

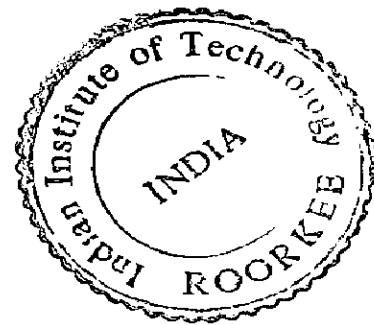
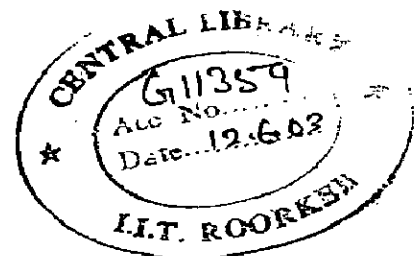
**PLANNING FOR REDEVELOPMENT
OF SLUMS OF INDORE CITY
MADHYA PRADESH**

A DISSERTATION

*Submitted in partial fulfilment of the
requirements for the award of the degree
of*
MASTER OF URBAN AND RURAL PLANNING

By

SATISH PIPRALIA



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JANUARY, 2003

CANDIDATE'S DECLARATION

I hereby certify that the work which is being presented in this thesis entitled "**Planning for Redevelopment of slums of Indore City, Madhya Pradesh**", in partial fulfillment of the requirement of the award of the Degree of **Master of Urban and Rural Planning** submitted in the Department of Architecture and Planning, of the Indian Institute of Technology-Roorkee, Roorkee, is an authentic record of my own work carried out during the period from August 2002 to January 2003 under the supervision of **Dr. V. Devadas**, Assistant Professor, Department of Architecture and Planning, Indian Institute of Technology-Roorkee, and **Dr. Nalini Singh**, Assistant Professor, Department of Architecture and Planning, Indian Institute Technology- Roorkee, Roorkee.

The matter embodied in this thesis has not been submitted by me for the award of any other Degree.

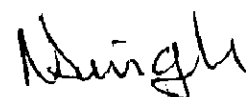
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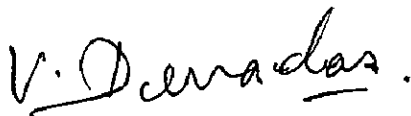
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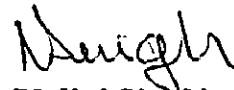
Certified that this report entitled “ **Planning for Redevelopment of slums of Indore City, Madhya Pradesh**”, which has been submitted by **Mr. Satish Pipralia**, in partial fulfillment of the requirements for the award of Post Graduate Degree in **Master of Urban and Rural Planning** in the Department of Architecture and Planning, Indian Institute of Technology-Roorkee, Roorkee, is the student’s own work carried out by him under our supervision and guidance. The matter embodied in this dissertation has not been submitted for the award of any other Degree.

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ABSTRACT

The world, today, is rapidly progressing through the process of globalization and integration of markets into a new reality – as a “global village”. In recent times, cities have emerged as an engine of growth. “Cities today support half of the global population, i.e., approximately 3 billion people. In the 21st century, cities of developing countries are witnessing housing shortage as the most pressing problem. More than one billion of the world’s city residents live in inadequate housing, mostly in the sprawling slums and squatter settlements, especially in the developing countries”¹, and India is no exception to it.

Almost all the Indian cities are struggling to cope up with the increasing demand of infrastructure services, the additional migrants further causing tension in using the existing scarce infrastructure services. In housing front, the Indian cities are facing acute shortage, and the in migrants further cause tension on it, which results with formation of slums or squatter settlements or increase in number of pavement dwellers in the urban system.

Slum plays an important role in the city, they provide essential services to the urban system and much needed labor force to fuel urban dynamism and they improve their chances of survival by whatever meager income they receive in return. Needless to say that slums and the rest of the city has symbiotic relationship. Recognizing this fact, slums are viewed as housing in improvement. It is indeed the issues of control, professional methods, attitudes, and responsibilities that are most hotly debated among housing theorists and practitioners, particularly in the case of complex social, economic and political networks of informal settlements.

Having known that there is a fundamental change of attitude that is - an acceptance of the informal settlement as an inevitable feature of the process of city building. The research work recognizes that, there is need, for fuller appreciation of the functions and inadequacies of informal settlements, and also for the implementation of specially - designed programs with built-in and feasible objectives of environmental improvement and planned social, physical and economic change.

The present study investigates control parameters that decide the function of slums, and establishes the link between slums and rest of the urban system. The study investigates the present status of the infrastructure facilities in slums, socio-economic characteristics of slum dwellers; and various factors, such as, desire to shift for better living, willingness to pay, priorities of essential services and physical improvement that is essential to know for development of slum dwellers, etc, finally a set of plausible *recommendation is formulated for the redevelopment of slum pockets in the study area* for achieving steady and integrated socio-economic, physical and environmental development.

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Date **January 27, 2003.**


SATISH PIPRALIA

CONTENTS

CANDIDATE’S DECLARATION	i
CERTIFICATE	ii
ABSTRACT	iii
ACKNOWLEDGEMENT	v
LIST OF TABLES	xviii
LIST OF FIGURES	xxi
CHAPTER – 1 INTRODUCTION	
1.1 INTRODUCTION	1
1.2 PLANNING CONCERNS	3
1.3 ANALYSIS OF EXISTING DEFINITIONS OF SLUM	4
1.4 PARADIGMS IN HOUSING	9
1.4.1 Provider	9
1.4.2 Supporter	9
1.4.3 Major Aspects of Support Paradigm	10
A. Flexibility	10
B. Participation	13
C. Enablement	13
1.5 URBAN REGENERATION	14
1.6 RESEARCH DESIGN	14
1.6.1 Objectives	15
1.6.2 Scope	15
1.6.3 Methodology	15
1.6.4 Concept	15

1.6.5 Research Method	15
1.6.6 Data	15
1.6.7 Tools And Techniques	16
1.6.8 Analysis	16
1.6.9 modeling	16
1.6.10 Forecasting	16
1.6.11 Inferences	16
1.6.12 Recommendations	16
1.6.13 Conclusions	16
1.6.14 Limitations	16
 CHAPTER – 2 : CASE STUDIES AND LITERATURE REVIEW	
INTRODUCTION	17
PART 1: CASE STUDIES	18
2.1 CASE STUDY 1: LESSONS FROM SOUTHEAST ASIAN COUNTRIES	18
2.1.1 Introduction	18
2.1.2 Sri Lankan Experience	19
2.1.3 The Indonesian Experience	21
2.1.4 In Comparative Perspective	22
2.2 CASE STUDY2: THE INDORE HABITAT PROJECT	24
2.2.1 INTRODUCTION	24
2.2.2 PHYSICAL IMPROVEMENTS	25
2.2.3 COMMUNITY DEVELOPMENT PROGRAMS	25
2.2.4 ORGANIZATION AND FUNDING	26
2.3 INFERENCES	27
2.4 CONCLUSION	28

PART-2

2.5 REVIEW OF THE GOVERNMENT INTERVENTIONS FOR LAND AND BASIC SERVICES	29
2.5.1 INTRODUCTION	29
2.5.2 BASIC SERVICES PROGRAMME	29
2.5.3 SHELTER CUM SERVICES PROGRAMME	31
2.5.4 EVALUATION	34
2.5.5 CITY SPECIFIC PROGRAMMES ADDRESSING LAND TENURE	34
2.5.6 CONCLUSION	37

PART-3

2.6 STUDY OF SELECTED ASPECTS OF HOUSING	39
2.6.1 Introduction	39
2.6.2 Factors Affecting Housing In Urban Areas	39
2.6.3 Demand For Housing	40
2.6.4 The Demand Side Of Housing Includes The Following Factors	40
2.6.5 The Cost Of Housing Is Affected By	40
2.6.6 Factors Affecting The Availability Of Finance For Housing	41
2.6.7 Housing Supply	41
2.6.8 Factors Affecting Housing Supply	41
2.6.9 Factors Affecting Supply Of Land For Housing Purpose	42
2.6.10 Factors Affecting Land Price	42
2.6.11 Land	42

2.6.12 Infrastructure Facility	42
2.6.13 Floor Area Ratio	43
2.6.14 Housing Material And Technology	43
2.7 HOUSING FINANCE	45
2.7.1 Introduction	45
2.7.2 Income/Housing Relationship	45
2.7.3 Informal Sources Of Financing For House Building	46
CHAPTER – 3 : STUDY AREA PROFILE	
3.1 LOCATION	48
3.2 REGIONAL SETTING	48
3.3 PHYSICAL FEATURES	49
3.3.1 Natural Drainage	49
3.3.3 Building Material	49
3.4 HISTORICAL BACKGROUND	50
3.4.1 Holkar's Indore	50
3.4.2 Rajwada	50
3.5 PLANNING EFFORTS IN THE PAST	51
3.6 PLANNING AREA	51
3.6.1 Limits of Indore Planning Area (Figure 6, Table 3.1)	52
3.7 POPULATION CHANGES IN THE CITY	52
3.8 MIGRATION	53
3.9 OCCUPATIONAL AND EMPLOYMENT PATTERN	54
3.9.1 Occupational Structure	54
3.9.2 Employment Structure	54
3.10 INDUSTRIES	55
3.10.1 Industrial Establishment By Employment	55
3.10.2 Industrial Establishments By Type	56

3.10.3 Industrial Establishment By Location	56
3.11 COMMERCIAL AREAS	56
3.11.1 Specialized Markets	58
3.11.2 Informal Market	58
3.12 HOUSING	58
3.13 LIVING CONDITIONS	61
3.13.1 Residential Density	61
3.13.2 Development Of Land	62
3.14 SLUMS AND SQUATTER SETTLEMENTS OF THE CITY	65
3.14.1 Squatter Settlements	66
3.15 SLUMS IN PRESENT HOUSING POLICIES	67
3.15.1 National Housing Policy	67
3.15.2 State Housing Policy	68
3.16 STATUTES FOR SLUMS	69
3.16.1 Madhya Pradesh Gandi Basti Kshetra (Sudhar Tatha Nirmulan) Adhinium, 1976	69
3.16.2 M.P. Nagariya Kshetra Ke Bhomihin Vyakti (Pattadariti Dhkaron Ka Pradan Kiya Jana) Adhinyam, 1984	72
3.17 GOVERNMENT EFFORTS IN THE PAST	73
CHAPTER – 4 : ANALYSIS OF RELATED THEORIES	74
4.1 INTRODUCTION	74
4.2 SYSTEMS CONCEPT	74
4.3 MASLOW'S NEED HEIRARCHY THEORY	76
4.3.1 Introduction	76
4.3.2 Housing In The Light Of Maslow's Hierarchy Of Needs	77
4.3.3 Needs, Wants, And Life-Styles	77

CHAPTER – 5 : ASSESSING THE SOCIO-ECONOMIC AND PHYSICAL CONDITIONS IN THE SLUMS OF THE STUDY AREA (Primary Survey)	79
5.1 INTRODUCTION	79
5.1.1 Demographic Characteristics	79
5.1.2 Socio economic Characteristics	79
5.1.3 Physical Infrastructure	80
5.1.4 Housing Condition	80
5.1.5 Migratory Information	80
5.1.6 Housing Aspirations	80
5.2 ANALYSIS OF THE PRIMARY SURVEY	81
CHAPTER – 6 : ANALYSIS OF THE CONTROL PARAMETERS THAT DECIDE THE FUNCTIONS OF SLUM	119
6.1 INTRODUCTION	119
6.2 EDUCATION	119
6.3 EMPLOYMENT OPPORTUNITY	119
6.4 OCCUPATION	120
6.5 INCOME	120
6.6 PROXIMITY TO WORK PLACE	121
6.7 SOCIAL RELATIONSHIP	121
6.8 EXPENDITURE	122
6.9 INDEBT NESS	122
6.10 SAVING	123
6.11 INFRASTRUCTURE (physical and social)	123
6.12 LACK OF CONTROLS	123
6.13 CONCLUSION	124

CHAPTER – 7 : ESTABLISHING NEXUS BETWEEN THE SLUMS AND NEIGHBORING AREAS	125
7.1 INTRODUCTION	125
7.2 MHOW AND DHAR NAKA	125
7.3 MILL AREA	125
7.4 JUNI (OLD) INDORE.	126
7.5 CITY AREA (OUTSIDE OLD CITY)	126
7.6 BANGANGA	126
7.7 ROLE OF SLUMS IN THE CITY	127
7.8 ROLE OF SLUM DWELLERS TOWARDS MAINTAINING SLUMS	128
7.9 CONCLUSION	128
CHAPTER – 8 : POPULATION PROJECTION	129
8.1 INTRODUCTION	129
8.2 MATHEMATICAL METHOD	129
8.2.1 Geometric Method	130
8.2.2 Decennial Growth Method	130
8.2.3 Fitting Curve method	130
8.3 DISCUSSION	131
8.4 PROJECTED SLUM POPULATION	131
8.5 PROJECTED HOUSING AND AREA REQUIREMENT	131
CHAPTER – 9 : RESULTS AND DISCUSSION:	132
9.1 INTRODUCTION	132
9.2 RESULTS OF PHYSICAL SURVEY	132
9.2.1 Education	132
9.2.2 Occupation	132
9.2.3 Income	133
9.2.4 Distance To Work Place And Mode Of Travel	133
9.2.5 Expenditure	133

9.2.6 Indebtness And The Sources Of Borrowing	133
9.2.7 Saving	134
9.2.8 Accommodation Size	134
9.2.9 Existing Infrastructure	135
9.2.10 Ownership Right And Desire To Shift For Better Living	135
9.2.11 Willingness To Pay	135
9.2.12 Choice Of Construction Method	136
9.2.13 Priorities For House Improvement	136
9.2.14 Priorities For Essential Services	136
9.3 INFERENCES FROM THE LITERATURE SURVEY	136
CHAPTER – 10 : MAJOR FINDINGS BASED ON LOCATION SPECIFIC CHARECTERISTICS	138
10.1 INTRODUCTION	138
10.2 JUNI INDORE (OLD CITY)	138
10.2.1 Education	138
10.2.2 Occupation	138
10.2.3 Income	138
10.2.4 Distance To Work Place	138
10.2.5 Expenditure	139
10.2.6 Indebtness	139
10.2.7 Saving	139
10.2.8 Accommodation Size	139
10.2.9 Ownership Right And Desire To Shift For Better Living	139
10.2.10 Willingness To Pay	139
10.3 MILL AREA	139
10.3.1 Education	140
10.3.2 Occupation	140
10.3.3 Income	140

10.3.4 Distance To Work Place	140
10.3.5 Expenditure	140
10.3.6 Indebtness	140
10.3.7 Saving	141
10.3.8 Accommodation Size	141
10.3.9 Ownership Right And Desire To Shift For Better Living	141
10.3.10 Willingness To Pay	141
10.4 BANGANGA	141
10.4.1 Education	141
10.4.2 Occupation	142
10.4.3 Income	142
10.4.4 Distance To Work Place	142
10.4.5 Expenditure	142
10.4.6 Indebtness	142
10.4.7 Saving	142
10.4.8 Accommodation Size	142
10.4.9 Ownership Right And Desire To Shift For Better Living	142
10.4.10 Willingness To Pay	143
10.5 MHOW AND DHAR NAKA	143
10.5.1 Education	143
10.5.2 Occupation	143
10.5.3 Income	143
10.5.4 Distance To Work Place	144
10.5.5 Expenditure	144
10.5.6 Indebtness	144
10.5.7 Saving	144
10.5.8 Accommodation Size	144
10.5.9 Ownership Right And Desire To Shift For Better Living	144
10.5.10 Willingness To Pay	144
10.6 CITY AREA SLUMS	145
10.6.1 Education	145

10.6.2 Occupation	145
10.6.3 Income	145
10.6.4 Distance To Work Place	145
10.6.5 Expenditure	145
10.6.6 Indebtness	146
10.6.7 Saving	146
10.6.8 Accommodation Size	146
10.6.9 Ownership Right And Desire To Shift For Better Living	146
10.6.10 Willingness To Pay	146
CHAPTER – 11 : RECOMMENDATION AND CONCLUSION	147
11.1 INTRODUCTION	147
11.2 PHYSICAL ASPECTS	147
11.2.1 Supply Of Land	147
11.2.2 Location	147
11.2.3 Planning Design	147
11.2.3 Infrastructure Facility	149
11.3 ECONOMIC ASPECTS	149
11.3.1 Cost Of Land	149
11.3.2 Cost Of Construction	150
11.3.3 Employment	150
11.3.4 Income Of Households	150
11.3.5 Availability Of Finance	151
11.3.6 Cost Of Finance	151
11.3.7 Type Of Subsidy	151
11.4 ADMINISTRATIVE ASPECTS	151
11.4.1 Legal And Regulatory Framework	151
11.4.2 Fiscal Measures	152
11.4.3 Institutional Arrangements	152
11.4.4 Policy Measures	153

11.5 SOCIAL ASPECTS	153
11.5.1 Community Development	153
11.5.2 Social Development	153
11.6 ENVIRONMENTAL ASPECTS	153
11.7 LOCATION SPECIFIC RECOMMENDATIONS	154
11.8 CONCLUSION	155
REFERENCES	157
APPENDIX	160

LIST OF TABLE

Table 1.1: Theories Of Practice: Key Characteristics	12
Table 2.1: Level Of Urbanization: India, Sri Lanka And Indonesia For The Period 1970 -1993	18
Table 2.2: Comparative Perspective	24
Table 2.3: Cost Of Individual Infrastructure Components Per Family	26
Table 3.1: Indore: Planning Area (Villages Included)	52
Table 3.3: Indore: Migration From Urban And Rural Areas	53
Table 3.2: Population Change	54
Table 3.4: Number Of Workers Employed In Industries	55
Table 3.5: Industrial Establishment By Type	57
Table 3.6: Indore: Location Of Specialized Markets	59
Table 3.7: Indore: Gumtees And Footpath Shops	60
Table 3.8: Population Distribution And Residential Density (1991)	62
Table 3.9: Percentage Of Households Having Access To Safe Drinking Water And Their Classification By The Source Of That Water (Within Or Outside Premise) And Availability Of Electricity And Toilet Facility:	63
Table 3.10: Distribution Of Census Houses By Condition Of Houses	63
Table 3.11: Total Households And Their Percentage Having Electricity And Toilet Facilities Available	63
Table 3.12: Distribution Of Census Houses By Predominant Materials Of Roof And Wall Of Census Houses	64
Table 3.13: Households By Size And Number Of Rooms Occupied	65
Table 3.14: Households By Tenure Status And Size	65
Table 5.1 Total Numbers Of Persons In A Family	81
Table 5.2. Total Number Of Males In A Family	82
Table. 5.3. Total Number Of Females In A Family	83
Table 5.4 Whether The Occupant Is Tenant:	84
Table 5. 5 Religions	84
Table 5.6 Reason For Migration	85
Table 5.7 Reasons For Change Over To Present Settlement	85
Table 5.8 Total Numbers Of Persons In Age Group Below 5 Years	86
Table 5.9 Total Numbers Of Persons In 5 – 10 Age Group	87

Table 5.10 Total Number Of Persons In 15 - 20 Age Group	87
Table 5.11 Total Number Of Persons In 10 -15age Group	88
Table 5.12 Total Number Of Persons In 20 –60 Age Group	88
Table 5.13 Total Number Of Persons In More Than 60 Yrs. Age Group	89
Table 5.14 Number Of Persons With Primary Education In A Family	90
Table 5.15 Number Of Persons With Middle Education In A Family	90
Table 5.16 Number Of Persons With Secondary Education In A Family	91
Table 5.17 Number Of Persons With Higher Secondary Education In A Family	91
Table 5.18 Number Of Persons With Education Up To Graduation / Above/ Other Type In A Family	92
Table 5.19 Number Of Persons With No Education In A Family	92
Table 5.20 Number Of Un-Natural Deaths In A Family	93
Table 5.21 Cause Of Unnatural Death In A Family	93
Table 5.22 Economic Characteristics	94
Table 5.23 Number Of Earning Members In A Family	95
Table 5.24 Number Of Persons Engaged In Government Jobs In A Family	95
Table 5.25 Number Of Family Members Engaged In Private Jobs	96
Table 5.26 Number Of Persons That Are Self-Employed In A Family	96
Table 5.27 Number Of Dependents In A Family	97
Table 5.28 Expenditure On Clothing As Percentage Of Monthly Income	97
Table 5.29 Expenditure On Medicine As Percentage Of Monthly Income	98
Table 5.30 Expenditure On Conveyance As Percentage Of Monthly Income	98
Table 5.31 Amount Sent To Native Place, As Percentage Of Monthly Income	99
Table 5.32 Expenditure On Cooking Fuel As Percentage Of Monthly Income	99
Table 5.33 Expenditure On Recreation As Percentage Of Monthly Income	100
Table 5.34 Expenditure On Food As Percentage Of Monthly Income	100
Table 5.35 Expenditure On Education As Percentage Of Monthly Income	101
Table 5.36 Expenditure On Social Functions As Percentage Of Monthly Income	101
Table 5.37 Expenditure On Electricity As Percentage Of Monthly Income	102
Table 5.38 Savings As Percentage Of Monthly Income	103
Table 5.39 Indebt Ness Of A Family As Percentage Of Monthly Income	104

Table 5.40 Reasons Given For Borrowing	104
Table 5.41 Source Of Borrowing	105
Table 5.42 Accommodation Size (Sq. Ft.)	106
Table 5.43 Sources Of Drinking Water	107
Table 5.44 Place For Attending The Natural Calls	107
Table 5.45 Place Of Bathing	108
Table 5.46 Availability Of Wastewater Drains	108
Table 5.47 Availability Of Dustbins For Garbage Disposal	109
Table 5.48 Availability Of Electricity	109
Table 5.49 Type Of Fuel Used For Cooking In A Household	110
Table 5.50 Type Of Approach Road	110
Table 5.51 Desire To Shift For Better Living	111
Table 5.52 Whether Ownership Right / Putta Is Obtained	111
Table 5.53 One Time Investment Capacity Per Household, For Obtaining A House Or Land	112
Table 5.54 Paying Capacity For Monthly Installment As Percentage Of Monthly Income:	112
Table 5.55 One Time Investment Capacity Per Household, Towards House Improvement	113
Table 5.56 Paying Capacity For Monthly Installment As Percentage Of Monthly Income	113
Table 5.57 Distance Of Work Place From House	114
Table 5.58 Mode Of Travel To Work Place	114
Table 5.59 Choice Of Method For Construction On The Site	115
Table 5.60 First Priority For House Improvement	115
Table 5.61 Second Priority For House Improvement	116
Table 5.62 Third Priority For House Improvement	116
Table 5.63 First Priority For Essential Services	117
Table 5.64 Second Priority For Essential Services	117
Table 5.65 Third Priority For Essential Services	118
Table 8.1 Summary Of Projection Results	131
Table 11.1 Location Specific Recommendations For Infrastructure Development	154

LIST OF FIGURES

Figure 1 Pardigms to scale Housing Supply	9A
Figure 2 Methodology	15 A
Figure 3 Slums in Indore city	24A
Figure 4 supply demand chart of low-income housing	39 A
Figure5 Regional setting	48A
Figure 6 Limits of Indore Planning Area	52A
Figure7 Industries	55A
Figure 8 Gumtees	60A
Figure9 Slum and Squatter settlements in Indore City	65A
Figure 10 Systems Concept, slum as a sub-system of urban system	75A
Figure 11 Maslow's Need Hierarchy	77A
Figure 12 Fitting Curve	130A
Figure 13 to 20, Summary of survey results	136 A, B, C, D, E
Figure 21-32, Old City Slums	138 - A, B, C, D, E
Figure 33-43, Mill Area Slums	140 A, B, C, D, E
Figure 44-56, Banganga Slums	142 A, B, C, D, E
Figure 57- 68, City Area Slums	146 A, B, C, D, E
Figure 69 Elements of Integrated Slum development	153 A
Figure 70 Planning model for redevelopment of slums	153B

INTRODUCTION

1.1. INTRODUCTION

The world, today, is rapidly progressing through the process of globalization and integration of markets into a new reality – as a “global village”. In recent times, cities have emerged as an engine of growth. “Cities today support half of the global population, i.e., approximately 3 billion people. In the 21st century, cities of developing countries are witnessing housing shortage as the most pressing problem. More than one billion of the world’s city residents live in inadequate housing, mostly in the sprawling slums and squatter settlements, especially in the developing countries”¹, and India is no exception to it.

Almost all the Indian cities are struggling to cope up with the increasing demand of infrastructure services, the additional migrants further causing tension in using the existing scarce infrastructure services. In housing front, the Indian cities are facing acute shortage, and the in migrants further cause tension on it, which results with formation of slums or squatter settlements or increase in number of pavement dwellers in the urban system.

“The growth of cities is a natural part of nation building”². As such, the movement towards the urban system is an inherent part of development. Since the urban system depends on migrants from the rural areas for the energy that fuels urban dynamism, there must be natural provisions for cheap and efficient housing of such migrants. As there is no mechanism to predict the number of migrants that arrive in a given city, it is impossible to estimate accurately the incoming migration in a particular city. Hence, the growth of slums and squatter areas is only a normal manifestation of urbanization over the years.

Uncontrolled urban settlement is the consequence of normal process of urban accommodation under the exceptional conditions of contemporary urbanization. By this hypothesis, squatter and other forms of uncontrolled urban settlements are not the ‘official aberrations’ they so commonly are assumed to be. “They are the perfectly natural response to an abnormal situation”³. “In an event of continued migration it would be necessary to carry hypothesis to an even more extreme proposition: that

slums and squatters (or uncontrolled urban settlements) are the result not only of 'exceptional' or 'abnormal' situations but also of the normal course of development."⁴

"In India, during the past five decades a phenomenal growth of urban population have witnessed the addition of about 7 to 8 million people every year. The level of urbanization was 11% to 12% in first three decades of the 20th century but it surged noticeably from 17.3% in 1951 to 25.7% in 1991."⁵ Characteristic feature of India's urbanization is the concentration of population in few cities. Rapid urbanization is a feature of most developing countries, in India, as elsewhere; this has led to a merciless deterioration in the quality of life. The population of India currently stands well above one billion. "The population growth rate is much higher in urban areas (4 percent) than in rural areas (1.15 percent) and higher still in slum areas (10 percent). At this rate the slum population will double every ten years."⁶

Today, India has 7 Mega cities having the population of more than 4 million. Each city faces the problem of slums and squatter settlements along with the increased pace of development and the teeming millions. "The four metropolitan cities in India, such as Mumbai, Kolkatta, Chennai and New Delhi together support 17.3 percent of the urban population of the country. The slum population of these four Metros is about 154 lakhs."⁷ The increasing proportion of population living in slums and squatter settlements is a marked feature of urbanization in the developing countries. "Way back in 1994, approximately 22.5 percent population of urban India was living in the slums and squatter settlements. Percentage of slum varies with the scale of urban settlement, much higher proportion of population live in slums and squatter settlements in large cities as compared to lower order cities. It can be exemplified through the fact that, in 1991, the slum population in Mumbai was 55.3 percent, it was 40 percent in Chennai, and in Ahmedabad it was 40 percent of population that was living in slums."⁸ It becomes increasingly important to address the issue of slums because higher order settlements (million plus cities) are bound to increase in the near future and correspondingly there shall be increase in number of slums and slum population. While there are 35 million plus cities today, projection brings their number to 53 for the year 2011; and by the year 2021, they will be as many as 70 in number.

Author has chosen Indore as the study area, which is one among thirty-five, million plus cities. It has a population of 1,600,000 and is an important textile manufacturing and engineering town, as well as being an agricultural marketing and

distribution center. It is situated midway between Delhi and Bombay and is currently one of the fastest growing cities in India. Twenty-eight percent of the population lives in its 178 slums, which occupy 25% (44.10 sq. km.) of the municipal area of the city at present; and the numbers continue to increase rapidly as the employment opportunities attract population from the surrounding rural areas. Indore is the major city in the region and exercises a great pull on the surrounding area.

“A survey in 1990 showed that more than two thirds of all slum dwellers are below the poverty line, earning less than Rs 1,000 a month. Most of the workers find work on a temporary basis only. No more than two thirds of the workers find work for more than 14 days a month. The literacy rates in the slum are surprisingly high, being almost 60 percent, although there is a marked difference between the sexes, with only 47 percent of women being literate vs. 73 percent of men. Sickness is common and families spend about 8 percent of their monthly income on medicine.”⁹

1.2. PLANNING CONCERNS

Slums are growing in an exorbitant rate in the Indian cities, which are having great concern to the planners because they invariably mushroom in disaster prone areas that are unsuitable for development; and consequently, it increases the susceptibility of the urban poor to natural and artificial disasters.

Certain issues that are critical for attempting a viable solution to the issue of slum are:

- Identification of services rendered by slum dwellers for themselves for their survival within the sub system.
- Identification of slum dwellers in the city and the importance of their services in the rest of the system.
- Identification of the control parameters, which decide the function of the slum pockets.
- Identification of measures to provide minimal quality of living environment can be ensured to the inhabitants of the slum pockets.

As the overall goal of the Land-use planning process is to improve the quality of life through the reduction of socio-economic inequalities among the population and provide for healthy and safe living; therefore it must include informal settlements while:

- Land –use planning
- Monitoring of local land-use changes, and
- Identifying socio-economic realities in land-use planning

1.3. ANALYSIS OF EXISTING DEFINITIONS OF SLUM

“In India, where slums have been known for centuries, they are known or addressed in different words. The common words, which are used to express slum are *Bustees, Jhompris, Juggies, Ahats, Cherais, Katras, Chawls, and Lanes.*”¹⁰ “Similarly in Latin America, slum and squatter communities are common and are variously referred to as *Jacales* or *Colonias Proletarias* in Mexico; *Favelas, Mocambos, Algados, or Villas de Malocas* in Brazil; *Callampas* in Chile; *Villas Miserias* in Buenos Aires; *Barrios Clandestinos* in Colombia and Peru; and *Ranchos* in Venezuela.”¹¹

“Slums in the United States of America (U.S.A.) too are quite common. In this land of affluence (U.S.A.), slums can be embarrassing, several polite words or “terms of a genteel nature,” have been used to refer to them. These include *blighted area, deteriorated area, renewal area, gray area, lower class neighborhood, low income area, and inner core area*”¹²

Among the terms mentioned above, the terms which sociologists have coined are: “blighted area”, “deteriorated area”, “inner core area”, “lower class neighborhood”, “low income area”, “renewal area”, etc. Other social scientists, such as Economists, Geographers, Urban Planners, etc. have used the terms like “marginal area”, “substandard area”, “unplanned settlement”, “uncontrolled settlement”, “spontaneous settlement”, “provisional area”, “overnight settlement”, etc. to name the slum.

The United Nations, for example, defined a slum as:

“.....a building, group of buildings, or area characterized by overcrowding, deterioration, unsanitary conditions or absence of facilities or amenities which,

because of these conditions or any of them, endanger the health, safety or morals of its inhabitants or the community.”¹³

Obviously, this is a broad definition giving scope to cover any living environment, which is slum-like, Bergel have attempted to offer a more restricted definition of a slum, which is at variance with the one quoted above. According to Bergel, “slums may be characterized as areas of sub-standard housing conditions within a city. A slum is always an area. A single neglected building even in the worst stage of deterioration does not make a slum.”¹⁴

According to Government of India, slum has been defined as: “Any predominantly residential area, where the dwellings, which by reasons of dilapidation, over crowding, faulty arrangement of design, lack of ventilation, light or sanitary facilities, or any combination of these factors, are detrimental to safety, health or morals.”¹⁵

Harvey Zorbough highlights evil aspects while defining slums, he defined slum as: “ a black area of segregation of the sediments of society, an area of extreme poverty, tenements, ramshackle buildings of eviction and evaded rents, an area of working mothers and children, of high rates of birth, infant mortality, illegitimacy and death, an area of pawn shops and second hand stores, of gangs of flops----Slum is the area, which has reached the limits of decay and is on the verge of recognition-----The slum harbors many sort of people, the criminals, the radicals, the bohemian, the migratory workers, the immigrants, the unsuccessful, the queer, and the unadjusted.” A slum was considered a distinct area of disorganization and disintegration, “as the abode of half starved, filthy clothed children, of diseased and crippled individuals, a place of poverty, wretchedness, and ignorance and vice.”¹⁶

John R. Seely, however holds the squarely opposite view, he not only views slum in a positive light but also brings forward role played by them in an urban system. He describes slum as physical manifestation of struggle for shelter, and points out that slum is not just a dumping ground, nor just a way station in the city, but is a provider of goods and services that are demanded by the non-slum population; slum dwellers render services to the non-slum communities. He defined slum as an area of self-generating communities who strive to achieve a stable social life by adopting themselves to congestion, insanitation and scant basic services.¹⁷

Madhya Pradesh State (one of the states of India) law adopts almost the same definition as adopted by government of India with minor modifications. Under this

“an area, which in any respect, is unfit for human habitation or by reasons of dilapidation, overcrowding, faulty arrangement of buildings, hazardous trade, faulty arrangement and narrowness of streets, lack of ventilation, light, sanitary facilities etc. can be declared as a slum area. While determining a building unfit for human habitation, repairs, stability, dampness, natural light and air, drinking water supply, drainage and sanitary conditions, facilities for storage and preparation of food, disposal of waste water etc. are considered.”¹⁸

As per the Census of India 2001, “ a compact area of at least 300 population or about 60-70 households of poorly built congested tenements, in an unhygienic environment usually with inadequate infrastructure and lacking in proper sanitary and drinking water facilities,”¹⁹ is considered as a slum.

National Slum Policy of India (2001) has included all under-serviced settlements, be they unauthorized occupation of land, congested inner-city built-up areas, fringe areas, unauthorized developments, villages within urban areas and in the periphery, irrespective of tenure or ownership of land use, under the definition of slum / informal settlement; while taking into consideration economic and social parameters (including health indicators) as well as physical conditions.²⁰

All the above definitions are not comprehensive enough to reach a viable solution to the issue of slums. All the aforesaid definitions, except by John R. Seely, emphasize the physical characteristics, such as, poorly built structures, lack of infrastructure and amenities, and characteristic features highlighted are neglect and disorder, thus take into account physical attributes only, and fail to identify socio-economic characteristics and their functions in the city, which are equally important to draw a viable solution.

The author conclude from the above analysis that “the slum can be characterized as an area: with structures temporary in nature, constructed by using discarded and left over material, that are congested, poorly lit and ventilated, and are in unhygienic environmental and site conditions, lacking in infrastructure and amenities, where people retain many of their traditional social characteristic features of the rural system, and are primarily employed in informal sector, as casual labor, having little or no skills; possessing very low education and generating meager income, and suffer chronic unemployment, underemployment etc, and are in search of opportunity, and are incapacitated to look up in life. They provide services that are very much essential for the survival of the rest of the sub system of the system. If the

subsystem – slum does not function even for a day, its effects can be seen in the entire urban system with immediate effect. This subsystem – slum extends services to the rest of the system for their survival, and receives services from the rest of the system for its own survival. Thus, the subsystem - slum becomes the part of the system and its service is inevitable for the functions of the whole system.”

Most authors, who defined slum, have “loaded it with various evil connotations.”²¹ Remembering perhaps, the wastes and excesses of the industrial revolution, which have spawned slums, the characteristic reaction to slums in western countries is to wipe them off the beautiful face of the city. This negative idea of slum life, especially a Western view –point, has been transported to elsewhere.

Every country witnesses a form of housing that is uncontrolled, unplanned, and informal, which house migrants in the big cities. Often, on the edges of the built-up areas, they try to settle and accommodate themselves. Almost in every country, there is a name for these types of settlements, i.e. bidonville, katchi abadi, bustee, favella, and barrio, Kampung that reflect either their rural character or material status. Unfortunately, we tend to lump this type of housing together and refer to it as “slums”. Since it apparently resemble, in the form of neglect and disorder with respect to buildings, streets, structural overage, decline etc., and is also located in the Central Business District people started to call it as slum.

In India, most of the slums act as entry point where new comers to the city find their first place to live, here they try to adopt their non-urban institutions and cultures to the urban milieu, hence are like urban villages. “People in slums tend to retain many of the traditional characteristics of rural life, such as, a feeling of community solidarity, intensive face-to face dealings, groupings according to ethnic, kinship, or economic ties, closed communication system characterized by localized gossip, and a strong “we feeling” felt against the outside world.”²² They are only centers of low-income groups who are living there, because of their inability to get assimilated into the main community.

The Author view that slums are not only inevitable but they are a mark of success of a city in a developing country. In fact, this process is an inevitable phenomenon for success, and brings up rapid changes in the cities.

The poor people who reside in so called slums provide cheap labor as casual/ daily wage earners in organized sector, as domestic servant and as servants in shops, and as sweeper, tailor, mechanic, milkman, rag picker and waste collector, gardener,

fruit and vegetable seller, hawker/vendor, rickshaw puller, motor-vehicle driver, building constructors/ skilled workers (mistry, mason, helpers etc.) and also offers cheap labor for carrying people and goods from one place to another within the city and are a major work force in small scale and cottage industry and unorganized sector. They in fact provide services that are essential to an urban system in many ways as exemplified above; therefore slum is integral and essential element of an urban system, therefore is a sub system of an urban system.

It has been observed from the literature that some authors are very much against slums. They are against the apparent chaos, disorderly layout, ramshackle, makeshift construction and lack of services and the fear that these settlements are the breeding ground for crime. No doubt, some people of the slum engage in unlawful activities. It is also observed in some cases that the non-slum dwellers of the urban system use some of the slum people as criminals and hooligans, etc. and make them criminals for their own (non-slum dwellers) survival. In some cases, at the outset, the non-slum dwellers of the urban system use the adults of the slum dwellers for their all-illegal activities, and at later stages leave them as it is. This induces the trained criminals of the slum to do other criminal activities, which lead to various illegal activities in the urban system. Through these activities, over the years, the slum becomes the den of illegal activities.

In fact, like other informal sector activities, informal settlements take advantage of the failures of the formal sector and use sweat equity instead of money to create a living environment, however marginal. It is yet to make a plea for wages that allow affordable housing as a solution. Yet it was exactly this solution that was responsible for getting rid of the slums in cities such as Manchester and London. As long as gross wage disparities exist (making it possible for cities to employ cheap labor), slums will also exist. The growth of slums is a sign of inability of people to afford land and shelter through the normal market mechanism and failure on the part of public sector to ensure equitable access of the same to the poor.

The prevalence of slums and squatter areas in most of the cities of the country calls for specific approaches and programs that could bring the people out of the chaotic situation. This, however, requires a correct understanding of the processes and events that lead to the formation of such unorganized urban settlements.

Slum is a fact of urban life that needs to be taken note of while evolving shelter related strategies for the poor. Hence there is a need to understand slum as

concomitant of the urban system, so as to develop an approach to the analysis of this complicated process in urban life.

1.4. PARADIGMS IN HOUSING²³

In India two distinct paradigms have been operative to scale up the supply of affordable housing for the low-income group. They are providers and supporters.

1.4.1. PROVIDER

The first, which can be referred to as the provider paradigm; it is the one that had been dominant in housing history and still remains the one most practiced. In its simplest form, providing holds that if the goal is providing houses for reducing housing deficits and improve the quality of houses, then the public authorities and/ or formal or private developers have to control the production of houses. It has, however, been growing progressively out of favor with most financial organizations, which lend funds and, research institutions and thus is widely discounted in the policy statements of public agencies, at least at theoretical level.

1.4.2. SUPPORTER

This is the paradigm, which is mostly discussed and encouraged now by the multilateral agencies. The paradigm stresses that better approach is to be more realistic in defining adequate housing; in assessing existing housing stock; and in management of resources, including land, labor, skills, services, utilities, materials, and money. Both paradigms establish significantly different intellectual, physical, political, and economic settings. (Refer Table 1 and Figure1).

Most public interventions in housing were and still are in response to crisis that appears to threaten the structure of society and therefore the people and institutions that govern it. Many researchers have concluded that few, if any, public responses to poor housing conditions have been benevolent; their purpose was to prevent disturbance, create jobs, and serve industry and therefore economic growth. Housing policy, then, has been more an instrument of political and social reform than to increase the supply of houses.

It is indeed the issues of control, professional methods, attitudes, and responsibilities that are most hotly debated among housing theorists and practitioners,

particularly in the case of complex social, economic and political networks of informal settlements.

Town plans then become an instrument of social class differentiation - an expression of cultural dominance, a means to control standards of safety, hygiene, construction, and even moral-well being. It is indeed tacit belief in professionalization of knowledge, and of planning solutions that first created and now continues to emphasize the divisions between thinkers and doers and between the contrivances of projects and town plans that represent systems of management and governance rather than the realities of the community life.

Planners so far have considered only physical planning in the master plan and have failed to recognize social, economic, environmental, and legal aspects of a development plan, which have induced adverse effects in the urban system, rather than facilitating desired objectives. This rigidity of thought, arising from a failure in comprehension has frustrated the development of practical, imaginative, relevant development plans, as required by the realities of contemporary situation in Indian town and cities.

1.4.3. MAJOR ASPECTS OF SUPPORT PARADIGM

There are three major aspects which function together in the support paradigm. They are FLEXIBILITY, PARTICIPATION AND ENABLEMENT, and are influencing in framing policies and also in execution of policies. These three aspects are discussed as follows:

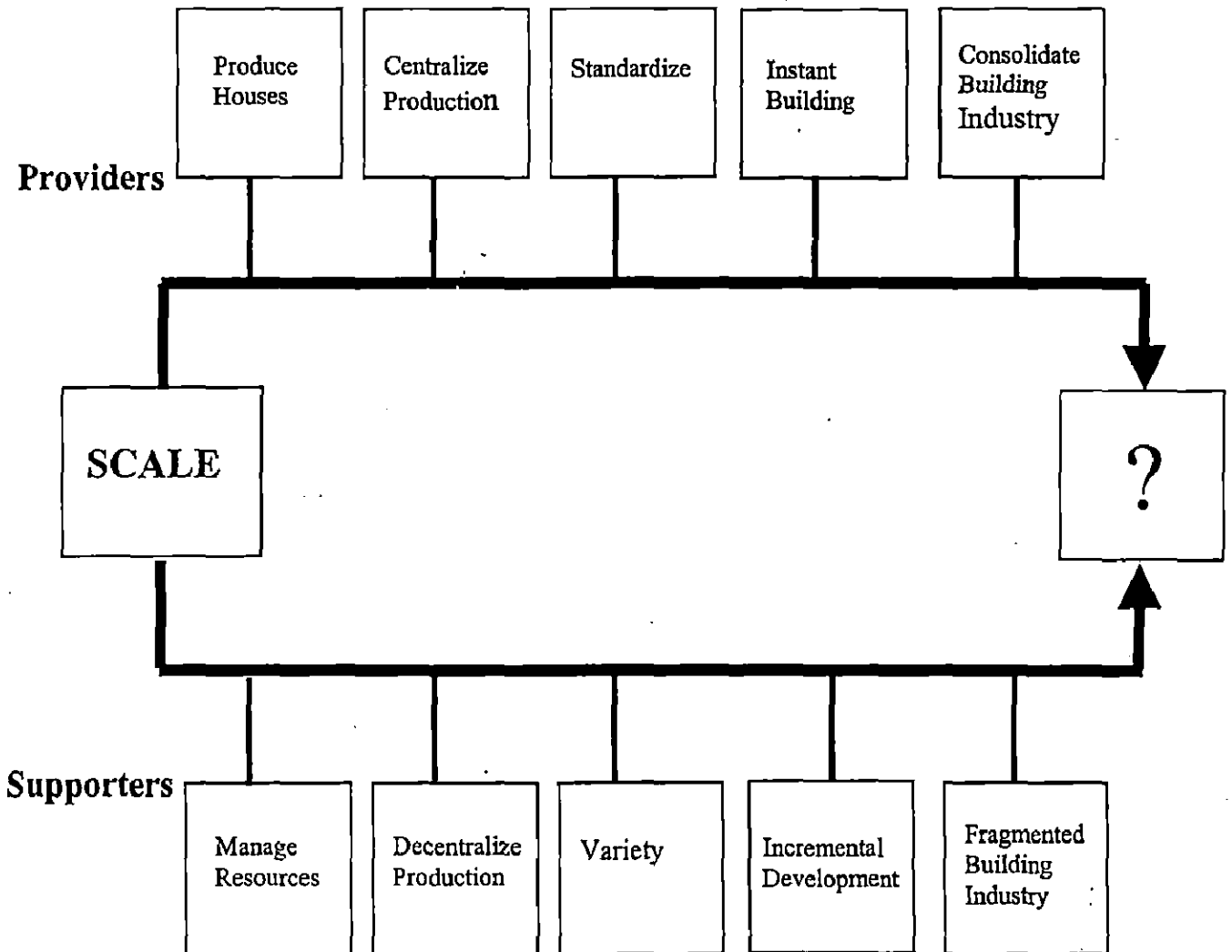
A. FLEXIBILITY

IN PHYSICAL TERMS, It is directed at housing management in deciding dwelling sizes, dwelling types, and dwelling mix as to families. It is a basis on which to rationalize the production of houses, to reconcile both standardization and variety. Flexibility is a parameter, by which one can measure the capacity of physical settings to be easily modified, which could undergo a series of incremental transformations in order to ensure good fit over the years.

IN ORGANIZATION TERMS, flexibility has to do with ranges of possible courses of action available to people when organizing financing, planning, building, and maintenance of buildings and for sorting out tenure and materials. Flexibility then

FIGURE 1: PARADIGMS TO SCALE THE SUPPLY OF HOUSING FOR THE URBAN POOR

(Source: Nabeel Hamidi, Housing without Houses, p.27)



is a quality by which to measure the opportunities available to the to locally self – manage programs.

Flexibility expresses freedom to choose among options or devise programs that fit individual needs and aspirations, whether for a building, finance, ownership, or management. Recognizing that change is an integral part of building agenda; it embodies the concept of better fit among people, territory, finishes, and costs. *Improvisation, extension and addition are the three generalizable and dynamic ways in which change, fit and personalization happen.* Flexibility formalizes-Improvisation, Extension and Addition, as themes in planning and design. Flexibility is to recognize and then build on the differences or particularities of people rather than their similarities.

Flexibility is with reference to choices available, promoting spontaneity and discovery, albeit within the constraints of materials and systems employed and the legal regulatory structure. Finally it is to design and plan for possibilities, that is legible and opportunistic and yet remain technically rational.

Table -1

THEORIES OF PRACTICE: KEY CHARACTERISTICS

Providing	Supporting
Objectives	
<p>Build houses for people Use house building to fuel economy Centralize resources to facilitate management and control standards Build organizations that facilitate central initiatives Consolidate and centralize building production Sector wise development activities for ease of management, single-function projects</p>	<p>Allocate resources for people to organize their own house building Use the economy to fuel house building Decentralize resources to support local enterprise and home building Build regulations to support and give structure to local initiatives Fragment building production and support small builders Integrate development activities and link housing to larger urban systems. Integrate development activities with existing socio-economic, environmental and physical conditions.</p>
Methods	
<p>Build large projects to achieve scale Manufacture housing to speed production Build fast by building instantly Standardize project and operations Clearance and redevelopment Research and development Adopt appropriate technology Extension</p>	<p>Build programs and allocate resources for many small projects Manage resources to increase volume Build fast by building incrementally Promote variety, improvisation, land reclamation, sites and services Adopt appropriate technology Extension</p>
Products/Component	
<p>Projects Rigid planning system Industrialized building systems Master plan</p>	<p>Interventions Technical aid centers Training Housing options and loan packages Guidebooks, guidelines, tools, and self-help methods Structure plans</p>
Key Actors	
<p>Consultants Government agencies Financial institutions Large size contractors/ developers</p>	<p>Families Community groups, tenant organization, nongovernmental organizations Nonprofit and voluntary organizations Government agencies Small contractors Financial institutions Formal and informal private community developers Consultants</p>

B. PARTICIPATION

Community participation as incorporated into the official jargon of planning and design is an ambiguous and powerful idea. It usually refers to the process by which professionals, families, community groups, government officials and others get together to workout solutions, preferably in formal or informal partnership.

Community participation has been appropriated by the planners for reasons of efficiency more than equity and in recognition of its important political and methodological advantages in shaping planning decisions. In planning, it has been equally effective in helping to ensure continuity in management, maintenance, and public administration- building on local people and institutions that can carry on work.

Better participation is directed at the ways and means by which governments, NGO's and the building industry can enable people to do: the planning, building, and management of their own houses and neighborhoods at costs both they and society can afford.

The objective of community participation is to identify alternative institutional arrangements cutting across disciplines and sectoral lines and that establish direct relationships among the state, the market, and community organizations. Participatory programs therefore provide a better way to collect, analyze and interpret information. Whether in planning or in design, community participation is essential to ensure success of the program.

C. ENABLEMENT

Enablement is a process by which a neighborhood can be developed, and it gradually improves its conditions of growth and change in response to prevailing socio-economic, physical and environmental conditions. It implies that the plan must be flexible to accommodate changes and incremental growths.

Whether in program making, design or execution of programs, development; enablement is centrally concerned with the practice of interventions in different stages of development. In this sense, it is an operational side of the support paradigm.

Three ideas are crucial for enablement by planning in general, that help to build on local capabilities and offer a way of tapping the ingenuity of ordinary people

and community organizations – these are: spontaneity, improvisation, and incrementalism.

1.5. URBAN REGENERATION

Redevelopment is a process of regeneration and redistribution of available resources, structures, physical and social infrastructure as well as conservation and rehabilitation of area, which have been or are being threatened by decline and blight or are in need of preservation because of historical and cultural linkages associated with a city or a town.

“The term urban redevelopment signifies a complex phenomenon, interfacing the human with their physical, socio-economic and historical relationship. In a broader sense the term involves renewing urban life where the process of degeneration or decline is set into motion due to variety of factors like technological advances, industrialization, modernization and their cumulative impact on the urban segments.”²⁴

Having known that there is a fundamental change of attitude that is - an acceptance of the informal settlement as an inevitable feature of the process of city building. It is felt that there is need, for fuller appreciation of the functions and inadequacies of informal settlements, and also for the invention and implementation of specially - designed programs with built-in and feasible objectives of environmental improvement and planned social, physical and economic change.

1.6. RESEARCH DESIGN

With the above knowledge of slums in general, and slums of Indore city in particular, a set of objectives is framed to study the slum pockets of the city thoroughly for evolving a suitable integrated redevelopment plan for the development of slum pockets.

1.6.1. OBJECTIVES

The following objectives are framed in the present investigation. They are as follows:

1. To study the existing conditions of slum pockets of the study area.
2. To study the control parameters, which decide the functions of the slum pockets.
3. To study the Nexus between the slum pockets and the neighboring regions.
4. To evolve a suitable planning model for the development of the slum pockets.

1.6.2. SCOPE

As mentioned earlier that Indore is the only city of the state, which receives maximum benefit from different improvement schemes. Much has been done as far as physical upgrading is concerned but this in itself cannot improve the overall quality of life in any sustainable manner unless the economic, social, educational, and health conditions of people also improve.

The study aims at to evolve an integrated planning model for the re-development of the slum area of Indore city in particular. It is anticipated that, should the proposed planning model is implemented successfully in the study area; it would ensure integrated development in the system, definitely.

1.6.3. METHODOLOGY

The methodology of this investigation is presented in Fig2

1.6.4. CONCEPT

Systems concept is being employed in this present investigation. Various sub-systems of the system (slum) are identified and their interactive function is established. A theoretical interactive model is being evolved to highlight the functions of the system.

1.6.5. RESEARCH METHOD

Survey research methods have been employed in the present investigation.

1.6.6. DATA

All the necessary data about various aspects of the slums is being collected from both secondary and primary sources.

1.6.7. TOOLS AND TECHNIQUES

Suitable Survey as well as analytical tools and techniques are employed in this investigation.

1.6.8. ANALYSIS

Detailed analysis is being done with the help of various tools and techniques to identify the existing scenario, forecasting, problems and inadequacies, the requirements for future development, etc.

1.6.9. MODELING

Systems approach is incorporated to understand and portray the real life situation that leads to theoretical functional model. However, mathematical modeling is not undertaken due to time constraint.

1.6.10. FORECASTING

Forecasting is being done in order to arrive at the real situation in the future, i.e., 2011 A.D. feasible solutions to the problem.

1.6.11. INFERENCES

Inferences are evolved to frame recommendations based on the statistical and other analytical work done in this investigation.

1.6.12. RECOMMENDATIONS

Policies and planning strategies for integrated development of the slum pockets of the study area are formulated.

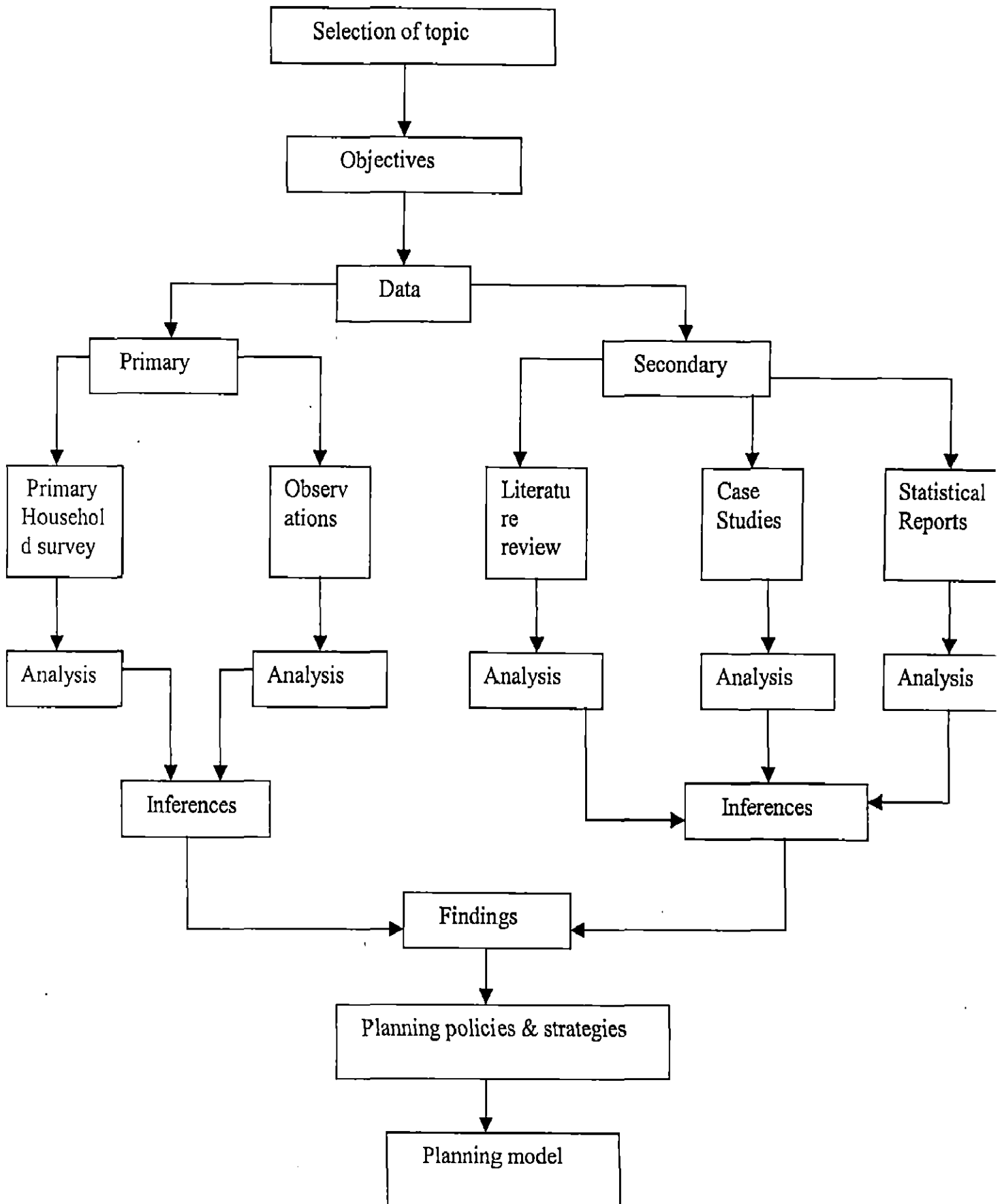
1.6.13. CONCLUSIONS

The present investigation concludes with plausible recommendation for integrated development of the slum pockets of the study area.

1.6.14. LIMITATIONS

The study includes only hundred slum households in different pockets of slums, due to time constraint. Since the study focuses slums of Indore city only, the recommendations are purely confined to Indore city's slums. This may not be applicable any other city.

FIGURE 2: METHODOLOGY



CASE STUDIES AND LITERATURE REVIEW

INTRODUCTION

This chapter is divided into three parts, in the first part, examples that exhibit the application of support paradigm, while housing the urban poor, has been chosen from the literature, case studies of South-East Asian countries, is an excerpt from study titled “Study of selected aspects of housing, made by National Center for Applied Economic Research” New Delhi, and also Indore Habitat Project has been reviewed with the help of literature available and with the help of literature supplied by Indore Development Authority.

Second part of the study reviews various government initiatives and city specific approaches that were undertaken to improve the accessibility of the urban poor for land and Basic services.

Third part of the chapter concentrates on study of major factors that affect the demand and supply of housing in the Indian context and finally issues relating to housing finance have been discussed elaborately.

PART 1
CASE STUDIES

2.1. CASE STUDY 1: LESSONS FROM SOUTHEAST ASIAN COUNTRIES²⁵

2.1.1. INTRODUCTION

This study makes an attempt to review the experiences of some of the countries and to identify the lessons that can be drawn from them. Among the several Asian countries that faced urban housing problems since the last few decades, the experience of Sri Lanka and Indonesia are most relevant to the Indian urban scenario due to the following reasons:

- (i) Culturally these two countries are deeply linked to India.
- (ii) As political entities too, both Sri Lanka and Indonesia gained their sovereign status during the late forties, as is the case of India. Both countries, like India, are governed through a democratic set-up; and also there is similarity in decision-making process in these countries, which consists of influential political and beauracratc components.
- (iii) Both these countries represent a multi-racial, multi-ethnic society, as is the case of India.
- (iv) Levels of urbanization of both the countries in past two decades are comparable to that of India.

TABLE 2.1
LEVEL OF URBANIZATION: INDIA, SRI LANKA AND INDONESIA FOR
THE PERIOD 1970 -1993

Urban population as percent of total population			
YEAR	INDIA	SRI LANKA	INDONESIA
1970	20	22	17
1993	26	22	32

Source: World Development Report 1995.

- (v) In a broader sense, these two countries are similar in nature, as they are still recognized as agrarian economies; though India and Indonesia are fast emerging as industrial economies, taking advantage of the growing population concentration in their urban centers.

2.1.2. SRI LANKAN EXPERIENCE

Million House Program is the most well known and much documented shelter program of Sri Lanka. The objective of this program is evident by its name, that is, to supply one million dwelling units to the citizens across the country. Half of them were to be supplied in the form Aided Self-help. Thirty six percent were to be supplied by public sector through direct construction and the remaining through the loans supplied.

In 1984, the Million House Program was initiated with the aim of supporting the 'main stream process' of shelter supply in Sri Lanka, which envisaged minimal intervention by the government. The government however played a supportive role where individuals or communities could not solve certain problems on their own. Therefore the support given by the government was in the form of land tenure, credits and loans, design and installation of basic services, supply of information, formation of working group with specific responsibilities and organization of learning and teaching sessions.

The Million Houses Program revolved around two key ideas viz-minimal intervention while offering maximum support to the process of shelter supply or improvement. Further, the key ideas were translated in terms of the following three key principles:

- (i) The principle of people centered development
- (ii) The principles of recognizing use value of land for the poor rather than the market value.
- (iii) The principles of locally derived small solutions for many rather than externally determined sophisticated solutions for a few.

In order to cover the housing problems throughout the nation, six sub-programmes were evolved. These were as follows:

- 1) Urban Housing
- 2) Rural Housing
- 3) Plantation Housing
- 4) Mahaweli Housing
- 5) Major Agricultural Settlement Housing and
- 6) Private Sector Housing

The **Urban Housing Sub Program (UHSP)** was implemented in all the 51 urban centers of the island. It is worthwhile to note that in a period of 10 years, nearly 90 percent of the housing stock within the limits of the Colombo Municipal Council was covered through this Program.

One of the most important underlying aspects of Urban Housing Sub Program was that of integrating urban livelihoods and environmental concerns. These were achieved through community participation and a high degree of awareness regarding environmental concerns. Community participation was sought through formulation of community development councils (CDC), an elected body representing about 50 to 125 families. In turn federation of Community Development Councils represented one entire settlement. One of their prime functions had been to help the community to negotiate with urban local bodies and the beauracracy.

Another very innovative feature of the Million House Program was the Community Contract System (CCS). Infrastructure and common amenities would be ordinarily be built by the contractors approved by the government. However in the case of Million House Program, such works were entrusted to certain members of the beneficiary community by the community itself. This arrangement resulted in multiple benefits, the community could be ensured of the quality of amenities supplied within the limits of their affordability. Moreover, persons from within the beneficiary community received monetary benefit and the entire process of building a given item of the services was made efficient and cost effective.

The well-known interdependence of having access to secured shelter and the intention to initiate home-based economically gainful activities was reconfirmed throughout the program. The program improved the affordability of the beneficiaries

by enabling people to improve their income, through the provision of credits loans, etc.

It is worthwhile to note that the entire program including negotiations, transactions, contracts etc. were carried out in an atmosphere of transparency. As a result, the accountability of the system linking National Housing Development Authority and the community through Community Development Councils and Community Contract System has worked with a high degree of success.

2.1.3. THE INDONESIAN EXPERIENCE

Indonesia took a major initiative to resolve its gigantic housing problem in the year 1969 under the banner of **Kampung Improvement Program (KIP)**. In the local language Kampung stands for informal settlement. However, program gained momentum only after inflow of foreign assistance; either to finance construction of new housing projects (including slum improvement) or to finance home ownership loan. The program was primarily meant for low-income families.

The essential features of Kampung Improvement Program are as follows:

- **Focus on community services:** The central focus of the Kampung Improvement Program had been the Kampung as a whole rather than improvement of individual dwellings. In other words, municipal services as well as schools and clinics were established in Kampung. However disposal of waste had been weak point of the program.
- **Compensation of the affected:** As a special feature of Kampung Improvement Program, the affected individuals or families were not entitled to receive monetary compensation for the loss incurred to them; it was rather decided by the members of the community benefited by such development work. It was, therefore, a Community Determined Compensation System (CDCS).
- **Top down approach:** Although the Kampung Improvement Program may be perceived as community participation based shelter improvement approach; however, it thrived on central decision-making body in the form of National Urban Development Corporation. It could mobilize finances from domestic and international sources, and could evolve its own planning and implementation program, which also included sale and leasing of dwelling units.

In addition to the above, some other important features that have contributed to the success of the Kampung Improvement Program were:

- It strengthened bonds between individuals and families in society by using traditional community structure and its decision making process in evolving community determined compensation system.
- Program led to minimal hardship during the improvement implementation phase, as it did not deplete the housing stock even temporarily.
- The program ensured affordability of the beneficiaries by permitting great deal of flexibility in terms of quality of improvements.
- It provided adequate breathing time for the emergence of new residential neighborhoods, and finally,
- Program encouraged such user-friendly technologies to which the community already had exposure.

2.1.4. IN COMPARATIVE PERSPECTIVE

The experiences of housing in Sri Lanka and Indonesia are comparable in more ways than one. Looking at the two major programmes, the Million Houses Program in Sri Lanka and the Kampung Improvement Program in Indonesia, one finds several similarities. To begin with, both these programmes address problems of housing and related aspects related to low-income families. In both cases, government assistance to the beneficiaries has been beneficial in several ways. Both programmes included shelter improvement, settlement level improvement, up-gradation of basic services, economic upliftment and skill up-gradation.

Despite these similarities, there have been quite a few areas of differences. The methodology in both the programmes, although fundamentally people based, differed significantly; in Million House Program there was a greater reliance on the community for decision making, where as in the Kampung Improvement Program, it was a top-down approach. Both involved community in the decision-making, but quite differently. While Sri Lanka evolved unique system of Community Development Council and Community Contract System, Indonesia evolved a unique method of Community Determined Compensation System. Another point of dissimilarity was that while Indonesia had to look for funds from external sources, Sri Lanka mobilized internal resources.

Both projects have their share of achievements and drawbacks. In the Sri Lankan Million House Program, the program led to several benefits such as family stability social respectability of poor, strengthening livelihoods, generating new avenues and opportunities for income generation and better shelter quality. It also led to fostering a strong sense of community feeling, bridging the gap between the rich and the poor and improvement in the general quality of the life in urban areas. However, in case of the Kampung Improvement Program, a strong sense of belonging to a given Kampung or community actually formed the basis of the program.

Despite the overall benefits accrued to the society, these projects had a few lacunae such as creation of a sprawling city structure, extensive low density developments, loss of prime urban land in certain instances and difficulties in integrating physically and socially the different parts of the city. However, the achievements of these programmes far outweigh the shortcomings.

Recognizing that Kampung Improvement Program is relatively an older program, the achievements are spread over a longer period of time and space. The visible success of the Million House Program may be largely attributed to the higher level of literacy of the beneficiaries compared to that of the inhabitants of the Kampung. On the other hand, the greatest strength of the Million House Program was that the program enjoyed full support of the political leadership of the nation from the stage of initiation itself.

The program of Sri Lanka and Indonesia are compared and summarized in tabular form in the table below:

TABLE 2.2: COMPARATIVE PERSPECTIVE:

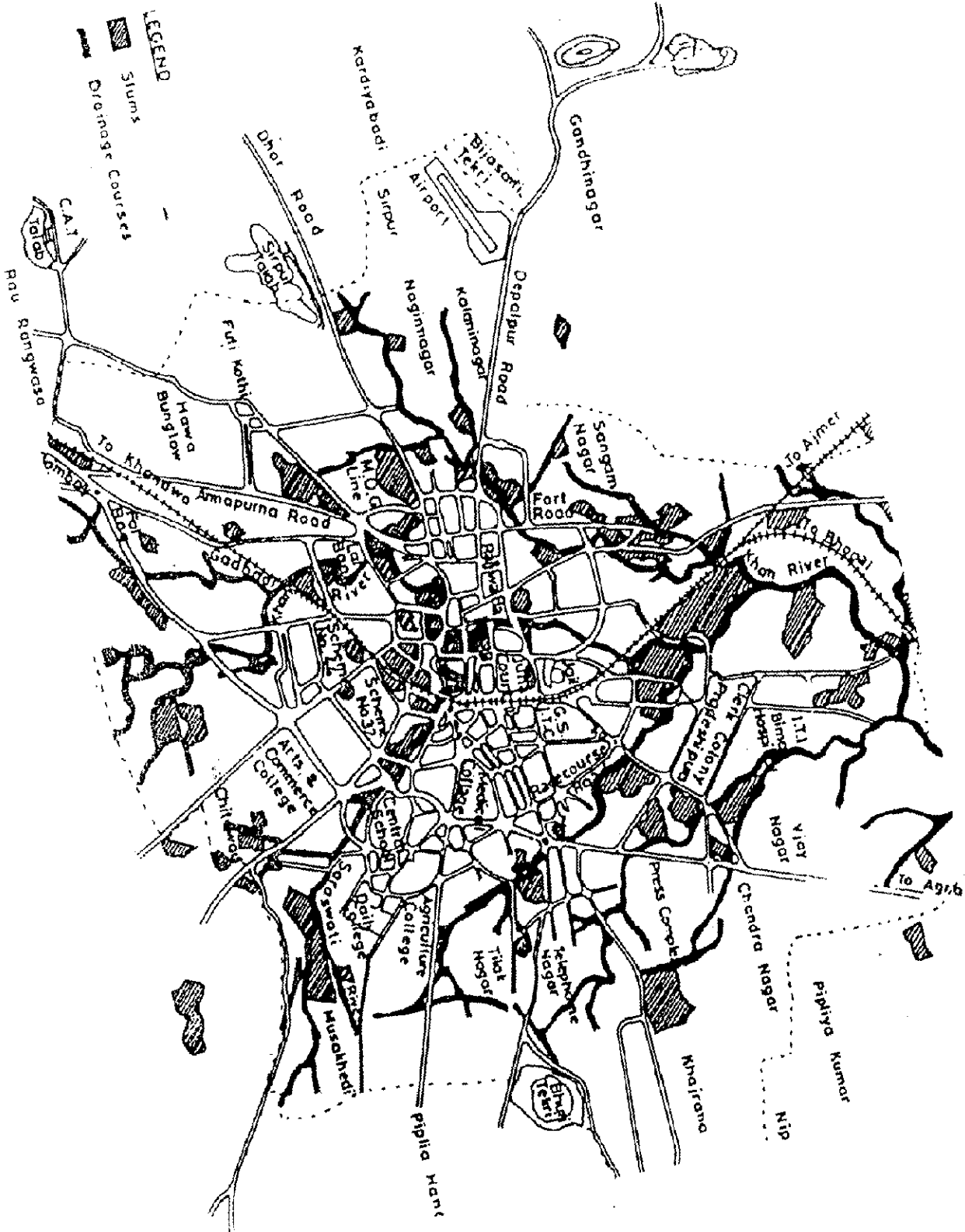
PARAMETER	SRI LANKA	INDONESIA
Program	Million Houses Program (MHP)	Kampung Improvement Program (KIP)
Year initiated	1984	1974
Target group	Mostly low income families	Mostly low income families
Components	Shelter, services, employment	Loan assistance for shelter, services, redevelopment
Methodology	People center, development; local solution; system; CDC participation, transparent decision making	Top down decision making; community participation mostly for implementation;
Program period	Five years	Ten years
Achievements	Family stability, social respectability of the poor, strengthening new opportunities for income earning; better shelter quality; fostering community feeling; bridging the gap between rich and poor; improvement of general quality of life in urban areas;	Retaining the traditional rural family structure; better quality of life; enhanced access to amenities, services; significant overall success in light of low literacy rate;
Lacunae	Improvement confined to micro level; more than necessary dependence on community for decisions; loss of prime urban land in some cases; sprawling city structure leading to difficulty in integration; low density low rise development	Limited community participation limited effect on employment generation; sprawling city structure having rural character.

2.2. CASE STUDY2: THE INDORE HABITAT PROJECT ²⁶

2.2.1. INTRODUCTION

Indore has a population of 1,600,000 and is an important textile manufacturing and engineering town, as well as being an agricultural marketing and distribution center. It is situated midway between Delhi and Bombay and is currently one of the fastest growing cities OF India. Twenty-eight percent of the population lives in its 178 slums, which occupy 25 per cent (44.10 sq. km.) of the Municipal area of the city at present; and the numbers continue to increase rapidly as the employment opportunities attract population from the surrounding rural areas. Indore is the major city in the region and exercises a great pull on the surrounding area. (Fig.3)

FIGURE 3



The Indore Habitat Project started in 1990. The main aim of the project was to integrate the slum communities of the city into its physical systems, as well as the social, health and economic networks of the city. It was estimated that it directly benefited 80,000 families living in 168 slums, with virtually as many again benefited indirectly from environmental improvements to the city as a whole. Sixty percent of the total city population is estimated to benefit either directly or indirectly through the project. The project had two main components. They are:

- The physical improvements; and,
- The community development works.

2.2.2. PHYSICAL IMPROVEMENTS

Physical improvements carried out within the project include a standard package of water supply, sanitation, roads and footpaths, drains, streetlights and community halls. Flood control, storm drainage and environmental improvement have been achieved at comparatively low cost.

Some of the construction works on infrastructure front such as excavation of earth for roads, infilling of low-lying areas and construction of individual toilets etc, is done by the slum dwellers. This all ensured that the money, which would normally go to contractor stays within slum communities and thus helped in generating income for the poorest of the poor. The salient feature of the project was that it achieved higher standards within its budgetary constraints.

2.2.3. COMMUNITY DEVELOPMENT PROGRAMS

Physical improvements by themselves cannot improve the overall quality of life for the slum dwellers; their economic, social, educational and health conditions have to change too. Community development is the crucial aspect of the total program since this gives the urban poor the self-confidence and the ability to plan and manage their own development. Three groups of residents, respectively for women, youth, and neighborhood committee were formed in each slum locality, under the project.

The neighborhood committee is involved in the planning and implementation of the project and forms the link between the implementing agency and the slum dwellers. These groups were also involved in the construction and maintenance of the project. Partnership agreements between the community organizations and the municipal corporation were also drawn to maintain the services.

Activities covered under community development include social development, income generation, education, health and training. They include a broad range of programs and are designed to incorporate the slum dwellers into the citywide health and education systems as well as improving the quality of life.

2.2.4. ORGANIZATION AND FUNDING

A project of this scale and complexity required a massive input of human resources. The Indore Development Authority was the main executive agency, which implemented the project. Financial and technical support was received from the British Government. Other agencies that were involved includes – the Indore Municipal Corporation, the District Collectorate, State Ministers, Public Health Engineering Department, the Forestry department, the State Health and Education Departments. Links were established with many Voluntary Bodies as well as local hospitals. The greatest contribution, however, was from the people themselves in the form of community volunteers, teachers, local dais, members of the neighborhood committees, youth organizations and women cooperatives.

The Overseas Development Administration (ODA) – now the Department for International Development – of the British government was the principal funding agency for slum upgrading components of the Indore project. This donor aid successfully encouraged further financial investment in the area, both from the beneficiaries themselves, as well as State and Municipal Authorities. Cost of individual Infrastructure components is shown in the table below.

TABLE 2.3: COST OF INDIVIDUAL INFRASTRUCTURE COMPONENTS PER FAMILY

Component	Cost (Rs)
Roads and footpaths	1,750
Asphalt courses	250
Storm drainage	110
Sewerage	1,450
Water supply	450
Earthworks and landscaping	130
Street lighting	50
Solid waste management	10
Total cost per family	4,200 (\$121)

SOURCE: Slum Networking: An Innovative Approach to urban development, Diane Diacon, Ekistics; Sep./Oct. 1996

State and Local agencies also contributed funds in addition to foreign aid in funding Indore Habitat Project. The pattern of funding is as follows:

- The Madhya Pradesh State Government provided money for main sewerage outfalls for the city.
- The cost of riverfront improvements was being met by the private sector.
- The Indore Municipal Corporation was to take care of running and maintenance costs of all infrastructure assets created and widening of tax net was proposed.
- The costs of running and maintaining the proposed city-level sewage treatment plant were to be met from the sale of treated water and manure to local farmers.
- The health and education facilities created under the project were to be maintained by the respective State departments.

Slum dwellers also contributed finance in the project in the following ways. They are:

- All slum families contributed a proportion of the sewerage cost by paying for their house to be connected to main line.
- The community members themselves through self-help and mainly at their own expense carried out earthworks and landscaping component of the project.
- The Local Community Volunteers who carried out the health, educational and social components of the program with the slum dwellers either offered their services free of charge or receive a small honorarium from project or community funds.

2.3. INFERENCES

The experiences of Sri Lanka and Indonesia have been documented and received worldwide attention due to the clarity of their purpose and approaches in trying to resolve their housing problems in their respective contexts. The Indian urban housing scenario could be perceived to be by-and-large similar to the situations of Sri Lanka and Indonesia not with standing the peculiarities that exist in India.

The Indore Habitat Project exhibits that much can be achieved if the slums are seen as a catalyst for positive urban transformation, however will, appropriate priorities, proper institutions, and effective delivery system is essential to ensure success of programs. Main features of the Indore habitat project are as follows: Nevertheless, the significant lesson that could be drawn from above case studies are:

- Housing supply, both in, qualitative and quantitative terms, can be increased significantly through community participation.
- A housing program can be instrumental in national development, if it addresses the lowest rung of the socio-economic ladder.
- The limitation of affordability of the lowest income families must be realistically recognized
- The approach adopted is flexible and holistic in nature to include overall improvement in quality of life.
- The work was carried out within the framework of existing institutions and traditions.
- Cost effective solutions, which relied on readily available resources were introduced.
- It increased community responsibility and control significantly.

2.4. CONCLUSION

It can be concluded from case studies that resources of government and slum dwellers should be combined to attempt long lasting solution to the problem of slums. There is a need to identify measures that encourage the cooperation of slum dwellers. The following guidelines can be drawn for an effective solution:

- The proposed physical improvements have to be affordable and should meet community needs.
- The completed improvements should be capable of transferring from micro scale to macro scale.
- Mechanisms need to be in place to enable resources of the slum dwellers to be mobilized.
- The community should have control over the development and be consulted from the outset of the project.
- The program should be a community initiative in which government and private sector are partners.

PART-2

2.5. REVIEW OF THE GOVERNMENT INTERVENTIONS FOR LAND AND BASIC SERVICES

2.5.1. INTRODUCTION

In India, many programmes to increase the access of urban poor to land and basic services have been designed and implemented. Thus tenure regularization and shelter improvement and upgrading programmes remain the only viable policy options to improve the access of the urban poor to land, besides provision of serviced land. There are three types of programmes implemented for improving the access of the urban poor to land and basic services: (i) basic services schemes, (ii) shelter cum services programmes, and (iii) special programmes. First two programmes are presented below elaborately:

2.5.2. BASIC SERVICES PROGRAMME

There are four schemes implemented under this program. They are:

1. *Urban Community Development (UCD)*

This program was launched in 1966 as a centrally sponsored scheme. But in 1969, it was transferred to the state sector. Owing to the paucity of funds, the program was discontinued in most of the States. The program was started with the aim of involving the community in the improvement of slum, provision of health facilities and the construction of dwelling units (where included as a part of the project), thereby reducing the cost of the project and for the post-project maintenance. In Hyderabad, where construction of dwelling units under the Urban Community Development has been successfully implemented, it has been done in three major stages, namely, tenure regularization, finalizing the layout plan of the colony and actual construction of the dwelling units. It has been observed that because of the very design and method of implementation of the scheme, Urban Community Development had a very limited success.

2. *Urban Basic Services for Poor (UBSP)*

This is an integrated approach towards improvement of the living conditions in slums. Women, children, water supply and sanitation, training of community workers and development of community organizations in the slums are some of the

major focus of the scheme. Under the water supply and sanitation component, hand pumps are installed and low cost pour-flush latrines are constructed. The latrines are constructed up to the plinth level only, with the program funds, while the user as per his/her affordability builds the super structure. The user also shares part of the program cost.

This program differs from the Environmental Improvement of Urban Slums / Slum Improvement Program, the Urban Basic Services Program is an integrated program and not mere physical improvement of slum. It asks for financial as well as organizational participation of slum dwellers thereby reducing the possibilities of future displacement. Urban Basic Services Program was being implemented in 296 towns in mid-1990s.²⁷

3. *Environmental Improvement of Urban Slums (EIUS) / Slum Improvement program (SIP)*

Both these programs are concerned with the physical improvement of slums though provision of a standard package of community facilities, such as provisions of water taps, open drains for outflow of waste water, storm water drains, community bath and latrines, widening and paving of existing lanes and street lighting. However, under the Slum Improvement Program, in some cases, the slum dwellers have to pay back the total cost of improvement, whereas the Environmental Improvement of Urban Slums has been implemented solely through the grants from the Central Government. Both the schemes are generally restricted to authorized / notified slums.

The Slum Improvement Program implemented so far falls under two categories: (i) not charging beneficiaries for facilities that have been provided and (ii) charging beneficiaries in installments, for facilities that have been provided. Accelerated Slum Improvement Scheme taken up in Madras through the state government funds and implemented by the Tamil Nadu Slum Clearance Board (TNSCB), falls under first category while The World Bank financed urban development projects, which have Slum Improvement Program as component, such as the Calcutta Urban Development Project (CUDP) and Tamil Nadu Urban Development Project (TUDP), belong to second category. The Bank has provided grants and loans to the implementing agency through the Government of India for financing this component. The loan has been passed on to the beneficiaries at a 12 percent rate of interest repayable in 20 years. The Housing and Urban Development

Corporation (HUDCO) is currently advancing loans for the scheme at an interest rate of nine percent to be repaid over 10 years to cover half of the project cost.

Danger of displacement exists even in slums improved under either the Slum Improvement Program or the Environmental Improvement of Urban Slums if the standards of the services are kept high²⁸. The per capita grant for both not being much, higher standards have not been maintained under these programmes. But, where improvement has been undertaken with loans, it is likely that standards may have been higher to attract the better-off sections.

4. Low Cost Sanitation (LCS) program

This program was started to provide sanitation facilities to 80 per cent of the urban population at the end of the UN Decade for Water Supply and Sanitation in the 1980s. Housing and Urban Development Corporation came forth with assistance to cover the slum areas and old city area with Low Cost Sanitation programmes.

2.5.3. SHELTER CUM SERVICES PROGRAMME

1. Sites and Services (S&S) Schemes

This is mainly a program to make serviced urban land in small lot size accessible to the poor. The beneficiaries are expected to construct their houses primarily through self-help. It was introduced during the Fifth Plan. Site and Services schemes have been founded by the Housing and Urban Development Corporation, the World Bank and even by Central Government under the policy for Integrated Development of Small and Medium Towns. Although Housing and Urban Development Corporation was the first financing agency to introduce the scheme in the country; impetus to it has been given by the involvement of the World Bank in Madras Urban Development Project (MUDP).

The MUDP phase I was taken up in 1976-77 with partial funding from the World Bank. It had a provision for sites and services and slum improvement and upgrading. The MUDP-I was implemented during the period 1976-77 to 1980-81²⁹. Then followed MUDP-II and since mid-1980s Tamil Nadu Urban Development program in major cities of Tamil Nadu. Subsequently, the bank took up several other Sites and Services schemes in different cities, namely Kanpur in 1981-82, Indore in 1982-83 and a number of cities in Gujarat in 1985-86. The Site & Services schemes

financed by the World Bank in India have several options relating to plot size for people in different income groups within the Economically Weaker Section category and even Low Income Group and Middle Income Group housing. Several plots are also provided for commercial and industrial use so as to cross-subsidize the small plots, studies reveal that only 53 percent of the plots in MUDP – I, MUDP – II and TUDP projects were occupied In Chennai. Of the total plots allotted, 28 percent were occupied by original allottees.³⁰

The review of some Sites and Services projects implemented in different cities indicate a broad trend of transfer of allotted plots to slightly better-off households; the process being known as 'gentrification'. Since monthly income is the criteria adopted by World Bank as well as the Housing and Urban Development Corporation in allocating the funds and selecting the allottees, urban poor do initially get entry into the schemes meant for them – if the discrepancies at the entry to the scheme are checked. The danger of gentrification rests upon two related considerations: (a) the attractiveness of the upgraded (or new) settlements to the relatively well off, and (b) the affordability of the project to the original low-income dwellers.³¹ In case of sites and services, the third consideration is the location of the project. If it is closer to the city center – in most cases it is not – then its attractiveness to better –off increases and if it is far off from city center – in most cases they are – then the poor cannot afford to travel daily to the city for work. In both the cases, the poor are displaced. The more important criticism of Sites and Services Schemes is that the lands available for the schemes are at very distant and inconvenient locations. The cheap lands are only available at the periphery of the city or even outside the main city. In Mumbai, Site & Services schemes were located beyond 30 km from the city center .³²

2. *The Slum Up gradation Program (SUP)*

This program for the provision of shelter and basic services was started in the Fifth Plan at the instance of the World Bank. Currently the Housing and Urban Development Corporation also finances Slum Up-gradation Program under its Repairs and Additions Schemes for EWS and LIG categories and inner city areas. Like the Site & Services scheme, it was first taken up in Madras as a component of the Urban Development Project- I in 1977. Facilities provided under it are same as the Slum Improvement Program. However, giving of land putta (tenure regularization) on a leasehold or freehold basis is a requirement that distinguishes it from the Slum

Improvement Program. Another distinguishing feature of the Slum Up-gradation Program is the availability of a Home Improvement Loan (HIL) to the beneficiary on a freehold basis. The MUDP – I and II and the TUDP are examples of this. The second type is program under which land is leased out to the community on a collective basis, as in case of Bombay. For the success of the latter, a higher level of community participation, as compared to the former, is required. The Housing and Urban Development Corporation and World Bank loans have been made available for this scheme.

Up gradation programmes are taken up only in slums that are compatible with the zoning and land use restrictions in the Development Plan of the city. Besides, slums close to nallah, on land which can get water – logged, near high tension power lines, railway tracks, airports, sensitive defense establishments and hill slopes are not selected. By these criteria, around half the slums in the metro cities would be classified as objectionable and thus become disqualified for up gradation or reconstruction³³. In Mumbai, it was decided that at least 10 percent of the total one-lakh slum households to be covered under the Slum Up gradation Program (as a part of BUDP), would be on the private lands, which did not happen at all in spite of concerted efforts.³⁴

3. *Giving of Pattas (tenure regularization)*

Though tenure regularization or giving of land *pattas* to the slum dwellers has been accepted in policy, not many State Governments in India initiated this policy. Madhya Pradesh government passed legislation in 1984 to confer tenure rights for 30 years on leasehold basis to households squatting on public land.³⁵ The legislation was applicable to 47 municipal corporations and civic bodies. It is important to note that this legislation was applicable only to slums on public lands. Hence, the success of this scheme was quite limited. In Bhopal, only 43.0 percent of the households squatting on the public lands got 30 years lease. Another 13.3 percent households, which were on objectionable lands such as road side, near public buildings and houses of important persons such as ministers, and so on, got only one year lease. Another 15.6 percent households came under the category of disputed cases and remaining large proportions, 27.6 percent were not considered at all for tenure rights.³⁶ Besides the limited coverage of the policy, there were many problems in implementation of the scheme.

In Delhi, slum regularization program has been implemented, which includes giving of *pattas*. Of the total 3332 unauthorized colonies identified by the Delhi Development Authority (DDA) and Municipal Corporation of Delhi (MCD) officials, only 615, i.e. 18 percent were regularized till 1993. The achievement is very low.

2.5.4. EVALUATION

The list of programmes have been designed and implemented with differentiated levels in various cities. There is no comprehensive statistics to indicate the coverage of these programmes. However, there are some basic lacunae in these programmes for effectively reaching the poor. The basic services programmes have been confined to only those slums that are declared as 'authorized' and identity cards are given to the dwellers. The shelter up-gradation programmes has been implemented only in few slums of few cities, which have clear land titles. Giving of land *pattas* have been effectively implemented only in cities of Madhya Pradesh and that too in limited slums. In other cities, the coverage is less than 20 percent. The Sites and Services Programmes, which are quite promising, have not been taken up in any mega-scale as required for the large cities. Wherever these have been implemented, for example in Mumbai and Chennai with some success these are located at periphery of the city.

"Public Policy plays a crucial role in both the supply of and demand for land. Through planning, Public Authorities can direct transport and infrastructure towards opening up new land but they can also follow up the settlement process with regularization and upgrading. Modifying approval procedures and taxes can lower transaction costs and make markets operate more efficiently. The promotion of a diversity of investment options in the various capital markets can help to reduce land prices, minimize speculative investment and optimize the use of public and private capital. Responsibility for formulating and enforcing rules of tenure and use of land rests ultimately with the government."³⁷

2.5.5. CITY SPECIFIC PROGRAMMES ADDRESSING LAND TENURE

Higher land prices is a big temptation for local bodies and planning bodies to put land for more rewarding purpose, than to give it to poor at affordable prices. As a consequence, the planning bodies now seems to be interested in making profits through land sales and invest these in the city level infrastructure projects and in some cases in city beautification projects. In case of Mumbai, Mumbai Metropolitan

Regional Development Authority (MMRDA) has set up infrastructure fund through the sale of developed lands in Bandra-Kurla complex, a new Central Business District (CBD) developed by it. Recently Hyderabad has followed the example by auctioning government land to raise funds for infrastructure development. Providing tenured land with minimum basic services has remained the major dilemma in the large cities. However, some of these cities have also thought of innovative programmes to address the issue of tenured land and basic services of the poor. These are cases of public-private partnership and have come up during the decade of the 1990s. Some noted program /schemes are discussed as follows:

1. Public – private Partnership in Land Development

Realizing the inability of the Public Bodies in meeting the continuously high demand of serviced land in the large cities, as per the recommendations of the National Housing Policy (NHP) of India in 1992, public – private partnerships are being encouraged in the large cities and urban centers around these cities. Under this, the Public Authority, mainly the local development authority, either makes raw land available to the private developer or facilitates the later to purchase the same from the farmers and ensures all required clearances on the land. The private developer earmarks the plots after developing the infrastructure on the site. The Public Authority provides off-site infrastructure. Generally, the private developer is allowed to allocate 55 percent of the developed area to housing and the rest 45 percent for public facilities and amenities. The Public Authority has stipulations for reservation of plots for Economically Weaker Section. Either the Public Authority buys back the plots meant for Economically Weaker Section at pre – determined rates or asks for free transfer of plots to it. In short, there is a stipulation of social housing as a part of the public private partnership agreements. To make this model attractive, generally higher floor area ratio (FAR) than normally permitted, about 2.5 times is permitted so that the private developer can make enough profit.

Some of the noted examples are: City and Industrial Development Corporation (CIDCO), the Public Authority, which developed New Bombay, Haryana Urban Development Authority (HUDA) in Gurgaon and Lucknow Development Authority (LDA) in Uttar Pradesh has implemented projects under this model. In New Bombay, City and Industrial Development Corporation bought 35 percent of the built up area at pre-determined rates and then earmarks these for the poor. The prices are so prohibitive (around Rs.15, 000 in 1994-95, based on CIDCO reports), that the poor

cannot afford these plots. In Lucknow, Lucknow Development Authority asked the private developer to construct 40 percent of the houses for Economically Weaker Section category with an area of 30sq.m. as per Housing and Urban Development Corporation (HUDCO) norms, to avail the loan. It took so long to get loan from Housing and Urban Development Corporation that the cost of Economically Weaker Section unit shoot up to Rs. 65,000. In Gurgaon, Haryana Urban Development Authority (HUDA) asked the private developers to reserve 20 percent of plots (not area) for the Economically Weaker Section. HUDA would sell these plots to the EWS households at nominal rates (now Rs. 200 per sq. m.). The plot size on an average is 50 sq. m. The plot would there fore cost Rs. 10,000. On paper this appears to be a good scheme. But in reality, the plot prices have increased to at least 20 times, leading to the release of the plots and displacement of the poor.

2. *Slum redevelopment Scheme (SRD)*

This scheme was introduced in 1991 in Mumbai and is currently in operation only in this city. The scheme was introduced with the idea to convert slums in the city into permanent multistory buildings. Each reconstruction unit has to be of 225 sq. ft. (20.9 sq. m.) carpet area, that is 28 sq. m. built up area. The scheme is much the same as the slum clearance and reconstruction scheme of the 1950s and the 1960s, with little differences. It differs from the earlier scheme in line with financing and implementation. In this scheme, private developers or the cooperative of the slum dwellers would finance and implement the scheme instead of the public agency. The slum dwellers, under the Slum Redevelopment scheme, are expected to get dwelling units free of cost. To meet the construction cost and to make scheme attractive to the private developers, additional free-sale area is permitted. This free-sale area is determined according to the total built up area required to re-house the existing dwellers. There is differentiation within the city, based on the variation in land prices and population density in the slum pockets across the city. Permissible built up area on each plot will be 2.5 times more than the permissible built up area in general.

A new Slum Development Authority (SDA) is proposed for the implementation of the Slum Redevelopment scheme. The scheme seeks to involve private developers in the shelter programs. The lease of the plot is to be transferred to the cooperative of the slum dwellers. The Slum Development Authority has a role to

population, a new and broader approach to housing for the numerically-dominant lowest income groups can be developed in terms of the following policy statements:

1. Existing housing stock even in slums and squatter settlements must be preserved wherever possible so that new housing schemes results in to maximum net gain.
2. Major and rapid improvements in the living conditions of slum dwellers must be achieved through well-organized programs of improvement to the physical and social environment without much destruction.
3. An urban land policy must be implemented which provides adequate developed land in planned and suitable locations for the establishment on a sufficiently large scale of new controlled and modernized, self-help- settlements of informal type
4. The maximum encouragement must be given, through adequate and affordable financing and through social and economic development programs, for the establishment of these new urban settlements; housed in non-permanent, self-constructed shelter but with adequate environmental and community facilities; and this must be done with a sufficient urgency and on a sufficient scale to provide a real alternative to the proliferating shanty-slum in urban areas.
5. The achievement of acceptable environmental standards (to render even slum housing tolerable) depends essentially on the successful introduction of imaginative and efficient management services and on associated programs of community development based on voluntary effort.

PART-3

2.6. STUDY OF SELECTED ASPECTS OF HOUSING

2.6.1. INTRODUCTION

Shelter is a basic human need, which ranks next only to food and clothing. The provision of secured shelter promotes overall socio economic development and serves as an important indicator of the level of development of a community.

Ideally every family should have a house to live in. but there are certain factors like poverty, legal and regulatory framework for ownership, requirements of funds, accessibility to housing loans which inhibit the development of the housing activity that matches with the demand in this sector. The proportion of population, which is very poor, is unable to afford houses and requires State intervention for providing them with the basic need.

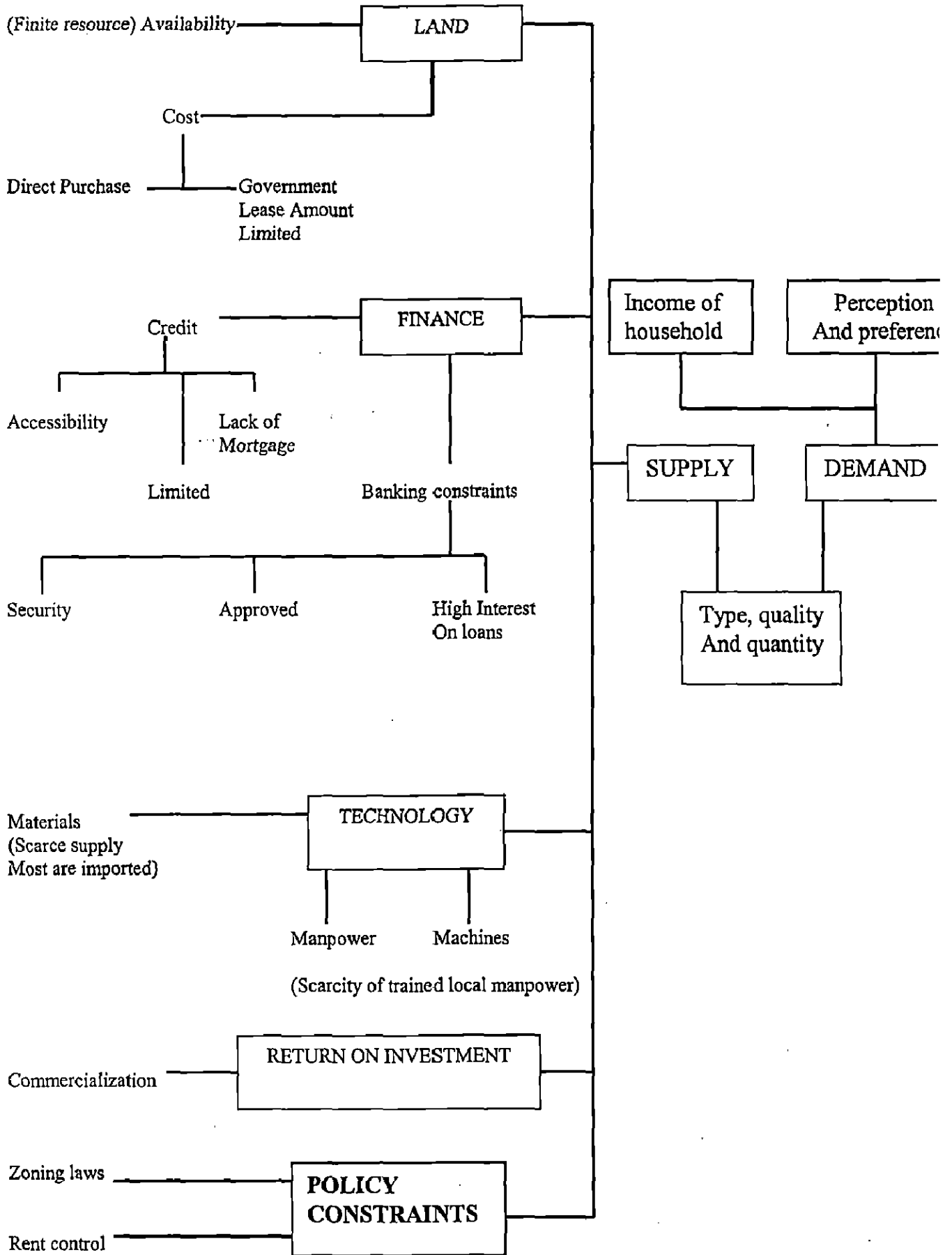
This study is confined to the broad aspects of the urban housing problem in India. As mentioned earlier, low affordability of a majority of the urban citizens, shortage of urban land and elaborate legal and regulatory framework contribute to shortages of housing in towns, cities and metropolises of India. The scope of this study therefore, is restricted to an analysis of different supply and demand aspects of urban housing. (Figure4).

However, a physically well built shelter alone does not fulfill the perception of urban housing until it is complemented with reasonably easy access to the various services and facilities have been the prime cause of failure of several urban housing projects including those intended for the low income families.

2.6.2. FACTORS AFFECTING HOUSING IN URBAN AREAS ARE

- Scarcity of land leading to unrealistically high land prices.
- Inadequate capacity of housing supply agencies.
- Dynamic socio-cultural character of the users.
- Imperfect land regulations.
- Restrictive legislations relating to housing.
- Affordability constraint of a majority of urban population.
- Unrealistic urban housing policies.

FIGURE 4: SUPPLY DEMAND CHART FOR LOW INCOME HOUSING



2.6.3. DEMAND FOR HOUSING

In economic terms, the demand for housing is the housing requirement supported by purchasing power. One of the most important factors that influences demand for housing is population. Growth in population leads to formation of new households, which in turn requires housing space to live in. More number of persons would mean larger requirements of housing space. The determinants for the demand for housing in urban India are:

- Growth of urban population and growth of households.
- Income of households.
- Availability of finance
- Location factors
- Cost of land and construction.
- Rate of return on investment in housing
- Institutional factors

2.6.4. THE DEMAND SIDE OF HOUSING INCLUDES THE FOLLOWING FACTORS

- Cost of housing linked to income group composition of the community.
- Availability of cheap finance.
- Changing socio-cultural aspirations of the citizens.
- Affordability ratio: Affordability ratio is obtained by dividing the cost of housing by the average income level. The higher the ratio the more difficult it is for the common man to own a house.

2.6.5. THE COST OF HOUSING IS AFFECTED BY

- Cost of land.
- Cost of construction material and labor
- Cost of technology and
- Cost of infrastructure.

2.6.6. FACTORS AFFECTING THE AVAILABILITY OF FINANCE FOR HOUSING

- The bank rate on long-term loans.
- Government policies on housing finance.
- Regulatory procedures in respect of finance
- Development of secondary mortgage market.

2.6.7. HOUSING SUPPLY

The glaring gaps between demand and supply figures of housing in the urban areas become evident if the annual figures are considered. In the largest Indian cities, up to 2000 persons move in, generating an additional demand of up to 1,50,000 dwelling units every year. In comparison, the formal system supplies at best 25,000 to 30,000 dwelling units per year. Thus, the informal supply system plays an active role to supply houses not only for the lowest income families in the form of slums and squatter settlements but also “ unauthorized colonies” for middle and even high income families who due to some reasons, are unable to gain access to a house through the formalized supply system.

The crucial factors for the supply system to be effective are:

- Availability of developed urban land for housing at reasonable price.
- Availability of appropriate housing construction material
- Availability of housing finance.
- Availability of urban services and facilities.
- Appropriate legislative and administrative measures.
- Availability of suitable housing technology and above all.
- Existence of a realistic housing policy.

2.6.8. FACTORS AFFECTING HOUSING SUPPLY

- Supply of land for the housing purpose.
- Infrastructure facility
- Adequate availability of construction materials.
- The facility of finance available with builders.
- The capability of the supply agencies.
- Nature of technology used.

2.6.9. FACTORS AFFECTING SUPPLY OF LAND FOR HOUSING PURPOSE

- Government policies on land development for housing.
- Land transfer policies.
- Rules regarding registration of land.
- Land prices.
- Laws and regulations related to development of built forms.

2.6.10. FACTORS AFFECTING LAND PRICE

- Location attributes with respect to accessibility to urban services and amenities.
- Area specific and use specific demand for land.
- Urban land ceiling and regulation act.(ULCRA)
- Permissible floor area ratio. (FAR)

2.6.11. LAND

The major input into housing and infrastructure development is land. Without the efficient functioning of land markets and a clear and usable definition of property rights housing developments are not likely to revive the needs of the population of a city.

Existing policies on land (land ceiling Rent control, Development control Rules) have been responsible for the supply side of the land market not fully responsive to demand conditions. The effect of such policies is reflected in unrealistically high price of land or housing and lopsided development of cities by creating slums. If there is one single element that will revolutionize the housing and urban and sector in India it is the reintroduction of an open market in land transactions simultaneously with automated cadastral and titling system. Of course it may not be feasible to alter the existing system overnight but steps should be taken to change those laws and regulation, which hinder in increasing the supply of land.

2.6.12. INFRASTRUCTURE FACILITY

Inadequate availability of developed land and other basic amenities is another factor, which seriously affects the housing sector. The efforts of the government in this direction are not significant enough to match the problem of housing. The

Government can encourage private developers to asked active part in developing infrastructure facilities. This can be done if rules and regulations for developing and other infrastructure facilities are so enacted so as to give a reasonable return on their investment.

2.6.13. FLOOR AREA RATIO

One of the parameters of land use is Floor Area Ratio (FAR). FAR is calculated by dividing the total covered area by the size of the plot. FAR in metropolitan cities of India varies between 1 and 3. FAR of the cities of developed countries like Chicago, New York and Hong Kong can be as high as 10 to 12. Of course, the figure of FAR to be allowed in a city is dependent upon the level of infrastructure facilities available in that city and it is being argued that cities in India do not have the requisite infrastructure to permit a higher FAR. The solution is not in keeping the FAR low but in upgrading the infrastructure. The Cost of providing infrastructure is likely to be much lower than the value of additional area made available. Additional premium can be charged by corporate bodies for the additional FAR to be allowed at least for commercial space. The amount so realized be earmarked exclusively for the provision and up gradation of social- and physical infrastructure. Higher FAR is likely to have an effect on controlling the prices of properties.

2.6.14. HOUSING MATERIAL AND TECHNOLOGY

Cement and steel are the main inputs in constructing a house. Rise in inflation has resulted in higher prices of both materials and labor inputs in the building industry thus pushing up the overall cost of construction.

A wide range of materials and technologies are being used through out the length and breadth of India, in villages as well as in cities and metropolitans for construction of shelter of various types and sizes.

In the urban scenario, prevalence of man-made materials such as sheets of iron, tin, asbestos cement, plastic, polythene, paper, rubber etc, are found to be popular between the slum and squatter settlements. In the formal housing sector steel, cement and bricks continue to be the most used materials. So much so, that Eighth Five Year Plan noted the shortages of 17 million tons of cement, 3 million tons of steel and over 50,000 billion bricks 1992-97.

Innovative approaches in the field of housing that attempted to utilize unconventional construction methods while using conventional materials or new materials are in the process of gaining popularity in India. A silver lining in the otherwise bleak looking scenario of urban housing is the establishment of 'Nirmithi Kendras' or Building Centers in various parts of the country. The central purpose of these Kendras is to establish delivery systems for cost effective technologies to the society at large. The objectives of the Nirmithi Kendras are:

- Training of masons and skilled workers;
- Mass production of cost effective building components;
- Establishing outlets for sale of prefabricated and other building materials at reasonable cost
- Undertaking actual construction of cost effective houses or buildings for demonstration purposes, and
- Pursue adoptive research leading to identification of suitable solutions for local conditions.

Originally, the idea of establishing the Nirmithi Kendras was initiated in 1985. Currently, nearly 180 Nirmithi Kendras are operation in India. HUDCO, at The India Habitat center, located on Lodhi Road, New Delhi is the head quarter of all the Nirmithi Kendras.

In addition to the above, experiments in the field of new building materials are being undertaken by concerned individuals and institutions. A good example of such an effort is the attempt to fabricate rubber wood. Following the example of Sri Lanka (1968), agencies such as SITI (South India Timber Industries) are already selling furniture made from processed rubber wood.

Similarly, use of timber particles, shavings, straw and grass embedded in synthetic glue in the form of boards and panels are good replacement for timber. Efforts to utilize the large quantities of fly ash generated, as 'waste product' from thermal power plants for fabricating lightweight building blocks appear to yield promising results. In the near future therefore, through research and experiments, one may hope to face a pleasant revolution in materials and technologies used in the housing sector.

2.7. HOUSING FINANCE³⁸

2.7.1. INTRODUCTION

Housing finance is the provision of finance or capital for housing. To own a house, households might have to lay out as much as four times their annual income; therefore few are in a position to buy a house from their own current resources.

A way to overcome this is not only to use one's own savings but also to borrow the savings of others, to acquire or purchase a new house, and to repay the borrowed amount back over time.

For this, a group of prospective house-purchasers could get together and pool savings. Provided not all the members wanted to borrow from the pool at the same time, it could be a workable system, and the larger the pool, the more workable it would be. This is, of course, the basis of mutual savings and loans associations that exists in many forms in the country for variety of purpose, not just housing.

However to get a sizeable operation an association of savers alone will not suffice, and other savers must be attracted who do not have house-purchase in view. Such savers need not only be other households but may include institutions as well. Over time, a number of specialized institutions have emerged that can play the intermediary role necessary to such an operation, bringing savers and borrowers together.

2.7.2. INCOME/HOUSING RELATIONSHIP

Generally speaking household spending on housing increases as income increases. However, there are limits to how much a house can cost, above which the income housing relationship will not hold but housing cost will tend to stay constant similarly, there is a corresponding limit price below which housing is not available. Again, this can be related to an income level below which housing expenditure will have to remain constant regardless of falls in income.

These two limiting income levels can be tested by the levels of affluence and poverty respectively at least in housing terms. There is another income level, below which a household does not have access to credit. For example if banks operate a lending scale of say, three times household annual income and the typical house costs Rs 300,000, then households with annual incomes below Rs 100,000 per annum will find it hard perhaps even impossible to obtain finance.

In terms of housing supply those above the affluence level will find that not only national but also even international sources of finance are available to them. These above the credit level will similarly, find no shortage of contractors willing to build for them and financial institutions to level to them. The problematic groups are those below the credit level: for them, access to finance for house purchase will not be forthcoming and it is likely that their access to housing will be limited to the rental market. Those below the poverty line will not readily find supplies from the private commercial sector and they are the most likely recipients of subsidized housing provisions if it is available, failing which they have no choice but to squat on government or private lands, often in hazardous locations and troop into slums.

One of the reasons why formal institutions modeled on those of developed countries do not work for low-income households in developing countries is that they require formal guaranties in the form of collateral. Where as in developed countries most of the housing finance is required by households to purchase houses (from other households or from developers), in the developing countries housing finance is required by households to build their house. In developed countries the land and the house form securities for the lender and can be mortgaged and added security can be provided through life insurance policies. In developing countries many households cannot produce valid title deeds to the land on which they intend to build. In the absence of life insurance policies or other securities few if any institutions will finance land purchase if the only security is the land that is being bought lending finance.

2.10.3. INFORMAL SOURCES OF FINANCING FOR HOUSE BUILDING

For the overwhelming majority of households, finance for house building comes from a variety of sources, and each household puts together the best combination it can. The package is likely to combine a range of sources, both formal and informal. The higher the income level, the greater the contribution of formal sources is likely to be.

The most likely informal sources of funds for initial construction are as follows:

- The biggest single source of funds is saving out of current income. Occasional surpluses, particularly when incomes are variable are used to purchase building materials, and the progress of construction depends on these margins.
- The second most quoted source is loans from friends and relatives, mainly from members of the expended family. The terms of such loans are iniprecise, and

interest seems not to be charged, although it has been reported that “ social obligations” are incurred.

- The next and somewhat similar source is loans from employees and from colleagues at work. A difference in this case is that interest is likely to be charged and the loan may be related to continuing employment.
- There is the selling of assets that have been previously accumulated such as jewellery or personal possessions. There can also be the sale of land or livestock.
- There is some recourse to moneylenders, but very high interest rates, short repayment periods and robust methods of collection limit the use of this source to situations of urgent need.
- There are the informal savings groups, sometimes known as Rotating Savings and Credit Associations (ROSCAs) although they raise small amounts for short periods they are of interest in that they resemble, in some ways, the early associations that became building societies. Whereas, sums raised by ROSCAs are rarely likely to be enough for the recipient to construct a house, they are very frequently cited as source of funds where construction is incremental or where most of the construction is through self-help or without recourse to actual money.

In biasing relatively large sums in this way from a variety of sources, people show great resource fullness and enterprise. The advantages of these methods are that there are few forms to fill in, and procedures are simple to follow and there are few or no eligibility criteria. However, there are also many disadvantages: the amounts are small and from a number of different sources. The loan terms might not be recorded, so that conditions of repayment and interest charges are uncertain. It seems; at least, probable that the overall conditions to the borrower are less favorable than would be those of a single loan formal institution on stated terms and at a market rate of interest.

However, while access to formal financial institutions is limited informal mechanisms make up the bulk of housing finance to allow households to purchase housing on a basis other than merely saving before building. Most commonly households use a combination of means, which allow them to.

STUDY AREA PROFILE

3.1. LOCATION

Indore, the premier city of Madhya Pradesh and Divisional Head Quarter, is situated almost centrally on the fertile Malwa Plateau with its cardinal points 22°43'N, latitude and 76°42'E longitude and has an altitude of 1850 ft. above the mean sea level.

Indore city is linked by three modes of transportation viz. Road, Rail and Air. Its regional road pattern fans out in all directions. The National Highway (NH-3, Bombay-Agra Road) passes through the city. State Highways and other roads connect the city with the State Capital Bhopal, all District Head Quarters of the Division and important towns within the District.

3.2. REGIONAL SETTING

It is the largest city of “Indore Agro – industrial Region,” which consists of seven districts, viz. Indore, Ujjain, Dewas, Ratlam, Mandsaur, Dhar and Jhabua. The region is more industrialized and urbanized as compared to other regions of the state. Since ancient times the city occupies an important place in trade and commercial activities of the Central India. The former Holkar state established a custom free zone at Indore, which strengthened economic linkages of the city with neighboring states of Dewas, Gwalior, etc. These linkages are in vogue even today. Most of the export and import activities of the region passes through this city. (Figure 5)

The city has developed as regional distribution and collection center. The wholesale markets of Indore city receive commodities from the areas, which are situated even beyond the region. The commodities such as, food grains, pulses, oilseeds, cotton, textiles, hardware, wood, fruits and vegetables etc. are commonly sold in wholesale in these markets. Finished products such as, cloths, machinery goods, cycles, drugs, chemicals, medicines, leather and leather based items, etc., are transported from the city to the capital city, Narmada-Tapti region of the state, and also to other states of the country.

The district of Indore is amongst most urbanized districts of the state. Its urban content is 62.71 percent of the total population. The district is bounded by Ujjain, Dewas, and Dhar districts in North, East and West respectively. In the South, water-parting line of Vindhya separates it from 'Narmada – Tapti Region'. Cities of Indore, Ujjain, Dewas forms a triangle with Ujjain at a distance of 55 km and Dewas at 35 km from Indore. Ujjain is at a distance of 37 km from Dewas.

3.3. PHYSICAL FEATURES

The city occupies relatively plain plateau having a very gentle slope towards North. Hinterland of the city is also flat but dotted with some hillocks like Bijasan, Gadha Tekri, Bhuri Tekri, Deoguradia and depression at Sirpur Tank. There are no physical constraints except Piplapala Tank on the South – Eastern side and Sirpur Tank in the South West, which will limit or condition the growth of the city.

3.3.1. NATURAL DRAINAGE

Two small rivers, Khan and Saraswati, provide the drainage of the city. Khan River, a tributary of Kshipra, rises near Umaria village about 11 km. South of Indore and flows through the heart of the city. It has been checked through dam near Navlakha Garden, here it intersects the Agra – Bombay Road, (NH-3). Three kilometers further down, the Saraswati River, a small stream that rises near Machala village, joins it. Confluence is in the heart of the city known as Rajwada. Flood plain of these rivers had been squatted upon to result into the slum.

3.3.2. MINERAL RESOURCES

There are no known minerals worth mentioning in the city surroundings. The hinterland of the city is all black cotton soil having depth ranging between four feet to ten feet.

3.3.3. BUILDING MATERIAL

Bricks: manufacturing of good bricks at Indore is not possible since hinterland of the city is all black soil. However, there is couple of sites, like Kabir Khedi, Kumbhar Khedi, and Sirpur where better soil is available for second-class bricks. These sites serve the local demand for second and third class bricks. Brick industry have come up along Sanwer Road (between Sanwer and Ujjain) and Dewas.

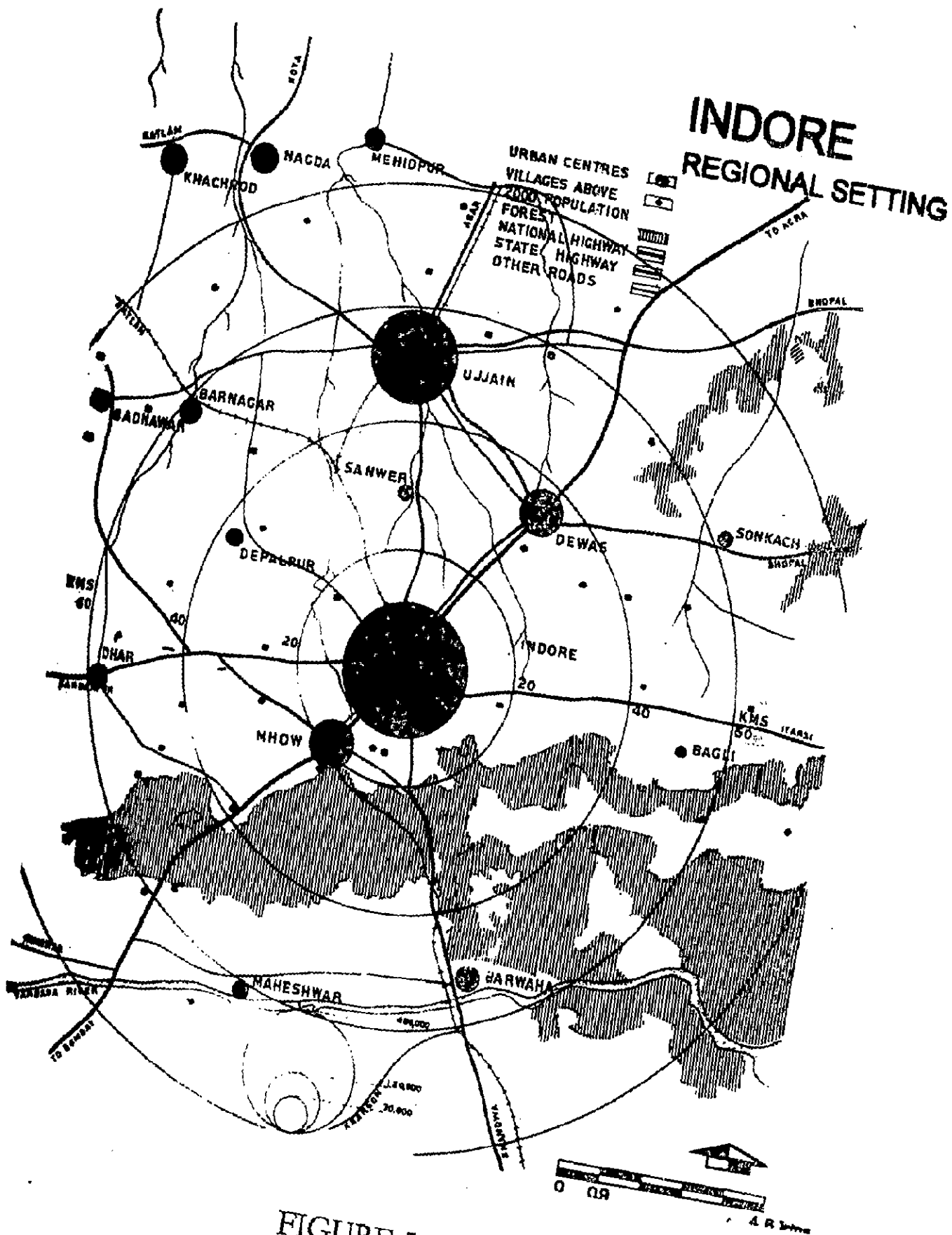


FIGURE 5

Sand: there is no local source of supply of fine sand. Sources of supply of fine sand are river Kshipra and river Narmada for various constructional activities. Coarse sand from local nalas is utilized for roadwork only.

Building and Road Stones: Gadha Tekri is the only source of supply of stones for building and roadwork. As quality of stone is reasonably good, it is the single source that is retained for supply.

Morrum: Bhuri Tekri is the only source of supply of Morrum for local use.

3.4. HISTORICAL BACKGROUND

Indore owes its early growth to trade and commerce, which is still a dominant feature of the city. The present city is more than 400 years old. Till the end of 15th century its original nucleus was a riverside village, which occupied the bank of river Saraswati. This area is now known as Juni Indore.

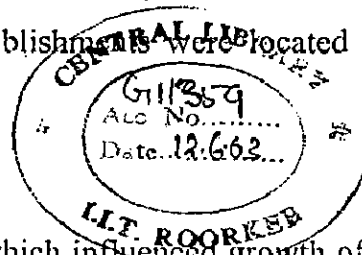
3.4.1. HOLKAR'S INDORE

In 1728, the chief of Marathas, Bajiroa Peshwa, granted Holkar State to Malhar Rao. He ruled the State from 1728 to 1766. During this period development was primarily for military, and commercial development was just incidental. In 1818 the capital was shifted from Maheshwar to Indore. Ara bazaar functioned as an important market place the also. Important localities that came in early Holkar period are Chhatri Bagh, State bungalow of Juna Mali, now known as Moti Tabela housing collectorate, Gadi Khana, Malhar Mohalla, Zambur Khana, Old Palace, Palace Garden now has New Shiv Vilas Palace, Nandlalpura, Gutampura, Kabuttar Khana, Bakshi Gali and Koyala Bakhal, and River Ghats.

Establishment of Holkar capital at Indore provided new forces for development of the city. In view of the defense needs, the three roads, one leading to polo ground, the other to state stable now M.T. Cloth Market, and the third Topkhana Road were first to develop. All the defense establishments were located on these roads.

3.4.2. RAJWADA

The most important event of this period, which influenced growth of the city, was location and construction of Rajwada quite a distance from Juni Indore, the then important area of the town. This shifted importance of the city to this area and new



developments started taking place around Rajwada. Today this area is humming with commercial activities and choking with congestion.

3.5. PLANNING EFFORTS IN THE PAST

Unlike other cities in the state, Indore had the benefit of consciousness of Holkars and civic authorities towards proper and planned development of the city. Some of the significant efforts made before independence are as follows:

In 1912 H. V. Lancaster was invited by the local body to advice in respect of expansion of the city and improvement in the in sanitary conditions in residential areas.

In 1918 Sir Patrick Geddes was invited by Maharaja Tukoji Rao Holkar to advise the Government and local body regarding improvement and expansion of the city. He prepared drainage and water supply schemes, Industrial Development schemes, Suburban Development, Housing Schemes and Landscaping etc.

He advocated segregation of working area (particularly industries) from residential area and yet maintains 'work place and folk place' relationship. Development of industrial area on the Northeastern side of the city and residential area for cotton and other industrial workers within distance of a kilometer from these industries is the most valuable scheme implemented on his advice.

Sir Geddes suggested planting of flowering trees in suitable position and 'roadside' trees in the form of boulevard along the Western and Eastern banks of the river, which flows in the center of the city. Unfortunately this scheme could not be implemented and as a result slums now occupy most of the space.

In 1938 R. H. V. Stamper, consulting surveyor to the Government of Bombay was invited by Holkars to seek is advice for improvement and expansion of the city on proper lines. His report was devoted to improvement of circulation pattern. He suggested seven traffic routes to inter connect different localities and provide for heavy intra-city and inter-city traffic. These routes were named from I-VII, which now forms the lifelines of the city.

3.6. PLANNING AREA

During normal expansion of an urban settlement, rural settlements continue to be merged with urban area. Development in and around these settlements therefore, needs to be controlled so that it fits in the future development pattern of the city. Moreover villages also need to be properly developed to provide facilities for better

life and more meaningful interaction between the urban center and rural center in its immediate vicinity, villages thus included in the limits of Indore city planning area, as notified under sub section (i) of section 13 of Madhya Pradesh Nagar Tatha Gram Nivesh Adhiniyam, 1973, which came into effect from 15-3-74, are as follows:

3.6.1. Limits of Indore Planning Area (Figure 6, Table 3.1)

North: Lasudia – Mori, Niranjanpur, Bhangarh, Kumredi, Bhoursala and up to the Northern limit of Baradari Village.

West: Baradari, Bhoursala, Tigaria- Bad shah, Bangarda Bada, Nenod, Kodia, Bank, Ahirkhedi, Sukhivas and up to Western limit of Rao village.

South: Rao, Hukmakhedi, Bijalpur, Piplaliyarao, and Southern limit of Palda village.

East: Palda, Musakhedi, Pipaliyahana, Khajrana, Pipalya kumar and up to the Eastern limit of Lasudiamori village

Total area covered within Planning Area is 21410 hectares or 214 sq. km. It includes area of 410 hectares under natural features like rivers, ponds, natural drains etc., as well as 13017 hectares (130.17 sq. km.) under the municipal corporation. The city under the municipal limits is divided into 68 wards.

3.7. POPULATION CHANGES IN THE CITY

TABLE 3.2: POPULATION CHANGE

Year	Population (in lakh)	Decadal growth rate
1951	3.11	-
1961	3.59	15.43
1971	5.37	59.6
1981	8.29	44.8
1991	11.09	33.78
2001	16.39	44.5

The above table reveals that city has grown five times in last five decades. Assuming same growth rate as in 1991-2001, for the next decade, the population of the city will be more than 30 lakhs.

3.8. MIGRAION

Indore is a multi-functional city and the immigration of people from rural areas, on this account, is quite high. There is a significant migration into the city from the southern districts of Khargone, Khandwa, and Dhar and also from the areas adjoining to Mandleshwar.

TABLE 3.1 : INDORE: PLANNING AREA (VILLAGES INCLUDED)

Serial No.	Name of Village	Area in acres	Area in sq. km.
1	Bangarda Bada	2825	11.4
2	Nenod	3163	12.9
3	Kodia	971	4.0
4	Sirpur	2406	9.8
5	Bangarda Chota	2765	11.2
6	Bank	1148	4.7
7	Ahirkedi	1449	5.8
8	Sukhivas	766	3.1
9	Hukmakhedi	787	3.2
10	Bijalpur *	1304	5.2
11	Roa	3643	14.7
12	Palda	1166	4.7
13	Musakhedi*	830	3.3
14	Pipaliya Hana *	1077	4.3
15	Khajrana *	3466	14.0
16	Pipaliya kumar	1000	4.1
17	Niranjanpur *	1372	5.6
18	Bhangarh	333	1.5
19	Kabirkhedi *	753	3.1
20	Sukhliya *	1805	7.4
21	Kumredi	621	2.6
22	Baradari	444	1.8
23	Bhourasala	927	3.7
24	Narvar *	682	2.8
25	Tigaria-Badshah	1788	7.3
26	Banganga	90	0.3
27	Lasudia Mori	1504	6.0
	Total	39085	158.5
28	Gadra Khedi	-	-
29	Bhamori*	-	-
30	Bhagirathpura *	-	-
31	Khajrani *	-	-
32	Palasiahana *	-	-
33	Indore town *	-	-
34	Chitavad *	-	-
35	Pipaliya Rao *	-	-
36	Tejpur Gadbadi *	-	-
37	Sulka Khedi *	-	-
	Total	21410	214

* villages included in the present municipal boundary Source: Indore Master plan 2011

INDORE 13-1 PLANNING AREA.

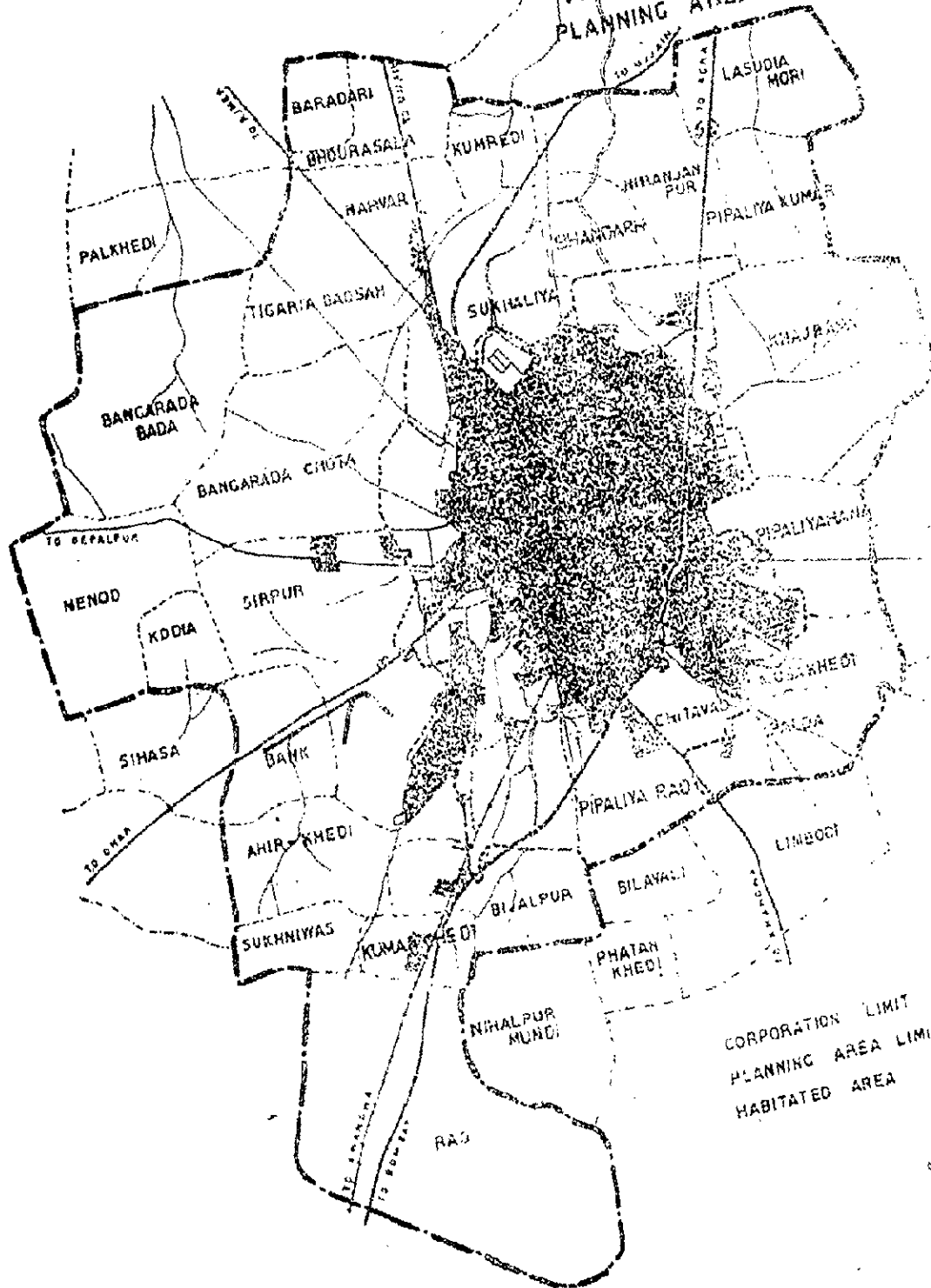


FIGURE 6

TABLE 3.3 : INDORE: MIGRATION FROM URBAN AND RURAL AREAS

Serial number	Migration From	TYPE OF MIGRATION		Total
		Urban	Rural	
1	Same district	1.2	2.2	3.4
2	Other districts	9.6	7.5	17.1
3	Outside the	9.6	10.6	20.2
	Net migration	20.4	20.3	40.7

The above table reveals that 40.7% of total population has migrated to the city. In other words 2 out of every 5 persons are migrants. A negligible percentage of in-migration is from the same district. Nearly half of the immigrants are from the other states. Migration in the city from urban areas equals to that from rural areas. The migration is of course to be ascribed to rich commercial and industrial base of the city.

3.9. OCCUPATIONAL AND EMPLOYMENT PATTERN:

3.9.1. OCCUPATIONAL STRUCTURE

The data on occupational classification is broadly divided into nine categories. Analysis of occupational pattern indicates highest number of workers in manufacturing followed by services and commerce. Employment in manufacturing and tertiary sector has shown an increase during 1981-1991, which indicates strengthening of industrial base of the city and increase in trade and commerce. Employment in transport, storage and communication has also shown appreciable increase.

3.9.2. EMPLOYMENT STRUCTURE

1991 data, available on the type of workers by profession gives the qualitative nature of workers in the city. The highest proportion (48.1%) of total workers are craftsmen, production process workers, followed by 15.6% as salesmen, 10.2% clerical related workers, 10.1% as service, sports and recreation workers, 7.5% as professional and technical workers. This data indicates the availability of high skill labor in Indore, which attracts the economic activities of higher order.

3.10. INDUSTRIES

Indore originated as a camping site, grew as a trade center and ultimately emerged as important industrial center, also. Owing to keen interest of Holkars and dynamic enterprise of its citizens the city began its industrial life in the nineteenth century with textile industry, which now is limping for survival owing to various reasons, which need not be discussed here. Any way, it is no longer the dominating industry, and the city is in the process of diversification in the industrial field. Small and medium sized industries, which now employs nearly 88% of industrial activity. (Figure7).

3.10.1. INDUSTRIAL ESTABLISHMENT BY EMPLOYMENT

The city has a very large number of small and unregistered industrial establishments located all over the city. Census reveals that 88.08% of the total establishments employ up to five workers only, 11.06% establishments employ 6-49 workers, and only 0.44 % establishments employ 100 workers and above.

TABLE 3.4: NUMBER OF WORKERS EMPLOYED IN INDUSTRIES

Serial number	Number of workers employed	Number of units	Percentage of total
1	1	1599	44.41
2	2-5	1572	43.67
3	6-9	230	6.39
4	10-19	127	3.53
5	20-49	41	1.14
6	50-99	15	0.42
7	100 and above	16	0.44
Total		3,600	100.00

Break up of major industrial units employing 100 workers and above and 50-99 workers is as under:

इन्दौर

प्रकार एवं वेतनगत की दृष्टि में उद्योगों का अंकेन्द्रण

INDORE

3-1-2

CONCENTRATION OF INDUSTRIES BY TYPE AND EMPLOYMENT.

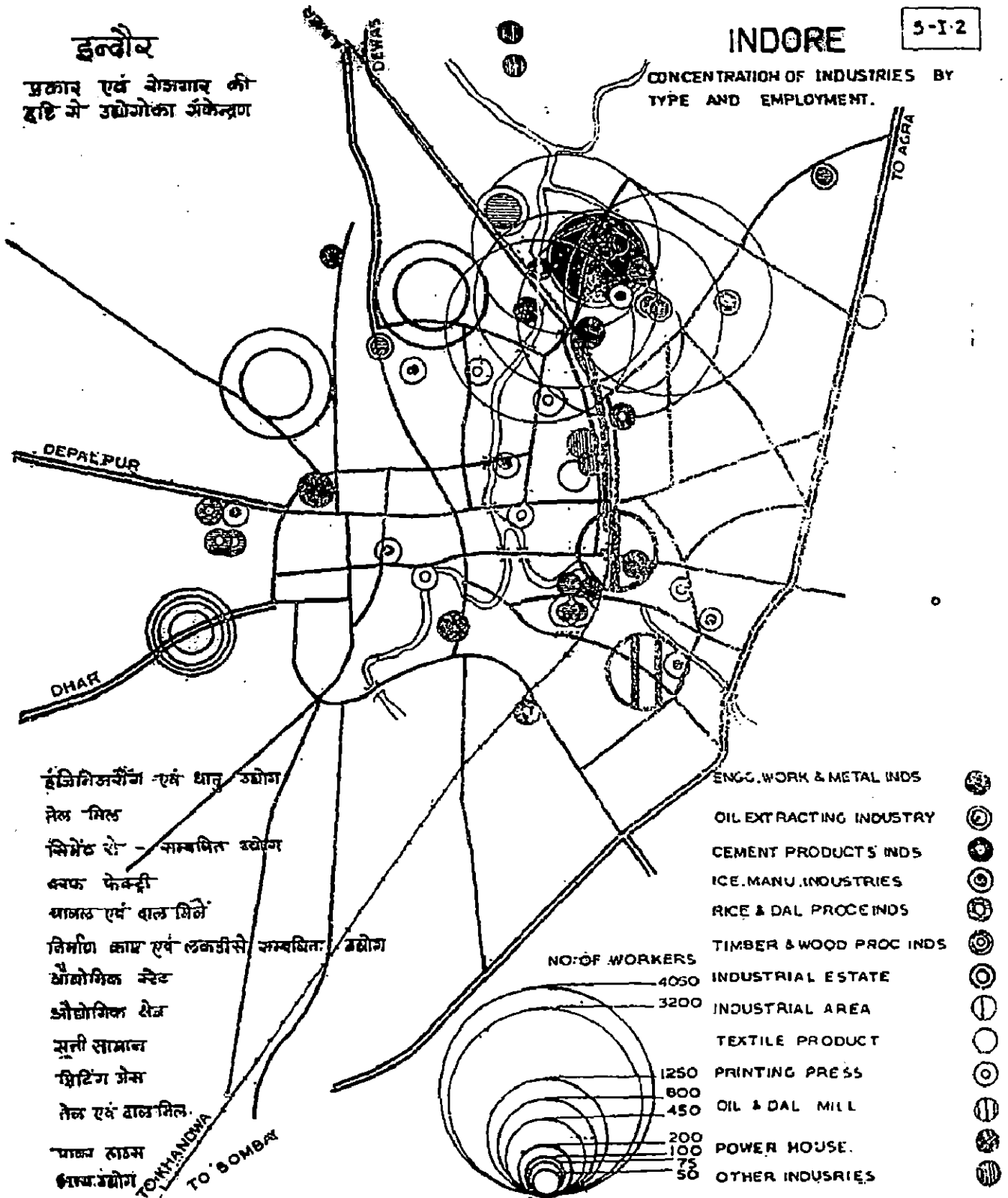


FIGURE 7

100 workers and above: Production of edible oil (3), Production of hydrogenated oil (vanaspati) (1), Cotton spinning (1), Cotton spinning and weaving mills (4), Manufacture of Umbrellas (1), Printing and publishing of news papers (2), Smelting, refining and rolling steel (3) and Sundry Hardware (1).

50 to 99 workers: Food products and sweetmeat (2), Cotton spinning (1), Weaving of silk textile (1), Printing and publishing of news papers (1), Cement and cement products (1), Sundry Hardware (5), Machine tools (1) and Repairing and servicing of motor vehicles (3).

3.10.2. INDUSTRIAL ESTABLISHMENTS BY TYPE

Industrial pattern of the city classified by major groups is clear from the above table. Studies reveal that more than 1/5th of the establishments i.e. 22.2% are of food – stuff category. The next highest numbers of units i.e. 21.5% are of Textile manufacture. Miscellaneous manufacturing Industries (12.1%), Transport equipment (12%), Basic metals and their products (10.2%), Wood and Wooden products (6.7%), Leather and Leather products (3.8%), are among those categories of Industrial establishments which have more than 100 units each.

3.10.3. INDUSTRIAL ESTABLISHMENT BY LOCATION

Fortunately most of the heavy industries such as Textile, Engineering, and Metal works, Oil and Hydrogenated oil mills are located in an organized industrial area on the Northern side of the city. Wood and timber products are located along Dhar Road; Rice and Dal mills have however come up in Navlakha area and other places in the city in an unorganized way.

Other small and medium sized units are functioning in planned Industrial Estate at Polo ground and Laxmi Bai Nagar, although smaller units have sprung up all over the city.

3.11. COMMERCIAL AREAS

Economic life of a city and its prosperity is dependent on commerce and Industries that flourish in the city, the intensity of trade relationship it develops with other trade centers within the region and outside the region.

TABLE 3.5: INDUSTRIAL ESTABLISHMENT BY TYPE:

S.No.	Type (major group)	Total No. of factories	Percentage
1	Food stuffs	800	22.16
2	Beverages	4	0.66
3	Tobacco products	15	0.42
4	Textile Cotton	128	3.55
5	Textile Jute	3	0.08
6	Textile Wool	-	-
7	Textile Silk	2	0.05
8	Textile Miscellaneous	644	17.84
9	Wood and Wooden products	243	6.73
10	Paper and Paper products	21	0.58
11	Printing and Publishing	83	2.30
12	Leather and Leather products	136	3.77
13	Rubber, Petroleum and Coal products	30	0.83
14	Chemical and Chemical products	82	2.27
15	Non-Metallic mineral products	39	1.08
16	Manufacture of earthen products	33	0.91
17	Basic metals and their products	368	10.20
18	Machinery and Electrical equipment	90	2.49
19	Transport equipment	432	11.97
20	Miscellaneous Manufacturing Industry	437	12.11
	TOTAL	3610	100

Source: Census of India, 1991

In course of its dynamic growth, Indore city has emerged not only as the center of trade and commerce and industries of the region but has also developed intense trade connection with important trade centers of the country like Bombay, Delhi, Calcutta and Madras etc.. It is a major employment generating source in a city therefore it is necessary to know their location in the city for evaluating its relationship with the surrounding areas.

3.11.1. SPECIALIZED MARKETS

Wholesale and retail markets in the city have by and large grouped themselves in different areas. Various specialized markets that can be identified are presented in a table 3.6

3.11.2. INFORMAL MARKET

Beside specialized markets, there is informal response too, to the well-established commercial activity. It is estimated that nearly 15000 gumtees dealing in retail trade in various commodities are functioning in the city. Gumtee market of mill area has emerged serving the mill area. Specialized markets in the shape of gumtees are cloth along Topkhana Road, Footwear near Krishnapura police station and riverside road, Readymade cloth around Rajwada, Plastic goods on Ranipura main road, spare parts around university, Chhoti Gwaltoli road, and innumerable Tea stalls and pan shops.

The Gumtees are along the road space along Mhatma Gandhi Road, Jawahar Marg, Gwaltoli area, Maharani Road, Nasia area, New Dewas Road, Pardesipura, on station road, cosmetic, hosiery, and general goods are functioning along Rajwada, Malwa Mill area. Detailed information regarding type of trade and location is given in table 3.7

(Figure.8)

3.12. HOUSING

Housing forms the largest land use element in any city structure. It makes significant impact on overall appearance of the city and its urban form. Housing configuration can make or mar the total city image and its social and cultural life. Traditionally, Indore has the privilege of having best residential development available in any city of the State but, in higher and upper middle-income groups only. The city has worst slums in areas like North Toda, South Toda, and Champa Bagh etc., thriving among the best residential and commercial localities of the city.

TABLE 3.6: INDORE: LOCATION OF SPECIALIZED MARKETS

Serial No.	Type of market	Location
1	Dry Fruit, Cereals, & Food stuff	Marothia, Siyaganj
2	Paints, Hardware, Sanitary wares, Steel furniture	Siyaganj
3	Plastic works, Glass works, Crockery, Photo framing	Siyaganj, Bhora bazaar Rampayu, Rajwada
4	Cutlery and electrical goods	Jail road, Maharani Road
5	Readymade clothes Hosiery	Rajwada Kothari Market
6	General merchandise	Jawahar marg, M.G. Road, Yashwant Road
7	Utensils	Kasera bazaar
8	Transport agencies and general Insurance companies	Jawahar marg, Ware house road, Hathipala, Rajmohalla
9	Gold and silver ornaments and jewelleries	Sarafa
10	Banks and professional business offices	Sitalamata bazaar, Siyaganj, Jawahar marg, Jail road, M.G. Road
11	Tin goods	Lohar Patti,
12	Provisions	Marothia
13	Cloth	Sitalamata bazaar, Santa bazaar
14	Leather goods	River side road, Jawahar marg (Nandlal pura)
15	Medicines	Maharani Road, Bojhaket market
16	Cycle parts	Maharani Road
17	Auto spare parts	Maharani Road, Gwaltoli, Kibe compound, Morai Mohalla

INDORE

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GUMTEES

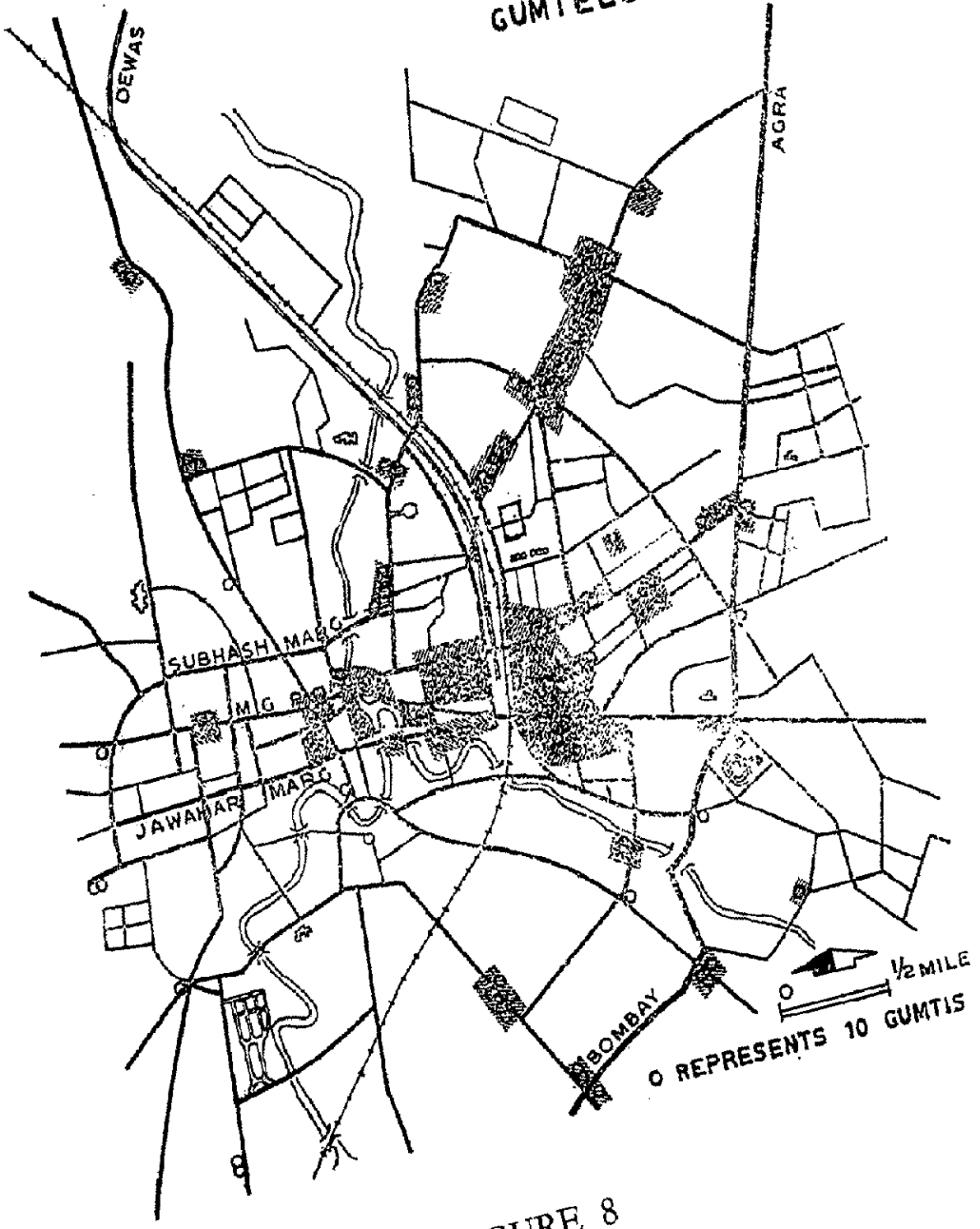


FIGURE 8

TABLE 3.7: INDORE: GUMTEES AND FOOTPATH SHOPS

Serial No.	Predominant trade	Location
1	Auto parts and Engineering	Maharani road, Gwaltoli, Ravindra Nath Tagore Marg, Railway crossing to Gwaltoli Main Road
2	Repairs and Services	M. G. Road, Tukoganj, Kibe Compound, Gwaltoli, Moti Tabela, Park Road, New Dewas Road, Near University
3	Readymade clothes	Around Rajwada, Malwa mill Chauraha, Sitalamata Bazaar, M. G. Road
4	Cosmetic and hosiery	M. G. Road, Rampayu road, River side Road, Rajwada, Gwaltoli, Jail Road
5	Provisions & Hotels, Tea stalls, Book stalls	(i) Malwa mill square, Patnipura, Tilak statue, Siyaganj, New Dewas Road, Bhandari mill, Sindhi Colony, Bhanwar Kua (ii) Residential colonies: Tilak Nagar, Rajendra Nagar, Azad Nagar, Bairathi Colony, Sindhi Colony, Roopram Nagar, Bijasan Road, Dhar Road, City light Chauraha, Station area, Rao, Krishnapura Bridge.
6	Transport	Lasudiamori, Bhamori Dube, Bijalpur Naka, Marimata Chauraha
7	Cloth	Sitalamata Bazaar, M. G. Road, around Rajwada
8	Opticians, watch repairs	M. G. Road
Footpath Thela Shops		
A	Furniture	Shri Krishna Talkies
B	Cloth	Sitalamata Bazaar
C	Shoes and Chapples	Krishnapura
D	Plastic wares	Krishnapura, Rajwada
E	Fruit stalls	Station area, vegetable market, Malharganj, M. Y. Hospital, Rajmohalla, Sanyogitaganj, Malwa Mill Chauraha, and Chiman Bagh Chauraha.
F	Manihari	Rajwada
G	Grain	Jinsi, Malwa Mill Chauraha
H	Vegetable	Hamilton Road, Nandlalpura, Itwara, Malharganj, Chavani, Tilak Statue, Malwa Mill

Indore presently has 1.97 households, which place specific housing demand. Average family size as per 1971 census was 5.6, which has come down to 5.5 in 1991, assuming that average family size will come down to 5 by 2011, housing demand in the year 2011 shall be 6.00 lakhs. Indore presently has 1.15 lakh houses, thus current

housing requirement is placed at .82 lakhs. City has approximately 60,000 slum dwellings in 178 slums scattered all over the city,

The city has also suffered from organized squatting on public land backed by various pressure groups, at times to outdo each other, without realizing the incalculable harm such progress was doing to the cause of orderly development of the city. Colonies like Jabran colony, Nehru Bagh, Shyama Charan Shukla Nagar and many other similar colonies were established in the bygone decades. Indore city has as much as 350 unauthorized colonies.

3.13. LIVING CONDITIONS

Quality of living conditions in a city particularly in a residential area depends on the total environment in that area i.e. conditions of land development, provision of services like water supply, drainage and transportation, etc. provision of amenities for education, health and recreation, housing situation both quantitatively and qualitatively. Identification of problems regarding living conditions will therefore, entail study of these factors together with factors like rate of occupancy, tenure status, age, and condition of structures, housing shortage etc.

3.13.1. RESIDENTIAL DENSITY

Cities in India tend to have highest residential density in the central area, which progressively falls towards fringes of the city, while cities in Europe and America often have lowest residential density in the city center – hub of commercial activities. This phenomenon is produced by complete segregation of residential areas from work centers, particularly commercial and other allied activities. But in India city centers continue to have mixed land uses particularly commercial and residential. Commercial uses tend to thrive along main roads mostly on the ground floor (sometimes offices are located on the first floor also) the remaining floors are used for residential purpose within the central area. Residential houses are also located behind the main commercial streets. (Table 3.8) A study of the residential density at Indore reveals that the highest density in the city is 550 persons / hectare, in planning zone – 1, and the lowest is 95 persons / hectare in zone-11. Within the planning limits gross residential density is 247 persons / hectare.

TABLE 3.8: POPULATION DISTRIBUTION AND RESIDENTIAL DENSITY (1991)

(Area in hectares, Population in lakhs, and Density in persons / hectare)

Planning zone	Residential area	Population	Average residential density
1	364	2.0	550
2	506	1.70	335
3	567	1.50	265
4	567	1.41	248
5	668	1.46	218
6	547	0.84	153
7	385	0.80	208
8	425	0.89	209
9	546	1.29	236
10	263	0.40	152
11	222	0.21	95
Total	5060	12.50	247

3.13.2. DEVELOPMENT OF LAND

Situation regarding availability of land for 'House Sites' at Indore has been far better as compared to other cities of the State, because erstwhile Government of Madhya Bharat had liberalized policy of diversion of agricultural land for residential purposes. This provided sufficient initiative to the private sector as well as to the co-operative societies to plan and develop land for housing. In the wake of this policy, sufficient numbers of house sites were available which no doubt eased housing situation, but the colonies came up in disjointed manner, which created pockets of developed land separated by agricultural land. This has created problems of intercommunication, provisions of services like water supply, drainage, and transportation and provision of amenities and amenities like schools, developed open spaces, shopping.

Data on structural condition, tenure status, household size, availability of water supply toilet etc. is presented in the form of tables in the following pages.³⁹

TABLE 3.9 PERCENTAGE OF HOUSEHOLDS HAVING ACCESS TO SAFE DRINKING WATER AND THEIR CLASSIFICATION BY THE SOURCE OF THAT WATER (WITHIN OR OUTSIDE PREMISE) AND AVAILABILITY OF ELECTRICITY AND TOILET FACILITY

Source of safe drinking water (within / outside premises)	Percentage of households having access to safe drinking water	ELECTRICITY			
		Available		Not available	
		TOILET		TOILET	
		Available	Not available	Available	Not available
Total	88.62	58.71	15.69	1.51	12.72
Within premises	55.19	47.94	3.52	0.31	0.42
Outside premises	36.43	10.76	12.17	1.20	12.30

TABLE 3.10: DISTRIBUTION OF CENSUS HOUSES BY CONDITION OF HOUSES, I.E. UNSERVICEABLE KUTCHA, SERVICEABLE KUTCHA, SEMI-PUCCA AND PUCA HOUSES

Type of Houses	Number of houses	Percentage
Unserviceable Kutcha	2975	1.33
Serviceable Kutcha	4545	2.03
Semi Pucca	53455	23.93
Pucca	162370	72.70

TABLE 3.11: TOTAL HOUSEHOLDS AND THEIR PERCENTAGE HAVING ELECTRICITY AND TOILET FACILITIES AVAILABLE TO THEM BY TENURE STATUS OF HOUSE OCCUPIED

Households occupying	Total no. of households	Percentage of households	
		Electricity	Toilet
Total	181525	83.22	67.68
Owned	111210	78.94	61.80
Rented	65530	90.55	77.37
Others	4735	82.47	71.59

TABLE 3.12: DISTRIBUTION OF CENSUS HOUSES BY PREDOMINANT MATERIALS OF ROOF AND WALL OF CENSUS HOUSES

Materials of wall	Total census houses	Materials of roof		
		Grass, leaves, Reeds, thatch. Wood, Mud, unburnt bricks or Bamboo	Tile, Slate or Shingle	Corrugated iron, Zinc, or other metal sheets
Total	234510	10800	12135	88355
Grass, leaves, reeds, or bamboo	8820	2975	0	4555
Mud	20985	1980	4330	13665
Un burnt Bricks	19180	2035	2835	12710
Wood	10985	530	425	9495
Burnt Bricks	145725	3120	4330	39310
G.I. Sheets, or other Metal Sheets	6605	60	100	6055
Stone	205	0	15	35
Cement Concrete	13805	70	75	2005
Ekra	400	0	0	15
All other materials and materials not stated	7800	30	25	510

TABLE 3.13: HOUSEHOLDS BY SIZE AND NUMBER OF ROOMS OCCUPIED

Households occupying	Household size			
	1-2	3-5	6-8	9+
No exclusive room	0	5	10	5
1 room	11490	29885	13205	2530
2 room	5300	25310	16650	5175
3 room	3035	16925	11030	5595
4 room	955	6800	5340	3810
5 room	315	2675	2230	2170
6 room and above	500	2605	2960	4720
Unspecified	85	100	25	35
Total number of households	21680	84305	51450	24040

TABLE 3.14: HOUSEHOLDS BY TENURE STATUS AND SIZE

Household Size	Owned	Rented	Others
1-2	10080	10810	790
3-4	47150	34730	2425
6-8	34985	15295	1170
9+	18995	4695	350
Total	111210	65530	4735

3.14. SLUMS AND SQUATTER SETTLEMENTS OF THE CITY

An area characterized by mostly overcrowded Kutchha buildings, dilapidated structures, unhygienic conditions with no or grossly inadequate basic amenities, bad layout, poor accessibility, is considered to be a slum area. These areas generally house economically weaker section of the community who are often engaged in casual service occupations. Based on these considerations city harbors 178 slums, housing well above 3-lakh populations that constitutes 27.5% of the total population, as per 1991 census, slums occupy more than 25% (44.10 sq. km.) of the municipal area. Slums in the city display typical location characteristics and therefore, can be classified into five distinct slum pockets:(Figure 9)

INDORE CITY SLUMS

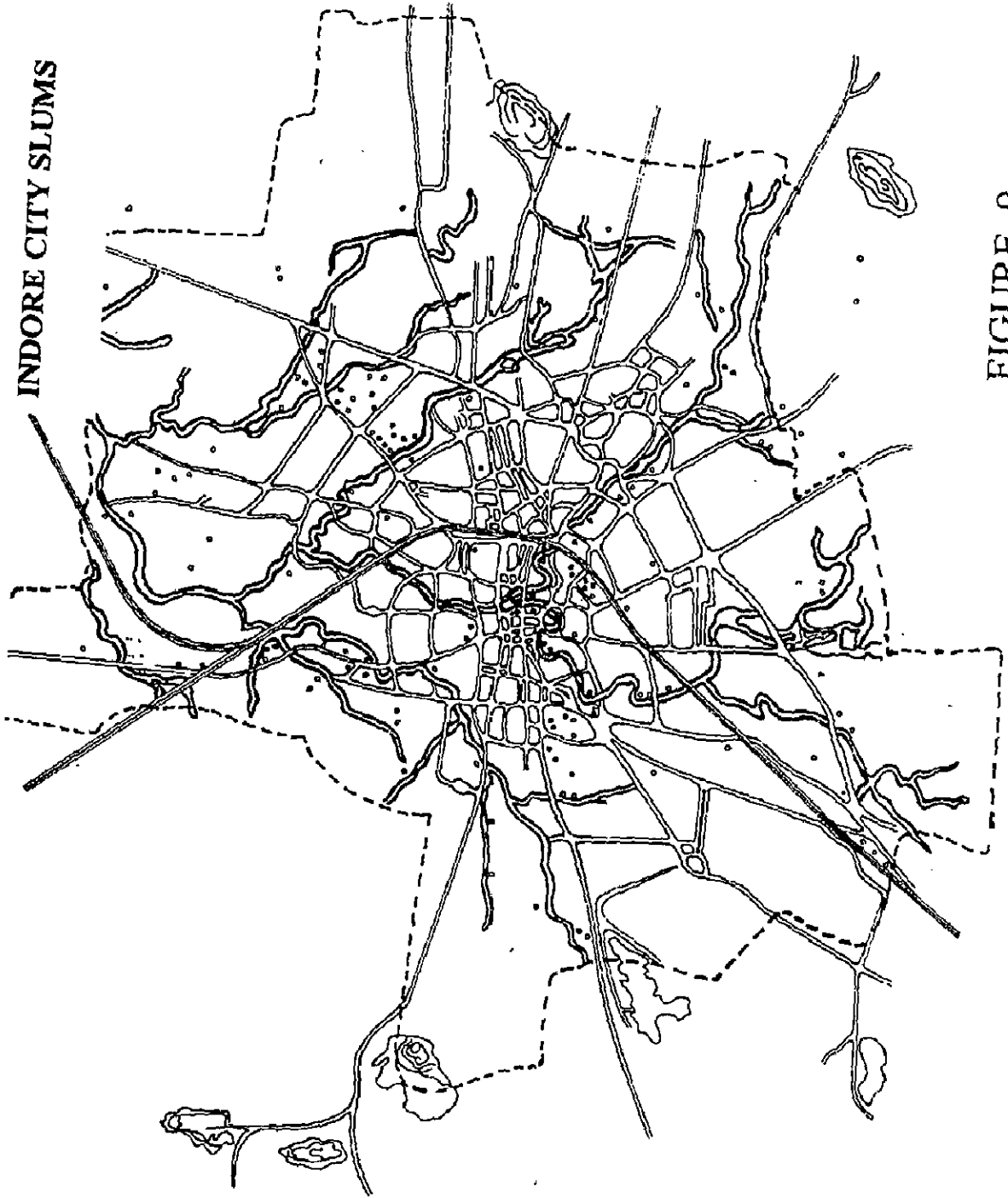
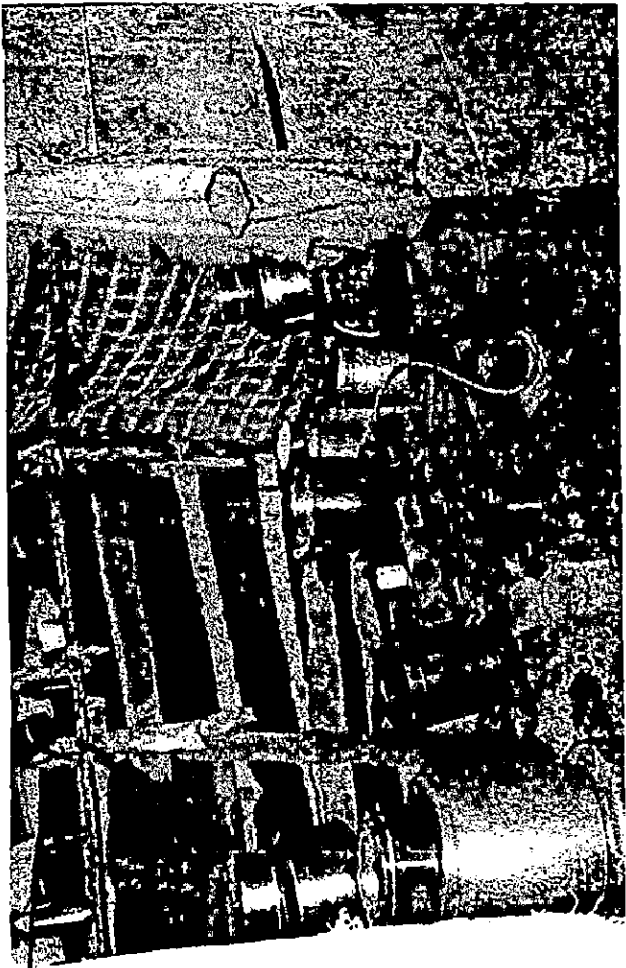


FIGURE 9

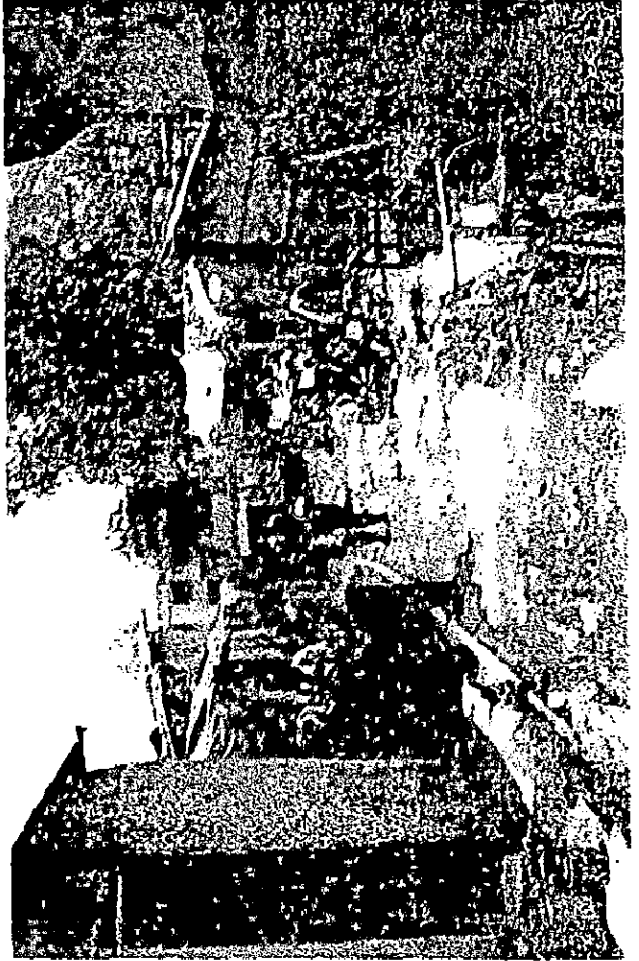
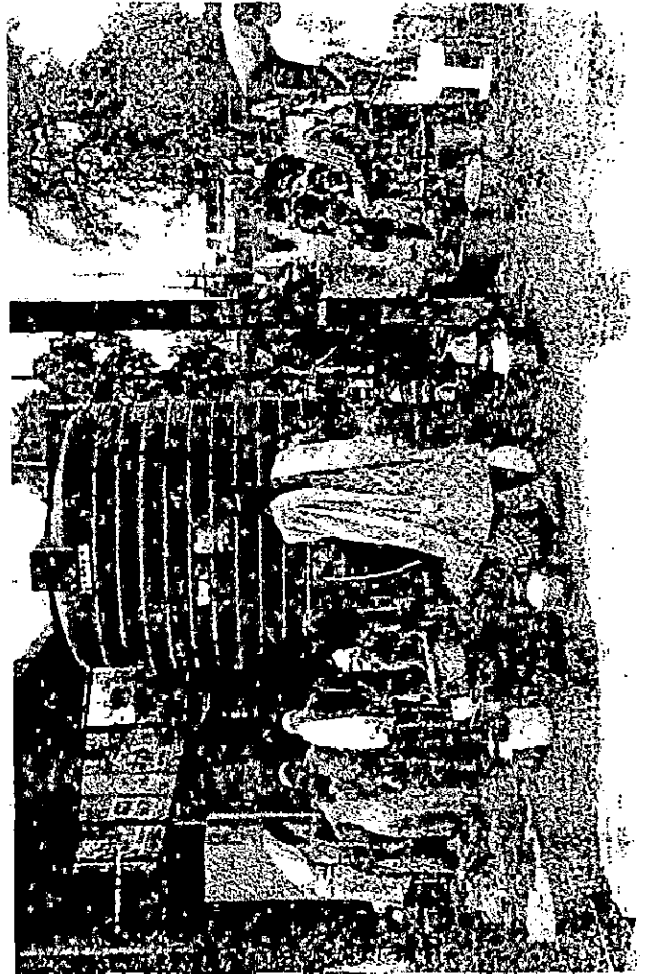


CONSTRUCTION MATERIAL IN SLUMS



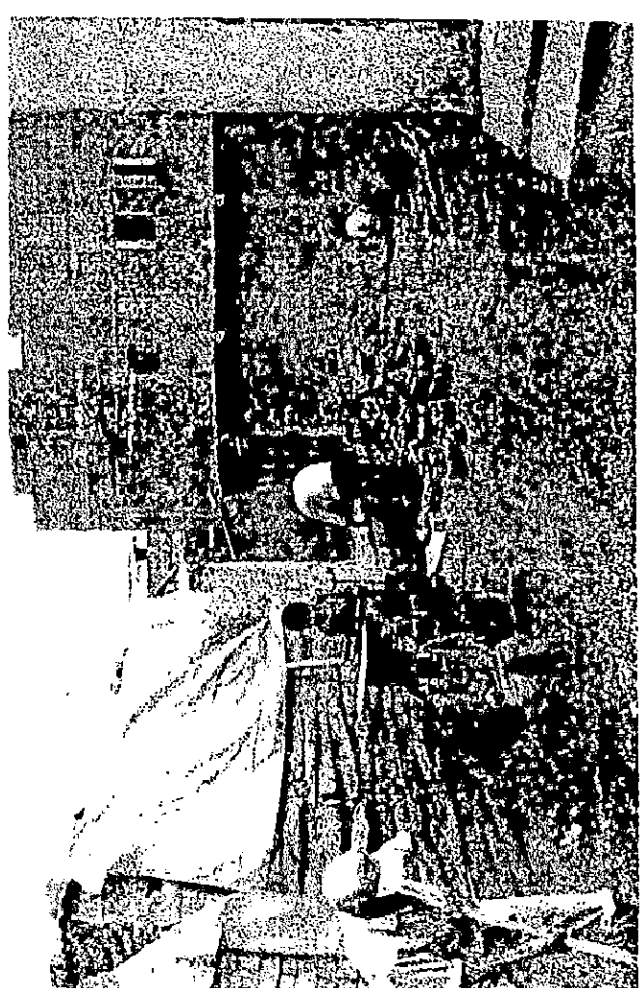


INSIDE AND OUTSIDE THE SLUM DWELLING



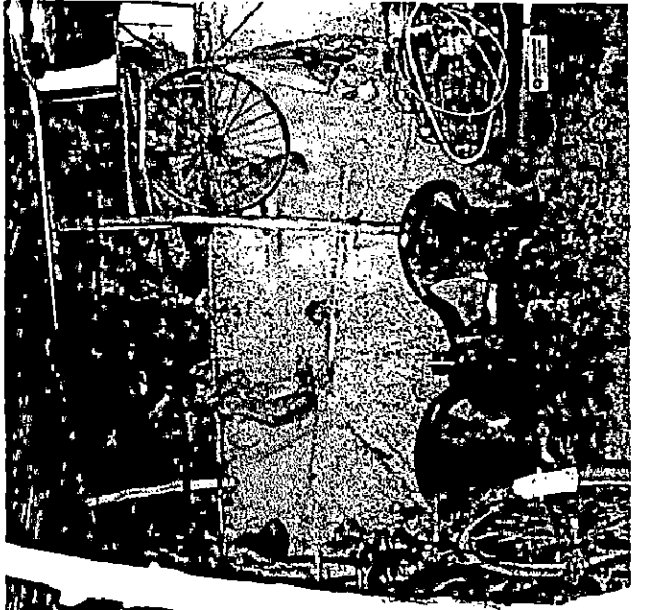
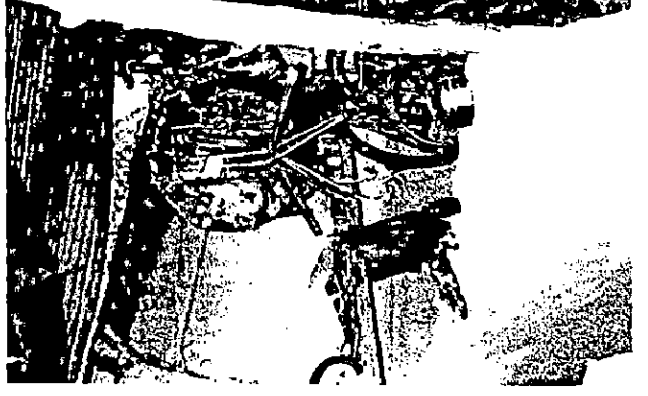


VARIOUS OCCUPATIONS UNDERTAKEN BY SLUM DWELLERS





VARIOUS OCCUPATIONS UNDERTAKEN BY SLUM DWELLERS





ENVIRONMENTAL CONDITION IN SLUM



Mill area

Panchu Kumbhar Ki chawl, Somnath ki purani Chawl, Lala Ka Bagicha, Amar Tekri, Pancham Ki Phel, Rustam Ka Bagicha, Patnipura, Somnath Ki Nai Chawl, Shivaji Nagar, Goma Ki Phel, Bhamori Dube ka Bagicha, Kaji Ki Chawl, Sheel Nath Camp, Freeganj, Jeewan Ki Phel and Kulkarni Ka Bhatta etc.

City area

North and South Toda, Jagjiwan Ram Nagar, Nai Bagad Chamar Mohalla, Usha Phatak, Malhar Paltan No. 2, and Champa Bag, etc.

Juni Indore

Jabran colony, Mominpura, Balai Mohalla, Luniapur, Katkatpura, Chamar Bhakal, Moti Tabela No.2, and Babu Nagar etc.

Mhow Naka and Dhar Naka

Gadaria Mohalla, Labriya Bheru, Mali Colony, Balda Colony, Hukumchand Colony, and Modern Village (Lal-bagh), Bheem Nagar, Sirpur talab etc.

Banganga

Mukharjee Nagar, Ram Dutt ka Bhatta and Bhagat Singh Nagar, etc.

3.15. SQUATTER SETTLEMENTS

Squatter settlements scattered all over the city and Gumtees in commercial area dominate the urban scene at Indore. Various locations in the city are:

Bombay – Agra road

Prakash Chan Sethi Nagar, Malviya Nagar, Vishnupuri Khajrana Kankad, Dev Nagar, Gumnam Colony, Sanvind Nagar, Vinoba Nagar, and Adarsh Molik Nagar etc.

Dashera Maidan

Opposite Mahavar Nagar, V.V. Giri Samajwad Nagar, and Lodha Samaj Colony, etc.

Riverside

Chandra prabha Shekhar Nagar, Chatri bagh, Kamla Sethi Nagar, Near Krishnapura bridge, Hemilton road, Shyama Charan Shukla Nagar, etc.

Dhar Road

Adarsh Devi Indra Nagar, and Adarsh Indra Nagar, etc.

Mill area

Adarsh Bijasan Nagar, Sarvahara Nagar, Firoz Gandhi Nagar, and near Bansi Press, etc.

Juni Indore

Prakash Ka Bagicha, Haria Umaria Ka Bagicha, Ramnath Ka Bagicha, and Radha Govind Ka Bagicha, etc.

Residency Area

Bachhi Bai Ka Bagicha, Baboolal Ka Bagicha, and Nathoo Ka Bagicha etc.

3.15. SLUMS IN PRESENT HOUSING POLICIES:

3.15.1. NATIONAL HOUSING POLICY

Strategy proposed by National Housing Policy, prepared by Ministry of Urban Development, Government Of India; includes following provision:

- To step up programs for environmental improvement of slums through the provision of a minimum level of basic services like water, sanitation, drainage, street lighting, paved pathways.
- To confer tenure rights at reasonable rates.
- To relocate the slum dwellers, where work conferment of tenure rights is not possible at existing sites.
- To allocate lands for making sites and services available.
- To provide easy access to institutional finance for up gradation and redevelopment of their dwelling units.
- To promote saving schemes for housing

- To involve slum dweller in slum improvement and up gradation programs by adopting self-help and community approach in the maintenance of their settlements.
- To modify the planning standards and building regulations to have a semi-pucca house recognized as an acceptable dwelling unit by local authorities.
- To disseminate information regarding low cost building materials and construction techniques.
- To provide non-formal training for facilitating the maintenance and improvement of dwelling units on self –help basis.
- To open the supply outlets for the sale of building materials at reasonable prices.
- To promote low cost water supply and sanitation.
- To promote the use of smokeless chulhas and renewable sources of energy.
- To promote activities to enhance income of households to facilitate home improvement.
- To remove obstacles to women’s access to credit and title to land.

3.15.2. STATE HOUSING POLICY

Following provisions are made for the slums in the State Housing policy, prepared by Housing and Environment Department, Government Of Madhya Pradesh:

- To provide ownership right to al slum dwellers who squatted on government land on or before April 9, 1984.
- To select sites in all major cities of the state and provide basic civic amenities.
- To allot the sites to those slum dwellers (squatters) that voluntarily decide to shift to Pucca developed shelters.
- To obtain institutional finance from international institutions like World Bank, Overseas Development Agency and from National Institutions like HUDCO etc. to construct shelters for them.
- To give emphasis on development of core houses with provision of loans to individuals to provide the shelter at an affordable cost.
- To draw physical and financial participation of slum dwellers in the scheme of improvement of slums.

3.16. STATUTES FOR SLUMS

3.16.1. MADHYA PRADESH GANDI BASTI KSHETRA (SUDHAR TATHA NIRMULAN) ADHINIUM, 1976⁴⁰

The above act was formulated for the improvement of slum areas in the state and protection of tenants from eviction. In this act the word slum clearance means clearance of any slum area by demolition/ removal of building. Works of improvement includes execution of necessary repairs, structural alterations, provision of light points, water taps, bathing places, latrines, children park and play grounds, construction of drains, removal of rubbish and hazardous trade, laying of roads and broadening of lanes, and other work including demolition of buildings. Directions for above provisions are as follows:

Slum Declaration and Removal

Competent authority may declare an area as a slum area, which in any respect, is unfit for human habitation or by reasons of dilapidation, over crowding, faulty arrangement of buildings, hazardous trade, faulty arrangement and narrowness of streets, lack of ventilation, light, sanitary facilities etc. while determining a building unfit for human habitation, repairs, stability, dampness, natural light and air, drinking water supply, drainage and sanitary conditions, facilities for storage and preparation of food, disposal of waste water etc., should be considered. After declaration an area as slum, it can be removed and reconstructed.

Slum Improvement

A. Where competent authority, upon report from its officers, satisfied that any building in slum areas is unfit for human habitation and can be made fit at reasonable expenses, may give a notice to the owner to execute the work of improvement within specified time, not less than 30 days, provided owner of the building is different from the owner of the land and improvements are related to water taps, bathing places, drains, removal of rubbish and work executed outside the building. The notice should be served upon the owners of such land.

If works of improvement are not executed within specified time the Competent Authority may itself execute the works required. All the expenses

incurred together with interest are to be paid to Competent Authority by the owner. If Competent authority is satisfied that owners do not have means to carry out the execution it may provide facility to deposit the expenses without interest and in installments.

- B. The Competent Authority may direct that no person shall erect any building in slum area without prior permission. Every person desiring to obtain permission should give an application to Competent Authority. The Competent Authority after inquiry may grant permission on terms and conditions or refuse to grant permission.
- C. Where Competent Authority, on report from any of its officers, satisfied that any building in slum area is unfit for human habitation and which cannot be improved at reasonable expenses, can give show cause notice to the owner as to why an order of demolition should not be made. If work of improvements is not carried out by owner to make it fit for human habitation in specified time the competent Authority shall make an order of demolition requiring that the building shall be vacated in the specified time, not less than 30 days and the building shall be demolished within six weeks after the expiry of that period. If the building is not demolished within specified period. If the building is not demolished within specified period the Competent Authority shall enter and demolish the building and sell the materials thereof.

Slum Clearance and Redevelopment

Where the Competent Authority, upon a report from any of its officers, satisfied that the most satisfactory method of dealing with particular slum area is the demolition of all the buildings in that area, can declare it to be a clearance area. Provided every building in the area is not fit for human habitation. After this the Competent Authority shall make slum clearance order in relation to that area ordering the demolition of each of the building requiring every building to be vacated within a specified time and submit the order to State Government which may either confirm or reject the order.

After confirmation from State Government the owner of the buildings shall demolish the buildings before expiration of six weeks from the date on which buildings are required to be vacated. If the buildings are not demolished before

specified period the Competent Authority shall enter and demolish the buildings and sell the materials thereof.

After clearance the owners may redevelop the land as per the plans approved by Competent Authority itself may develop the land if required.

Acquisition of Land

Where any land in slum/ clearance area has been acquired under this act the State Government shall make the land available to the Competent Authority for the purpose of executing any work of improvement/ demolition.

Every person having any interest in any land acquired under this act shall be entitled to receive from the State Government an amount in lieu of the deprivation of land. The payable amount shall be equal to ten times the net average income actually derived from such land during the period of five consecutive years from the date of publication of the notice. Any person who does not agree the amount of the net average income determined by competent authority can appeal to the State Government within 30 days from the date specified in the notice. The State Government shall after hearing the appellant determine the net annual average income, which is final and can not be questioned in any court of law. After determination of the amount the competent authority shall on behalf of the State Government pay the amount to the persons entitled. If the persons entitled to receive the amount do not consent to receive it, than the Competent Authority shall deposit the amount in court of District Judge.

For the purpose of determining the amount Competent Authority had powers for enforcing the attendance of any person and examine him on oath, requiring discovery and production of any document, reception of evidence on affidavits, re-questioning any public record from any court/ office and issue commissions for examination of witnesses.

Protection of Tenants in Slum Areas From Eviction

No person shall except with previous permission in writing of the Competent Authority proceed for obtaining order for eviction of tenant from any building/ land in slum area. Every person desiring to obtain permission shall make an application in writing to Competent Authority, which after giving an opportunity to the party and after making inquiry, may either grant or refuse the permission. Appeals can be made

to State Government, which after hearing the applicant gives the decision, which shall be final.

Where any building in a slum area gives to tenant, after the execution of any work of improvement the rent of the building shall be determined as per the various provisions provided in the act.

Role of Slum Clearance Board

With effect from such date as the State Government may, by notification, appoint on his behalf a board named M.P. Slum Clearance Board. The board shall consist of a Chairman and number of other officials and non-official members not exceeding fifteen in numbers. State Government shall appoint the Chairman and members. Secretary will be chief executive officer of the board. The board may appoint other officials and servants, if considered necessary, for its effective functioning. The major function of the board shall be to execute the powers of Competent Authority where State Government have , by notification directed the powers of competent authority to the board.

3.16.2. M.P. NAGARIYA KSHETRA KE BHOMIHIN VYAKTI (PATTADARITI ADHKARON KA PRADAN KIYA JANA) ADHINIYAM, 1984⁴¹:

In this act formulated in 1984, dwelling house was defined as a single storied hut or a single storied super structure except building owned by government or local/statutory body. A landless person was defined as a person who do not own any land in an urban area where he is actually residing and does not occupy any land exceeding 50sq.m. either himself or through any member of his family.

Land occupied by landless person in any urban area of M.P. prior to April 10, 1984 shall be given lease hold rights of that land or any other land, not exceeding 50 sq.m., in his favor. The lease holds rights shall not be transferable and act shall be applicable to the land, which is under the authority of Municipal Corporation/ Council.

If any landless person, to whom leasehold rights are given, is disposed from that land in due course of law than the landless person within six months from the date of disposition, after making an application to the authorized officer can restore the permission.

Any person who wrongfully dispossesses an occupier of a dwelling house or recover rents in any manner from an occupier of dwelling house shall be punishable three months to three-year imprisonment or a fine of Rs. 500/- to Rs. 1000/- or both. The State Government can make rules to carry out the purpose of this act after sanction of legislative assembly.

3.17. GOVERNMENT EFFORTS IN THE PAST

Indore is one of important cities of the state, which enjoys benefits from different improvement schemes. There are twenty-two slums being upgraded under World Bank Project, eighteen slums were covered under Urban Basic Services Program, and finally Indore Habitat Project covered majority of the slums numbering to nearly hundred and sixty, including those covered under urban Basic services program.

ANALYSIS OF RELATED THEORIES

4.1. INTRODUCTION

Today's cities are complex, interlocking systems. The component parts operate at various levels of efficiency, with each influencing the other. When any part of the system breaks down, other parts suffer. Slums being a housing type are viewed as subsystem of the urban system. First slums are established as a subsystem of the urban system with the help of systems concept, in the later part of the chapter, interlocking needs that may be served by housing are analyzed in the light of Maslow's Need Hierarchy Theory.

4.2. SYSTEMS CONCEPT

A system functions as a whole with the interaction of several sub-systems. All the sub-systems of the system are inter-connected, and interdependent to each other, forming a system. If one of the sub-system of the system defunct or functions at advance stage (taking a lead role) while it functions, its effects can be visualized in the system. In some cases, the system may not function at all, in some cases the system may function, but with lot of disturbances or the smooth function may be paralyzed.

In a given social system, all the sub-systems are functioning together and forming a system. In an urban system, the following sub-system may be linked together and forms an urban system. They are:

1. Urban land
2. Household
3. Population
4. Housing
5. Industries
6. Trade and commerce
7. Administration (control mechanism)
8. Infrastructure facilities, etc.

These all the sub-systems are interlinked and interdependent with each other, forming a system and function as a whole.

Each and every sub-system, which is mentioned above may also have or does not have sub-system within them. For example household can be categorized into EWS, LIG, MIG, HIG, Slums and Pavement Dwelling units. Slum then is sub-system of the housing sub-system. Similarly in Urban land sub-system, urban land may be used for different purposes, such as, housing, industries, infrastructure services, trade and commercial activity, urban agriculture, civic open spaces, etc. Like the above sub-system also may have different sub-system within their purview.

In the present investigation, the investigator has made an attempt to include slum as one of the sub-system of the urban system. Since about one-third (28%) of the urban population live in the slums, and they function as a part of the urban system. Slum become the integral part of the urban system as follows:

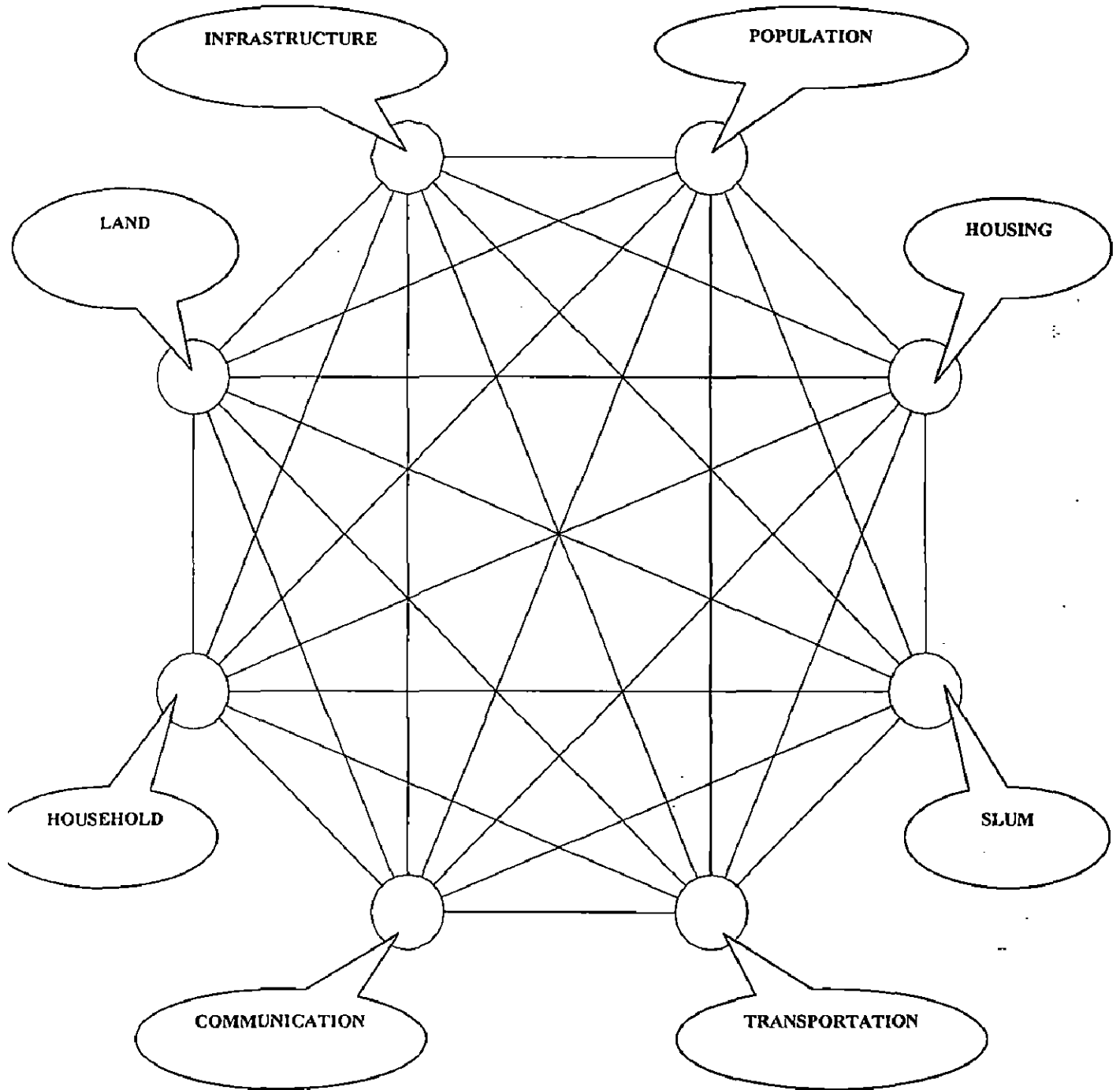
1. It lives within the urban limit.
2. It extends its services to the urban system that is to the people who are living in slums as well as to the non-slum dwellers.
3. It takes services from the slum and non-slum pocket for its survival.
4. Services of the slum dwellers are more necessary to the non-slum dwellers, and if their services are absent for few days, the non-slum dwellers may not survive as they provide basic services such as scavenging the urban system, waste recycling.
5. They are essential element of any commercial activity in the city, because, they only carry goods and passengers from one destination to another in the city.
6. They contribute labor in construction, industry, and setting up infrastructure.

Similarly we can carry on this list as long as we would care, thus it is established that slums are sub-system of the urban system.

Therefore, the investigator made an attempt to establish the nexus between the slum dwellers and the non-slum dwellers, and by using system dynamics theory. The functions of the urban system, slum as one of the sub-system is presented in the Figure 10

FIG 10. SLUM AS A SUB-SYSTEM OF URBAN SYSTEM

Slums are being presented as sub-system of the urban system, the figure below explicitly shows that slum is one of the integral parts of the urban system, and it functions together in a given urban system.



4.3. MASLOW'S NEED HEIRARCHY THEORY

4.3.1. INTRODUCTION

The late psychologist Abraham Maslow gave a useful framework for understanding the human needs in his studies of human motivation. Maslow ranked needs at five levels, creating what he called a hierarchy of human needs. In Maslow's hierarchy, needs are ranked from the lowest to the highest, beginning with physiological needs and culminating in the need for self-actualization. Unless needs at lower levels are reasonably well out, people rarely succeed in establishing themselves at higher levels of the hierarchy.⁴²

Maslow ranks physiological needs at the first level. These are the most elemental needs that are to be met essentially for maintaining physical health, failing which individual cannot survive. Once basic physiological needs are met, the needs at second level in the hierarchy, which Maslow termed, as security needs, must be met. It is concerned with predictability and control of events that are essential to human survival in a given environment. Therefore, predictable food supply, predictable human relations and predictable routines are essential to address this need.

At the third level, in the need hierarchy is represented by social needs. Feelings of belonging, acceptance and being loved are few such needs. Family social groups and institutions serve these needs.

At the fourth level, the self-esteem or ego needs, represent the hierarchy, which are essential for an individual to feel positive about himself. Feelings, such as, self-confidence, achievement, competence and independence contribute in fulfilling needs at this level.

At the highest, Maslow kept hierarchy are self-actualization needs. It is about realizing one's unique potential to the fullest in the form of activities and talents. Needs at this level cannot be fulfilled unless the needs at lower level are reasonably met.

More often than not, shelter is described as basic human need along with food and clothing. However it is hard to say so when we find people with such a minimal shelter and clothing that they are almost non-existent. The above fact that human beings can survive under harsh conditions with shelter that provides only minimal protection from elements of nature; necessitates deeper insight into needs served by shelter. Maslow's need hierarchy provides a useful framework for identifying the

interlocking needs that may be served by shelter. The above needs are illustrated in the figure 11

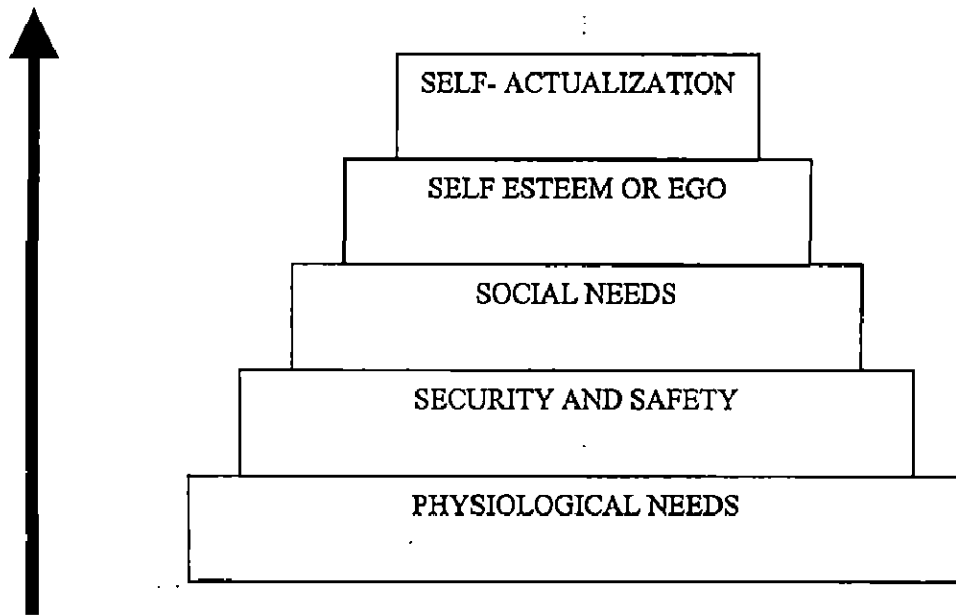
4.3.2. HOUSING IN THE LIGHT OF MASLOW'S HIERARCHY OF NEEDS

- **Physiological needs:** Needs, at this level can be served even by minimal shelter. However, under such cases there is spill over of activities outside shelter. Physical activities like cooking, dining, attending natural calls are met outside shelter. Housing in the urban context brings all above said activities under one roof and provides fairly controlled environment with respect to light, temperature, ventilation and sanitation.
- **Security and Safety needs:** Shelter provides a place to accumulate and safeguard valuable possessions. It contributes privacy to a family and thus imparts feeling of safety.
- **Social needs:** A shelter accommodates interaction and intimate activities of people, which are part and parcel of social experience, thus it has an important bearing on social relations. Further it is the cultural background, layout of space and arrangement of belongings that can be accommodated in a home.
- **Self-esteem or ego needs:** In our culture, house is often seen as status symbol. The concept of self is reinforced if house meets the expectations of the peer group. House in a better neighborhood, with improved services is a mark of success. It reinforces the feelings of accomplishment and achievement that are important component of self-esteem.
- **Self-actualization needs:** Distinctly individualized and personalized house catering to personal needs for order and beauty, serves as a symbol of self-expression and self-realization, hence shelter becomes as a vehicle for self-actualization.

4.3.3. NEEDS, WANTS, AND LIFE-STYLES⁴⁴

While Maslow's hierarchy provides a useful framework for identifying the interlocking needs that may be served by shelter. Family influences, peer pressure or the appeals of advertising and promotion campaigns that build up many of our expectations, concerning housing, which in turn is a product of typical life-style.

FIGURE 11: MASLOW'S NEED HEIRARCHY



Maslow's hierarchy suggests the levels of intensity and importance of basic human needs. At the physiological level, housing provides protection from the environment. Safety and security are met by enclosures and storage space available for surplus food and ritual objects. At the social level, housing offers opportunities for interaction with family and friends. Self-esteem and ego needs are met by housing that enhances the self-image. Housing that offers ways to pursue individualized interests and hobbies contributes to self – actualization.

Life-style may be defined as the way of life followed by any group of people, and it includes their social roles and the characteristic setting in which behavior associated with these roles takes place.

The factors most significant in establishing a life -style are: age, occupation, marital status education, and income-each of which influences our social roles. Furthermore, life-style is related to the dominant role in a person's life and his dominant sphere of activity. As roles become more fragmented, life-style becomes more complex and both new behaviors and behavior settings may become important and must be made available in conjugation with housing.

**ASSESSING THE SOCIO-ECONOMIC AND PHYSICAL CONDITIONS IN
THE SLUMS OF THE STUDY AREA (Primary Survey)**

4.1. INTRODUCTION

To assess the present status of development, all the important parameters of a system should be identified and are to be analyzed in detail. Most of the secondary data available for analysis about the study area were based on the census of 1991. Furthermore data regarding several aspects like economic condition of the families and their spending habits, etc., which are having an important bearing on planning are not readily available in the published statistics. Hence a primary household survey was conducted in the study area in order to assess the present scenario and the level of development, which cannot be fully revealed from the secondary statistical data, by using pre-tested schedules for the present investigation. This survey was conducted in 2002, which is considered as the base year for this survey.

For collecting detailed household level information a household schedule was prepared, pre-tested in the study area, and modified the schedule as per the ground reality. 100 households were selected spread over 20 slums in five slum pockets (Gotu ki Chal, Lala Ka Bagicha, Rustam Ka Bagicha, Khajrana Village, Nadia Nagar, Indira Nagar, Bhamori Dube, Prakash Ka Bagicha, Musakhedi Balai Mohalla, Slums behind Lal Bagh, Bheem Nagar, Saraswati Kushtha Ashram, Ramdutt Ka Bhatta, Sanwer Road – railway crossing, Palasia Harijan Colony, Sirpur Talab, Dashera Maidan, Goma Ki Phel, Chandra Prabha Shekhar Nagar, Niranjapur.) The survey schedules are classified and grouped in to five groups on the basis of income.

The household schedule was specifically prepared for collecting the following information

4.1.1. DEMOGRAPHIC CHARACTERISTICS

- Population
- Family size
- Sex ratio
- Literacy

4.1.2. SOCIO ECONOMIC CHARACTERISTICS

- Religion
- Caste
- Size of household
- Service classification and their distance of work place and mode of travel
- Number of earning members in the family
- Monthly income and expenditure
- Expenditure on various items including energy
- Indebtedness
- Source of borrowing
- Savings

4.1.3. PHYSICAL INFRASTRUCTURE

- Water supply
- Electricity
- Sewage system
- Waste disposal
- Approach road

4.1.4. HOUSING CONDITION

- Size of dwelling unit
- Materials of construction and structural condition
- Tenure status
- Spatial use of dwelling unit

4.1.5. MIGRATORY INFORMATION

- Reason for migration
- Reason for change over to present settlement

4.1.6. HOUSING ASPIRATIONS

- Desire to shift from settlement
- Preference order for availing essential services
- Priorities for house improvement

- One time self contribution for owning a house/ land
- One time self contribution for improving existing house. Monthly paying capacity

4.2. ANALYSIS OF THE PRIMARY SURVEY

To analyze the present scenario and the level of development, income is considered as the dependant variable .The households are grouped in to five income categories (Rs.<1501, 1501 to 3000, 3001 to4500, 4501 to 6000 and 6001 and above per month).

While detailed analysis is in the process; some of the initial findings are presented here to render schematic profile of the socio-economic and physical conditions in the slums of the study area:

4.3. LIST OF TABLES

1. DEMOGRAPHIC CHARACTERISTICS

A study on the demographic characteristics of a region, which include households, population, family size, sex ratio, religion and caste are necessary to understand and analyze the demographic and economic profile and population density of the region.

TABLE 5.1 TOTAL NUMBERS OF PERSONS IN A FAMILY

Serial No.	Income category	Total number of persons in a family:				Total
		1-3	4-6	7-9	10 and above	
1	<1500	4 (18.2)	15 (68.2) 27.3	3 (13.6) 10.7	0 (0) 0	22
2	1501 – 3000	6 (12.2)	27 (55.1) 49.1	16 (32.7) 57.1	0 (0) 0	49
3	3001 – 4500	0 (0) 0	7 (58.3) 12.7	5 (41.7) 17.9	0 (0) 0	12
4	4501 – 6000	0 (0) 0	5 (55.4) 9.1	3 (27.3) 10.7	3 (27.3) 42.9	11
5	6001 and above	0 (0) 0	1 (16.6) 1.8	1 (16.6) 3.6	4 (66.7) 57.1	6
	Total	10	55	28	7	100

INFERENCES .

The table shows that 9/10 th (90%) of the families of the study area have more than four members in the family.

Almost one third (32.7%) of the households falling under 1500-3000 income category have more than seven members in the family and rest of them (67.3%) have less than seven members in the family.

It can be concluded that number of family members increases with increase in income, it implies that income increases with increase in number of family members.

POPULATION

Population is an important factor, which decide the functions of the system. A study on the distribution of population in different income classes and sex ratio has been conducted and it has been presented in the table below

TABLE 5.2. TOTAL NUMBER OF MALES IN A FAMILY

Serial No.	Income category	Total number of males in a family:				Total
		1-2	3-4	5-6	7 and above	
1	0-1500	10 (45) 35.7	10 (45) 19.2	1 (4.5) 6.7	1 (4.5) 20	22
2	1501 – 3000	17 (34.7) 60.7	29 (59.2) 55.8	3 (6.1) 20	0 (0) 0	49
3	3001 – 4500	0 (0) 0	8 (66.7) 15.4	4 (33.3) 26.7	0 (0) 0	12
4	4501 – 6000	0 (0) 0	5 (45.5) 9.6	5 (45.5) 33.3	1 (9) 20	11
5	6001 and above	1 (16.7) 3.6	0 (0) 0	2 (33.3) 13.3	3 (50) 60	6
	Total	28	52	15	5	100

INFERENCES

Almost three fourth (72%) of the households in the study area have more than three male members in the family and rest of them have less three male members. Number of males in a family is directly proportional to income of the family.

It can be concluded that most of the households in the study area have more than three male members, and household income increases with increase in male members.

TABLE. 5.3. TOTAL NUMBER OF FEMALES IN A FAMILY

Serial No.	Income category	Total number of females in a family				Total
		1 - 2	3 - 4	5 - 6	7 and above	
1	0-1500	12 (54.5) 26.7	10 (45.4) 25.6	0 (0) 0	0 (0) 0	22
2	1501 - 3000	24 (48.9) 53.3	16 (32.7) 41	8 (16.3) 61.5	1 (21) 33.3	49
3	3001 - 4500	4 (33.3) 8.9	7 (58.3) 17.9	1 (8.3) 7.7	0 (0) 0	12
4	4501 - 6000	4 (36.4) 8.9	4 (36.4) 10.3	2 (18.2) 15.4	1 (9) 33.3	11
5	6001 and above	1 (16.7) 2.2	2 (33.3) 5.1	2 (33.3) 15.4	1 (16.7) 33.3	6
	Total	45	39	13	3	100

INFERENCES

Almost half (45%) the number of households have less than three female members in the family and two fifth (39%) of the families have three to four female members in the family.

Three fourth of the households with income less than Rs. 6000 monthly income have three to six female members in the family.

Number of females in a family, in the study area, does not show any trend.

TABLE 5.4 WHETHER THE OCCUPANT IS TENANT

Serial No.	Income category	Response		Total
		Yes	No	
1	0-1500	2 (9) (40)	20 (91) (21)	22
2	1501 – 3000	2 (4) (40)	47 (96) (44.5)	49
3	3001 – 4500	0 (0) (0)	12 (100) (12.6)	12
4	4501 – 6000	1 (9) (20)	10 (91) (10.5)	11
5	6001 and above	0 (0) (0)	6 (100) (6.3)	6
	Total	5	95	100

INFERENCES

Most of the households (95%) in the study area own their houses, and only one fifth live on rent.

Eight tenth of the tenants in the study area belong to less than three thousand income category.

TABLE 5.5 RELIGIONS

Serial No.	Income category	Religion					Total
		Hindu	Islam	Sikh	Christian	Others	
1	0-1500	15 (68) 18.6	6 (27) 35.3	0 (0) 0	0 (0) 0	1 (5) 33.3	22
2	1501 – 3000	41(83.6) 51.2	6 (12.2) 35.3	0 (0) 0	0 (0) 0	2 (4.2) 66.7	49
3	3001 – 4500	8 (66.7) 10	4 (33.3) 23.5	0 (0) 0	0 (0) 0	0 (0) 0	12
4	4501 – 6000	10(90.9) 12.5	1 (9.1) 5.9	0 (0) 0	0 (0) 0	0 (0) 0	11
5	6001 and above	6 (100) 7.5	0 (0) 0	0 (0) 0	0 (0) 0	0 (0) 0	6
	Total	80	17	0	0	3	100

INFERENCE

Most of the households (80%) in the study area are Hindus, followed by Muslims.

TABLE 5.6 REASON FOR MIGRATION

Serial No.	Income category	Reason for migration				Total
		Poverty at native place	Domestic	City glamour	Other	
1	0-1500	17 (77.3) 24.3	0 (0) 0	4 (18.1) 17.4	1 4 (6) 33.3	22
2	1501 – 3000	33 (67.3) 47.1	2 (4.1) 50	12 (24.5) 52.2	2 4 (1) 66.7	49
3	3001 – 4500	10 (83.4) 14.3	1 (8.3) 25	1 (8.3) 4.3	0 (0) 0	12
4	4501 – 6000	7 (63.6) 10	1 (9.1) 25	3 (27.3) 13	0 (0) 0	11
5	6001 and above	3 (50) 4.3	0 (0) 0	3 (50) 13	0 (0) 0	6
	Total	70	4	23	3	100

INFERENCES

Seven tenth of the households migrated to city due to poverty at their native place. Only one fourth of the households were attracted by city glamour.

TABLE 5.7 REASONS FOR CHANGE OVER TO PRESENT SETTLEMENT:

Serial No.	Income category	Reasons for change over to present settlement:				Total
		Religion	Land lying vacant	Working place near by	Others	
1	0-1500	11 (50) 19.6	10 (45.5) 27.8	0 (0) 0	1 4.5 16.6	22
2	1501 – 3000	25 (51) 44.6	17 (34.7) 47.2	2 (4.1)	5 (10.2) 83.3	49
3	3001 – 4500	9 (75) 16.1	3 (25) 8.3	0 (0) 0	0 (0) 0	12
4	4501 – 6000	6 (54.5) 10.7	5 (45.5) 13.9	0 (0) 0	0 (0) 0	11
5	6001 and above	5 (83.3) 8.9	1 (16.7) 2.8	0 (0) 0	0 (0) 0	6
	Total	62	35	2	1	100

INFERENCES

Six-tenth of the households came to present settlement due to presence of relatives /friends/ known person.

Nearly two fifth (35%) of the households were attracted due to presence of vacant land.

It is important to note here that initially security of the primary group had been most significant factor in proliferation of slums, contrary to much held belief of proximity to work place.

TABLE 5.8 TOTAL NUMBERS OF PERSONS IN AGE GROUP BELOW 5 YEARS

Serial No.	Income category	Total number of persons in age group below 5 years				Total
		1	2 - 3	4 - 5	6 and above	
1	0-1500	2 (22.2) 14.2	7 (77.8) 46.7	0 (0) 0	0 (0) 0	9
2	1501 - 3000	9 (50) 64.3	6 (40) 40	0 (0) 0	0 (0) 0	15
3	3001 - 4500	1 (100) 7.1	0 (0) 0	0 (0) 0	0 (0) 0	1
4	4501 - 6000	2 (100) 14.2	0 (0) 0	0 (0) 0	0 (0) 0	2
5	6001 and above	0 (0) 0	2 (66.7) 13.3	1 (33.3) 100	0 (0) 0	3
	Total	14	15	1	0	30

INFERENCES

Thirty percent of the households in the study area have children below five years.

Fifty percent of these households have only one child below five years.

TABLE 5.9 TOTAL NUMBERS OF PERSONS IN 5 – 10 AGE GROUP

Serial No.	Income category	Total number of persons in 5 – 10 age group				Total
		1	2 – 3	4 – 5	6 and above	
1	0-1500	7 (63.6) 25.9	0 (36.4) 18.2	0 (0) 0	0 (0) 0	11
2	1501 – 3000	17 (58.6) 63	11 (37.9) 50	1 (3.5) 100	0 (0) 0	29
3	3001 – 4500	2 (66.7) 7.4	1 (33.3) 4.5	0 (0) 0	0 (0) 0	3
4	4501 – 6000	0 (0) 0	0 100 18.2	0 (0) 0	0 (0) 0	04
5	6001 and above	1 33.3 3.7	2 66.7 9.1	0 (0) 0	0 (0) 0	3
	Total	26	22	1	0	50

INFERENCES

Half of the households (50%) in the study area have children in 5-10 age group.

Half of these households have only one child in this age group.

TABLE 5.10 TOTAL NUMBER OF PERSONS IN 15 - 20 AGE GROUP

Serial No.	Income category	Total number of persons in 15 - 20 age group				Total
		1	2 - 3	4 - 5	6 and above	
1	0-1500	2 (33.3) 11	4 (66.7) 14.3	0 (0) 0	0 (0) 0	6
2	1501 – 3000	10 (45.4) 55.6	11 (50) 39.3	0 (0) 0	1 (4.6)	22
3	3001 – 4500	3 (25) 16.7	9 (75) 32.1	0 (0) 0	0 (0) 0	12
4	4501 – 6000	3 (60) 16.7	2 (40) 7.1	0 (0) 0	0 (0) 0	5
5	6001 and above	0 (0) 0	2 (6.7) 7.1	1 (33.3) 100	0 (0) 0	3
	Total	18	28	1	1	48

INFERENCES

Nearly half (48%) households in the study area have persons in 15-20 age group.

Almost three fifth (60%) of the households have two to three members in the age group.

TABLE 5.11 TOTAL NUMBER OF PERSONS IN 10 -15AGE GROUP

Serial No.	Income category	Total number of persons in 10 -15 age group				Total
		1	2 - 3	4 - 5	6 and above	
1	0-1500	3 (37.5) 15.8	5 (62.5) 17.2	0 (0) 0	0 (0) 0	8
2	1501 – 3000	11 (44) 57.9	14 (66) 48.3	0 (0) 0	0 (0) 0	25
3	3001 – 4500	3 (37.5) 15.8	5 (62.5) 17.2	0 (0) 0	0 (0) 0	8
4	4501 – 6000	0 (0) 0	4 (100) 13.8	0 (0) 0	0 (0) 0	4
5	6001 and above	2 (66.7) 10.5	1 (33.3) 3.4	0 (0) 0	0 (0) 0	3
	Total	19	29	0	0	48

INFERENCES

Nearly half (48%) households in the study area have persons in 10-15 age group.

Almost three fifth (60%) of the households have two to three members in the age group.

TABLE 5.12 TOTAL NUMBER OF PERSONS IN 20 –60 AGE GROUP

Serial No.	Income category	Total number of persons in 20 –60 age group				Total
		1	2 – 3	4 - 5	6 and above	
1	0-1500	3 (13.6) 75	19 (86.4) 26.4	0 (0) 0	0 (0) 0	22
2	1501 – 3000	1 (2.1) 25	41 (83.7) 56.9	7 (14.2) 43.8	0 (0) 0	49
3	3001 – 4500	0 (0) 0	9 (75) 12.5	2 (16.7) 12.5	1 (8.3) 12.5	12
4	4501 – 6000	0 (0) 0	3 (27.4) 4.2	4 (36.3) 25	4 (36.3) 50	11
5	6001 and above	0 (0) 0	0 (0) 0	3 (50) 18.8	3 (50) 37.5	6
	Total	4	72	16	8	100

INFERENCES

Three fourth (76%) of the households have less than four persons in 20-60 age group.

There are more than four members in the 20-60 age group in higher income category (more than 4500 monthly income), and in the households with less than 4500 income categories have less than four members in this age group.

The number of persons in the age group increases with increase in income.

TABLE 5.13 TOTAL NUMBER OF PERSONS IN MORE THAN 60 YRS. AGE GROUP

Serial No.	Income category	Total number of persons in more than 60 yrs. age group				Total
		1	2 - 3	4 - 5	6 and above	
1	0-1500	2 (66.7) 14.2	1 (33.3) 25	0 (0) 0	0 (0) 0	3
2	1501 - 3000	6 (75) 42.8	2 (25) 50	0 (0) 0	0 (0) 0	8
3	3001 - 4500	1 (50) 7.1	1 (50) 25	0 (0) 0	0 (0) 0	2
4	4501 - 6000	4 (100) 28.5	0 (0) 0	0 (0) 0	0 (0) 0	4
5	6001 and above	1 (100) 7.1	0 (0) 0	0 (0) 0	0 (0) 0	1
	Total	14	4	0	0	18

INFERENCES

Only one fifth of the households in the study area have people above sixty years of age.

Three fourth among these households have only one member in this age group.

TABLE 5.14 NUMBER OF PERSONS WITH PRIMARY EDUCATION IN A FAMILY

Serial No.	Income category	Number of persons				Total
		1	2 - 3	4 - 5	6 and above	
1	0-1500	5 (35.7) 20.8	8 (57.2) 20.5	0 (0) 0	1 (7.1) 33.3	14
2	1501 - 3000	11 (26.2) 45.8	22 (52.4) 56.4	8 (19) 72.3	1 (2.4) 33.3	42
3	3001 - 4500	4 (44.4) 16.7	5 (55.6) 12.8	0 (0) 0	0 (0) 0	9
4	4501 - 6000	2 (33.3) 8.3	2 (33.3) 5.1	2 (33.3) 18.2	0 (0) 0	6
5	6001 and above	2 (33.3) 8.3	2 (33.3) 5.1	1 (16.7) 9.1	1 (16.7) 33.3	6
	Total	24	39	11	3	77

INFERENCES

Three fourth (77%) of the households have family members with primary education.

One third of these households have at least one member with primary education.

Two third of these households have more than one family member with primary education.

TABLE 5.15 NUMBER OF PERSONS WITH MIDDLE EDUCATION IN A FAMILY

Serial No.	Income category	Number of persons				Total
		1	2 - 3	4 - 5	6 and above	
1	0-1500	6 (46.2) 21.4	6 (46.1) 26.1	1 (7.6) 14.3	0 (0) 0	13
2	1501 - 3000	13 (61.9) 46.4	8 (38.1) 34.8	0 (0) 0	0 (0) 0	21
3	3001 - 4500	4 (40) 14.3	5 (50) 21.7	1 (10) 14.3	0 (0) 0	10
4	4501 - 6000	3 (30) 10.7	2 (20) 8.7	5 (50) 71.4	0 (0) 0	10
5	6001 and above	2 (50) 7.1	2 (50) 8.7	0 (0) 0	0 (0) 0	4
	Total	28	23	7	0	58

INFERENCES

Three fifth (58%) of the households have family members with middle education.

Nearly half (48%) of these households have at least one member with middle education and nearly same (52%) numbers have more than one family member with middle education.

TABLE 5.16 NUMBER OF PERSONS WITH SECONDARY EDUCATION IN A FAMILY

Serial No.	Income category	Number of persons				Total
		1	2 - 3	4 - 5	6 and above	
1	0-1500	1 (50) 7.7	1 (50) 25	0 (0) 0	0 (0) 0	2
2	1501 - 3000	6 (75) 46.2	2 (25) 50	0 (0) 0	0 (0) 0	8
3	3001 - 4500	4 (100) 30.8	0 (0) 0	0 (0) 0	0 (0) 0	4
4	4501 - 6000	1 (100) 7.7	0 (0) 0	0 (0) 0	0 (0) 0	1
5	6001 and above	1 (50) 7.7	1 (50) 25	0 (0) 0	0 (0) 0	2
	Total	13	3	0	0	17

INFERENCES

Only one fifth (17%) of the households have their family members with secondary education.

Three fourth (76%) households among these have at least one family member with secondary education.

TABLE 5.17 NUMBER OF PERSONS WITH HIGHER SECONDARY EDUCATION IN A FAMILY

Serial No.	Income category	Number of persons				Total
		1	2 - 3	4 - 5	6 and above	
1	0-1500	1 (100) 7.7	0 (0) 0	0 (0) 0	0 (0) 0	1
2	1501 - 3000	6 (100) 46.2	0 (0) 0	0 (0) 0	0 (0) 0	6
3	3001 - 4500	2 (28.6) 15.4	4 (57.1) 100	1 (14.3) 100	0 (0) 0	7
4	4501 - 6000	3 (100) 23	0 (0) 0	0 (0) 0	0 (0) 0	3
5	6001 and above	1 (100) 7.7	0 (0) 0	0 (0) 0	0 (0) 0	1
	Total	13	4	1	0	18

INFERENCES

Only one fifth (17%) of the households have their family members with higher secondary education.

Three fourth (76%) households among these have at least one family member with higher secondary education.

TABLE 5.18 NUMBER OF PERSONS WITH EDUCATION UP TO GRADUATION / ABOVE/ OTHER type in a family:

Serial No.	Income category	Number of persons				Total
		1	2 - 3	4 - 5	6 and above	
1	0-1500	0 (0) 0	0 (0) 0	0 (0) 0	0 (0) 0	0
2	1501 - 3000	1 (100) 50	0 (0) 0	0 (0) 0	0 (0) 0	1
3	3001 - 4500	0 (0) 0	0 (0) 0	0 (0) 0	0 (0) 0	0
4	4501 - 6000	1 (100) 50	0 (0) 0	0 (0) 0	0 (0) 0	1
5	6001 and above	0 (0) 0	1 (50) 100	1 (50) 100	0 (0) 0	2
	Total	2	1	1	0	4

INFERENCES

Only four percent of the households in the study area have their family member with graduation.

TABLE 5.19 NUMBER OF PERSONS WITH NO EDUCATION IN A FAMILY

Serial No.	Income category	Number of persons				Total
		1	2 - 3	4 - 5	6 and above	
1	0-1500	6 (30) 26.1	9 (45) 22	4 (20) 22.2	1 (5) 11.1	20
2	1501 - 3000	7 (15.9) 30.4	26 (59.1) 63.4	7 (15.9) 38.9	4 (9.1) 44.4	44
3	3001 - 4500	5 (50) 21.7	2 (20) 4.9	3 (30) 16.7	0 (0) 0	10
4	4501 - 6000	4 (36.4) 17.4	3 (27.2) 7.3	2 (18.2) 11.1	2 (18.2) 22.2	11
5	6001 and above	1 (16.7) 4.3	1 (16.7) 2.4	2 (33.3) 11.1	2 (33.3) 22.2	6
	Total	23	41	18	9	91

INFERENCES

Nine tenth (91%) of the households in the study area have at least one family member without education.

While One fourth (25%) of these households have only one family member with no education, nearly half (45%) of these families have 2-3 family members with no education.

TABLE 5.20 NUMBER OF UN-NATURAL DEATHS IN A FAMILY:

Serial No.	Income category	Number of deaths				Total
		1	2 - 3	4 - 5	6 and above	
1	0-1500	3 (50) 15.8	0 (0) 0	2 (33.3) 66.7	1 (16.7) 25	6
2	1501 – 3000	11 (57.9) 57.9	7 (36.8) 70	0 (0) 0	1(25) 25	19
3	3001 – 4500	0 (0) 0	3 (60) 30	1 (20) 33.3	1(20) 25	5
4	4501 – 6000	3 (75) 15.8	0 (0) 0	0 (0) 0	1 (25) 25	4
5	6001 and above	2 (100) 10.5	0 (0) 0	0 (0) 0	0 (0) 0	2
	Total	19	10	3	4	36

TABLE 5.21 CAUSE OF UNNATURAL DEATH IN A FAMILY

Serial No.	Income category	Cause of death						Total
		Prolonged illness	Accident	Delivery and post delivery	Murder	Suicide	Other	
1	0-1500	5 (83.3) 20	1(16.7) 50	0	0	0	0	6
2	1501 – 3000	14(73.7) 56	5(26.3)	0	0	0	0	19
3	3001 – 4500	3 (60) 12	0	2 (40) 22.2	0	0	0	5
4	4501 – 6000	3 (75) 12	0	1 (25) 11.1	0	0	0	4
5	6001 and above	0	1 (50) 50	1 (50) 11.1	0	0	0	2
	Total	25	7	4	0	0	0	36

INFERENCES

Nearly two fifth (36%) of the households in the study area witnessed un-natural deaths.

Seven tenth of these un-natural deaths were due to prolonged illness, while the remaining three tenth were either due to accidents or during delivery.

TABLE 5.22 ECONOMIC CHARACTERISTICS

A study on the economic characteristics of a region, which includes number of earning members in the family, total income and expenditure of the family and expenditure in different areas are necessary to understand and assess the level of development of the region.

TABLE 5.23 NUMBER OF EARNING MEMBERS IN A FAMILY

Serial No.	Income category	Number of persons				Total
		1	2	3	4 and above	
1	0-1500	13 (59.1) 39.4	7 (31.8) 16.3	2 (9.1) 13.3	0	22
2	1501 – 3000	20 (40.8) 60.6	27(55.1) 62.8	2 (4.1) 13.3	0	49
3	3001 – 4500	0	7 (58.3) 16.3	4 (33.3) 26.7	1 (8.3) 11.1	12
4	4501 – 6000	0	2 (18.2) 4.7	5 (45.4) 33.3	4 (36.4) 44.4	11
5	6001 and above	0	0	2 (33.3) 13.3	4 (66.7) 44.4	6
	Total	33	43	15	9	100

INFERENCES

Two third (67%) households in the study area have more than one earning member in the family. Nearly half (43%) have two earning members in the family.

One fourth (24%) of the households have more than two earning members in the family.

It can be concluded that households with higher income have higher number of earning members in the family that is number of earning members increases with the income category.

**TABLE 5.24 NUMBER OF PERSONS ENGAGED IN GOVERNMENT JOBS
IN A FAMILY**

Serial No.	Income category	Number of persons				Total
		1	2	3	4 and above	
1	0-1500	0	0	0	0	0
2	1501 – 3000	2 (66.7) 33.3	1 (33.3) 50	0	0	3
3	3001 – 4500	0	0	0	0	0
4	4501 – 6000	1 (100) 16.7	0	0	0	1
5	6001 and above	3 (50) 50	1 (16.6) 50	1 (16.6) 100	1 (16.6) 100	6
	Total	6	2	1	1	10

INFERENCES

Only one tenth (10%) of the households in the study area have government job.

Three fifth among these are confined in the highest income group.

Three fifth of these households have only one member in the government job.

TABLE 5.25 NUMBER OF FAMILY MEMBERS ENGAGED IN PRIVATE JOBS

Serial No.	Income category	Number of persons				Total
		1	2	3	4 and above	
1	0-1500	7 (87.5) 20.6	0	1 (12.5) 25	0	8
2	1501 – 3000	18 (78.3) 53	5 (21.7) 55.5	0	0	23
3	3001 – 4500	6 (85.7) 17.6	0	1 (14.3) 25	0	7
4	4501 – 6000	1 (20) 2.9	3 (60) 33.3	1 (20) 25	0	5
5	6001 and above	2 (50) 5.9	1 (25) 11.1	1 (25) 25	0	4
	Total	34	9	4	0	47

INFERENCES

Half (50%) of the households in the study area are employed in private jobs.

Almost three fourth (72%) of these households have only one member employed in private job. Nearly half (49%) among these fall under 1501-3000 income category.

It can be concluded that people in the lowest income categories are employed in private jobs, while those in highest income category are employed in government jobs.

TABLE 5.26 NUMBER OF PERSONS THAT ARE SELF-EMPLOYED IN A FAMILY

Serial No.	Income category	Number of persons				Total
		1	2	3	4 and above	
1	0-1500	14 (77.8) 32.6	4 (22.2) 14.8	0	0	18
2	1501 – 3000	23 (65.5) 53.5	11 (31) 40.7	1 (2.85) 25	0	35
3	3001 – 4500	3 (27) 7	7 (64) 26	1 (9) 25	0	11
4	4501 – 6000	2 (20) 4.7	4 (40) 14.8	2 (20) 50	2 (20) 100	10
5	6001 and above	1 (50) 2.3	1 (50) 3.7	0	0	2
	Total	42	27	4	2	75

INFERENCES

Three fourth households (75%) have their family member pursuing self-employment

Almost three fifth (56%) have at least one member self-employed.

Most of the self-employed members belong to two lowest income categories.

TABLE 5.27 NUMBER OF DEPENDENTS IN A FAMILY:

Serial No.	Income category	Number of persons				Total
		1	2	3	4 and above	
1	0-1500	3 (13.6) 30	4 (18.2) 28.6	4 (18.2) 19	11 (50) 20	22
2	1501 – 3000	4 (8.2) 40	5 (10.2) 35.7	12 (24.5) 57.1	28 (57.1) 50.9	49
3	3001 – 4500	1 (8.3) 10	1 (8.3) 7.1	1 (8.3) 4.8	9 (75) 16.4	12
4	4501 – 6000	1 (9.1) 10	3 (27.2) 21.4	3 (27.2) 14.3	4 (36.4) 7.3	11
5	6001 and above	1 (16.6) 10	1 (16.6) 7.1	1 (16.6) 4.8	3 (50) 5.5	6
	Total	10	14	21	55	100

INFERENCES:

More than half (55%) the households in the study area have more than four dependents.

TABLE 5.28 EXPENDITURE ON CLOTHING AS PERCENTAGE OF MONTHLY INCOME

Serial No.	Income category	Expenditure (%)				Total
		0 -10	11 - 20	21 – 30	31 and above	
1	0-1500	22 (100) 23.2	0	0	0	22
2	1501 – 3000	48 (98) 50.5	1 (4) 25	0	0	49
3	3001 – 4500	10 (83.3) 10.5	2 (16.7) 50	0	0	12
4	4501 – 6000	9 (81.9) 9.5	2 (18.1) 25	0	0	11
5	6001 and above	6 (100) 6.3	0	0	0	6
	Total	95	5	0	0	100

**TABLE 5.29 EXPENDITURE ON MEDICINE AS PERCENTAGE OF
MONTHLY INCOME**

Serial No.	Income category	Expenditure (%)				Total
		0 - 5	6 - 10	11 - 15	16 and above	
1	0-1500	21 (95.5) 24.7	1 (4.5) 8.3	0	0	22
2	1501 - 3000	38 (78) 44.7	8 (16) 66.7	1 (2) 100	2 (4) 100	49
3	3001 - 4500	10 (33.7) 11.8	2 (16.7) 16.7	0	0	12
4	4501 - 6000	10 (91) 11.8	1 (9) 8.3	0	0	11
5	6001 and above	6 (100) 7.1	0	0	0	6
	Total	85	12	1	2	100

**TABLE 5.30 EXPENDITURE ON CONVEYANCE AS PERCENTAGE OF
MONTHLY INCOME**

Serial No.	Income category	Expenditure (%)				Total
		0 - 5	6 - 10	11 - 15	16 and above	
1	0-1500	19 (86.4) 24.7	3 (15.6) 18.8	0	0	22
2	1501 - 3000	37 (75.5) 48.1	8 (16.3) 50	4 (8.2) 57.1	0	49
3	3001 - 4500	9 (75) 11.7	2 (16.7) 12.5	1 (8.3) 14.3	0	12
4	4501 - 6000	10 (91) 13	0	1 (9) 14.3	0	11
5	6001 and above	2 (33.3) 2.6	3 (50) 18.8	1 (16.7) 14.3	0	6
	Total	77	16	7	0	100

**TABLE 5.31 AMOUNT SENT TO NATIVE PLACE, AS PERCENTAGE OF
MONTHLY INCOME**

Serial No.	Income category	Expenditure (%)				Total
		0 - 5	6 - 10	11 - 15	16 and above	
1	0-1500	20 (91) 20.8	2 (9) 50	0	0	22
2	1501 - 3000	47 (96) 49	2 (4) 50	0	0	49
3	3001 - 4500	12 (100) 12.5	0	0	0	12
4	4501 - 6000	11(100) 11.5	0	0	0	11
5	6001 and above	6 (100) 6.3	0	0	0	6
	Total	96	4	0	0	100

**TABLE 5.32 EXPENDITURE ON COOKING FUEL AS PERCENTAGE OF
MONTHLY INCOME**

Serial No.	Income category	Expenditure (%)				Total
		0 - 5	6 - 10	11 - 15	16 and above	
1	0-1500	0	16 (73.6) 24.2	4 (18.4) 33.3	2 (9) 100	22
2	1501 - 3000	11 (22.5) 55	30 (61.2) 45.4	8 (16.3) 66.7	0	49
3	3001 - 4500	1 (8.3) 5	11 (91.7) 16.7	0	0	12
4	4501 - 6000	3 (27.3) 15	8 (72.7) 12.1	0	0	11
5	6001 and above	5 (83.3) 25	1 (16.7) 1.5	0	0	6
	Total	20	66	12	2	100

TABLE 5.33 EXPENDITURE ON RECREATION AS PERCENTAGE OF MONTHLY INCOME

Serial No.	Income category	Expenditure (%)				Total
		0 - 5	6 - 10	11 - 15	16 and above	
1	0-1500	7 (31.8) 18.9	12 (54.5) 27.9	1 (4.5) 8.3	2 (9.2) 25	22
2	1501 - 3000	16 (43.2) 43.2	20 (40.8) 46.5	8 (16.3) 66.7	5 (10.2) 62.5	49
3	3001 - 4500	5 (41.7) 13.5	5 (41.7) 11.6	1 (8.3) 8.3	1 (8.3) 12.5	12
4	4501 - 6000	6 (54.5) 16.2	5 (45.5) 11.6	0	0	11
5	6001 and above	3 (50) 8.1	1 (16.7) 2.3	2 (33.3) 16.7	0	6
	Total	38	42	12	8	100

TABLE 5.34 EXPENDITURE ON FOOD AS PERCENTAGE OF MONTHLY INCOME

Serial No.	Income category	Expenditure (%)				Total
		31 - 40	41 - 50	51 - 60	More than 60	
1	0-1500	0	7	10	5	22
2	1501 - 3000	8	17	20	4	49
3	3001 - 4500	3	3	2	2	12
4	4501 - 6000	0	3	4	2	11
5	6001 and above	0	1	3	2	6
	Total	11	30	39	15	100

TABLE 5.35 EXPENDITURE ON EDUCATION AS PERCENTAGE OF MONTHLY INCOME

Serial No.	Income category	Expenditure (%)					Total
		< 5	6 - 10	11 - 15	16 and above	Nil	
1	0-1500	4(17.6) 17.4	0	0	1(44) 50	17(77) 27.4	22
2	1501 - 3000	18(37.7) 78.3	4(8) 44.4	2(4) 50	1(2) 50	24(49) 38.7	49
3	3001 - 4500	0	2(16.7) 22.2	2(16.7) 50	0	8(66.7) 12.9	12
4	4501 - 6000	0	1(9) 11.1	0	0	10(91) 16.1	11
5	6001 and above	1(16.7) 4.3	2(33.3) 22.2	0	0	3(50) 4.8	6
	Total	23	9	4	2	62	100

TABLE 5.36 EXPENDITURE ON SOCIAL FUNCTIONS AS PERCENTAGE OF MONTHLY INCOME

Serial No.	Income category	Expenditure (%)					Total
		< 5	6 - 10	11 - 15	16 and above	Nil	
1	0-1500	12(54.6)	4(18.2)	0	0	6(27.2)	22
2	1501 - 3000	20(40.8)	20(40.8)	0	1(2)	8(16.4)	49
3	3001 - 4500	9(75)	3(25)	0	0	0	12
4	4501 - 6000	5(45.5)	5(45.5)	0	0	1(9)	11
5	6001 and above	2(33.3)	3(50)	0	0	1(16.7)	6
	Total	48	35	0	1	16	100

TABLE 5.37 EXPENDITURE ON ELECTRICITY AS PERCENTAGE OF MONTHLY INCOME

Serial No.	Income category	Expenditure (%)					Total
		< 5	6 - 10	11 - 15	16 and above	Nil	
1	0-1500	7	5	0	0	10	22
2	1501 - 3000	18	11	0	0	20	49
3	3001 - 4500	4	2	0	0	6	12
4	4501 - 6000	6	3	0	0	2	11
5	6001 and above	3	1	0	0	2	6
	Total	38	22	0	0	40	100

INFERENCES

- Ninety five percent of the households in the study area spend up to one tenth of their monthly income on clothing.
- Eighty five percent households in the study area spend up to five percent of their monthly income on medicine, while the remaining fifteen percent households do not spend more than one tenth of their monthly income on medicine.
- Three fourth (77%) households in the study area spend up to five percent of their household income on conveyance, and rest of them do not spend more than fifteen percent of their monthly income towards it.
- Ninety six percent households in the study area send as much as five percent of their monthly income to their native place.
- Almost nine tenth (86%) of the households in the study area spend up to one tenth of their monthly income on cooking fuel.
- While almost two fifth (38%) of the households spend up to five percent of their monthly income for recreation and equal numbers (42%) spend 6-10 percent towards it.

- More than half (54%) of the households in the study area spend more than half of their monthly income on food alone.
- Almost one fourth (23%) of the households in the study area spend up to five percent of their monthly income for education, while three fifth (62%) of the households do not spend at all.
- Eighty three percent of the households in the study area spend one tenth of their household income in various social functions, while the remaining one fifth do not spend at all.
- Three fifth of the households in the study area spend up to one tenth of their monthly income for paying electricity bill, while rest of them (40%) do not pay at all.

TABLE 5.38 SAVINGS AS PERCENTAGE OF MONTHLY INCOME

Serial No.	Income category	Savings (%)					Total
		< 5	6 - 10	11 - 15	16 and above	Nil	
1	0-1500	1(4.5)	4(18.2)	3(13.6)	1(4.5)	13(59.3)	22
2	1501 – 3000	6(12.4)	7(14.3)	7(14.3)	5(10.2)	24(48.8)	49
3	3001 – 4500	0	2(16.7)	3(25)	3(25)	4(33.3)	12
4	4501 – 6000	2(18)	2(18)	1(9)	5(46.4)	1(9)	11
5	6001 and above	0	1(16.7)	3(50)	2(33.3)	0	6
	Total	9	16	17	16	42	100

INFERENCES

Two fifth (42%) of the households in the study area do not save, while another one fifth save up to fifteen percent of their monthly income, and the remaining one fifth save more than sixteen percent of their monthly income.

Propensity to save increases with increase in monthly household income.

**TABLE 5.39 INDEBT NESS OF A FAMILY AS PERCENTAGE OF
MONTHLY INCOME**

Serial No.	Income category	Expenditure (%)					Total
		< 5	6 – 10	11 – 15	16 and above	Nil	
1	0-1500	2(9) 66.7	11(50) 33.3	0	4(18) 13.8	5(23) 22.2	22
2	1501 – 3000	0	16(32.7) 48.5	12(24.5) 92.3	10(20.4) 34.5	11(22.4) 50	49
3	3001 – 4500	1(8.3) 33.3	2(16.7) 6.1	1(8.3) 7.7	7(58.3) 24.1	1(8.3) 4.5	12
4	4501 – 6000	0	2(18.1) 6.1	0	5(45.5) 17.2	4(36.3) 18.2	11
5	6001 and above	0	2(33.3) 6.1	0	3(50) 10.3	1(16.7) 4.5	6
	Total	3	33	13	29	22	100

TABLE 5.40 REASONS GIVEN FOR BORROWING

Serial No.	Income category	Reason for borrowing				Total
		Housing	Social functions	Sickness	Others	
1	0-1500	5(29.4) 19.2	7(41.2) 17.5	5(29.4) 50	0	17
2	1501 – 3000	13(34.2) 50	18(47.4) 45	5(13.2) 50	2(52.6) 100	38
3	3001 – 4500	4(36.4) 15.4	7(63.6) 17.5	0	0	11
4	4501 – 6000	2(28.6) 7.7	5(71.4) 12.5	0	0	7
5	6001 and above	2(40) 7.7	3(60) 7.5	0	0	5
	Total	26	40	10	2	78

TABLE 5.41 SOURCE OF BORROWING

Serial No.	Income category	Source of borrowing			Total
		Relatives	Friends	Other	
1	0-1500	12(70.6) 30.8	2(11.8) 14.3	3(17.6) 12	17
2	1501 – 3000	16(42) 41.0	7(18.4) 50	15(39.6) 60	38
3	3001 – 4500	7(63.6) 18.0	1(9) 7.1	3(27.2) 12	11
4	4501 – 6000	3(42.8) 7.7	2(28.6) 14.3	2(28.6) 8	7
5	6001 and above	1(20) 2.6	2(40) 14.3	2(40) 8	5
	Total	39	14	25	78

INFERENCES

One fifth (22%) of the households do not borrow, while half of them borrow up to fifteen percent of their monthly income and the remaining three tenth (29%) of the households borrow more than sixteen percent of their monthly income.

Almost three fourth of the borrowers have their monthly income less than Rs. 4500.

Number of borrowers decrease with increase in monthly household income.

Two fifth of the borrowers take loan for fulfilling their social commitments, while one fourth among the borrowers borrow for either building or improving their houses, only one tenth of them borrow for medicines.

Almost two fifth (39%) of the borrowers take loan from their relatives while one fourth (25%) borrow from money lender and rest manage it from their friends.

It can be concluded that social commitment is one of the major reasons for borrowing; consequently relatives are the major source of borrowing.

TABLE 5.42 ACCOMMODATION SIZE (SQ. FT.)

Serial No.	Income category	Accommodation size (sq. ft.):					Total
		100 - 200	201 - 300	301 - 400	401 - 500	501 and above	
1	0-1500	12(54.5) 60	7(32) 22.6	1(4.5) 5.9	1(4.5) 12.5	1(4.5) 4.2	22
2	1501 – 3000	7(14.3) 35	16(32.6) 51.6	12(24.4) 70.6	3(6.1) 37.5	11(22.4) 45.8	49
3	3001 – 4500	0	4(33.3) 12.9	1(8.3) 5.9	3(25) 37.5	4(33.3) 16.7	12
4	4501 – 6000	1(9) 5	2(18) 6.5	2(18) 11.8	0	6(55) 25	11
5	6001 and above	0	2(33.3) 6.5	1(16.7) 5.9	1(16.7) 12.5	2(33.3) 8.3	6
	Total	20	31	17	8	24	100

INFERENCES

One fifth (20%) of the households live in less than 200 square feet of space, while only one fourth (25%) of the households in the study area have accommodation size more than 500 square feet.

Almost three fifth (56%) of the households in the study area have accommodation size 200 to 500 square feet.

It is concluded that increase in income does not results into large accommodation size.

PHYSICAL INFRASTRUCTURE

INFERENCES

As it is one of the major components of planning and development, a study about the existing scenario of the physical infrastructure in the study area reveals the level of development of the area. This includes source of drinking water, sewage system, waste disposal, electricity and approach road.

TABLE 5.43 SOURCES OF DRINKING WATER

Serial No.	Income category	Source of drinking water					Total
		Tap	Well	Tube well	Water tank	Other	
1	0-1500	9(40.9) 18.8	1(4.5) 25	0	1(4.5) 50	11(50) 26.2	22
2	1501 – 3000	23(46.9) 47.9	2(4.1) 50	3(6.1) 75	1(2.1) 50	20(40.8) 47.6	49
3	3001 – 4500	5(41.7) 10.4	1(8.3) 25	0	0	6(50) 14.3	12
4	4501 – 6000	5(45.7) 10.4	0	1(9) 25	0	5(45.5) 11.9	11
5	6001 and above	6(100) 12.5	0	0	0	0	6
	Total	48	4	4	2	42	100

INFERENCES

Nearly half (48%) of the households in the study area have access to municipal water supply, while two fifth manage potable water from sources other than well or tube well or water tank.

TABLE 5.44 PLACE FOR ATTENDING THE NATURAL CALLS

Serial No.	Income category	Place for attending natural calls			Total
		Within the house	Open	Community toilet	
1	0-1500	7(31.9) 17.1	11(50) 26.2	4(18.1) 23.5	22
2	1501 – 3000	19(38.7) 46.3	20(40.8) 47.6	10(20.4) 58.8	49
3	3001 – 4500	7(58.4) 17.1	5(41.6) 11.9	0	12
4	4501 – 6000	5(45.5) 12.2	6(54.5) 14.3	0	11
5	6001 and above	3(50) 7.3	0	3(50) 17.6	6
	Total	44	42	14	100

INFERENCES

Almost three fifth (58%) of the households in the study area have access to toilet facilities either at individual or community level, while remaining two fifth of the households defecate in open.

TABLE 5.45 PLACE OF BATHING

Serial No.	Income category	Place of bathing:			Total
		Within the house	Open	Community facility	
1	0-1500	10(45.4) 17.9	11(50) 33.3	1(4.5) 9	22
2	1501 – 3000	24(48.9) 42.9	15(30.6) 45.4	10(20.4) 91	49
3	3001 – 4500	9(75) 16.1	3(25) 9.1	0	12
4	4501 – 6000	7(63.7) 12.5	4(36.3) 12.1	0	11
5	6001 and above	6(100) 10.7	0	0	6
	Total	56	33	11	100

INFERENCES

Only one tenth (11%) of the households in the study area use community bathing facilities, while three fifth of the households take bath within the house, one third (33%) of the households take bath in open.

TABLE 5.46 AVAILABILITY OF WASTEWATER DRAINS

Serial No.	Income category	Availability of waste water drains		Total
		Yes	No	
1	0-1500	8(36.3) 14.5	14(63.7) 31.1	22
2	1501 – 3000	27(55.1) 49	22(44.9) 48.8	49
3	3001 – 4500	8(66.7) 14.5	4(33.3) 8.8	12
4	4501 – 6000	7(63.6) 13	4(36.4) 8.8	11
5	6001 and above	5(83.3) 9	1(36.4) 2.2	6
	Total	55	45	100

TABLE 5.47 AVAILABILITY OF DUSTBINS FOR GARBAGE DISPOSAL

Serial No.	Income category	Availability of dustbins for garbage disposal		Total
		Yes	No	
1	0-1500	2(9) 8.3	20(91) 26.3	22
2	1501 – 3000	11(22.5) 45.8	38(77.5) 50	49
3	3001 – 4500	4(33.3) 16.6	8(66.7) 10.5	12
4	4501 – 6000	4(36.4) 16.6	7(63.6) 9.2	11
5	6001 and above	3(50) 12.5	3(50) 3.9	6
	Total	24	76	100

INFERENCES

Only half of the households in the study area have waste water drains, however three fourth (76%) of the households have access to dustbins for garbage disposal.

TABLE 5.48 AVAILABILITY OF ELECTRICITY

Serial No.	Income category	Availability of electricity		Total
		Yes	No	
1	0-1500	18(82) 19	4(18) 66.7	22
2	1501 – 3000	47(96) 50	2(4) 33.3	49
3	3001 – 4500	12(100) 12.8	0	12
4	4501 – 6000	11(100) 11.7	0	11
5	6001 and above	6(100) 6.4	0	6
	Total	94	6	100

INFERENCES

Almost all households (94%) in the study area have electricity connection, including illegal connections.

TABLE 5.49 TYPE OF FUEL USED FOR COOKING IN A HOUSEHOLD

Serial No.	Income category	Type of fuel used				Total
		LPG	Fuel wood	Kerosene	Wooden scrap	
1	0-1500	3(13.6) 6.8	5(22.7) 17.8	9(40.8) 45	5(22.7) 62.5	22
2	1501 – 3000	21(42.8) 47.7	18(36.7) 64.2	7(14.2) 35	3(6.1) 37.5	49
3	3001 – 4500	7(58.3) 15.9	3(25) 10.7	2(16.7) 10	0	12
4	4501 – 6000	7(63.8) 15.9	2(18.1) 7.1	2(18.1) 10	0	11
5	6001 and above	6(100) 13.6	0	0	0	6
	Total	44	28	20	8	100

INFERENCES

Two fifth (44%) of the households in the study area use LPG as a cooking fuel, while equal number use fuel wood or wooden scrape, and the remaining one fifth use kerosene as a cooking fuel.

Use of LPG as a cooking fuel increases with increase in income, while the poorest households use wooden scrape as a cooking fuel.

TABLE 5.50 TYPE OF APPROACH ROAD

Serial No.	Income category	Type of approach road				Total
		Kutchha	Non-metalled	Metalled	Cemented	
1	0-1500	12(54.5) 38.7	0	7(31.8) 27	3(13.6) 10	22
2	1501 – 3000	11(22.4) 35.5	6(12.2) 46.1	15(30.6) 57.7	17(34.6) 57	49
3	3001 – 4500	4(33.3) 12.9	2(16.7) 15.4	0	6(50) 20	12
4	4501 – 6000	4(33.3) 12.9	5(45.4) 38.5	1(9) 3.8	1(9) 3.3	11
5	6001 and above	0	0	3(50) 11.5	3(50) 10	6
	Total	31	13	26	30	100

INFERENCES

Almost three fifth (56%) of the households in the study area are approached through well maintained roads, while remaining two fifth, access their houses either through non-Metalled or kuttcha road.

Households in lowest two income categories access their houses by kuttcha road, while houses of highest income group are accessed by well maintained roads.

TABLE 5.51 DESIRE TO SHIFT FOR BETTER LIVING

Serial No.	Income category	Response		Total
		Yes	No	
1	0-1500	11(50) 26.2	11(50) 19	22
2	1501 – 3000	17(34.7) 40.4	32(65.3) 55.2	49
3	3001 – 4500	3(25) 7.2	9(75) 15.5	12
4	4501 – 6000	7(63.7) 16.7	4(36.3) 6.9	11
5	6001 and above	4(66.7) 9.5	2(33.3) 3.4	6
	Total	42	58	100

TABLE 5.52 WHETHER OWNERSHIP RIGHT / PUTTA IS OBTAINED

Serial No.	Income category	Status		Total
		Yes	No	
1	0-1500	8(36.4) 14.2	14(63.6) 31.9	22
2	1501 – 3000	31(63.3) 55.4	18(36.7) 40.9	49
3	3001 – 4500	5(41.7) 9	7(58.3) 15.9	12
4	4501 – 6000	8(72.7) 14.3	3(27.3) 6.8	11
5	6001 and above	4(66.7) 7.1	2(33.3) 4.5	6
	Total	56	44	100

INFERENCES

Almost three fifth of the households in the study area do not want to leave their present places, while the remaining two fifth have shown desire to move out for better living.

Three fifth of the households in the study area have ownership rights.

Households with ownership rights are least interested to leave their present places.

**TABLE 5.53 ONE TIME INVESTMENT CAPACITY PER HOUSEHOLD,
FOR OBTAINING A HOUSE OR LAND**

Serial No.	Income category	Ranges					Total
		1000-2000	2001 - 3000	3001 - 4000	4001-5000	5001 and above	
1	0-1500	4(30.7) 57.2	2(15.3) 33.3	0	6(46.1) 40	1(7.6) 8.3	13
2	1501 - 3000	3(16.7) 42.8	4(22.2) 66.7	3(16.7) 100	6(33.3) 40	3(16.7) 25	18
3	3001 - 4500	0	0	0	2(66.7) 13.3	1(33.3) 8.3	3
4	4501 - 6000	0	0	0	1(25) 6.7	3(75) 25	4
5	6001 and above	0	0	0	0	4(100) 33.3	4
	Total	7	6	3	15	12	42

**TABLE 5.54 PAYING CAPACITY FOR MONTHLY INSTALLMENT AS
PERCENTAGE OF MONTHLY INCOME**

Serial No.	Income category	Range of payment (%)				Total
		< 10	11-20	21-30	>31	
1	0-1500	2(15.4) 15.4	6(46.1) 37.5	3(23) 30	2(15.3) 66.7	13
2	1501 - 3000	6(33.3) 46.2	6(33.3) 37.5	5(27.7) 50	1(5.5) 33.3	18
3	3001 - 4500	0	3(100) 18.8	0	0	3
4	4501 - 6000	2(50) 15.4	1(25) 6.2	1(25) 10	0	4
5	6001 and above	3(75) 23	0	1(25) 10	0	4
	Total	13	16	10	3	42

INFERENCES

Almost two third (65%) households in the study area are willing to pay more than Rs. 400 as one time amount for obtaining house or land.

Three tenth of the households in the study area can spare more than one fifth of their monthly income as an installment for repayment of the loan, while equal number can spare one tenth of their monthly income, and the remaining two fifth can pay between one fifth to one tenth of their monthly income as an installment.

**TABLE 5.55 ONE TIME INVESTMENT CAPACITY PER HOUSEHOLD,
TOWARDS HOUSE IMPROVEMENT**

Serial No.	Income category	Ranges					Total
		1000-2000	2001 - 3000	3001 - 4000	4001-5000	5001 and above	
1	0-1500	5(55.6) 50	3(33.3) 27.3	0	0	1(11.1) 5	9
2	1501 – 3000	3(9.6) 30	6(19.3) 54.5	0	12(38.7) 80	10(32.2) 20	31
3	3001 – 4500	1(11.1) 10	2(22.2) 18.2	2(22.2) 100	2(22.2) 13.3	2(22.2) 10	9
4	4501 – 6000	1(4.3) 10	0	0	0	6(85.7) 30	7
5	6001 and above	0	0	0	1(50) 6.7	1(50) 5	2
	Total	10	11	2	15	20	58

**TABLE 5.56 PAYING CAPACITY FOR MONTHLY INSTALLMENT AS
PERCENTAGE OF MONTHLY INCOME**

Serial No.	Income category	Range of payment (%)				Total
		< 10	11-20	21-30	>31	
1	0-1500	3(33.3) 10.7	4(44.4) 22.2	1(11.1) 12.5	1(11.1) 25	9
2	1501 – 3000	10(32.2) 35.7	13(41.9) 72.2	6(19.3) 75	2(6.4) 50	31
3	3001 – 4500	7(77.8) 25	1(11.1) 5.6	1(11.1) 12.5	0	9
4	4501 – 6000	6(85.7) 21.4	0	0	1(14.2) 25	7
5	6001 and above	2(100) 7.1	0	0	0	2
	Total	28	18	8	4	58

INFERENCES

Three fifth of the households in the study area can pay more than Rs. 4000 as one time investment for house improvement.

Almost half (48%) among them can pay up to one tenth of their monthly income for repayment as an installment, while three fifth (31%) can pay somewhere between one tenth to one fifth, and the remaining one fifth (21%) can pay more than one fifth as an installment for repayment of loans taken for house improvement.

TABLE 5.57 DISTANCE OF WORK PLACE FROM HOUSE

Serial No.	Income category	Range of distance (km.)				Total
		< 2	2 - 5	5 - 8	>8	
1	0-1500	15(68.2) 27.3	4(18.1) 18	1(4.5) 6.6	2(9) 25	22
2	1501 - 3000	20(40.8) 36.4	13(26.5) 59	12(24.5) 80	4(8.2) 50	49
3	3001 - 4500	7(58.3) 12.7	2(16.7) 9	1(8.3) 6.6	2(16.7) 25	12
4	4501 - 6000	10(91) 18.2	0	1(9) 6.6	0	11
5	6001 and above	3(50) 5.4	3(50) 14	0	0	6
	Total	55	22	15	8	100

TABLE 5.58 MODE OF TRAVEL TO WORK PLACE

Serial No.	Income category	Mode of transport				Total
		By foot	Bicycle	Motor bike	Public transport	
1	0-1500	15(68.2) 31.9	4(18.2) 9.5	0	3(13.6) 33.3	22
2	1501 - 3000	16(32.6) 34	28(57) 66.7	1(2) 50	4(8.2) 44.4	49
3	3001 - 4500	6(50) 12.8	4(33.3) 9.5	0	2(16.7) 22.2	12
4	4501 - 6000	7(63.4) 14.9	3(27.3) 7.1	1(9) 50	0	11
5	6001 and above	3(50) 6.4	3(50) 7.1	0	0	6
	Total	47	42	2	9	100

INFERENCES

Three fourth (77%) of earning members in the study area travel less than five kilometers to reach their work places, seventy percent among these travel less than two kilometers.

Almost half (47%) of them go on foot to their work places, while two fifth of the earning members use bicycle, only one-tenth travel by public transport.

As the work places are within 2-5 kilometers, people are less dependent on public transport.

TABLE 5.59 CHOICE OF METHOD FOR CONSTRUCTION ON THE PLOT

Serial No.	Income category	Options			Total
		Self - help	Hired	Both	
1	0-1500	8(36.3) 26.7	2(9) 6	12(54.5) 32.4	22
2	1501 - 3000	12(24.4) 40	19(38.7) 58	18(36.7) 48.7	49
3	3001 - 4500	3(25) 10	6(50) 18	3(25) 8.1	12
4	4501 - 6000	5(45.4) 16.6	3(27.2) 9	3(27.2) 8.1	11
5	6001 and above	2(33.3) 6.7	3(50) 9	1(16.7) 2.7	6
	Total	30	33	37	100

INFERENCES

As much as two third of the households in the study area are willing to contribute their labor for construction/ improvement of their house, only one third solely rely on hired labor.

TABLE 5.60 FIRST PRIORITY FOR HOUSE IMPROVEMENT

Serial No.	Income category	Options				Total
		Space expansion	Material improvement	Structural improvement	Public services	
1	0-1500	0	0	8(72.8) 16	3(27.2) 30	11
2	1501 - 3000	0	0	30(94) 64	2(6) 20	32
3	3001 - 4500	0	0	6(66.7) 12	3(3.3) 30	9
4	4501 - 6000	0	0	2(50) 4	2(50) 20	4
5	6001 and above	0	0	2(100) 4	0	2
	Total	0	0	48	10	58

TABLE 5.61 SECOND PRIORITY FOR HOUSE IMPROVEMENT

Serial No.	Income category	Options				Total
		Space expansion	Material improvement	Structural improvement	Public services	
1	0-1500	1(9) 50	5(45.4) 14.7	2(18.1) 25	3(27.2) 20	11
2	1501 – 3000	0	22(69.7) 67.6	2(6) 25	8(24.3) 53.3	32
3	3001 – 4500	0	4(44.4) 11.7	2(22.2) 25	3(33.3) 20	9
4	4501 – 6000	1(25) 50	1(25) 2.9	2(50) 25	0	4
5	6001 and above	0	1(50) 2.9	0	1(50) 6.7	2
	Total	2	33	8	15	58

TABLE 5.62 THIRD PRIORITY FOR HOUSE IMPROVEMENT

Serial No.	Income category	Options				Total
		Space expansion	Material improvement	Structural improvement	Public services	
1	0-1500	0	5(45.4) 29.4	0	6(54.6) 28.5	11
2	1501 – 3000	11(36.3) 55	6(18.2) 35.2	0	15(45.5) 71.5	32
3	3001 – 4500	6(66.7) 30	3(33.3) 17.6	0	0	9
4	4501 – 6000	1(25) 5	3(75) 17.6	0	0	4
5	6001 and above	2(100) 10	0	0	0	2
	Total	20	17	0	21	58

INFERENCES

Four fifth (82%) of the households in the study area has structural improvement, three fifth (57%) as material improvement, and one third each has space expansion and provision of services, as their first second and third priority respectively for their house improvement.

TABLE 5.63 FIRST PRIORITY FOR ESSENTIAL SERVICES

Serial No.	Income category	Options						Total
		Drinking water	W.C.	Drainage	Waste disposal	Electricity	Approach road	
1	0-1500	11 27	0	0	0	0	0	11
2	1501 – 3000	17 39	0	0	0	0	0	17
3	3001 – 4500	3 7.3	0	0	0	0	0	3
4	4501 – 6000	7 17	0	0	0	0	0	7
5	6001 and above	4 9.8	0	0	0	0	0	4
	Total	42	0	0	0	0	0	42

TABLE 5.64 SECOND PRIORITY FOR ESSENTIAL SERVICES

Serial No.	Income category	Options						Total
		Drinking water	W.C.	Drainage	Waste disposal	Electricity	Approach road	
1	0-1500	0	4(36.4) 26.7	0	0	7(63.6) 27	0	11
2	1501 – 3000	0	8(47) 52.3	0	0	8(47) 30.8	1(6)	17
3	3001 – 4500	0	0	0	0	3(100) 11.5	0	3
4	4501 – 6000	0	1(14.2) 6.7	0	0	6(85.8) 23	0	7
5	6001 and above	0	2(50) 13.3	0	0	2(50) 7.7	0	4
	Total	0	15	0	0	26	1	42

TABLE 5.65 THIRD PRIORITY FOR ESSENTIAL SERVICES

Serial No.	Income category	Options						Total
		Drinking water	W.C.	Drainage	Waste disposal	Electricity	Approach road	
1	0-1500	0	7(63.6) 29.2	0	0	4(36.4) 33.3	0	11
2	1501 – 3000	0	7(41.1) 29.2	0	0	5(29.4) 41.5	5(29.4) 83.4	17
3	3001 – 4500	0	3(100) 12.5	0	0	0	0	3
4	4501 – 6000	0	6(85.8) 25	0	0	1(14.2) 8.3	0	7
5	6001 and above	0	1(25) 4.1	0	0	2(50) 16.6	1(25) 16.6	4
	Total	0	24	0	0	12	6	42

INFERENCES

Households in the study area have exhibited drinking water, electricity, and toilet as their first, second and third priority respectively for essential services.

ANALYSIS OF THE CONTROL PARAMETERS THAT DECIDE THE FUNCTIONS OF SLUM

6.1. INTRODUCTION

In this chapter, an attempt is made to understand the control parameters, which decide the functions of the system. In fact, these control parameters varies from one city to city and from one town to other. Therefore it is of interest to understand the control parameters, which decide functions of the slums in the study area. Functions of the slums of the study area are analyzed thoroughly and are presented into sequel.

6.2. EDUCATION

Education functions as a prime control parameter that decides the function of slum, since it dictates the employment opportunities that are available to the slum dweller. Further, education is essential pre-requisite to bring reform in the lives of slum dwellers. Awareness regarding environmental problems can be imparted into the slum dwellers only through education. Furthermore education is essential for realizing organized social life and improved moral behavior of inhabitants of slums; and finally education is essential to ensure organized physical development in slum area. Thus, type and quality of education becomes an issue related to both economics and housing.

Households in the slums of the study area are more or less confined to elementary education. Their numbers becomes significantly less as one progress higher in the order, which is evident by the fact that nearly three-fifth of the surveyed households have education up to eighth class only, and another one fifth had secondary education. Only four percent of the households have graduate in their family.

6.3. EMPLOYMENT OPPORTUNITY:

It is an important control parameter in the sense that it implies possible occupations that an individual can pursue. Good education is essential for higher and better employment opportunity. Since people in slums rarely succeed in achieving better and higher education, their employment opportunity is confined to occupations that involve physical labor; it inhibits possibility of upward mobilization in economic terms, which in turn minimizes possibility of improving their household income.

Employment opportunities for the people in the slums of the study area are restricted to occupations that involve manual rather than mental labor due to no or low, or very elementary education that is good enough for only to be called as literate. Thus they have no other option but to work as laborer. However, people are gainfully employed into skill-oriented jobs, and various crafts that require less of an education.

6.4. OCCUPATION

It acts as a control parameter since it has bearing on income and expenditure. A given type of occupation decides what a person will earn and thereby how he should spend. People in slums are invariably employed in informal service sector that yields little income, owing to their poor educational background.

The majority of slum households in the study area depend on earning from daily wage either as full time or part time. Some of them are engaged in private sectors, on marginal salary as shop attendant, cooking assistant in restaurants, as workers in small industries, and domestic servants. Next source of households' earning is from self employment of trade, transport and manufacture or as casual laborers, such laborers on an average do not get work more than twenty days in a month, significant number of households are engaged as hawkers, vegetable sellers, etc. Another major occupation of the slum dwellers is building and civil construction as artisans, skilled worker, helper, etc. Very few of them have their major earning from government salaries employment as peons or other similar fourth-class jobs. However, most of these households have a subsidiary earning from home based activities, such as, broom making, tailoring of readymade garments, scent-stick, and beedi making, making toys etc.

6.5. INCOME

Income holds controlling function so much so that it has limits choices for expenditure. Though people in slums are rendering services that are essential for city's function, yet their earning is very low.

Income of a typical household in the slums of the study area is severely limited by the economic opportunity available to them. If not all members, at least, female members of the household contribute in the total income of the household. Almost seventy five per cent households among the surveyed households in the study area have their monthly income less than Rs. 3000, while another one-third have

monthly household income up to Rs. 6000, and only six percent are able to earn more than Rs. 6000, that too because main earning member in such family is a government employee, either as a sweeper, peon or as a security guard.

6.6. PROXIMITY TO WORK PLACE

Slum dweller optimizes his economic and physical resources, by choosing, to be as close as possible to as many sources of work as possible. He gains workday by whatever amount of time it takes to reach workplace, and he minimizes expenditure by whatever it costs him to reach workplace.

Usually, the bulk of lowest paid jobs are available in the center of the city. It is, therefore, of great importance to the slum dwellers, who make their living by hauling goods on a cart, Thela, or pulling a rickshaw or performing other services it forces them to get to work early. Since people in slums of the study area depend on makeshift or odd – job work, they live close to as many possible sources of employment for improving their chances of finding a job.

Another reason for them to live near work places is due to the fact that it helps them to save from their meager income, since they do not have to spend to reach their work places. It is exemplified from the survey, nearly three fifth of the surveyed households had their work places within two kilometers, which they traversed either on foot or on bicycle.

6.7. SOCIAL RELATIONSHIP

Typical slum dweller identifies himself with people who have values, customs similar to him. Homogeneous group having characteristics similar to him provides him with social security and a sense of belonging along with identity, which is fundamental to him for his survival in otherwise anonymous urban setting. Thus social relationship becomes an important control parameter

Many slums throughout the study area have been settled by groups of people from the same village, by members of the same extended family or members of same caste or religion. Slum in the study area form primary communities. They retain many of the traditional characteristics of rural life: a feeling of community solidarity; intensive face-to face dealings; groupings according to ethnic, kinship, or economic ties, they exhibit close communication system characterized by localized gossip. Although slum dwellers serve immediate neighborhood, by providing their services,

in more than one ways, similar interaction is not observed with them. On the contrary, there is feeling of marginality while interacting with them. There is great deal of enthusiasm for celebrating various festivals within the slum pocket. Slums of the study area are primarily homogeneous societies.

6.8. EXPENDITURE

Expenditure pattern serves as a control parameter for it reveals priorities of slum dwellers. It is important to know their spending habits. Principal share of their meager income is spent in managing meals. Social functions rank second in the priority, whatever little is left, is spent either to meet an exigency or towards common addictions such as smoking, drinking etc. thus there is hardly any money left over, which can be spent for house improvement.

People in the slums of the study area spend more than half of their household income towards managing their meals. They spend minimal on clothing and manage either from second cloth market, or use second hand clothes given to them by their employers. However, as much as one-tenth of their income is spent over various addictions, such as, smoking, drinking, tobacco chewing etc. About three-fifth of the surveyed households in the study area do not spend on education, and approximately two-fifth do not pay electricity bill at all.

6.9. INDEBTNESS

It is control parameter in the sense that degree and frequency of indebtedness reveals economic health of the household, it speaks about expenditure that are essential and can not be met within the given income. Thus, it is essential to know the reasons and sources of borrowing.

People in the slums of the study area borrow money primarily for meeting social commitments, such as, marriage of own kith and kin, or that of relative. Other reason for borrowing is either an emergency, or to meet their daily expense, when there is no job for them. Relatives are the most common cited source of funding, followed by friends, employers, in an event of large borrowings; otherwise, shopkeeper keeps the account of borrowed goods for those who are met with uncertainty of job. Shopkeepers also function as informal moneylenders. In a normal course people in the slums borrow up fifteen to twenty per cent of their average monthly income, to run their houses.

6.10. SAVING

It is an important control parameter for propensity to save is an important indicator of efforts made by the slum dwellers to improve their living condition by bringing certain security in their otherwise unpredictable future. It offers an opportunity to affect lives of slum dwellers positively. It becomes essential to know their saving habits to mobilize their savings towards improvement of their living environment.

As much as three-fifth of the total households in the study area have displayed propensity to save. However half of these households save only up to five per cent of their average monthly income, primarily to meet an exigency. One-third among these households could save up to fifteen per cent of their monthly income, for meeting social commitments, while almost one-fifth could save more than fifteen per cent. Savings are never lump sum but are in the form of daily savings, and in the form of an asset acquired out of such savings.

6.11. INFRASTRUCTURE (Physical and Social)

Unattended public vacant land, connected with busy road, served by means of transport often attract squatting and consequently in formation of slums. Either a public source of water supply, or water sources in public buildings in the close vicinity strengthen formation of slum on such land. First few shacks are constructed near street lampposts and later illegal connections are extended from this. Presence of social infrastructure such as government primary health center gives good reason for them to squat. Thus, the existing physical and social infrastructure plays an important role in the proliferation of slums. Slums such as Dasherai Maidan, near Sanwer road railway crossing in the study area are the best examples for the same.

6.12. LACK OF CONTROLS

Owing to careless attitude of enforcement authorities and status quo of slums as unauthorized or illegal, they are least obliged to conform to existing standards, norms and byelaws formulated by the government. Lack of controls work constructively in the slums, for they feel free to do whatever they feel like with their dwellings.

Slum dwellers in the study area have used their dwelling for variety of purposes, such as: a shop; verandah is being put for setting lathe machine, incidental

open spaces are used for parking Thela, for drying toys, rag pickers and scrape collectors used part of their house for storing collection of the day, etc.

None of these activities are allowed to take place in a proper housing project, a well-zoned residential neighborhood or a planned resettlement. Yet the only way that these poor households can make ends meet is by taking advantage of the lack of controls.

6.13. CONCLUSION

It is evident from the above discussion that initially low, or no formal education, and skills forces the slum dwellers to take up low paid jobs that require physical labor and pick up makeshift or odd –job work, that necessitates their presence where maximum work opportunities exist, therefore end up staying may be in the city center, industrial states, high-income residential neighborhoods to name a few. Absence of housing options in the proximity of such places that meets their affordability, results in the formation of slums near them. Proximity to work places, which helps them to avoid travel expenses and thus helping them save whatever little from their income also forces them to stay in slums. The lack of controls not only improves their employment opportunity but also make them free from adherence to legal obligation of any kind. All this also helps them to save a little, even from their meager income. Further recourse to the traditional security of natural groups be it same caste, religion, extended family or religion helps them to survive during odds.

ESTABLISHING NEXUS BETWEEN THE SLUMS AND NEIGHBORING AREAS

7.1. INTRODUCTION

In this chapter an attempt is made to establish the link between slums and the rest of the city including neighboring areas by analyzing exchange of services between their neighboring areas, and with rest of the city. Thus, analysis is presented at slum pocket level.

7.2. MHOW AND DHAR NAKA

People in slums near Mhow naka serve the immediate residential neighborhood by serving as domestic servants in high-income residential area, and by working as waiters and cook in hotels, some of them serve as assistants to shopkeepers, while quite a few operate auto rickshaw from Rajendra Nagar railway station. However slum dwellers near Dhar Naka at Sirpur Talab primarily serve existing sawmills in the area, and some among them work on brick kilns. Quite a few, work as truck drivers, there is transport terminus nearby.

They receive wooden scrape, which is used as cooking fuel, and also wooden shingles from saw mill also allows them to build their house at affordable cost. People working in brick kiln, also are able to manage poor quality brick bats to construct their houses. Apart from this their employers are possible source of borrowing. Borrowed amount is taken as advance from the employers, which they repay in installments.

7.3. MILL AREA

As the name suggests people here initially served various cotton mills in the area, there are seven cloth mills within the radius of two kilometers from slums of this area. Owing to partial closure of mills, people have taken alternative job as tailor, vegetable vendor, as painters and construction workers. The occupations of slum dwellers in this area are now not specifically place related, however they are working within the radius of two to three kilometers in other residential colonies as metal

fabricators, carpenters, and some among them are also working on small versions of cloth mill.

People here have exhibited their ingenuity by making their shelters from flattened tin canes of oil, which are readily available in the market at reasonable prices. Another material used for construction is second hand corrugated tin sheets, which is available almost half the cost of fresh product. Besides that discarded door frames, doors, advertisement hoardings, readily find their place as a construction material for house.

7.4. JUNI (OLD) INDORE

People in slum pockets of this area have assumed the role of scavenger; they collect scrape from households and shops, while all people in Chandra Prabha Shekhar Nagar are rag pickers. Waste is collected for recycling. However there is no industrial set up in the close vicinity.

People have exhibited creativity by stitching together left over polythene carry bags used in packaging food grain in large quantity, and using them as a roofing material, and as a covering for walls.

7.5. CITY AREA (Outside Old City)

People in these slums pursue varied jobs ranging from fabricator, carpenter to Gumtee owners (shop for low priced products), pan shopkeepers, motor vehicle drivers, casual laborers, sweepers, hawkers, vendors etc. these people serve local needs.

People here being relatively better as compared to other slum dwellers rely on second hand products, which find application for different purposes ranging from clothes to means of entertainment.

7.6. BANGANGA

People in these slum pockets serve as casual laborers, workers in the nearby Sanwer Road and Laxmi Bai Nagar industrial area. Poorest among the slum dwellers manage to construct their houses by collecting *santi* (a type of agricultural waste), and then by putting a layer of clay that is mixed with cow dung, a very common practice in villages from where they belong. It is rendered waterproof by covering the walls with poorest quality of polythene sheets, which costs them about Rs. 5/- for a meter

length. And cooking area is made fire proof by covering the wall with flattened tin sheet.

7.7. ROLE OF SLUMS IN THE CITY

Slums in the study area are a source of cheap labor. They offer services to the urban system as a whole. Shop attendants on all kinds of shops, fabricators, carpenters, masons, drivers of motor vehicles, mechanics on auto repair and service shops, waiters in hotels, restaurants and in catering services, scrape dealers, rag pickers, casual laborers in organized and unorganized sectors; workers in small-scale industries, all belong to slums.

Shopkeepers need assistants to help them on the shop and for improving their sales by extending home delivery of goods, any of the construction projects requires masons, mistry, helpers, laborers, fabricators, furniture show rooms rely on carpenters, city need drivers to transport people and goods from one place to other within city or beyond its boundaries. It is hard to imagine hotels, restaurants, and catering services without waiters, industries would not function without workers, transporters will be rendered jobless without laborers to load/ unload their goods. Modern life style demands such as delivery of newspaper, milk, merchandise, etc. at doorstep, and persons to clean house, wash utensils, and clothes and cooking meals. Thus it can be established that slums serve the city, while city provides them job with opportunity, hence both are interdependent, and one cannot survive without other.

All above said services are essential for efficient functioning of the city. However people offering above services are invariably paid very low due to their poor educational background. (c.r. Table no. 15-19; chapter 5). Under such circumstances income of an individual are not enough to support expenditure, consequently, often, more than one family member contributes in the household income (c.r. Table no. 22 – 25; chapter 5). Especially women support their households with subsidiary income through home-based occupations such as beetle nut cutting, beedi making, broom making, stitching readymade clothes, packaging of products, sorting of grains, pulses spices etc. making food products such as papad, making toys, scent sticks, cutting sleeper straps, and also by serving domestic servants, which again serves the city. However income by any one of the above said sources is never more than Rs. 40 a day.

7.8. ROLE OF SLUM DWELLERS TOWARDS MAINTAINING SLUMS

It is yet to discover a literature where role of slum dwellers is identified as that of maintaining slums. It is seldom realized that services of slum dwellers are equally important for their own survival. They run parallel economy, which serves their requirement. Weekend markets, and full-fledged market for second-hand goods like clothes, crockery, footwear, books, cheap ready-made clothes, furniture, cosmetic and hosiery, and Gumtees (temporary shops) and footpath Thela shops of fruits, grains, vegetable, etc. just next to formal market make existence of slum dwellers in the city possible by providing goods at affordable cost to them, and also by providing job opportunities to them. This arrangement is a product of need and demand of their lifestyle, most importantly, without any formal support. Entrepreneurship of slum dwellers is realized through such arrangement.

Slum offers job to sweepers who are slum dwellers themselves, through Jajmani (being host) that is by being acting host to him. A sweeper is assigned either a street or an area that is to be maintained clean. In return he receives part of a day's meal and gifts on festivals, along with minimal cash say Rs. 10 a month from each house in the area assigned. Thus it helps them to survive even in poverty.

While urbanized citizenry is over cautious about health and hygiene, vendors of eatables such as cheap bakery products, ice creams, sweets, and variants of standard products serve to slum dwellers, who himself is a slum dweller; similarly while it is fashionable to identify themselves with product carrying designer label, host of tailors, shoemakers, cobblers etc. serve non other than slum dwellers. This argument can be carried forward, but central idea remains the same that slum dwellers besides serving the rest of the system are essential for existence of slum as a system.

7.8. CONCLUSION

It can be concluded from the above discussion that while city's residents as a whole and that of immediate neighborhood in particular, provide jobs and also materials for construction of house to slum dwellers, as a by product of their lifestyle, slum dwellers recycle waste generated by the city, and provide city's residents services that are essential to them at very low cost. Thus slums and city have a relationship that is interconnected and interdependent hence slum is a sub-system of the urban system. However, it is also established that slums are also essential for survival of slum dwellers themselves.

POPULATION PROJECTION

8.1. INTRODUCTION

Demographic change is inherently a long-term phenomenon. Unlike populations of insects, human populations have rarely been subject to 'explosion' or 'collapse' in numbers. Moreover, the powerful long-term momentum that is built into the human age structure means that the effects of fertility changes become apparent only in the far future. For these and other reasons, it is by now conventional practice to employ the technology of population projection as a means of better understanding the implications of trends.

A projection is a 'what if' exercise based on explicit assumptions that may or may not themselves be correct. As long as the arithmetic of a projection is done correctly, its utility is determined by the plausibility of its central assumptions. If the assumptions embody the plausible future trends, then the projection's output may be plausible and useful. If the assumptions are implausible then so is the projection. Since the course of demographic trends is hard to anticipate very far into the future, most demographers calculate a set of alternative projections that taken together, are expected to define a range of plausible futures, rather than to predict or forecast any single future. Since demographic trends sometimes change in unexpected ways, it is important that all demographic projections be updated on a regular basis to incorporate new trends and newly developed data.

It is difficult to work out exact estimates of future population of a city because the factors on which growth of population is dependent cannot be foreseen or forecasted with accuracy. Too many variables, and even unknown factors are involved in the estimation. In any case very accurate estimates are not required for the purpose of current study.

8.2. MATHEMATICAL METHOD

Mathematical methods, though less frequently employed to estimate the population as compared to Component method, have been adopted in the present investigation, since the later requires individual projection of mortality, fertility, immigration and emigration, for which neither the time nor the resources permit. Nevertheless, the purpose of the study is well served by using mathematical methods.

8.2.1. GEOMETRIC METHOD

Geometric Curve with annual as well as continuous compounding is applied for making population projection, by using average growth rate of previous three decades. Since growth rates are likely to change in the long term, it has been used only for making short-term projections for the year 2011. Mathematical equations used for the calculations are as follows:

Geometric curve with annual compounding:

$$P_t = P_0 (1+r)^t$$

Population for the year 2011 with above formula is 24.73 Lakhs.

Geometric curve with continuous compounding:

$$P_t = P_0 e^{rt}$$

Population for the year 2011 with above formula is 24.94 Lakhs.

8.2.2. DECENNIAL GROWTH METHOD

In this method average decennial rate of growth of preceding three decades is taken for estimating the population. It is assumed that trend of growth set forth by the city during the last two or three decades is likely to influence the future trend of growth. This does happen when forces responsible for the growth of population are mature and stable. The estimated population for the year 2011 from this method comes out to be 23.29 Lakhs.

8.2.3. FITTING CURVE METHOD

Although a series of demographic data may not be subject to any mathematical law, the data may follow a typical trend or pattern that can be represented empirically by some mathematical equation. Curve fitting requires finding of a suitable equation to represent that trend or pattern. Census data of previous ten decades for the study area shows an exponential trend. Sophisticated method such as Least squares method is adopted to arrive at most suitable fitting curve. Second-degree polynomial appears to be best fit in the demographic trend of the study area (Figure 12). The equation that represents the curve is as follows:

$$Y = A + Bx + Cx^2$$

To calculate the values of constants, following three equations are solved:

$$\Sigma y = A N + B \Sigma x + C \Sigma x^2$$

$$\Sigma xy = A \Sigma x + B \Sigma x^2 + C \Sigma x^3$$

fitting curve (polynomial)

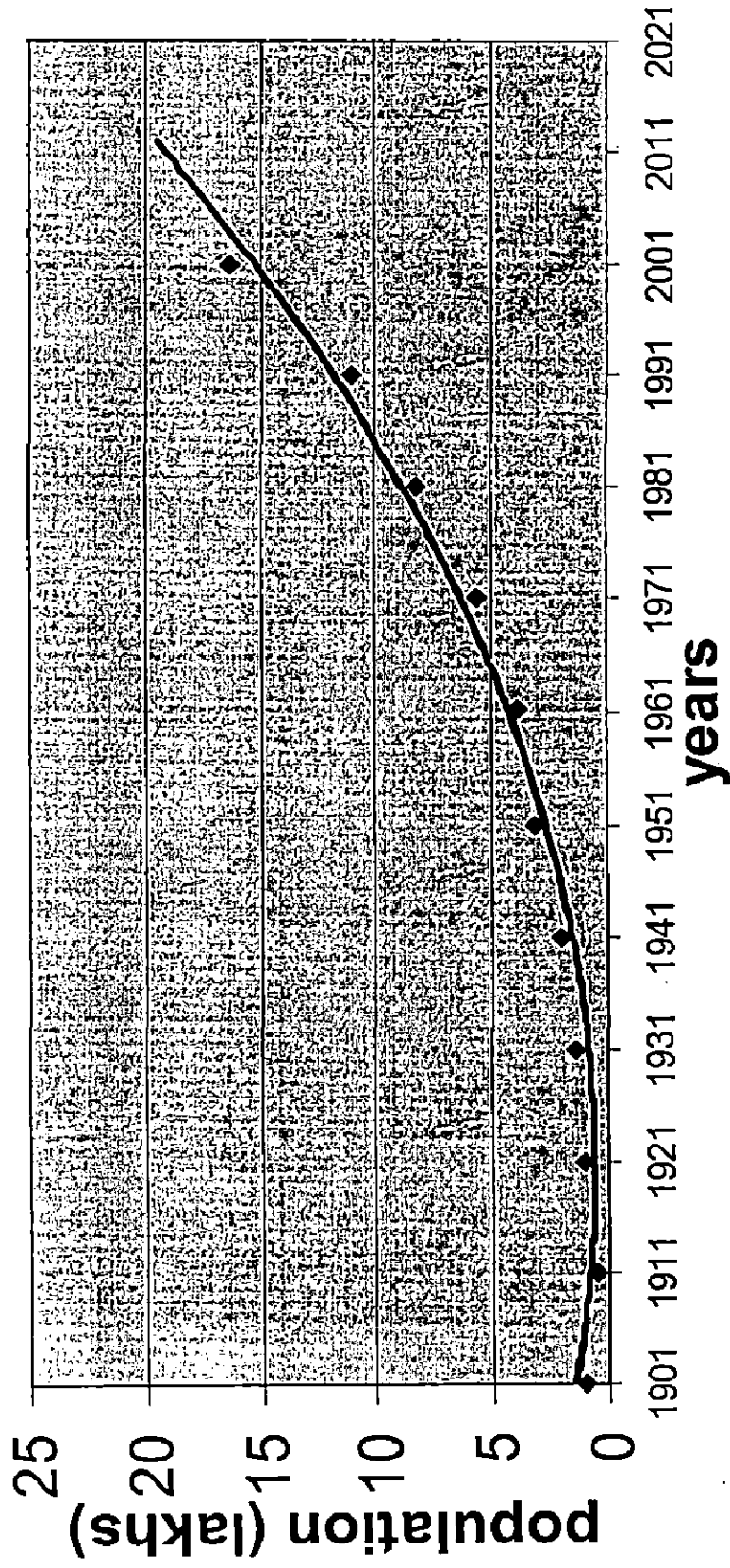


FIGURE 12: POPULATION PROJECTION BY FITTING CURVE METHOD

$$\Sigma x^2 y = A \Sigma x^2 + B \Sigma x^3 + C \Sigma x^4$$

The population for the year 2011 with this method comes out to be 19.08 Lakhs

DISCUSSION:

TABLE 8.1 SUMMARY OF RESULTS

Method	Projected population (lakhs)	Decennial Growth rate (%)
Geometric method (annual)	24.73	54.56
Geometric method (continuous)	24.94	54.93
Decennial growth method	23.29	45.56
Fitting curve method	19.08	19.25
Average	23	43.75

From the above table it is evident that while population projection is too unrealistic in the case of geometric methods, fitting curve too assumes unrealistic growth rate. However these two methods exhibit extreme trends. Therefore average of all the results is taken as the final figure. It is justified since it falls closest to the national figure for decennial growth rate of population in cities, which is placed at 40% for the decade.

8.3. PROJECTED SLUM POPULATION

Assuming city's population to be 23 lakhs, by the year 2011, estimated slum population in the city will be 6.44 lakhs @ 28% (current percentage of population in the city). With current slum population placed nearly 4.5 lakhs, approximately 2 lakh slum dwellers will be added by the end of the decade.

8.4. PROJECTED HOUSING AND AREA REQUIREMENT

Assuming addition of slum population to be approximately two lakhs, while six is the average household size in the slum pockets of the study area. The approximate number of houses required for them totals to 33, 000, by the end of the decade. It would require 13.2 hectares of land @ 40sq.m. land per household, which is an average accommodation size in the study area.

RESULTS AND DISCUSSION

9.1. INTRODUCTION

Discussions of various results that have been evolved from the analysis of the primary survey are very much essential to understand the functions of the system, and thereby evolving a suitable planning model. Here the results of various types of analytical work of different aspects like, Education, socio-economic, physical infrastructure, Accommodation size, ownership right and desire to shift for better living, willingness to pay, choice of construction method, priorities for house improvement and essential services has been discussed in different angles and inferences have been evolved based on the results and discussions.

9.2. RESULTS OF PHYSICAL SURVEY**9.2.1. EDUCATION**

Slum dwellers in the study area have higher literacy, however, their percentage decreases toward higher education. Three-fourth of the total number of households has primary education; three-fifth of them have education up to eighth standard, while there are only one-third of the total households together have with secondary and higher secondary education. There is insignificant number of graduates, among the slum dwellers.

9.2.2. OCCUPATION

Majority of the slum dwellers in the study area depends on earning from daily wage from organized that is formal or from unorganized that is informal sector, and most often from the later. Significant number of slum dwellers is engaged as hawker, vendor, waiter, artisan, mechanic, sweeper, and as helper in various trades. However, most of these households have a subsidiary earning from home-based activities, such as, broom, scent stick, beedi and toys making, packaging, sorting grains, pulses and spices, and stitching bags, ready-made clothes etc. Main source of households' earning is from self-employment of trade, transport, and manufacture and from casual labor.

9.2.3. INCOME

It is evident from the survey that larger family size and higher male members in the family results into higher household income. Majority of households in the study area earns Rs. 1500 to 3000 per month, while one-fifth of the total number of households earn less than Rs. 1500 per month, one third among these have their monthly household income from Rs. 3000 to Rs. 6000; insignificant number of households in the study area earn more than Rs. 6000 per month. Average income of these segment is Rs. 2650 per month.

9.2.4. DISTANCE TO WORK PLACE AND MODE OF TRAVEL

Majority of households has their work places within five kilometers from their houses; seventy per cent among these travel less than two kilometers to reach their work places. Consequently half of these slum dwellers walk, and another two fifth use bicycle to reach their work places. Only one-tenth of them travel use public transport. Hence majority of them save significantly on conveyance charges.

9.2.5. EXPENDITURE

Majority of households in the study area spend more than half of their monthly income on food, while they spend less than one tenth of their household income on buying clothes, recreation, social functions and less than five per cent is spent on medicine and conveyance.

9.2.6. INDEBTNESS AND THE SOURCES OF BORROWING

One third of the total households in the study area borrow as much as one tenth of their monthly household income, almost similar numbers borrow as much as one fifth of their monthly household income. However, almost one –fourth among the total households in the study area do not borrow.

The biggest single source of borrowing is friends and relatives, mainly members of the extended family. The next and somewhat similar source of loan is from employer and colleagues, it is related with continuing employment. The last source of loan to a slum dweller is moneylender; very high interest rates, short repayment periods and robust methods of collection limit the use of this source to situations of urgent need. It often involves keeping personal possessions such as jewelry or other assets as mortgage. People adopt these channels because procedures

are simple to follow, and there are few or no eligibility criteria, and also because these sources are always accessible.

Observation:

Slum dwellers have not accessed institutional loans for house building. Barriers to the provision of housing finance to the slum dwellers include the mortgage as lending instrument, the cost of funds (high interest rate), and the risk of default (due to uncertainty of job). The conventional form of securing a housing loan is through the mortgage loan, a highly formalized legal instrument, which requires clear title to the land, valuation of the property and registration that the slum dweller is unable to afford. Thus security of tenure, and regular source of income are essential to raise the affordability of slum dwellers.

9.2.7. SAVING

There are fifty eight per cent slum dwellers in the study area shown propensity to save. Almost equal percentage of households in the study area save 5-10, 10-15, and more than 15 percent of their monthly household income, only one tenth save less than five per cent of their earning.

Observation:

There are informal saving groups, (locally known as Lottery, Dainik Bachat, Pedi or Chit), sometimes known as Rotating Savings and Credit Associations. The contribution of a typical member can be as small as Rs. 5/- per day; in case of lottery it is Rs. 50/- or Rs. 100/- per month. In normal course a member gets amount equal to his annual saving through lottery once in a year. However, in an event of emergency the association gives loan, which is to be repaid along with regular contribution. Defaulter is debarred from the membership of the association. Peer pressure and fear of social humiliation ensures regular repayment. They are often cited as source of funds in the case of incremental construction or for meeting social expenditures.

9.2.8. ACCOMMODATION SIZE

While one-fifth the households in the study area are living in less than 200 square feet of space. While one-fourth of the total households live in more than 500 square feet of space. Households with 200-400 square feet of living space are most common in the study area. Average accommodation size, for the study area is 400 square feet.

9.2.9. EXISTING INFRASTRUCTURE

- Almost two-fifth (58%) of the households in the study area do not have access to toilet facilities. And equal numbers manage potable water from sources other than well or tube well or water tank
- Half of the households in the study area do not have wastewater drains, another one fourth of the households do not have access to dustbins for garbage disposal.

9.2.10. OWNERSHIP RIGHT AND DESIRE TO SHIFT FOR BETTER LIVING

Almost three-fifth of the households have ownership rights over land. Almost equal numbers in the study area wish to continue to live at their present places. However two-fifth of the total households in the study area have shown desire to shift for better living.

9.2.11. WILLINGNESS TO PAY

- **For acquiring land or a house:** almost one-third of the total households who desire to shift for better living, are willing to contribute more than Rs. 4000/- as their share; provided government help them through loan; Thirty per cent among these households can spare more than one-fifth of their monthly household income towards repayment of installment and the equal numbers can spare one tenth of their income, and the remaining forty per cent can pay one tenth to one fifth of their monthly household income.
- **For improving the existing house:** three-fifth of the households who desire to stay at their present places can contribute more than Rs. 4000/- as their share; provided government helps them through loan. Almost half (48%) of them can spare up to one tenth of their monthly household income; while three-fifth among these can spare one tenth to one-fifth of their income, and the remaining one-fifth of the total number of households can spare more than one-fifth of their household income for the particular purpose.

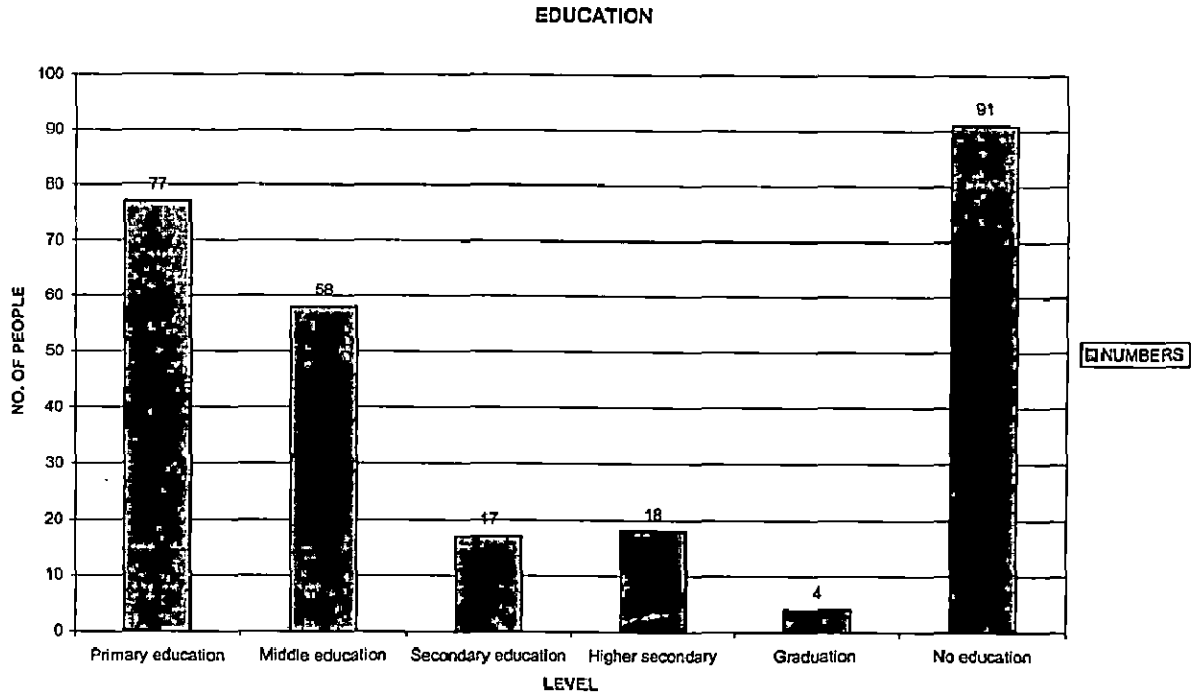
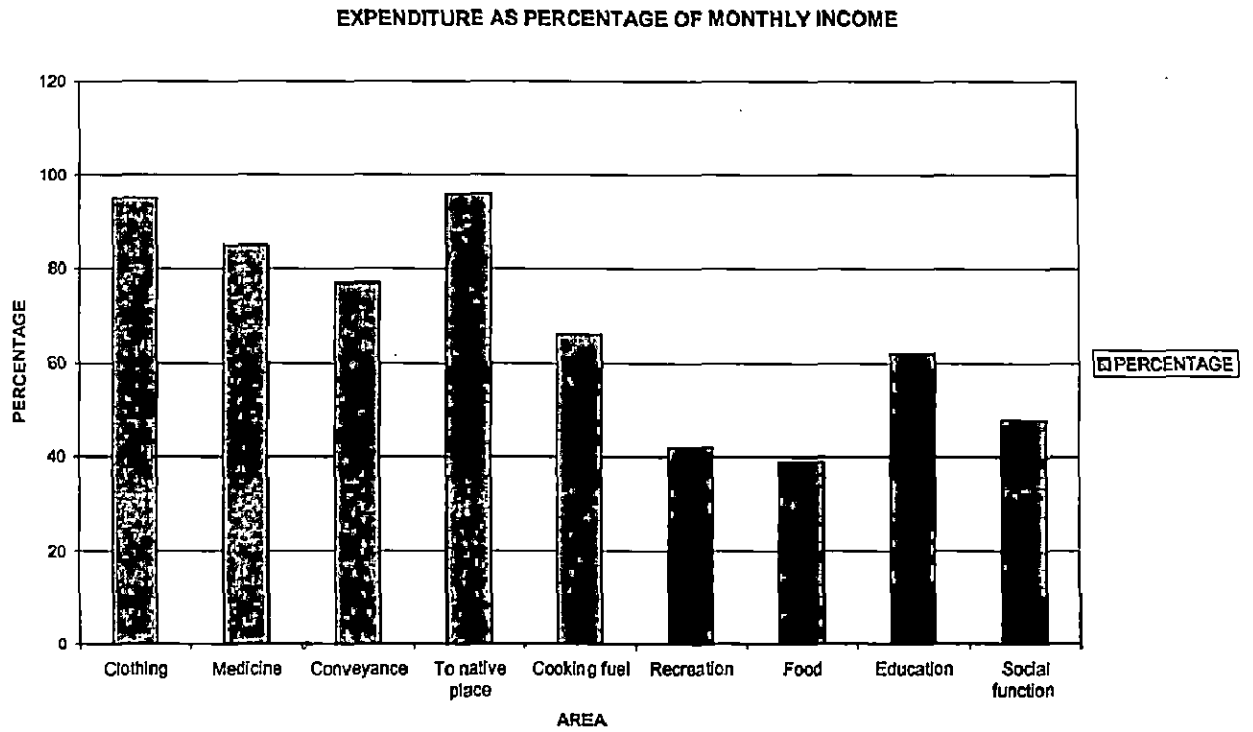


FIGURE 13

FIGURE 14



ONE TIME INVESTMENT CAPACITY PER HOUSEHOLD FOR OBTAINING A HOUSE OR LAND

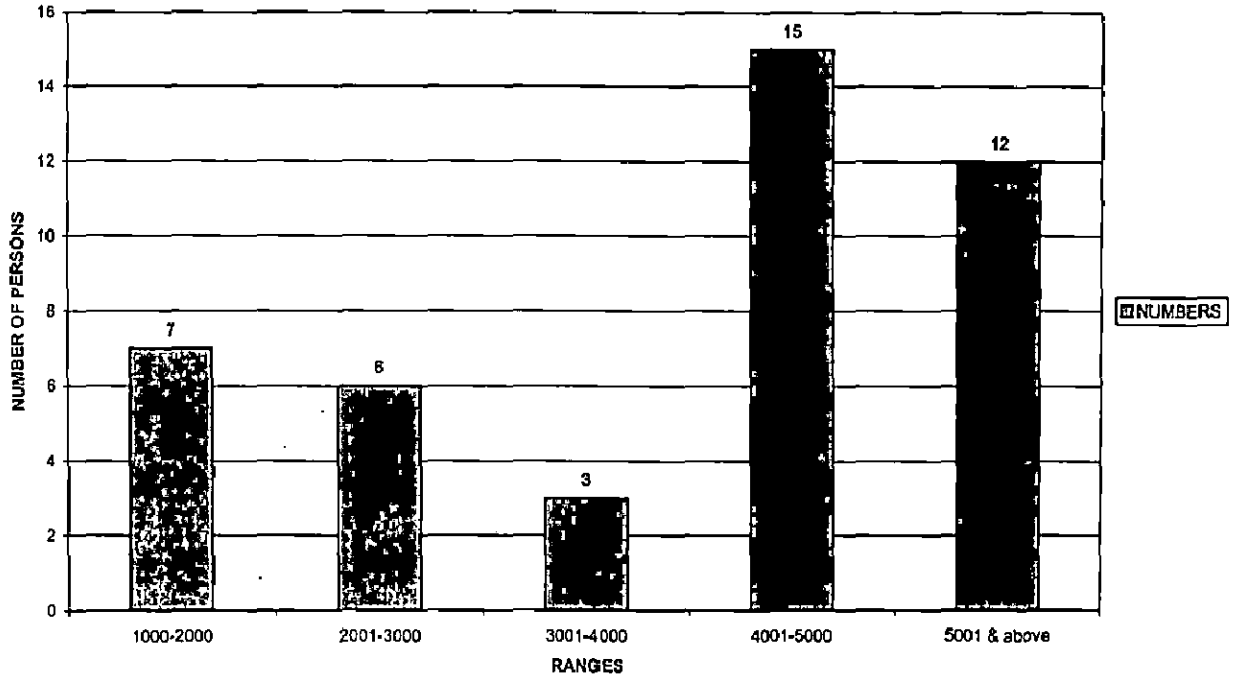
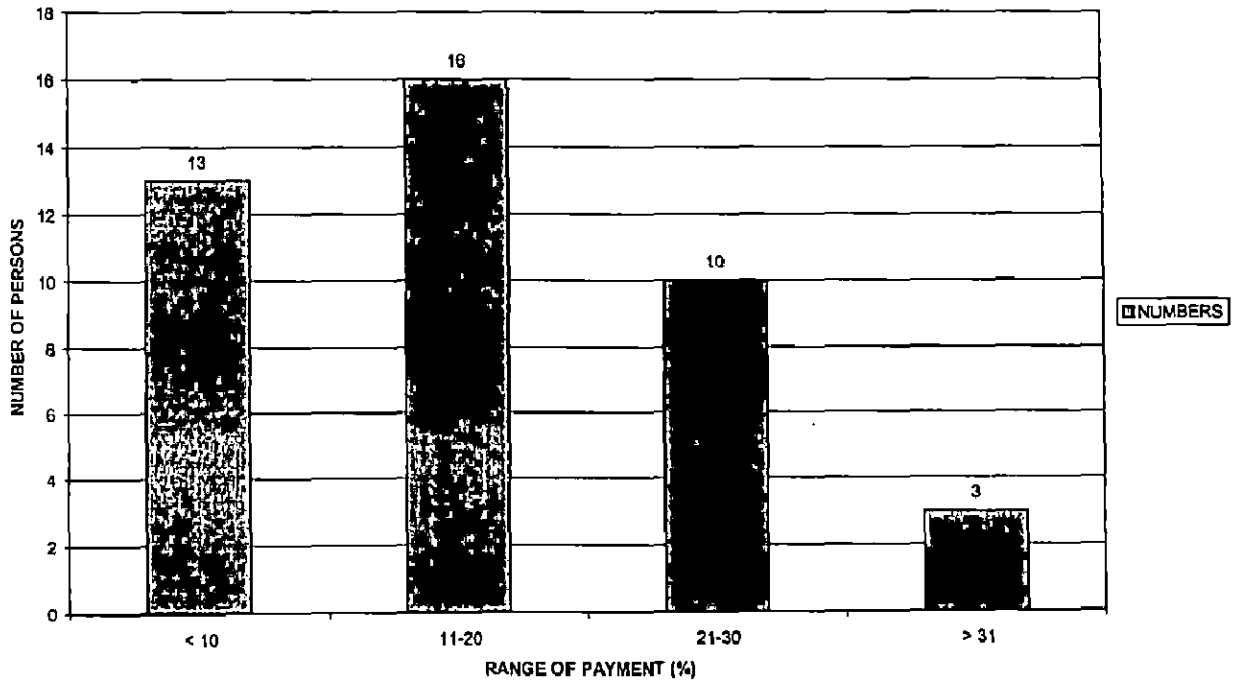


FIGURE 15

PAYING CAPACITY FOR MONTHLY INSTALLMENT AS PERCENTAGE OF MONTHLY INCOME



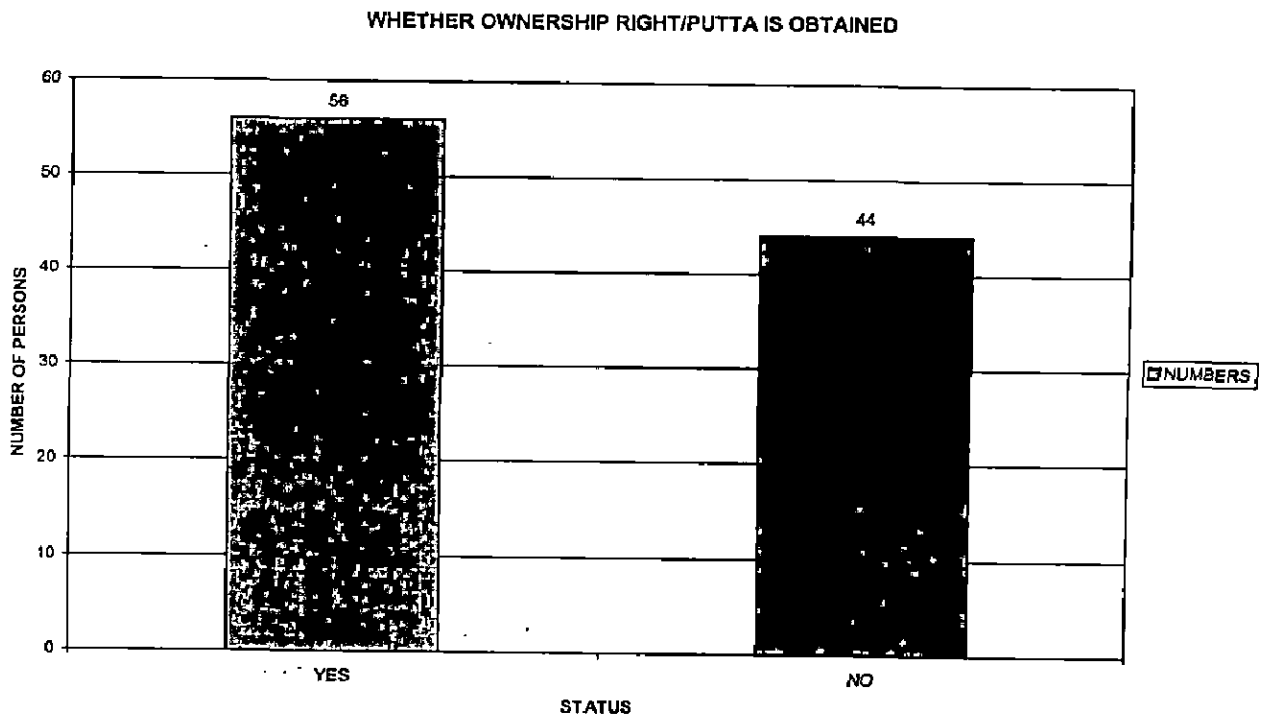


FIGURE 16

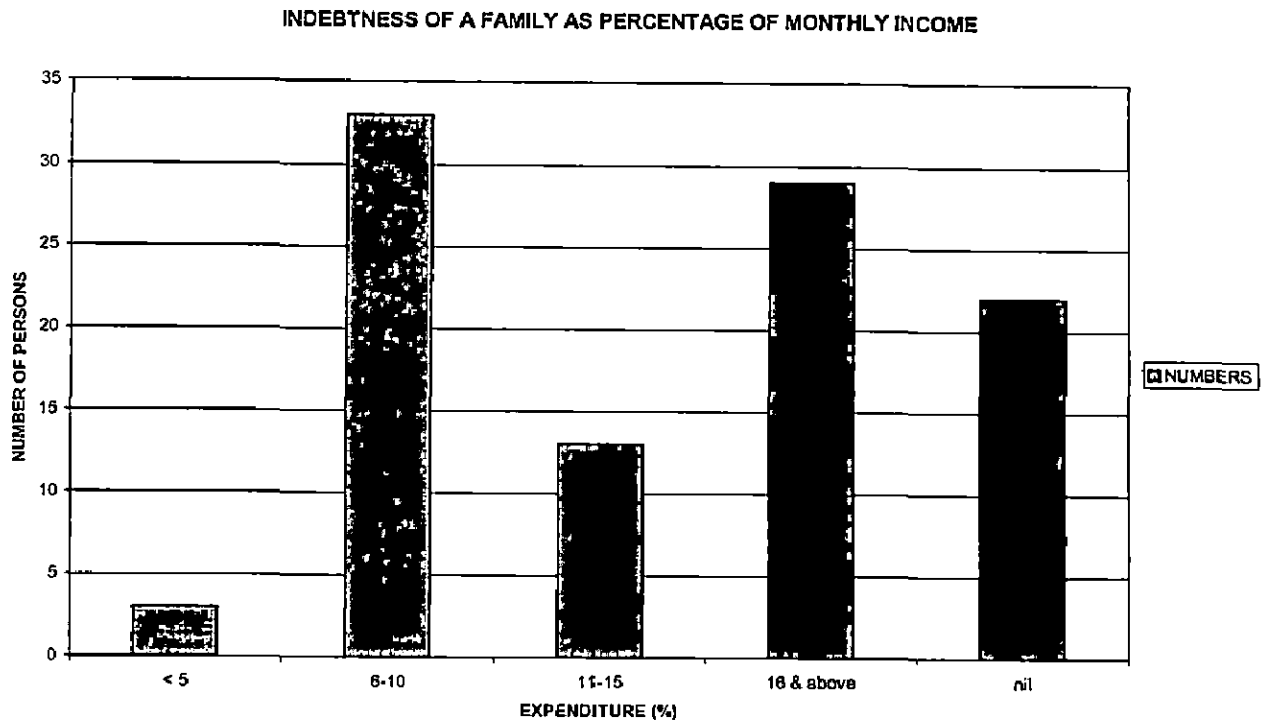


FIGURE 17

SAVINGS AS PERCENTAGE OF MONTHLY INCOME

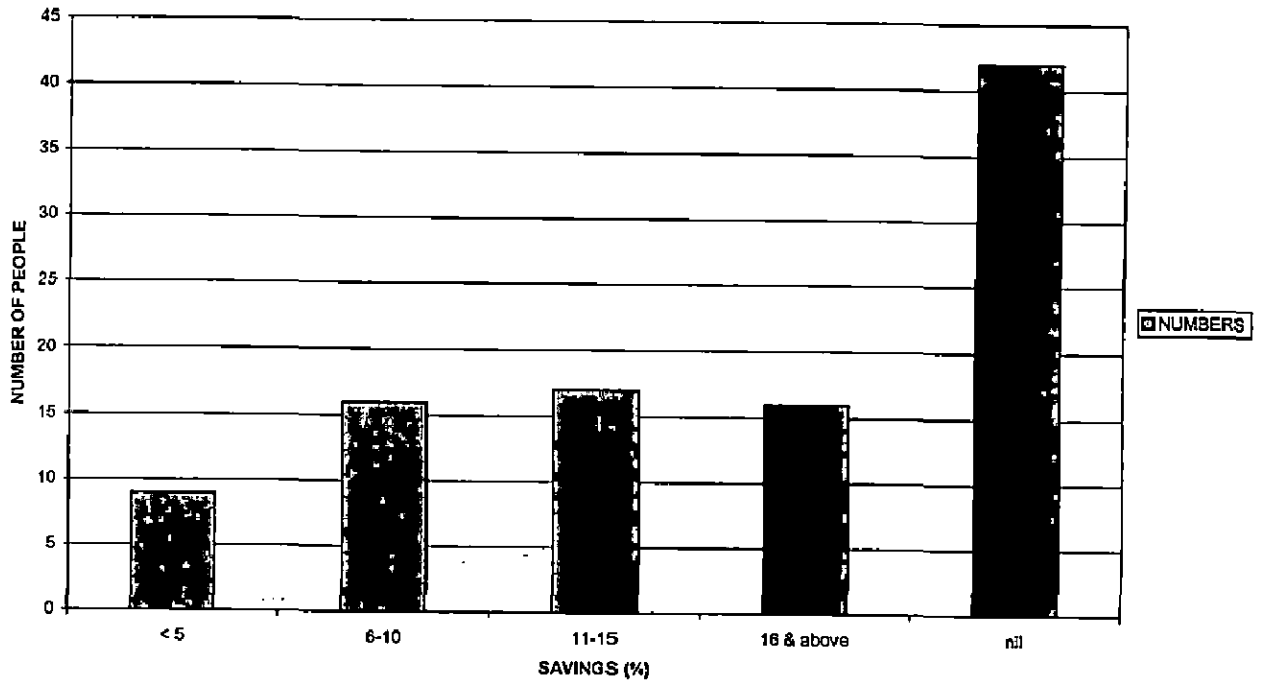


FIGURE 18

AVAILABILITY OF INFRASTRUCTURE FACILITIES

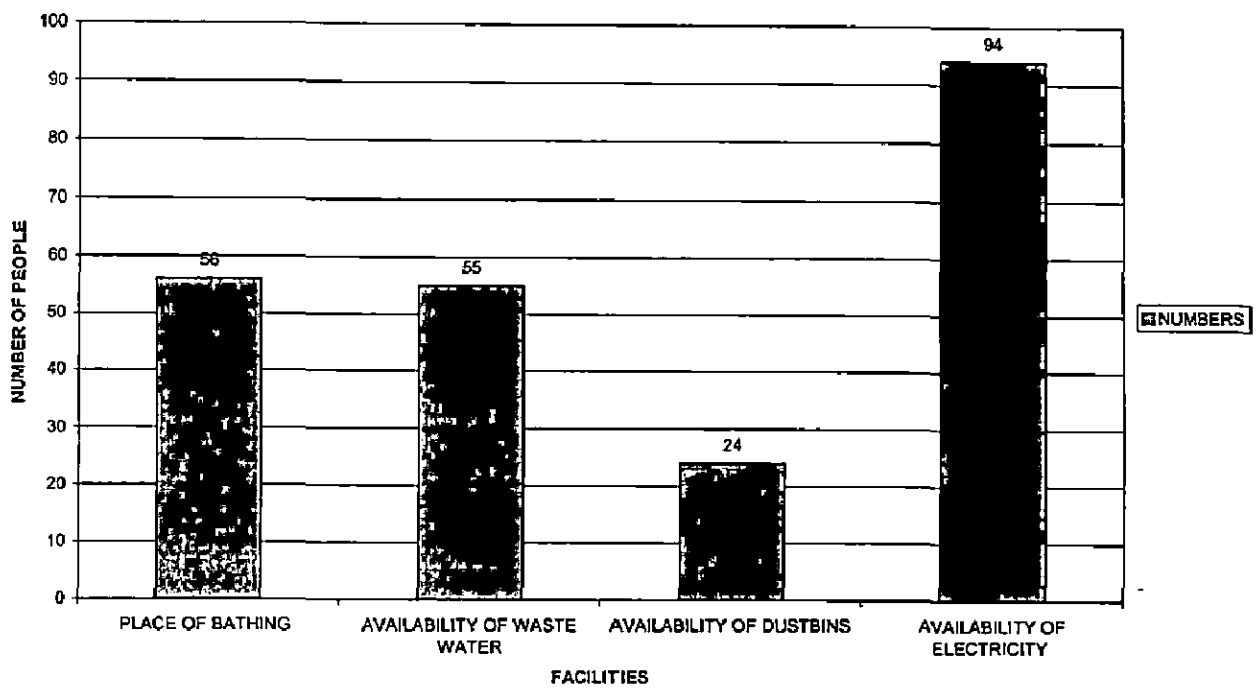
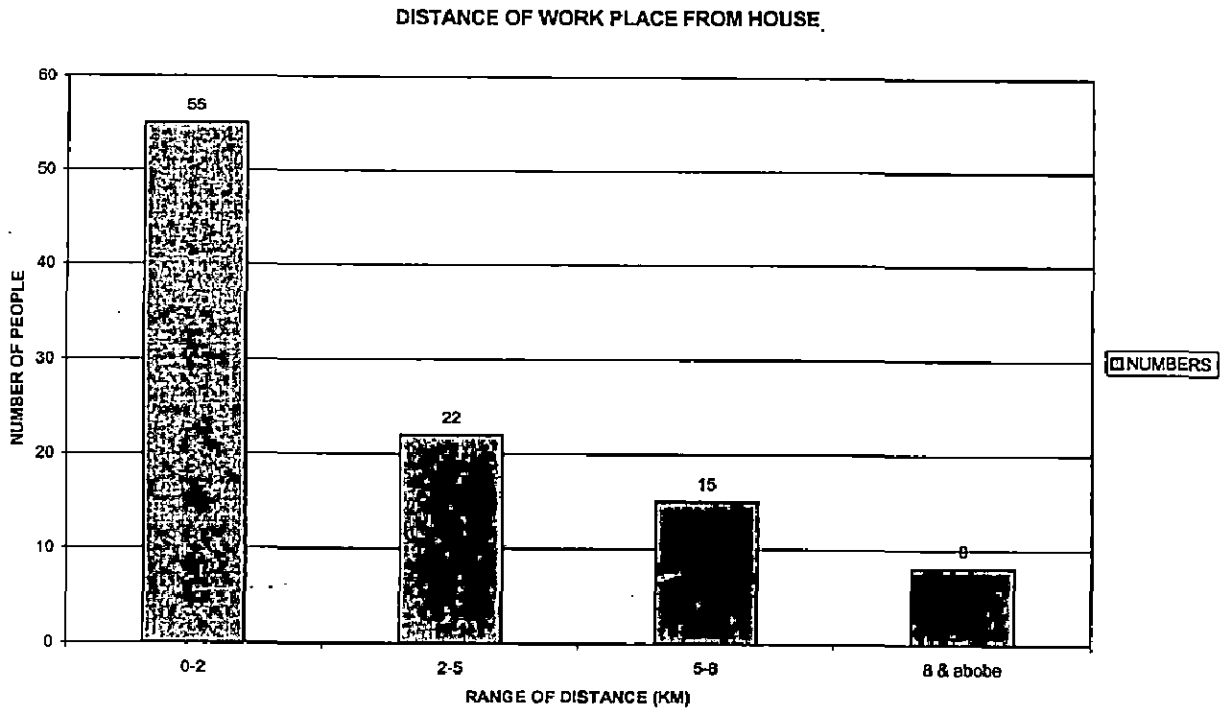


FIGURE 19

FIGURE 20



9.2.12. CHOICE OF CONSTRUCTION METHOD

Majority of the households in the study area are willing to contribute their labor for construction/ improvement of their house, and only one-third of them solely rely upon hired labor.

9.2.13. PRIORITIES FOR HOUSE IMPROVEMENT

Households in the study area have structural improvement, material improvement, and either space expansion or provision of services, as their first, second and third priority respectively for their house improvement.

9.2.14. PRIORITIES FOR ESSENTIAL SERVICES

Households in the study area have exhibited drinking water, electricity, and toilet as their first, second and third priority respectively for essential services. Provision of roads, public amenities etc. appears last as a priority. It is also obvious that the essential services, such as, drinking water, electricity, and toilet are absent in the area, and unless these services are fulfilled one cannot even think of the other basic services.

9.3. INFERENCES FROM THE LITERATURE SURVEY

Broadly, issues related to urban housing can be perceived from demand and supply side. The determinants for the demand for housing in urban India are:

- Growth of urban population and growth of households.
- Income of households.
- Availability of finance.
- Location factors
- Cost of land and construction.

The crucial factors for supply system to be effective are:

- Availability of developed land for housing at reasonable price.
- Availability of appropriate housing construction material and technology.
- Availability of housing finance.
- Availability of urban services and facilities.
- Appropriate legislative and administrative measures.

At macro level the issue of housing for the urban poor is attempted to solve by improving accessibility of urban poor to land and basic services. Accessibility of the slum dwellers to land and basic services is improved either by providing basic services or through provision of shelter and services.

However, comprehensive program includes community development through economic upliftment and skill up-gradation along with physical improvement and such program is executed within the framework of existing institutions and traditions. Community initiative and their control are essential elements of such programs. The program adopts support paradigm while seeking solution to the problem of slums. Flexibility, participation and enablement are the three major aspects of support paradigm.

Following measures are taken to incorporate flexibility:

- Range of available choices is maximized in terms of possible plan arrangements.
- Flexibility is imparted by promoting spontaneity through incorporation of decisions at various level and time periods about dwelling size, and plans.
- Flexibility promotes discovery by giving reference through careful sizing and positioning of structural and non-structural building elements.

Taking following measures incorporates participation:

- By building coalitions and fostering cooperation.
- By identifying common interests and facilitating convergence of interests.
- By identifying alternative institutional arrangements cutting across disciplines and sectoral lines.
- By establishing direct relationship among the state, the market and community organizations.

People are rendered able by adopting following measures:

- By building on local capabilities
- By devising ways for tapping the ingenuity of ordinary people and community organizations.
- By incorporating spontaneity, improvisation, and incrementalism in the planning process.

MAJOR FINDINGS BASED ON LOCATION SPECIFIC CHARACTERISTICS:

10.1. INTRODUCTION

In this chapter location specific characteristics of slum dwellers in various slum pockets, such as, level of education, occupation, distance to work place, expenditure, saving, indebtedness, ownership right, desire to shift for better living conditions, one time paying capacity towards it, and affordable monthly installment have been presented for all slum pockets.

10.2. JUNI INDORE (Old City)

Slums in the pocket have sprung up near nallah, and cremation ground. They have good accessibility to various public amenities such as health, education and market, and other facilities such as place of worship, public telephone police chowki, post office, and bank are within walking distance. Proximity to major markets such as Ada bazaar, Malganj Bartan Bazaar, Sarafa, Cloth market, Siyaganj, Raj Bada etc. have contributed to proliferation of slums in the area.

10.2.1. Education: seventy percent households in the slum pocket have primary education, while fifty five percent have their family member with middle education, however only twenty six percent among them have education up to senior secondary level, and surprisingly there is no household among the surveyed samples that has graduate in the family.

10.2.2. Occupation: slum dwellers in the pocket have occupations such as scrape collection, rag picking, domestic servants, mason, fabrication, steel furniture manufacturing, painting advertisement hoardings, hawkers, workshop worker, chef, working on tea stalls, selling second hand goods, working in a band, auto rickshaw driver, casual laborer, and home based occupations such as beedi making, beetle nut cutting, stitching readymade clothes etc.

10.2.3. Income: thirty five percent households in the slum pocket have their monthly household income less than Rs. 1500, while twenty five percent households have their monthly income between Rs. 1500 and Rs. 3000, thirty percent households in the study area have their household income between Rs. 3000 to Rs. 4500 per month.

Only ten percent households have their income between Rs. 4500 to Rs. 6000, per month.

10.2.4. Distance to work place: seventy percent slum dwellers have their work places within two kilometers, while twenty percent among them have their work places between two to four kilometers, and the remaining ten percent have it farther than four kilometers from their home.

10.2.5. Expenditure: sixty percent households in the slum pocket spend more than half of their monthly household income on food, while majority of the households spend less than ten percent on buying cloths, recreation, social functions and less than five percent on medicine and conveyance.

10.2.6. Indebtness: fifty percent households in the slum pocket borrow six to ten percent of their monthly income, while thirty percent among them borrow ten to fifteen percent of their monthly household income, however twenty percent households do not borrow.

10.2.7. Saving: eighty percent households in the slum pocket have shown propensity to save. Fifty percent households among the total surveyed households save six to ten percent, while another thirty percent save more than fifteen percent of their monthly household income.

10.2.8. Accommodation size: forty percent of the families in the slum pocket live in less than 200 square feet of space, while forty five percent among them live in 200 to 300 square feet of space. Only fifteen percent of the families in the slum pocket are having more than 400 square feet of living space.

10.2.9. Ownership right and desire to shift for better living: eighty percent households in the slum pocket do not want to leave their present places. However, only twenty percent households have ownership rights over land.

10.2.10. Willingness to pay: it is worth noting that all the households in the slum pocket have shown willingness to contribute money towards either to improve their existing dwelling or to get a new one provided government help them through loan. They are also willing to pay ten to twenty percent of their monthly household income as installment towards repayment of such loans.

10.3. Mill Area

Slums in the pocket have sprung up near nallah, and cremation ground. They have good accessibility to various public amenities such as health, education and market, and other facilities such as place of worship, public telephone police chowki,

OLD CITY

DESIRE TO SHIFT FOR BETTER LIVING

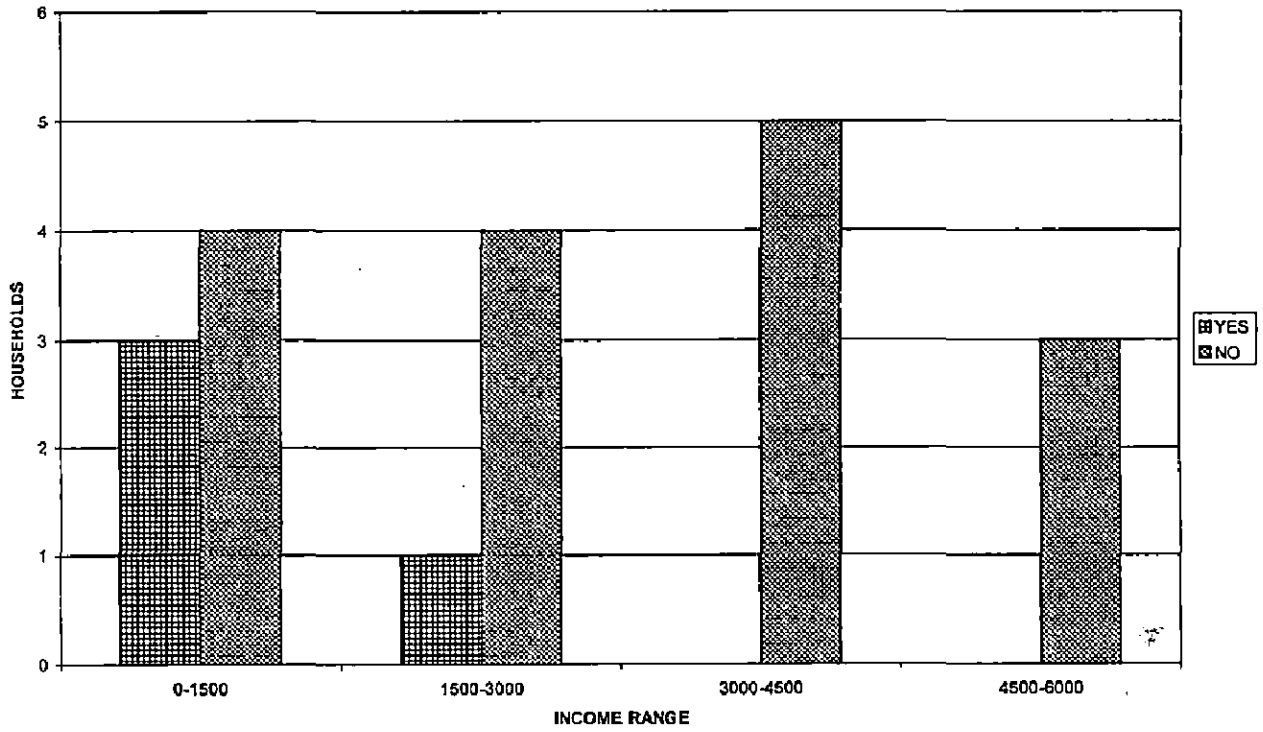
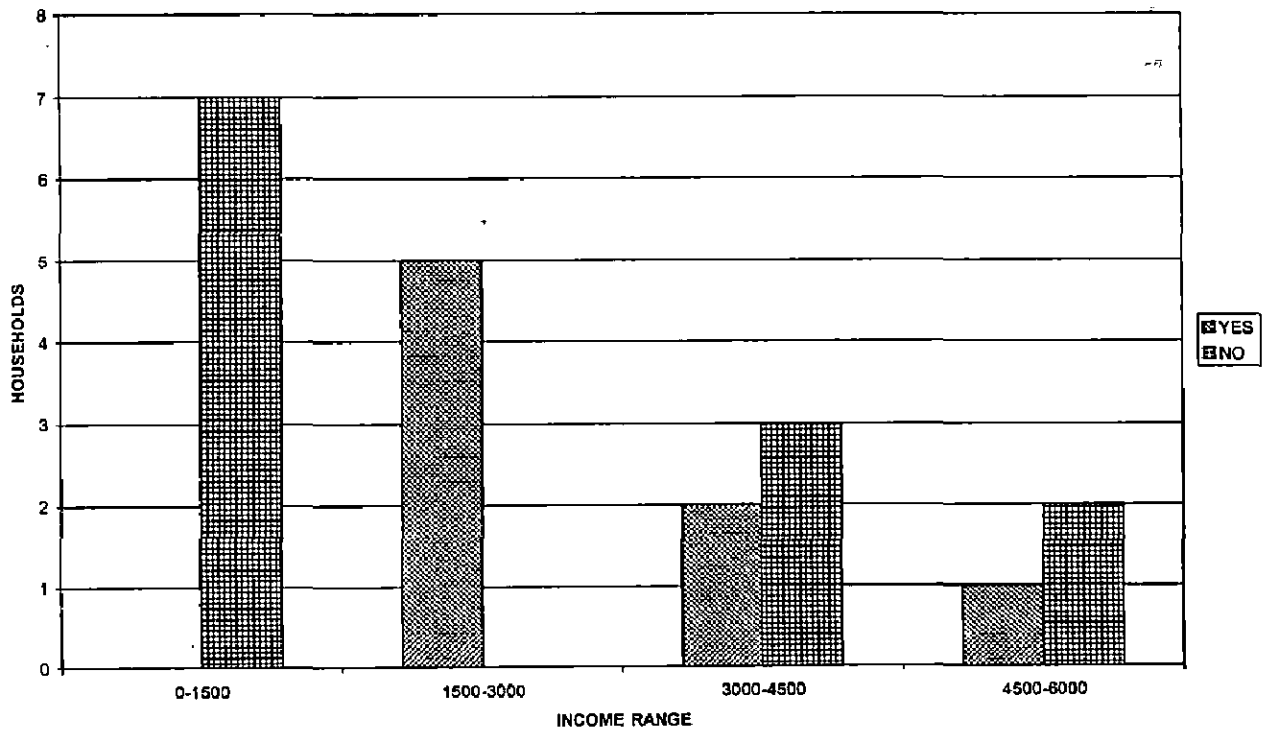


FIGURE 21 AND FIGURE 22

OWNERSHIP RIGHT



PAYING CAPACITY TO PAY ONE TIME INSTALLMENT

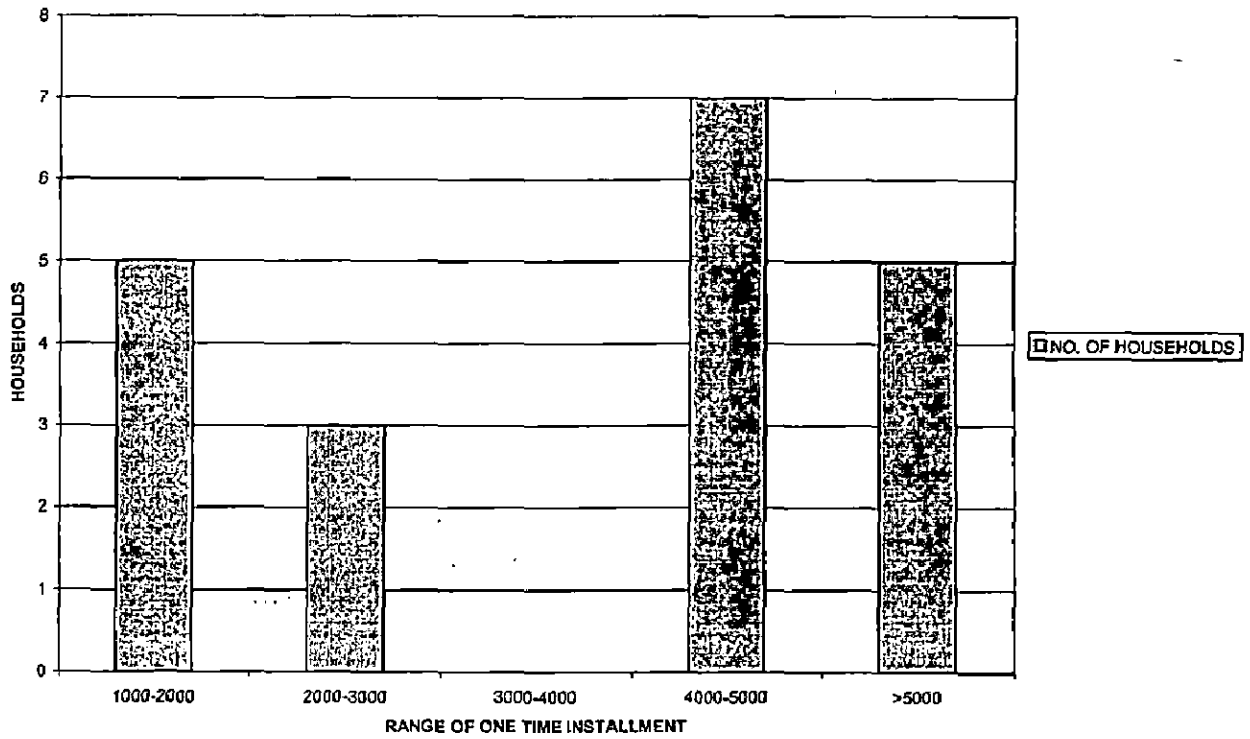
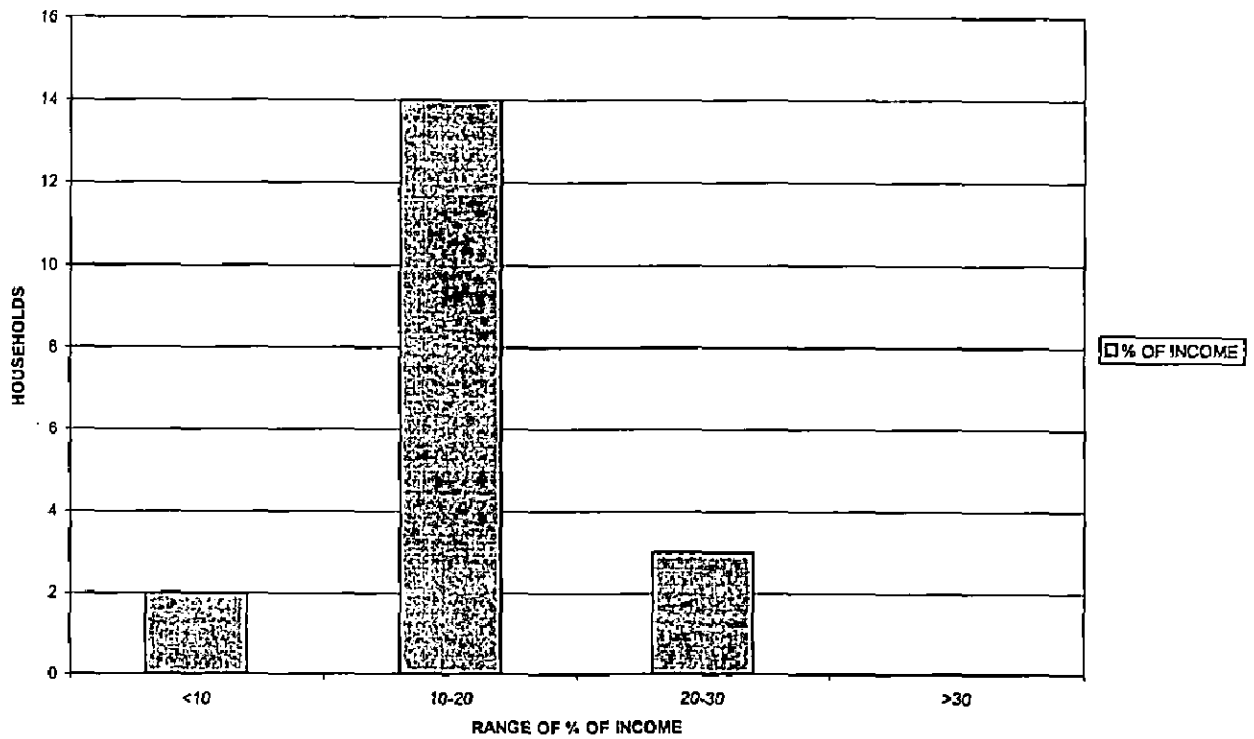


FIGURE 23 AND FIGURE 24

MONTHLY INSTALLMENT



ACCOMMODATION SIZE

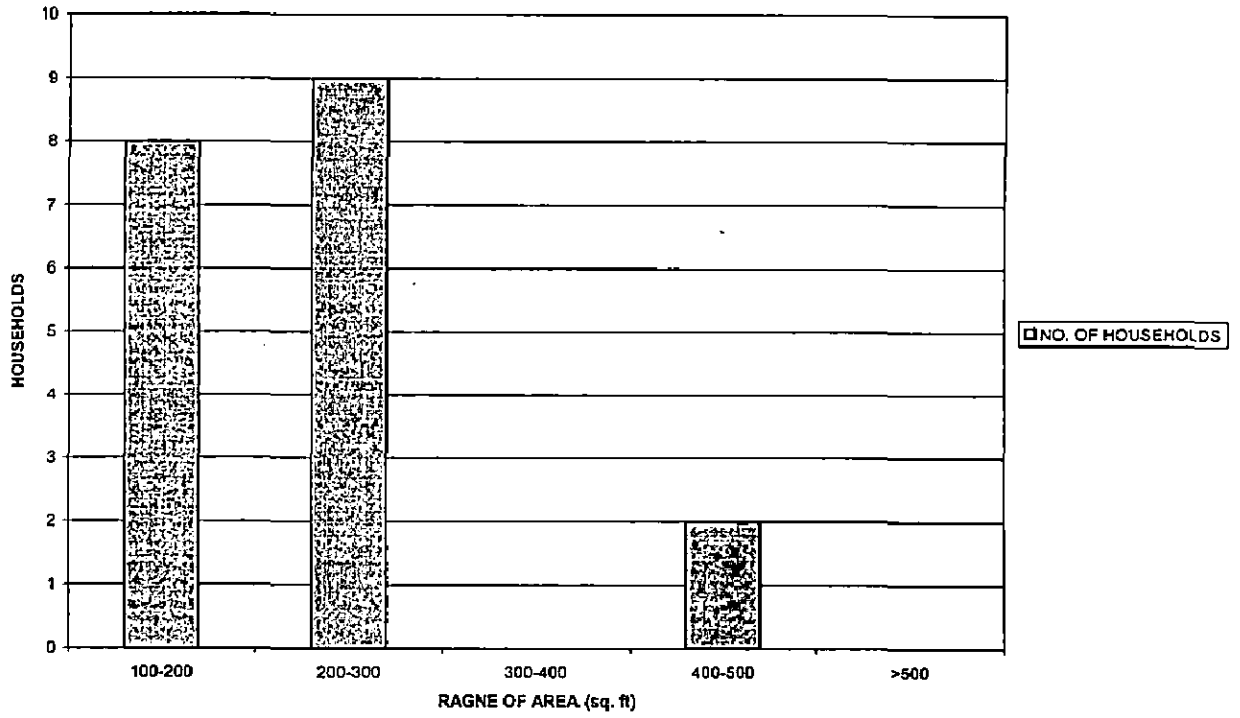
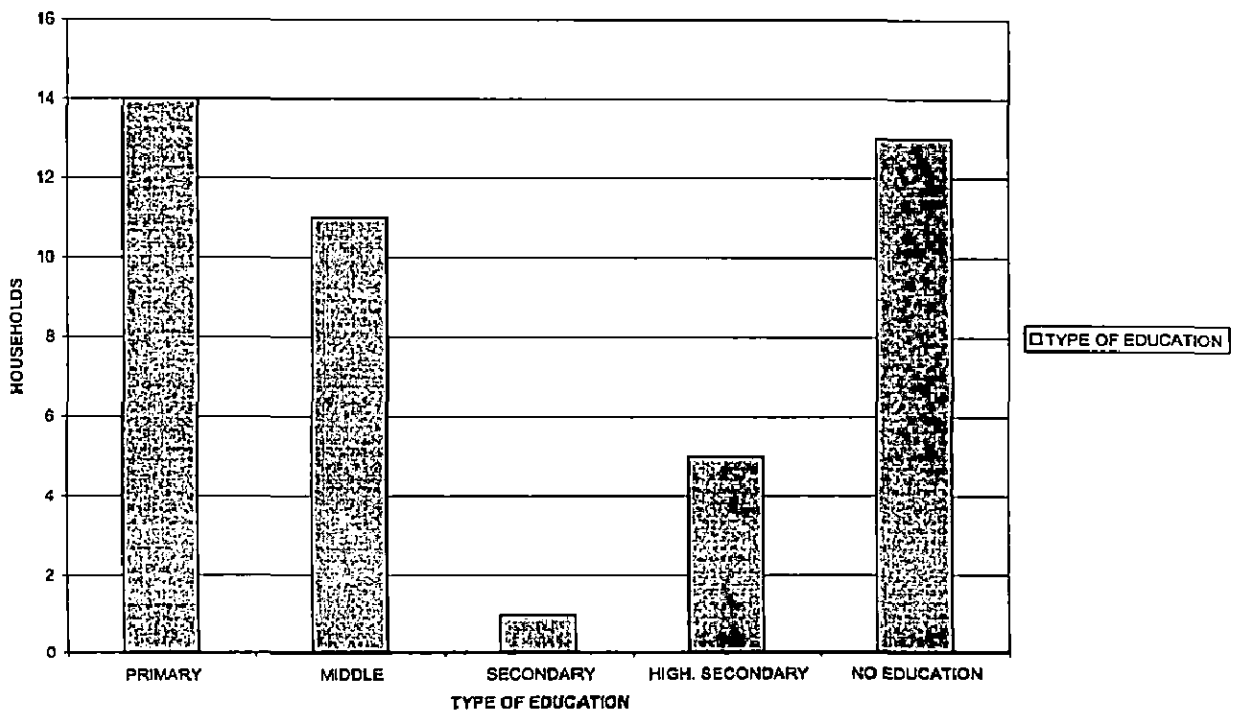


FIGURE 25AND FIGURE 26

EDUCATION STATUS



INDEBTNESS

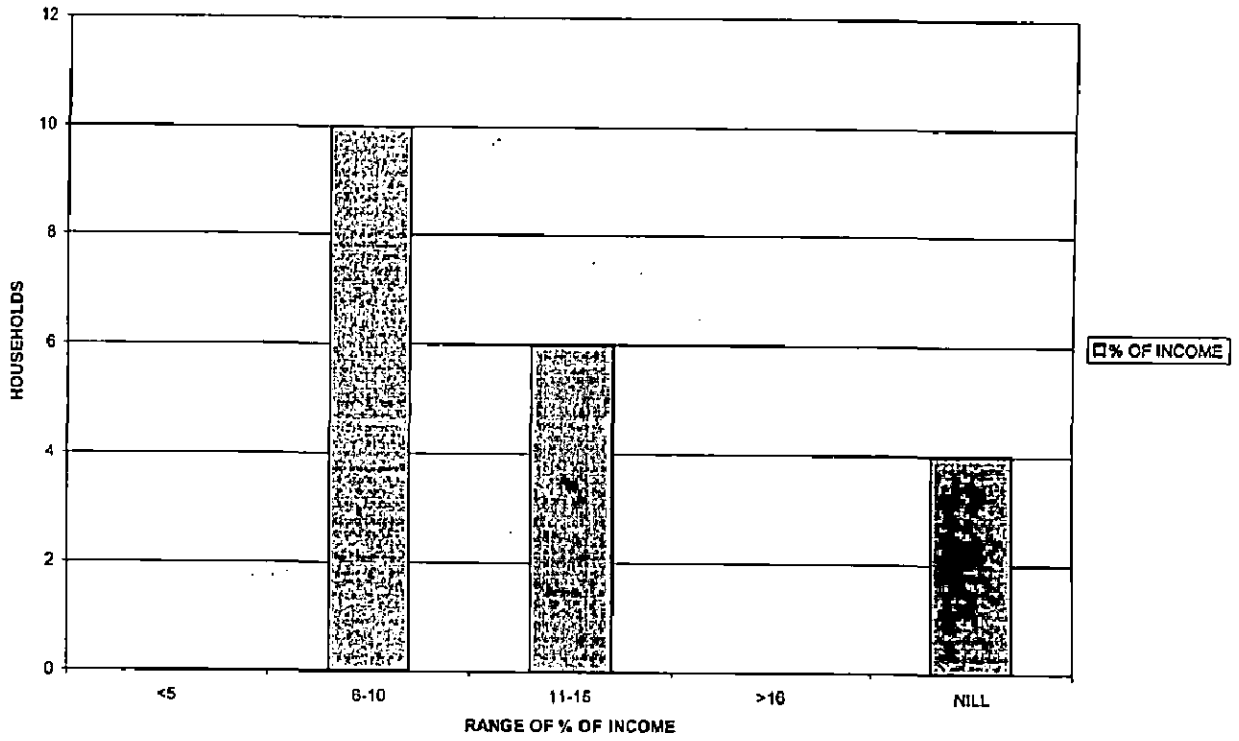
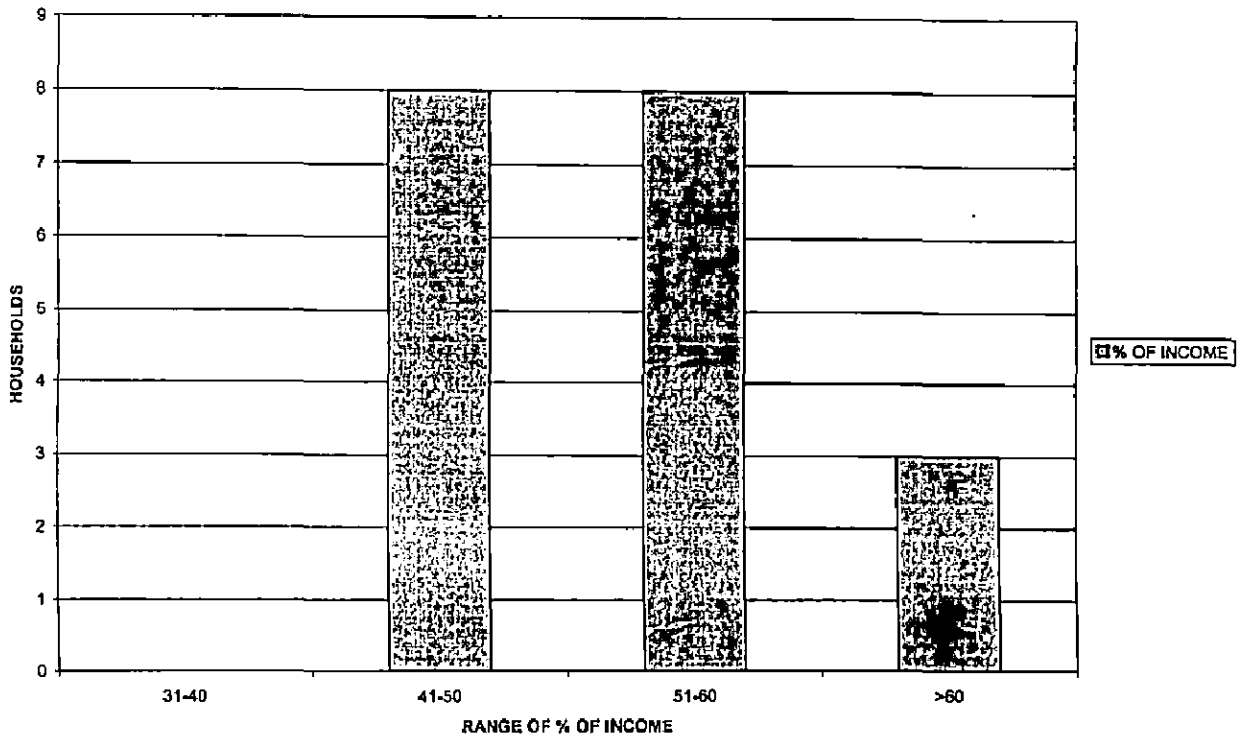


FIGURE 29 AND FIGURE 30

EXPENDITURE ON FOOD



EXPENDITURE ON CLOTHING

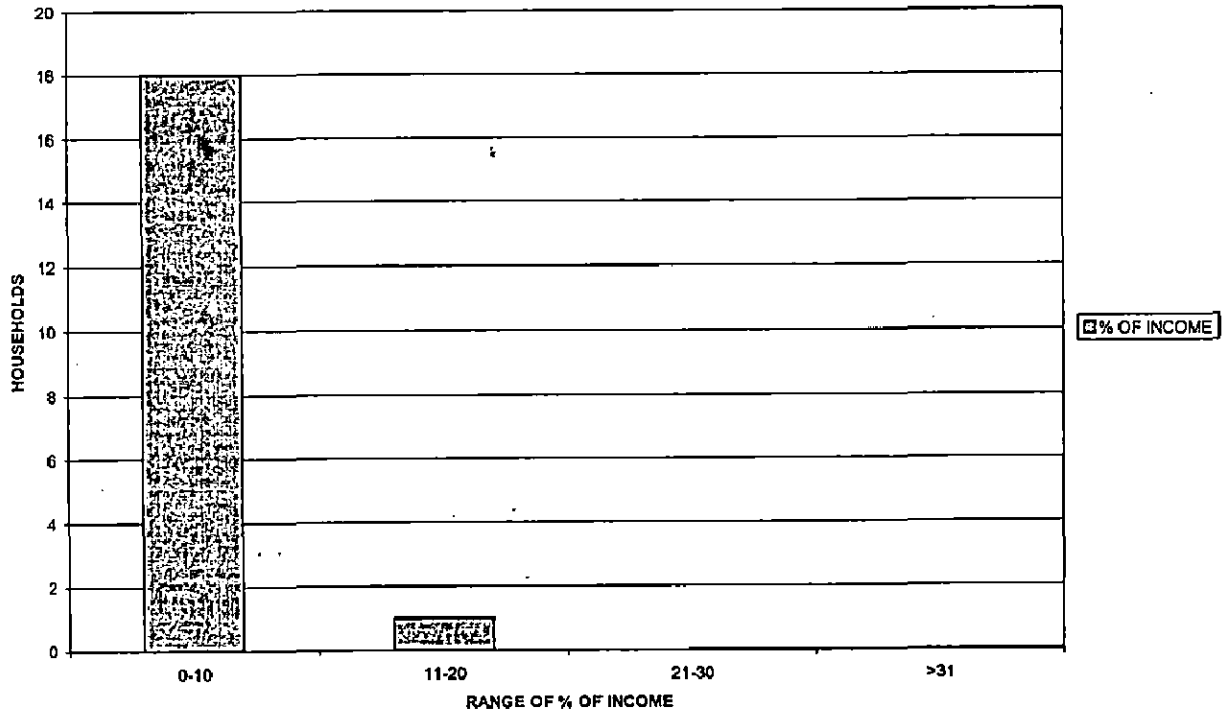
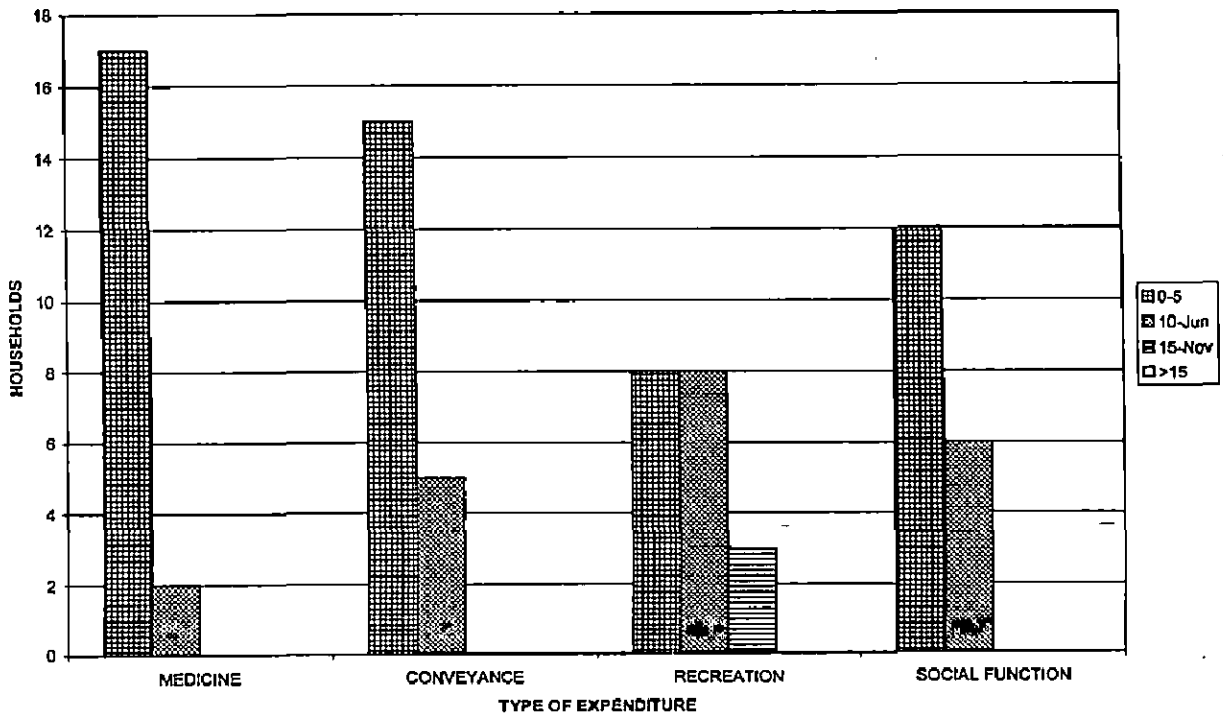


FIGURE 31 AND FIGURE 32

EXPENDITURE



post office, and bank are within walking distance. Proximity to work centers such as Malwa mill, Rajkumar mill, Hukumchand mill, Kalyan mill, and Hope mill, have initially contributed to proliferation of slums in the area. Currently large market serving slums in the area near Malwa mill offers major work opportunity to the slum dwellers of the pocket.

10.3.1. Education: seventy five percent households in the slum pocket have primary education, and equal percent have their family member with middle education, however only thirty percent among them have education up to senior secondary level, and fifteen percent household among the surveyed samples have graduate in the family.

10.3.2. Occupation: slum dwellers in the pocket have occupations such as domestic servants, mason, contractor, fabrication, steel furniture manufacturing, painting advertisement hoardings, shop keeping, hawkers, mill and factory worker, working on tea stalls, selling second hand goods, auto rickshaw driver, driver on delivery vans, casual laborer, and home based occupations such as beedi, envelop and toys making, casting brass plates for motor body, stitching readymade clothes etc, some of them are also employed in government jobs.

10.3.2. Income: forty five percent households in the slum pocket have their monthly have their monthly income between Rs. 1500 and Rs. 3000, while fifteen percent households in the study area have their household income between Rs. 3000 to Rs. 4500 per month and twenty five percent households have their income between Rs. 4500 to Rs. 6000, per month. However fifteen percent households also earn more than Rs. 6000 monthly.

10.3.4. Distance to work place: sixty percent slum dwellers have their work places within two kilometers, while twenty five percent among them have their work places between two to four kilometers, and the remaining fifteen percent have it farther than four kilometers from their home.

10.3.5. Expenditure: fifty percent households in the slum pocket spend more than half of their monthly household income on food, while majority of the households spend up to ten percent on buying cloths, recreation, social functions and less than five percent on medicine and conveyance.

10.3.6. Indebtness: forty five percent households in the slum pocket borrow six to ten percent of their monthly income, while thirty five percent among them borrow ten to

fifteen percent of their monthly household income, however twenty percent households do not borrow.

10.3.7. Saving: sixty percent households in the slum pocket have shown propensity to save. Ten percent households among the total surveyed households save six to ten percent, while twenty five percent save between eleven to fifteen percent and remaining twenty five percent save more than fifteen percent of their monthly household income.

10.3.8. Accommodation size: fifty percent of the families in the slum pocket live in more than 500 square feet of space, while twenty five percent among them live in 200 to 300 square feet of space. Only fifteen percent of the families in the slum pocket are having 100 to 200 square feet of living space.

10.3.9. Ownership right and desire to shift for better living: sixty five percent households in the slum pocket want to leave their present places. However, similar percentage of households in the slum pocket has ownership rights over land.

10.3.10. Willingness to pay: it is worth noting that all the households in the slum pocket have shown willingness to contribute money towards either to improve their existing dwelling or to get a new house; Fifty five percent households in the slum pocket can make contribute more than Rs. 5000, while thirty five percent among them can contribute Rs. 3000 to Rs. 5000, provided government help them through loan. Forty five percent households are also willing to pay ten to twenty percent, while twenty five percent can spare up to ten percent of their monthly household income as installment towards repayment of such loans.

10.4. Banganga

Slums in the pocket have sprung up near nallah, and on the government land. They have good accessibility to various public amenities such as health, education and market, and other facilities such as place of worship, public telephone police chowki, post office, and bank are within walking distance. Proximity to industrial centers such as Laxmi Bai Nagar, and at Sanwer road have contributed to proliferation of slums in the area. Slums have also grown due to social segregation of the people such as leprosy patients.

10.4.1. Education: seventy five percent households in the slum pocket have primary education, and forty percent have their family member with middle education, however only thirty percent among them have education up to senior secondary level,

MILL AREA

DESIRE TO SHIFT FOR BETTER LIVING

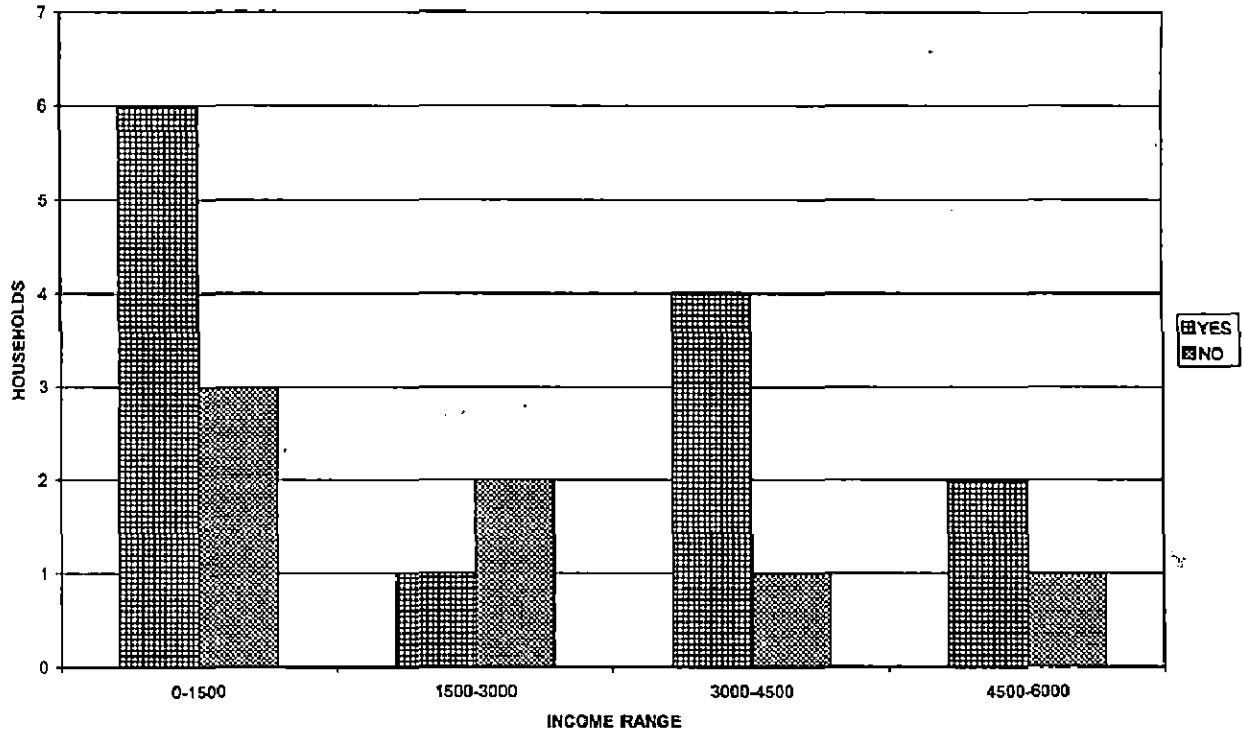


FIGURE 33

MONTHLY INSTALLMENT

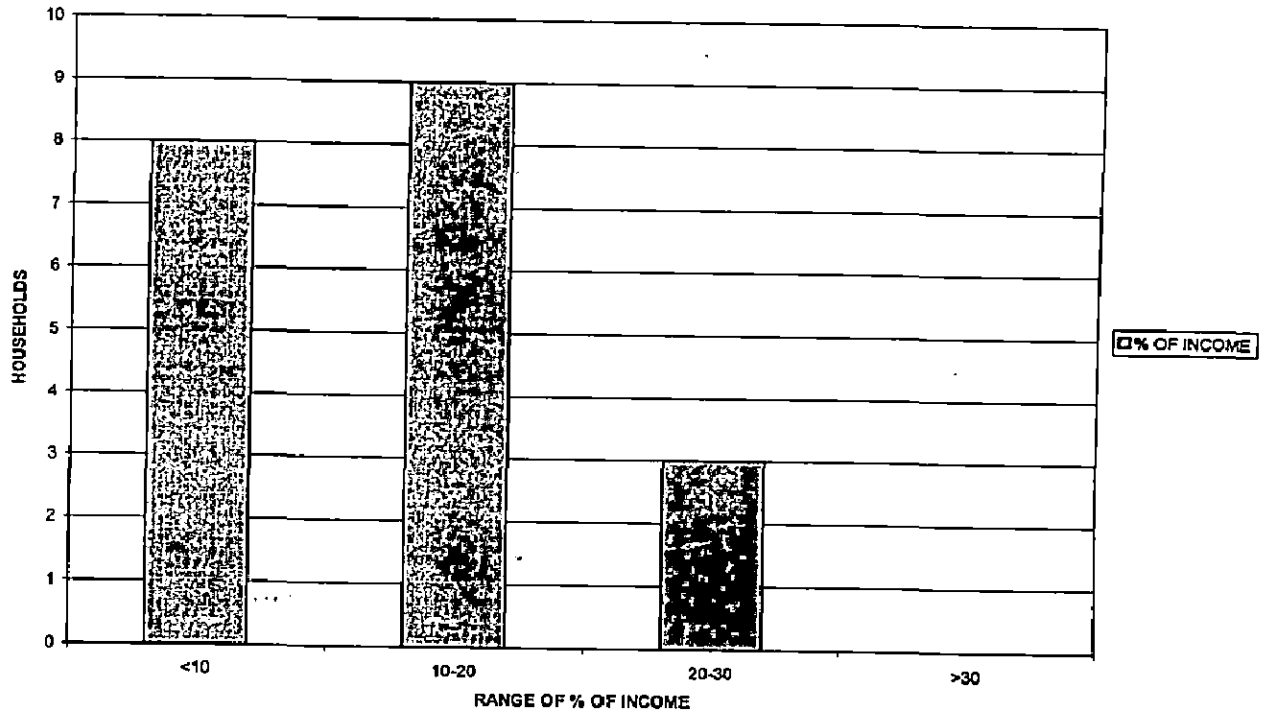
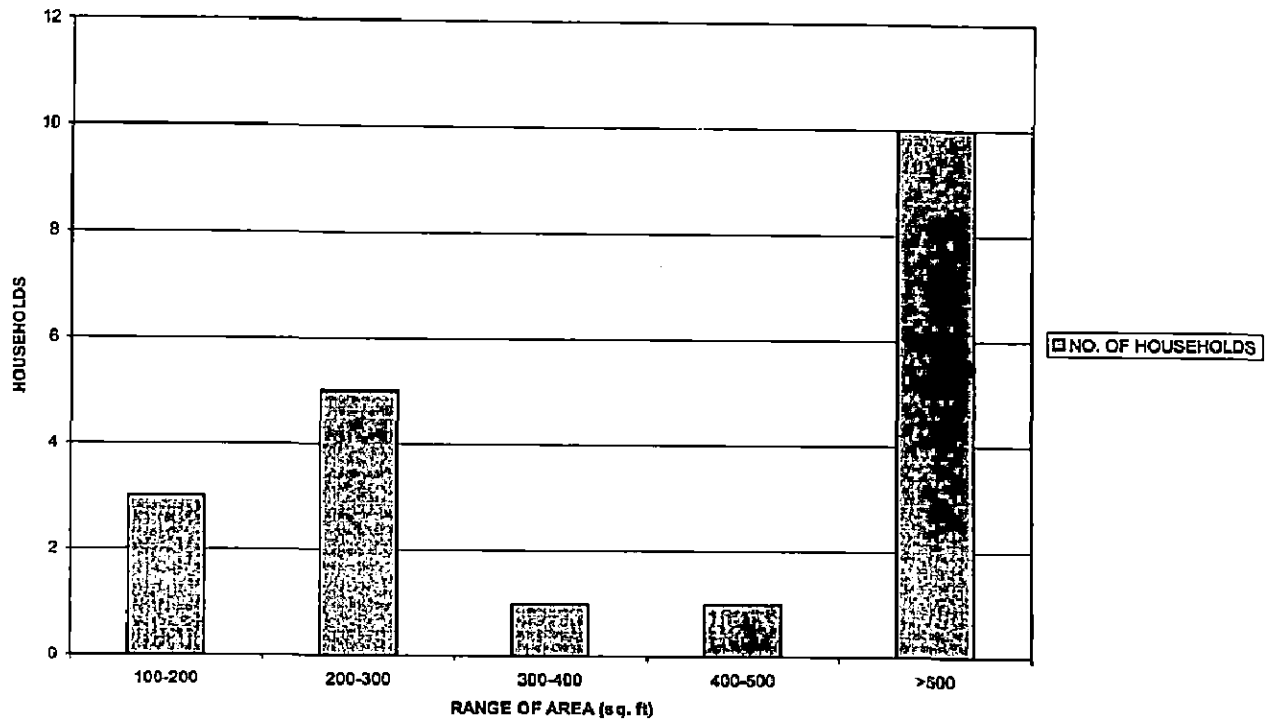


FIGURE 36 AND FIGURE 37

ACCOMMODATION SIZE



EDUCATION STATUS

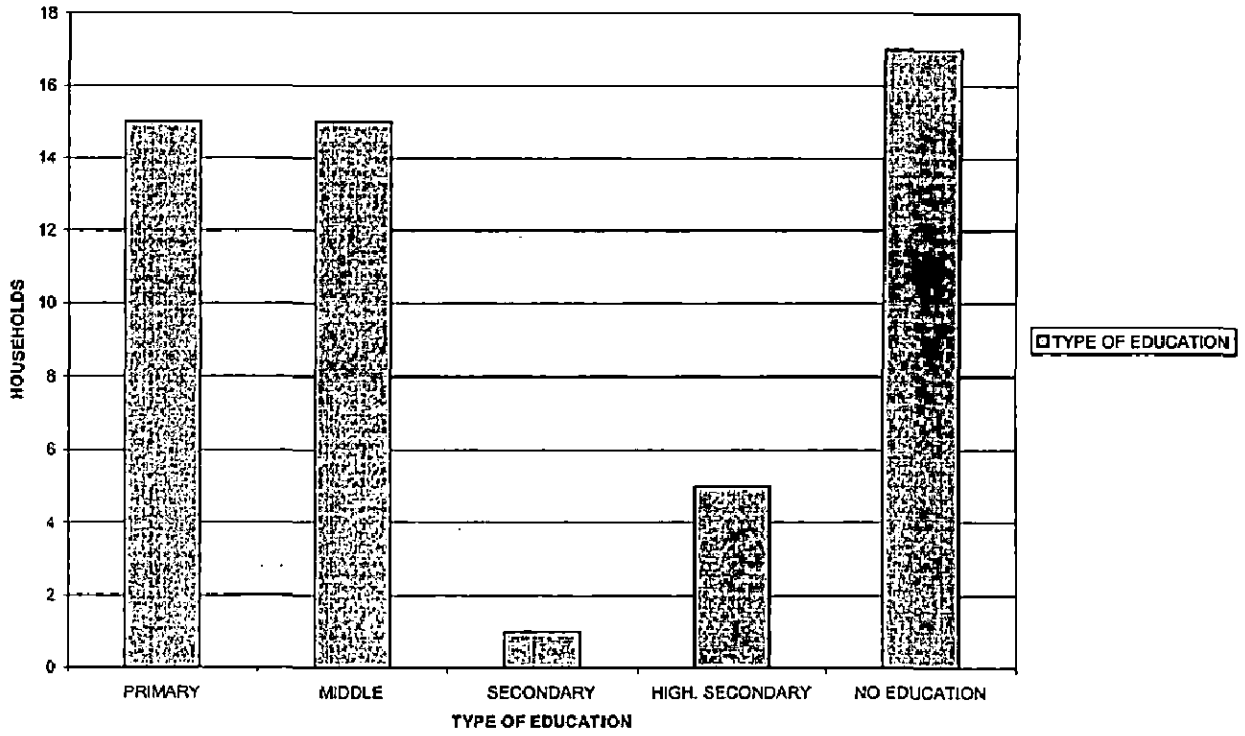
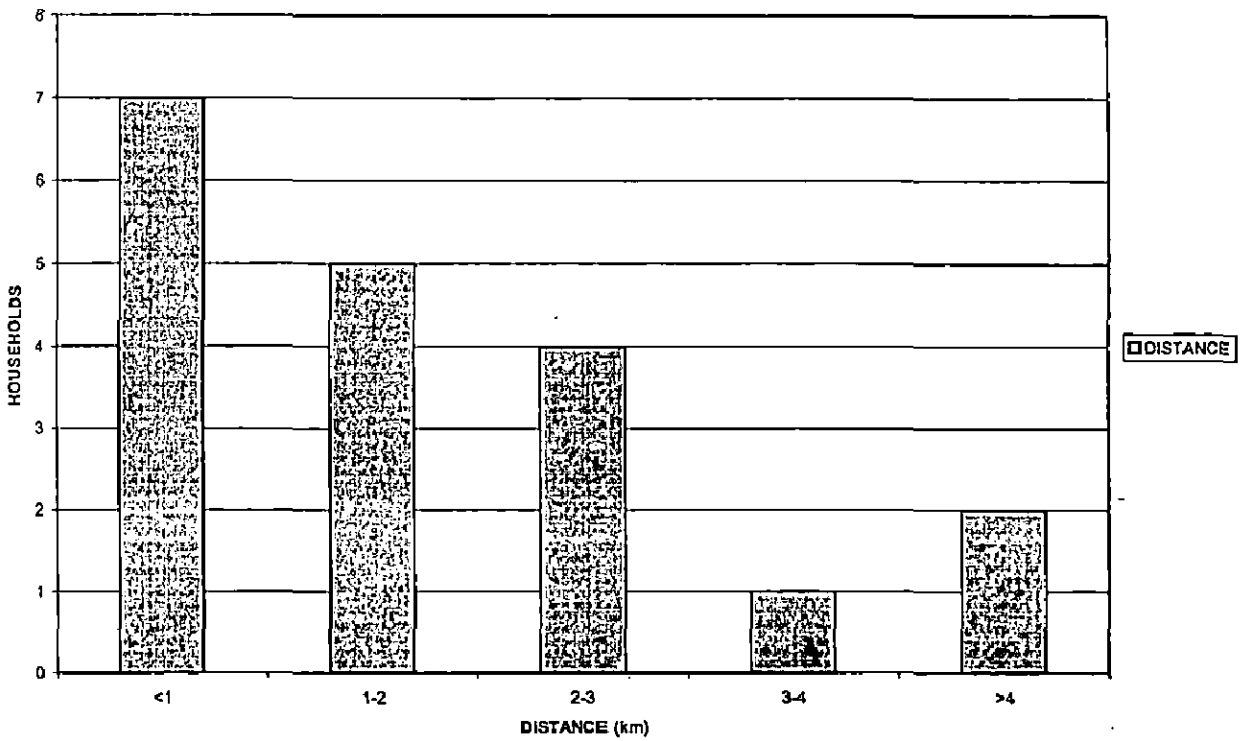


FIGURE 38AND FIGURE 39

DISTANCE TO WORK PLACE



SAVINGS

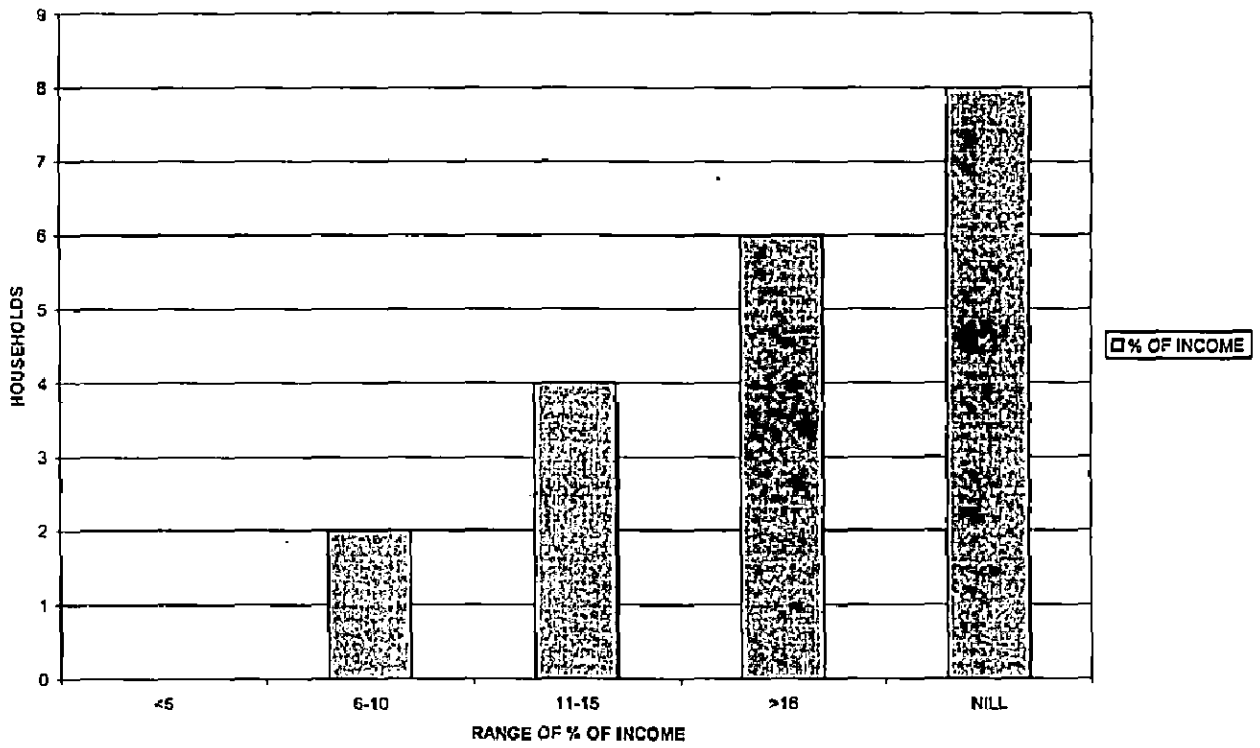
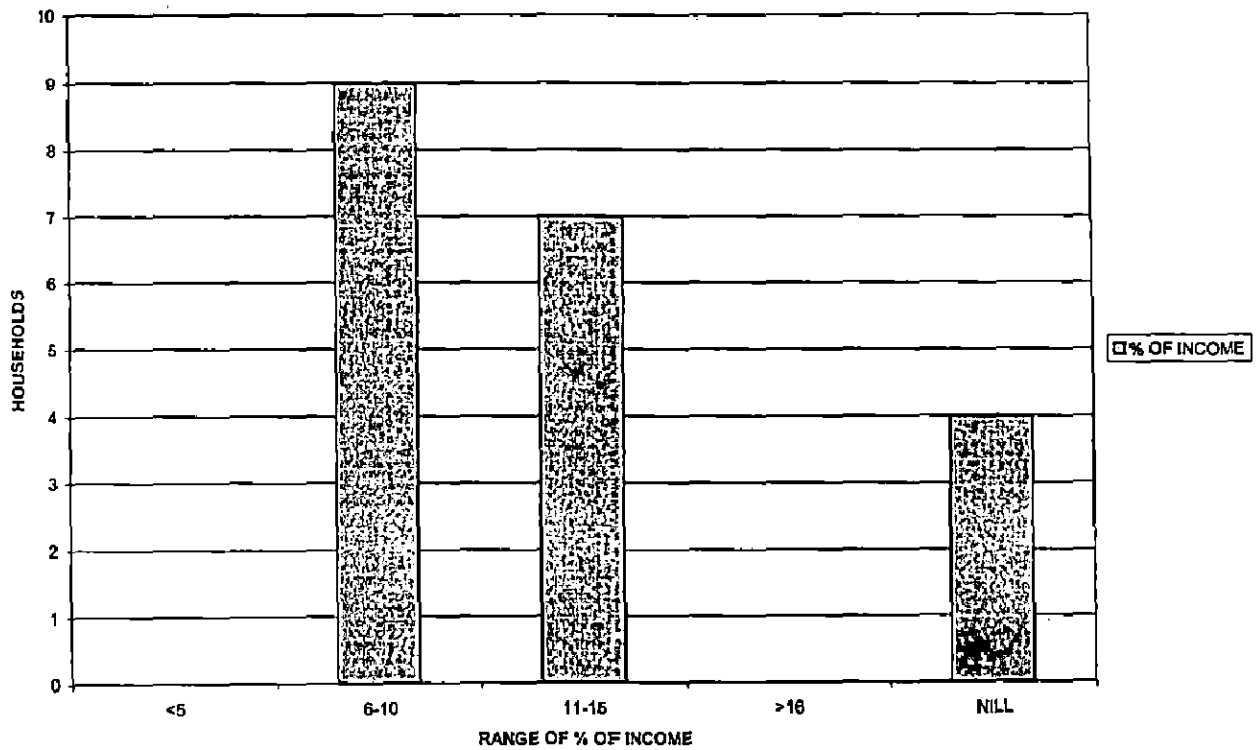
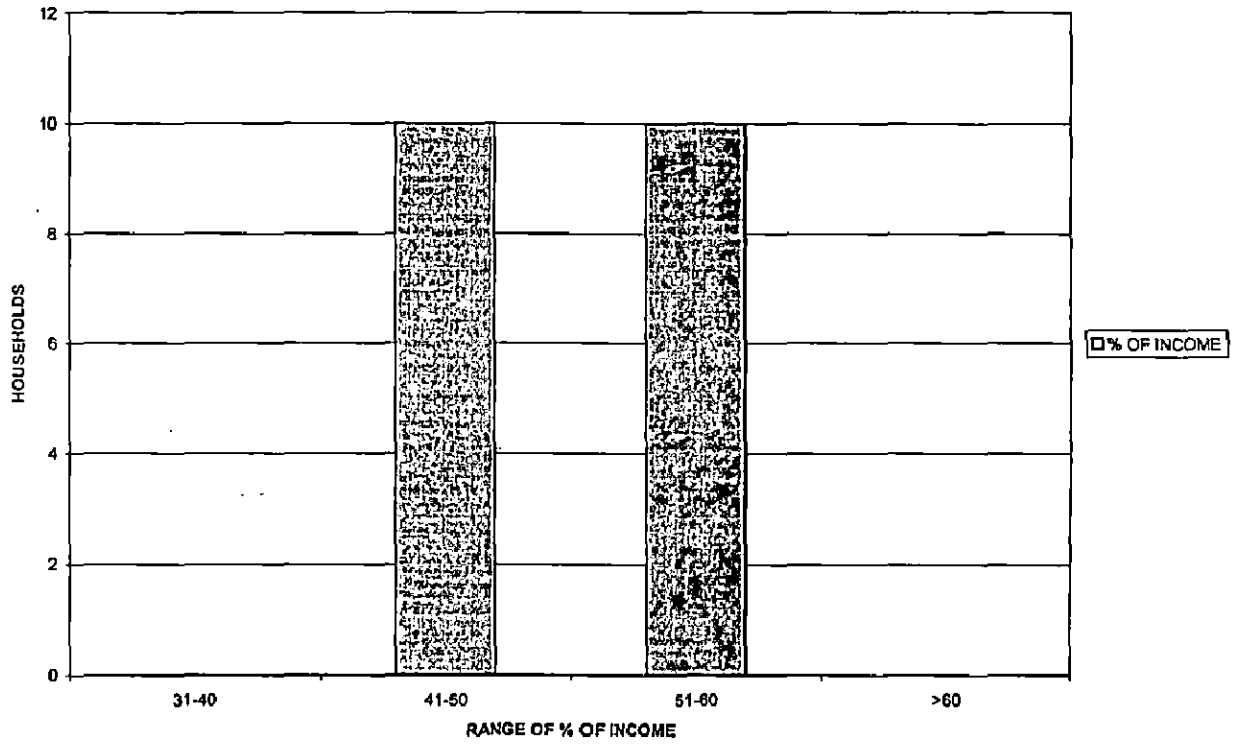


FIGURE 40 AND FIGURE 41

INDEBTNESS



EXPENDITURE ON FOOD



EXPENDITURE ON CLOTHING

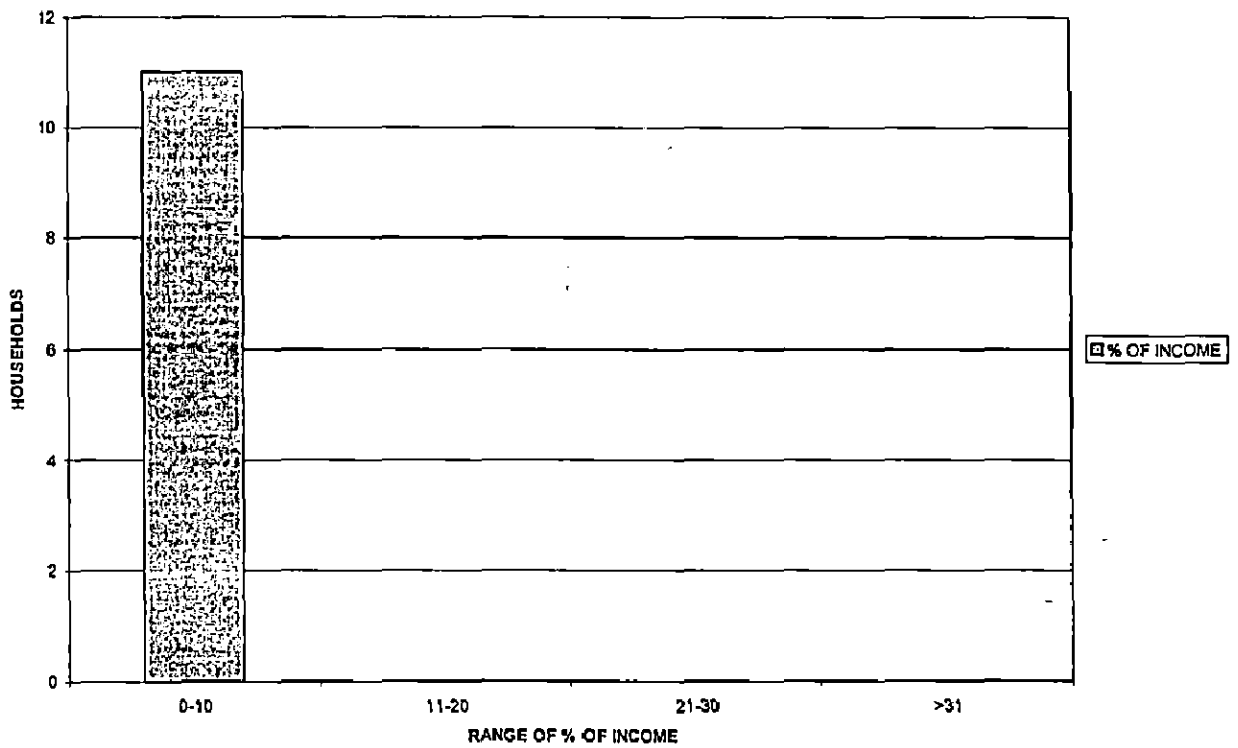


FIGURE 42 AND FIGURE 43

and there are no household among the surveyed samples that have graduate in the family..

10.4.2. Occupation: slum dwellers in the pocket have occupations such as mason, contractor, plumber, watchman, vendor, painting advertisement hoardings, shop keeping, hawkers, factory worker, working on tea stalls, selling second hand goods, casual laborer, vendor, daily wage worker and home based occupations such as beedi, and scent stick making, sleeper strap cutting, cycle repairing, stitching readymade clothes etc.

10.4.3. Income: sixty percent households in the slum pocket have their monthly have their monthly income between Rs. 1500 and Rs. 3000, while remaining forty percent earn less than Rs.1500 per month.

10.4.4. Distance to work place: sixty percent slum dwellers have their work places within two kilometers, while twenty five percent among them have their work places between two to four kilometers, and the remaining fifteen percent have it farther than four kilometers from their home.

10.4.5. Expenditure: sixty percent households in the slum pocket spend more than half of their monthly household income on food, while majority of the households spend up to ten percent on buying cloths, recreation, social functions and less than five percent on medicine and conveyance.

10.4.6. Indebtness: fifty five percent households in the slum pocket borrow six to ten percent of their monthly income, while twenty percent among them borrow ten to fifteen percent of their monthly household income, however twenty five percent households do not borrow.

10.4.7. Saving: seventy five percent households in the slum pocket have shown propensity to save. However fifty five percent households among the total surveyed households save only six to ten percent, while twenty percent save between eleven to fifteen percent of their monthly household income.

10.4.8. Accommodation size: thirty percent of the families in the slum pocket live in more than 400 square feet of space, another thirty percent among them live in 200 to 300 square feet of space. Only twenty percent of the families in the slum pocket are having 100 to 200 square feet of living space.

10.4.9. Ownership right and desire to shift for better living: only forty five percent households in the slum pocket want to leave their present places. However, none of the households in the slum pocket have ownership rights over land.

10.4.10. Willingness to pay: it is worth noting that all the households in the slum pocket have shown willingness to contribute money towards either to improve their existing dwelling or to get a new house; sixty five percent households in the slum pocket can make contribute between Rs. 4000 to Rs. 5000, while thirty percent among them can contribute Rs. 1000 to Rs. 2000, provided government help them through loan. Seventy five percent households are also willing to pay ten to twenty percent, while twenty five percent can spare up to ten percent of their monthly household income as installment towards repayment of such loans.

10.5. MHOW AND DHAR NAKA

Slums in the pocket have sprung up near ponds and high-income residential areas in the outskirts of the city. They have good accessibility to various public amenities such as health, education and market, and other facilities such as place of worship, public telephone police chowki, post office, and bank are within walking distance. Lack of control over government land and proximity to work centers such as saw mill, and high-income group residential areas have initially contributed to proliferation of slums in the area. Shopping areas for these residential areas serves as well as offers job opportunity for the slum dwellers of the pocket.

10.5.1. Education: eighty percent households in the slum pocket have primary education, and seventy percent among them have their family member with middle education, however only thirty five percent among them have education up to senior secondary level, while none of the household among the surveyed samples have graduate in the family.

10.5.2. Occupation: slum dwellers in the pocket have occupations such as domestic servant, mason, chef in road side restaurants, gardener, mechanic, waiter, tailoring, contractor, painting advertisement hoardings, shop keeping, hawkers, factory worker, working on tea stalls, selling second hand goods, auto rickshaw driver, driver on delivery vans, casual laborer, and home based occupations such as broom, and envelop making, stitching readymade clothes etc, some of them are also employed in government jobs.

10.5.3. Income: sixty five percent households in the slum pocket have their monthly have their monthly income between Rs. 1500 and Rs. 3000, while five percent households in the study area have their household income between Rs. 3000 to Rs.

BANGANGA

EXPENDITURE

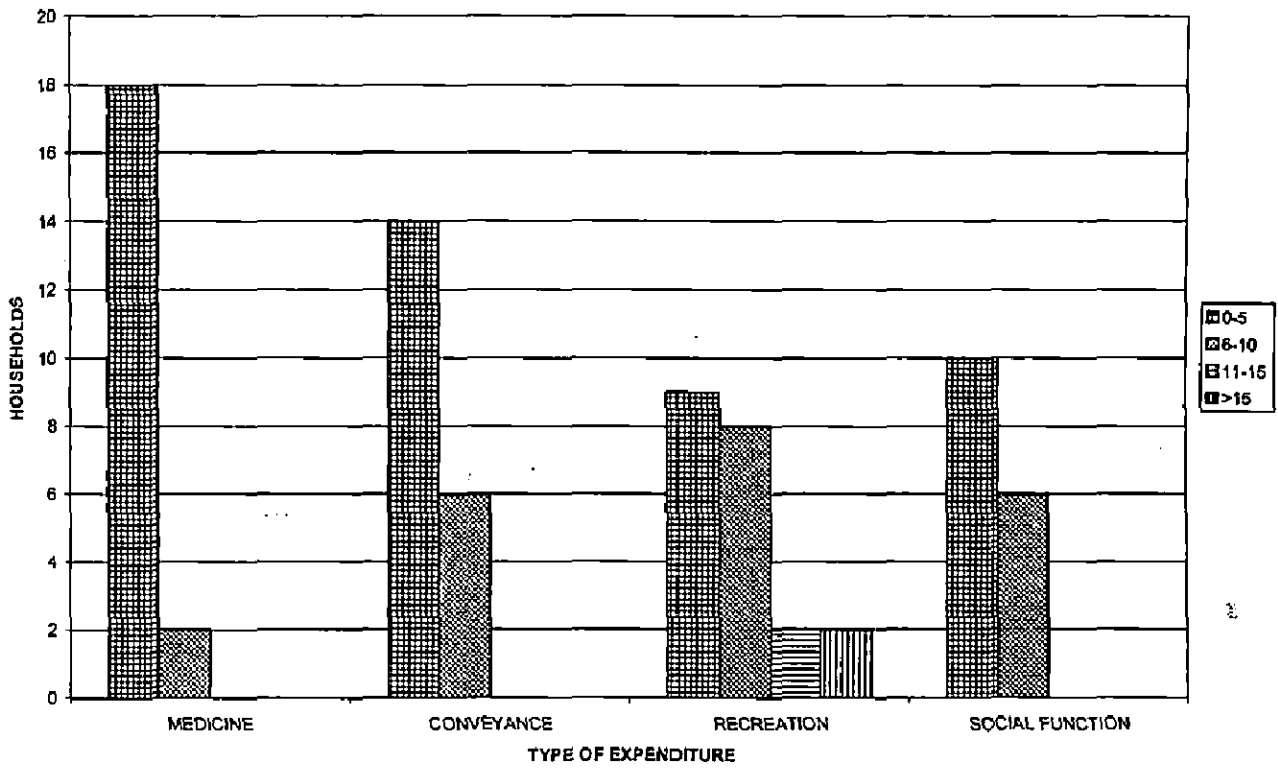


FIGURE 44

DESIRE TO SHIFT FOR BETTER LIVING

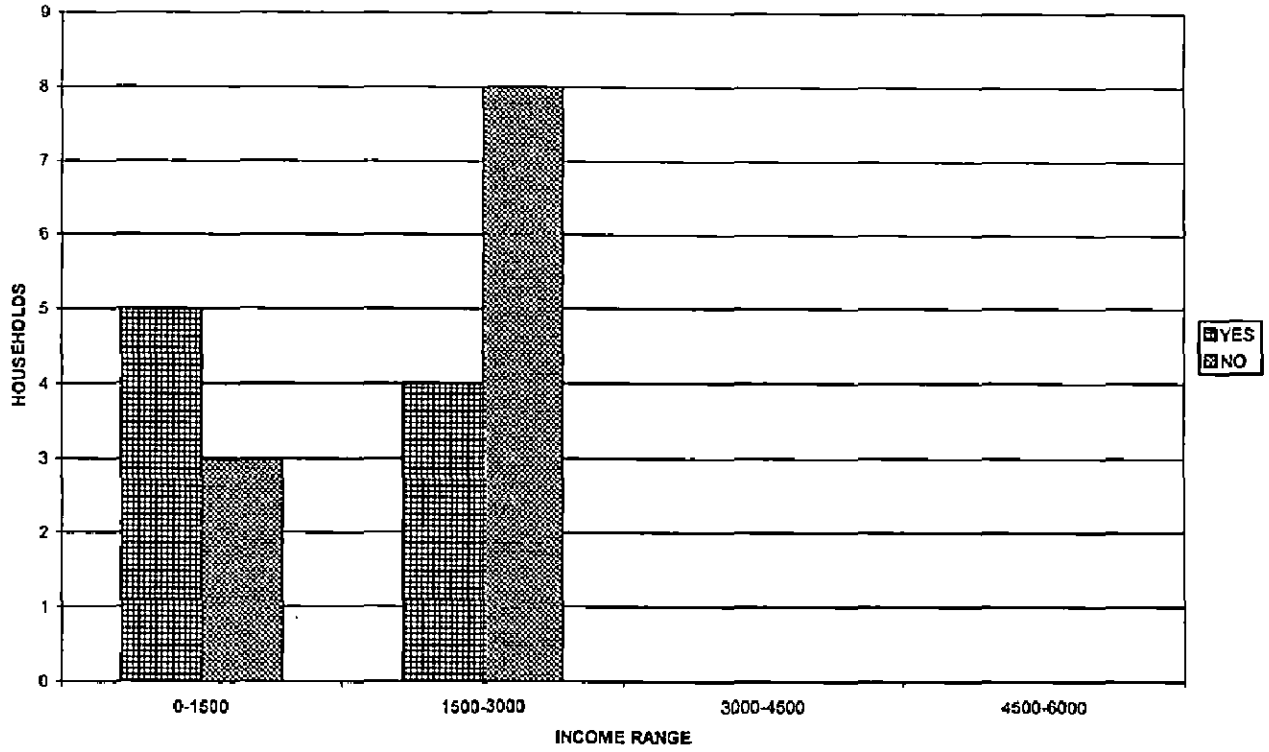
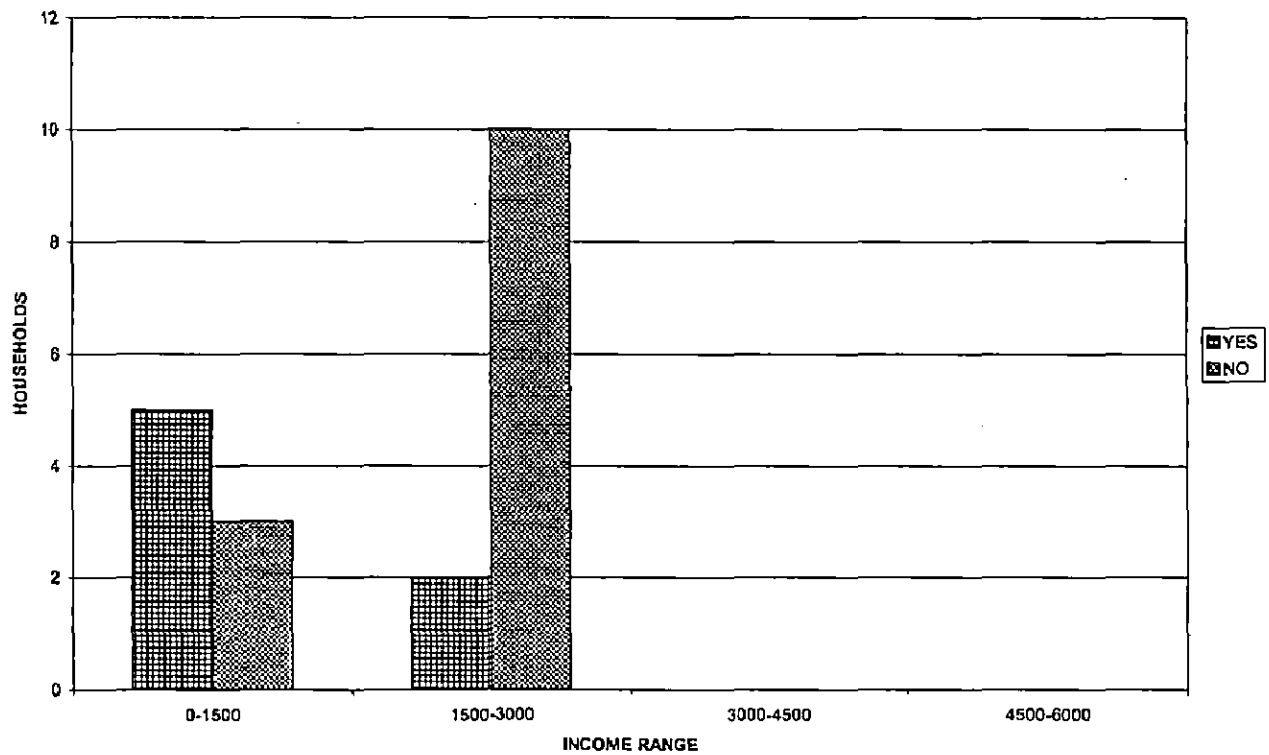


FIGURE 45 AND FIGURE 46

OWNERSHIP RIGHT



PAYING CAPACITY TO PAY ONE TIME INSTALLMENT

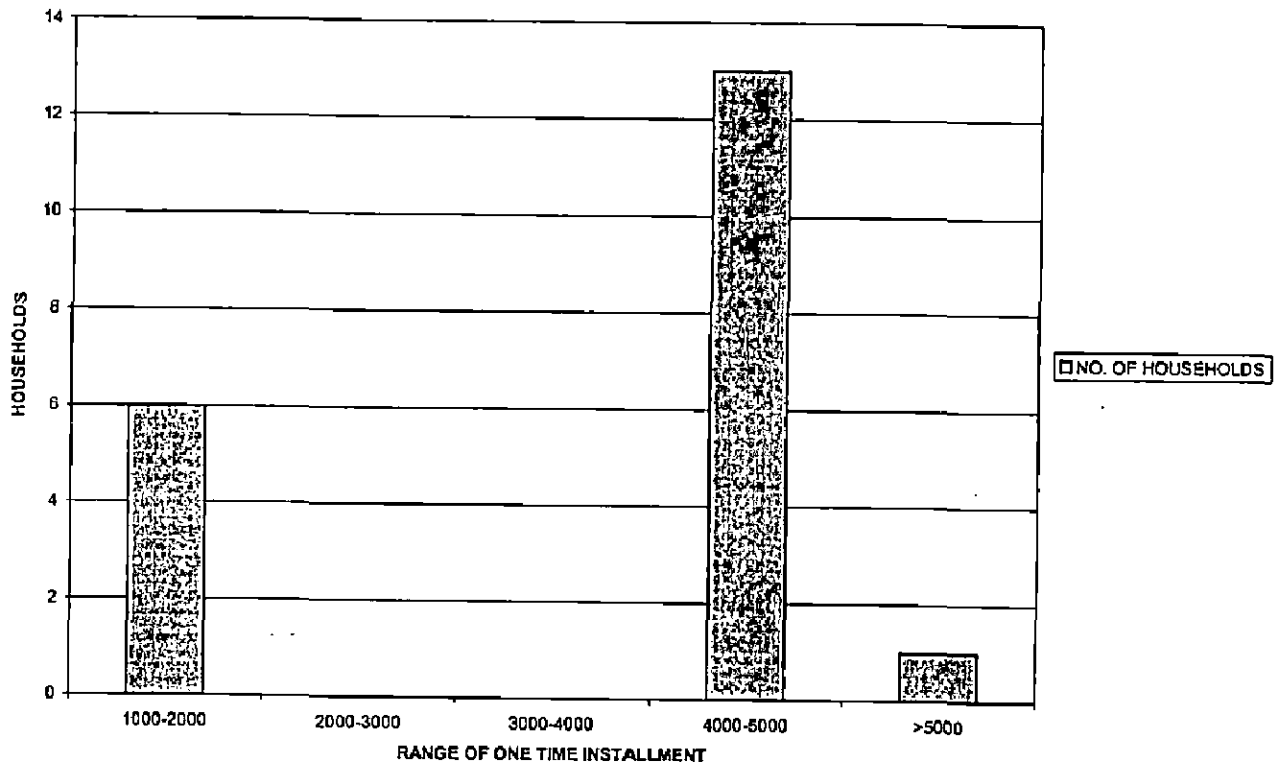
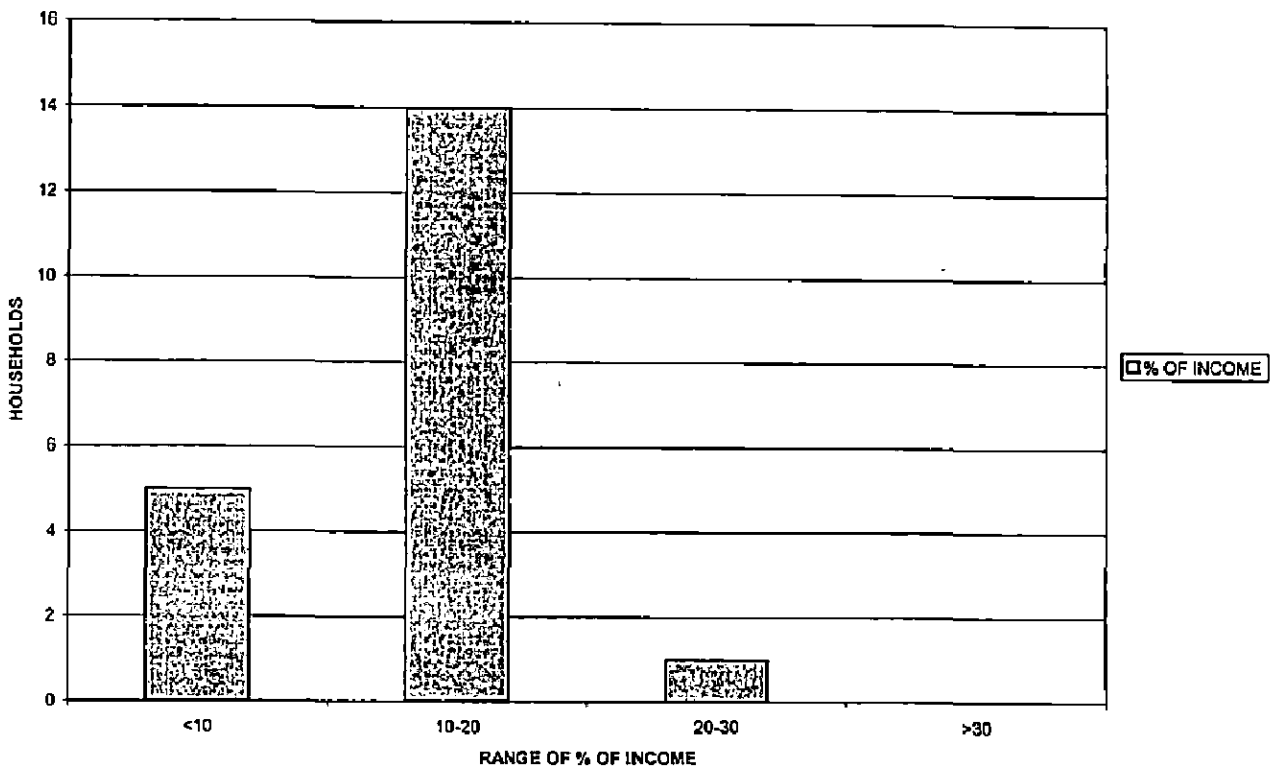


FIGURE 47 AND FIGURE 48

MONTHLY INSTALLMENT



ACCOMMODATION SIZE

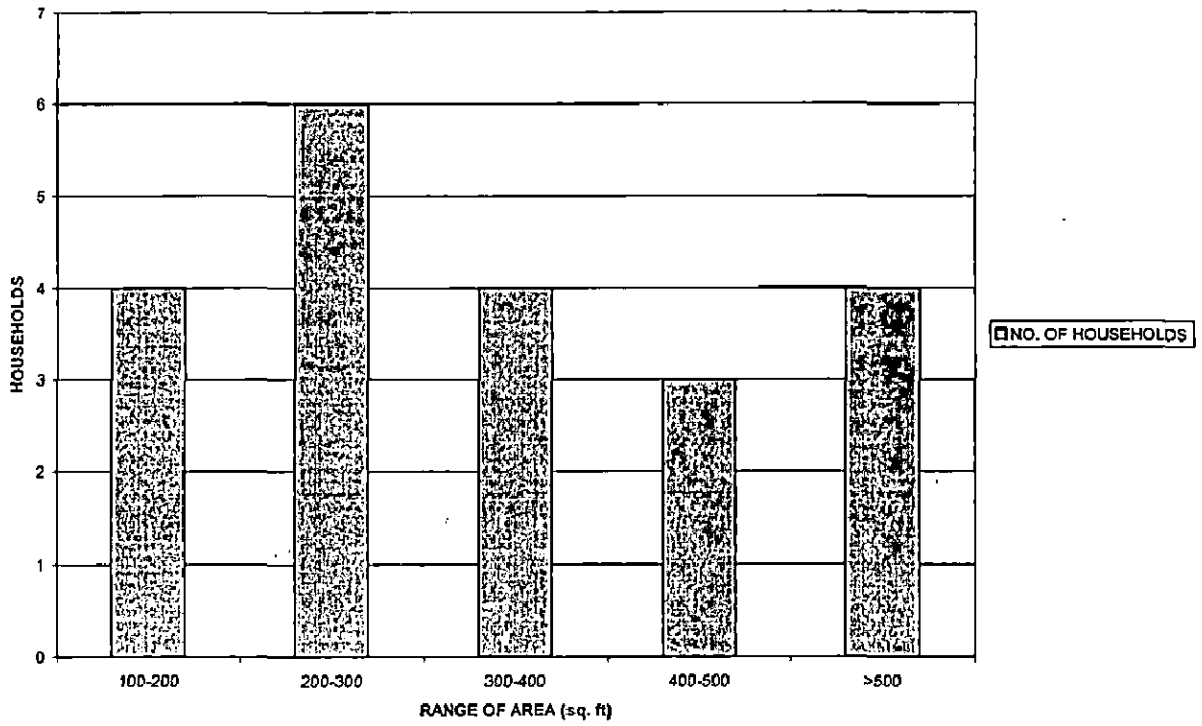
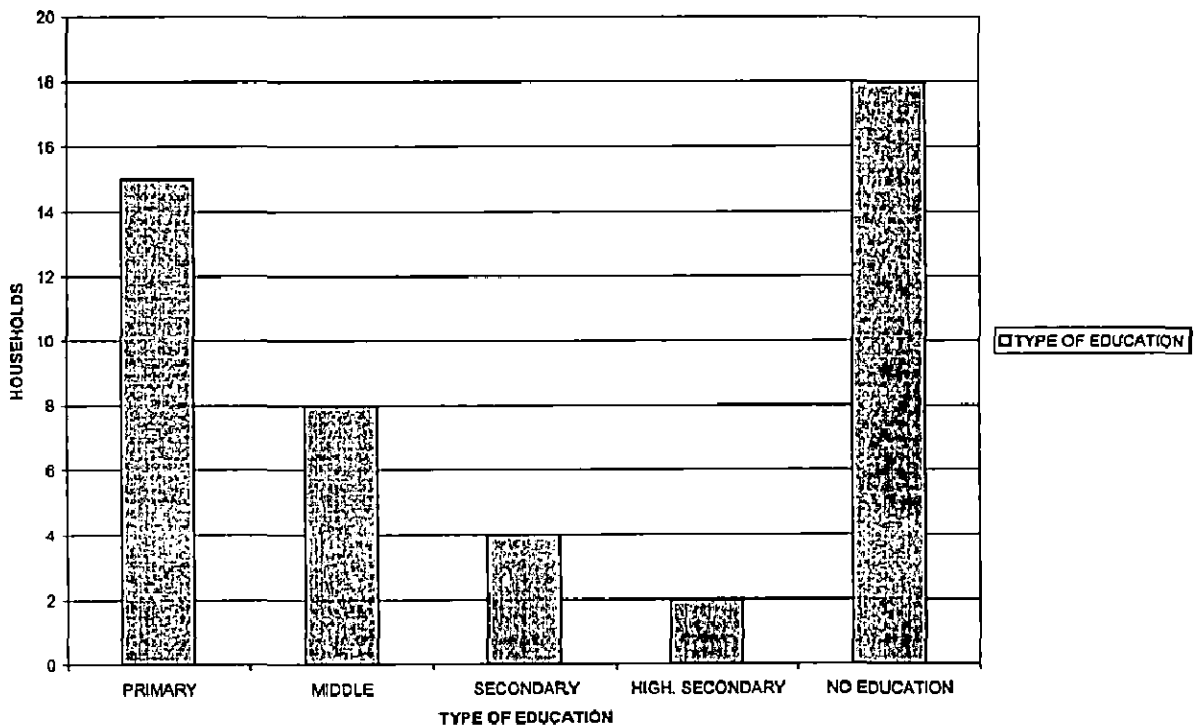


FIGURE 49 AND FIGURE 50

EDUCATION STATUS



DISTANCE TO WORK PLACE

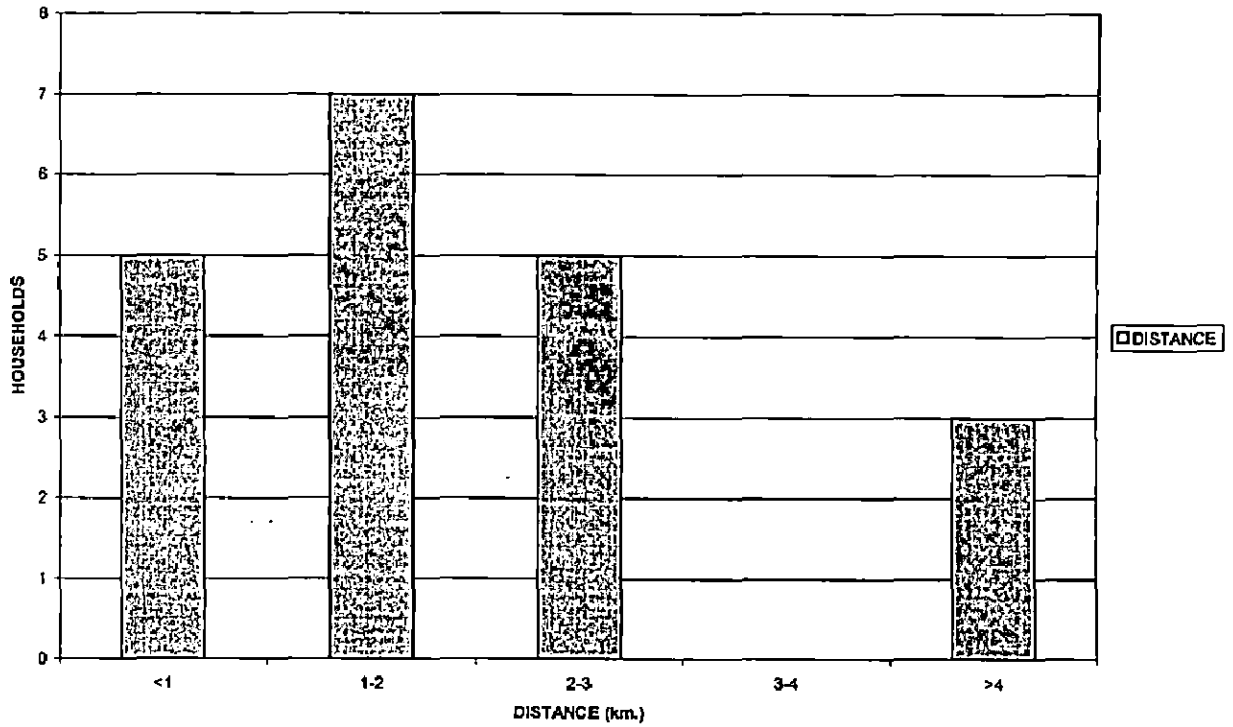
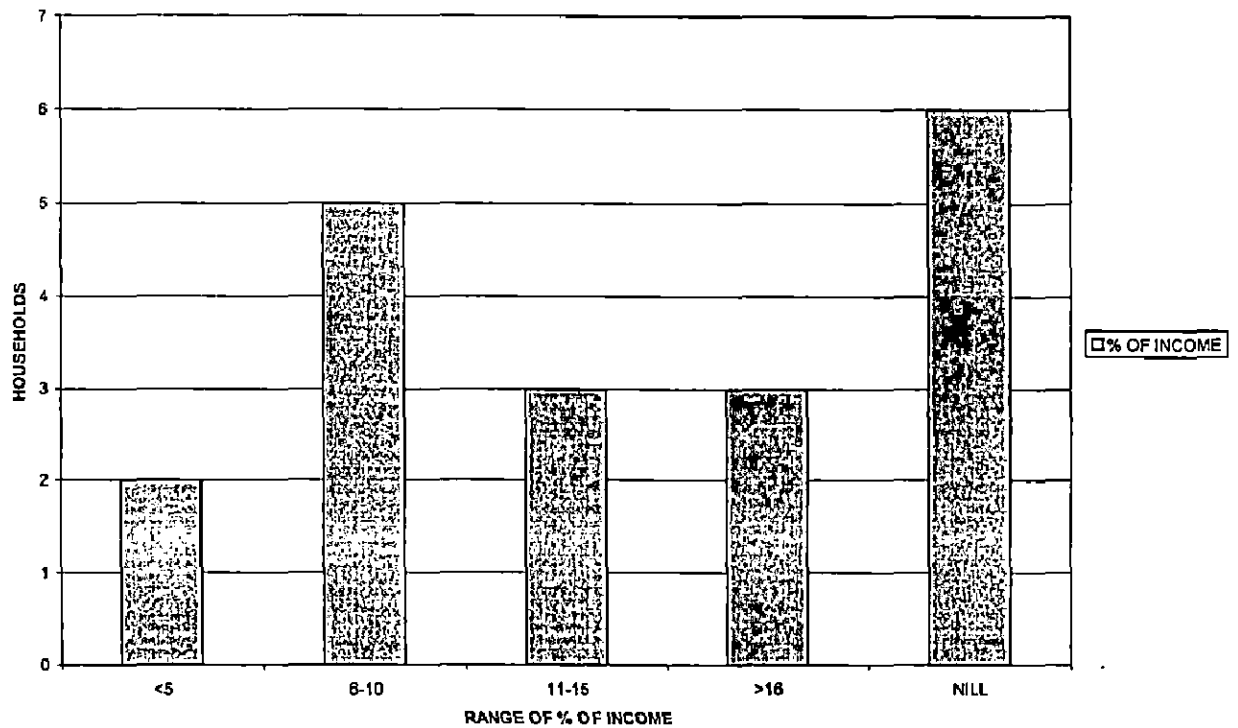


FIGURE 51 AND FIGURE 52

SAVINGS



INDEBTNESS

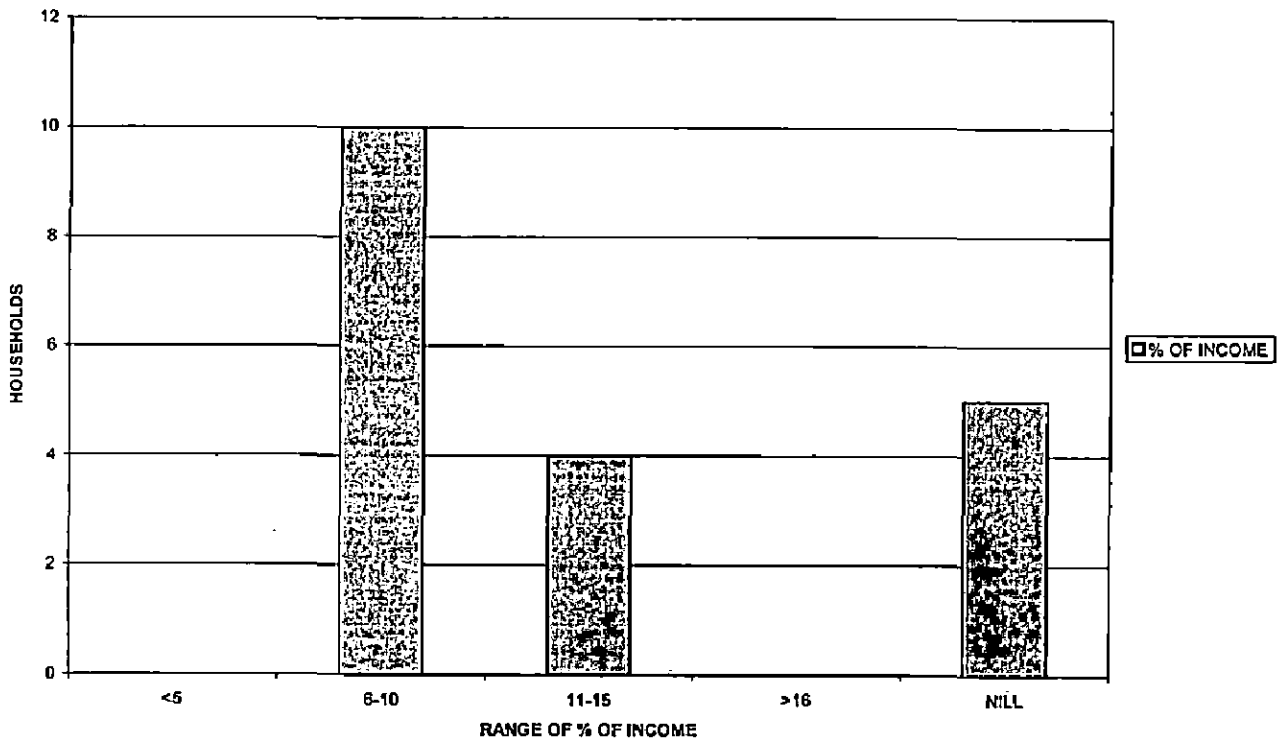
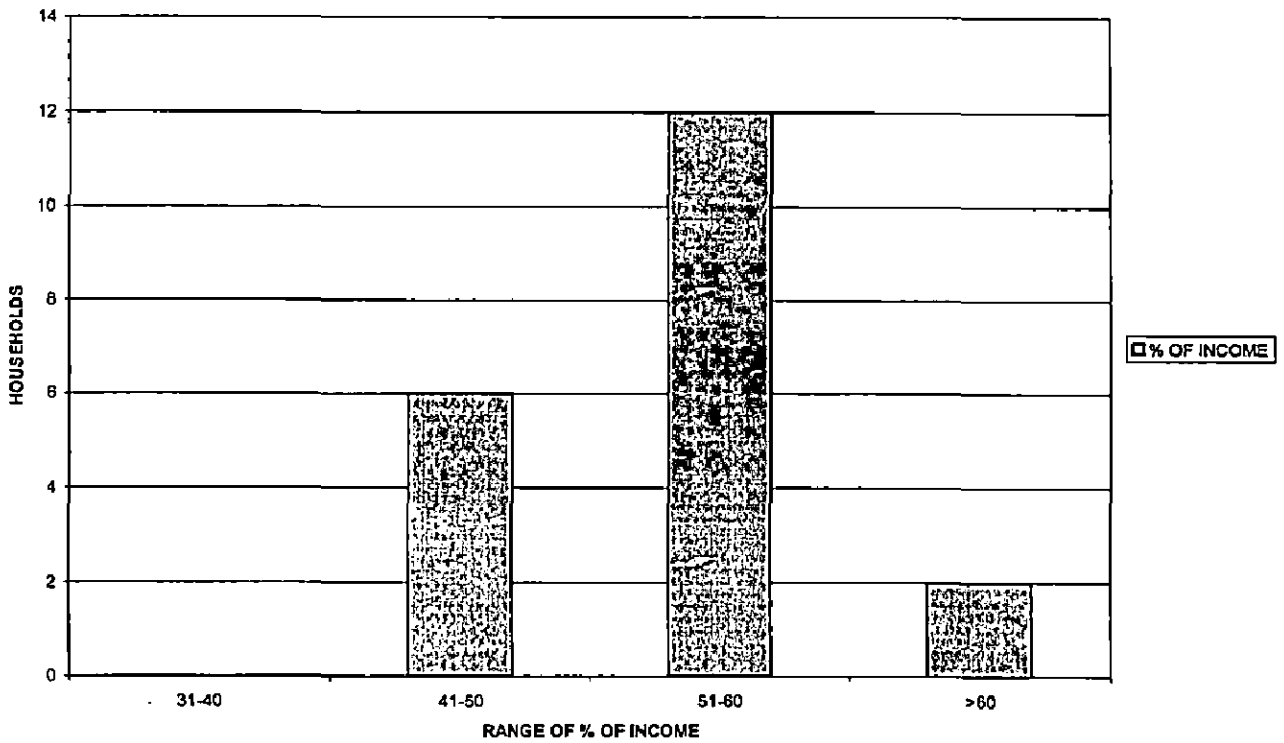


FIGURE 53 AND FIGURE 54

EXPENDITURE ON FOOD



EXPENDITURE ON CLOTHING

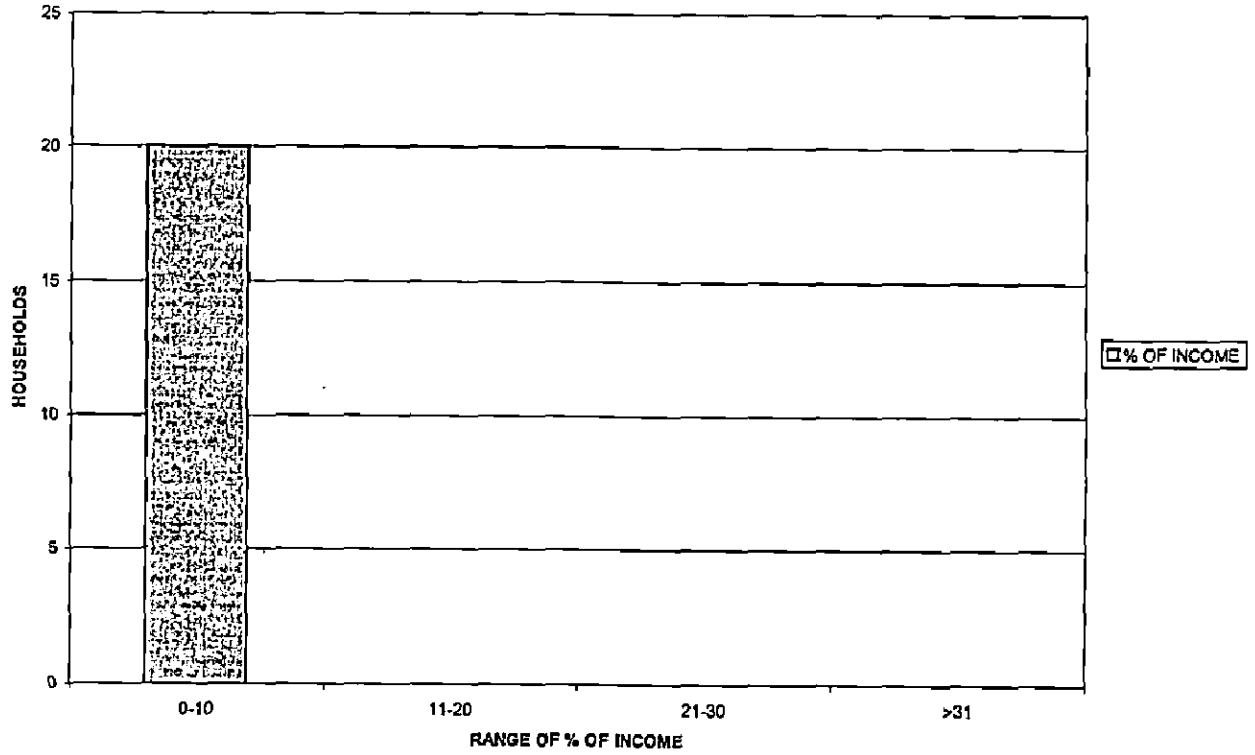
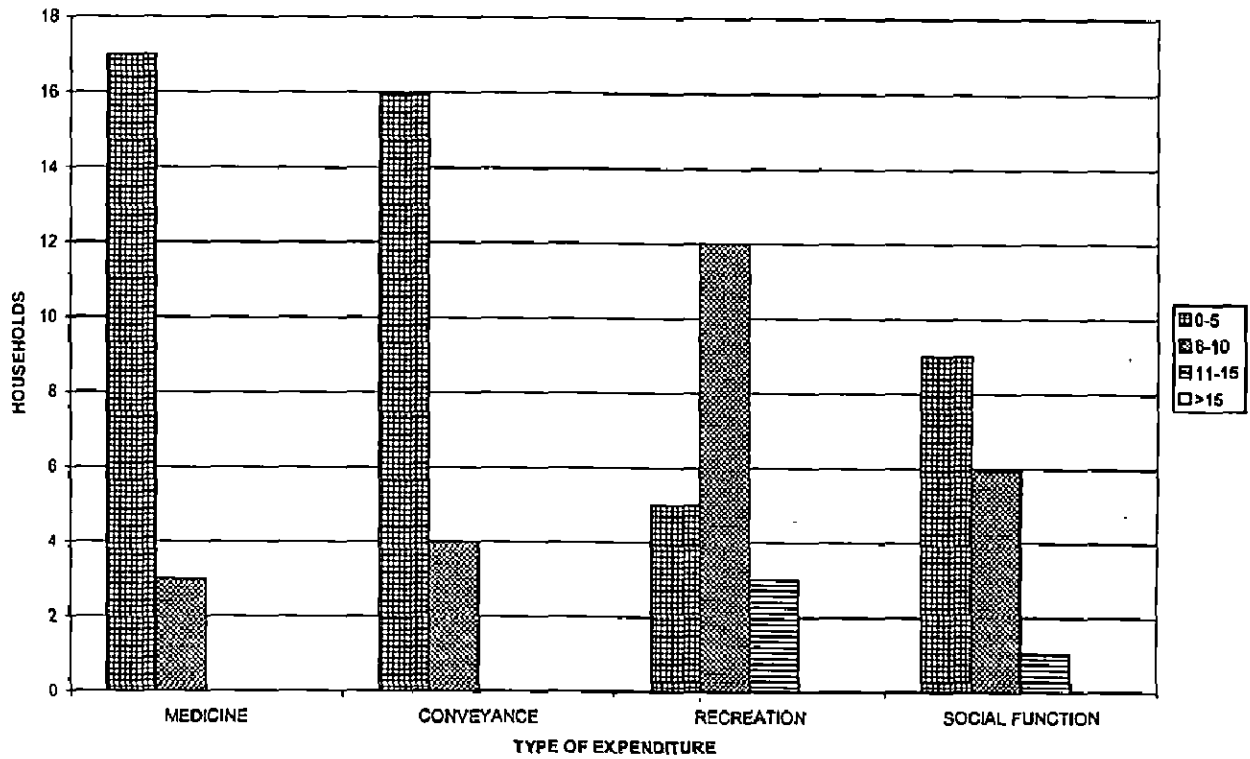


FIGURE 55 AND FIGURE 56

EXPENDITURE



4500 per month. Thirty percent households have income of less than Rs 1500 in a month

10.5.4. Distance to work place: forty percent slum dwellers have their work places within two kilometers, while twenty percent among them have their work places between two to four kilometers, the remaining forty percent have it farther than four kilometers from their home.

10.5.5. Expenditure: fifty five percent households in the slum pocket spend more than half of their monthly household income on food, while majority of the households spend up to ten percent on buying cloths, recreation, social functions and less than five percent on medicine and conveyance.

10.5.6. Indebtness: seventy percent households in the slum pocket borrow more than fifteen percent of their monthly household income, however twenty five percent households do not borrow.

10.5.7. Saving: only forty percent households in the slum pocket have shown propensity to save. Fifteen percent households among the total surveyed households save six to ten percent, while ten percent save between eleven to fifteen percent and remaining fifteen percent save less than five percent of their monthly household income.

10.5.8. Accommodation size: twenty five percent of the families in the slum pocket live in more than 400 square feet of space, while forty percent among them live in 200 to 300 square feet of space. However twenty percent of the families in the slum pocket are having 300 to 400 square feet of living space. Only fifteen percent among the households in the slum pocket live in less than 200 square feet of living space.

10.5.9. Ownership right and desire to shift for better living: seventy five percent households in the slum pocket want do not want to leave their present places. Although, fifty-five percentage of households in the slum pocket do not have ownership rights over land.

10.5.10. Willingness to pay: it is worth noting that all the households in the slum pocket have shown willingness to contribute money towards either to improve their existing dwelling or to get a new house; majority of the households can contribute up to Rs. 3000, however, twenty five percent households in the slum pocket can make contribute more than Rs. 5000, while thirty percent among them can contribute Rs. 4000 to Rs. 5000, provided government help them through loan. Forty percent households are also willing to pay ten to twenty percent, while remaining sixty

percent can spare up to ten percent of their monthly household income as installment towards repayment of such loans.

10.6 City area slums:

Slums in the pocket have sprung up near nallah, and on the government land. They have good accessibility to various public amenities such as health, education and market, and other facilities such as place of worship, public telephone police chowki, post office, and bank are within walking distance. Proximity to these facilities has been a big reason for the growth of slums, outside the old Indore city, which are spread in the rest of the city.

10.6.1. Education: seventy five percent households in the slum pocket have primary education, and fifty percent have their family member with middle education, however only thirty percent among them have education up to senior secondary level, and there are no household among the surveyed samples that have graduate in the family.

10.6.2. Occupation: slum dwellers in the pocket have occupations such as tempo, auto rickshaw and truck driver, mason, contractor, plumber, watchman, sweeper vendor, waiter, porter, shop keeping, hawkers, factory worker, working on tea stalls, domestic servant, glass cutting, fabrication, welding, crane operator, selling second hand goods, casual laborer, vendor, daily wage worker and home based occupations such as beedi, and scent stick making, sleeper strap cutting, cycle repairing, stitching readymade clothes etc. Few sweepers are employed in the municipal corporation.

10.6.3. Income: fifty five percent households in the slum pocket have their monthly have their monthly income between Rs. 1500 and Rs. 3000, while remaining forty five percent are distributed equally in the 3000-4500, 4500-6000 and above 6000 income categories.

10.6.4. Distance to work place: thirty percent slum dwellers have their work places within two kilometers, another thirty percent among them have their work places between two to four kilometers, and the remaining forty percent have it farther than four kilometers from their home.

10.6.5. Expenditure: forty five percent households in the slum pocket spend more than half of their monthly household income on food, while majority of the households spend up to ten percent on buying cloths, recreation, social functions and less than five percent on medicine and conveyance.

10.6.6. Indebtness: thirty five percent households in the slum pocket borrow six to ten percent of their monthly income, while twenty five percent among them borrow ten to fifteen percent of their monthly household income, however fifteen percent households do not borrow.

10.6.7. Saving: seventy five percent households in the slum pocket have shown propensity to save. However thirty percent households among the total surveyed households save less than ten percent, while twenty five percent save between eleven to fifteen percent and the remaining twenty percent households save more than fifteen percent of their monthly household income.

10.6.8. Accommodation size: forty percent of the families in the slum pocket live in more than 400 square feet of space, another thirty five percent among them live in 200 to 300 square feet of space. Remaining twenty five percent of the families in the slum pocket are having 300 to 400 square feet of living space.

10.6.9. Ownership right and desire to shift for better living: fifty percent households in the slum pocket want to leave their present places. However, only thirty-five percent of the households in the slum pocket have ownership rights over land.

10.6.10. Willingness to pay: it is worth noting that all the households in the slum pocket have shown willingness to contribute money towards either to improve their existing dwelling or to get a new house; almost all (90%) households in the slum pocket are willing to contribute more than Rs. 4000; provided government help them through loan. Forty five percent households in the slum pocket are willing to pay twenty to thirty percent of their monthly household income as installment. However Twenty five percent households are also willing to pay ten to twenty percent, while thirty percent can spare up to ten percent of their monthly household income as installment towards repayment of such loans.

CITY AREA

DESIRE TO SHIFT FOR BETTER LIVING

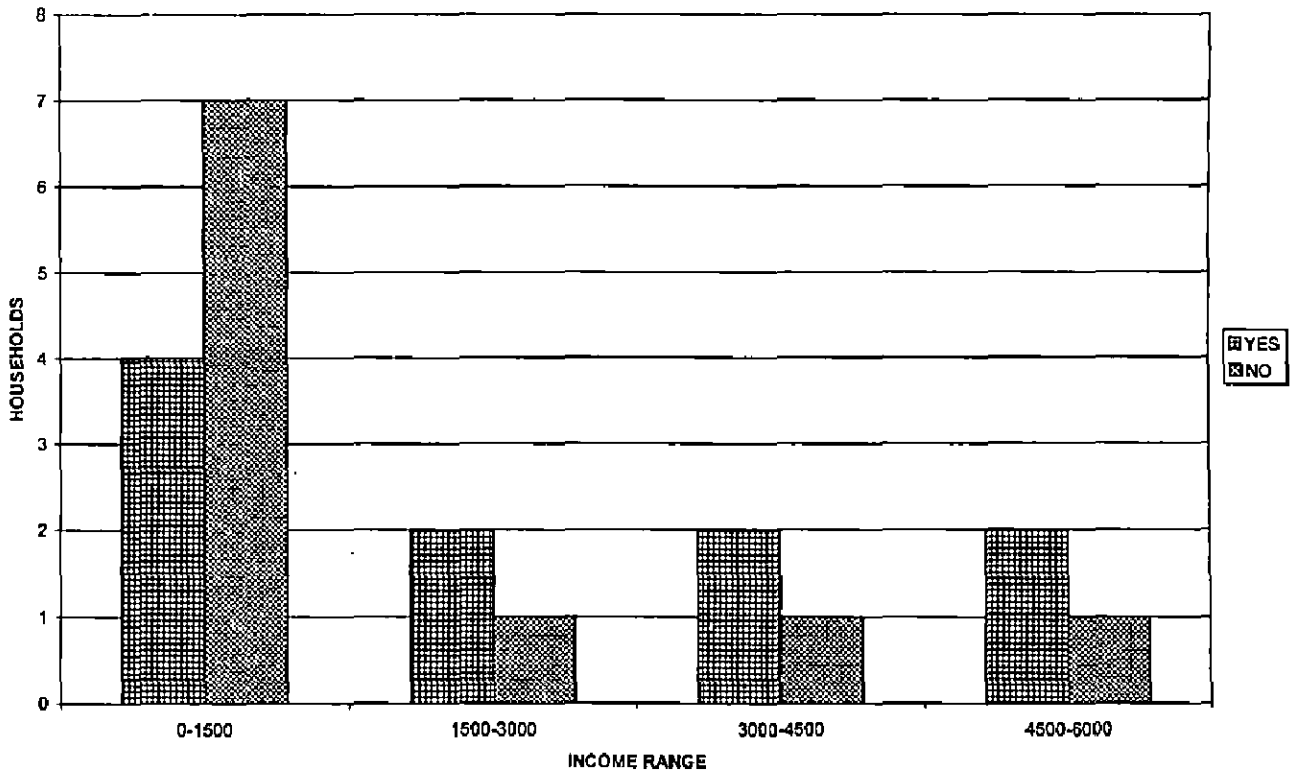
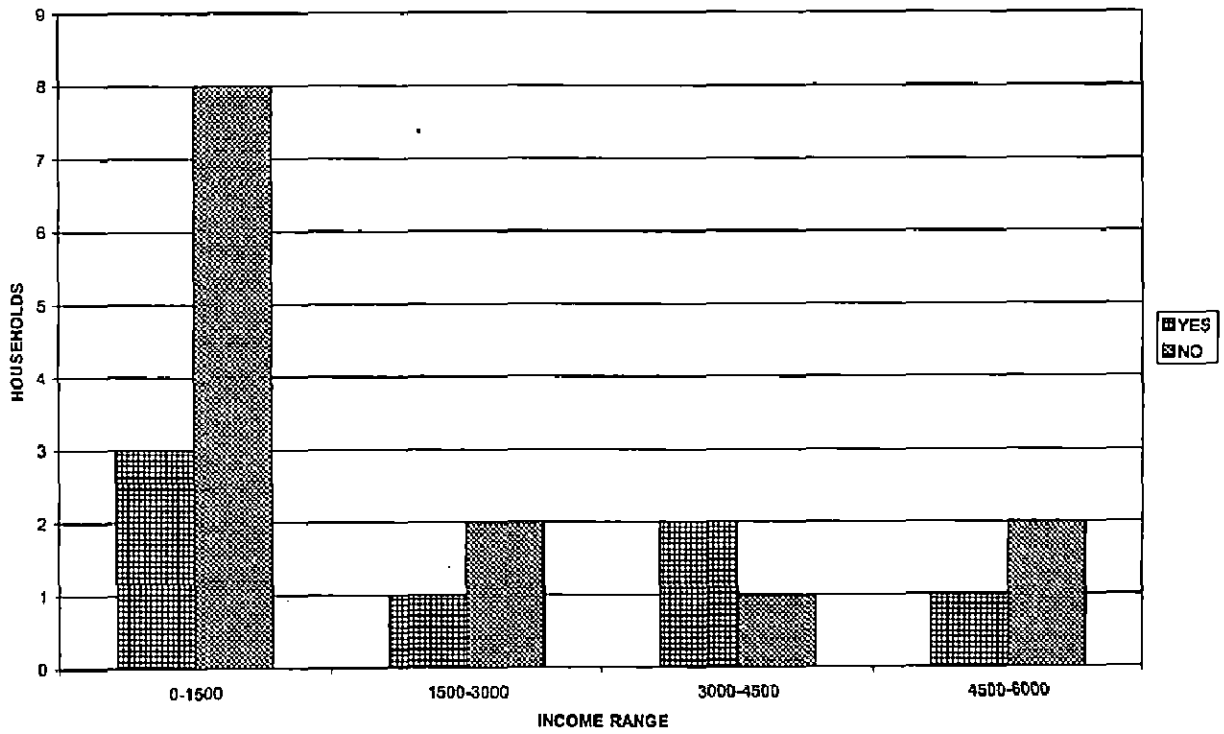


FIGURE 57

OWNERSHIP RIGHT



PAYING CAPACITY TO PAY ONE TIME INSTALLMENT

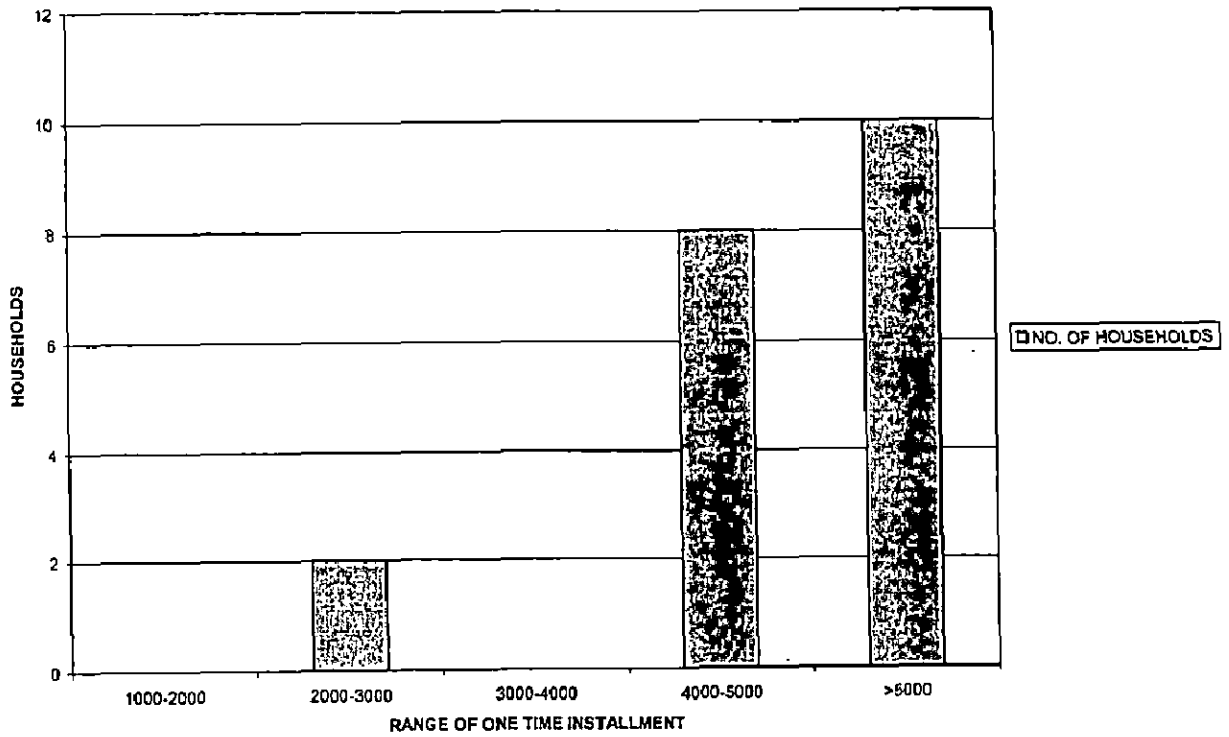


FIGURE 58 AND FIGURE 59

MONTHLY INSTALLMENT

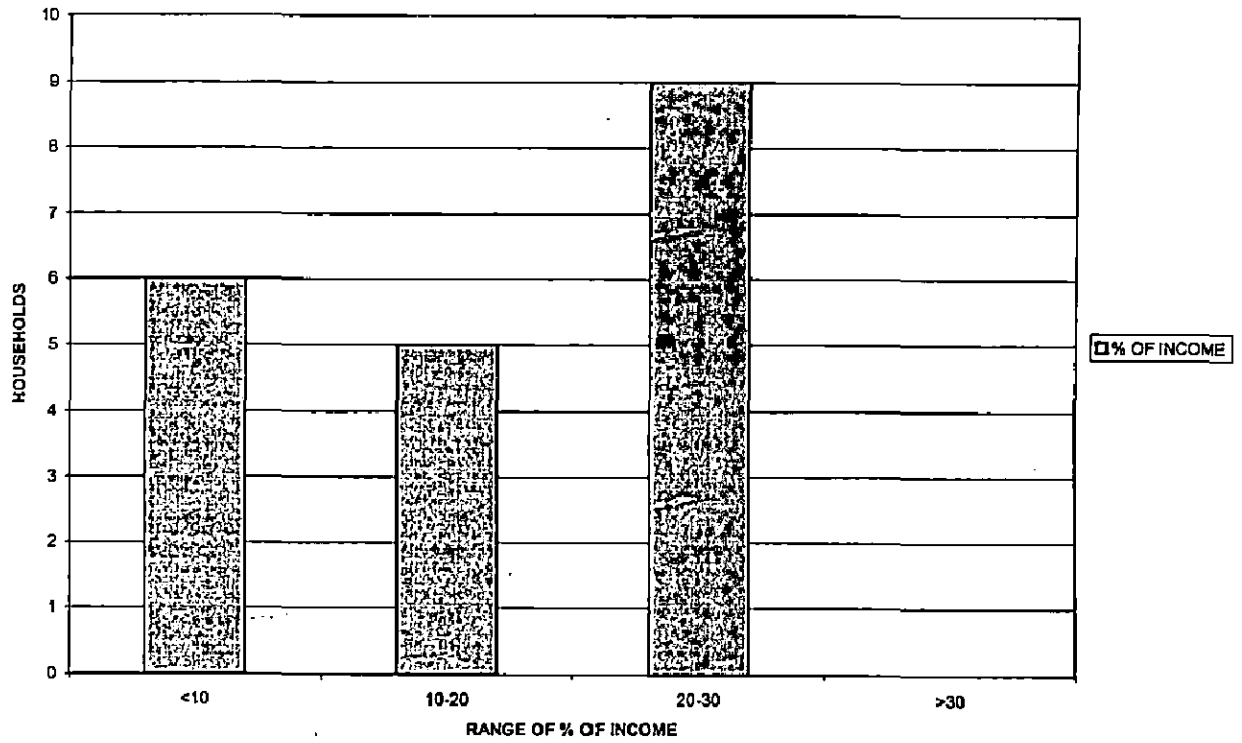
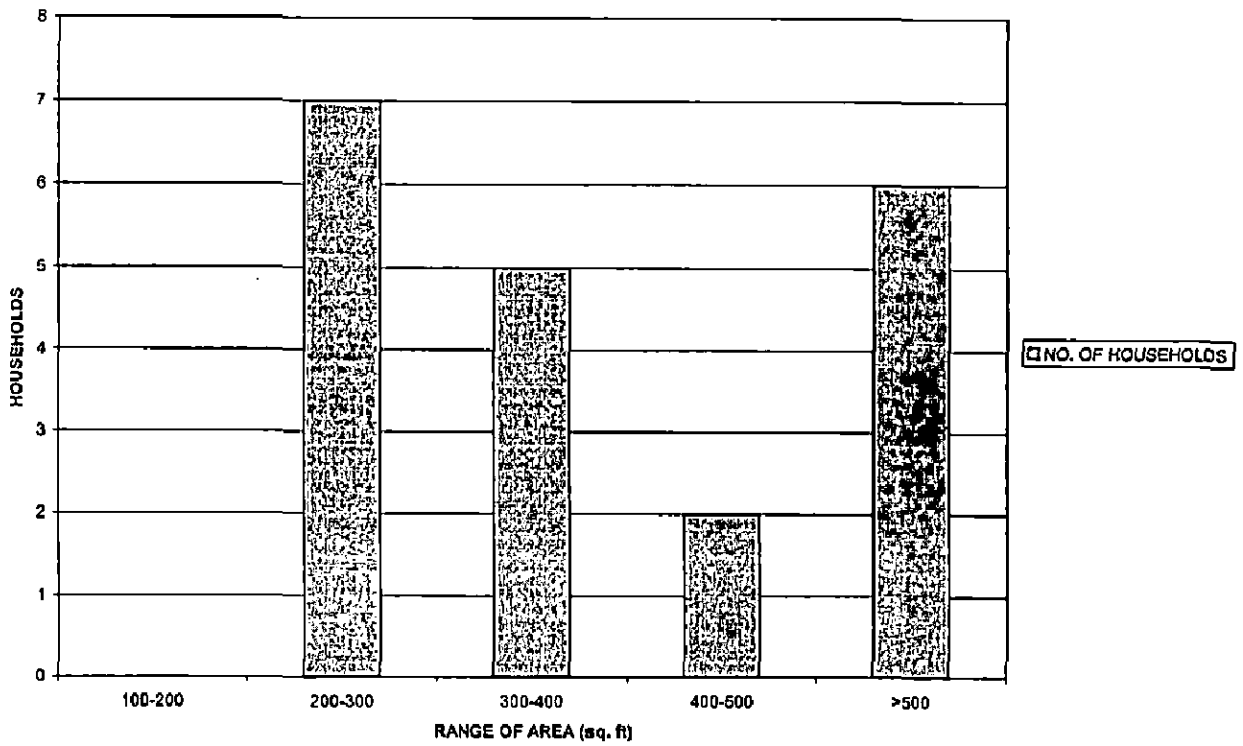


FIGURE 60 AND FIGURE 61

ACCOMMODATION SIZE



EDUCATION STATUS

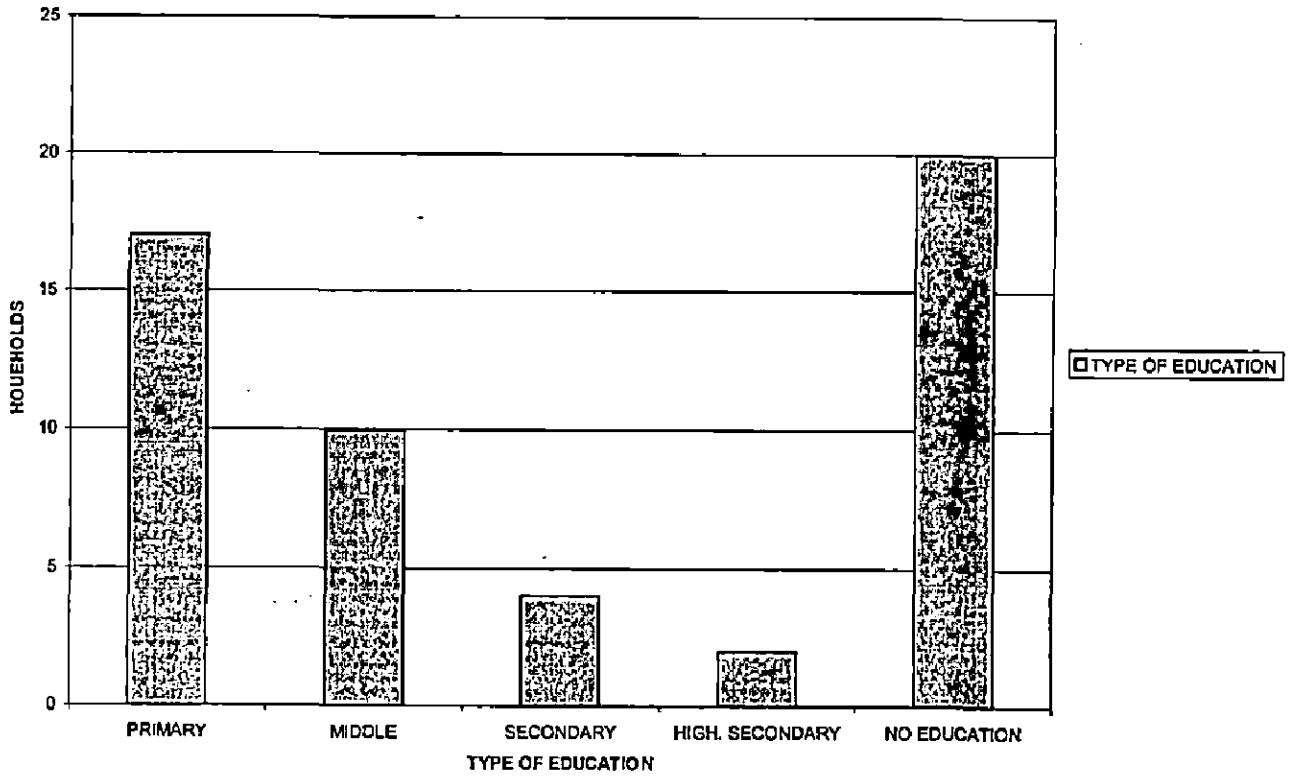
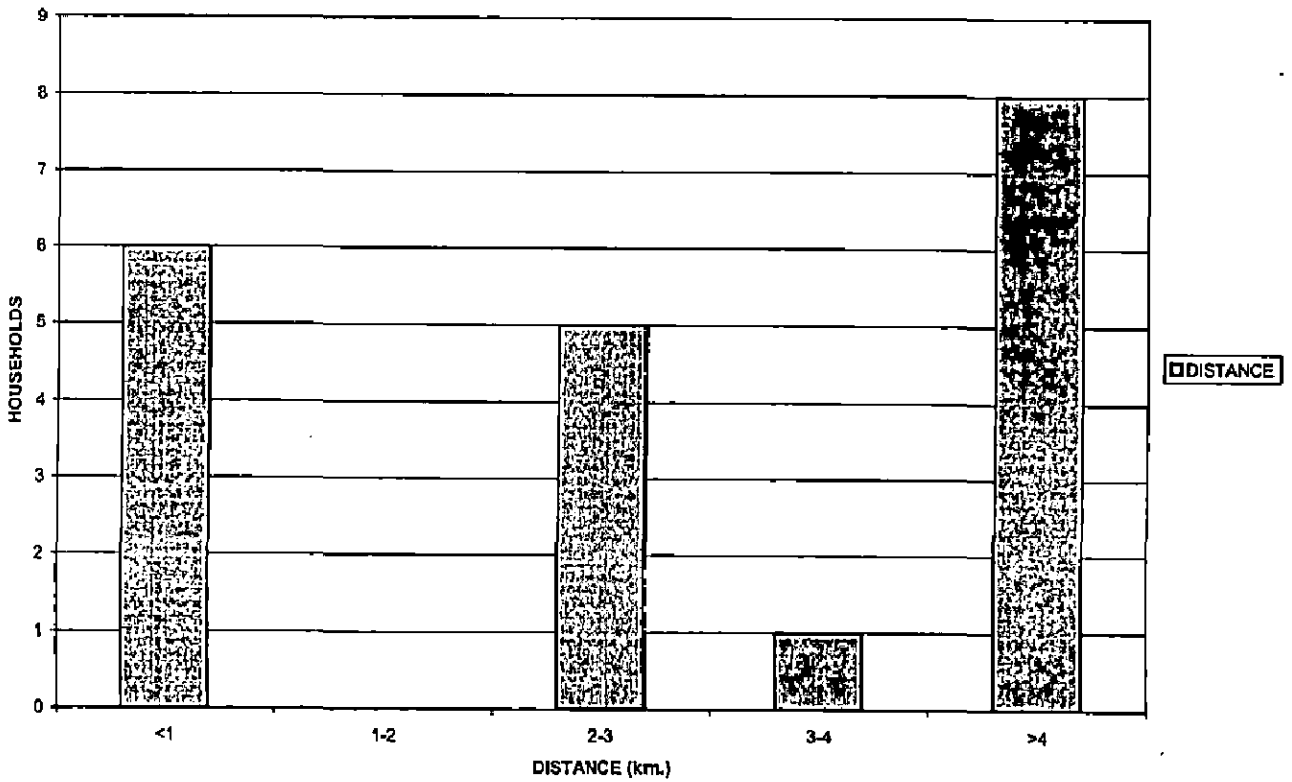


FIGURE 62 AND FIGURE 63

DISTANCE TO WORK PLACE



SAVINGS

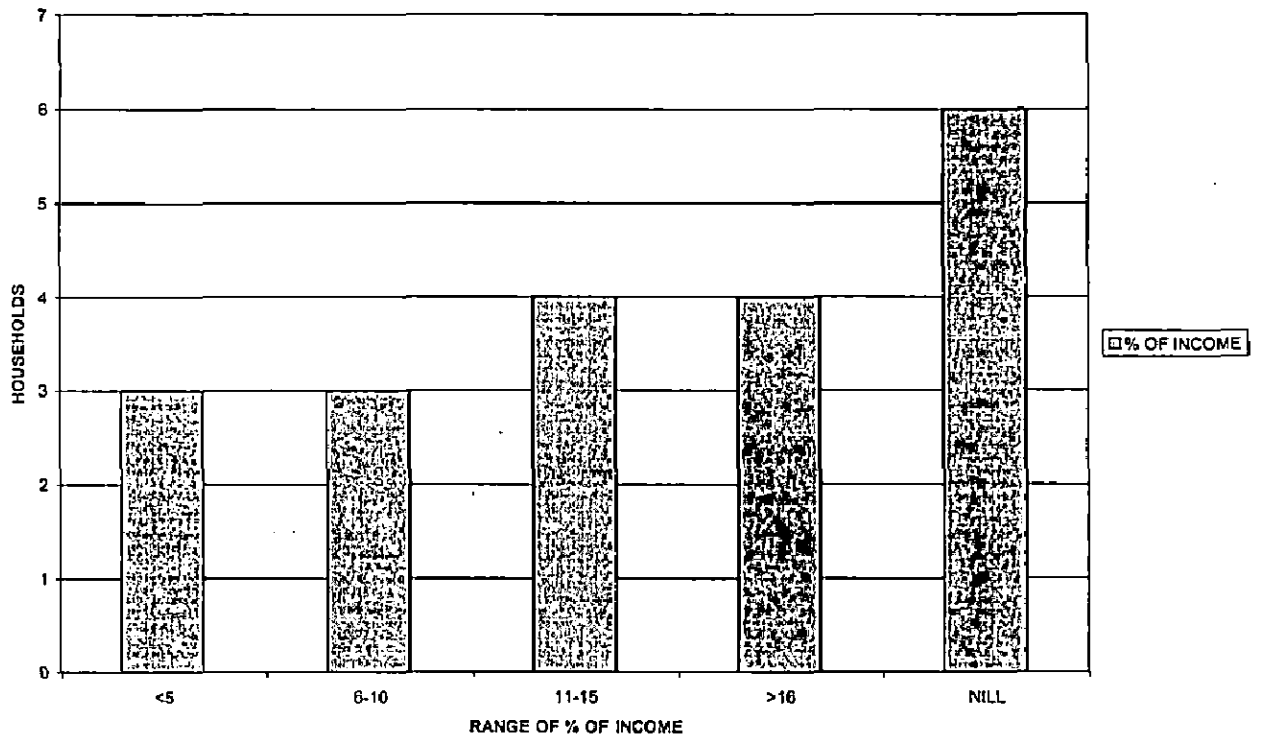
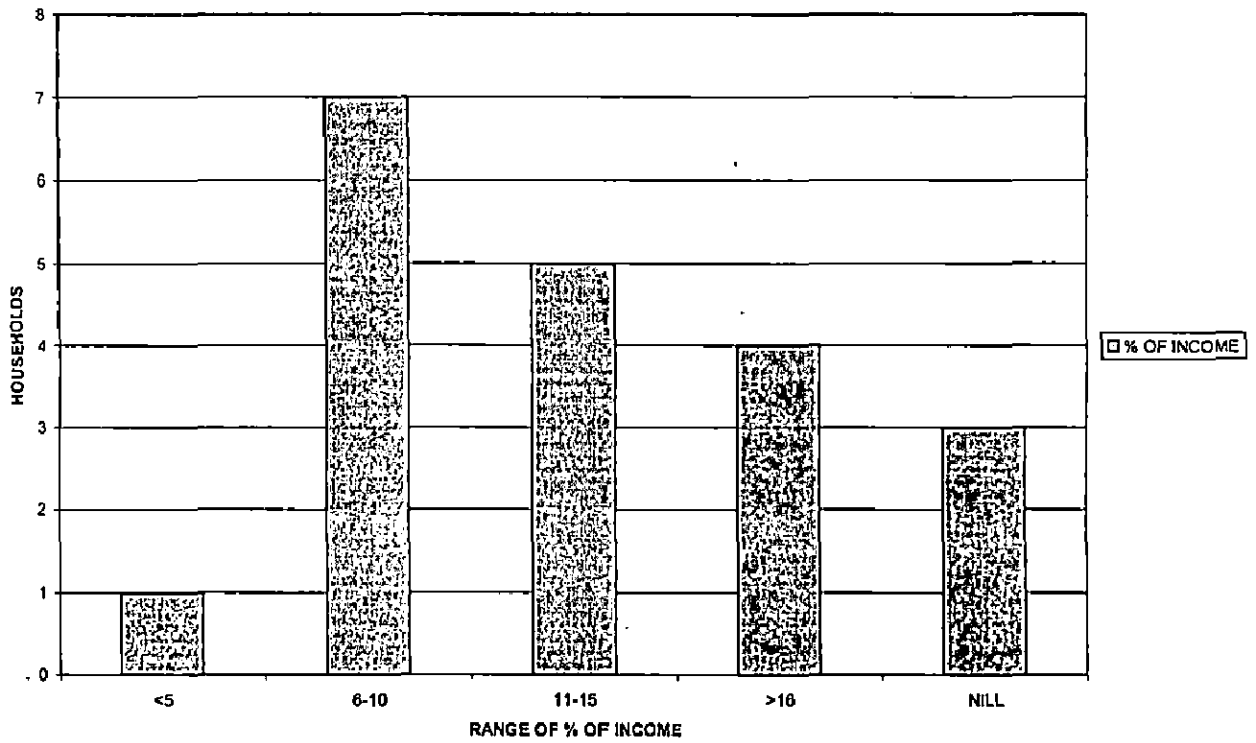


FIGURE 64 AND FIGURE 65

INDEBTNESS



EXPENDITURE ON FOOD

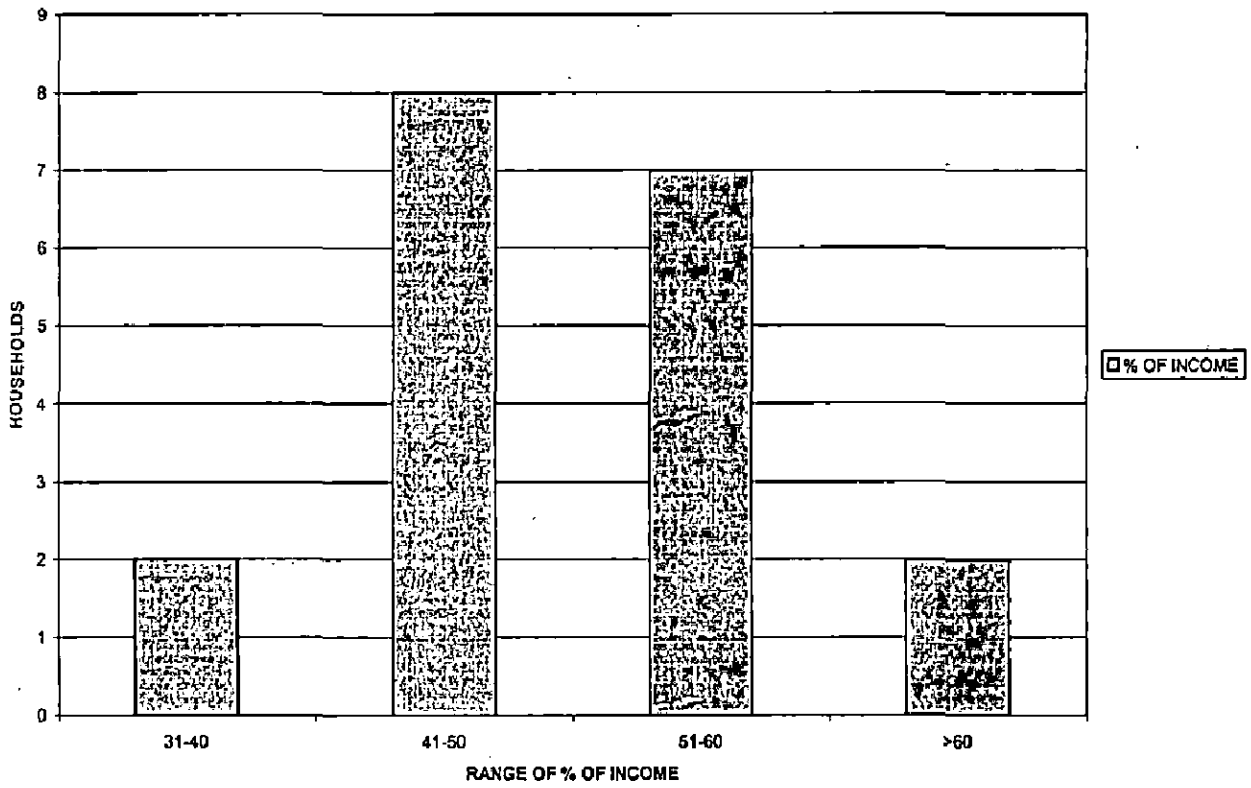
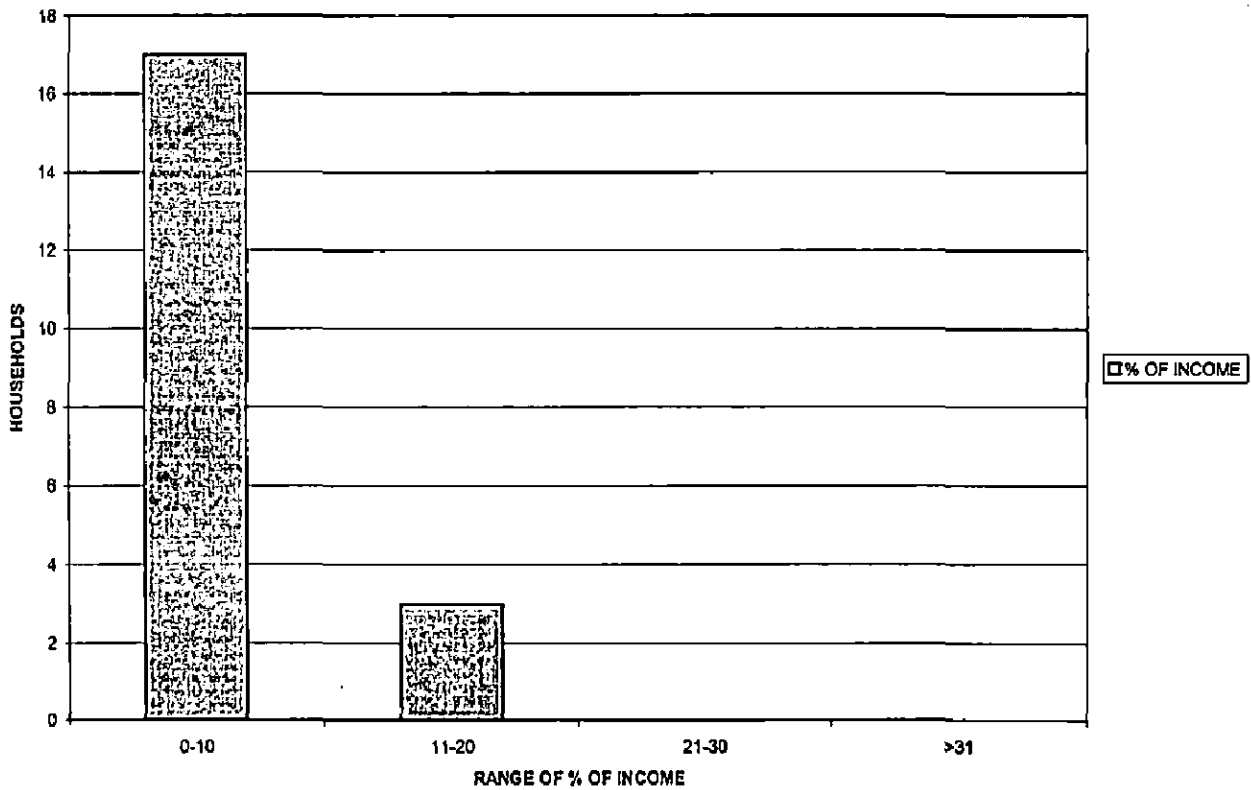


FIGURE 66 AND FIGURE 67

EXPENDITURE ON CLOTHING



EXPENDITURE

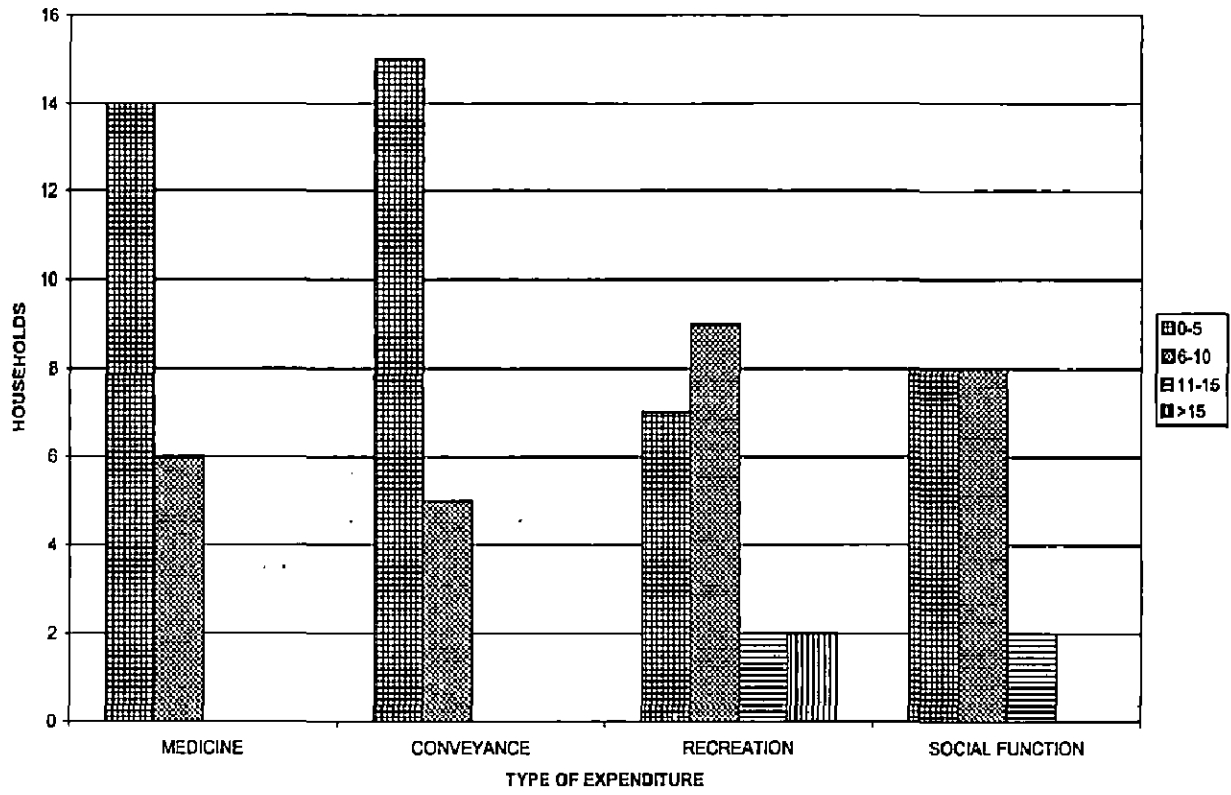


FIGURE 68

RECOMMENDATION AND CONCLUSION

11.1 INTRODUCTION

Physical, social, economic, administrative, and environmental aspects of planning are considered in the proposed model for integrated development of slum pockets in the study area, consequently various factors are identified in each of the area, and finally recommendations are made for each of these parameters.

11.2. PHYSICAL ASPECTS

11.2.1. Supply of land: According to estimates, 13.2 hectares of land will be required to accommodate 33,000 slum households by the end of the decade @ of 40sq.m. of land per household. It is recommended to remove constraints such as concentration of land in the hands of government or speculators, out of date cadastral systems (land record system), inappropriate land use regulations, and inappropriate institutional structures for improving accessibility to available land.

11.2.2. Location: It is observed in the study area that majority of slum dwellers live within two kilometers of major work centers. Therefore, make adequate provisions of developed land for informal / incremental housing activity and low-income residential areas as near as possible to major work centers such as specialized markets, warehouses, cold storages, godowns, and whole sale markets of various kinds such as grain, vegetable and fruit, general merchandise, grass, cotton, timber etc. and categorized markets such as scrape dealing market, transport nagar, building materials market etc.; as these centers create job opportunities in the form of casual labor, thus encourage formation of slums nearer to them. Plan and locate major work centers viz. commercial areas, industrial areas and offices in relation to residential areas in terms of travel time to work centers. Minimize travel distances by devising means to ensure compact development of the city and by achieving proper relationship between work centers and residential areas. Give special attention in terms of location, provision of services and accessibility.

11.2.3. Planning design: Take proper decision regarding plot sizes, expected dwelling type, permissible uses in residential areas and choice of development, choice of type of development whether Block or cluster; in the light of socio-economic

characteristics of slum dwellers. Following guidelines are listed at sector, cluster, and individual dwelling unit level.

A. Planning at the sector level

The checklist of considerations for sector level planning is as follows:

- Provide a boundary to each sector.
- Provide local facilities within easy reach.
- Foster a viable sub-community in each sector.
- Encourage interaction and integration amongst various groups.
- Provide well-distributed open spaces.
- Promote multiple use of land.
- Segregate pedestrian and vehicular movements.
- Optimize land use, roads and other infrastructure.
- Reflect cultural aspirations in the built form.

B. Planning at cluster/ street level

The premise behind the formation of this hierarchy is to encourage intense social interaction. The checklist of considerations at cluster level is as follows:

- Promote person-to-person contact, through appropriate scale of cluster.
- Define clearly each cluster's territory and the sense of entrance.
- Provide an individual character to each cluster.
- Pay due consideration to pedestrians.
- Create a functional, sympathetic and aesthetically pleasing street environment.
- Optimize cluster patterns for economic infrastructure and easy access.
- Provide spaces for social and religious activities.
- Promote income generation at the cluster level.
- Provide all essential amenities and utilities at every street / cluster.

C. Planning at the dwelling unit level:

The checklist of parameters at the plot/ dwelling unit level are as follows:

- Make the dwellings sensitive to the lifestyle and needs of the people.
- Give each dwelling a rich, unique identity.
- Integrate the spaces within and outside the dwelling.

- Maintain privacy within and from outside.
- Consider orientation, light, cross ventilation, etc. for natural climate control.
- Allow for vertical expansion of the dwelling in future.
- Provide a rear access for sub-letting, bicycle, cattle, etc.
- Study the efficiency of plot sizes, walls, foundations and internal circulation.
- Use appropriate materials and construction methods.
- Make the dwelling simple and economic to encourage the self-help approach.

11.2.4. Infrastructure facility: Make appropriate decision regarding function, width, surface, spacing and hierarchy while addressing circulation network; and make adequate provision for utilities such as potable water, surface drainage, sewage collection and disposal, electricity, etc. provision of utilities should include factors such as health, climate, function, density and cost to set tentative basic minimum standards for such provision; such cost should be related to typical household incomes. It might be necessary to set temporarily acceptable standards below the basic minimum for existing slums, squatter settlements, and partially built up peripheral areas.

General public facilities, such as, schools, hospitals, clinics, health centers, transport, social service, fire protection, parks, playgrounds, etc, should be provided for urban neighborhood as a whole rather than for individual settlement. Commercial facilities, such as, markets, stores, repair shops, entertainment facilities, and these facilities are result of push and pull factors, characteristic and demands set by the residential community of a given place, thus are least likely to be affected by government initiatives.

11.3. ECONOMIC ASPECTS

11.3.1 Cost of Land: Land price for housing purposes depends upon factors, such as, location attributes with respect to accessibility to urban services and amenities, area specific and use specific demand for land, permissible floor area ratio, and concentration of land in the hands of speculators and the government. While the State Government has already enforced Land Ceiling Repeal Act, 1999, other measures to bring down the cost of land include:

1. Provision of land for slum dwellers at subsidized rates.
2. Provision of high floor area ratio in commercial districts of the city, and for residential apartments.
3. Provision of high tax on vacant land, and time period for which land can be kept vacant.
4. Use of systemic model for long term strategic planning of land use.
5. Provision for reservation of land for housing the poor, and rehabilitation of the slum dwellers; as percentage of total land in new residential developments, commensurate with their proportion in total urban population.

11.3.2. Cost of construction: Slum dwellers should be encouraged to take up self-help methods of construction, it would result in significant reduction of construction cost, as “labor constitutes approximately three-fifth of the total construction of cost.” By contributing one-fourth of the labor, the saving will amount to fifteen per cent of the total value of construction, thus higher the contribution of labor, higher will be saving in the construction cost.

Most frequently used construction material, such as, corrugated tin, asbestos cement sheets, cement, bricks etc, should be made available to reduce the construction cost.

Set up centers for appropriate construction techniques and technology, and train slum dwellers in their use, so that not only skills are upgraded, which increases their employment opportunity; but also contributes in reduction of cost.

11.3.3. Employment: it follows from the physical survey that majority of the slum dwellers are engaged in self-employment of trade, transport and manufacture. Therefore, there should be intensive investment in the economic development of slum dwellers, and focus should be on increasing their job opportunities in areas that increase chances of self-employment; consequently vocational training centers should be set up on priority; for training slum dwellers in specific jobs, such as, weaving, sewing, knitting, welding, plumbing, fabrication, glass cutting and fitting, bamboo cane works, book binding, paper board articles, cotton thread ropes, etc.

11.3.4. Income of households: It is evident from survey results that individual income of slum dwellers may be quite less as compared to total household income; therefore it is necessary to include total household income as an important economic parameter rather than individual income of the slum dweller for all practical purposes.

11.3.5. Availability of finance: formal financial institutions are beyond the reach of slum dwellers because conventionally lending institutions require clear title of land, registration and surety of repayment before extending loan, which slum dwellers do not have; therefore it is necessary to provide them with security of tenure and consistent source of income.

It follows from the physical survey that slum dwellers build incrementally, hence they require small sum as a loan to be repaid over longer period. It is evident from the study that their requirement is never more than Rs. 25,000/-; given that they are willing to contribute more than Rs. 4000/- towards for improving or acquiring a house; then only loan of Rs. 20, 000 is required, which they can repay within the period of 4 years, if interest rate is halved and installments are placed at not more than one-fifth of monthly household income.

11.3.6. Cost of Finance: Even the smallest amount borrowed at higher interest rate increases the cost of borrowing at longer periods, slum dwellers therefore should be provided loan at subsidized interest rates.

11.3.7. Type of subsidy: Knowing very well that poor can afford only minimal shelter by his own efforts; however, it is beyond his means to afford acceptable shelter by channeling his own funds, therefore it is necessary to provide him Land, Construction material and finance at subsidized rates, either through direct, indirect, or cross subsidy.

11.4 ADMINISTRATIVE ASPECTS

11.4.1. Legal and Regulatory framework: having known that the State Government has already repealed Urban Land Ceiling Act, it is suggested that a statute be enacted to reserve certain percentage of land, to accommodate housing for the poor, and rehabilitation of slums, commensurate with percentage population of slum dwellers in the cities.

It is also recommended that regularization of slums on government land should be undertaken as priority, in case of slums on private land, it is suggested that land be acquired from their owners, and consequently they should also be regularized. Security of tenure is prerequisite to enable slum dwellers for improving his house and surrounding environment.

11.4.2. Fiscal measures: Once ownership right is conferred to slum dwellers, provision for variable rate of registration should be made, say it can be made half the current rate for residential property less than 50 Square meter; so as to improve the financial credibility of slum dwellers.

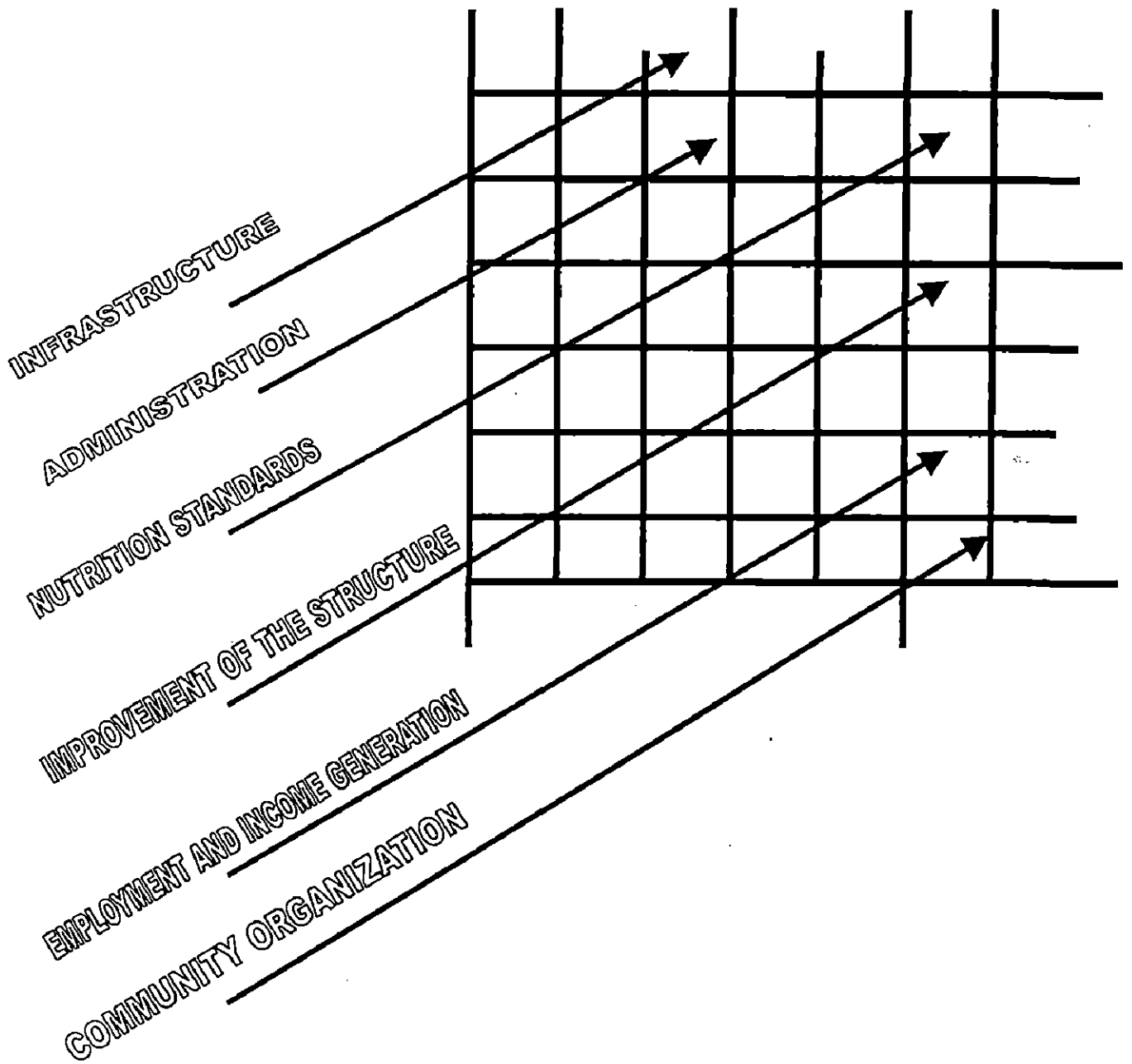
The land which otherwise shall be 'non-transferable' under normal circumstances to check land speculation, may be allowed to be put as mortgage to financial institutions, so as to finance accessible to the slum dwellers.

State Government should float infrastructure and housing bond, and may allow full tax concession, so that peoples' money can be mobilized for financing infrastructure development projects. Tax concession may also be extended to housing related industries.

11.4.3. Institutional arrangements: It is recommended to build the network of Non-governmental organizations for tackling the issue of slums, and to serve as nodal agencies for implementation and monitoring of development projects pertaining to slums, and act as necessary connecting link between government and slum dwellers. Community Organizations should be encouraged in slums, in order to facilitate social development of slum dwellers. Further informal Saving and Loan associations can be encouraged to form cooperatives, and loans can be extended to them for taking up improvement work within slums, responsibility of loan recovery may be entrusted to them. Social guarantees and peer pressure may work particularly well. Numerous examples such as Bangladesh Grameen Bank housing loans, Community Mortgage Program have demonstrated the feasibility of the approach. Experiences of these programs have demonstrated that where individual incomes are in the lowest quintile, they have an excellent record in loan repayment. It will enable slum dwellers financially; similarly cooperative efforts may be extended in various fields such as cottage industries, community contract system for taking up construction work within the slum etc.

It is recommended to constitute single authority with planning, execution and maintenance functions entrusted with it in order to ensure better control over development, which shall result into and savings in time and money, and consequently in faster and comprehensive development in over all quality of urban life, development of slums being implicit.

FIGURE 69 : ELEMENTS OF INTEGRATED DEVELOPMENT OF SLUMS



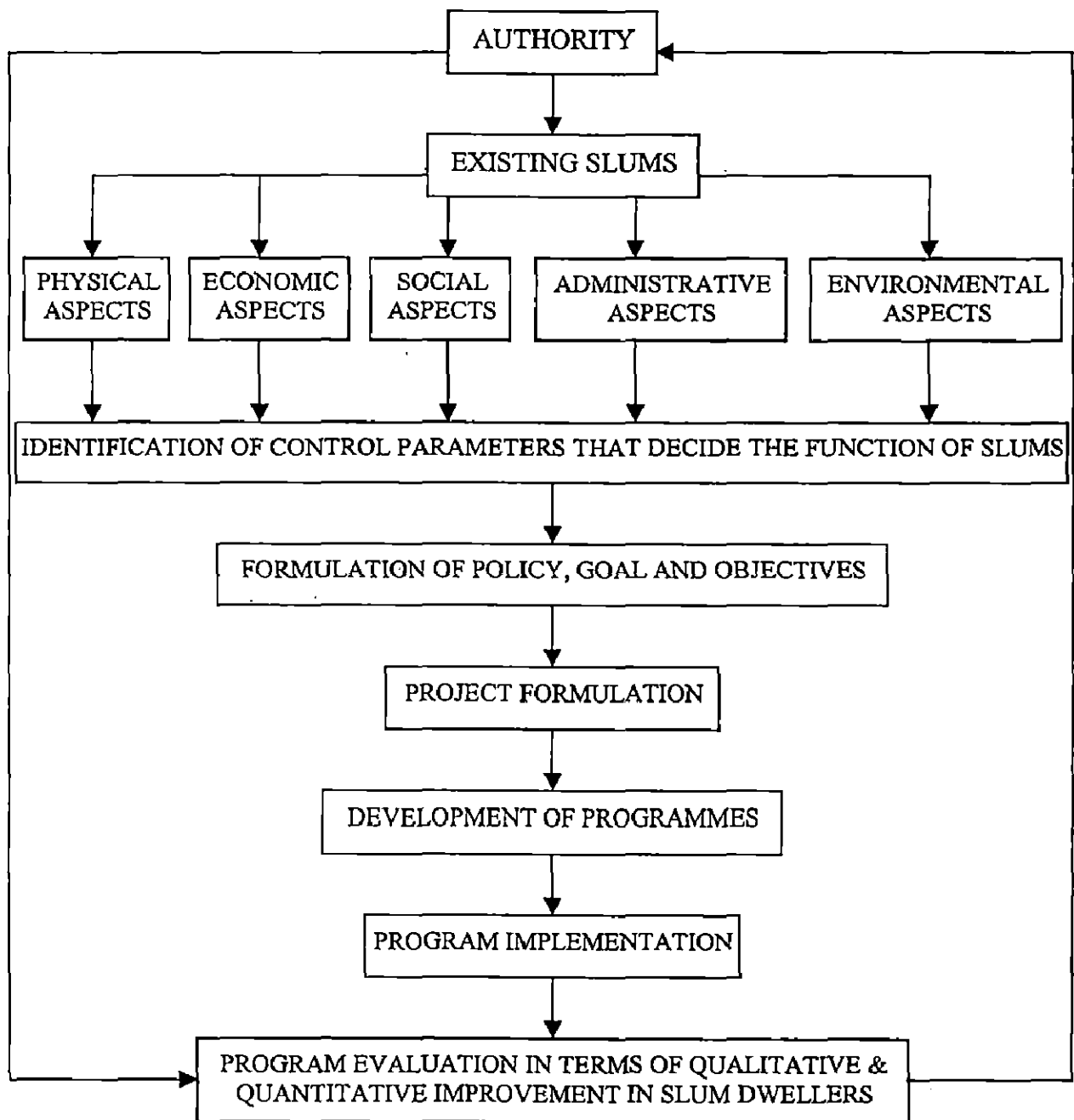


FIGURE 70 : PLANNING MODEL FOR REDEVELOPMENT OF SLUMS

11.4.4. Policy measures: Policies are tools for controlling and guiding pace, growth and direction of development in the desired direction. Certain policies are to be modeled with special reference to slums.

- Policy for small-scale industrial expansion.
- State housing policy with reference to housing the urban poor.
- State slum development policy in accordance with National Slum policy.
- State fiscal policy in order to enable the urban poor.

11.5. SOCIAL ASPECTS

11.5.1. COMMUNITY DEVELOPMENT

Community development in the slums can be undertaken by the provision of technical and other devices in ways, which encourage, initiate and make self-help and mutual aid more effective in carrying out development programs.

Emphasis may be laid for securing willing participation of the people themselves in efforts to improve living standards.

11.5.2. SOCIAL DEVELOPMENT

Social development of the slum dwellers can be organized in four stages:

- By securing knowledge about slum dwellers.
- By providing technical assistance wherever necessary.
- By encouraging motivation in them.
- And finally by providing adequate opportunities and resources.

11.6. ENVIRONMENTAL ASPECTS

Overcrowding, poor sanitation, and other practices such as indiscriminate waste disposal and wood gathering for fuel or construction create poor environmental conditions. Following recommendations are made in this regard.

- On-site recycling of solid and liquid waste to prevent the pollution of land and water.
- Develop urban forestry techniques.
- Provide drains and dustbins
- Provide adequate toilet facilities

- Introduce appropriate technologies such as improved cook stoves to reduce indoor air pollution.

11.7. LOCATION SPECIFIC RECOMMENDATIONS

Recommendations for slums that are surveyed are based on results from physical survey, observation studies, and response of the people about level of infrastructure, whether they find it adequate or inadequate, say for example while three-fifth of the total number of households had access to toilet facility, they often complained about choking of drainage lines or inadequacy of community toilets.

TABLE 11.1 MATRIX OF RECOMMENDATIONS FOR INFRASTRUCTURE DEVELOPMENT

Name of the slum pocket	Name of the slum	Toilet	Water hydrant	Bathing enclosure	Approach road	Surface drains	Solid Waste disposal (dustbins)	Street lighting
MILL AREA	Gotu ki Chal		Y				Y	
	Lala Ka Bagicha	Y	Y				Y	
	Rustam Ka Bagicha	Y	Y				Y	
	Goma Ki Phel		Y				Y	
OLD CITY (JUNI INDORE)	Chandra prabha Shekhar Nagar	Y	Y	Y	Y	Y	Y	Y
	Prakash Ka Bagicha					Y	Y	
	Katkat pura					Y	Y	
	Jabran Colony	Y					Y	
MHOW NAKA, DHAR NAKA	Indira Nagar		Y			Y	Y	
	Sirpur Talab	Y		Y	Y	Y	Y	Y
	Musakhedi Balai Mohalla	Y		Y		Y	Y	Y
	Bheem Nagar	Y	Y				Y	Y

Name of the slum pocket	Name of the slum	Toilet	Water hydrant	Bathing enclosure	Approach road	Surface drains	Solid Waste disposal (dustbins)	Street lighting
BANGANGA	Ramdutt ka Bhatta	Y	Y		Y		Y	
	Saraswati Kushtha Ashram						Y	
	Sanwer road railway crossing	Y	Y	Y		Y	Y	
	Bhagat Singh Nagar					Y	Y	
CITY AREA (Other than old city)	Niranjanpur	Y	Y	Y	Y	Y	Y	Y
	Dashera Maidan	Y	Y	Y	Y	Y	Y	Y
	Behind Lal Bagh	Y	Y	Y		Y	Y	
	Nadia Nagar					Y	Y	

11.8. CONCLUSION

This present investigation considers slum as a sub-system of the urban system, which is essential for survival and the development of the urban system. The ever growing demand of present day urban systems for cheap labor and services have lead to large scale migration from rural system to urban areas. Inadequacy of formal sector to supply affordable shelter forces poor migrants to troop in slums or informal settlements.

Redevelopment is often thought of as a physical problem alone, however, acceptability of solutions thus offered depends largely on socio-economic aspects,

such as, the method of tenure, the form of subsidy, the terms of loan, the physical standards offered and administrative policies. Each one of these factors is capable of functioning in constructive way. Feasibility of the proposed solution then will depend on the income level of the people served, and their cultural background. Thus redevelopment can be done only through integrated planning for achieving steady socio-economic, physical and environmental development in slums.

Redevelopment of people living in slums can be organized into four stages: the securing of knowledge about people; encouragement of motivation, where it is necessary; provision of technical assistance, and provision of opportunities and resources.

The present study investigates control parameters that decide the function of slums, and establishes the link between slums and rest of the urban system. The study investigates the present status of the infrastructure facilities in slums, socio-economic characteristics of slum dwellers; and various factors, such as, desire to shift for better living, willingness to pay, priorities of essential services and physical improvement that is essential for development of slum dwellers, etc, to develop a set of plausible recommendation for the redevelopment of slum pockets in the study area for achieving steady and integrated socio-economic, physical and environmental development. The Author hopes that if the recommendations are implemented in the study area, total timely development is anticipated in the given system.

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APPENDIX

Infrastructure required as per Standards

The JJ Removal scheme, in fact, laid down standards for civic amenities that were to be provided to the relocation colonies as specified below:

- (i) One latrine for 20 persons or 4/5 families
- (ii) One filtered water hydrant for 40 families or one hand pump for 20 families
- (iii) One bathing enclosure for 6 families
- (iv) Approach road
- (v) Surface drains
- (vi) Street lighting
- (vii) School, medical and community facilities

The above standards were kept low by 50 per cent in case of latrines, Filtered water hydrants, hand pumps and bathing enclosures for 'ineligible squatters' as compared to eligible squatters. Table 2.1 provides a comparative account of the standard that were prescribed under JJR scheme for the provision of amenities between 'eligible' and 'ineligible' squatters.

Comparative Statements Showing Amenities under the JJR Scheme for Eligible and Ineligible Squatters.

Sl.No.	Amenity	Eligible	Ineligible
1.	Water Supply (a) Hand pumps	1 for 20 families	Same as for eligible squatters but for the present, scale being adopted is 1 hand pump for 40 families
	(b) Filtered water hydrants	1 for 40 families	1 hydrant for 80 families
2.	Latrines	1 seat for 5 families	1 latrine seat for 10 families
3.	Bathrooms	1 for 6 families	1 for 12 families
4.	Street light	Kerosine or electric	Same as for eligibles
5.	Surface drains	Storm water drains	Same as for eligible
6.	Pucca approach road	—————	Brick paved with one approach road
7.	School, medical and community facilities	Sites to be earmarked in the layout plan	Sites to be earmarked in the layout plan

Source: DDA, Resettlement Colonies- Review of the Problems (Mimeographed), June, 1977, p, 9

