste water in peri-urban horticulture and to survey the threats to the wellbeing from the utilization of waste water. The examination is primarily in view of essential wellsprings of information gathered through town family unit overviews with the assistance of poll interviews. Town situated in the peri-urban zones around the Iglas Sewerage Pumping Station utilizing waste water for horticulture for a long time were recognized and chosen for inside-out examination. Five towns were chosen for the examination.

Basak, Arindam (2009) has concentrated on lopsided urbanization for the situation investigation of India. The exploration considers has featured vertical and flat lopsided characteristics in urbanization in India. This influences different components to have contributed in urbanization in the middle of and inside the states. With the end goal of investigation the states are separated into four classifications high, medium, low and low levels of urbanization is the aftereffect of predominant innate culture; nonappearance of huge urban focus, absence of industrialization. Inside varieties in area level urban populace are steady in the locale of high and direct level urbanization.

Skillet, Suprakash and Premangshu Chakraborty (2009) have contemplated Inter urban openness investigation in Burdwan division in West Bengal. This examination has investigated the availability of urban focuses and featured that it is vital for urban

improvement. They examine urban focuses, courses and street arrange, separation of towns from railroad station, street and rail limit, coordinate availability of streets and railroads are considered. Burdwan is the most open city.

Fazal, Shahab and Rahman ,Atiqur (2009) has contemplated urban periphery displaying for future private requests for his situation ponder. This contextual analysis examine arrive utilize and arrive cover change in Saharanpur city and based on exhibit slant its assessed interest for private land in the year 2015.

Angela Zhu (2010) assesses urban topography as a contributing element to race relates savagery in the urban communities of Paris and Marseille in the theme of urban geology: characterizing an objective enemy despise? Factors thought about incorporate open lodging, regulatory association, transportation systems, and auto proprietorship by district. Control factors incorporate rates of beur populace, joblessness, salary conveyance, and instruction. This paper depends vigorously on subjective data, as important quantitative information is constrained because of French law forbidding enumeration gathering of race-related information. It reasons that given accessible data, the factor of urban geology has all the earmarks of being a critical one, possibly more prominent than the more conventional financial variables one would hope to add to race-related brutality. Notwithstanding, substantially more exact data would be expected to make an authoritative claim.

S. P. Kaushik et.al.(2010) in the study of 'Evaluation of Housing and Sanitation Condition in Slum Areas of Industrial City, Panipat' attempted to analyze housing and sanitation conditions in industrial city, Panipat. This study is based on primary survey of 384 household that comprise 2 percent of the total 19190 slum household in 25 clusters located in 36 colonies. The characteristics like the spatial pattern and concentration of the slum clusters have been analyzed with the help of nearest Neighbors analysis (NNA) techniques. Access to facilities has been analyzed by income levels and social groups-namely general caste, backward caste and scheduled caste as defined by Haryana government. Author reveals that only about one thirds of the households stay in permanent and predominantly single story dwelling. Room density is very high in most of the slum areas. Many of them lack access to safe drinking water and sanitation. Low income group and scheduled castes are the most deprived section.

In an investigation, **Tutu (2010)** clarified the inclination of return relocation in ghettos in Accra, Ghana. The creator found that both proximate (i.e. conditions in the goal) and remote variables (i.e. conditions in the root) impact the term of remains for transients in Accra's ghettos. A multivariate examination of essential study information of vagrants in ghettos demonstrated that a shorter stay was related with conjugal expectations, taking in an exchange (i.e. vagrants anticipated that would return to beginning subsequent to taking in an exchange the city) and whether they had solid nearby connections to get to data in the city. Higher salary was likewise connected with higher penchant to come back to provincial zones, presumably on the grounds that they had enough reserve funds to wander back to their source. These outcomes were strange and proposed that vagrants invest energy in a ghetto as a transient period of their lives. They came back to their unique homes once great conditions were accomplished as opposed to living in the ghettos for whatever is left of their lives.

Ramesh Kumar Gupta (2011) distributed an examination pondering on change location methods for checking spatial urban development of Jaipur city. He has concentrated on the observation of land utilization covering more than 34 years. His examination depends on auxiliary and satellite information alongside factual procedures and additionally constrained field check. The outcome demonstrates that the development of populace from 0.63 million of every 1971 to 2.9 million out of 2001 and the decadal development rates of 58.82, 55.37 and 53.09 present alongside yearly normal development rate has been in the scope of 4.1 to 4.7. Populace development has significant main impetuses of land utilization change. For instance, the product region has contracted by 1.60 sq. km for each year, neglected land 2.94 sq. km for each year, and no man's land 0.59 sq. km for each year in most recent 34 years, while developed territory has expanded with the rate of 4.46 sq. km for every year or 1.02 present for each year. In view of the utilization of multi determination and multi fleeting satellite information of 1975 to 2009, spatial and transient changes in the different kinds of land uses and land front of the city are distinguished and talked about.

CHAPTER 3

RESEARCH METHODOLOGY

A) Methods of Data Collection

The examination depends on both essential and auxiliary study. This data is collected from Nashik district census, handbook of Nashik city, social and economic survey from Nashik Municipal Corporation. Other details are collected from topographical map of Nashik.

The information is collected with regards to research and special importance is given to special concept for the same purpose. Information is collected by visiting different offices of Government & semi-government, private offices etc. The different types of densities are calculated by using formulas likewise quality, dimensions; rules are also calculated in business Structure of Nashik city is studied as it is important criteria of population & its study for same different types of maps histogram charts, tables, were also used occasionally. The 20% part was taken as best for sampling the study has been attempted by applying certain statistics and GIS Technique.

I) Data Collection Technique

The essential information gathering is finished utilizing Stratified Random Sampling (proportionate assignment) strategy covering every one of the division of study territory. At Random, example family units are secured for Household Survey from various regions inside centre of Panchavati zone of Nashik city. The determination of tests for field review is about delegate and adjusts to the spatio-geographic circulation. For getting the required information and data an auxiliary was confined, dispersed, gathered and broke down for the reason, keeping in see the predefined method. In any case, wherever the families are unskilled, the survey is to be filled by the examiner himself by getting-together the required data orally. In the present examination measurable strategies like standard deviation, z-score and composite record is utilized. In the initial step, the crude information for every factor which decides the areal variety of levels of lodging and current family unit enhancements had been processed into standard score. It is for the most part known as Z esteem or Z-score. The score evaluates the take-off of individual perceptions, communicated in a practically identical shape. This implies it turns into a straight change of the first information.

Nashik city has been classified in to six divisions –Cidco, Nashik West, Nashik East, Nashik .Road, Panchavati, Satpur. Among this division of slum, Panchavati division of slum is selected for sample. 10 slums are selected from Panchavati division of slum for sampling of household of slum. These slums are selected at random. From this sample slums Five hundred households were selected each at random for the enumeration of socio-economic conditions of the slum dwellers. Bharad wadi slum, Adharshanagar slum, Laxmannager slum, Dattanagarslum, Vajareshvri slum, Awdhut wadi slum, Mahatma Phule Nagar slum, Valmiknagar slum Koliwada slum and Hirawadi slum are the 10 sample slums. Most representative slums have been selected at random considering thefactors such as size, number of households, population and age of the slum. These slums represent all the six divisions, and Five hundred sample households selected from these slums are interviewed to collect the information on socio-economic conditions of the slum dwellers.

B) Methodology

To analyze the data and represent the same with various statistical methods, cartographic techniques and computer techniques are used.

i) Data collected from primary and secondary sources are processed and various rates, and ratios, are calculated. With the help of census data Growth of population, sex ratio, density and literacy ratio of population is calculated. In the present examination measurable strategies like standard deviation, z-score and composite record is utilized. In the initial step, the crude information for every factor which decides the areal variety of levels of lodging and current family unit enhancements had been processed into standard score. It is for the most part known as Z esteem or Z-score. The score evaluates the takeoff of individual perceptions, communicated in a practically identical shape. This implies it turns into a straight change of the first information.

ii) To represent the data and make it more analytical several cartographic techniques such as graphs and diagrams are used.

iii) Computer Techniques, GIS and Remote Sensing Software Arc GIS 9.3 are used for mapping of location of slums in Nashik city and location of slums in Panchavati division of Nashik city. Using Google map and satellite image of Panchavati division of Nashik city settlement pattern maps of slums are prepared.

SPATIO TEMPORAL STUDY OF SLUMS IN PANCHAVATI ZONE OF NASHIK CITY "A GEOGRAPHICAL STUDY"

Tilak Maharashtra Vidyapeeth Pune

Sr. No						

A) Background Information

101	Ward No	
102	Ward Area Name	……
103	Authorized or Unauthorized Slum	1. Authorized Slum 2. Unauthorized Slum
104	Name of Respondent	----------
105	Sex (Observation)	1. Male 2. Female 3.Others
106	Age (Completed years)	…….. Years
107	Household Address	
108	Who own this house?	Someone else ……..1 Rented…….2 Own house…….3 Government/Railways/Port trust……4 Don't know……5 Others specify----------…..6
109	Do you pay Hafta/Rent for staying here?	1.Give hafta (Rs…….Month) 2. 1.Give Rent (Rs…….Month) 3. No

110	What is total Number of members in household by Age and Sex	

Age	Total	Male	Female
0-6 years			
7-15 years			
16-35 years			
36-56 years			
60 and Above			

111	House is having (Apply all circle all)	1.Bed 2.TV 3.Fride 4.Phone (Mobile/landline) 5.Mixer 6.sewing Machine 7.Bysical 8.Autoriksha 9.Bick/Scotty 10.Computer/Laptop
112	What is your Religion?	1.Hindu 2.Muslim 3.Christian 4.Buddhist/Neo buddhist 5.Sikh 6.Jain

		7.Parsi 8.No Religion 9.Others
113	Do you belong to SC/ST/OBC/General	1.SC 2.ST 3.OBC 4.General 5.No caste/Don't know
114	What is your Mother tongue	1.Marathi 2.Hindi 3.Asseamse 4.Bengali 5.Gujarati 6.Kannada 7.Kokani 8.Malaylam 9.Manipuri 10.Nepali 11.Oriya 12.Tamil 12.Tamil 13.Telgu 14 Urdu 15.Others
115	What is your Native Place	State name …….
116	How long your family is staying in the same community?	…….. Years
117	Are you able to read and write any language with understanding	Yes…….1 No……2
118	What is total monthly income in your family	Rs…….Month
119	What is the occupation of all earning family members	1Own Business 2.Industries labour 3.Service

		4.Others……..
120	Whether the main earning comes from organized or unorganized sector	Organized sector……1 Unorganized sector……2

B) Drinking water

201	Please tell me Main source of drinking water your family	1.piped water 5.Cart with small tank 2.public tap/standpipe 6.water pouch 3.well/hand pump/borehole 4.Tanker truck 7.Other----------
	If the answer to 1 or 2 then ask Q.202 and Q203;else move to Q204	
202	How many hours per day water is available from pipe or tap?	…… Hours per day
203	Where is the water source located from where do you collect water	1.At home (Go to Q 206 2.Very near 3.Near 4.Away from house
	If the answer Q203-4 ask Q 204 and Q 205;else move to Q 206	
204	How long it takes to go there, get water (waiting time) and come back?	……. Minutes
205	How many trips do your	

	household members make per day to fetch the daily requirement of water?	…….. Trips
206	Do you do anything to make the water safer for drinking?	1.Yes 2.No (Go to Q208
	If the answer to Q206-1 then move To Q 207;else move to the next section	
207	(If Q206-1) what do you do generally to make water safer to drink? (Circle all the apply)	1.Boiling water 2.Using Alum 3.Adding chlorine tablets 4.Filtering through a cloth 5.Using water filter (ceramic/sand/composite/other 6.Using electronic purifier 7.Letting the water stand and settle 8.Other,……
208	How much your household need to pay for drinking water per month?	Rs……..Month

SANITATION

301	Do you have toilet-latrine facility at your household?	Yes…….1 No…..2
	If Q301-1 then move to Q302;else move to Q308	
302	Do you always use your toilet or go somewhere	1.Always use own toilet

	else also?	2.Use others toilet 3.Use community toilet
303	What type of toilet do you have in your household?	1.Flush toilet 2.Pit latrine 3.Others
304	(Ask only if Q303-1) Does the toilet flush to a piped sewer system septic tank, pit latrine or somewhere else?	1.flushed to piped sewer system 2.flushed to septic tank 3.flushed to pit latrine 4.flushed to somewhere else
305	How clean is the toilet used by your household member?	0.Very bad 1.Bad 2.Average 3.Good 4.very good
306	Do other household members use your toilet facilities?	1.Yes 2 .N0
307	How many people use your toilet facilities?	---------- Number of People
	Ask the following section if Q301-2 or Q302-2 or 3	
308	How far does your household members go for toilet?	…….. distance meters
309	What type of toilet facility is that?	1.Public Toilet facility 2.No facility, open space 3.Others…….
310	Does the toilet facility have regular water supply?	1.Yes 2 .N0
311	Where do you dispose of Child's stool?	1.Drain 2.Toilet 3.Any where 4.No child
312	How much your household pay for sanitation per month?	Rs……..

FUEL USE

401	What does your household use as the source of cooking fuel? (Circle all that apply)	1.Charcoal 2.Coal/lignite 3.Liquefied petroleum Gas (LPG) 4.Biogas 5.Kerosene 6.Electric 7.Wood/Shrub/Crop residue/Dung cake 8.Others……
402	Is the cooking usually done inside the house or outdoors?	1.Inside 2.Outside
403	How do you mainly cook? Is it in stove, chullah, gas?	1.Kerosene 2.Electric stove 3.Chullah with chimney 4.Chullah without chimney 5.Gas 6 Other----------
404	How much you need to pay for cooking fuel per month?	_____ Rs.

INTERVIEWER'S OBSERVATION

501	Type of house	1.Pakka 2.Kachcha 3Semi pakka
502	Main material of the **roof**	1.Asbestos/Tin 4.Clay tiles 2.Cement 5.Other 3.plastic ----------
503	Main material of the **wall**	1.Tin 4.Tiles 2.Cement 5.Other 3.Brick only ----------

504	Main material of the **floor**	1.Cement 4.Tiles 2.Mud 5.Other 3.Brick only
505	Total Number of room/s (Excluding kitchen/toilet, passage) in house?	---------- Number
506	Separate kitchen?	1.Yes 2. No
507	Is there proper light and air in the house?	1.Yes 2. No
508	Whether the house is having window?	1.Yes 2. No
509	How big is the house (Labai x chodai)	---------- sq.foot

CHAPTER 4

ANALYSIS AND INTERPRETATION

DEMOGRAPHIC AND SOCIO-ECONOMIC ASPECTS OF SLUMS IN PANCHAVATI DIVISION

I) Introduction

II) Sample Households in the Slum

III) Patterns of Settlement

IV) Socio-economic Status of Households in Panchavati Slum area

V) Availability of Amenities in Panchavati Slums area

VI) Major Problems of Slum Dwellers

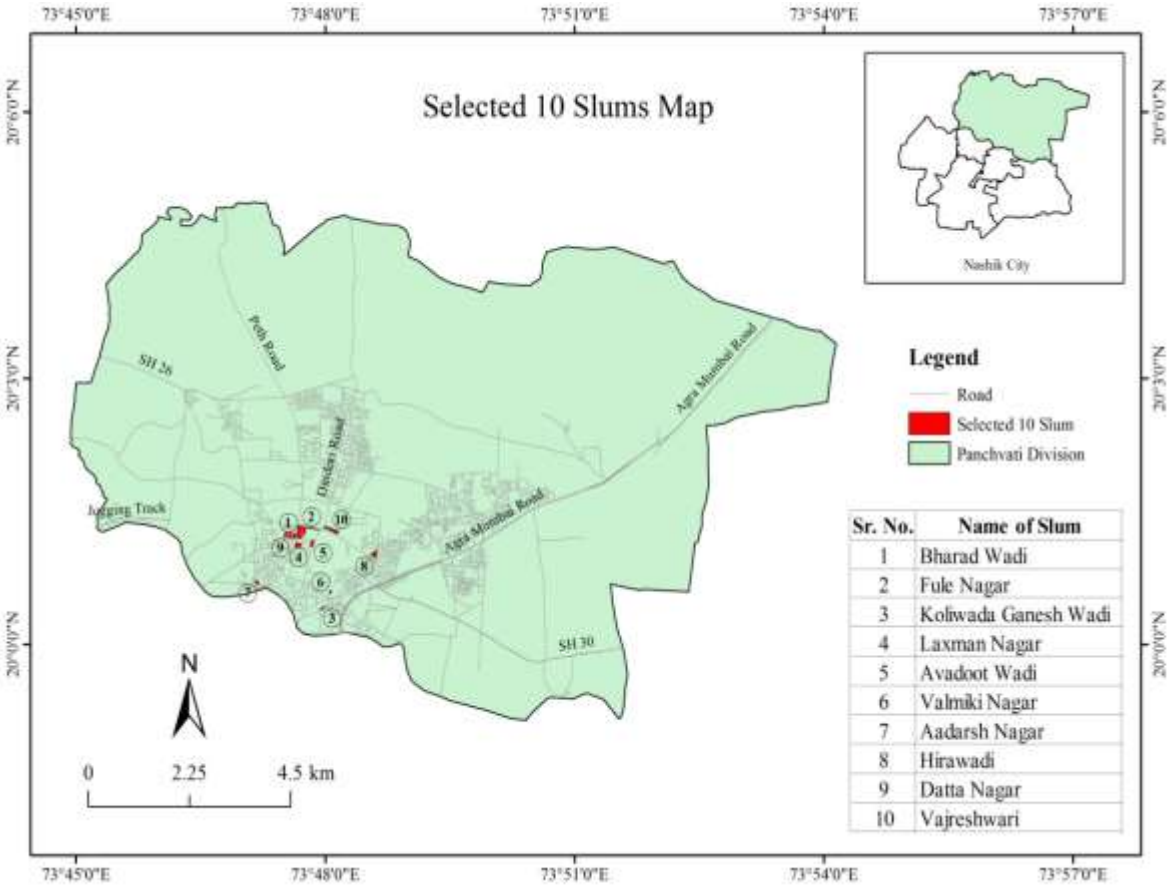
VII) Summary

I) Introduction

In this chapter demographic and socio-economic aspects of the sample slum dwellers of Panchavati Division of Nashik city are analyzed. Social conditions are analyzed, in terms of caste, demographic features, family stay, literacy, sex percentage conditions. And the discussion on the economic conditions include, housing conditions, occupation, Life goods. Health condition analyses in terms of drinking water condition, toilet latrine condition.

II) Sample Households in the Slum

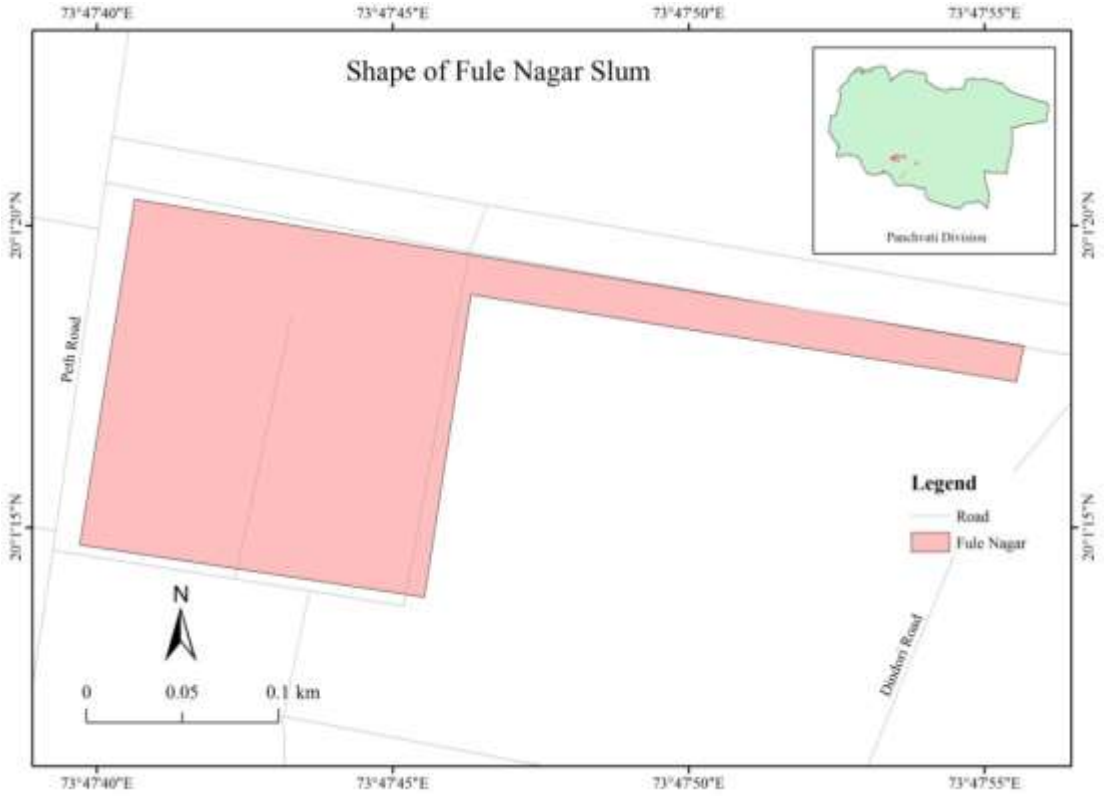
Nashik city has been classified into six divisions –Cidco, Nashik West, Nashik .East, Nashik .Road, Panchavati, Satpur. Among this division of slum, Panchavati division of slum is selected for sample. 10 slums are selected from Panchavati division of slum for sampling of household of slum. These slums are selected at random. From this sample slums 500 hundred households each were selected at random for the enumeration of socio-economic conditions of the slum dwellers. Bharadwadi slum, Adharshanagarslum, Laxmannagerslum, Dattanagarslum, Vajareshori slum, Awdhutwadi slum, Mahatma PhuleNagar slum, Valmiknagar slum Koliwada slum and Hirawadi slum are the 10 sample slums. Most representative slums have been selected at random considering the factors such as size, number of households, population and age of the slum. These slums represent all the six divisions, and the 500 sample households selected from these slums are interviewed to collect the information on socio-economic conditions of the slum dwellers.



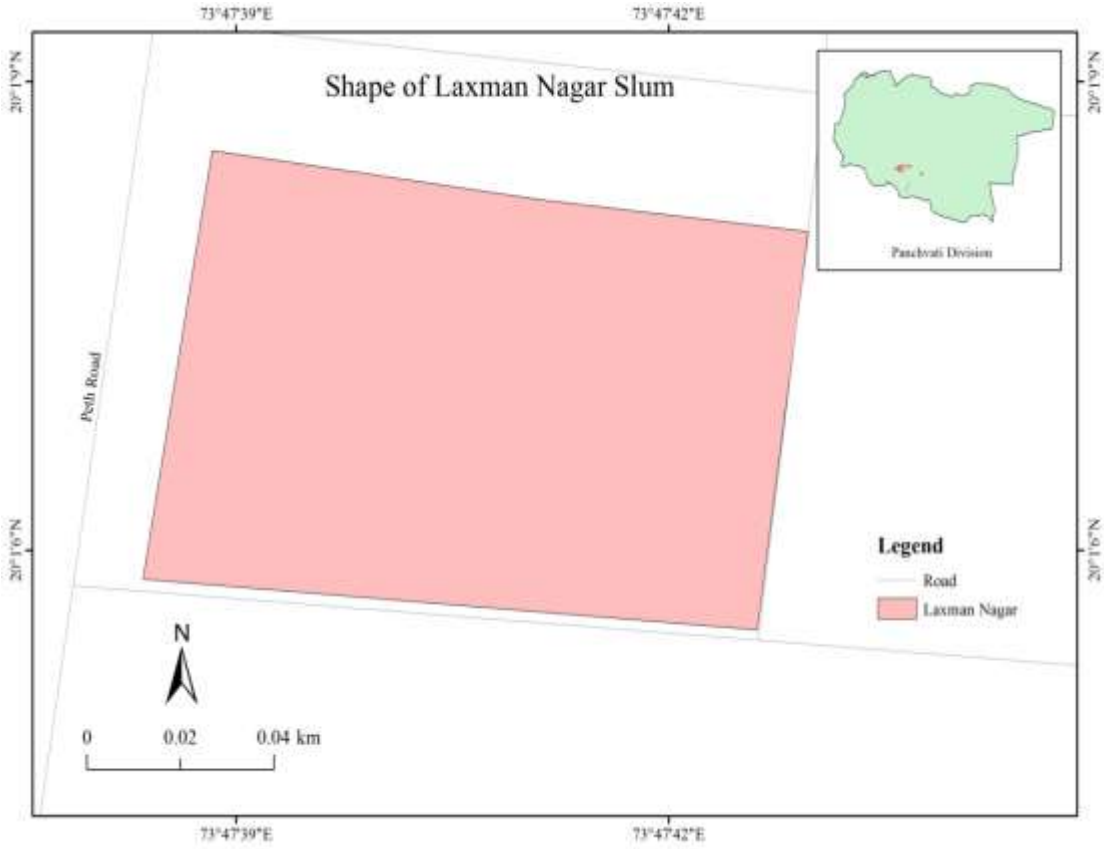
Map: 4.1 Selected Slums of Panchavati Zone

III) Patterns of Settlement

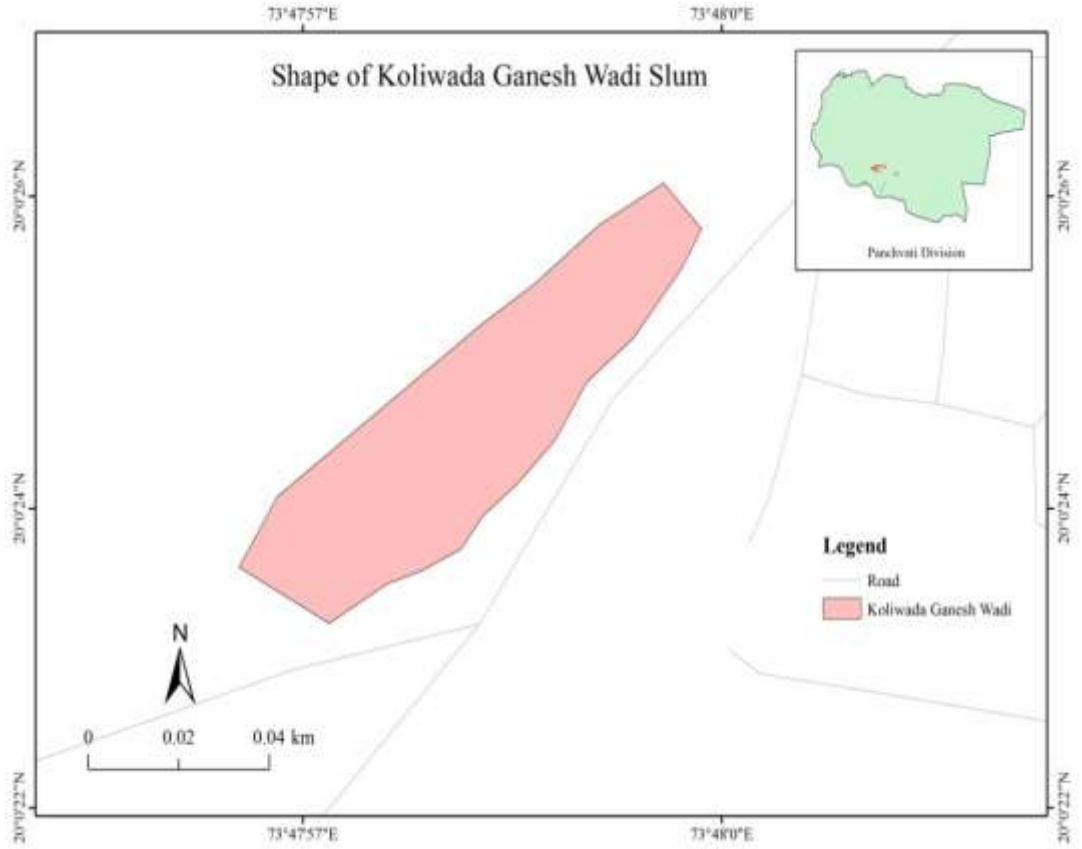
Patterns of Settlements are associated with Geometric forms of that settlement appears. Koliwada and Vajreshwari are the two settlements denote to linear pattern. Out of ten selected settlements for micro case study Laxman nagar , Valmikinagar, Adarsh Nagar Avadoot wadi , Datta Nagar and Bharad Wadi are six settlements represent square pattern. Hirawadi slum area representing triangular shape and Fule Nagar slum represents Square with linear shape due to proximity of water canal bank.



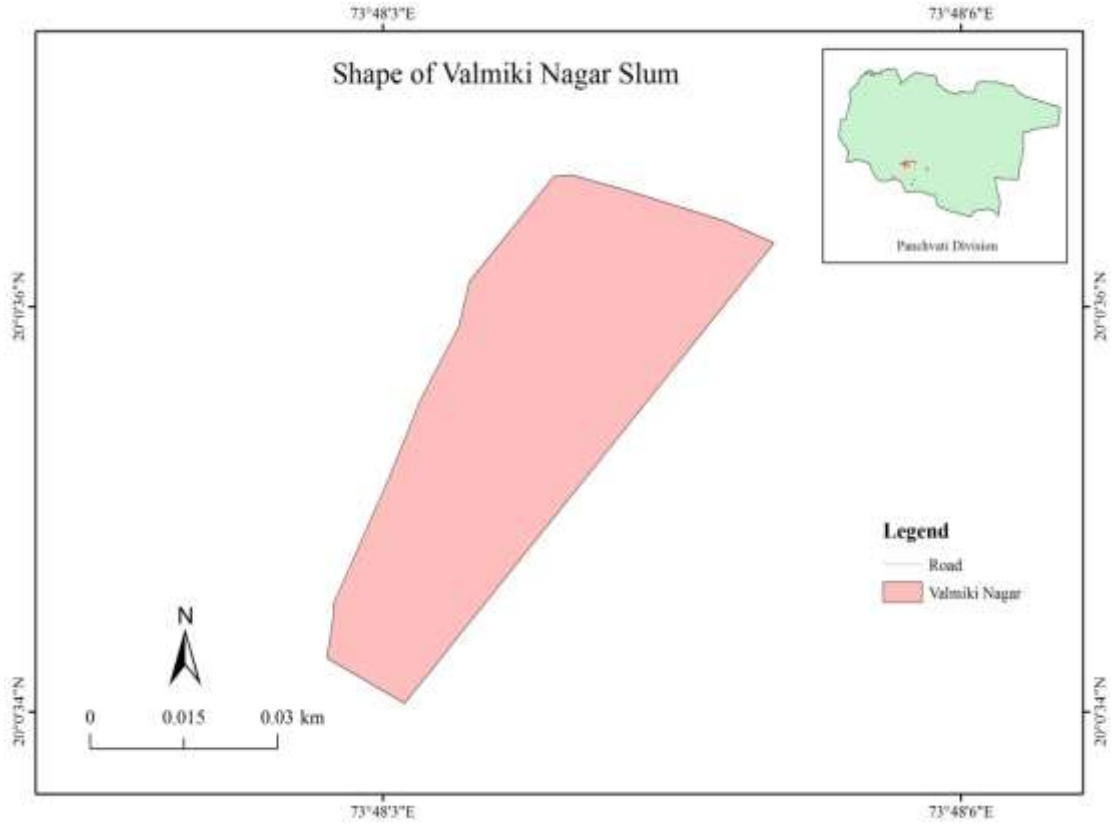
Map: 4.2 Map of Pattern of Fule Nagar Slum



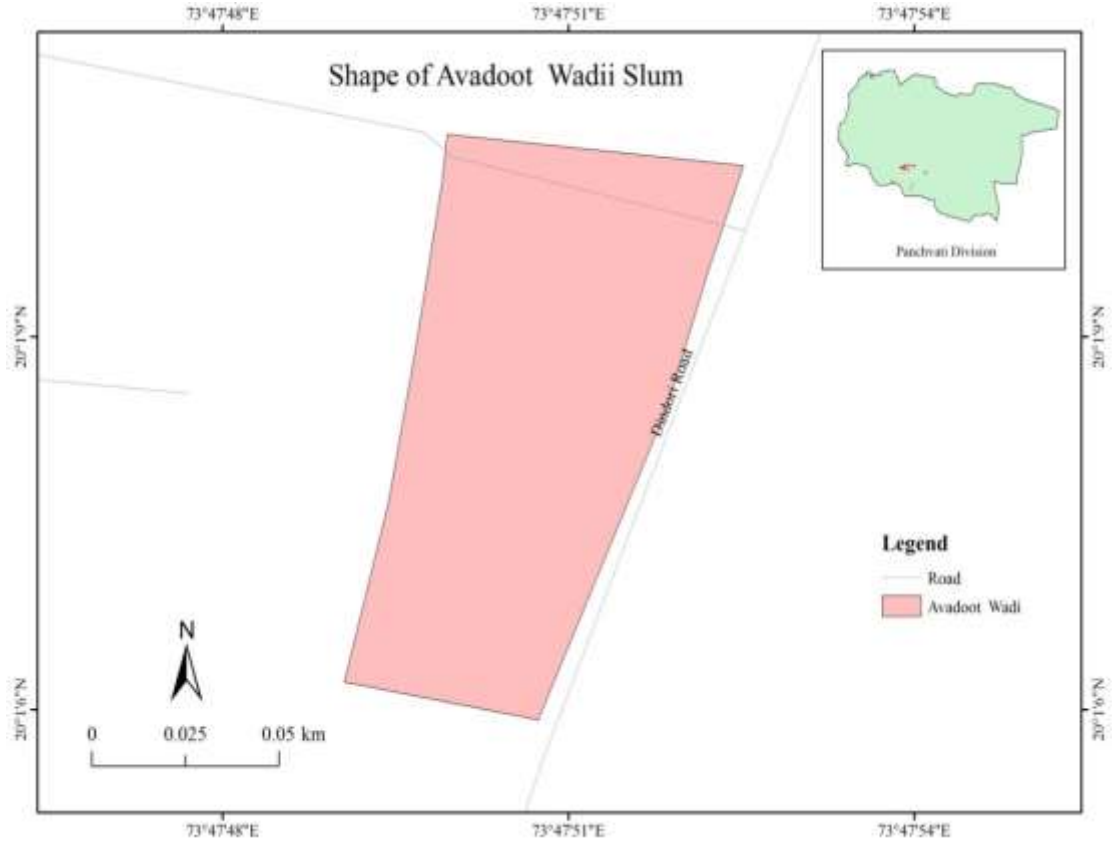
Map: 4.3 Map of Pattern of Laxman Nagar Slum



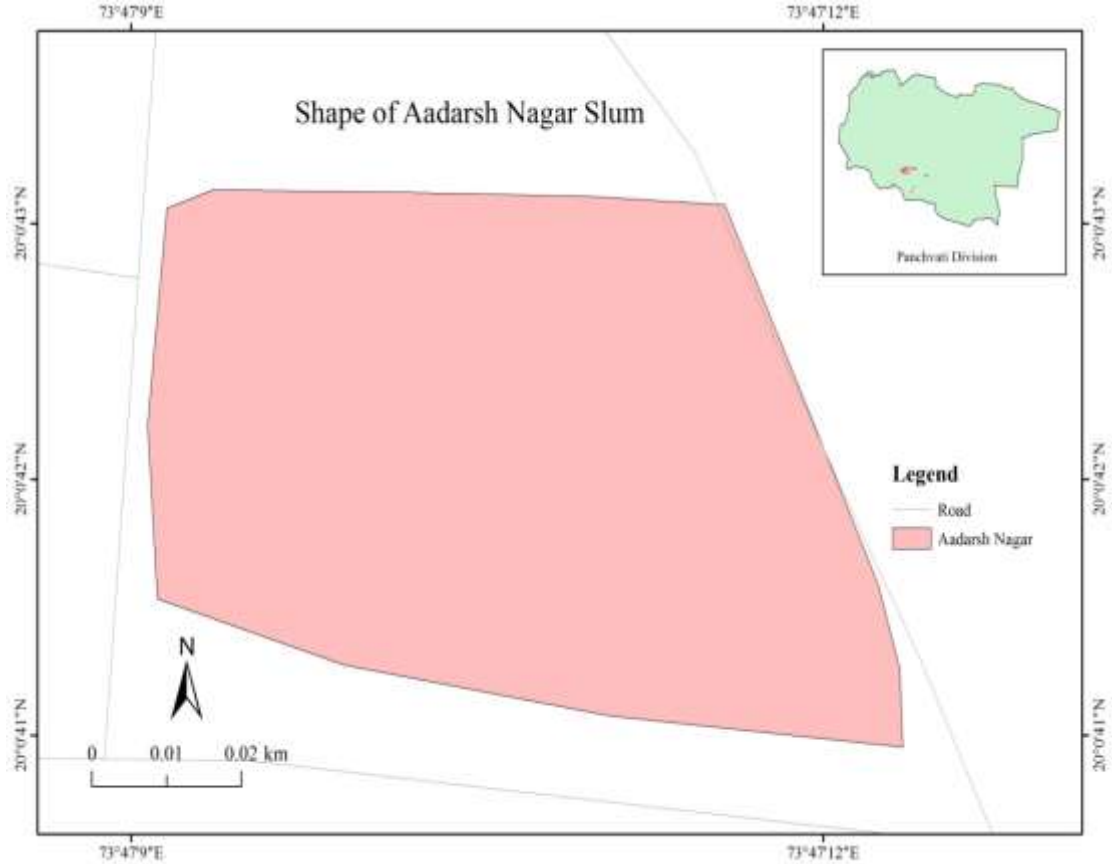
Map: 4.4 Map of Pattern of Koliwada Ganesh wadi slum



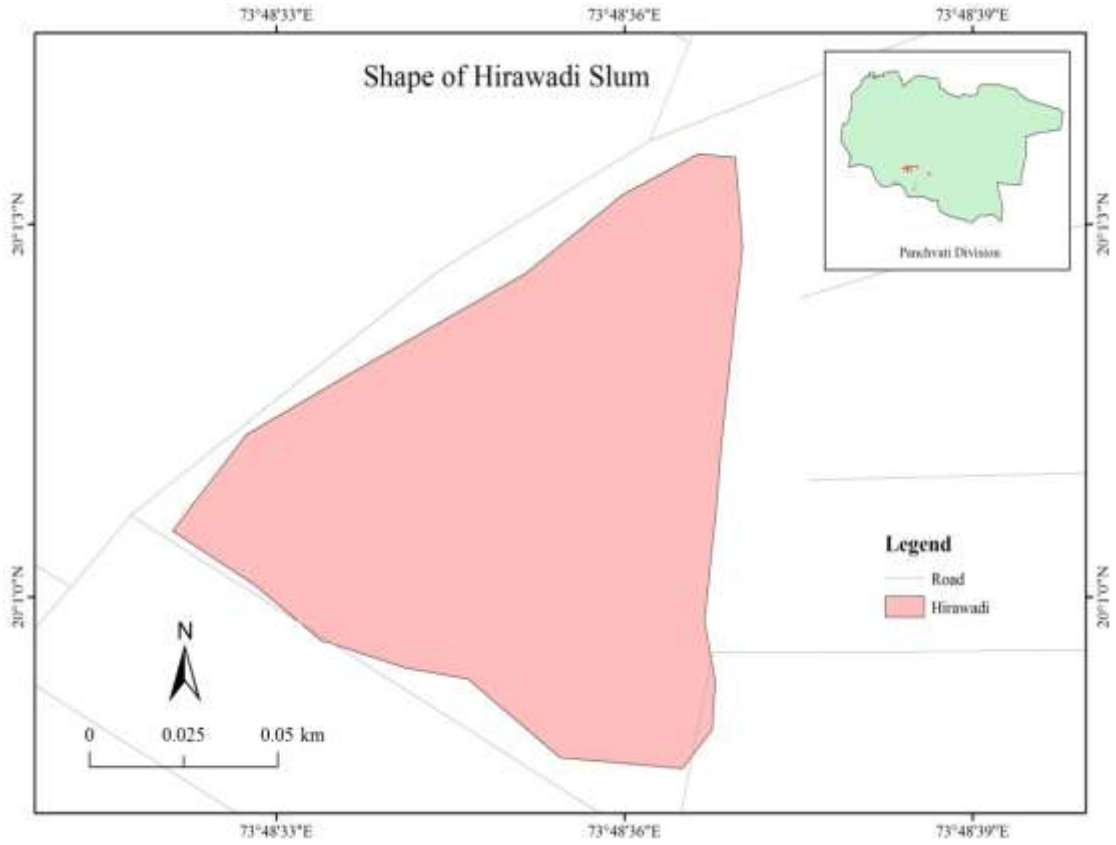
Map: 4.5 Map of Pattern of Valminki Nagar Slum



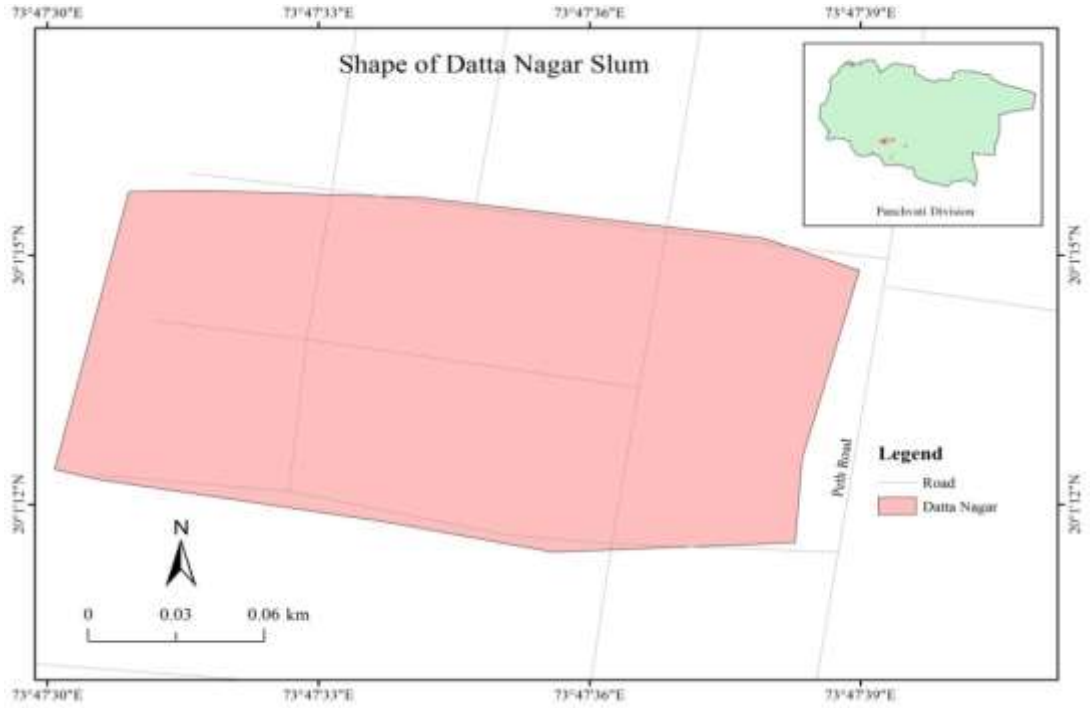
Map: 4.6 Map of Pattern of Avadoot Wadii slum



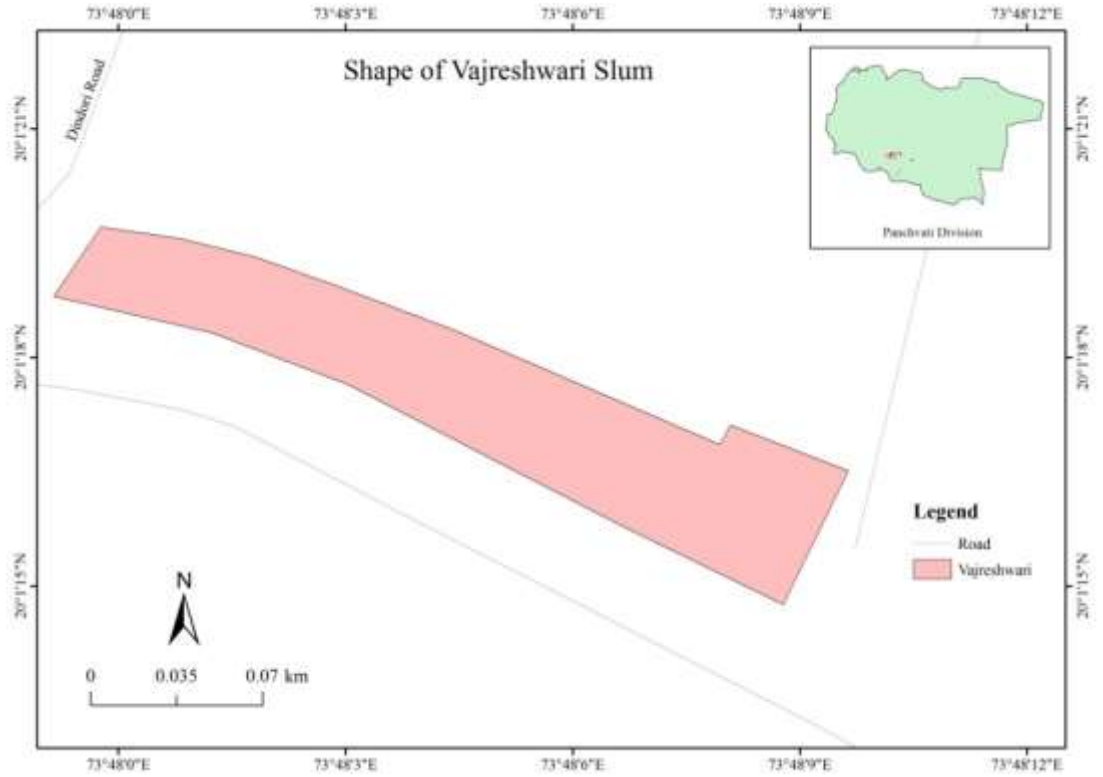
Map: 4.7 Map of Pattern of Laxman Nagar Slum



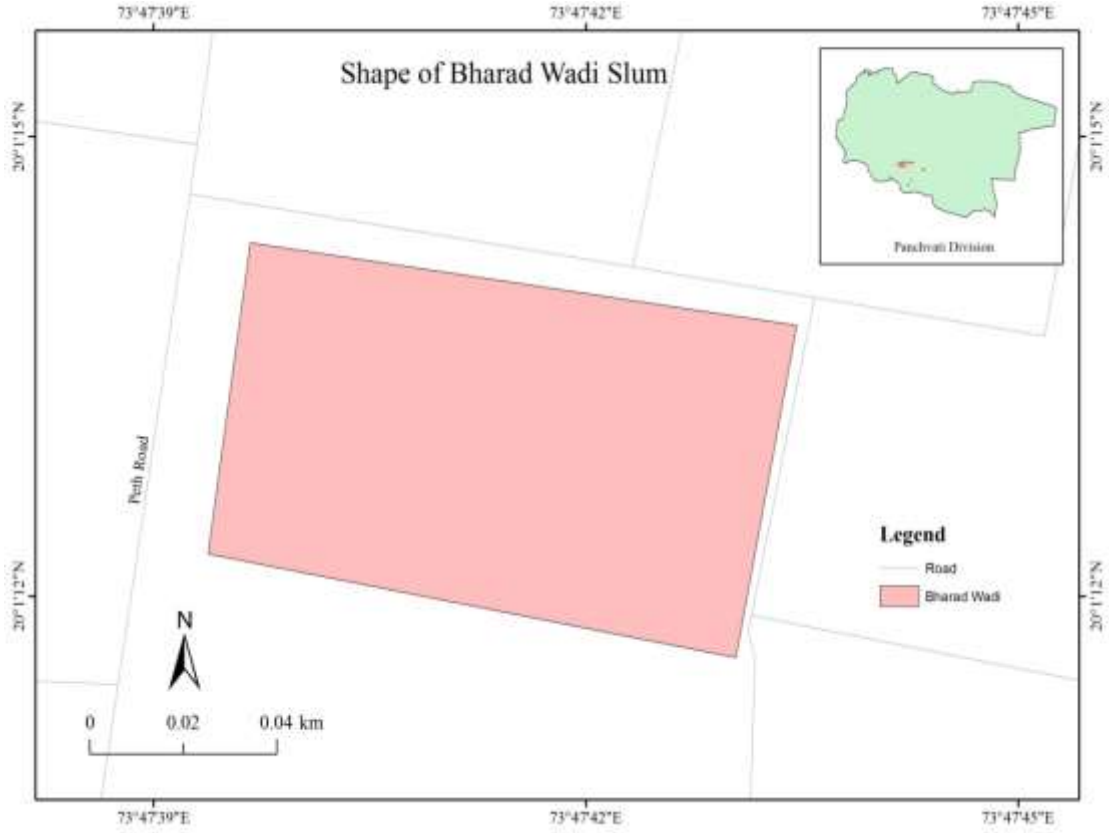
Map: 4.8 Map of Pattern of Laxman Nagar Slum



Map: 4.9 Map of Pattern of Datta Nagar Slum



Map: 4.10 Map of Pattern of Vajreshwari Slum



Map: 4.11 Map of Pattern of Bharadwadi Slum

II) Socio-economic Status of Households in Panchavati Slum area

i) Distributers of Ownership of House in the Slums of Panchavati Division of Nashik City.

This graph shows the percentage of the people who are living in their own houses or as rented. It is found that in Adarshnagar slum, 30 % people are living as rented. On the other hand, Vajreshwari slum has no single house given on the rent. It means 100% people are living in their own houses Awdhutwadi has 100% people living in their own houses.

If analyzed and as per table 11.5% people are living on rented houses & 88.5% people are residing in their own houses.

The people who are dwelling in Bharadwadi their monthly income is up to Rs. 5000 % & it's percentage is 47.5%, 15.1% people have in our than rs.10000 income in Bharadwadi. On the other hand, in Adarshnager 70% people have more than rs.10000 income 30% people have Rs 5000 income in Adarshnager.

The highest income i.e. more than Rs 10000 60% people are living in Hirawadi, Contrarily there are lowest people having Rs. 10000 income in Adarshnager people who have Rs 5000 income such people are not found in Hirawadi. In Bharadwadi there are 47.5% people having Rs.5000 fix monthly income. Mahatma Phulenagar has 72.4% people having Rs 5000 to 10000 monthly income. These people are highest in number having such income Inhabitants of slum belonging their shelter are most important characteristics of analysis. Present sample data collected from 10 slums of Panchavati division for analysis of slum dwellers.

Table 4.1:Percent distribution of ownership of house in the slums of Panchavati division.

Name of Slum	Monthly income In Rupees	Ownership of House		Total
		Rented house	Own house	
Bharadwadi	**Up to five thousand**	10.0	37.5	47.5
	Five to ten thousand	0.0	37.5	37.5
	Above ten thousand	0.0	15.0	15.0
	Total	10.0	90.0	100
Adharshanagar	**Up to five thousand**	20.0	10.0	30.0
	Five to ten thousand	0.0	0.0	0.0
	Above ten thousand	10.0	60.0	70.0
	Total	30.0	70.0	100
Laxmannager	**Up to five thousand**	0.0	18.2	18.2
	Five to ten thousand	7.3	54.5	61.8
	Above ten thousand	0.0	20.0	20.0
	Total	7.3	92.7	100
Dattanagar	**Up to five thousand**	0.0	5.1	5.1
	Five to ten thousand	10.3	35.9	46.2
	Above ten thousand	10.3	38.5	48.7
	Total	20.5	79.5	100
Vajareshori	**Up to five thousand**	0.0	21.4	21.4
	Five to ten thousand	0.0	54.8	54.8
	Above ten thousand	0.0	23.8	23.8
	Total	0.0	100	100
Awdhutwadi	**Up to five thousand**	4.3	26.1	30.4
	Five to ten thousand	4.3	56.5	60.9
	Above ten thousand	0.0	8.7	8.7
	Total	8.7	91.3	100
Mahatma Phule Nagar	**Up to five thousand**	6.9	10.3	17.2
	Five to ten thousand	10.3	62.1	72.4
	Above ten thousand	0.0	10.3	10.3
	Total	17.2	82.8	100
Valmiknagar	**Up to five thousand**	9.8	9.8	19.5
	Five to ten thousand	4.9	46.3	51.2
	Above ten thousand	4.9	24.4	29.3
	Total	19.5	80.5	100
Koliwada	**Up to five thousand**	0.0	44.8	44.8
	Five to ten thousand	0.0	20.7	20.7
	Above ten thousand	6.9	27.6	34.5
	Total	6.9	93.1	100
Hirawadi	**Up to five thousand**	0	0	0
	Five to ten thousand	0	40.0	40.0
	Above ten thousand	0	60.0	60.0
	Total	0	100	100
Total		11.5	88.5	100

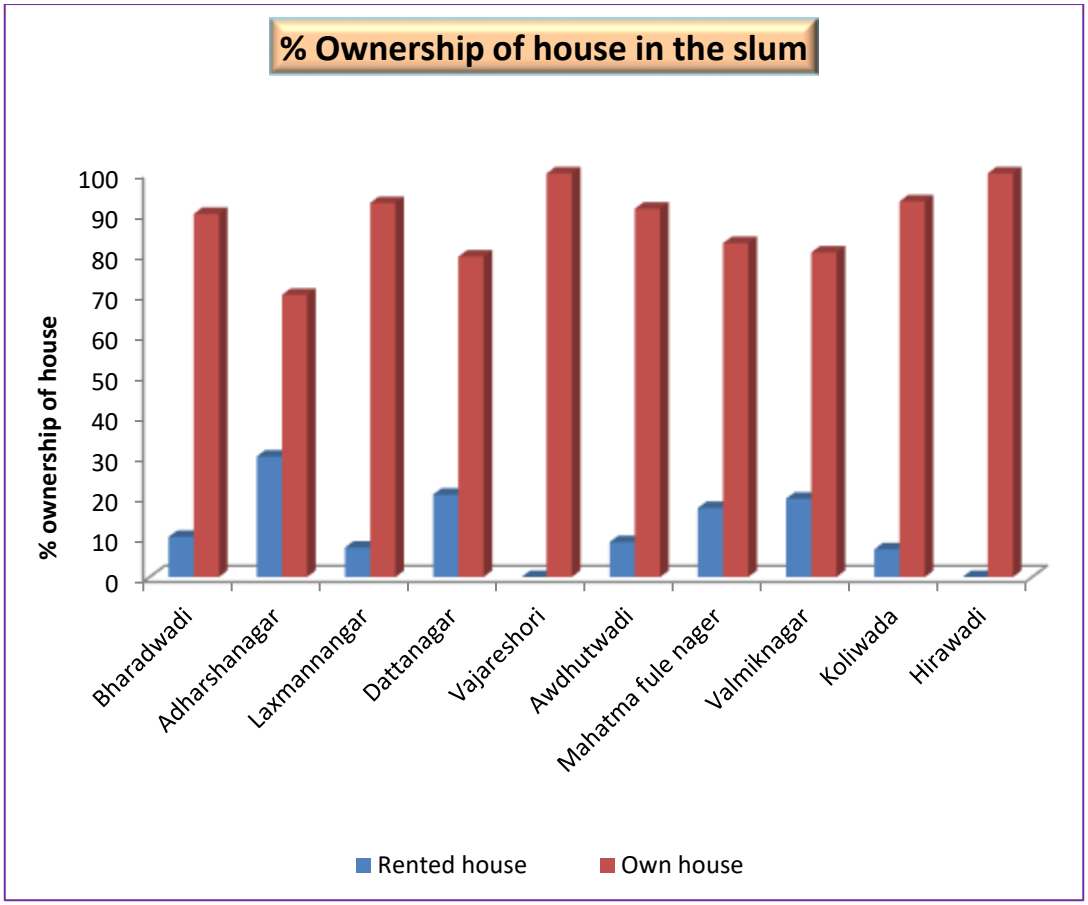


Figure No. 4.1 Ownership of houses in slum

ii) Number of Households Pay for House Rent by Monthly Income Wise

In this graph 46 houses are given on rent 32 houses out of 46 are given Rs 1000 rent & 14 houses are given more than Rs 1000 rent. It is found that the people who have up to Rs 5000 income they prefer to live in the houses, which has Rs 1000 rent. The 14 houses have more than Rs 5000 to 10000 monthly income. They are staying in the houses having more than Rs 1000 rent. It is found as per income and the rent paid by the people.

TABLE 4.2: Number of households pay for house rent by monthly income wise of Panchavati division

Name of Slum	Monthly Income In Rupees	House Rent in Rs.		Total
		Up to one thousand	More than one thousand	
Bharadwadi	Up to five thousand	4	0	4
	Total	4	0	4
Adharshanagar	Up to five thousand	4	0	4
	Above ten thousand	0	2	2
	Total	4	2	6
Laxmannager	Five to ten thousand	4	0	4
	Total	4	0	4
Dattanagar	Five to ten thousand	2	2	4
	Above ten thousand	4	0	4
	Total	6	2	8
Vajareshori	Total	0	0	0
Awdhutwadi	Up to five thousand	0	2	2
	Five to ten thousand	0	2	2
	Total	0	4	4
Mahatma Phule Nagar	Up to five thousand	4	0	4
	Five to ten thousand	6	0	6
	Total	10	0	10
Valmiknagar	Up to five thousand	2	2	4
	Five to ten thousand	2	0	2
	Above ten thousand	0	2	2
	Total	4	4	8
Koliwada	Above ten thousand	0	2	2
	Total	0	2	2
Hirawadi	Total	0	0	0
	Total Household	32	14	46

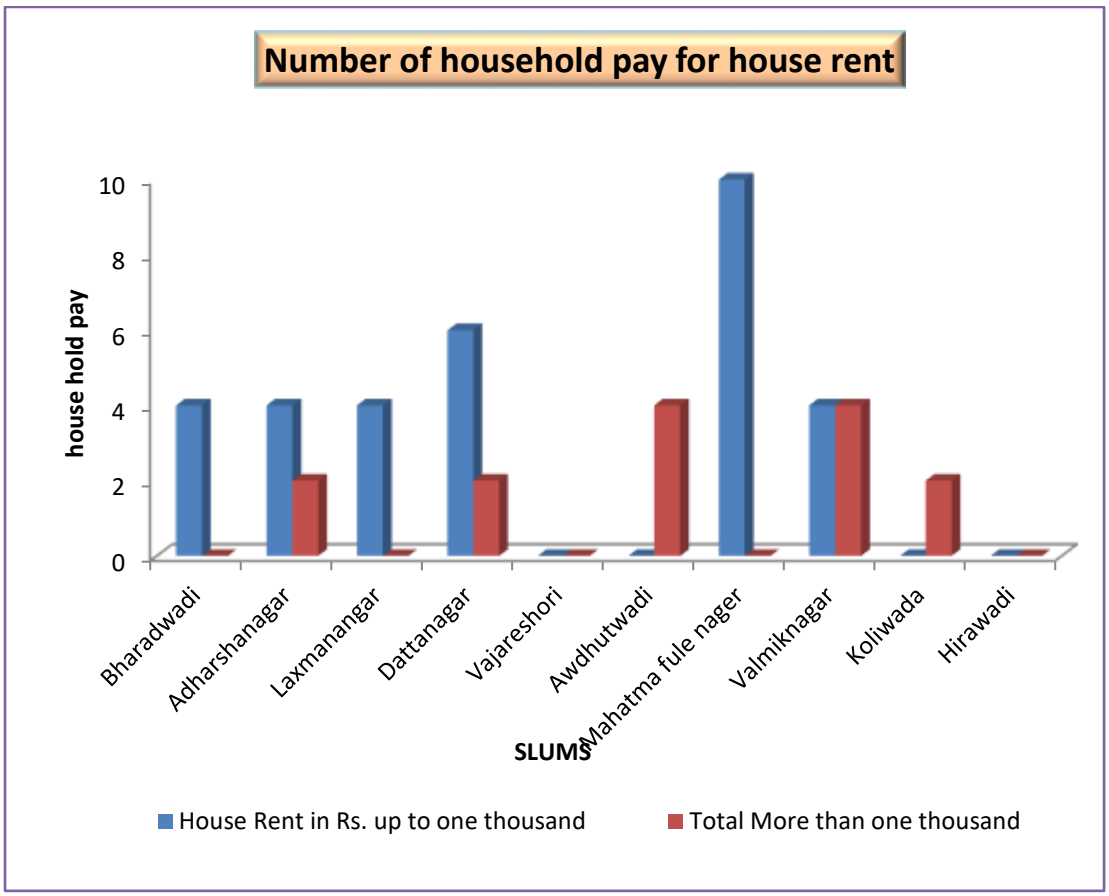


Figure No: 4.2 Number of households pay for house rent

ii) Distribution of Sex Percentage in the Household

As per the graph both male & female are earning their livelihood its percentage is 52% is of male & 48% is of Female. More than Rs 10000 income earners male are found in Phulenagar area because the vegetable market and fruit market near this slum area so they got more income, & its percentage is 61.1% on the next side more than Rs 10000 earner female percentage is 38.9% the people who are earning up to Rs 5000 to 10000 are found in Vagreshwari area & their percentage is 56% & the female percentage is 44% who earn up Rs 10000 income. The female who are earning more than Rs 10000 per month their percentage is 64.3% contrarily male percentages is 35.2%. The highest i.e. Rs 5000 income earner female are found in Mahatma Phule Nagar& its percentage is 72.5%.

TABLE 4.3: Percent distribution of sex percentage in the household of slum Panchavati division

Name of Slum	**Monthly income In Rupees**	**Sex**	
		Male	Female
Bharadwadi	**Up to five thousand**	49.6	50.4
	Five to ten thousand	49.1	50.9
	Above ten thousand	53.8	46.2
	Total	49.8	50.2
Adharshanagar	**Up to five thousand**	57.1	42.9
	Five to ten thousand	52.9	47.1
	Above ten thousand	56.3	43.8
	Total	55.1	44.9
Laxmannager	**Up to five thousand**	50.0	50.0
	Five to ten thousand	54.3	45.7
	Above ten thousand	57.1	42.9
	Total	54.2	45.8
Dattanagar	**Up to five thousand**	60.0	40.0
	Five to ten thousand	48.9	51.1
	Above ten thousand	49.5	50.5
	Total	49.8	50.2
Vajareshori	**Up to five thousand**	50.0	50.0
	Five to ten thousand	56.0	44.0
	Above ten thousand	35.7	64.3
	Total	49.5	50.5
Awdhutwadi	**Up to five thousand**	44.4	55.6
	Five to ten thousand	56.3	43.7
	Above ten thousand	60.0	40.0
	Total	42.6	57.4
Mahatma Phule Nagar	**Up to five thousand**	27.5	72.5
	Five to ten thousand	31.8	68.2
	Above ten thousand	61.1	38.9
	Total	31.9	68.1
Valmiknagar	**Up to five thousand**	41.2	58.8
	Five to ten thousand	23.7	76.3
	Above ten thousand	50.0	50.0
	Total	47.3	52.7
Koliwada	**Up to five thousand**	49.3	50.7
	Five to ten thousand	53.8	46.2
	Above ten thousand	45.8	54.2
	Total	49.0	51.0
Hirawadi	**Up to five thousand**	41.2	58.8
	Five to ten thousand	51.5	48.5
	Above ten thousand	50.9	49.1
	Total	51.1	48.9
Total		52.0	48.0

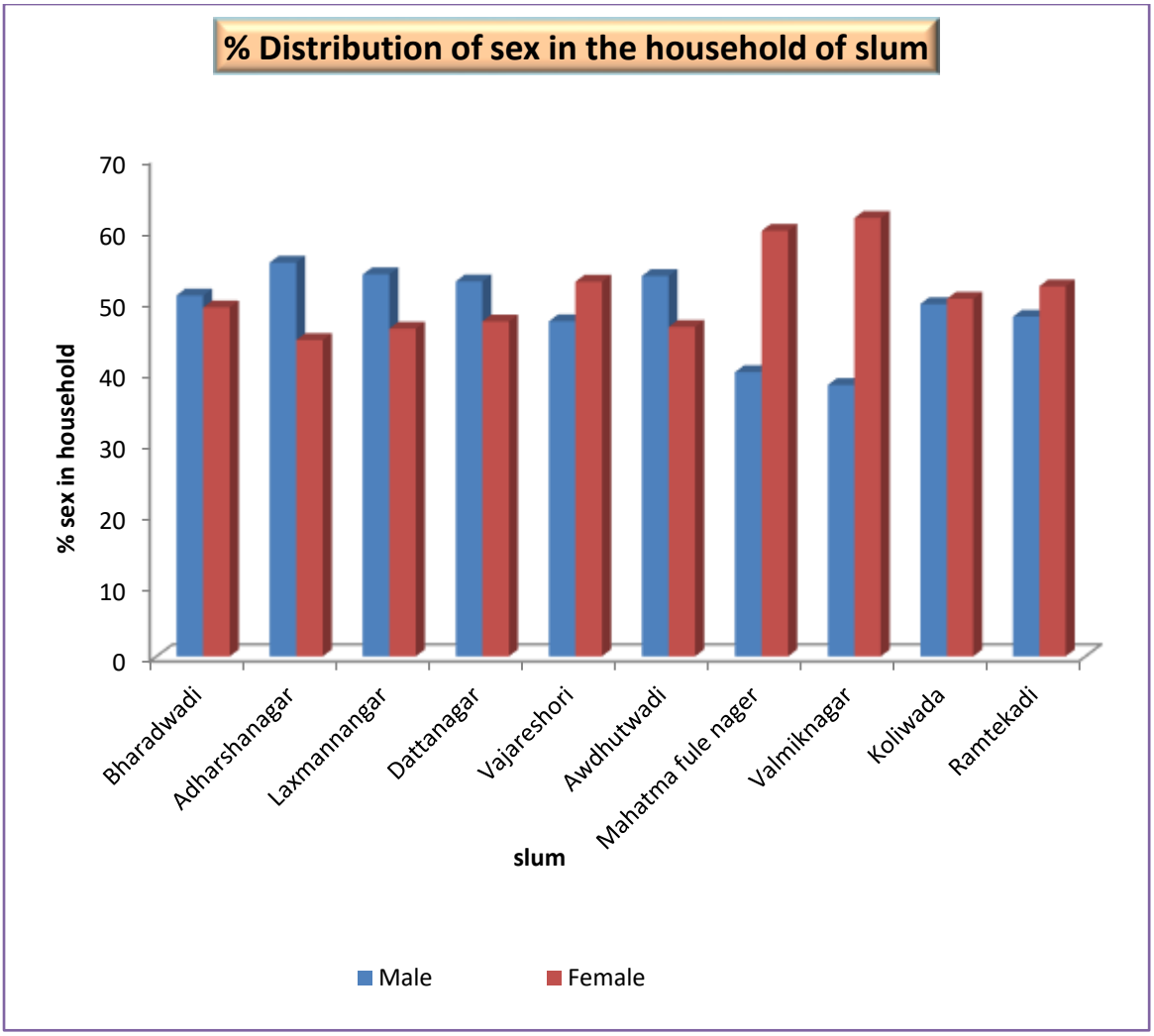


Figure No: 4.3 Percent distribution of sex percentage in the household of slum

iii) Percentage Distribution of Literacy.

The people living in slums and area income which 43% people are literate and 57% are illiterate. The graph shows that those who are illiterate their income is high as compared to literate people. As per the graph there are more people whose income is more than Rs. 10000 but they are illiterate who earn more than literate. In Bharadwadi there are 100% illiterate people who earn more than Rs 10000. The same situation is in Adarshnargar. As per the graph all these slum areas have literate people. Their monthly income is less as compared to illiterate people. Illiterate people can do any type of work like coolies and other so they have got more income than literate people.

Table 4.4:Percent distribution of literacy in the slum household in the Panchavati

Name of Slum	Monthly income In Rupees	Literacy	
		Literate	Illiterate
Bharadwadi	Up to five thousand	67.1	32.9
	Five to ten thousand	54.4	45.6
	Above ten thousand	0.0	100.0
	Total	58.0	42.0
Adharshanagar	Up to five thousand	39.8	60.2
	Five to ten thousand	63.6	36.4
	Above ten thousand	0.0	100
	Total	30.4	69.6
Laxmannager	Up to five thousand	35.7	64.3
	Five to ten thousand	56.2	43.8
	Above ten thousand	12.2	87.8
	Total	45.7	54.3
Dattanagar	Up to five thousand	33.3	66.7
	Five to ten thousand	38.1	61.9
	Above ten thousand	25.7	74.3
	Total	31.4	68.6
Vajareshori	Up to five thousand	32.6	67.4
	Five to ten thousand	39.8	60.2
	Above ten thousand	33.3	66.7
	Total	36.7	63.3
Awdhutwadi	Up to five thousand	33.3	66.7
	Five to ten thousand	40.0	60.0
	Above ten thousand	30.0	70.0
	Total	37.4	62.6
Mahatma Phule Nagar	Up to five thousand	66.7	33.3
	Five to ten thousand	66.5	33.5
	Above ten thousand	52.9	47.1
	Total	65.2	34.8
Valmiknagar	Up to five thousand	31.3	68.8
	Five to ten thousand	29.6	70.4
	Above ten thousand	26.7	73.3
	Total	28.9	71.1
Koliwada	Up to five thousand	33.8	66.2
	Five to ten thousand	46.2	53.8
	Above ten thousand	38.1	61.9
	Total	37.6	62.4
Hirawadi	Up to five thousand	65.2	34.8
	Five to ten thousand	34.6	65.4
	Above ten thousand	25.5	74.5
	Total	28.6	71.4
Total		43.0	57.0

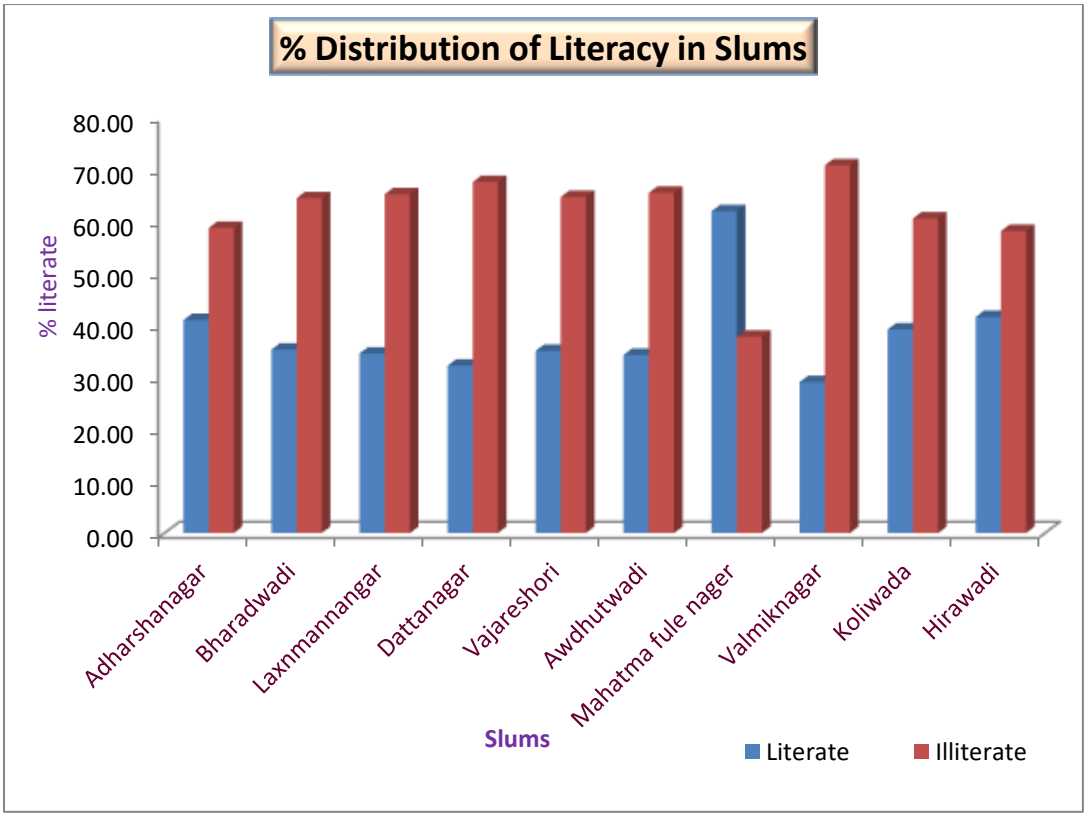


Figure No: 4.4 Percent distribution of literacy in the slum

iv) Household Items

If compared by house hold items 83.8% people have bed for sleeping in all the slums, 95.5% people have T.V. and 10.8% people have refrigerators. The people who are living in these slums 22.8% people have mixer, 2% people have sewing machine near about all the earner group they have T.V. but those people their monthly income is more than Rs. 5000 they have refrigerator. The people who are living in Bharadwadi they have more refrigerators as compared to the rest of the slums. The people who are living in Dattanagar & their monthly income is more than Rs.5000 they have sewing machine. The people of Dattanagar & bharadwadi they have sewing machine but rest of the slums sewing machine are not found. So Dattanagar & Bharadwadi people have got more income than other slums.

Table 4.5: Percent distribution of household items in the slum household in the Panchavati division

Name of Slum	Monthly income Rs.	Household Items				
		Bed	TV	Fridge	Mixer	Sewing Machine
Bharadwadi	**Up to five thousand**	15.0	37.5	10.0	10.0	0.0
	Five to ten thousand	25.0	37.5	15.0	15.0	5.0
	Above ten thousand	5.0	15.0	0.0	5.0	0.0
	Total	45.0	90.0	25.0	30.0	0.0
Adharshanagar	**Up to five thousand**	0.0	0.0	0.0	0.0	0.0
	Five to ten thousand	10.0	30.0	0.0	0.0	0.0
	Above ten thousand	40.0	70.0	20.0	10.0	0.0
	Total	50.0	100.0	20.0	10.0	0.0
Laxmannager	**Up to five thousand**	14.5	14.5	3.6	0.0	0.0
	Five to ten thousand	58.2	54.5	7.3	7.3	0.0
	Above ten thousand	20.0	20.0	3.6	0.0	0.0
	Total	92.7	89.1	14.5	7.3	0.0
Dattanagar	**Up to five thousand**	0.0	5.1	0.0	0.0	0.0
	Five to ten thousand	46.2	46.2	0.0	10.3	5.1
	Above ten thousand	48.7	48.7	12.8	15.4	7.7
	Total	94.9	100.0	12.8	25.6	12.8
Vajareshori	**Up to five thousand**	16.7	21.4	0.0	9.5	2.4
	Five to ten thousand	47.6	50.0	4.8	19.0	0.0
	Above ten thousand	19.0	23.8	0.0	9.5	0.0
	Total	83.3	95.2	4.8	38.1	2.4
Awdhutwadi	**Up to five thousand**	13.0	30.4	0.0	4.3	0.0
	Five to ten thousand	52.2	60.9	0.0	0.0	0.0
	Above ten thousand	8.7	8.7	0.0	8.7	0.0
	Total	73.9	100.0	0.0	13.0	0.0
Mahatma Phule Nagar	**Up to five thousand**	17.2	10.3	6.9	0.0	0.0
	Five to ten thousand	69.0	55.2	6.9	3.4	0.0
	Above ten thousand	10.3	3.4	6.9	3.4	0.0
	Total	96.6	69.0	20.7	6.9	0.0
Valmiknagar	**Up to five thousand**	14.6	14.6	0.0	0.0	0.0
	Five to ten thousand	46.3	46.3	4.9	9.8	0.0
	Above ten thousand	29.3	29.3	0.0	4.9	0.0
	Total	90.2	90.2	4.9	14.6	0.0
Koliwada	**Up to five thousand**	37.9	0.0	0.0	17.2	0.0
	Five to ten thousand	20.7	44.8	0.0	0.0	0.0
	Above ten thousand	34.5	20.7	0.0	13.8	0.0
	Total	93.1	34.5	0.0	31.0	0.0
Hirawadi	**Up to five thousand**	0.0	100.0	0.0	0.0	0.0
	Five to ten thousand	40.0	40.0	0.0	33.3	0.0
	Above ten thousand	60.0	60.0	0.0	40.0	0.0
	Total	100.0	100.0	0.0	73.3	0.0
Total		83.8	95.5	10.8	22.8	2.0

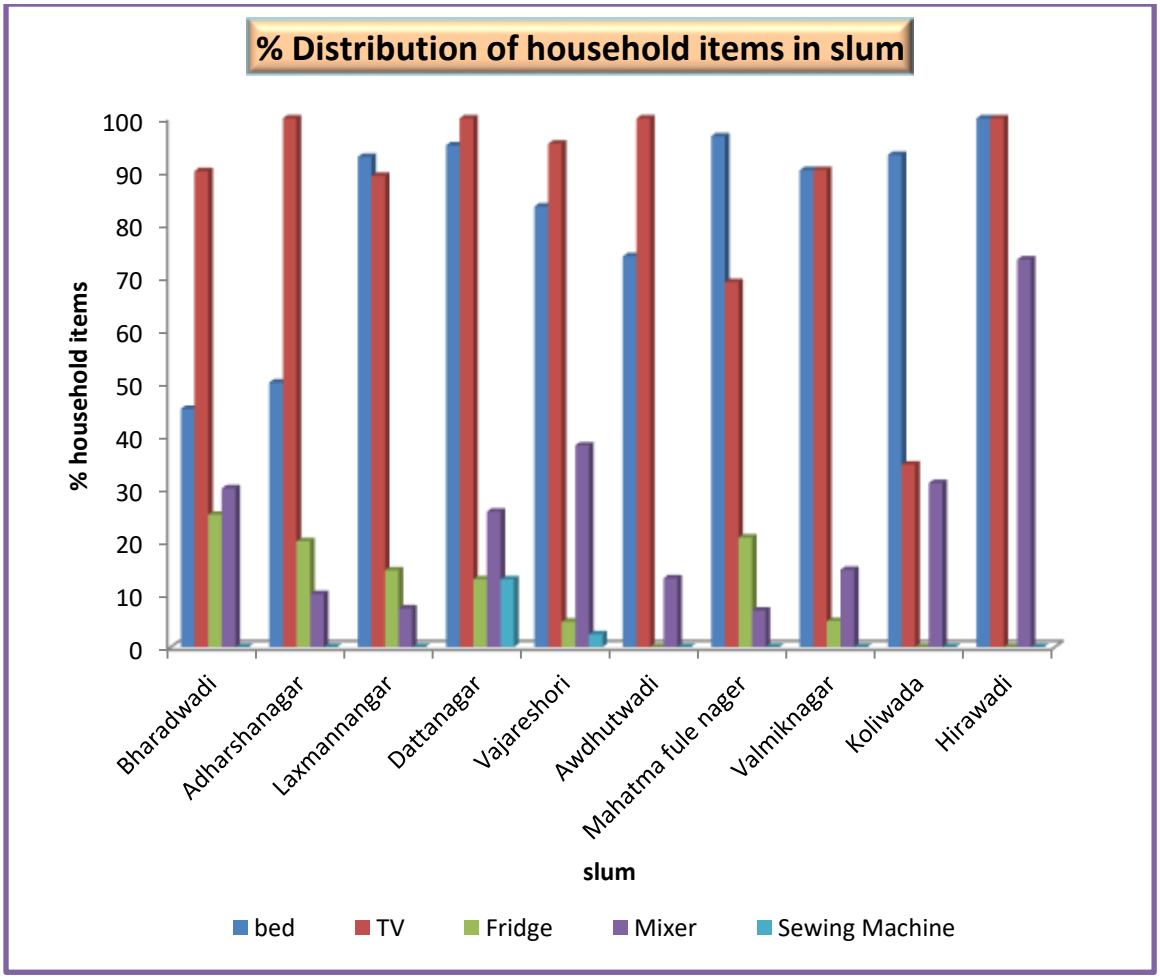


Figure No: 4.5 Percent distribution of household items in the slum household

v) Life Goods.

As per graph 10% people have Bicycle, 82.5% people have phone& 28.8% people have Bike. The people who have auto rickshaw are 4.8%. 1.5% people who earn more than Rs.5000 they have bicycle.All the people who are earner have phone because it is a means of communication. Those people who earn more than five thousand have bike but people who earn more than Rs 10000 per month have auto rickshaw & computer. This is found only in Koliwada, Dattanagar & Laxmannager slum dwellers but auto & computer are not found in rest of the slums.

Table 4.6: Percent distribution of life goods in the slum household in the Panchavati division.

Name of Slum	Monthly income In Rupees	Life Goods				
		Bicycle	Phone	Bike	Auto	Computer
Bharadwadi	**Up to five thousand**	0.0	22.5	20.0	0.0	0.0
	Five to ten thousand	5.0	32.5	27.5	10.0	0.0
	Above ten thousand	0.0	15.0	5.0	0.0	0.0
	Total	5.0	70.0	52.5	10.0	0.0
Adharshanagar	**Up to five thousand**	0.0	0.0	0.0	0.0	0.0
	Five to ten thousand	10.0	30.0	10.0	0.0	0.0
	Above ten thousand	20.0	60.0	30.0	10.0	0.0
	Total	30.0	90.0	40.0	10.0	0.0
Laxmannager	**Up to five thousand**	0.0	14.5	0.0	0.0	0.0
	Five to ten thousand	0.0	54.5	3.6	0.0	0.0
	Above ten thousand	0.0	20.0	3.6	1.8	3.6
	Total	0.0	89.1	7.3	1.8	0.0
Dattanagar	**Up to five thousand**	5.1	5.1	0.0	0.0	0.0
	Five to ten thousand	15.4	25.6	20.5	5.1	5.1
	Above ten thousand	7.7	28.2	33.3	0.0	0.0
	Total	28.2	59.0	53.8	5.1	0.0
Vajareshori	**Up to five thousand**	2.4	19.0	4.8	0.0	0.0
	Five to ten thousand	4.8	33.3	11.9	0.0	0.0
	Above ten thousand	9.5	23.8	9.5	0.0	0.0
	Total	16.7	76.2	26.2	0.0	0.0
Awdhutwadi	**Up to five thousand**	0.0	26.1	0.0	0.0	0.0
	Five to ten thousand	0.0	56.5	0.0	8.7	0.0
	Above ten thousand	0.0	8.7	0.0	0.0	0.0
	Total	0.0	91.3	0.0	8.7	0.0
Maharana Pratapnagar	**Up to five thousand**	0.0	17.2	3.4	0.0	0.0
	Five to ten thousand	0.0	55.2	3.4	3.4	0.0
	Above ten thousand	3.4	6.9	0.0	0.0	0.0
	Total	3.4	79.3	6.9	3.4	0.0
Valmiknagar	**Up to five thousand**	4.9	14.6	0.0	0.0	0.0
	Five to ten thousand	4.9	51.2	26.8	0.0	0.0
	Above ten thousand	4.9	29.3	14.6	0.0	0.0
	Total	14.6	95.1	41.5	0.0	0.0
Koliwada	**Up to five thousand**	0.0	37.9	17.2	0.0	0.0
	Five to ten thousand	0.0	13.8	0.0	0.0	0.0
	Above ten thousand	6.9	34.5	6.9	6.9	6.9
	Total	6.9	86.2	24.1	6.9	0.0
Hirawadi	**Up to five thousand**	0.0	0.0	0.0	0.0	0.0
	Five to ten thousand	0.0	40.0	0.0	0.0	0.0
	Above ten thousand	13.3	53.3	33.3	0.0	0.0
	Total	13.3	93.3	33.3	0.0	0.0
Total		10.0	82.5	25.8	4.8	1.5

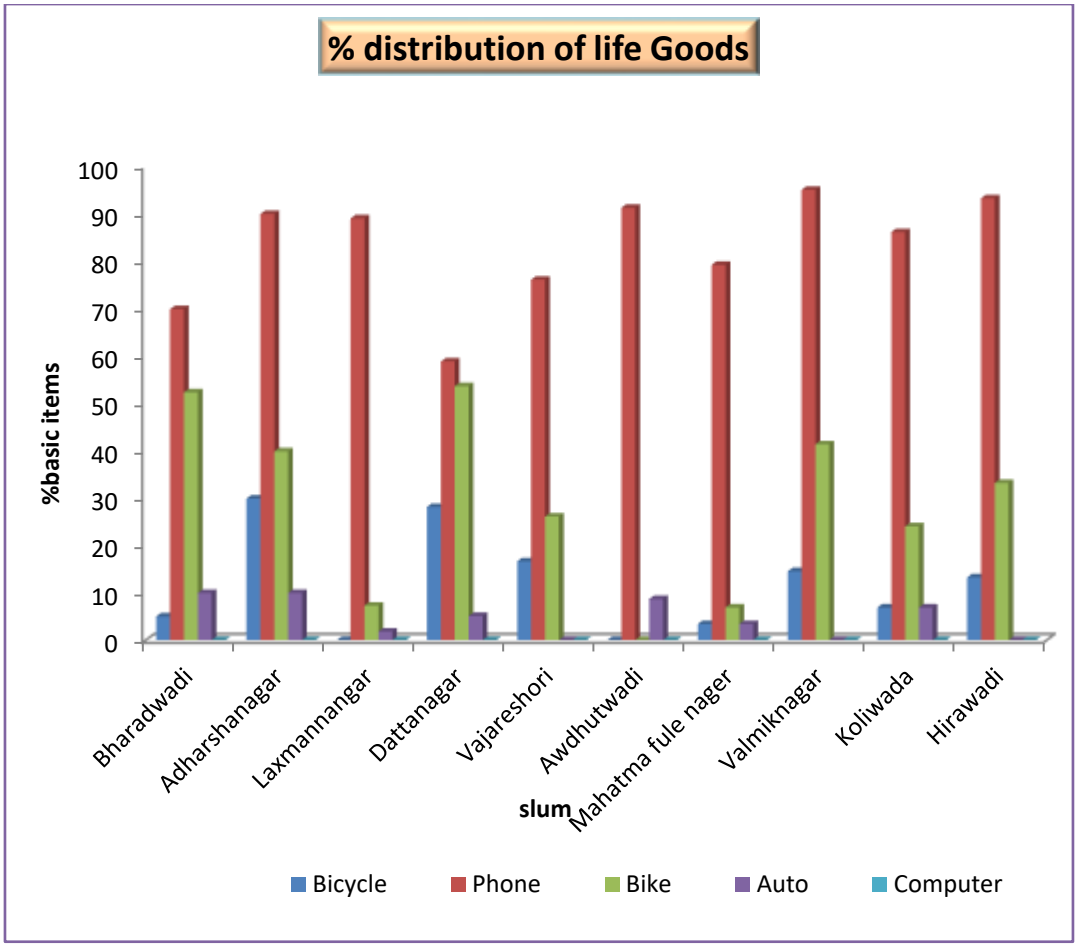


Figure No: 4.6 Percent distribution of life goods in the slum household

vi) Distribution of Caste

As per graph, the percentage of the caste distribution is as follows: 18.8% is of S.C, 29.5% S.T, OBC 27.8%, and General 22.3% & without Caste 1.8%. There is correlation with caste & income. The entire income group has different caste people & as per work their income seems to be different. The S.T category people are morein number here because this area is connected to tribal areas like Peinth and Harsul. These people have come here in search job.

Table 4.7: percent distribution of caste in the slum household in the Panchavati division of Nashik city

Name of Slum	Monthly income In Rupees	caste					
		SC	ST	OBC	General	No caste	Total
Bharadwadi	**Up to five thousand**	0.0	0.0	37.5	5.0	5.0	47.5
	Five to ten thousand	0.0	0.0	25.0	5.0	7.5	37.5
	Above ten thousand	0.0	0.0	15.0	0.0	0.0	15.0
	Total	0.0	0.0	77.5	10.0	12.5	100
Adharshanagar	**Up to five thousand**	0.0	0.0	0.0	0.0	0.0	0.0
	Five to ten thousand	0.0	30.0	0.0	0.0	0.0	30.0
	Above ten thousand	0.0	30.0	10.0	20.0	10.0	70.0
	Total	0.0	60.0	10.0	20.0	10.0	100
Laxmannager	**Up to five thousand**	0.0	10.9	7.3	0.0	0.0	18.2
	Five to ten thousand	3.6	29.1	10.9	18.2	0.0	61.8
	Above ten thousand	0.0	7.3	9.1	3.6	0.0	20.0
	Total	3.6	47.3	27.3	21.8	0.0	100
Dattanagar	**Up to five thousand**	0.0	0.0	5.1	0.0	0.0	5.1
	Five to ten thousand	10.3	15.4	10.3	10.3	0.0	46.2
	Above ten thousand	0.0	5.1	15.4	28.2	0.0	48.7
	Total	10.3	20.5	30.8	38.5	0.0	100
Vajareshori	**Up to five thousand**	4.8	0.0	7.1	9.5	0.0	21.4
	Five to ten thousand	9.5	9.5	21.4	14.3	0.0	54.8
	Above ten thousand	0.0	0.0	4.8	19.0	0.0	23.8
	Total	14.3	9.5	33.3	42.9	0.0	100
Awdhutwadi	**Up to five thousand**	13.0	13.0	4.3	0.0	0.0	30.4
	Five to ten thousand	13.0	26.1	0.0	21.7	0.0	60.9
	Above ten thousand	0.0	4.3	4.3	0.0	0.0	8.7
	Total	26.1	43.5	8.7	21.7	0.0	100
Mahatma Phule Nagar	**Up to five thousand**	6.9	3.4	6.9	0.0	0.0	17.2
	Five to ten thousand	19.0	15.5	31.0	6.9	0.0	72.4
	Above ten thousand	0.0	0.0	6.9	3.4	0.0	10.3
	Total	25.9	19.0	44.8	10.3	0.0	100
Valmiknagar	**Up to five thousand**	9.8	0.0	4.9	4.9	0.0	19.5
	Five to ten thousand	9.8	4.9	7.3	29.3	0.0	51.2
	Above ten thousand	9.8	9.8	4.9	4.9	0.0	29.3
	Total	29.3	14.6	17.1	39.0	0.0	100
Koliwada	**Up to five thousand**	0.0	44.8	0.0	0.0	0.0	44.8
	Five to ten thousand	0.0	20.7	0.0	0.0	0.0	20.7
	Above ten thousand	6.9	27.6	0.0	0.0	0.0	34.5
	Total	6.9	93.1	0.0	0.0	0.0	100
Hirawadi	**Up to five thousand**	0.0	0.0	0.0	0.0	0.0	0.0
	Five to ten thousand	33.3	6.7	0.0	0.0	0.0	40.0
	Above ten thousand	40.0	6.7	0.0	13.3	0.0	60.0
	Total	73.3	13.3	0.0	13.3	0.0	100
Total		18.8	29.5	27.8	22.3	1.8	100.0

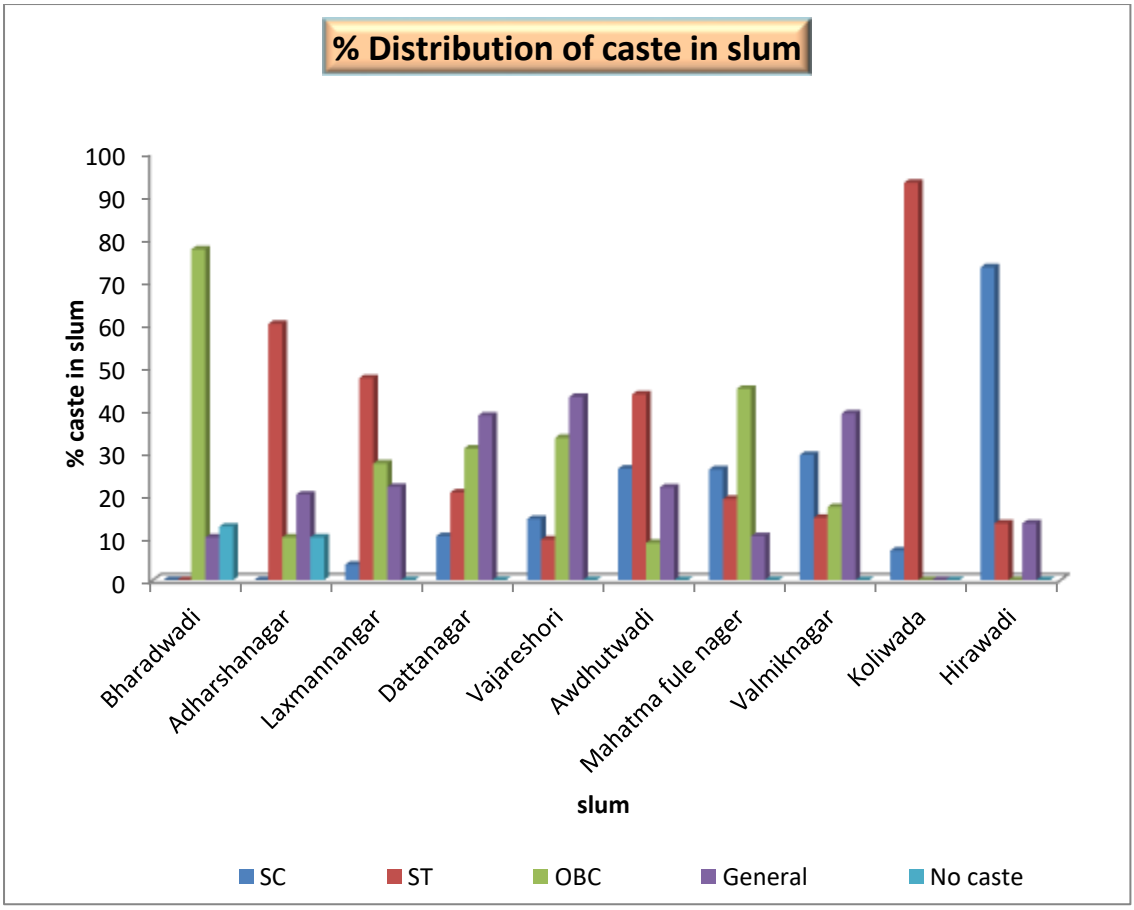


Figure No: 4.7 Percent distribution of caste in the slum household

vii) Percentage of Distribution of the Family Staying in the Slum

As per the graph 42.8% people are staying in the slums for more than thirty (30) years 21.8% people living since 20 years & 21.8% people are staying since 30 years. 13.8% people are staying since 10 years. In Bharadwadi, Valmiknagar and Vajareshorithe people are living there less than 30 years. It means Bharadwadi & Valmiknagar & Vagreshwari slums erected after 30 years.

Table 4.8: Percent distribution of family staying in the slum household in the Panchavati

Name of Slum	Monthly income In Rupees	Family stay				
		10 years	20 years	30 years	more than 30 years	Total
Bharadwadi	**Up to five thousand**	2.5	15.0	0.0	30.0	47.5
	Five to ten thousand	7.5	2.5	0.0	27.5	37.5
	Above ten thousand	2.5	7.5	0.0	5.0	15.0
	Total	12.5	25.0	0.0	62.5	100
Adhrshanagar	**Five to ten thousand**	0.0	10.0	20.0	0.0	30.0
	Above ten thousand	10.0	20.0	20.0	20.0	70.0
	Total	10.0	30.0	40.0	20.0	100
Laxmannager	**Up to five thousand**	0.0	0.0	7.3	10.9	18.2
	Five to ten thousand	10.9	7.3	10.9	32.7	61.8
	Above ten thousand	0.0	3.6	1.8	14.5	20.0
	Total	10.9	10.9	20.0	58.2	100
Dattanagar	**Up to five thousand**	0.0	5.1	0.0	0.0	5.1
	Five to ten thousand	5.1	5.1	25.6	10.3	46.2
	Above ten thousand	5.1	15.4	10.3	17.9	48.7
	Total	10.3	25.6	35.9	28.2	100
Vajareshori	**Up to five thousand**	0.0	16.7	4.8	0.0	21.4
	Five to ten thousand	4.8	45.2	4.8	0.0	54.8
	Above ten thousand	0.0	19.0	4.8	0.0	23.8
	Total	4.8	81.0	14.3	0.0	100
Awdhutwadi	**Up to five thousand**	4.3	4.3	4.3	17.4	30.4
	Five to ten thousand	8.7	0.0	17.4	34.8	60.9
	Above ten thousand	0.0	4.3	0.0	4.3	8.7
	Total	13.0	8.7	21.7	56.5	100
Mahatma Phule Nagar	**Up to five thousand**	6.9	0.0	6.9	3.4	17.2
	Five to ten thousand	10.3	20.7	37.9	3.4	72.4
	Above ten thousand	0.0	0.0	3.4	6.9	10.3
	Total	17.2	20.7	48.3	13.8	100
Valmiknagar	**Up to five thousand**	4.9	4.9	0.0	9.8	19.5
	Five to ten thousand	4.9	0.0	0.0	46.3	51.2
	Above ten thousand	4.9	0.0	0.0	24.4	29.3
	Total	14.6	4.9	0.0	80.5	100
Koliwada	**Up to five thousand**	20.7	10.3	0.0	13.8	44.8
	Five to ten thousand	13.8	0.0	0.0	6.9	20.7
	Above ten thousand	13.8	0.0	20.7	0.0	34.5
	Total	48.3	10.3	20.7	20.7	100
Hirawadi	**Five to ten thousand**	0.0	0.0	6.7	33.3	40.0
	Above ten thousand	0.0	0.0	6.7	53.3	60.0
	Total	0.0	0.0	13.3	86.7	100
	Grand Total	13.8	21.8	21.8	42.8	100

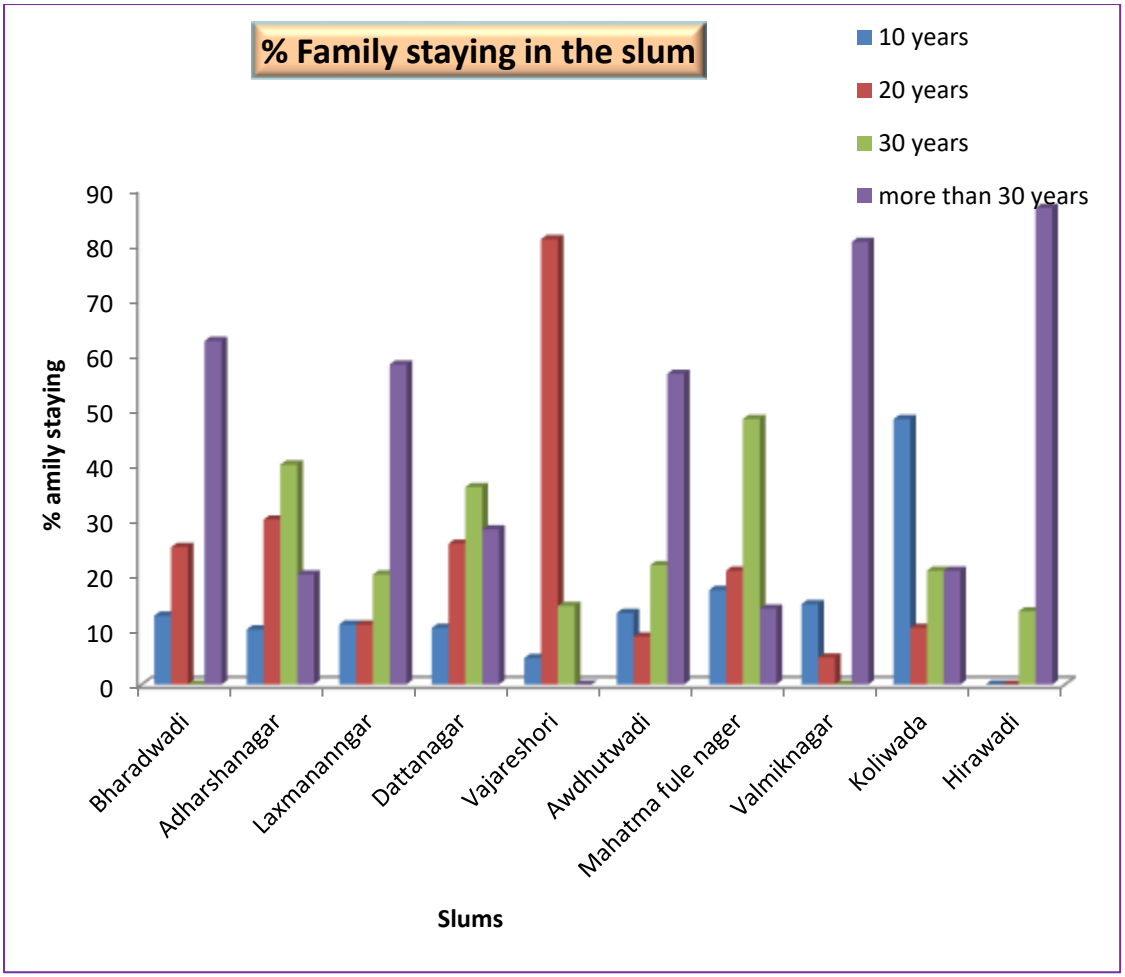


Figure No: 4.8 Percent distribution of family staying in the slum

viii) Distribution of Occupation

As per the graph the percentage of daily wages is 83.3%, self-employed and own business is 13.3% & industrial workers are 3.5% in the Panchavati division. There are no industrial workers as there is no industry in this area. Nearby these slums is a vegetable market which has got lots of daily work opportunities contributing more number of people working on daily wages & their income is also high.

Table 4.9: Percent distribution of occupation in the slum household in the Panchavati division.

Name of Slum	Monthly income Rs.	Occupation			
		own business	Industries labour	service labour	**Total**
Bharadwadi	**Up to five thousand**	0.0	0.0	47.5	47.5
	Five to ten thousand	0.0	0.0	37.5	37.5
	Above ten thousand	5.0	0.0	10.0	15.0
	Total	5.0	0.0	95.0	100
Adharshanagar	**Five to ten thousand**	10.0	0.0	20.0	30.0
	Above ten thousand	30.0	0.0	40.0	70.0
	Total	40.0	0.0	60.0	100
Laxmannager	**Up to five thousand**	0.0	0.0	18.2	18.2
	Five to ten thousand	0.0	3.6	58.2	61.8
	Above ten thousand	5.5	0.0	14.5	20.0
	Total	5.5	3.6	90.9	100
Dattanagar	**Up to five thousand**	0.0	0.0	5.1	5.1
	Five to ten thousand	0.0	0.0	46.2	46.2
	Above ten thousand	10.3	15.4	23.1	48.7
	Total	10.3	15.4	74.4	100
Vajareshori	**Up to five thousand**	4.8	0.0	16.7	21.4
	Five to ten thousand	9.5	0.0	45.2	54.8
	Above ten thousand	9.5	0.0	14.3	23.8
	Total	23.8	0.0	76.2	100
Awdhutwadi	**Up to five thousand**	0.0	4.3	26.1	30.4
	Five to ten thousand	8.7	0.0	52.2	60.9
	Above ten thousand	4.3	0.0	4.3	8.7
	Total	13.0	4.3	82.6	100
Mahatma Phule Nagar	**Up to five thousand**	0.0	0.0	17.2	17.2
	Five to ten thousand	3.4	0.0	69.0	72.4
	Above ten thousand	0.0	0.0	10.3	10.3
	Total	3.4	0.0	96.6	100
Valmiknagar	**Up to five thousand**	0.0	0.0	19.5	19.5
	Five to ten thousand	4.9	4.9	41.5	51.2
	Above ten thousand	0.0	4.9	24.4	29.3
	Total	4.9	9.8	85.4	100
Koliwada	**Up to five thousand**	0.0	0.0	44.8	44.8
	Five to ten thousand	0.0	0.0	20.7	20.7
	Above ten thousand	6.9	0.0	27.6	34.5
	Total	6.9	0.0	93.1	100
Hirawadi	**Five to ten thousand**	33.3	0.0	6.7	40.0
	Above ten thousand	13.3	0.0	46.7	60.0
	Total	46.7	0.0	53.3	100
	Total	**13.3**	**3.5**	**83.3**	**100**

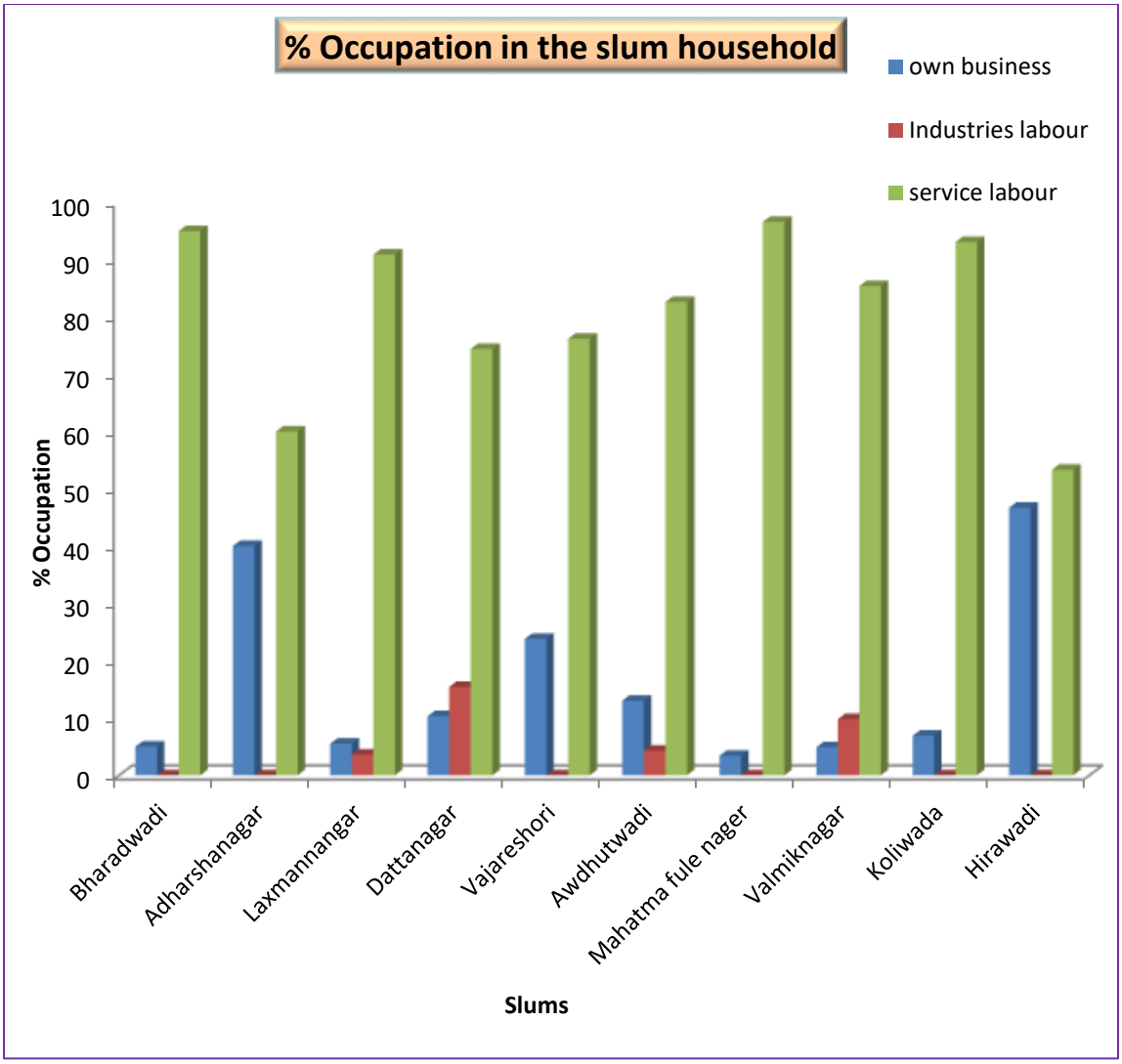


Figure No: 4.9 Percent distribution of occupation in the slum household

V) Availability of Amenities in Panchavati Slums area

i)Percentage of Source of Drinking Water

As per the graph 63% people have piped water. On the other hand, 37% people use public tap. The people who are staying in Adarshnagar, 100% people use public taps. The lowest public tap user that is 8.7% found in Avdhootwadi. The people from Hirawadi 100% people use piped water. More or less all the people use piped water.

Table 4.10: Percent distribution of source of drinking water in the slum household in the Panchavati

Name of Slum	Monthly income In Rupees	Source of drinking water		
		Piped water	Public tap	Total
Bharadwadi	**Up to five thousand**	15.0	32.5	47.5
	Five to ten thousand	30.0	7.5	37.5
	Above ten thousand	10.0	5.0	15.0
	Total	55.0	45.0	100
Adharshanagar	**Five to ten thousand**	0.0	30.0	30.0
	Above ten thousand	0.0	70.0	70.0
	Total	0.0	100	100
Laxmannager	**Up to five thousand**	7.3	10.9	18.2
	Five to ten thousand	43.6	18.2	61.8
	Above ten thousand	3.6	16.4	20.0
	Total	54.5	45.5	100
Dattanagar	**Up to five thousand**	0.0	5.1	5.1
	Five to ten thousand	5.1	41.0	46.2
	Above ten thousand	33.3	15.4	48.7
	Total	38.5	61.5	100
Vajareshori	**Up to five thousand**	9.5	11.9	21.4
	Five to ten thousand	21.4	33.3	54.8
	Above ten thousand	19.0	4.8	23.8
	Total	50.0	50.0	100
Awdhutwadi	**Up to five thousand**	30.4	0.0	30.4
	Five to ten thousand	52.2	8.7	60.9
	Above ten thousand	8.7	0.0	8.7
	Total	91.3	8.7	100
Mahatma Phule Nagar	**Up to five thousand**	3.4	13.8	17.2
	Five to ten thousand	50.0	22.4	72.4
	Above ten thousand	10.3	0.0	10.3
	Total	63.8	36.2	100
Valmiknagar	**Up to five thousand**	14.6	4.9	19.5
	Five to ten thousand	46.3	4.9	51.2
	Above ten thousand	29.3	0.0	29.3
	Total	90.2	9.8	100
Koliwada	**Up to five thousand**	27.6	17.2	44.8
	Five to ten thousand	6.9	13.8	20.7
	Above ten thousand	27.6	6.9	34.5
	Total	62.1	37.9	100
Hirawadi	**Five to ten thousand**	40.0	0.0	40.0
	Above ten thousand	60.0	0.0	60.0
	Total	100	0.0	100
		63.0	37.0	**100**

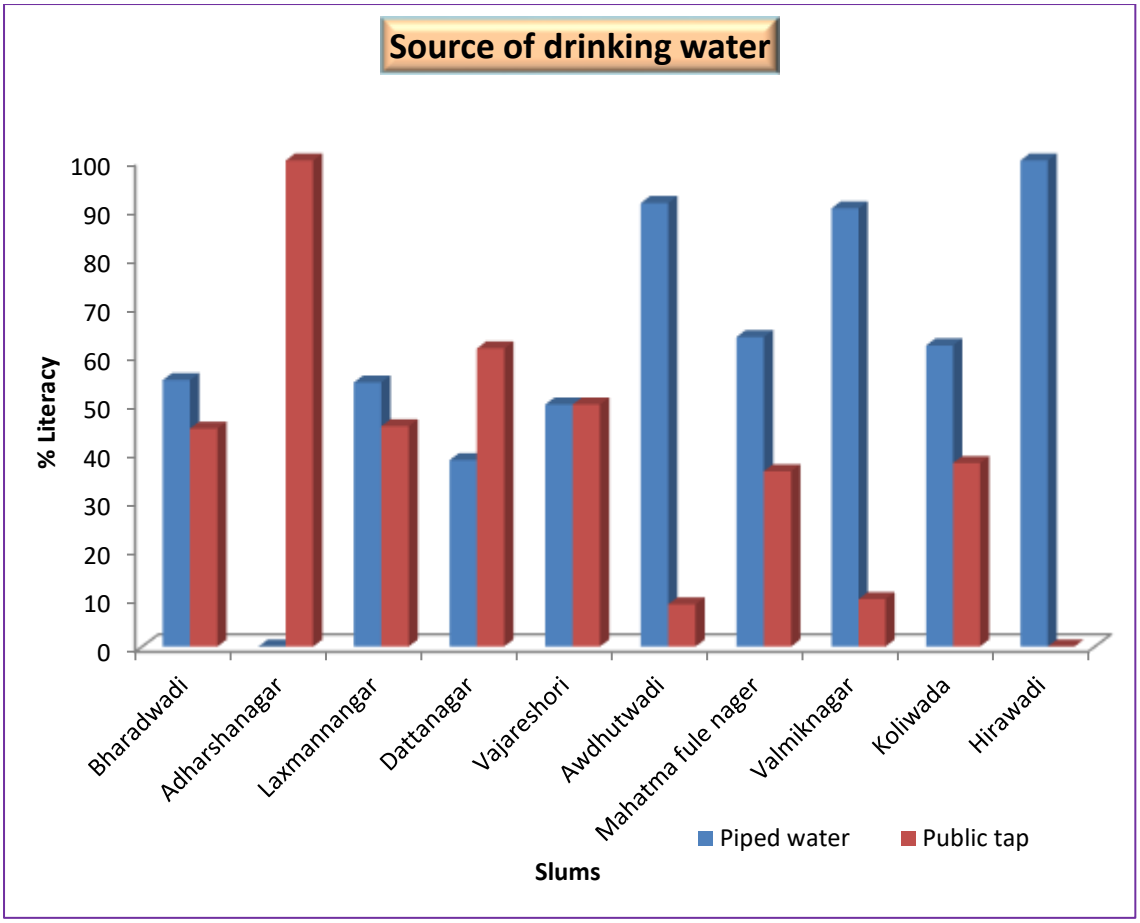


Figure No: 4.10 Percent distribution of source of drinking water

i) Percentage of Availability of Water

The above graph shows the timings of availability of water in selected slums. The people who are staying in slums, 51.3% people get water for an hour, 48.8% people get water for two hours. They get water for 2 hours. It is percentage is 96.7%. The people from Bharadwadi, they get water for minimum two hours its percentage is 5% the people from Bharadwadi 9.5% people get water for an hour. As per availability of water, all the people who are staying in this, they get water every hour.

Table 4.11:Percent distribution of availability of water in the slum household in the Panchavati division

Name of Slum	Monthly income In Rupees	Available water		
		One Hour	Two Hours	Total
Bharadwadi	**Up to five thousand**	47.5	0.0	47.5
	Five to ten thousand	32.5	5.0	37.5
	Above ten thousand	15.0	0.0	15.0
	Total	95.0	5.0	100
Adharshanagar	**Five to ten thousand**	20.0	10.0	30.0
	Above ten thousand	50.0	20.0	70.0
	Total	70.0	30.0	100
Laxmannager	**Up to five thousand**	18.2	0.0	18.2
	Five to ten thousand	32.7	29.1	61.8
	Above ten thousand	16.4	3.6	20.0
	Total	67.3	32.7	100
Dattanagar	**Up to five thousand**	5.1	0.0	5.1
	Five to ten thousand	41.0	5.1	46.2
	Above ten thousand	25.6	23.1	48.7
	Total	71.8	28.2	100
Vajareshori	**Up to five thousand**	19.0	2.4	21.4
	Five to ten thousand	50.0	4.8	54.8
	Above ten thousand	23.8	0.0	23.8
	Total	92.9	7.1	100
Awdhutwadi	**Up to five thousand**	13.0	17.4	30.4
	Five to ten thousand	21.7	39.1	60.9
	Above ten thousand	4.3	4.3	8.7
	Total	39.1	60.9	100
Mahatma Phule Nagar	**Up to five thousand**	3.4	13.8	17.2
	Five to ten thousand	17.2	55.2	72.4
	Above ten thousand	0.0	10.3	10.3
	Total	20.7	79.3	100
Valmiknagar	**Up to five thousand**	9.8	9.8	19.5
	Five to ten thousand	14.6	36.6	51.2
	Above ten thousand	9.8	19.5	29.3
	Total	34.1	65.9	100
Koliwada	**Up to five thousand**	6.9	37.9	44.8
	Five to ten thousand	0.0	20.7	20.7
	Above ten thousand	6.9	27.6	34.5
	Total	13.8	86.2	100
Hirawadi	**Five to ten thousand**	0.0	40.0	40.0
	Above ten thousand	3.3	56.7	60.0
	Total	3.3	96.7	100
	Total	**51.3**	**48.8**	**100**

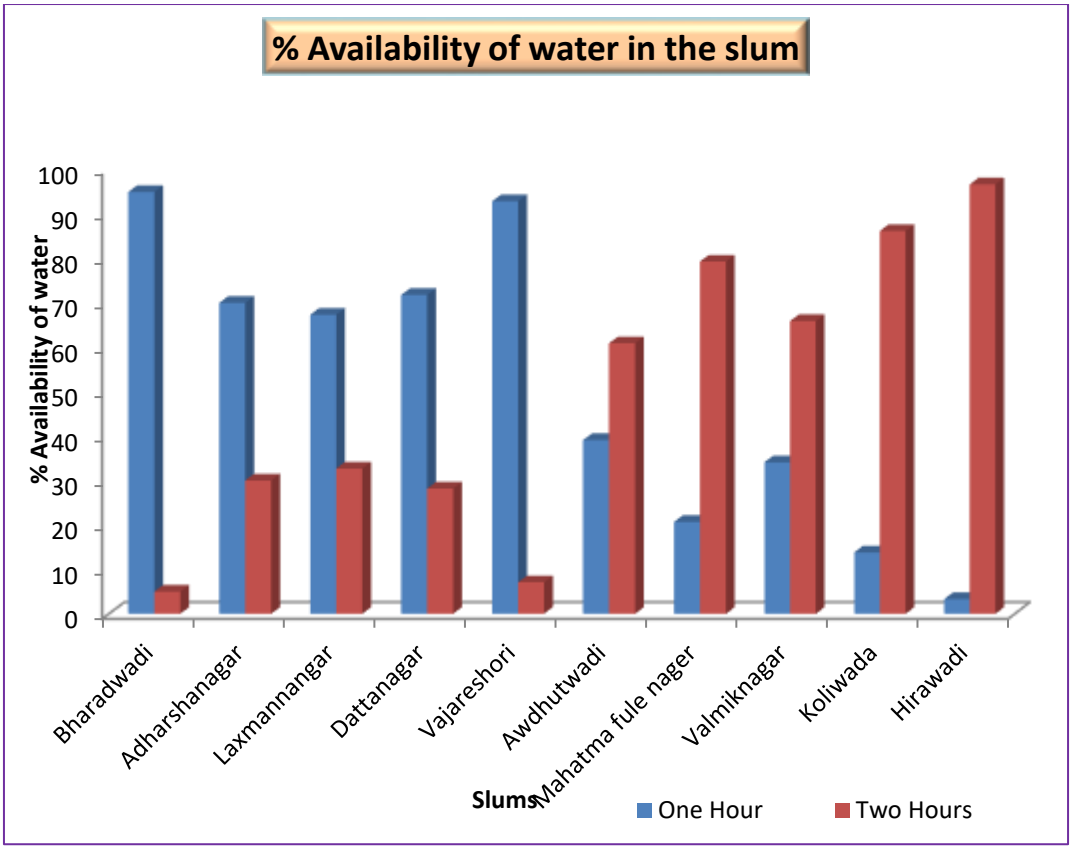


Figure No: 4.11 Percent distribution of availability of water in the slum

iii) Distance of Water Available

The graph shows that 78.3% slum dwellers get water in their houses. There are 9.5% people who have to fetch water from 100 meters, 8.8% people have to fetch water from 200 meters, 3.5% people have to fetch water from long distance. All Hirawadi dwellers have pipeline (drinking) connection. For the people from Vajreshori; Its percentage is 23.8% they have to fetch water from long distance. Fetching water from huge distance, its percentage is very low in the rut of the slum.

Table 4.12: Percent distribution of distance water available in the slum household in the Panchavati

Name of Slum	Monthly income Rs.	Distance water available				
		At home	100 Meter	200 Meter	Away from house	Total
Bharadwadi	**Up to five thousand**	25.0	0.0	22.5	0.0	47.5
	Five to ten thousand	22.5	10.0	5.0	0.0	37.5
	Above ten thousand	10.0	5.0	0.0	0.0	15.0
	Total	57.5	15.0	27.5	0.0	100
Adharshanagar	**Five to ten thousand**	20.0	10.0	0.0	0.0	30.0
	Above ten thousand	70.0	0.0	0.0	0.0	70.0
	Total	90.0	10.0	0.0	0.0	100
Laxmannager	**Up to five thousand**	10.9	7.3	0.0	0.0	18.2
	Five to ten thousand	43.6	7.3	7.3	3.6	61.8
	Above ten thousand	20.0	0.0	0.0	0.0	20.0
	Total	74.5	14.5	7.3	3.6	100
Dattanagar	**Up to five thousand**	5.1	0.0	0.0	0.0	5.1
	Five to ten thousand	41.0	5.1	0.0	0.0	46.2
	Above ten thousand	43.6	5.1	0.0	0.0	48.7
	Total	89.7	10.3	0.0	0.0	100
Vajareshori	**Up to five thousand**	14.3	0.0	0.0	7.1	21.4
	Five to ten thousand	33.3	0.0	14.3	7.1	54.8
	Above ten thousand	14.3	0.0	0.0	9.5	23.8
	Total	61.9	0.0	14.3	23.8	100
Awdhutwadi	**Up to five thousand**	30.4	0.0	0.0	0.0	30.4
	Five to ten thousand	52.2	8.7	0.0	0.0	60.9
	Above ten thousand	8.7	0.0	0.0	0.0	8.7
	Total	91.3	8.7	0.0	0.0	100
Mahatma Phule Nagar	**Up to five thousand**	6.9	10.3	0.0	0.0	17.2
	Five to ten thousand	53.4	13.8	5.2	0.0	72.4
	Above ten thousand	10.3	0.0	0.0	0.0	10.3
	Total	70.7	24.1	5.2	0.0	100
Valmiknagar	**Up to five thousand**	14.6	0.0	4.9	0.0	19.5
	Five to ten thousand	51.2	0.0	0.0	0.0	51.2
	Above ten thousand	29.3	0.0	0.0	0.0	29.3
	Total	95.1	0.0	4.9	0.0	100
Koliwada	**Up to five thousand**	27.6	0.0	17.2	0.0	44.8
	Five to ten thousand	6.9	0.0	13.8	0.0	20.7
	Above ten thousand	27.6	0.0	0.0	6.9	34.5
	Total	62.1	0.0	31.0	6.0	100
Hirawadi	**Five to ten thousand**	40.0	0.0	0.0	0.0	40.0
	Above ten thousand	60.0	0.0	0.0	0.0	60.0
	Total	100	0.0	0.0	0.0	100
		78.3	9.5	8.8	3.5%	**100**

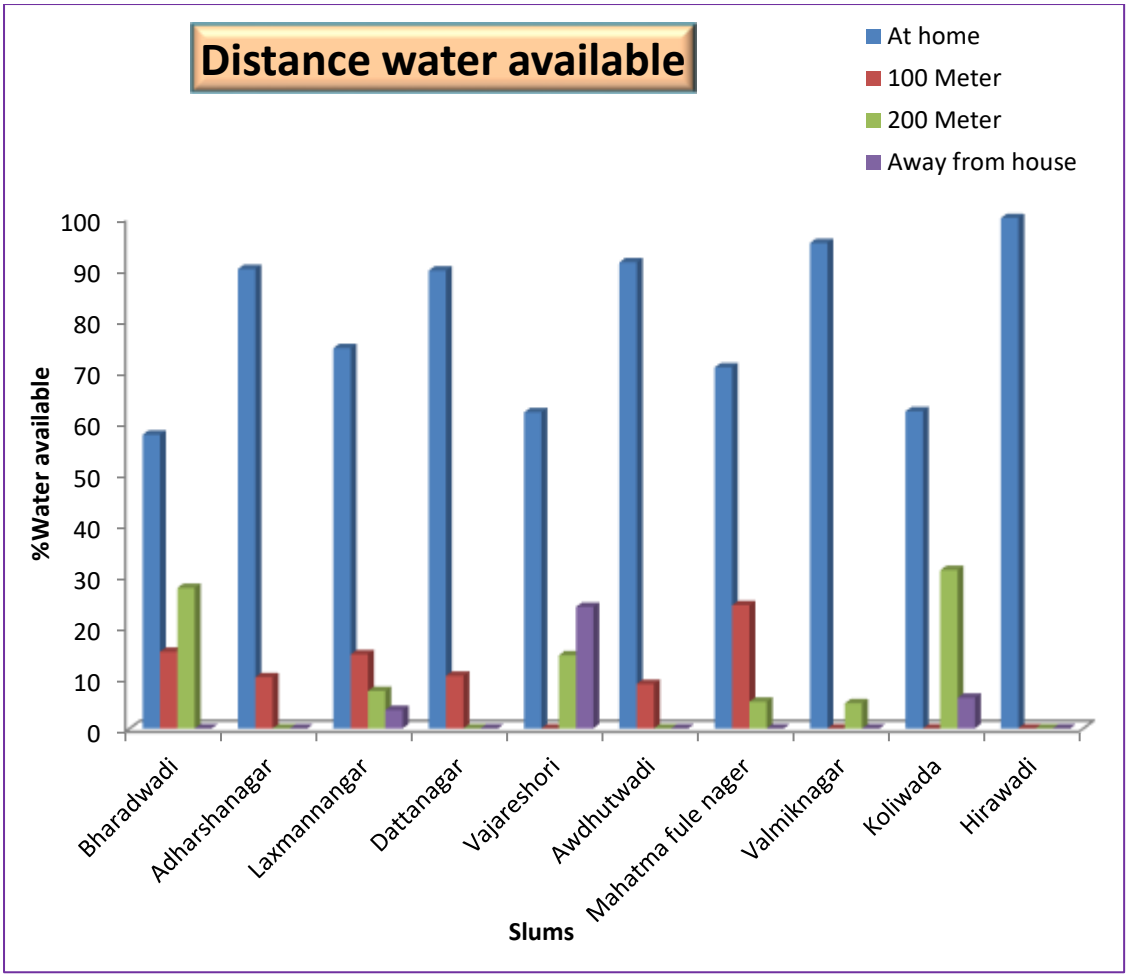


Figure No: 4.12 Percent distribution of distance water available in the slum

iv) Time for Water Collection

The people of Vagreshwari, Laxmannager & koliwada have to fetch water from longer distance. For this, 4% people take 10 minutes to fetch water, 10% people have to spend 20 minutes to fetch water and 14% people have to fetch water from longer distance. The people of laxmannager & koliwada slums have to spend 10 minutes, its percentage is 2% each. The people from Vagreshwari; 10% people have to spend 20 minutes to fetch water. If though by all slums Vagreshwari dwell have to spend more time i.e. 20 minute to fetch water.

Table 4.13: Number of household taking time for water collection in the slum household.

Name of Slum	Monthly income Rs.	Water collection time		Total
		10 Min.	20 Min.	
Laxmannager	**Up to five thousand**	0	0	
	Five to ten thousand	2	0	2
	Above ten thousand	0	0	0
	Total	2	0	2
Vajareshori	**Up to five thousand**	0	3	3
	Five to ten thousand	0	3	3
	Above ten thousand	0	4	4
	Total	0	10	10
Koliwada	**Up to five thousand**	0	0	0
	Five to ten thousand	0	0	0
	Above ten thousand	2	0	2
	Total	2	0	2
	Total	4	10	**14**

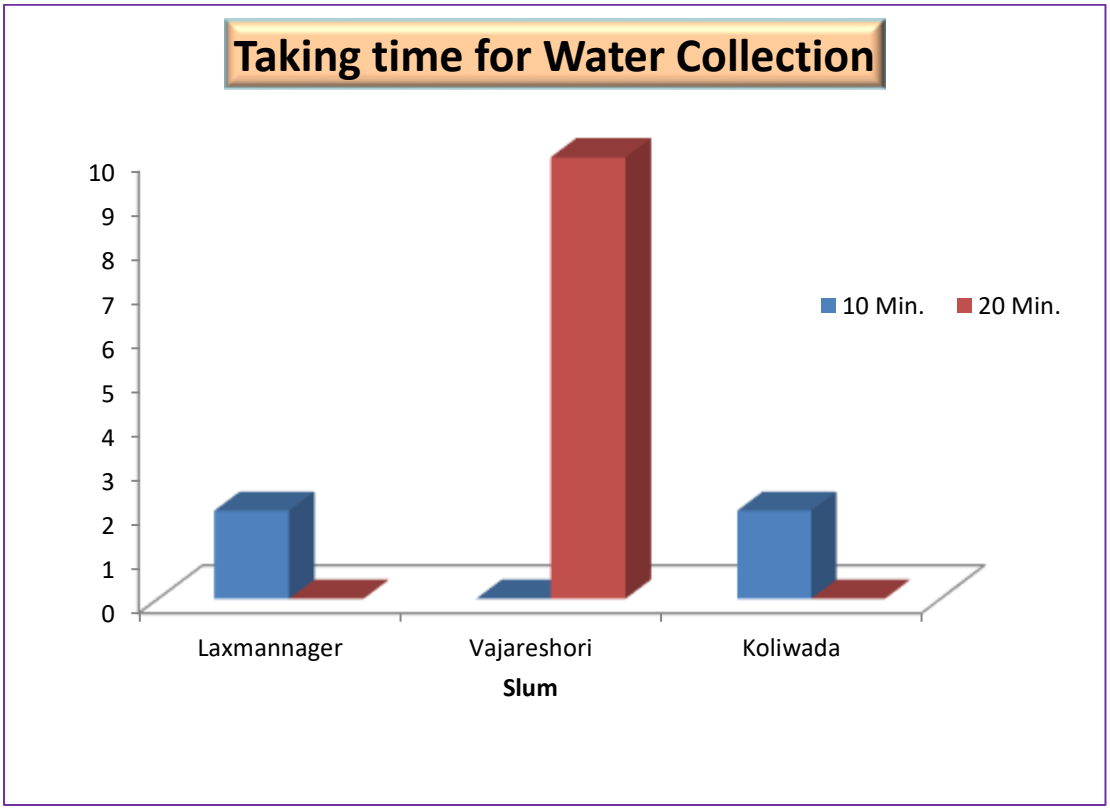


Figure No: 4.13 Number of household taking time for water collection

v) Trips for Water Collection

As per the graph 14.1% people of Laxmannager, Vajreshwari and Koliwada have to do trips to fetch drinking water. The highest 10% people of vajreshwari have to do trips to fetch water. 2% people of Laxmannager & Koliwada have to do trips to fetch drinking water. More or less all the people have to do trips to fetch drinking water.

TABLE 4.14: Number Of Household Taking Trips For Water Collection In The Slum Household

Name of Slum	**Monthly income Rs.**	Number of trips for water collection			
		Two	Three	Four	Total
Laxmannager	**Up to five thousand**	0	0	0	0
	Five to ten thousand	0	**1**	**1**	**2**
	Above ten thousand	0	0	0	0
	Total	0	**1**	**1**	**2**
Vajareshori	**Up to five thousand**	1	1	1	3
	Five to ten thousand	1	2	0	3
	Above ten thousand	1	2	1	4
	Total	3	5	2	10
Koliwada	**Up to five thousand**	0	0	0	0
	Five to ten thousand	0	0	0	0
	Above ten thousand	2	0	0	2
	Total	2	0	0	2
	Total	4	0	10	**14**

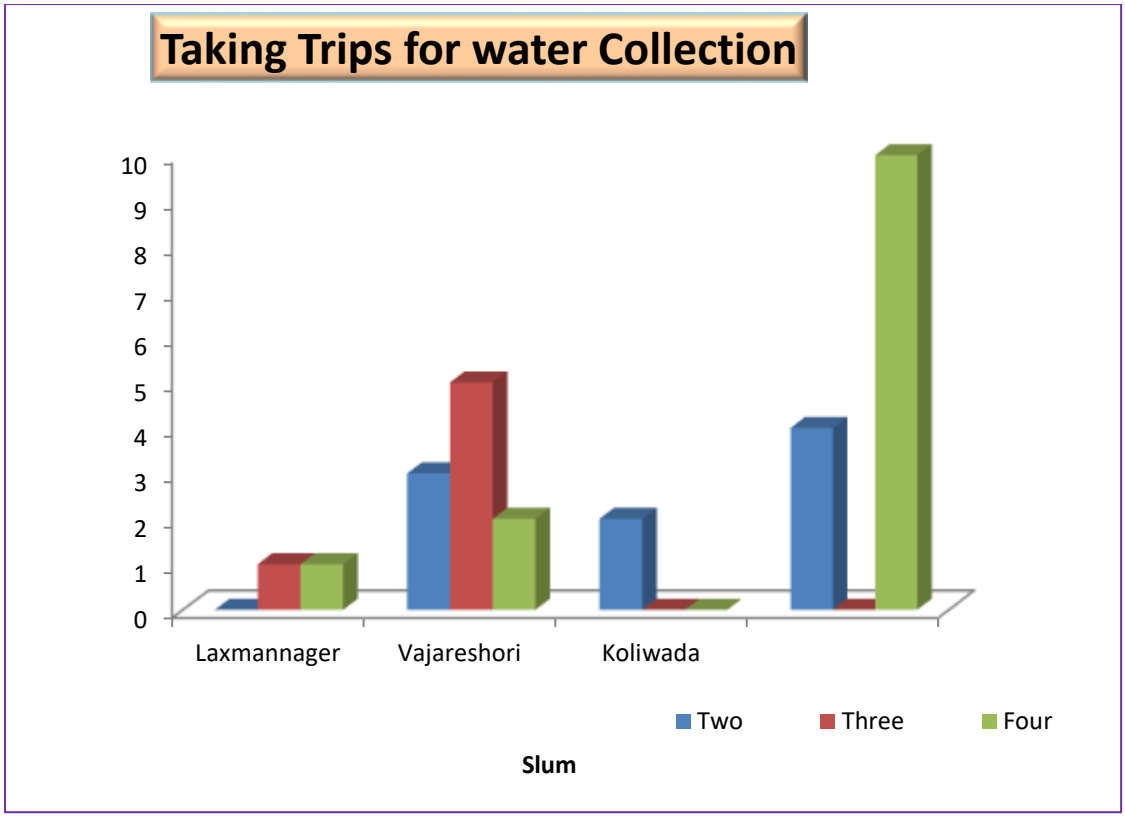


Figure No: 4.14 Number of Household Taking Trips for Water Collection

vi) Percentage of Safe Water

As per the graph 93.8% people in slums do not get pure drinking water. 4.3% people get pure drinking water 17.5% people of Bharadwadi, 10.2% of Dattanagar get pure drinking water. Rests of the slum dwellers do not get pure drinking water. The people of Vajreshwari, Koliwada, Phulenagar, Avdhootwadi, & Adarshnagar slums get pure water for drinking.

Table4.15: Percent distribution of water safer in the slum household in the Panchavati division.

Name of Slum	Monthly income Rs.	Water safer for drinking		
		Yes	No	Total
Bharadwadi	**Up to five thousand**	5.0	42.5	47.5
	Five to ten thousand	12.5	25.0	37.5
	Above ten thousand	0.0	15.0	15.0
	Total	17.5	82.5	100
Adharshanagar	**Five to ten thousand**	0.0	30.0	30.0
	Above ten thousand	0.0	70.0	70.0
	Total	0.0	100	100
Laxmannager	**Up to five thousand**	3.6	14.5	18.2
	Five to ten thousand	0.0	61.8	61.8
	Above ten thousand	3.6	16.4	20.0
	Total	7.3	92.7	100
Dattanagar	**Up to five thousand**	0.0	5.1	5.1
	Five to ten thousand	0.0	46.2	46.2
	Above ten thousand	10.3	38.5	48.7
	Total	10.3	89.7	100
Vajareshori	**Up to five thousand**	0.0	21.4	21.4
	Five to ten thousand	0.0	54.8	54.8
	Above ten thousand	0.0	23.8	23.8
	Total	0.0	100	100
Awdhutwadi	**Up to five thousand**	0.0	30.4	30.4
	Five to ten thousand	0.0	60.9	60.9
	Above ten thousand	0.0	8.7	8.7
	Total	0.0	100	100
Mahatma Phule Nagar	**Up to five thousand**	0.0	17.2	17.2
	Five to ten thousand	0.0	72.4	72.4
	Above ten thousand	0.0	10.3	10.3
	Total	0.0	100	100
Valmiknagar	**Up to five thousand**	0.0	19.5	19.5
	Five to ten thousand	4.9	46.3	51.2
	Above ten thousand	0.0	29.3	29.3
	Total	4.9	95.1	100
Koliwada	**Up to five thousand**	0.0	44.8	44.8
	Five to ten thousand	0.0	20.7	20.7
	Above ten thousand	0.0	34.5	34.5
	Total	0.0	100	100
Hirawadi	**Five to ten thousand**	0.0	40.0	40.0
	Above ten thousand	0.0	60.0	60.0
	Total	0.0	100	100
	Total	4.3	95.8	100

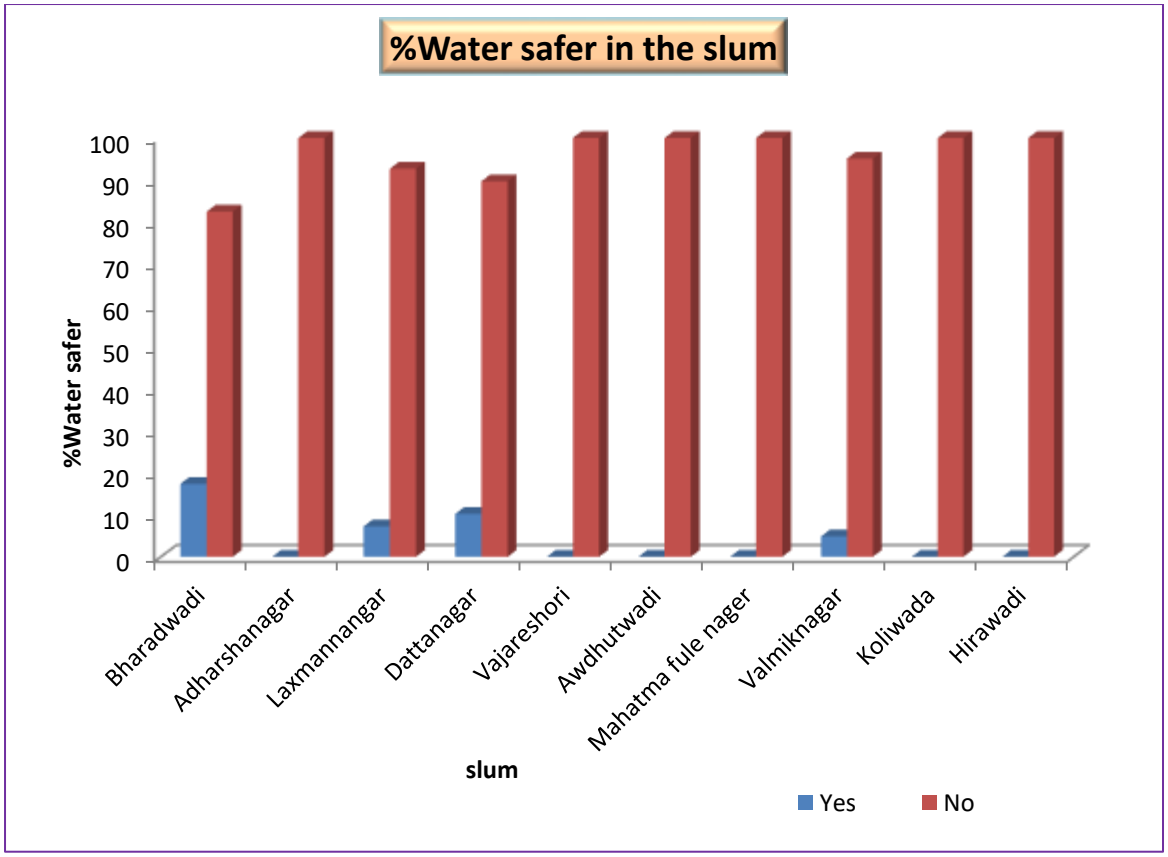


Figure No: 4.15 Percent distribution of water safer in the slum household

vii) Process of Water Safe

The above graph shows that there are four slums that use various means to purify water. Seventeen houses use different water purifiers to make the water drinkable. Total four houses boil water to purify it. Eight houses use alum to make water pure. There are five houses having water purifiers (filters) the highest alum uses are 8 hours.

Table 4.16: Number of household processing water safe in the slum household in the Panchavati.

Name of Slum	**Monthly income Rs.**	Process of water safe			
		Boiling	Using alum	Using water filter	Total
Bharadwadi	Up to five thousand	0	2	0	2
	Five to ten thousand	2	2	1	5
	Total	2	4	1	7
Laxmannager	Up to five thousand	0	2	0	2
	Above ten thousand	1	1	0	2
	Total	1	3	0	4
Dattanagar	Above ten thousand	1	1	2	4
	Total	1	1	2	4
Valmiknagar	Five to ten thousand	0	0	2	2
	Total	0	0	2	2
Total Household Number		**4**	**8**	**5**	**17**

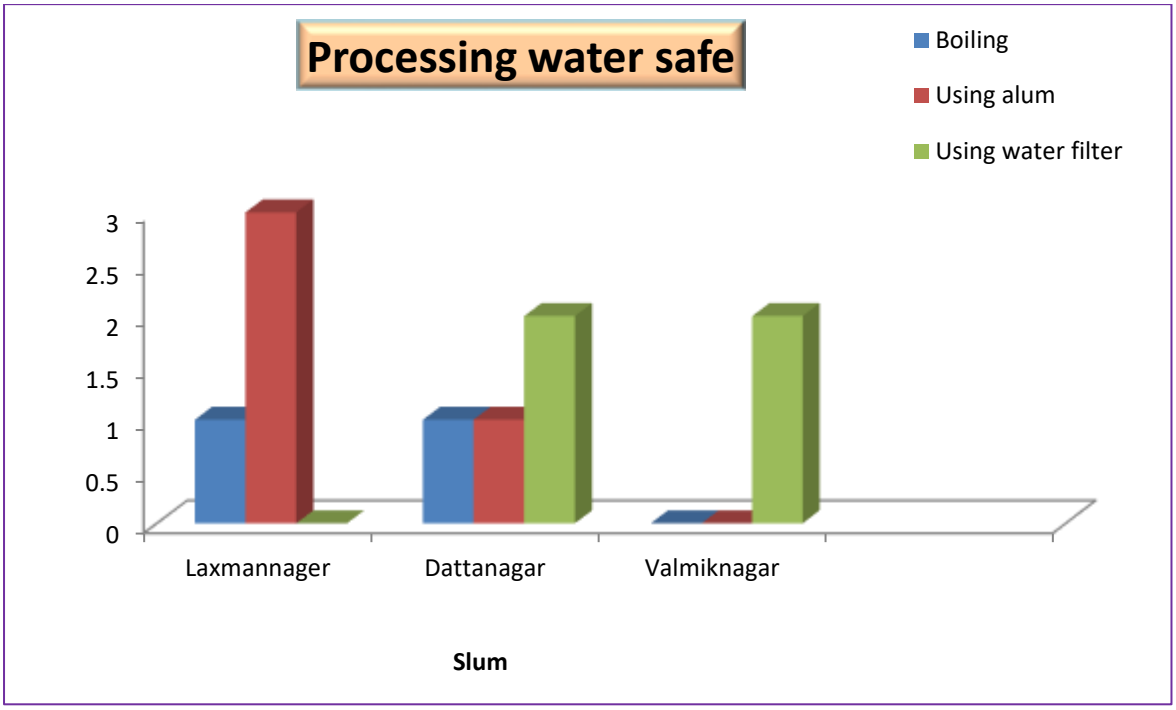


Figure No: 4.16 Number of household processing water safe in the slum

viii) Paying for Drinking Water:

As per above Figures people spend 40 to 50 rupees per month for drinking water. Seventeen persons pay for the drinking water in which 8 people pay 40 & 9 people pay 50 rupees. In Bharadwadi 6 people Spend 50 rupees per month and in Laxmannager 4 people spend 40 rupees per month.

Table 4.17: Number of household of paying for drinking water per month in the slum household.

Name of Slum	**Monthly income Rs.**	Pay for drinking water per Month		Total
		40 Rs.	50 Rs.	
Bharadwadi	up to five thousand	0	2	2
	five to ten thousand	1	4	5
	Total	1	6	7
Laxmannager	up to five thousand	2	0	2
	Above ten thousand	2	0	2
	Total	4	0	4
Dattanagar	Above ten thousand	1	3	4
	Total	1	3	4
Valmiknagar	five to ten thousand	2	0	2
	Total	2	0	2
Total Household Number		**8**	**9**	**17**

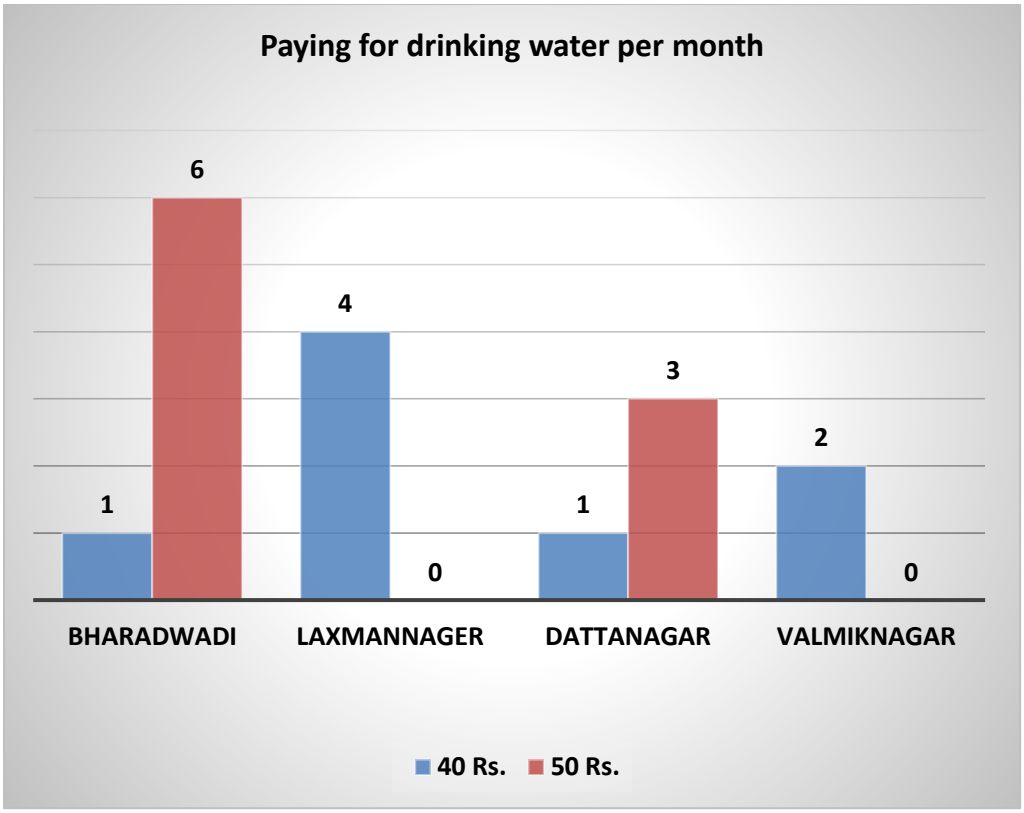


Figure No: 4.17 Number of household of paying for drinking water

ix) Percentage of Toilet / Latrine Facility

As per the graph 49% people have toilet/latrine facility & 51% people do not have toilet facility. The people of Hirawadi, Valmiknagar & Koliwada 100% people have toilet facility. In Vajreshwari, 100% people do not have toilet facility. Those people who have more than Rs 5000 income they have toilet facility.

Table4.18: Percent distribution of toilet latrine facility in the slum household in the Panchavati

Name of Slum	Monthly income Rs.	Toilet Latrine facility		Total
		Yes	No	
Bharadwadi	**Up to five thousand**	5.0	42.5	47.5
	Five to ten thousand	2.5	35.0	37.5
	Above ten thousand	5.0	10.0	15
	Total	12.5	87.5	100
Adharshanagar	**Five to ten thousand**	0.0	30.0	30
	Above ten thousand	40.0	30.0	70
	Total	40.0	60.0	100
Laxmannager	**Up to five thousand**	0.0	18.2	18.2
	Five to ten thousand	3.6	58.2	61.8
	Above ten thousand	3.6	16.4	20
	Total	7.3	92.7	100
Dattanagar	**Up to five thousand**	5.1	0.0	5.1
	Five to ten thousand	0.0	46.2	46.2
	Above ten thousand	28.2	20.5	48.7
	Total	33.3	66.7	100
Vajareshori	**Up to five thousand**	0.0	21.4	21.4
	Five to ten thousand	0.0	54.8	54.8
	Above ten thousand	0.0	23.8	23.8
	Total	0.0	100	100
Awdhutwadi	**Up to five thousand**	13.0	17.4	30.4
	Five to ten thousand	21.7	39.1	60.9
	Above ten thousand	0.0	8.7	8.7
	Total	34.8	65.2	100
Mahatma Phule Nagar	**Up to five thousand**	17.2	0.0	17.2
	Five to ten thousand	62.1	10.3	72.4
	Above ten thousand	6.9	3.4	10.3
	Total	86.2	13.8	100
Valmiknagar	**Up to five thousand**	19.5	0.0	19.5
	Five to ten thousand	51.2	0.0	51.2
	Above ten thousand	29.3	0.0	29.3
	Total	100	0.0	100
Koliwada	**Up to five thousand**	44.8	0.0	44.8
	Five to ten thousand	20.7	0.0	20.7
	Above ten thousand	34.5	0.0	34.5
	Total	100	0.0	100
Hirawadi	**Five to ten thousand**	40.0	0.0	40
	Above ten thousand	60.0	0.0	60
	Total	100	0.0	100
	Total	**49.0**	**51.0**	**100**

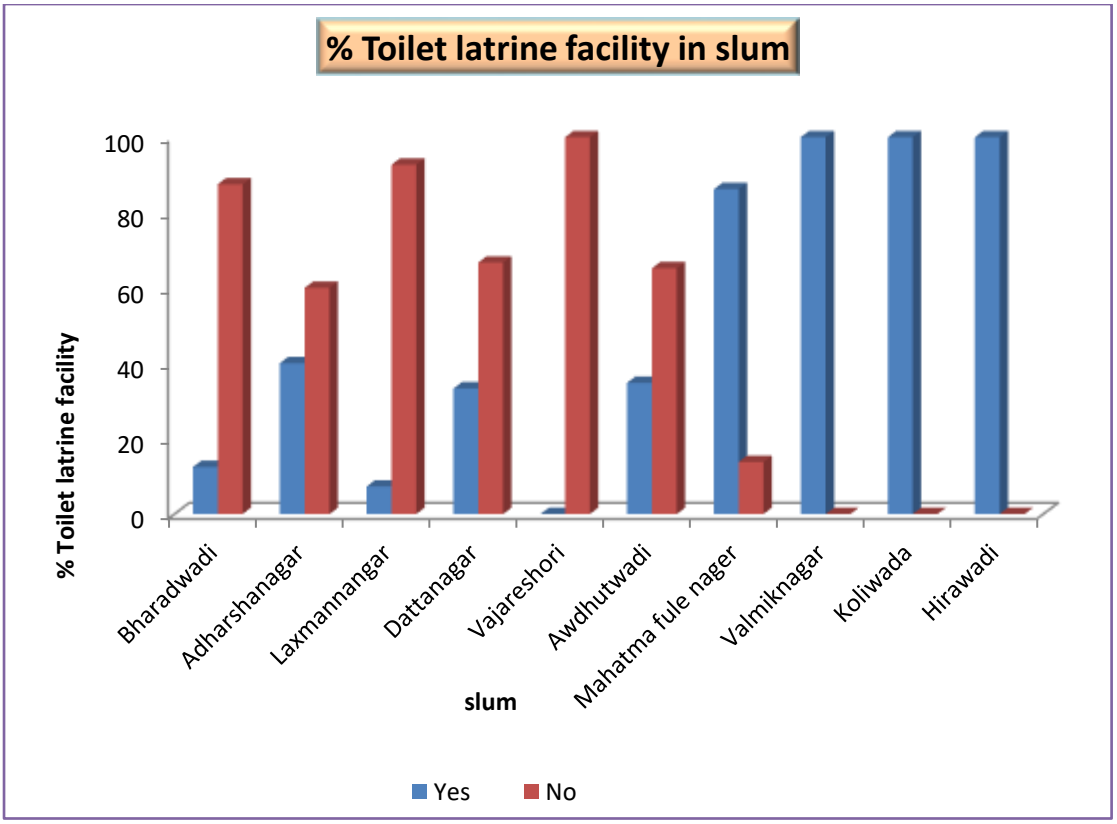


Figure No: 4.18 Percent distribution of toilet latrine facility in the slum

x) Toilet Users

As per graph 71.4% people are using public toilets on the other hand 20.04% people have their own toilet and 8.2% people are using others toilet. In Laxmannager those people who have more than five thousand rupees as income they have their own toilet. In Dattanagar 69.02% people have their own toilets. The 40% people of Bharadwadi, Koliwada & Hirawadi are using others toilet. The people of koliwada 93.01% use public toilet and in Phulenagar 96% people use public toilet.

Table 4.19: Percent distribution of using toilet in the slum household in the Panchavati division

Name of Slum	Monthly income Rs.	Using toilet facility			
		Always use own toilet	use others toilet	use community toilet	Total
Bharadwadi	**Up to five thousand**	0.0	40.0	0.0	40.0
	Five to ten thousand	0.0	0.0	20.0	20.0
	Above ten thousand	40.0	0.0	0.0	40.0
	Total	40.0	40.0	20.0	100
Adharshanagar	**Five to ten thousand**	0.0	0.0	0.0	0.0
	Above ten thousand	50.0	0.0	50.0	100
	Total	50.0	0.0	50.0	100
Laxmannager	**Up to five thousand**	0.0	0.0	0.0	0.0
	Five to ten thousand	25.0	0.0	25.0	50.0
	Above ten thousand	50.0	0.0	0.0	50.0
	Total	75.0	0.0	25.0	100
Dattanagar	**Up to five thousand**	0.0	0.0	15.4	15.4
	Five to ten thousand	0.0	0.0	0.0	0.0
	Above ten thousand	69.2	15.4	0.0	84.6
	Total	69.2	15.4	15.4	100
Vajareshori	**Up to five thousand**	0.0	0.0	0.0	0.0
	Five to ten thousand	0.0	0.0	0.0	0.0
	Above ten thousand	0.0	0.0	0.0	0.0
	Total	0.0	0.0	0.0	0.0
Awdhutwadi	**Up to five thousand**	0.0	0.0	37.5	37.5
	Five to ten thousand	0.0	0.0	62.5	62.5
	Above ten thousand	0.0	0.0	0.0	0.0
	Total	0.0	0.0	100	100
Mahatma Phule Nagar	**Up to five thousand**	0.0	0.0	20.0	20.0
	Five to ten thousand	0.0	0.0	72.0	72.2
	Above ten thousand	4.0	0.0	4.0	8.0
	Total	4.0	0.0	96.0	100
Valmiknagar	**Up to five thousand**	0.0	0.0	19.5	19.5
	Five to ten thousand	0.0	0.0	51.2	51.2
	Above ten thousand	0.0	0.0	29.3	29.3
	Total	0.0	0.0	100	100
Koliwada	**Up to five thousand**	0.0	0.0	44.8	44.8
	Five to ten thousand	0.0	0.0	20.7	20.7
	Above ten thousand	6.9	0.0	27.6	34.5
	Total	6.9	0.0	93.1	100
Hirawadi	**Five to ten thousand**	26.7	13.3	0.0	40.0
	Above ten thousand	33.3	26.7	0.0	60.0
	Total	60.0	40.0	0.0	100
	Total	**20.4**	**8.2**	**71.4**	**100**

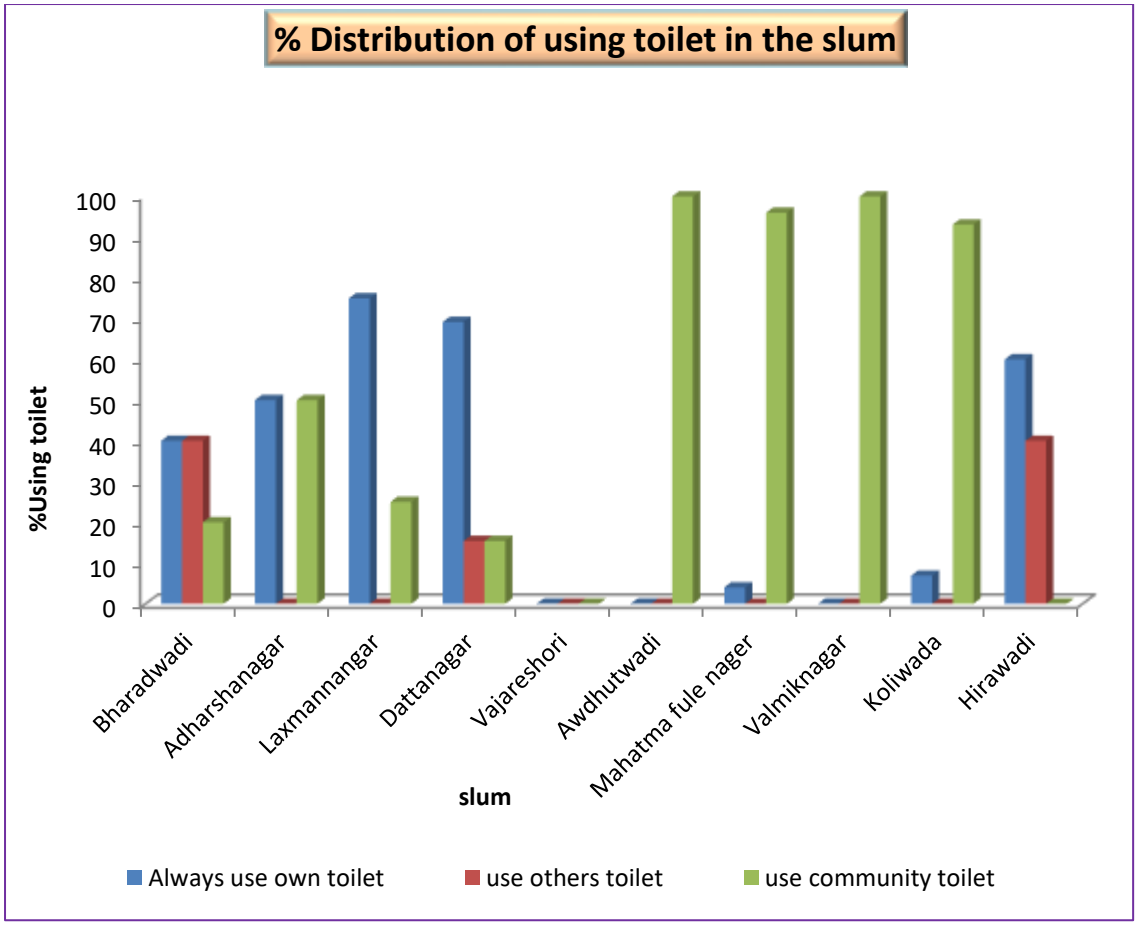


Figure No: 4.19 Percent distribution of using toilet in the slum

xi) Different Types of Toilet Users

As per the graph the slum dwellers are using different types of toilet. Sixty five % houses use toilet in which 38% houses use flush & 27% houses use pit latrine. The highest flush users are found in Dattanagar. If compared Adarshnagar & Phulenagar have four flush uses each. In Koliwada there is very less flush users. The high pit latrine users are in Hirawadi i.e. 24 & in Avdhootwadi there are two

Table4.20: Number of household using type of toilet in the slum household in the Panchavati division

Name of Slum	**Monthly income Rs.**	Type of toilet		
		Flush	Pit latrine	Total
Bharadwadi	Up to five thousand	2	0	2
	Five to ten thousand	0	1	1
	Total	2	1	3
Adharshanagar	Above ten thousand	4	0	4
	Total	4	0	4
Laxmannager	Above ten thousand	2	0	2
	Total	2	0	2
Dattanagar	Above ten thousand	11	0	11
	Total	11	0	11
Awdhutwadi	Up to five thousand	4	0	4
	Five to ten thousand	6	2	8
	Total	10	2	12
MPnagar	Five to ten thousand	2	0	2
	Above ten thousand	2	0	2
	Total	4	0	4
Koliwada	Up to five thousand	1	0	1
	Above ten thousand	2	0	2
	Total	3	0	3
Hirawadi	Five to ten thousand	0	12	12
	Above ten thousand	2	12	14
	Total	2	24	26
Total		38	27	65

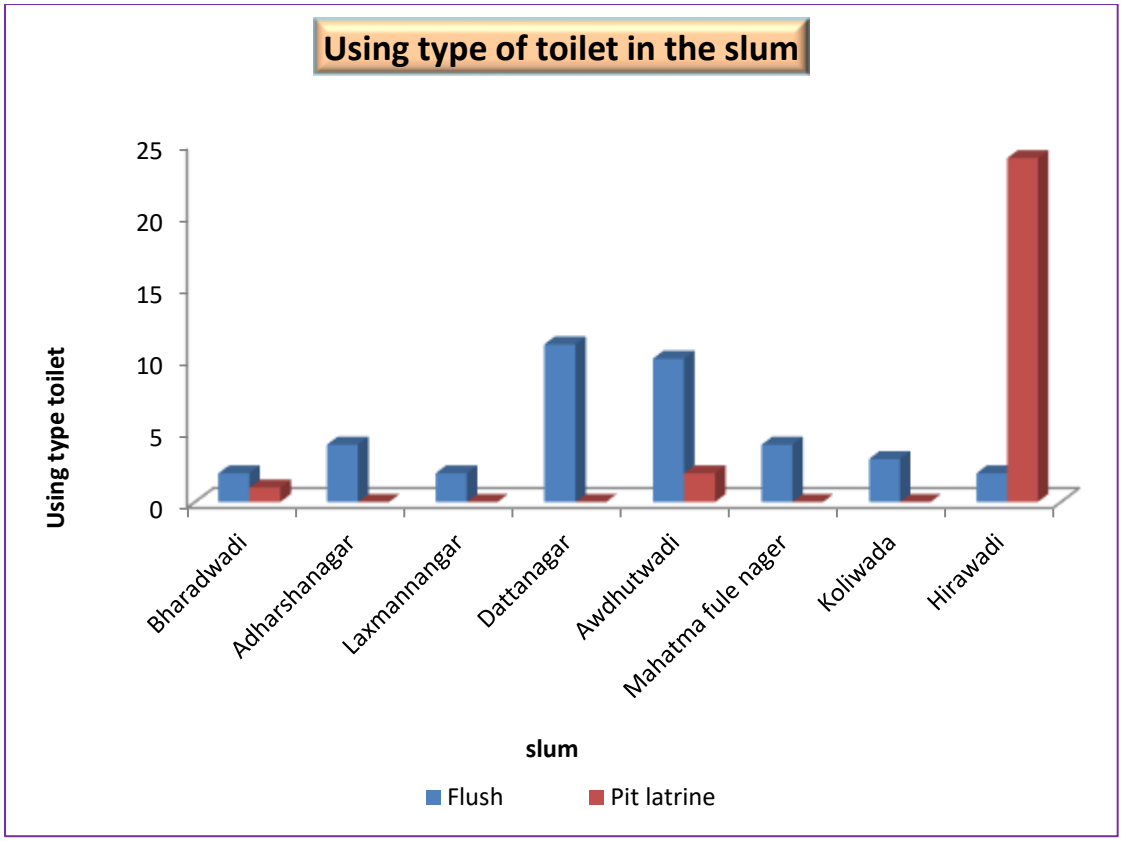


Figure No: 4.20 Number of household using type of toilet in the slum

xii) User of Toilet Sewer System

As Per the graph 38 houses use toilet sewer system in which 20 hours use flush to septic tank and 8 hours holds flushed to piped sewer system 7 hours hold flushed to pit later in & 3 households flushed to somewhere else. In Dattanagar 8 houses, Phulenagar4, Adarshnagar 4, houses flush to septic tank. In Avdhootwadi 8 houses are flushed to piped sewer system &Hirawadi 2 Houses hold flushed to somewhere else.

Table 4.21: Number of household using toilet sewer system in the slum household in the Panchavati

Name of Slum	Monthly income Rs.	Toilet sewer system				
		flushed to piped sewer system	flushed to septic tank	flushed to pit latrine	flushed to somewhere else	Total
Bharadwadi	Up to five thousand	0	2	0	0	2
	Total	0	2	0	0	2
Adharshanagar	Above ten thousand	0	4	0	0	4
	Total	0	4	0	0	4
Laxmannager	Above ten thousand	0	0	1	1	2
	Total	0	0	1	1	2
Dattanagar	Above ten thousand	0	8	3	0	11
	Total	0	8	3	0	11
Awdhutwadi	up to five thousand	4	0	0	0	4
	five to ten thousand	4	2	0	0	6
	Total	8	2	0	0	10
MPnagar	five to ten thousand	0	2	0	0	2
	Above ten thousand	0	2	0	0	2
	Total	0	4	0	0	4
Koliwada	up to five thousand	0	0	1	0	1
	Above ten thousand	0	0	2	0	2
	Total	0	0	3	0	3
Hirawadi	Above ten thousand	0	0	0	2	2
	Total	0	0	0	2	2
Total		**8**	**20**	**7**	**3**	**38**

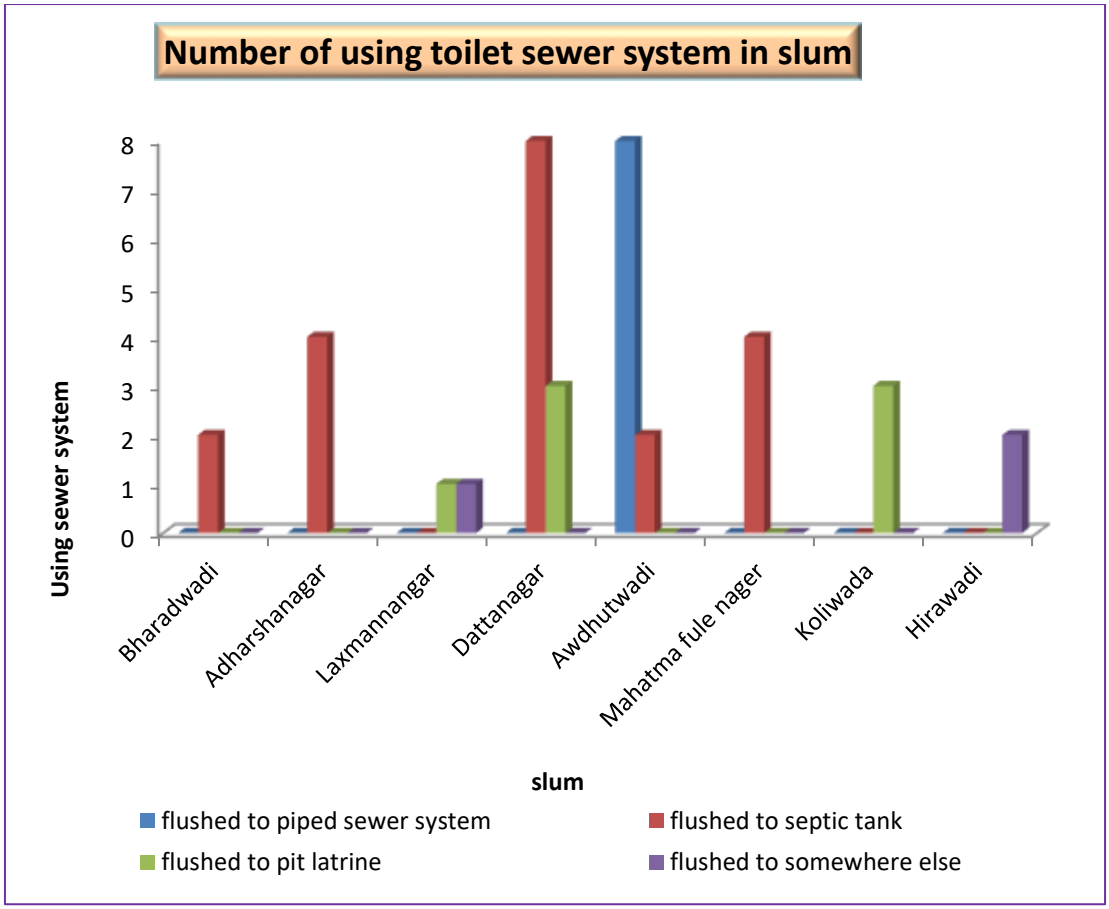


Figure No: 4.21 Number of household using toilet sewer system in the slum

xiii) Cleaning Toilet

As per above graph 15.2% toilets are clean. 39.1% are medium clean & 45.7% percent toilets are bad in condition. To Dattanagar 81.8% & in Bharadwadi 80% Toilets are clean. In Hirawadi 60% is average in Condition. Total 50% toilets in Adarshnagar and 60% toilets in Phule Nagar are in bad condition. Those people who have more than five thousand rupees income have toilets in good condition.

Table 4.22: Percent distribution of cleaning toilet in the slum household in the panchavati division.

Name of Slum	Monthly income Rs.	Cleaning condition of toilet			
		Bad	Average	Good	Total
Bharadwadi	**Up to five thousand**	0.0	0.0	40.0	40
	Five to ten thousand	20.0	0.0	0.0	20
	Above ten thousand	0.0	0.0	40.0	40
	Total	20.0	0.0	80.0	100
Adharshanagar	**Five to ten thousand**	0.0	0.0	0.0	0
	Above ten thousand	50.0	0.0	50.0	100
	Total	50.0	0.0	50.0	100
	Above ten thousand	50.0	0.0	50.0	100
	Total	50.0	0.0	50.0	100
Dattanagar	**Above ten thousand**	0.0	18.2	81.8	100
	Total	0.0	18.2	81.8	100
Awdhutwadi	**Up to five thousand**	33.3	0.0	0.0	33.3
	Five to ten thousand	16.7	50.0	0.0	66.7
	Total	50.0	50.0	0.0	100
Mahatma Phule Nagar	**Up to five thousand**	12.0	8.0	0.0	20.0
	Five to ten thousand	48.0	20.0	0.0	68.0
	Above ten thousand	0.0	8.0	4.0	12.0
	Total	60.0	36.0	4.0	100
Valmiknagar	**Up to five thousand**	9.8	9.8	0.0	19.5
	Five to ten thousand	26.8	24.4	0.0	51.2
	Above ten thousand	14.6	14.6	0.0	29.3
	Total	51.2	48.8	0.0	100
Koliwada	**Up to five thousand**	37.9	6.9	0.0	44.8
	Five to ten thousand	13.8	6.9	0.0	20.7
	Above ten thousand	20.7	13.8	0.0	34.5
	Total	72.4	27.6	0.0	100
Hirawadi	**Five to ten thousand**	0.0	33.3	6.7	40.0
	Above ten thousand	13.3	26.7	20.0	60.0
	Total	13.3	60.0	26.7	100
	Total	**45.7**	**39.1**	**15.2**	**100**

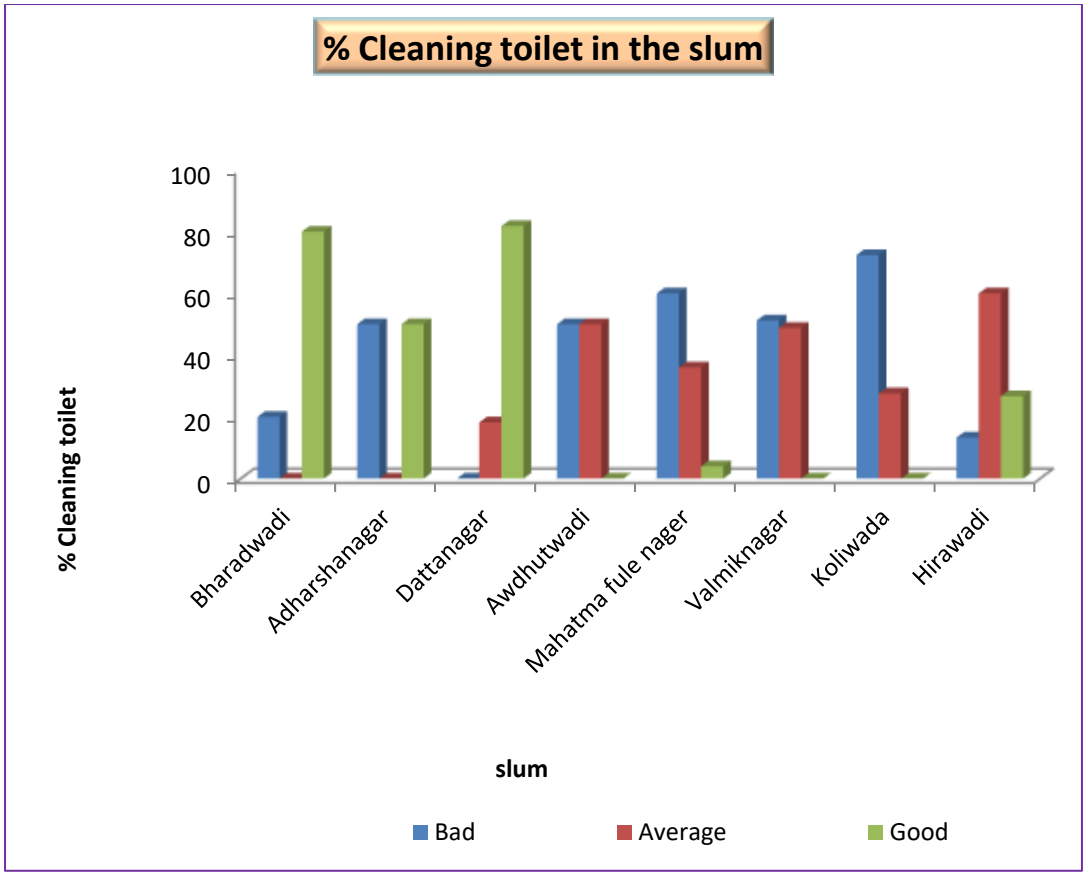


Figure No: 4.22 Percent distribution of cleaning toilet in the slum household

xiv) Household Members Using Toilet Facility

As per the graph 76% people are using their own toilet 24% people are using other's toilet. The highest toilet users of others found in Laxmannager & Dattanagar, its percentage is 100% In Bharadwadi & Adarshnagar the people are using their own toilet. There are common toilets in Dattanagar & Laxmannager

Table 4.23: Percent distribution of other household member used toilet in the slum household

Name of Slum	Monthly income Rs.	Other household member used toilet facility		
		Yes	N0	Total
Bharadwadi	**Up to five thousand**	0.0	40.0	40.0
	Five to ten thousand	0.0	20.0	20.0
	Above ten thousand	0.0	40.0	40.0
	Total	0.0	100	100
Adharshanagar	**Five to ten thousand**	0.0	0.0	0.0
	Above ten thousand	0.0	100	100
	Total	0.0	100	100.
Laxmannager	**Up to five thousand**	0.0	0.0	0.0
	Five to ten thousand	0.0	0.0	0.0
	Above ten thousand	100	0.0	100
	Total	100.	0.0	100
Dattanagar	**Up to five thousand**	0.0	0.0	0.0
	Five to ten thousand	0.0	0.0	0.0
	Above ten thousand	100	0.0	100
	Total	100	0.0	100
Awdhutwadi	**Up to five thousand**	0.0	33.3	33.3
	Five to ten thousand	33.3	33.3	66.7
	Above ten thousand	0.0	0.0	0.0
	Total	33.3	66.7	100
Mahatma Phule Nagar	**Up to five thousand**	2.2	20.0	22.2
	Five to ten thousand	8.9	55.6	64.4
	Above ten thousand	4.4	8.9	13.3
	Total	15.6	84.4	100
Valmiknagar	**Up to five thousand**	0.0	19.5	19.5
	Five to ten thousand	2.4	48.8	51.2
	Above ten thousand	0.0	29.3	29.3
	Total	2.4	97.6	100
Koliwada	**Up to five thousand**	6.9	37.9	44.8
	Five to ten thousand	0.0	20.7	20.7
	Above ten thousand	6.9	27.6	34.5
	Total	13.8	86.2	100
Hirawadi	**Five to ten thousand**	26.7	13.3	40.0
	Above ten thousand	20.0	40.0	60.0
	Total	46.7	53.3	100
	Total	**24.0**	**76.0**	**100**

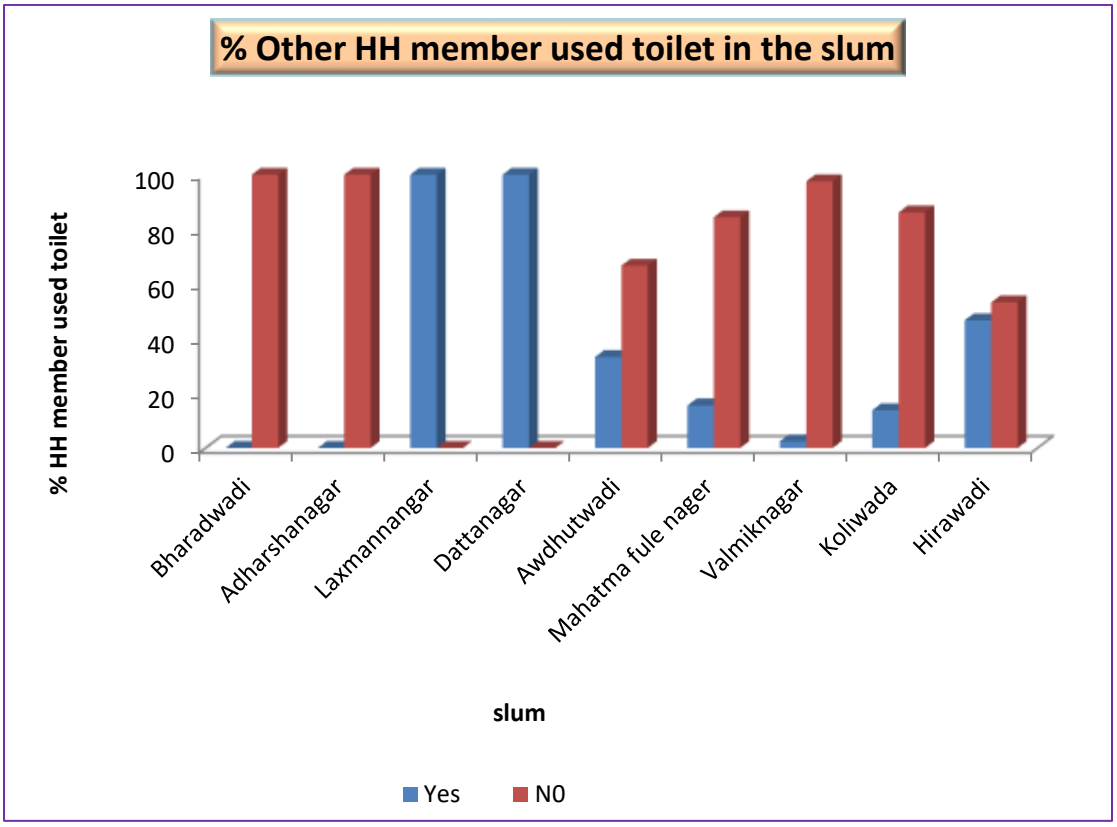


Figure No: 4.23 Percent distribution of other household member used toilet in the slum

xv) Number of People Using Toilet Facility

As per the graph there are 45toilets in which 31 toilets are used by more than 10 persons. On the other hand, 14 toilets are used by less than 10 persons. In Hirawadi 14 toilets are used by more than 20 people. On contrary Dattanagar have five toilets used by more than 10 persons; In Mahatma Phule Nagar, 7 toilets are used by more than ten persons. Dattanagar has 6 toilets used by less than 10 persons. Adarshnagar & Koliwada each has four toilets used by less than 10 persons.

Table 4.24: Number of people using toilet facility in the slum household in the Panchavati division

Name of Slum	**Monthly income Rs.**	No people use toilet facility		
		up t0 ten people	more than ten people	Total
Adharshanagar	Above ten thousand	4	0	4
	Total	4	0	4
Laxmannager	Above ten thousand	0	2	2
	Total	0	2	2
Dattanagar	Above ten thousand	6	5	11
	Total	6	5	11
Awdhutwadi	five to ten thousand	0	2	2
	Total	0	2	2
MPnagar	up to five thousand	0	1	1
	five to ten thousand	0	3	3
	Above ten thousand	0	3	3
	Total	0	7	7
Valmiknagar	five to ten thousand	0	1	1
	Total	0	1	1
Koliwada	up to five thousand	1	0	1
	Above ten thousand	3	0	3
	Total	4	0	4
Hirawadi	five to ten thousand	0	8	8
	Above ten thousand	0	6	6
	Total	0	14	14
	Total	**14**	**31**	**45**

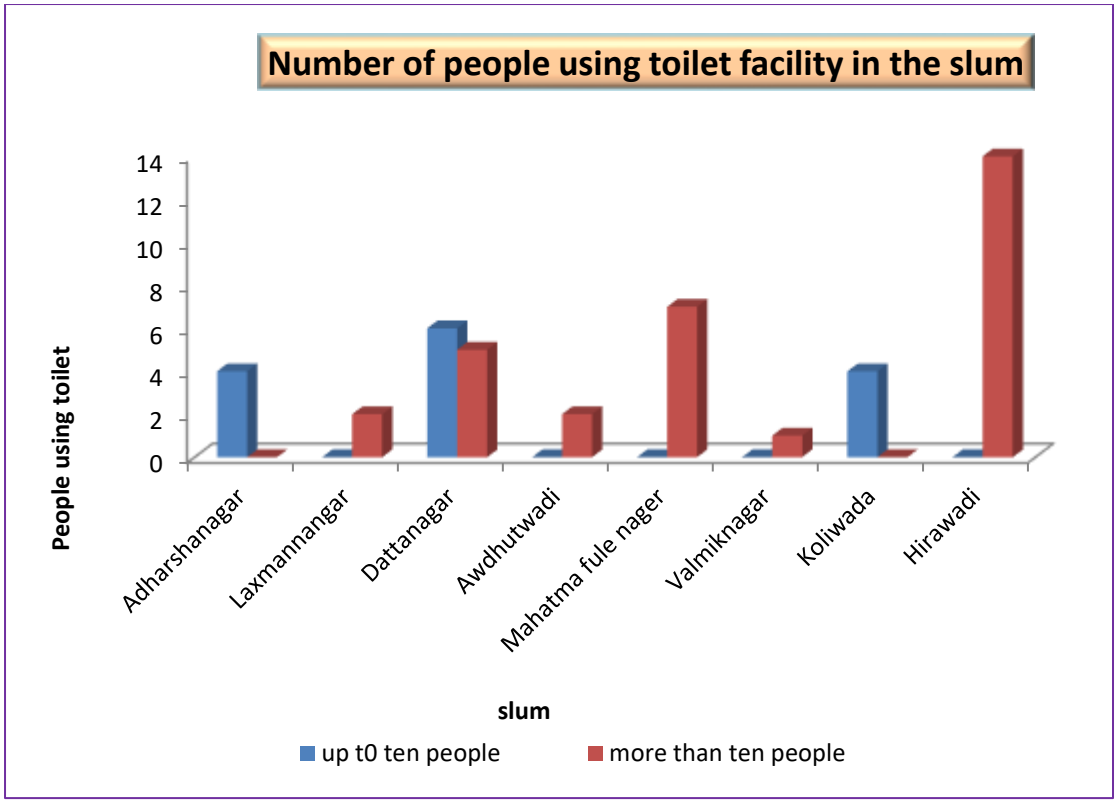


Figure No: 4.24 Number of people using toilet facility in the slum household

xvi) Distance to Go To Toilet

The above graph shows that 47% people have to go more than 200 meters to toilets 52.2% people have to go up to 200 meters to toilet. In Avdhootwadi 93.3% people have to go more than 200 meters for toilet. In Laxmannager 66.7% people have to go more than 200 meters far for toilet. In Adarshnagar 84.6% people have to go up to 200 meters for toilet. In Bharadwadi people have to go up to 200 meter for toilet.

Table 4.25: Percent distribution of distance go for toilet in the slum household in the panchavati

Name of Slum	Monthly income Rs.	Distance go for toilet		
		less than 200 meters	more than 200 meters	Total
Bharadwadi	**Up to five thousand**	48.6	0.0	48.6
	Five to ten thousand	40.0	0.0	40.0
	Above ten thousand	11.4	0.0	11.4
	Total	100	0.0	100
Adharshanagar	**Five to ten thousand**	23.1	15.4	38.5
	Above ten thousand	61.5	0.0	61.5
	Total	84.6	15.4	100
Laxmannager	**Up to five thousand**	7.8	11.8	19.6
	Five to ten thousand	11.8	51.0	62.7
	Above ten thousand	13.7	3.9	17.6
	Total	33.3	66.7	100
Dattanagar	**Up to five thousand**	0.0	0.0	0.0
	Five to ten thousand	38.5	30.8	69.2
	Above ten thousand	23.1	7.7	30.8
	Total	61.5	38.5	100
Vajareshori	**Up to five thousand**	14.3	7.1	21.4
	Five to ten thousand	23.8	31.0	54.8
	Above ten thousand	14.3	9.5	23.8
	Total	52.4	47.6	100
Awdhutwadi	**Up to five thousand**	0.0	26.7	26.7
	Five to ten thousand	0.0	60.0	60.0
	Above ten thousand	6.7	6.7	13.3
	Total	6.7	93.3	100
Mahatma Phule Nagar	**Up to five thousand**	0.0	0.0	0.0
	Five to ten thousand	50.0	25.0	75.0
	Above ten thousand	0.0	25.0	25.0
	Total	50.0	50.0	100
	Total	**52.2**	**47.8**	**100**

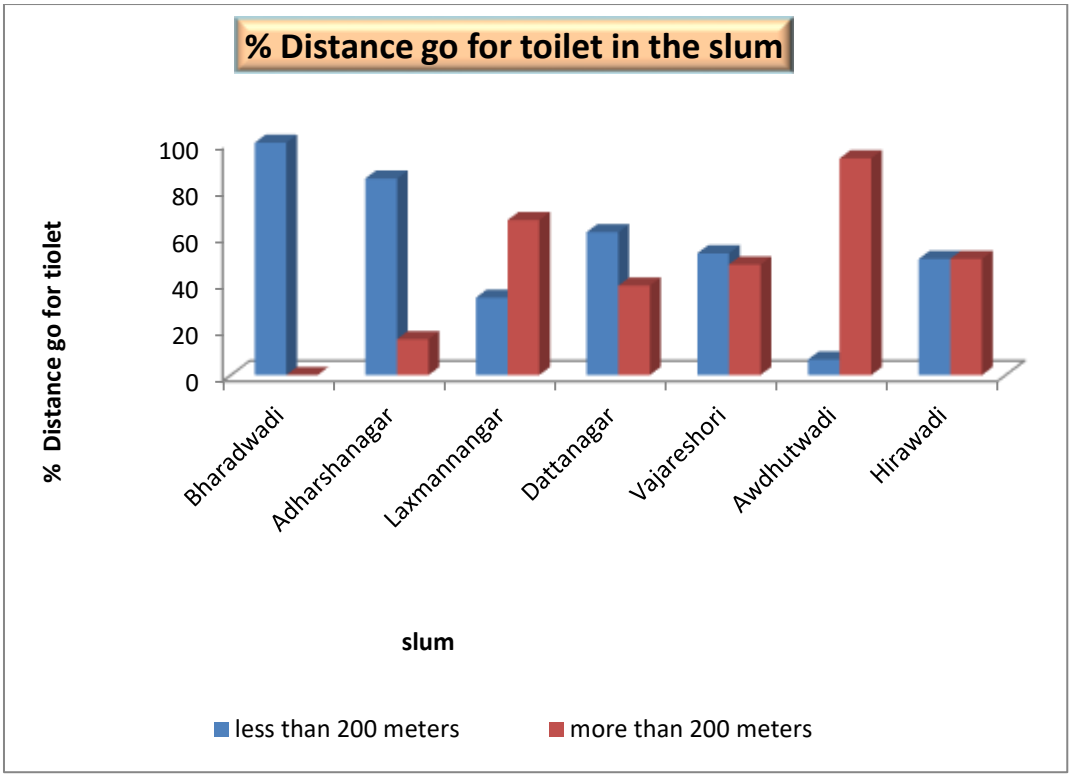


Figure No: 4.25 Percent distribution of distance go for toilet in the slum

xvii) Distribution Type of Toilet Facility

As per the graph 98% people have public toilet facility but 2% people do not have public toilet facility and they have to go in open space. The highest open defecations are found in Adarshnagar its percentage 15.4% in Dattanagar it is 3.8% People have to go for open defications. 100% public toilet facility is available in Bharadwadi, Vajreshwari, Avdhootwadi, and Phulenagar.

Table 4.26: Percent distribution of type of toilet facility in the slum household in the Panchavati

Name of Slum	Monthly income Rs.	Type of toilet facility		
		Public toilet facility	No facility open space	Total
Bharadwadi	**Up to five thousand**	48.6	0.0	48.6
	Five to ten thousand	40.0	0.0	40.0
	Above ten thousand	11.4	0.0	11.4
	Total	100	0.0	100
Adharshanagar	**Five to ten thousand**	38.5	0.0	38.5
	Above ten thousand	46.2	15.4	61.5
	Total	84.6	15.4	100
Laxmannager	**Up to five thousand**	19.6	0.0	19.6
	Five to ten thousand	62.7	0.0	62.7
	Above ten thousand	15.7	2.0	17.6
	Total	98.0	2.0	100
Dattanagar	**Up to five thousand**	0.0	0.0	0.0
	Five to ten thousand	65.4	3.8	69.2
	Above ten thousand	30.8	0.0	30.8
	Total	96.2	3.8	100
Vajareshori	**Up to five thousand**	21.4	0.0	21.4
	Five to ten thousand	54.8	0.0	54.8
	Above ten thousand	23.8	0.0	23.8
	Total	100	0.0	100
Awdhutwadi	**Up to five thousand**	26.7	0.0	26.7
	Five to ten thousand	60.0	0.0	60.0
	Above ten thousand	13.3	0.0	13.3
	Total	100	0.0	100
Mahatma Phule Nagar	**Up to five thousand**	0.0	0.0	0.0
	Five to ten thousand	75.0	0.0	75.0
	Above ten thousand	25.0	0.0	25.0
	Total	100	0.0	100
	Total	**98.0**	**2.0**	**100**

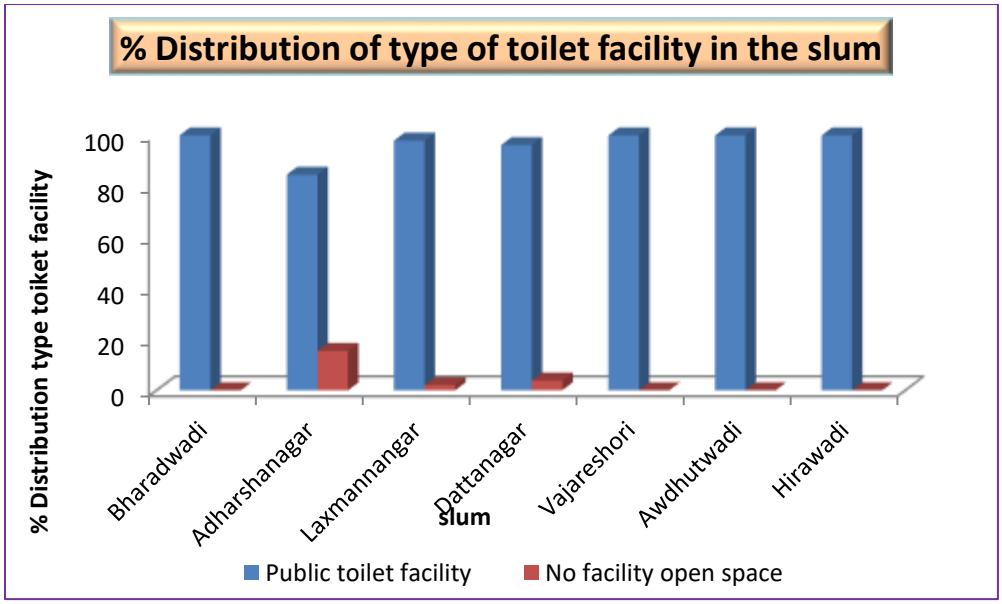


Figure No: 4.26 Percent distribution of type of toilet facility in the slum

xviii) Distribution of Water Supply for Toilet

As per the above graph 78.8% people have regular water supply for toilet. 21.2% people do not have this facility. Mahatma Phulenagar, Avdhootwadi and Vajreshwari slums have 100%. People do not have Regular supply of water for Toilet Facility. In Bharadwadi 82.9% People do not have this facility.

Table 4.27: Percent distribution of water supply for toilet in the slum household in the Panchavati

Name of Slum	Monthly income Rs.	Regular water for toilet facility		
		Yes	N0	Total
Bharadwadi	**Up to five thousand**	0.0	48.6	48.6
	Five to ten thousand	17.1	22.9	40.0
	Above ten thousand	0.0	11.4	11.4
	Total	17.1	82.9	100
Adharshanagar	**Five to ten thousand**	0.0	45.5	45.5
	Above ten thousand	0.0	54.5	54.5
	Total	0.0	100	100
Laxmannager	**Up to five thousand**	19.6	0.0	19.6
	Five to ten thousand	62.7	0.0	62.7
	Above ten thousand	15.7	2.0	17.6
	Total	98.0	2.0	100
Dattanagar	**Up to five thousand**	0.0	0.0	0.0
	Five to ten thousand	61.5	7.7	69.2
	Above ten thousand	30.8	0.0	30.8
	Total	92.3	7.7	100
Vajareshori	**Up to five thousand**	21.4	0.0	21.4
	Five to ten thousand	54.8	0.0	54.8
	Above ten thousand	23.8	0.0	23.8
	Total	100	0.0	100
Awdhutwadi	**Up to five thousand**	26.7	0.0	26.7
	Five to ten thousand	60.0	0.0	60.0
	Above ten thousand	13.3	0.0	13.3
	Total	100	0.0	100
Mahatma Phule Nagar	**Up to five thousand**	0.0	0.0	0.0
	Five to ten thousand	75.0	0.0	75.0
	Above ten thousand	25.0	0.0	25.0
	Total	100	0.0	100
	Total	**78.8**	**21.2**	**100**

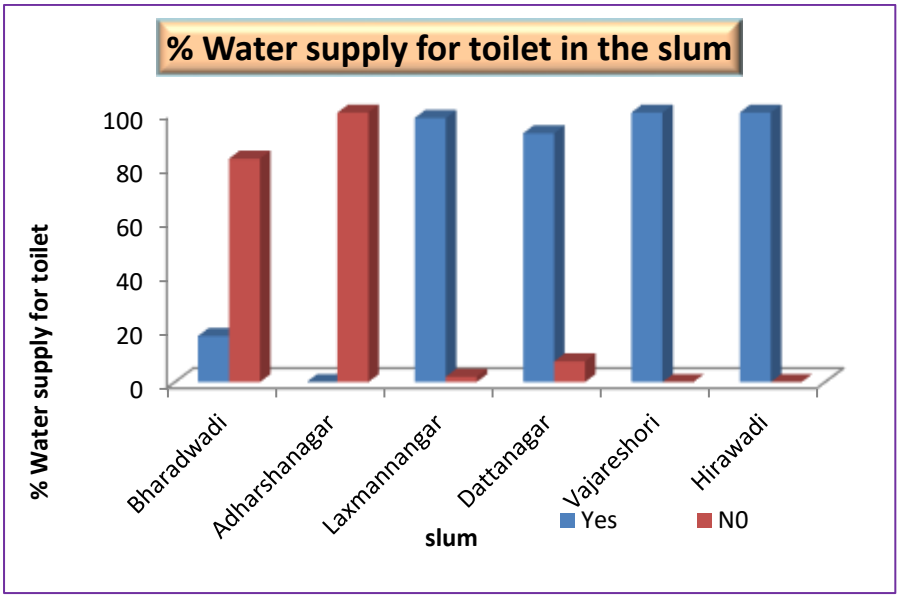


Figure No: 4.27 Percent distribution of water supply for toilet in the slum

xix) Percentage of Distribution of Child Stool

As per the graph 74.4% people dispose child stool in drainage 18.7% people have no child stool and 69% people dispose child stool at anywhere. In Mahatma Phule Nagar 100% child stool is disposed in drainage 82% child stool is disposed in Laxmannager and in Vajreshwari 88% people have child stool.

Table 4.28: Percent distribution of dispose of child stool in the slum household in the Panchavati

Name of Slum	Monthly income Rs.	Dispose of child stool			
		Drain	Any where	No child	Total
Bharadwadi	**Up to five thousand**	31.4	5.7	11.4	48.6
	Five to ten thousand	28.6	5.7	5.7	40.0
	Above ten thousand	11.4	0.0	0.0	11.4
	Total	71.4	11.4	17.1	100
Adharshanagar	**Five to ten thousand**	36.4	9.1	0.0	45.5
	Above ten thousand	18.2	36.4	0.0	54.5
	Total	54.5	45.5	0.0	100
Laxmannager	**Up to five thousand**	19.6	0.0	0.0	19.6
	Five to ten thousand	51.0	3.9	7.8	62.7
	Above ten thousand	11.8	2.0	3.9	17.6
	Total	82.4	5.9	11.8	100
Dattanagar	**Up to five thousand**	0.0	0.0	0.0	0.0
	Five to ten thousand	46.2	0.0	23.1	69.2
	Above ten thousand	30.8	0.0	0.0	30.8
	Total	76.9	0.0	23.1	100
Vajareshori	**Up to five thousand**	21.4	0.0	0.0	21.4
	Five to ten thousand	40.5	0.0	14.3	54.8
	Above ten thousand	0.0	0.0	23.8	23.8
	Total	61.9	0.0	38.1	100
Awdhutwadi	**Up to five thousand**	20.0	0.0	6.7	26.7
	Five to ten thousand	53.3	6.7	0.0	60.0
	Above ten thousand	6.7	0.0	6.7	13.3
	Total	80.0	6.7	13.3	100
Mahatma Phule Nagar	**Up to five thousand**	0.0	0.0	0.0	0.0
	Five to ten thousand	75.0	0.0	0.0	75.0
	Above ten thousand	25.0	0.0	0.0	25.0
	Total	100	0.0	0.0	100
	Total	74.4	6.9	18.7	100

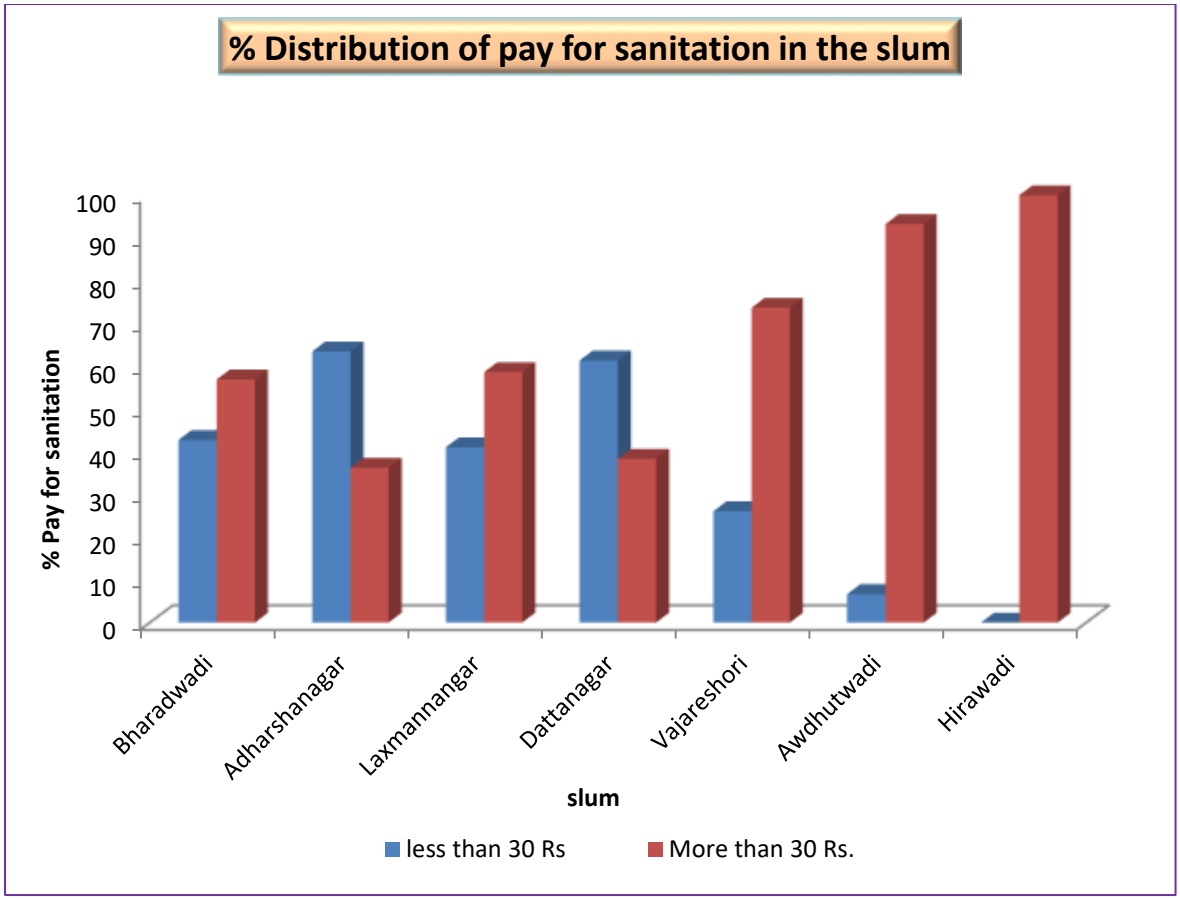


Figure No: 4.28 Percent distribution of dispose of child stool in the slum

xx) Distribution of Pay for Sanitation

As per the graph 64.5% people pay more than 30 Rupees for sanitation and 35% people pay less than 30 Rupees for sanitation 100% people pay more than 30 rupees for sanitation in Mahatma Phule Nagar. In Adarshnagar the number is very less i.e.36.4% people pay more than 30 rupees for sanitation. In Adarshnagar 63.6% people pay less than 30 rupees for sanitation.

Table 4.29: Percent distribution of pay for sanitation in the slum household in the Panchavati division

Name of Slum	Monthly income Rs.	pay for sanitation		
		less than 30 Rs	More than 30 Rs.	Total
Bharadwadi	**Up to five thousand**	11.4	37.1	48.6
	Five to ten thousand	25.7	14.3	40.0
	Above ten thousand	5.7	5.7	11.4
	Total	42.9	57.1	100
Adharshanagar	**Five to ten thousand**	27.3	18.2	45.5
	Above ten thousand	36.4	18.2	54.5
	Total	63.6	36.4	100
Laxmannager	**Up to five thousand**	11.8	7.8	19.6
	Five to ten thousand	15.7	47.1	62.7
	Above ten thousand	13.7	3.9	17.6
	Total	41.2	58.8	100
Dattanagar	**Up to five thousand**	0.0	0.0	0.0
	Five to ten thousand	38.5	30.8	69.2
	Above ten thousand	23.1	7.7	30.8
	Total	61.5	38.5	100
Vajareshori	**Up to five thousand**	4.8	16.7	21.4
	Five to ten thousand	16.7	38.1	54.8
	Above ten thousand	4.8	19.0	23.8
	Total	26.2	73.8	100
Awdhutwadi	**Up to five thousand**	0.0	26.7	26.7
	Five to ten thousand	0.0	60.0	60.0
	Above ten thousand	6.7	6.7	13.3
	Total	6.7	93.3	100
Mahatma Phule Nagar	**Up to five thousand**	0.0	0.0	0.0
	Five to ten thousand	0.0	75.0	75.0
	Above ten thousand	0.0	25.0	25.0
	Total	0.0	100	100
	Total	35.5	64.5	100

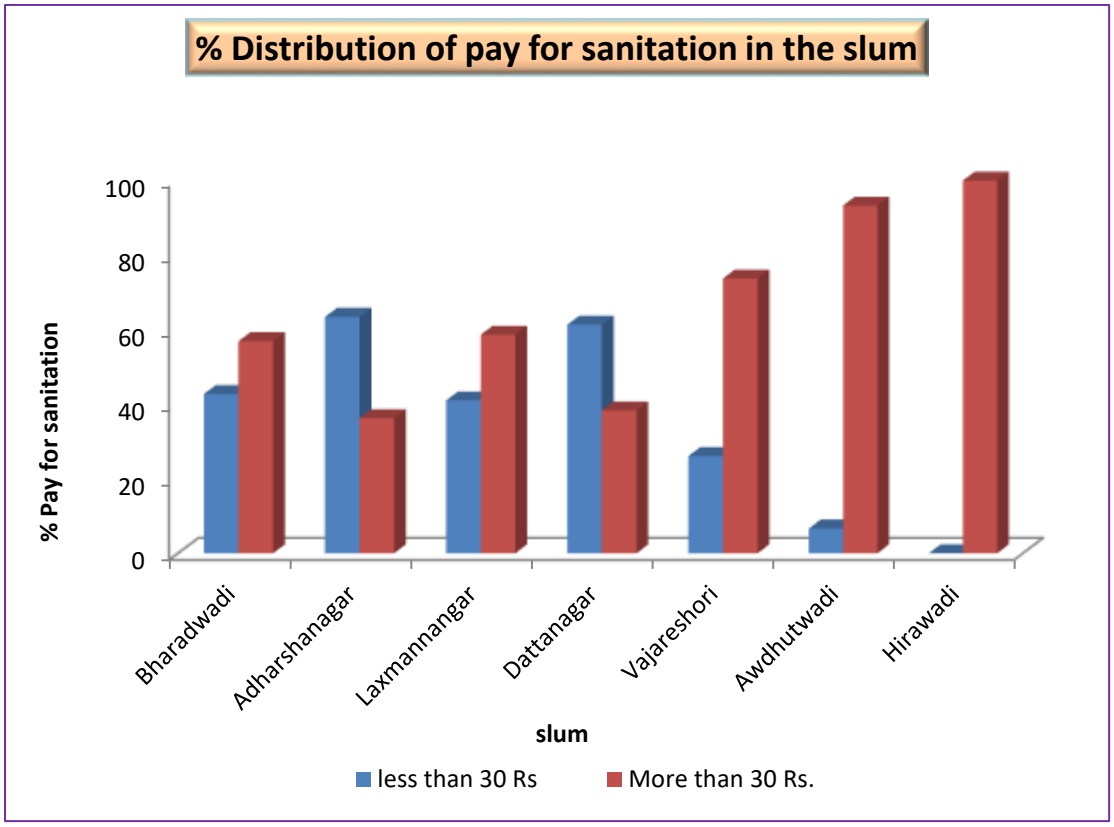


Figure No: 4.29 Percent distribution of pay for sanitation in the slum household

xxi) Source of Cooking Fuel

The graph shows that 80.3% people use LPG cylinder for cooking, 13.8% people use kerosene and 6% people use wood/shrub/crop for cooking. In Bharadwadi 40%, in Adarshnagar 80% people use wood/shop/crop for cooking and in Hirawadi 100% people use LPG cylinder for cooking. But in Adarshnagar 40% People use kerosene for cooking

Table 4.30: Percent distribution of source of cooking fuel in the slum household in the Panchavati

Name of Slum	Monthly income Rs.	Source of cooking fuel			
		LPG	Kerosene	wood/shrub/crop	Total
Bharadwadi	**Up to five thousand**	5.0	5.0	37.5	47.5
	Five to ten thousand	20.0	15.0	2.5	37.5
	Above ten thousand	10.0	5.0	0.0	15.0
	Total	35.0	25.0	40.0	100
Adharshanagar	**Five to ten thousand**	10.0	20.0	0.0	30.0
	Above ten thousand	20.0	20.0	30.0	70.0
	Total	30.0	40.0	30.0	100
Laximannagar	**Up to five thousand**	14.5	0.0	3.6	18.2
	Five to ten thousand	61.8	0.0	0.0	61.8
	Above ten thousand	14.5	5.5	0.0	20.0
	Total	90.9	5.5	3.6	100
Dattanagar	**Up to five thousand**	5.1	0.0	0.0	5.1
	Five to ten thousand	30.8	15.4	0.0	46.2
	Above ten thousand	43.6	5.1	0.0	48.7
	Total	79.5	20.5	0.0	100
Vajareshori	**Up to five thousand**	21.4	0.0	0.0	21.4
	Five to ten thousand	40.5	14.3	0.0	54.8
	Above ten thousand	23.8	0.0	0.0	23.8
	Total	85.7	14.3	0.0	100
Awdhutwadi	**Up to five thousand**	26.1	4.3	0.0	30.4
	Five to ten thousand	60.9	0.0	0.0	60.9
	Above ten thousand	8.7	0.0	0.0	8.7
	Total	95.7	4.3	0.0	100
Mahatma Phule Nagar	**Up to five thousand**	10.3	6.9	0.0	17.2
	Five to ten thousand	62.1	10.3	0.0	72.4
	Above ten thousand	10.3	0.0	0.0	10.3
	Total	82.8	17.2	0.0	100
Valmiknagar	**Up to five thousand**	19.5	0.0	0.0	19.5
	Five to ten thousand	51.2	0.0	0.0	51.2
	Above ten thousand	19.5	9.8	0.0	29.3
	Total	90.2	9.8	0.0	100
Koliwada	**Up to five thousand**	37.9	6.9	0.0	44.8
	Five to ten thousand	13.8	6.9	0.0	20.7
	Above ten thousand	34.5	0.0	0.0	34.5
	Total	86.2	13.8	0.0	100
Hirawadi	**Five to ten thousand**	40.0	0.0	0.0	40.0
	Above ten thousand	60.0	0.0	0.0	60.0
	Total	100	0.0	0.0	100
	Total	80.3	13.8	6.0	100

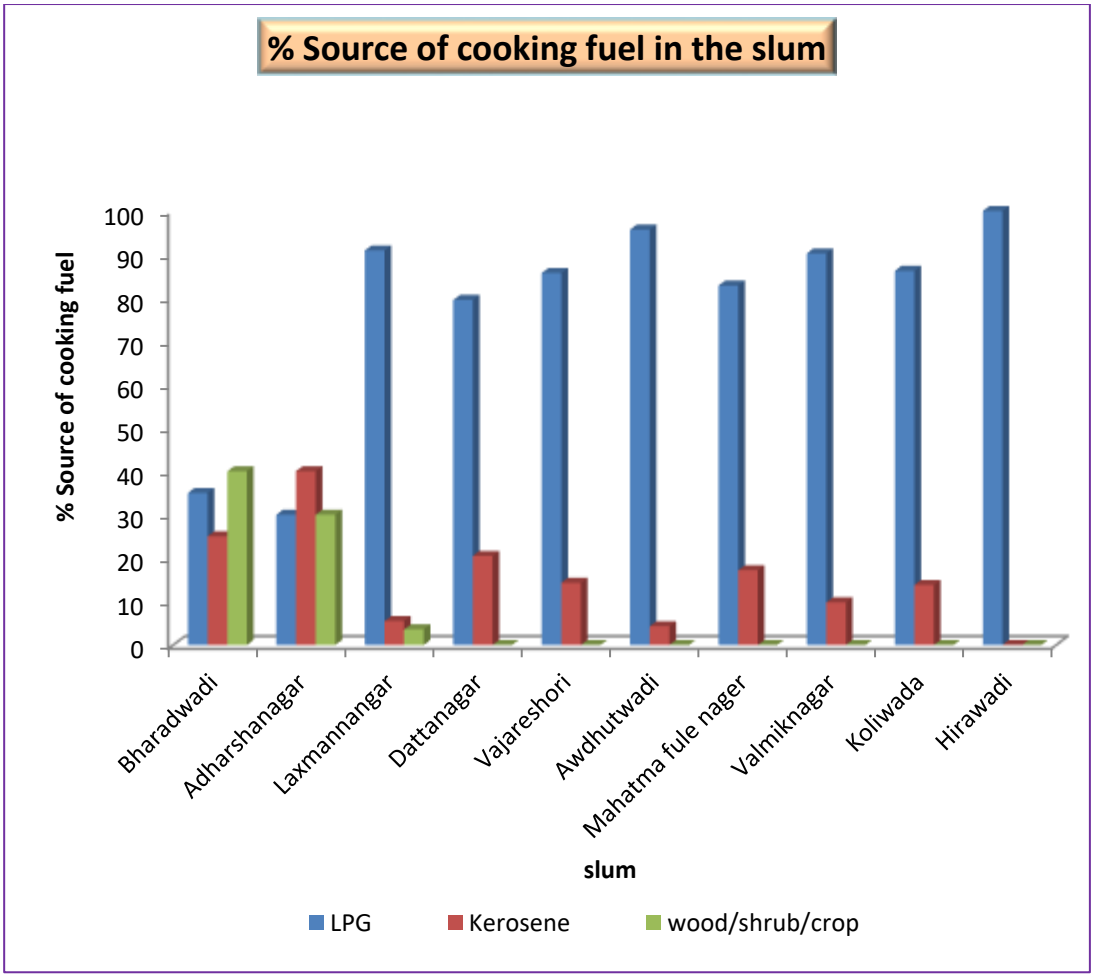


Figure No: 4.30 Percent distribution of source of cooking fuel in the slum

xxii) Percentage of Distribution of Cooking Place

The above graph shows that 94.8% people cook their food inside the house, and 5.3% people cook their food outside the house. In Adarshnagar 30% and in Bharadwadi 22.5% people cook their food outside the house. In Koliwada, Avdhootwadi, Hirawadi, Valmiknagar, and Dattanagar 100% people cook their food inside the house.

Table 4.31: Percent distribution of cooking place in the slum household in the panchavati division

Name of Slum	Monthly income Rs.	cooking inside or outdoors		Total
		inside	outside	
Bharadwadi	**Up to five thousand**	37.5	10.0	47.5
	Five to ten thousand	30.0	7.5	37.5
	Above ten thousand	10.0	5.0	15.0
	Total	77.5	22.5	100
Adharshanagar	**Five to ten thousand**	30.0	0.0	30.0
	Above ten thousand	40.0	30.0	70.0
	Total	70.0	30.0	100
Laxmannager	**Up to five thousand**	18.2	0.0	18.2
	Five to ten thousand	61.8	0.0	61.8
	Above ten thousand	20.0	0.0	20.0
	Total	100	0.0	100
Dattanagar	**Up to five thousand**	5.1	0.0	5.1
	Five to ten thousand	46.2	0.0	46.2
	Above ten thousand	48.7	0.0	48.7
	Total	100	0.0	100
Vajareshori	**Up to five thousand**	21.4	0.0	21.4
	Five to ten thousand	50.0	4.8	54.8
	Above ten thousand	23.8	0.0	23.8
	Total	95.2	4.8	100
Awdhutwadi	**Up to five thousand**	30.4	0.0	30.4
	Five to ten thousand	60.9	0.0	60.9
	Above ten thousand	8.7	0.0	8.7
	Total	100	0.0	100
Mahatma Phule Nagar	**Up to five thousand**	17.2	0.0	17.2
	Five to ten thousand	65.5	6.9	72.4
	Above ten thousand	10.3	0.0	10.3
	Total	93.1	6.9	100
Valmiknagar	**Up to five thousand**	19.5	0.0	19.5
	Five to ten thousand	51.2	0.0	51.2
	Above ten thousand	29.3	0.0	29.3
	Total	100	0.0	100
Koliwada	**Up to five thousand**	44.8	0.0	44.8
	Five to ten thousand	20.7	0.0	20.7
	Above ten thousand	34.5	0.0	34.5
	Total	100	0.0	100
Hirawadi	**Five to ten thousand**	40.0	0.0	40.0
	Above ten thousand	60.0	0.0	60.0
	Total	100	0.0	100
	Total	94.8	5.3	100

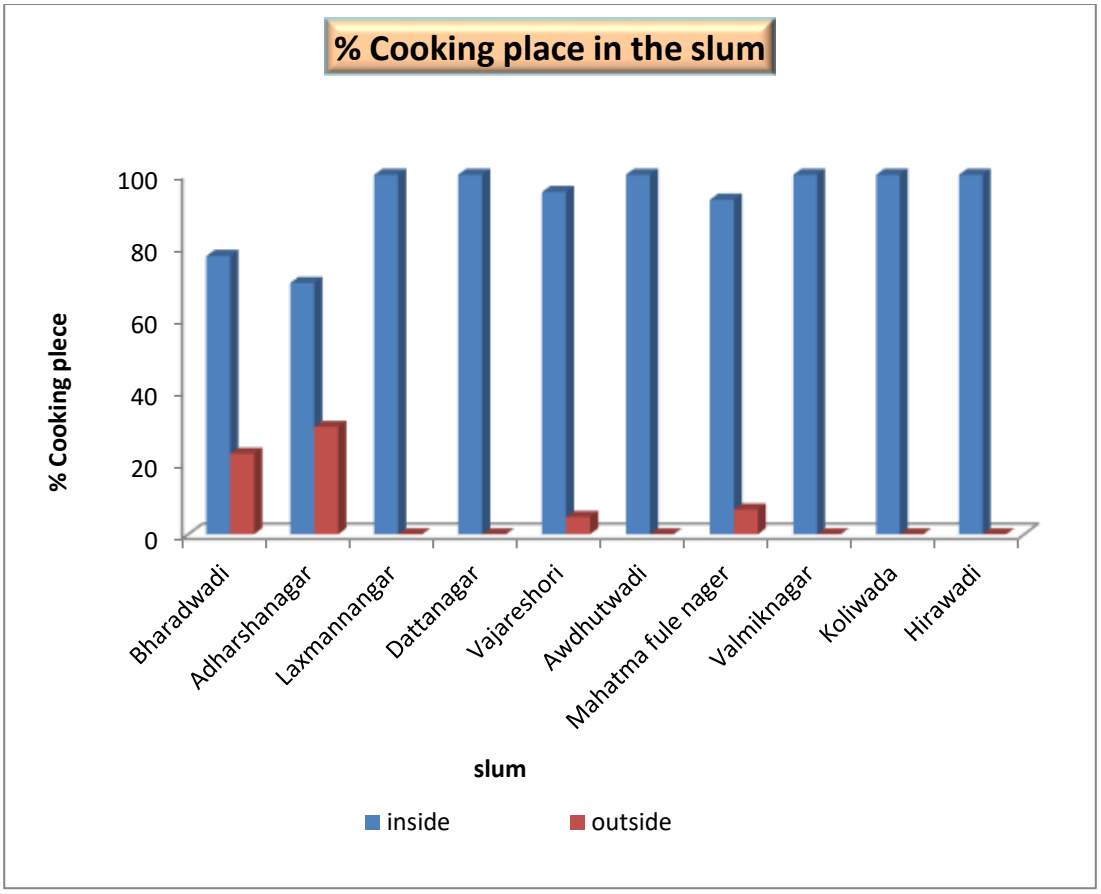


Figure No: 4.31 Percent distribution of cooking place in the slum household

xxiii) Percentage Distribution of Cooking Fuel

As per the above graph 79.3% people use LPG cylinder, 14.5% people use kerosene & 6% people use Chula without chimney to cook their food. In Adarshnagar 50% people use Chula without chimney in Laxmannager 12.7% people use Chula & 10.3% people of Mahatma Phule Nagar, people use Chula for cooking. In bharadwadi 57.5% people use Kerosene, 15.42% people in Dattanagar& 14.8% people in Koliwada use Kerosene for cooking. In Hirawadi 100% people use LPG cylinder for cooking.

Table 4.32: Percent distribution of cooking fuel in the slum household in the Panchavati division

Name of Slum	Monthly income Rs.	Cooking fuel			Total
		Kerosene	Chullah without chimney	L.P.Gas	
Bharadwadi	**Up to five thousand**	40.0	2.5	5.0	47.5
	Five to ten thousand	12.5	0.0	25.0	37.5
	Above ten thousand	5.0	0.0	10.0	15.0
	Total	57.5	2.5	40.0	100
Adharshanagar	**Five to ten thousand**	10.0	10.0	10.0	30.0
	Above ten thousand	0.0	40.0	30.0	70.0
	Total	10.0	50.0	40.0	100
Laxmannager	**Up to five thousand**	3.6	0.0	14.5	18.2
	Five to ten thousand	3.6	10.9	47.3	61.8
	Above ten thousand	3.6	1.8	14.5	20.0
	Total	10.9	12.7	76.4	100.0
Dattanagar	**Up to five thousand**	0.0	0.0	5.1	5.1
	Five to ten thousand	15.4	0.0	30.8	46.2
	Above ten thousand	5.1	0.0	43.6	48.7
	Total	20.5	0.0	79.5	100
Vajareshori	**Up to five thousand**	0.0	0.0	21.4	21.4
	Five to ten thousand	14.3	0.0	40.5	54.8
	Above ten thousand	0.0	0.0	23.8	23.8
	Total	14.3	0.0	85.7	100
Awdhutwadi	**Up to five thousand**	4.3	0.0	26.1	30.4
	Five to ten thousand	0.0	0.0	60.9	60.9
	Above ten thousand	0.0	0.0	8.7	8.7
	Total	4.3	0.0	95.7	100
Mahatma Phule Nagar	**Up to five thousand**	0.0	6.9	10.3	17.2
	Five to ten thousand	6.9	3.4	62.1	72.4
	Above ten thousand	0.0	0.0	10.3	10.3
	Total	6.9	10.3	82.8	100
Valmiknagar	**Up to five thousand**	0.0	0.0	19.5	19.5
	Five to ten thousand	0.0	0.0	51.2	51.2
	Above ten thousand	9.8	0.0	19.5	29.3
	Total	9.8	0.0	90.2	100
Koliwada	**Up to five thousand**	6.9	0.0	37.9	44.8
	Five to ten thousand	6.9	0.0	13.8	20.7
	Above ten thousand	0.0	0.0	34.5	34.5
	Total	13.8	0.0	86.2	100
Hirawadi	**Five to ten thousand**	0.0	0.0	40.0	40.0
	Above ten thousand	0.0	0.0	60.0	60.0
	Total	0.0	0.0	100	100
	Total	14.8	6.0	79.3	100

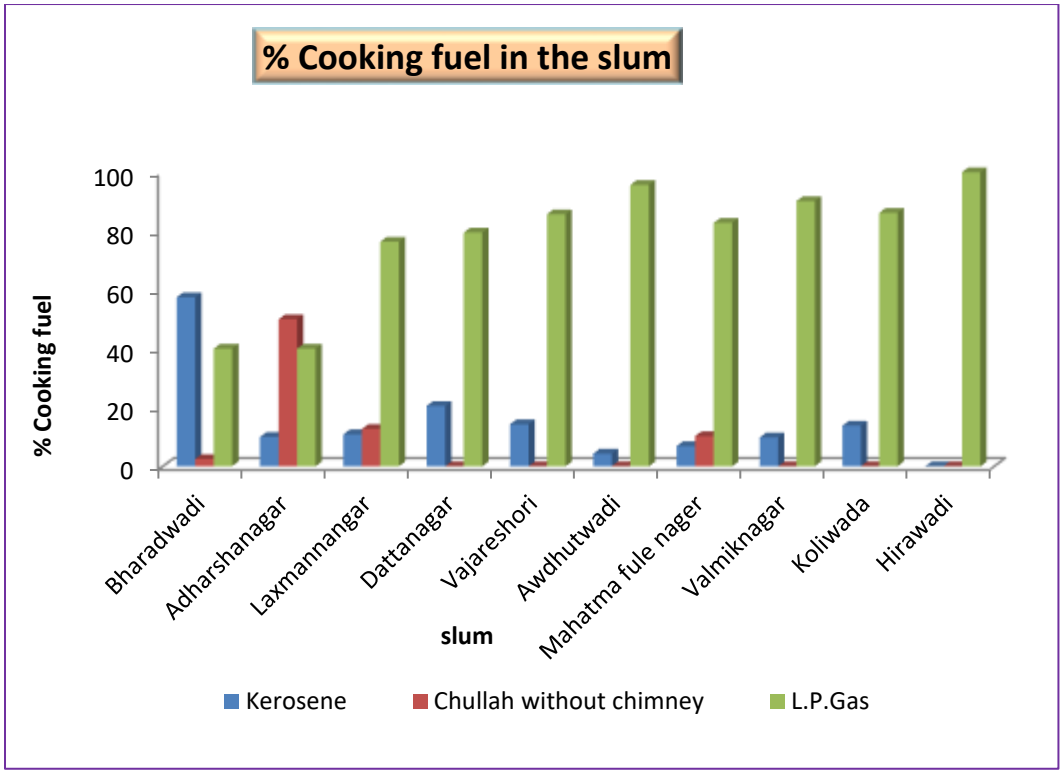


Figure No: 4.32 Percent distribution of cooking fuel in the slum household

xiv) Percentage of Distribution of Cooking Food Payer

As per the graph 59% people pay up to 600 rupees on cooking fuel, 41% people pay more than 600 rupees on the fuel. In Bharadwadi 80% people pay more than 600 rupees on cooking fuel. On the other hand, 20% people pay less than 600 rupees on the cooking fuel.

Table 4.33: Percent distribution of pay for cooking fuel in the slum household in the Panchavati

Name of Slum	Monthly income Rs.	pay for cooking fuel per Month		Total
		Rs 600	More than Rs 600	
Bharadwadi	**Up to five thousand**	0.0	47.5	47.5
	Five to ten thousand	15.0	22.5	37.5
	Above ten thousand	5.0	10.0	15.0
	Total	20.0	80.0	100
Adharshanagar	**Five to ten thousand**	0.0	30.0	30.0
	Above ten thousand	30.0	40.0	70.0
	Total	30.0	70.0	100
Laxmannager	**Up to five thousand**	7.3	10.9	18.2
	Five to ten thousand	18.2	43.6	61.8
	Above ten thousand	0.0	20.0	20.0
	Total	25.5	74.5	100
Dattanagar	**Up to five thousand**	5.1	0.0	5.1
	Five to ten thousand	25.6	20.5	46.2
	Above ten thousand	25.6	23.1	48.7
	Total	56.4	43.6	100
Vajareshori	**Up to five thousand**	14.3	7.1	21.4
	Five to ten thousand	21.4	33.3	54.8
	Above ten thousand	14.3	9.5	23.8
	Total	50.0	50.0	100
Awdhutwadi	**Up to five thousand**	30.4	0.0	30.4
	Five to ten thousand	56.5	4.3	60.9
	Above ten thousand	8.7	0.0	8.7
	Total	95.7	4.3	100
Mahatma Phule Nagar	**Up to five thousand**	6.9	10.3	17.2
	Five to ten thousand	48.3	24.1	72.4
	Above ten thousand	3.4	6.9	10.3
	Total	58.6	41.4	100
Valmiknagar	**Up to five thousand**	19.5	0.0	19.5
	Five to ten thousand	48.8	2.4	51.2
	Above ten thousand	19.5	9.8	29.3
	Total	87.8	12.2	100
Koliwada	**Up to five thousand**	31.0	13.8	44.8
	Five to ten thousand	13.8	6.9	20.7
	Above ten thousand	34.5	0.0	34.5
	Total	79.3	20.7	100
Hirawadi	**Five to ten thousand**	33.3	6.7	40.0
	Above ten thousand	60.0	0.0	60.0
	Total	93.3	6.7	100
	Total	59.0	41.0	100.0

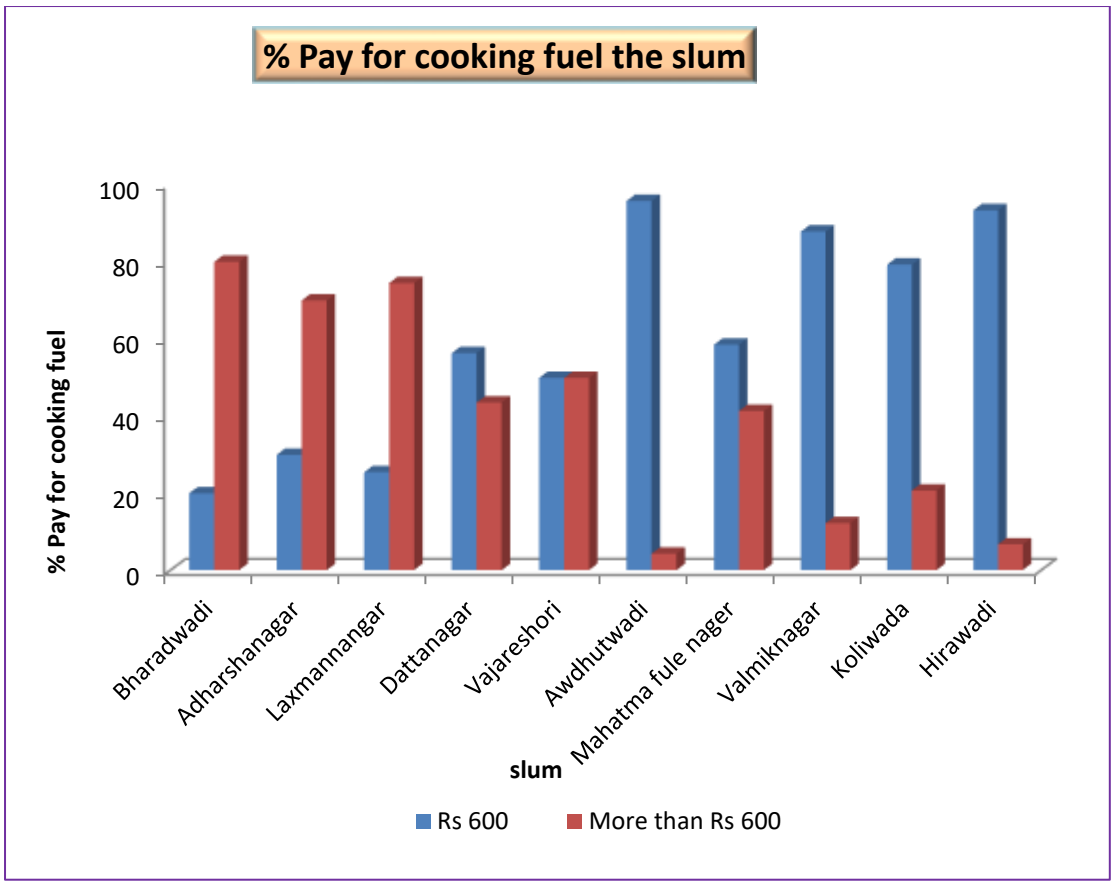


Figure No: 4.33 Percent distribution of pay for cooking fuel in the slum

xxv) Percentage of Types of Houses

As the above graph 73.5% houses are semi pakka, 19.8% are pakka and 6.8% are Kachcha houses in Laxmannager 90.9% Vajreshwari 100% & Phulenagar 89.7% have semi pakka houses. In Adarshnagar 40% houses are Kachcha but in Hirawadi 100% houses are pakka. Those people whose income is more than Rs. 5000 they have semi –pakka and pakka houses.

Table 4.34: Percent distribution of type of house in the slum household in the panchavati division

Name of Slum	Monthly income Rs.	Type of house			Total
		pakka	kachcha	semi pakka	
Bharadwadi	**Up to five thousand**	5.0	22.5	20.0	47.5
	Five to ten thousand	30.0	2.5	5.0	37.5
	Above ten thousand	10.0	0.0	5.0	15.0
	Total	45.0	25.0	30.0	100
Adharshanagar	**Five to ten thousand**	0.0	10.0	20.0	30.0
	Above ten thousand	20.0	30.0	20.0	70.0
	Total	20.0	40.0	40.0	100
Laxmannager	**Up to five thousand**	0.0	3.6	14.5	18.2
	Five to ten thousand	0.0	0.0	61.8	61.8
	Above ten thousand	3.6	1.8	14.5	20.0
	Total	3.6	5.5	90.9	100
Dattanagar	**Up to five thousand**	0.0	0.0	5.1	5.1
	Five to ten thousand	10.3	0.0	35.9	46.2
	Above ten thousand	28.2	0.0	20.5	48.7
	Total	38.5	0.0	61.5	100
Vajareshori	**Up to five thousand**	0.0	0.0	21.4	21.4
	Five to ten thousand	0.0	0.0	54.8	54.8
	Above ten thousand	0.0	0.0	23.8	23.8
	Total	0.0	0.0	100	100
Awdhutwadi	**Up to five thousand**	0.0	0.0	30.4	30.4
	Five to ten thousand	0.0	0.0	60.9	60.9
	Above ten thousand	0.0	0.0	8.7	8.7
	Total	0.0	0.0	100	100
Mahatma Phule Nagar	**Up to five thousand**	0.0	0.0	17.2	17.2
	Five to ten thousand	3.4	3.4	65.5	72.4
	Above ten thousand	3.4	0.0	6.9	10.3
	Total	6.9	3.4	89.7	100
Valmiknagar	**Up to five thousand**	0.0	0.0	19.5	19.5
	Five to ten thousand	9.8	0.0	41.5	51.2
	Above ten thousand	4.9	0.0	24.4	29.3
	Total	14.6	0.0	85.4	100
Koliwada	**Up to five thousand**	0.0	6.9	37.9	44.8
	Five to ten thousand	0.0	6.9	13.8	20.7
	Above ten thousand	0.0	0.0	34.5	34.5
	Total	0.0	13.8	86.2	100
Hirawadi	**Five to ten thousand**	40.0	0.0	0.0	40.0
	Above ten thousand	60.0	0.0	0.0	60.0
	Total	100	0.0	0.0	100
	Total	19.8	6.8	73.5	100

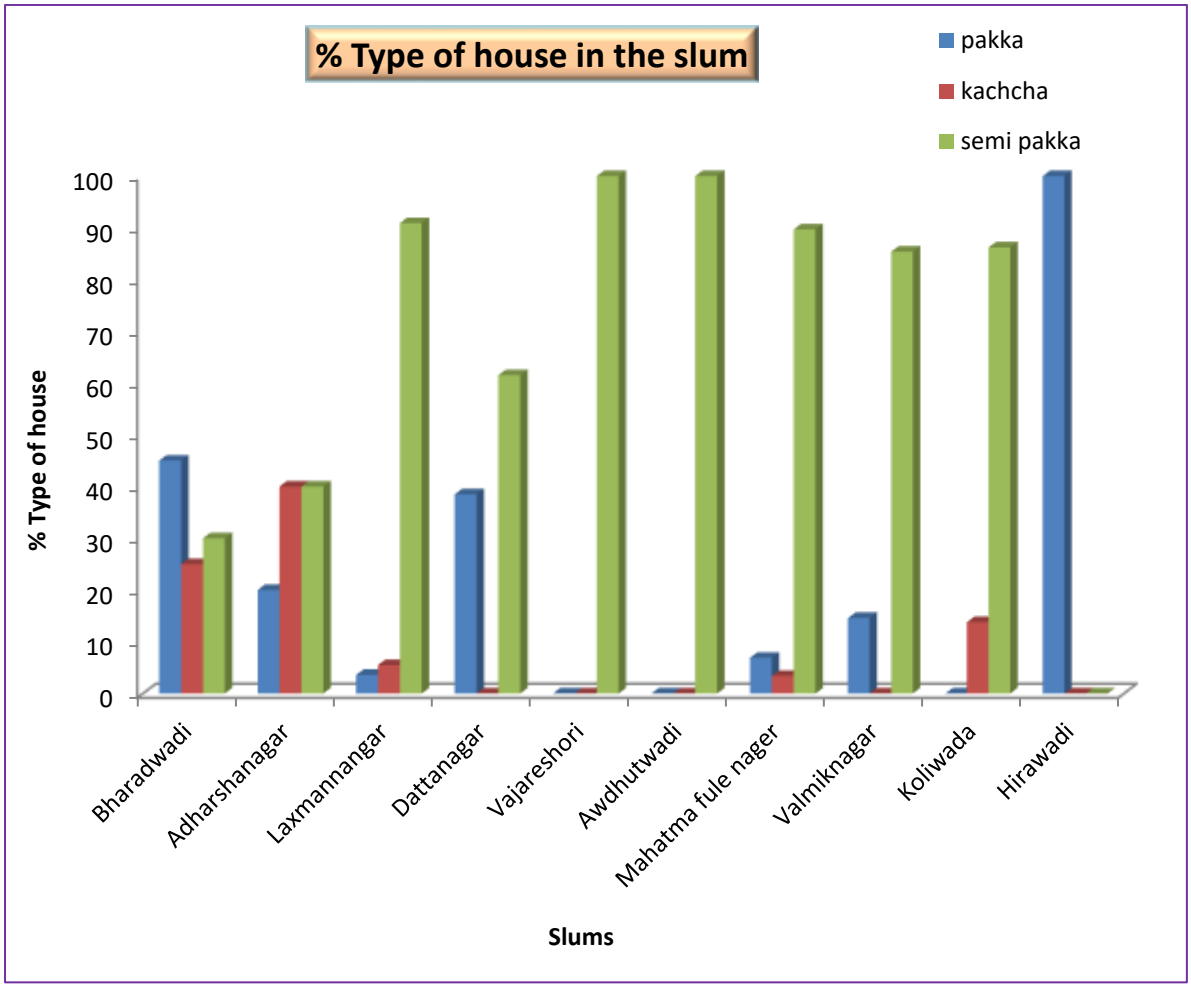


Figure No: 4.34 Percent distribution of type of house in the slum household

xxvi) Percentage of Distribution of Number of Rooms in Houses

As per the graph 79% people have just one room to stay, 21% people have two rooms to live. In Hirawadi 53.3% people live in two room homes. On the other hand in Valmiknagar 51.2% people live in two room homes. In Avdhootwadi 100% people stay in one room like-wise in Laxmannager 92.7% people stay in one room.

Table 4.35: Percent distribution of number of rooms in the slum household in the panchavati division

Name of Slum	Monthly income Rs.	Number of rooms		
		One Room	Two Room	Total
Bharadwadi	**Up to five thousand**	42.5	5.0	47.5
	Five to ten thousand	22.5	15.0	37.5
	Above ten thousand	5.0	10.0	15.0
	Total	70.0	30.0	100
Adharshanagar	**Five to ten thousand**	30.0	0.0	30.0
	Above ten thousand	50.0	20.0	70.0
	Total	80.0	20.0	100
Laxmannager	**Up to five thousand**	18.2	0.0	18.2
	Five to ten thousand	58.2	3.6	61.8
	Above ten thousand	16.4	3.6	20.0
	Total	92.7	7.3	100
Dattanagar	**Up to five thousand**	5.1	0.0	5.1
	Five to ten thousand	41.0	5.1	46.2
	Above ten thousand	20.5	28.2	48.7
	Total	66.7	33.3	100
Vajareshori	**Up to five thousand**	21.4	0.0	21.4
	Five to ten thousand	50.0	4.8	54.8
	Above ten thousand	19.0	4.8	23.8
	Total	90.5	9.5	100
Awdhutwadi	**Up to five thousand**	30.4	0.0	30.4
	Five to ten thousand	60.9	0.0	60.9
	Above ten thousand	8.7	0.0	8.7
	Total	100	0.0	100
Mahatma Phule Nagar	**Up to five thousand**	17.2	0.0	17.2
	Five to ten thousand	72.4	0.0	72.4
	Above ten thousand	10.3	0.0	10.3
	Total	100	0.0	100
Valmiknagar	**Up to five thousand**	14.6	4.9	19.5
	Five to ten thousand	22.0	29.3	51.2
	Above ten thousand	12.2	17.1	29.3
	Total	48.8	51.2	100
Koliwada	**Up to five thousand**	31.0	13.8	44.8
	Five to ten thousand	13.8	6.9	20.7
	Above ten thousand	20.7	13.8	34.5
	Total	65.5	34.5	100
Hirawadi	**Five to ten thousand**	26.7	13.3	40.0
	Above ten thousand	20.0	40.0	60.0
	Total	46.7	53.3	100
		79.0	21.0	100

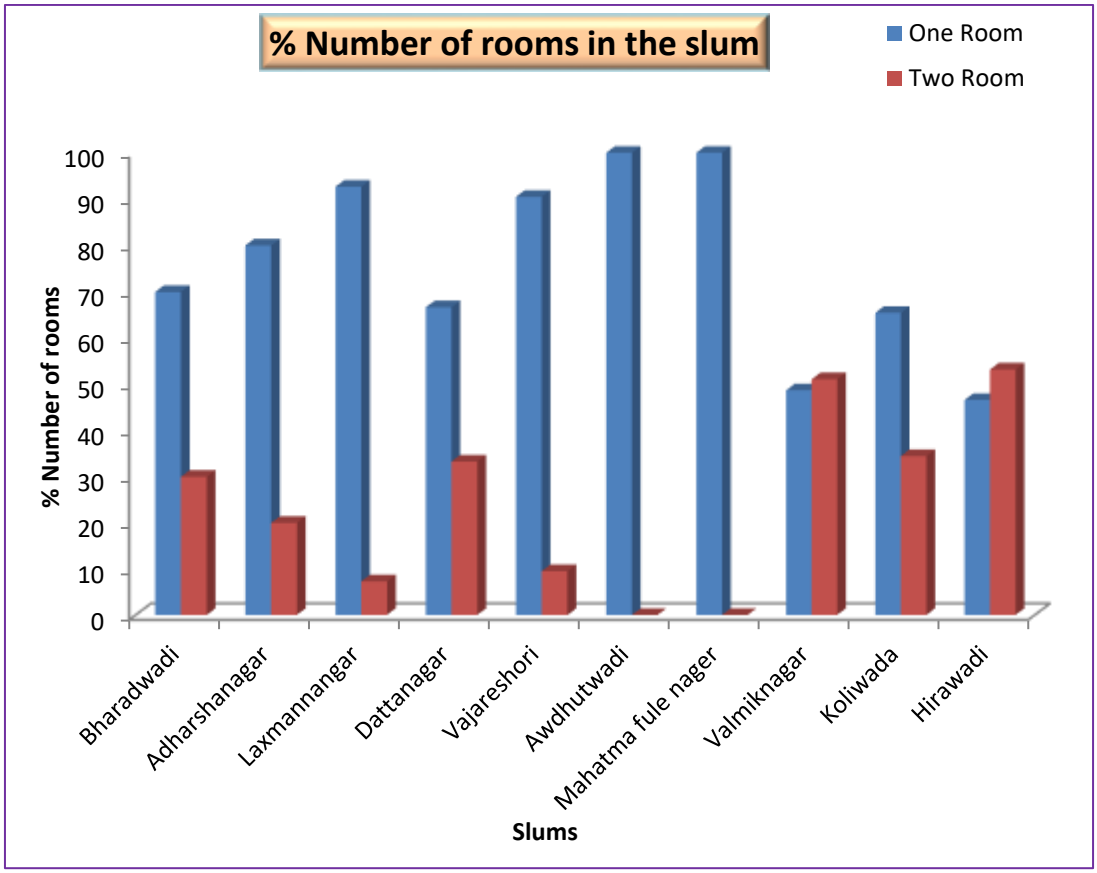


Figure No: 4.35 Percent distribution of number of rooms in the slum household

xxvii) Percentage of Distribution of Separate Kitchen in the Slum Area.

As per the graph 35.7% people have separate kitchens& 74.3% people do not have separate kitchens for cooking. In Hirawadi 73.3% people have separate cooking likewise in Valmiknagar 46.3% people have separate kitchens. In Vajreshwari 100% people do not have separate kitchens. On the other hand, in Mahatmaphule Nagar 89.7% people do not have separate kitchens.

TABLE 4.36: Percent Distribution of Separate Kitchen in the Slum Household In The Panchavati Division Of Nashik City

Name of Slum	Monthly income Rs.	separate kitchen		
		Yes	N0	Total
Bharadwadi	**Up to five thousand**	5.0	42.5	47.5
	Five to ten thousand	20.0	17.5	37.5
	Above ten thousand	10.0	5.0	15.0
	Total	35.0	65.0	100
Adharshanagar	**Five to ten thousand**	0.0	30.0	30.0
	Above ten thousand	20.0	50.0	70.0
	Total	20.0	80.0	100
Laxmannager	**Up to five thousand**	3.6	14.5	18.2
	Five to ten thousand	3.6	58.2	61.8
	Above ten thousand	3.6	16.4	20.0
	Total	10.9	89.1	100
Dattanagar	**Up to five thousand**	0.0	5.1	5.1
	Five to ten thousand	10.3	35.9	46.2
	Above ten thousand	28.2	20.5	48.7
	Total	38.5	61.5	100
Vajareshori	**Up to five thousand**	0.0	21.4	21.4
	Five to ten thousand	0.0	54.8	54.8
	Above ten thousand	0.0	23.8	23.8
	Total	0.0	100	100
Awdhutwadi	**Up to five thousand**	8.7	21.7	30.4
	Five to ten thousand	8.7	52.2	60.9
	Above ten thousand	4.3	4.3	8.7
	Total	21.7	78.3	100
Mahatma Phule Nagar	**Up to five thousand**	0.0	17.2	17.2
	Five to ten thousand	3.4	69.0	72.4
	Above ten thousand	6.9	3.4	10.3
	Total	10.3	89.7	100
Valmiknagar	**Up to five thousand**	4.9	14.6	19.5
	Five to ten thousand	26.8	24.4	51.2
	Above ten thousand	14.6	14.6	29.3
	Total	46.3	53.7	100
Koliwada	**Up to five thousand**	17.2	27.6	44.8
	Five to ten thousand	0.0	20.7	20.7
	Above ten thousand	6.9	27.6	34.5
	Total	24.1	75.9	100
Hirawadi	**Five to ten thousand**	26.7	13.3	40.0
	Above ten thousand	46.7	13.3	60.0
	Total	73.3	26.7	100
	Total	25.8	74.3	100

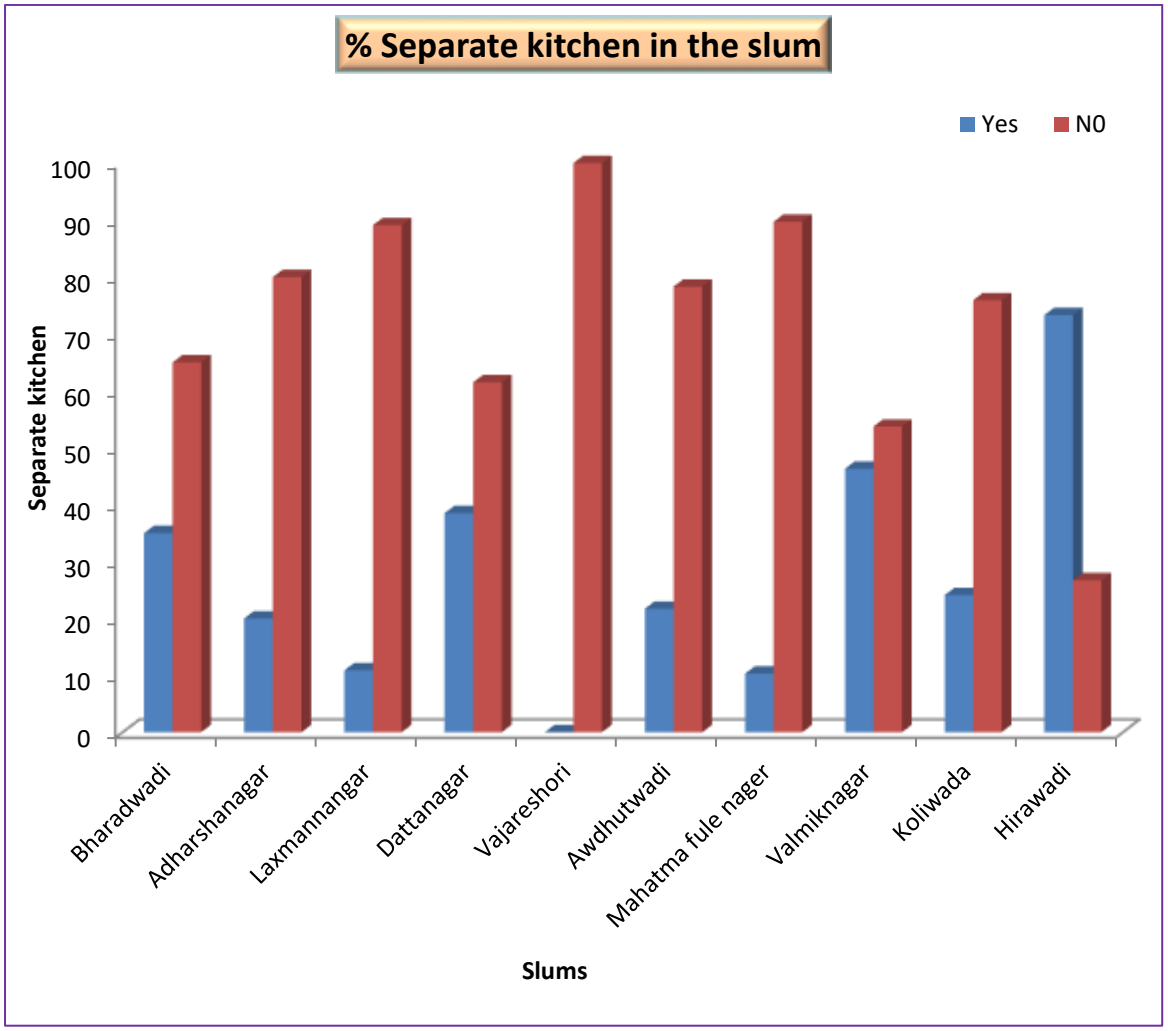


Figure No: 4.36 Percent Distribution of Separate Kitchen in the Slum Household

xxviii) Percentage of Light& Air in House

As per the above Figure 50% people have proper light & air ventilation in their houses but 50% people do not have these facilities. In Hirawadi 100% people & in Valmiknagar 70.7% people have proper light & air in Vajreshwari 83.3% and in Koliwada 79.9% people do not have proper light & air.

Table 4.37: Percent distribution of light and air in house the slum household in the panchavati division

Name of Slum	Monthly income Rs.	proper light and air in house		
		Yes	N0	Total
Bharadwadi	**Up to five thousand**	5.0	42.5	47.5
	Five to ten thousand	25.0	12.5	37.5
	Above ten thousand	10.0	5.0	15.0
	Total	40.0	60.0	100
Adharshanagar	**Five to ten thousand**	0.0	30.0	30.0
	Above ten thousand	40.0	30.0	70.0
	Total	40.0	60.0	100
Laxmannager	**Up to five thousand**	10.9	7.3	18.2
	Five to ten thousand	47.3	14.5	61.8
	Above ten thousand	9.1	10.9	20.0
	Total	67.3	32.7	100
Dattanagar	**Up to five thousand**	0.0	5.1	5.1
	Five to ten thousand	5.1	41.0	46.2
	Above ten thousand	33.3	15.4	48.7
	Total	38.5	61.5	100
Vajareshori	**Up to five thousand**	4.8	16.7	21.4
	Five to ten thousand	2.4	52.4	54.8
	Above ten thousand	9.5	14.3	23.8
	Total	16.7	83.3	100
Awdhutwadi	**Up to five thousand**	8.7	21.7	30.4
	Five to ten thousand	26.1	34.8	60.9
	Above ten thousand	8.7	0.0	8.7
	Total	43.5	56.5	100
Mahatma Phule Nagar	**Up to five thousand**	10.3	6.9	17.2
	Five to ten thousand	34.5	37.9	72.4
	Above ten thousand	10.3	0.0	10.3
	Total	55.2	44.8	100
Valmiknagar	**Up to five thousand**	14.6	4.9	19.5
	Five to ten thousand	31.7	19.5	51.2
	Above ten thousand	24.4	4.9	29.3
	Total	70.7	29.3	100
Koliwada	**Up to five thousand**	6.9	37.9	44.8
	Five to ten thousand	0.0	20.7	20.7
	Above ten thousand	13.8	20.7	34.5
	Total	20.7	79.3	100
Hirawadi	**Five to ten thousand**	40.0	0.0	40.0
	Above ten thousand	60.0	0.0	60.0
	Total	100.0	0.0	100
		50.0	50.0	100

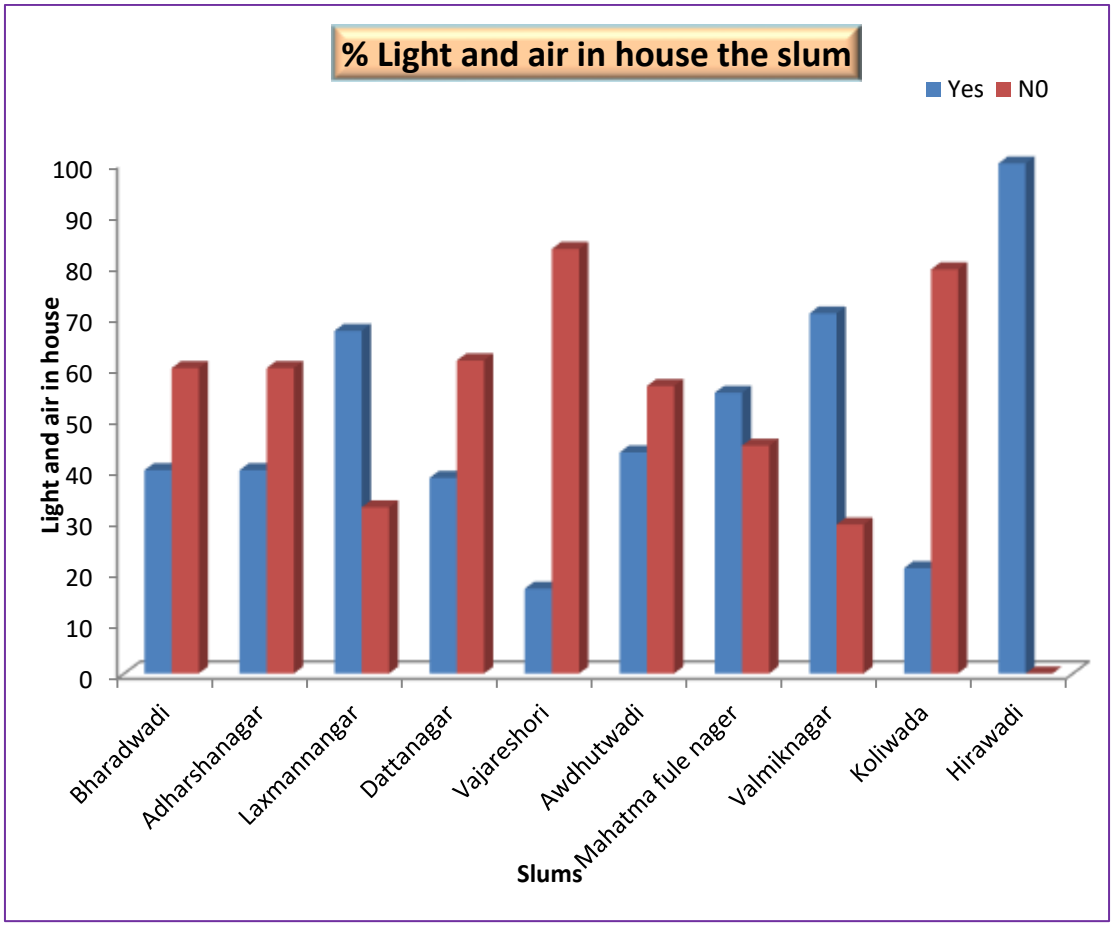


Figure No: 4.37 Percent distribution of light and air in house the slum household

xxix) Percentage Distribution of Having Windows in Houses

As per the graph 53.5% people have windows for their houses but 46.5% people do not have windows for their houses. In Hirawadi 100% people have windows for their houses, in Mahatma Phule Nager 87.9% people have windows for their houses, in Avdhootwadi 73.9% & in Koliwada 72.4% people do not have windows for their houses.

Table 4.38: Percent distribution of having window in house in the slum household in the Panchavati

Name of Slum	Monthly income Rs.	having window in house		
		Yes	N0	Total
Bharadwadi	**Up to five thousand**	5.0	42.5	47.5
	Five to ten thousand	25.0	12.5	37.5
	Above ten thousand	10.0	5.0	15.0
	Total	40.0	60.0	100
Adharshanagar	**Five to ten thousand**	0.0	30.0	30.0
	Above ten thousand	30.0	40.0	70.0
	Total	30.0	70.0	100
Laxmannager	**Up to five thousand**	3.6	14.5	18.2
	Five to ten thousand	36.4	25.5	61.8
	Above ten thousand	16.4	3.6	20.0
	Total	56.4	43.6	100
Dattanagar	**Up to five thousand**	0.0	5.1	5.1
	Five to ten thousand	5.1	41.0	46.2
	Above ten thousand	38.5	10.3	48.7
	Total	43.6	56.4	100
Vajareshori	**Up to five thousand**	7.1	14.3	21.4
	Five to ten thousand	16.7	38.1	54.8
	Above ten thousand	9.5	14.3	23.8
	Total	33.3	66.7	100
Awdhutwadi	**Up to five thousand**	0.0	30.4	30.4
	Five to ten thousand	21.7	39.1	60.9
	Above ten thousand	4.3	4.3	8.7
	Total	26.1	73.9	100
Mahatma Phule Nagar	**Up to five thousand**	17.2	0.0	17.2
	Five to ten thousand	60.3	12.1	72.4
	Above ten thousand	10.3	0.0	10.3
	Total	87.9	12.1	100
Valmiknagar	**Up to five thousand**	14.6	4.9	19.5
	Five to ten thousand	31.7	19.5	51.2
	Above ten thousand	24.4	4.9	29.3
	Total	70.7	29.3	100
Koliwada	**Up to five thousand**	13.8	31.0	44.8
	Five to ten thousand	0.0	20.7	20.7
	Above ten thousand	13.8	20.7	34.5
	Total	27.6	72.4	100
Hirawadi	**Five to ten thousand**	40.0	0.0	40.0
	Above ten thousand	60.0	0.0	60.0
	Total	100	0.0	100
		53.5	46.5	100

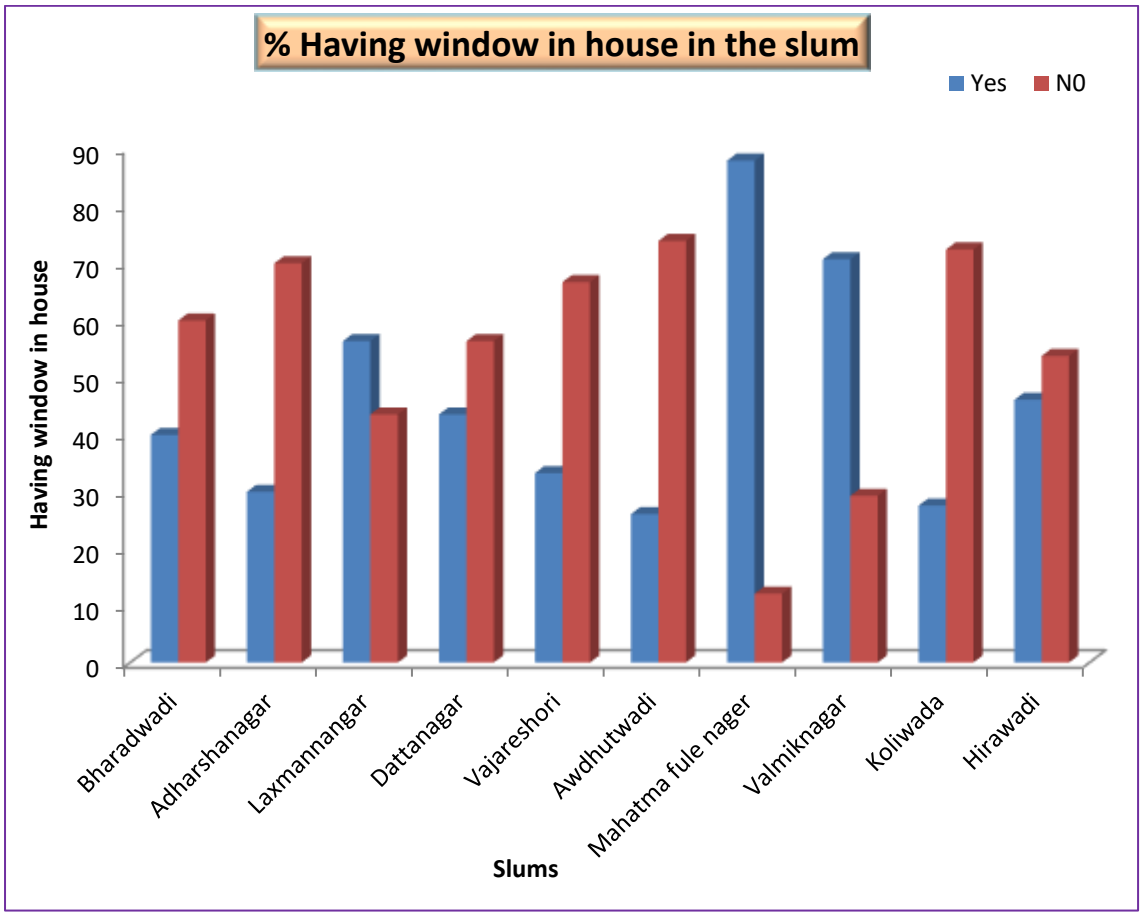


Figure No: 4.38 Percent distribution of having window in house in the slum

xxx) Size of Houses

The above graph shows that 79.8% are of 1500 sq. feet, 20.3% houses are of 300 sq. feet in bharadwadi 57.7% houses. In Hirawadi 46.7% houses are of 300 sq. feet. In Avdhootwadi 100% houses are of 1500 sq. feet and likewise in Mahatma Phule Nagar 96.6% Houses are of 1500 sq. feet.

Table 4.39: Percent distribution of size of house in the slum household in the panchavati division

Name of Slum	Monthly income Rs.	size of house		
		Up to 150 Sq.feet	Up to300Sq.feet	Total
Bharadwadi	**Up to five thousand**	30.0	17.5	47.5
	Five to ten thousand	7.5	30.0	37.5
	Above ten thousand	5.0	10.0	15.0
	Total	42.5	57.5	100
Adharshanagar	**Five to ten thousand**	30.0	0.0	30.0
	Above ten thousand	30.0	40.0	70.0
	Total	60.0	40.0	100
Laxmannager	**Up to five thousand**	18.2	0.0	18.2
	Five to ten thousand	58.2	3.6	61.8
	Above ten thousand	20.0	0.0	20.0
	Total	96.4	3.6	100
Dattanagar	**Up to five thousand**	5.1	0.0	5.1
	Five to ten thousand	46.2	0.0	46.2
	Above ten thousand	43.6	5.1	48.7
	Total	94.9	5.1	100
Vajareshori	**Up to five thousand**	16.7	4.8	21.4
	Five to ten thousand	45.2	9.5	54.8
	Above ten thousand	14.3	9.5	23.8
	Total	76.2	23.8	100
Awdhutwadi	**Up to five thousand**	30.4		30.4
	Five to ten thousand	60.9		60.9
	Above ten thousand	8.7		8.7
	Total	100		100
Mahatma Phule Nagar	**Up to five thousand**	13.8	3.4	17.2
	Five to ten thousand	72.4	0.0	72.4
	Above ten thousand	10.3	0.0	10.3
	Total	96.6	3.4	100
Valmiknagar	**Up to five thousand**	19.5	0.0	19.5
	Five to ten thousand	22.0	29.3	51.2
	Above ten thousand	14.6	14.6	29.3
	Total	56.1	43.9	100
Koliwada	**Up to five thousand**	37.9	6.9	44.8
	Five to ten thousand	20.7	0.0	20.7
	Above ten thousand	34.5	0.0	34.5
	Total	93.1	6.9	100
Hirawadi	**Five to ten thousand**	13.3	26.7	40.0
	Above ten thousand	40.0	20.0	60.0
	Total	53.3	46.7	100
		79.8	20.3	100

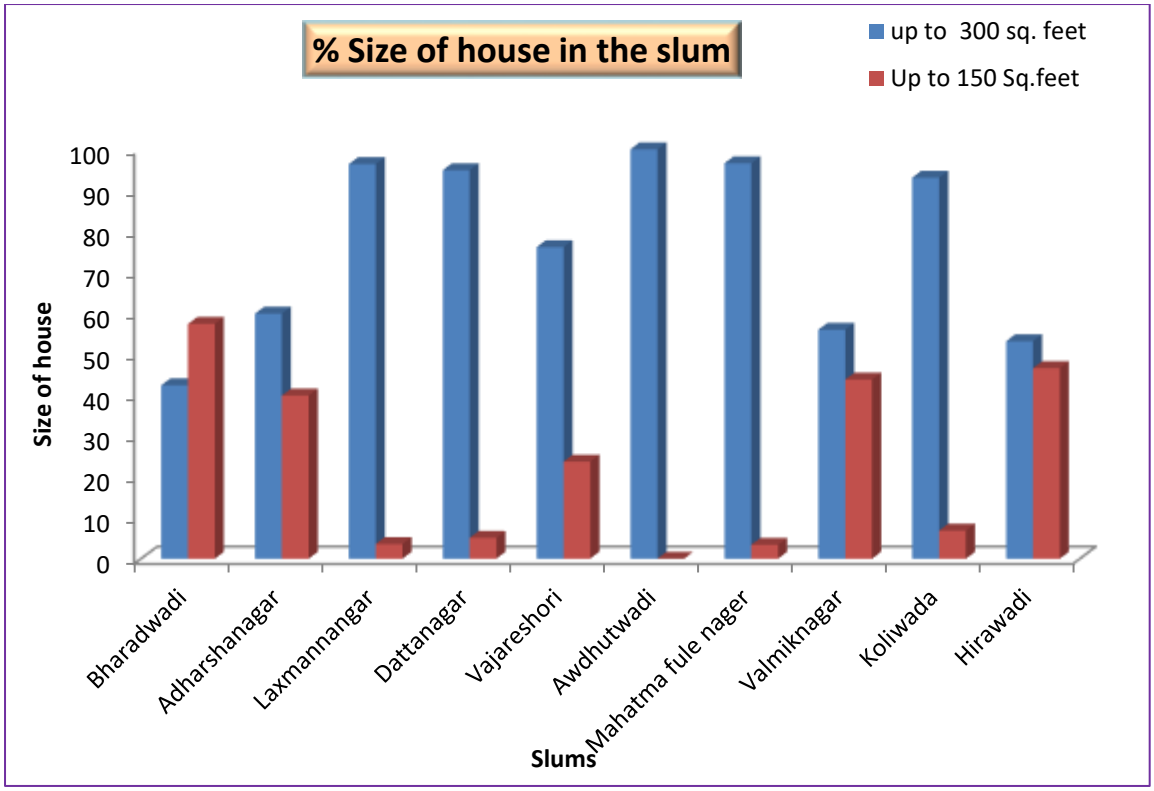


Figure No: 4.39 Percent distribution of size of house in the slum household

VI) Major Problems of Slum Dwellers

It has been the observation of several studies that lack of basic amenities to the slum dwellers makes their life worst. According to field survey and data analysis following problems of slums is observed.

1. Drinking Water

Analysis of the data of drinking water clearly indicates that according to slum population water availability, distance of water, quality of water is not satisfactory. Improvement in the supply of water availability and quality may overcome this problem.

2. Employment

Most slum dwellers are unskilled and uneducated, so they do not have opportunities of jobs. So they beg as there is no work available. An uneducated and unskilled person from slums becomes unemployed. There are threats that such unemployed people may get involved in illegal activity.

3. Income

Due to unemployment and occupational structure, there is low income. So the people of slums cannot afford suitable life. Purchasing power of these peoples is very low. Burden of family members are usually high to the head of the family. Dependency ratio is more in slum so there is low income.

4. Health

Analyzing the data of safe drinking water and toilet condition, it is observed that the health condition of slum dweller is not satisfactory. Percentages of safe drinking water and toilet are very low. So there is a chance of major health problems.

VII) Summary

In this chapter we discussed about social status of the slums i.e. according to income size ownership of house, rent of house, sex percentage, literacy, caste, family stay etc. in economic status of the sampled slums; We discussed about occupation, income class, life's goods etc. in the section of health status; we discussed about drinking water arability, distance of water, quality of water, trips for water collection, distribution of safe water, pay for drinking water etc. Finally we discussed about major problems observed in the sampled slums i.e. unemployment, income problems, drinking water problem and health problem. In this way we discussed this chapter.

CHAPTER 5

FINDINGS AND SUGGESTIONS

A. FINDINGS:

1. Nashik city shows continually fluctuating trend of growth, its density of population is increasing continually.
2. All divisions of Nashik city show deficient sex ratio. Nashik east division shows highest sex ratio (966) and Nashik road division of city shows lowest (858) sex ratio in 2011at Nashik.
3. Literacy rate of Nashik city is continuously increasing. It is increased by 13.85% for male population and by 17.19% for female population between 2001 to 2011 census years. Panchavati division shows highest literacy rate at the same time Nashik west division shows lowest literacy rate for both male and female.
4. In Nashik city there are 168 notified slums of which 56 slums are undeclared and 112 slums are declared.
5. There are 42742 hutments in all declared and undeclared 168 slums in Nashik city out of which maximum 46 slums i.e. 27.38% of slums are in Panchavati division and lowest number of slums is observed in Nashik west area where 16 slums occupy 9.52% of total slums.
6. Out of total 168 slums in Nashik city, 111 slums are located on private land, 32 slums are located on government land and 25 slums are encroached in Nashik municipal corporation land. Highest number of slums on private land are located in Nashik road area (35) and lowest number of slums on private land are located in Satpur area i.e. 1 slum.
7. On the basis of shape of slums, 39 slums are of Amorphousin shape, 28 slums show linear shape and 26 slums represent square shape.
8. On the basis of study of slums in Nashik city it is observed that CIDCO area of Nashik city grows faster in area as well as slum population after 1995.
9. As there is no aerial growth in Nashik west area its population density increases by five times.
10. Total population of Nashik city and its slum population have continuously increased since 1971 till 2011, but slum population of Nashik city increases very rapidly forms 2001 to 2011.
11. More than 103 slums in Nashik city contribute more than one thousand populations each. 118 slums in Nashik city contribute density between 6 to 15 persons / sq. Meter, as it is slum scrapers and density of population is very less in slums compare with other areas.

12. On the basis of case study of slums in Nashik city it is found that in Adarshnagar slum 30% people stay in rented houses.
13. Per head income of male and female is nearly same in slum areas of Nashik city. In Vajreshwari area female per head income is high as compared to any other slum area.
14. Illiterate population engages in participatory activities and earns more than literate population in slum area. Per head income of Illiterate people is more than 10000. And it is less than 10,000 for literate people.
15. 95% slum of Panchavati area having T.V. 10.8% slum having fridge, 82% population enjoying telephone facility and nearly 25% Population having their own bikes, the people who earn more than Rs. 10000 income having their own Rickshaw.
16. 42.8% surveyed population resides in slums from last 30 years, 21.8% population resides in slum area from last 20 year and 13.8% population of slum resides in this area from last 10 years.
17. 83.3% of slum population is service laborers, 13.3% workers are self-employed and remaining 3.5% are industrial workers
18. 63 % slum population of Panchavati area is served by corporation remaining population depends on public on public taps; average duration of water availability is one hour.
19. 95.5% population of slum is not satisfied about quantity and quality of water, according to response of surveyed people water is not portable
20. Toilet facility is very poor in slum areas there is no toilet facility available in Vajreshwari area. In Phulenagar and Koliwada area 96% population is using public lavatories. 60% toilets of Mahatma Phule Nager area are not in working condition. Ratio of toilets to population is very less in study area.
21. Though LPG gas is distributed for poor in slum still 19.7% population is lacking this facility. 6% people use wood, scrubs as fuel and 13.8% population use kerosene as a fuel.
22. Maximum slum population of study area resides in Semi- pakka houses and majority of population resides in one room houses. Still 89% houses have no separate kitchen facility.
23. Maximum slums are located on congested area they are lacking sunshine and fresh air, there is problem of healthy environment in slum areas in Panchavati division.

B. Suggestions

1. Still 56 slums are undeclared and 111 slums are located on private land at the corporation level. There is need to re-establish these slums like Nilgiri bag and Pathardi village rehabilitation.
2. Panchavati area is pilgrimage and religiously Important area, and it is area of concentration of slums there is need to improve quality of life of people reside on bank of nala.
3. Still population resides in slum depend on market yard for jobs hence there is need to provide employment opportunities to the population.
4. Literacy rate of slum population is still very less in slum area there is need to improve literacy rate of population with the help of Adult education.
5. There is urgent need of providing health and hygiene facility to slum population.

C. Conclusion

Nashik city is the historic and pilgrimage city of Maharashtra located on bank of river Godavari which is known as southern Ganga. River Godavari is having its sacred importance, maximum of slum of Nashik city and particularly Panchavati division slums are located on the bank of Godavari basin. For transformation of city in to smart city and for overall health of city, there is urgent need to work for betterment of slums in different divisions of Nashik city.

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