



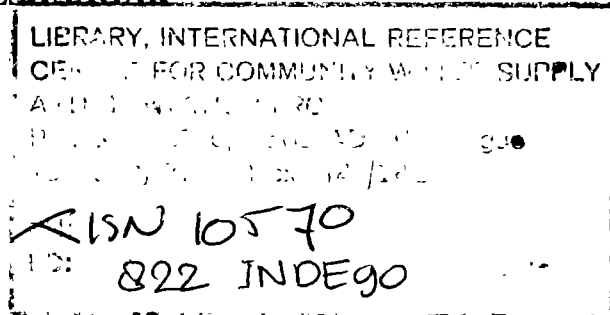
Indian Human Settlements Programme

24 Research Report

Community Participation
for Sanitary Management
in an Urban Slum, Delhi –
A Case Study on Harkeshnagar

COMMUNITY PARTICIPATION FOR SANITARY MANAGEMENT IN AN URBAN SLUM, DELHI

A CASE STUDY ON HARKESHNAGAR



Asian Centre for Organisation Research and Development (ACORD)
New Delhi

HSMI

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Indian Human Settlements Programme

Under Indo-Dutch Technical Assistance

Housing and Urban Development Corporation
Institute for Housing Studies, Rotterdam

PREFACE

INDIAN HUMAN SETTLEMENTS PROGRAMME (IHSP)

The Indian Human Settlements Programme operates through a joint collaboration between Government of India and Government of Netherland. The collaborating institutions are the Housing and Urban Development Corporation (HUDCO), represented by its Human Settlement Management Institute (HSMI), and the Institute for Housing Studies (IHS), Rotterdam.

HSMI was founded by HUDCO in 1985 in order to provide training support to professionals working in the housing sector and to establish a forum for interaction between administrators, professionals, researchers and others engaged in human settlement related programmes. In addition to its own training and research activities at the national level, the Institute is actively engaged in promoting training capabilities at the State and local levels. The Institute also acts as a nodal point for interaction with various international and multilateral training institutions which provide pedagogic, faculty and training material support.

The Indian Human Settlements Programme (IHSP) aims at systematic development of training courses for mid career, middle management level professional personnel engaged in the planning, implementation and monitoring of provisioning of shelter, environmental improvement and community development activities for low income urban families. The programme draws upon recent national and international innovations in professional practice, new tools, methodologies, technologies and interdisciplinary working relationships, in order to increase the relevance of professional practice to the pressing needs of housing and urban development in the Indian context. The programme is supported by independent research documentation and case studies to strengthen the action oriented character of the training workshops.

Research Fellowships

The Indian Human Settlements Programme offers fellowships to support studies in the broad field of human settlements. The research fellowship is awarded to the principal researcher who is made responsible for the programme inputs and proper completion of the research. Emphasis is laid on developing case study materials and project impact assessment studies in support of its on-going training programme in various fields of human settlement development in India with special reference to the needs, aspirations and resources of low income families.

The IHSP Research fellowships are meant for action oriented research and documentation by professionals, groups of professionals and institutions who have working experience in the context of human settlement development or have been closely associated with formulation and implementation of projects. The aim of the fellowship programme is to reach and support professionals wishing to document processes of human settlement development, in order to project to a wider group the insight and accumulated experience acquired through an intimate exposure to such process over a period of time.

Subject Areas of Sponsored Research

A number of subject areas of reserach supporting ongoing IHSP workshops have been identified. The broad parameters for research in each subject area are as follows:

Settlement Design

Design of layouts of plot and dwelling, units in self help, sites and services and other types of housing project; delineation of roles and responsibilities of agencies and actors in implementation at the core housing stage and during progressive development of dwelling and infrastructure, physical improvement reblocking and reconstruction/reconstitution of existing settlements.

Neighbourhood Improvement & Slum Upgrading

Analysis of slums and squatter settlements and the potential for their improvement, community participation, employment creation and income generation, land tenure administration, opinions, strategies and methods of implementation of slum improvement programmes and slum upgrading project formulation

Housing Project Finance

Tools of project decision making; cash flow analysis; estimation/forecast of affordability, demands, cost, subsidised revenues of a housing project; feasibility analysis of subsidised housing programmes; design alternatives and cost implication; mechanisms of cost recovery.

Low Cost Infrastructure

Designing of infrastructure, provision for low income settlements; management and implementation of low cost options in sanitation, water supply, drainage and garbage collection and disposal; analysis of technological options in terms of affordability, social acceptability and environmental conditions

Participatory Construction Management

Planning of on-site works for implementation of projects with collaboration of community options in building materials and construction technology, identification of voluntary labour components; measurement of labour productivity; tendering of works; supervision and monitoring.

Urban Land Management

Analysis of land use, assembly, development, cost and pricing in different types of low income settlements, housing options and submarkets; channels and procedures for managing and funding land tenure and development programmes as supports for low income housing; interaction between formal, semi-formal and informal land supply mechanisms and bearing on low income housing delivery systems: Documentation of current land acquisition, development, allocation, utilisation and pricing policies/programmes and innovative alternatives, Documentation and analysis of land markets and impact on access to housing by low income families in projects, Documentation of land tenure situations and effect on housing situation, Documentation of land price determinants in different kinds of low income settlements; Case documentation of cash flows for land development in large integrated area development projects with a focus on land for shelter; Documentation of role of actors in supplying and developing land in formal, informal and semi-formal housing areas; Analysis of urban planning and development norms, standards and laws for impact on land development costs in low income housing areas.

Cost Recovery and Estate Management

Cost recovery aspect of slum upgrading and neighbourhood improvement programmes with an insight into the policy implications at an operational level. Also cost recovery along with estate management aspects of any typical housing agency like Housing Boards, Slum Boards etc. The following could form part of the proposal: Need for cost recovery; Policy issues and aspects of cost recovery for i) improvement & upgrading programme; ii) for other housing programmes; Issues of subsidies Vs. Cost recovery & replicability for Government housing programme; Affordability and cost recovery; Maintenance of records and information system for cost recovery, types of accounting; Analysis of information and management information system; Organisational aspects of estate management department. Penalties and incentive (action plan) for improving cost recovery and estate management.

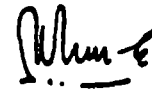
Computer Applications in Human Settlement Planning

Computers, as a basis for automated information systems and as a tool for modelling, can play a vital role in augmenting the capabilities of the implementing authorities to tackle human settlement planning and management effectively. To assist in imparting of the analytical capabilities of micro-computer based human settlement planning and management applications and to explore its effective role for implementation, required case study material will be in the following areas: Management information systems; Housing finance and fund management; Estate management & cost recovery; Socio-economic surveys; Graphics and statistical applications; Land subdivision, Utility network, Affordability issues; Spatial analysis & geographical information systems

Acknowledgements

This research report is an outcome of the IHSP Research Cycle. The first and the second IHSP Research Cycle were managed by the National Institute of Urban Affairs with funds made available by the Government of Netherland, through the Institute for Housing Studies, Rotterdam I am happy to acknowledge the support provided by these institutions and research guidance made available to the researcher by the IHSP faculty.

It is hoped that these research reports produced under this action oriented IHSP sponsored research, will provide valuable information to all those engaged in shelter programmes.



SK Sharma
Chairman & Managing Director
HUDCO

FOREWORD

Indian cities have accommodated a large number of out-migrating people from rural India in the last four decades. One of the consequence of such urban growth has been the emergence of large numbers of urban slums, which have come to be a permanent feature of mega-cities.

Although in general most urban planning has taken care of the quality of environment, most of the specific programmes oriented towards slums, have largely failed to meet serious social and ecological problems for cities.

The present study attempts to develop some insights into various aspects of community participation with a view to develop an effective strategy for action planning for slum settlements in the area of sanitation management. The suggestions are intended to provide guidelines for identifying local leadership and target people for initiating a participatory process.

ACKNOWLEDGEMENT

This Study on community participation for sanitary management in an urban slum was undertaken by the Asian Centre for Organisation Research and Development (ACORD) at the instance of the Human Settlement Management Institute, New Delhi. The ACORD research team is grateful for the opportunity provided for conducting this study.

We take this opportunity to thank Mr. R.P. Singhal, Ms. Seeta, Mr. A.N. Krishnamurthy and Mr. Martyn D for their support and cooperation.

We are indeed very grateful to the people of Harkeshnagar and eight volunteers who made the data collection process, which could well have been very cumbersome, quite an enjoyable one.

Thanks are also due to Ms. Lucy Wesley of ACORD whose constant supervision of the data collection process deserves mention.

Ms. Kiron Wadhwa, Deputy Executive Director of ACORD, has been a great source of strength and support throughout the project. We would like to record our deep sense of gratitude to her.

Last, but not the least, the cheerful support received from the ACORD staff, especially Mr. O.P. Gilani, Ms. M. Sreedevi, Ms. Jyotsna Majumdar who coded the data and typed several versions of the schedules and manuscripts, was indeed very heart warming, and to them we express our sincere appreciation.

Dr. Jaya Indiresan
Amit K. Ghosh

EXECUTIVE SUMMARY

At the instance of the Human Settlement Management Institute, New Delhi, a Study titled 'Community Participation for Sanitary Management in an Urban Slum' was undertaken by the Asian Centre for Organisation Research and Development (ACORD) in an urban slum named Harkeshnagar in Delhi.

The main objectives of the Study were :

- a) to assess the prevailing sanitation conditions in the community.
- b) to understand the existing knowledge, attitude and practice of people in relation to sanitation, and
- c) to assess peoples' readiness to participate in a community sanitation drive.

In order to accomplish these objectives, an appropriate interview and observation schedule was developed to gather primary data in this regard. The local youths were involved and trained to collect data. Analysis of the data gathered revealed that :

- i) sanitation-related physical amenities like toilets, water facilities and sewage and garbage disposal systems are highly inadequate;
- ii) while people are concerned about personal hygiene, attitudes regarding public hygiene are different;
- iii) most of the people are willing to contribute to the improvement of sanitation conditions prevailing in the community; and
- iv) an integrated intervention which combines infrastructure building and motivational and educational campaigns is needed to improve sanitation conditions.

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CHAPTER I

INTRODUCTION

1.1 BACKGROUND

In the last few decades Indian cities in general and the mega-cities in particular have witnessed rapid growth of squatter and Jhuggi-Jhompri settlements. The scale of the squatter population in urban India is expected to increase from 30 millions in 1986 to 80 millions in the year 2001. Because of their unplanned growth and the characteristics of their resident population, these squatter settlements pose serious social and ecological problems for both the city and their resident communities.

In Delhi, the growth of squatter settlements has been very rapid. Presently, the total population in squatter settlements is estimated to be about 1.5 millions which is one fifth of the total population of the city. The magnitude of squatter population and its growth calls for extensive and intensive research studies and action plans for the development of squatter settlements. Sharing this concern, an attempt is made here to understand some aspects of sanitation and peoples' initiative to undertake community action to secure and maintain hygienic and healthy conditions in these settlements.

It is well-known that one of the major problems of urban slums is the highly insanitary conditions prevailing in them. These conditions owe, on one hand, to the overcrowding that is typical to these settlements and, on the other, to the apathetic attitudes towards community hygiene that are typical to their residents. While people do, indeed, keep their individual homes clean, they do not take any responsibility for the sanitary conditions of the community, there being a common feeling that it is the responsibility of the government to maintain public sanitation. In fact, in general, squatter communities tend to look to external agencies, rather than make any effort to mobilise the resources available within the community, for meeting their needs.

It is being increasingly realised that it is extremely difficult for the Government or any other external agencies to meet sanitation related needs of squatter communities unless the people themselves take up part of the responsibilities of maintaining the infrastructure provided and of creating new infrastructure.

It is hypothesised that it should be possible to find strategies to bring about community participation through social mobilisation. However, for the development of such strategies for action plans, it would be necessary to study the existing conditions prevalent in the community, the way people perceive these conditions, and the willingness of the community to participate in improving them. This would provide an understanding of the strengths, weaknesses, opportunities and threats prevalent in the community, which, in turn, would help in formulating action plans that are realistic and feasible. An analysis of the current status would also give an insight into the type and nature of strategies that would be most appropriate

for the selected community. Quite often, action programmes launched without fully understanding the socio-cultural context of the community do not yield desired results.

1.2 OBJECTIVES OF THE PRESENT STUDY

The present Study broadly aims at assessing peoples' attitude, knowledge and practices in relation to various facets of sanitation, and their willingness to involve themselves in sanitation management, with a view to suggest some ways and means of bringing about improvements in the health of the community by improving the sanitation conditions through participatory programmes. It is hoped that this Study will provide a model which would be of value in addressing the crucial problem of sanitation management in urban slums in the country.

1.3 SCOPE OF THE STUDY

This Study is confined to understanding various facets of the problem of sanitation in an urban slum in Delhi. Three major areas have been delineated for coverage in this Study.

- I. A physical assessment of sanitation conditions prevailing in the settlement, including:
 - a. The number of public and private latrines available, their utilisation and condition;
 - b. The type, number and nature of various drinking and other water resources available, the condition of these resources, actual supply available, etc;
 - c. Existing garbage disposal arrangements in terms of places of dumping, collection, etc; and
 - d. The existing drainage system (open or closed, free flowing, stagnant pools, etc).

- II. A behaviourist assessment of the community in respect of sanitation in terms of :
 - a. Knowledge (What are the peoples' concepts regarding sanitation? Is there an understanding of the need for sanitation? Is there an awareness of the consequences of insanitary conditions?);
 - b. Attitudes (What are the people's perceptions and attitudes to the existing sanitation conditions? Is there an awareness and a concern for the insanitary conditions? What do people want? Who do they hold responsible for the prevailing conditions?);
 - c. Practices (What are the practices of individual members in contributing to the existing sanitation conditions in the settlement? Where do they defecate?

Where do they dump the garbage? How do they keep water resources? What are their personal and home cleanliness habits?).

- III. An assessment of the people's readiness to contribute to sanitation management in the settlement in terms of the following :
- a. Are they willing to make any monetary contribution?
 - b. Are they willing to give their time in supervising and monitoring the sanitation management arrangements?
 - c. What social pressure can they build up for maintaining sanitary conditions in the settlement? and
 - d. How much cooperation can they generate and maintain in the community?

An analysis of the responses in these three broad areas would provide valuable information for an understanding of prevalent conditions based on which strategies can be worked out. In fact, it is envisaged that strategies would emerge from the community itself. Any strategy that emerges from within the community would be more viable than any strategy that is imposed on it from outside by an external agency. Atleast the community would own their own problem and it is essential that they also perceive that the solution is also their own.

1.4 SELECTION OF THE PROJECT AREA

The slum settlement selected for this Study is Harkeshnagar, near Okhla, New Delhi. Harkeshnagar has been selected for three reasons :

Firstly, ACORD has already been working in this area for the development of this community in various facets of life. Therefore, ACORD has a distinct advantage of an established rapport with people for obtaining required data.

Secondly, Harkeshnagar is one of those slums where sanitation conditions are deplorable, the general socio-economic condition of the resident population is poor and not much infrastructure has been provided by any outside agency. In a sense, the sanitation problem in Harkeshnagar is at its acutest and the strategies that emerge from the present study are likely to have greater applicability than if they were based on a settlement that was better off, so speak.

Thirdly, Harkeshnagar's population presents a truly heterogeneous social structure. As such initiating a process of participation is both challenging and meaningful in a national perspective.

1.5 STRUCTURE OF THE REPORT

The report is divided into six chapters, including the introductory chapter in which the research problems and the present study have been introduced. The second chapter deals with

the methodology of the study highlighting the tools and techniques and the methods of sampling and analysis used. Chapter three presents a profile of the settlement, of the sample population and the sanitation conditions in the settlement. In chapter four, the findings related to knowledge, attitude and practice of people regarding various aspects of health and sanitation and to their willingness to participate in a community sanitation programme are discussed. In chapter five, the relationship between willingness for community participation and various other factors like age and education is discussed. Chapter six lists out major findings and makes suggestions for an action plan.

CHAPTER II

METHODOLOGY

2.1 INTRODUCTION

In this Study, both quantitative and qualitative data have been obtained through a survey in the settlement using specially designed questionnaires and observation schedules. Group discussions were used to substantiate the data obtained through the survey method.

2.2 DEVELOPMENT OF THE SURVEY TOOL

The questionnaire used for the survey was first developed in English and subsequently translated into Hindi as most of the respondents in the area could respond in Hindi. The questionnaire was pre-tested in the community on a small sample and based on the experience with responses, administration of the questionnaire and clarity of the questions, required modifications were made before finalising the questionnaire for data collection (See Annexure - I).

The questionnaire thus finalised contains both open-ended and closed questions and the major areas covered pertain to the following :

i) **The prevalent cleanliness conditions**

In this section, the people's perceptions about the various facets of the conditions of cleanliness both inside and outside the houses were ascertained. Observations on these aspects were also made and recorded by the field investigators.

ii) **Responsibility for cleanliness**

This section elicited responses about the owning of responsibility for maintaining cleanliness both inside and outside the house.

iii) **Concept of cleanliness**

In this section an attempt was made to ascertain the people's perceptions about standards of and strategies for cleanliness inside and outside the house.

iv) **Practices related to sanitation**

This section sought information about prevalent practices in respect of storage and utilisation of water and in respect of personal hygiene in terms of washing and cleaning.

v) **Knowledge about diseases**

This section ascertained the extent to which causes of diseases and the way in which they are linked to polluted water and insanitary conditions were understood by the people. Practices related to utilisation of health facilities immunisation and disease prevention were also covered.

vi) **Physical set-up**

In this section, the physical conditions under which people live and the facilities available to them in terms of the availability of water, electricity and the type of houses and toilet facilities were covered.

vii) **Family characteristics**

Details were also obtained about education, income, occupation and the social groups to which the families belong.

2.3 DATA COLLECTION

2.3.1 Sampling procedure

It was decided to cover around 30% of the households for this survey. A stratified systematic sampling procedure was followed. Taking the nine blocks that make up the settlement as the basis for stratification, one house in each block was randomly picked and every third house thereafter chosen as a sample element for obtaining data. Thus a total of 375 households (33.7 percent of the total households in the settlement) were covered from all nine blocks (See Table 2.1). In Blocks B and E the total households covered considerably exceeded 33%. The reason for this over sampling was that, in many cases, it was found that more than one family was residing in one house. In Block-H, on the other hand, a much lower sample percentage was covered. This under coverage was the result of the sudden drop-out of one of the field staff who was charged with obtaining data from this block. In general, however, the sample obtained for the Study seems to be well-representative of all the blocks in Harkeshnagar.

Table 2.1**Block-wise distribution of the sample respondents**

Blocks	Approx. Households	Sample size	Percentage
A	130	40	30.7
B	80	38	48.7
C	115	40	34.7
D	100	31	31.0
E	152	86	56.5
F	114	40	35.0
G	135	31	22.9
H	184	29	15.7
I	103	40	38.8
Total	1113	375	33.7

2.3.2 Selection and training of field staff

In this Study, a special feature of data collection was the deployment of the members of the community itself. The rationale for this strategy of involving members of the community derives from several factors. First, it facilitates establishing a rapport with surveyed households, thereby, improving the quality of the data obtained. Second, field investigators from within the community are familiar with the layout and other features of the settlement and the community. Third, involving local volunteers in data collection can demonstrate to the community that there exist enough local resources that could be effectively and fruitfully utilised for enhancing community participation.

With these factors in view, a request was made to the community to identify volunteers who could be involved in data collection for this study. Out of the volunteers identified, nine boys were chosen keeping in view their levels of education, attainment and comprehension and their willingness to be involved in the project.

These nine volunteers were invited to the ACORD office where they were given a thorough training for the survey. In the first session, they were briefed about health, hygiene and

sanitation. In the second session, they were made aware of the objectives and implications of the study. In the next session, they were explained the process of interviewing and given a demonstration. The volunteers were then given the interview schedules to study and understand thoroughly and seek any clarifications they required. Then, through a role-play, the volunteers were trained in administering the questionnaire and recording responses. They were also trained in the correct procedure of asking questions and probes to elicit the required information.

After making sure that the field investigators were thoroughly familiar with the questionnaires and the processes of asking questions and recording responses, they were taken to the project site and asked to administer the questionnaires to some of the respondents while the research officers observed them. The investigators were given a feedback on their performance and correctional steps were taken where necessary.

The field investigators were then explained the sampling procedure and allotted one block each for collecting data. The entire process of data collection was constantly monitored and supervised by the research officers by frequent visits to the field.

CHAPTER III

A PROFILE OF THE SETTLEMENT, THE SAMPLE POPULATION AND THE SANITATION CONDITIONS IN THE SETTLEMENT

3.1 INTRODUCTION

In this chapter, a background profile of the settlement is presented in terms of the characteristics of the area, of the sample population and of the physical conditions prevailing in the settlement. The first section briefly describes the development. The second section characterises the households in the settlement on the basis of data pertaining to heads of households. The third section presents a physical assessment of the sanitation conditions in the settlement on the basis of people's perceptions as ascertained through the questionnaire and observations by the field investigators.

3.2 HARKESHNAGAR : A PROFILE

3.2.1 Evolution and consolidation of the settlement

The history of Harkeshnagar (as reported by residents) is about 25-30 years old. This rocky and uneven area originally belonged to 'Lala Harkesh' who allowed migrant manual labourers to settle down on it. Initially it was a sort of squatter settlement mainly consisting of temporary structures. With the growth of Okhla Industrial Area the demand for, and the density of population in, the area grew. Over a period of time the structures started becoming permanent and, by the late seventies, Harkeshnagar was a colony with consolidated structures. Since no planning was involved, the drainage and sewage systems and the circulation network remain highly inadequate. In the early eighties, with the efforts of local leaders and senior residents, the area got regularized. The numbering of houses was carried out by the residents themselves. People do not recall when electricity and water connections were extended to the area. Over a period of time a primary school has come up. But various other facilities like post-office, letter boxes and health-clinics are still awaited.

In March 1990, the status of Harkeshnagar was changed from an unauthorised regularized colony falling under the administrative zones of the Municipal Corporation of Delhi (MCD) to an authorised one coming under the outer Delhi parliamentary constituency.

3.2.2 Population characteristics

Presently, Harkeshnagar has a population of approximately 10,000 people in about 1200 households. The community is very heterogeneous. While most of the people belong to the lower castes like Harijans, Chamars, Gadarias, Nais, etc, there are also comparatively affluent Gujjars, Brahmins and Yadavs in the settlement. A majority of the people in the community are wage workers employed in the nearby industrial estate, while others are engaged in petty business or manual labour.

3.2.3 Physical characteristics

The settlement is divided into nine blocks (See Figure 3.1). Blocks A, D and G are near the railway track and Mathura Road and at a lower level than blocks like I and H located at the other end near the primary-cum-higher secondary school (See Figure 3.2). Beyond Block I is the district part which is generally used as garbage dumping area for adjoining blocks. From the map it appears that a few open spaces are available in Blocks H and I. Despite the fact that scarcity of water is most pronounced in these blocks located on a somewhat higher part of the site, their streets are relatively cleaner. This is primarily because of the fact that the adjacent school and district park area are used for dumping garbage (See Figure 3.3). On the other hand, the blocks in the middle and in the North East corner of the settlement, although they enjoy somewhat better water supply than others, are relatively unclean. This may have something to do with the fact that in these blocks very little open space is available and they are very densely populated.

3.2.4 Housing characteristics

As already mentioned, the level of shelter consolidation is quite high. Almost 92% of the houses have walls made of concrete and cemented floors. About 51.6% have roofs made of concrete and 48.3% have roofs made of tiles. But, although the structures are permanent, most of them are single-storeyed. The rental value varies from Rs. 150/- to Rs. 250/- for one room depending upon the availability of water. The sale prices range from Rs. 20,000 to Rs. 30,000/- for a one room set.

3.2.5 Infrastructure characteristics

The MCD has provided water and electricity in Harkeshnagar for the last two years. However, lack of proper drainage and toilets makes the general condition of the settlement extremely unhygienic. The MCD also runs the only primary school which is meant for boys and girls both. Approximately 600 children are enrolled in the school. However, a high dropout rate and absenteeism makes the actual attendance figure low and more so in case of girls. There are no government health centres in the settlement or in its vicinity. Some of the workers employed in the industrial estate are entitled to ESI benefits, yet are generally unable to utilise them as the closest ESI dispensary is located at a considerable distance from the area. The incidence of eye infections and of skin diseases are reported to be high.

3.2.6 Overall situation

Though no accurate, systematic and detailed data are available regarding landuse and infrastructure facilities in Harkeshnagar, a general idea can be had from the following data from the Urban Village cell of the City Planning Wing of the Delhi Development Authority (See Table 3.1).

Table 3.1**Landuse status of Harkeshnagar***

Population		
Approximately	:	10,000
Area		
Total area	:	16.15 Hect.
Residential	:	6.03 Hect.
Existing build-up portion	:	5.03 Hect.
Community facilities		
H.S. cum Primary School	:	0.91 Hect.
Proposed Primary School	:	0.44 Hect.
Community Hall	:	0.16 Hect.
Industrial Trg. cum Work Centre	:	0.45 Hect.
Commercial		
Convenient shopping	:	0.29 Hect.
Parks/Open spaces	:	0.64 Hect.
Circulation		
5 Metre wide path	:	0.95 Hect.
9 Metre wide road	:	0.35 Hect.

* The Table based on the data prepared by the DDA. The report, however, does not rely much on these data.

It is apparent that the area is over-crowded. Under such circumstances accumulation of dirt and garbage is quite natural and calls for special effort on the part of residents keep it totally clean.

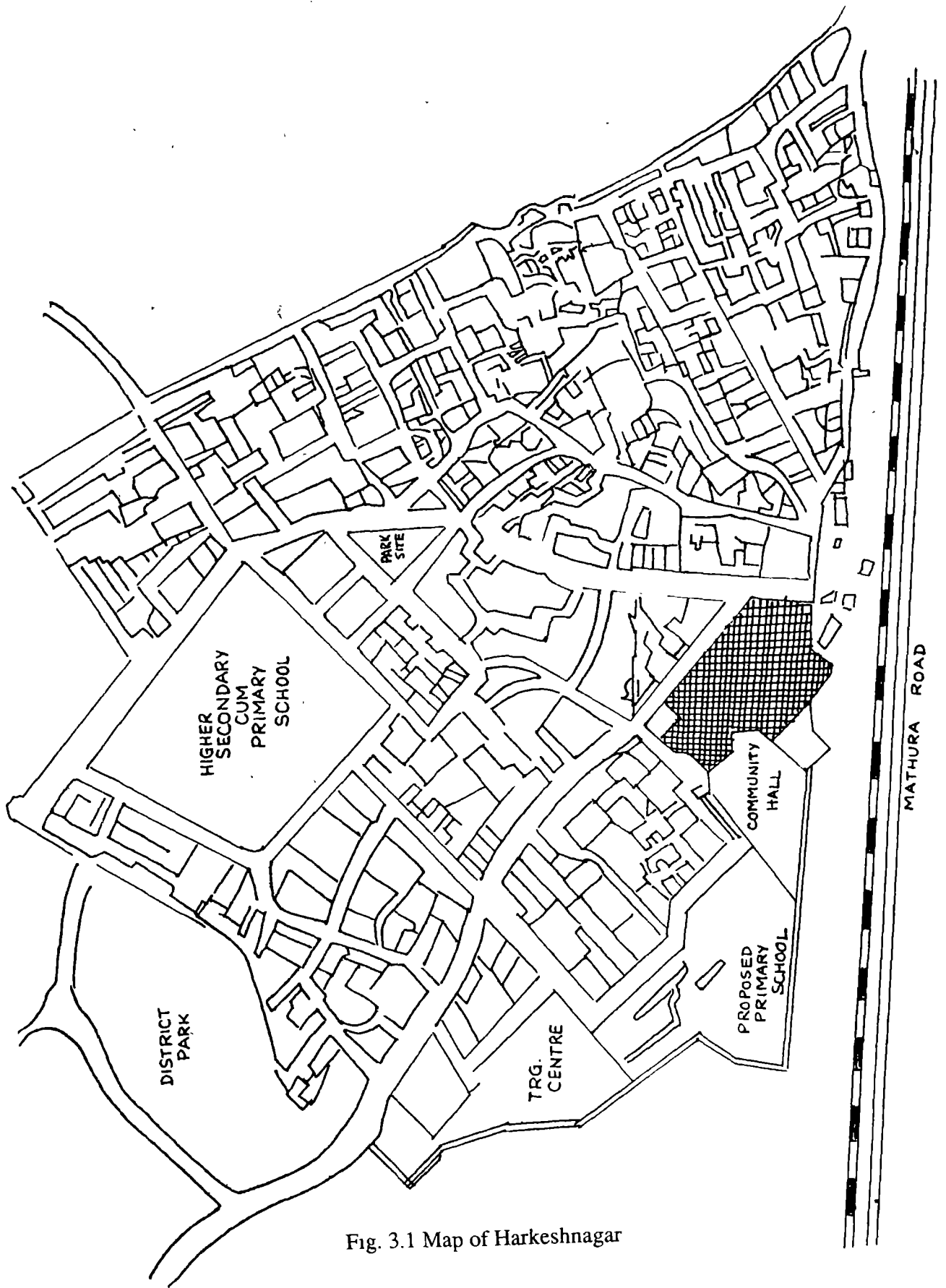


Fig. 3.1 Map of Harkeshnagar

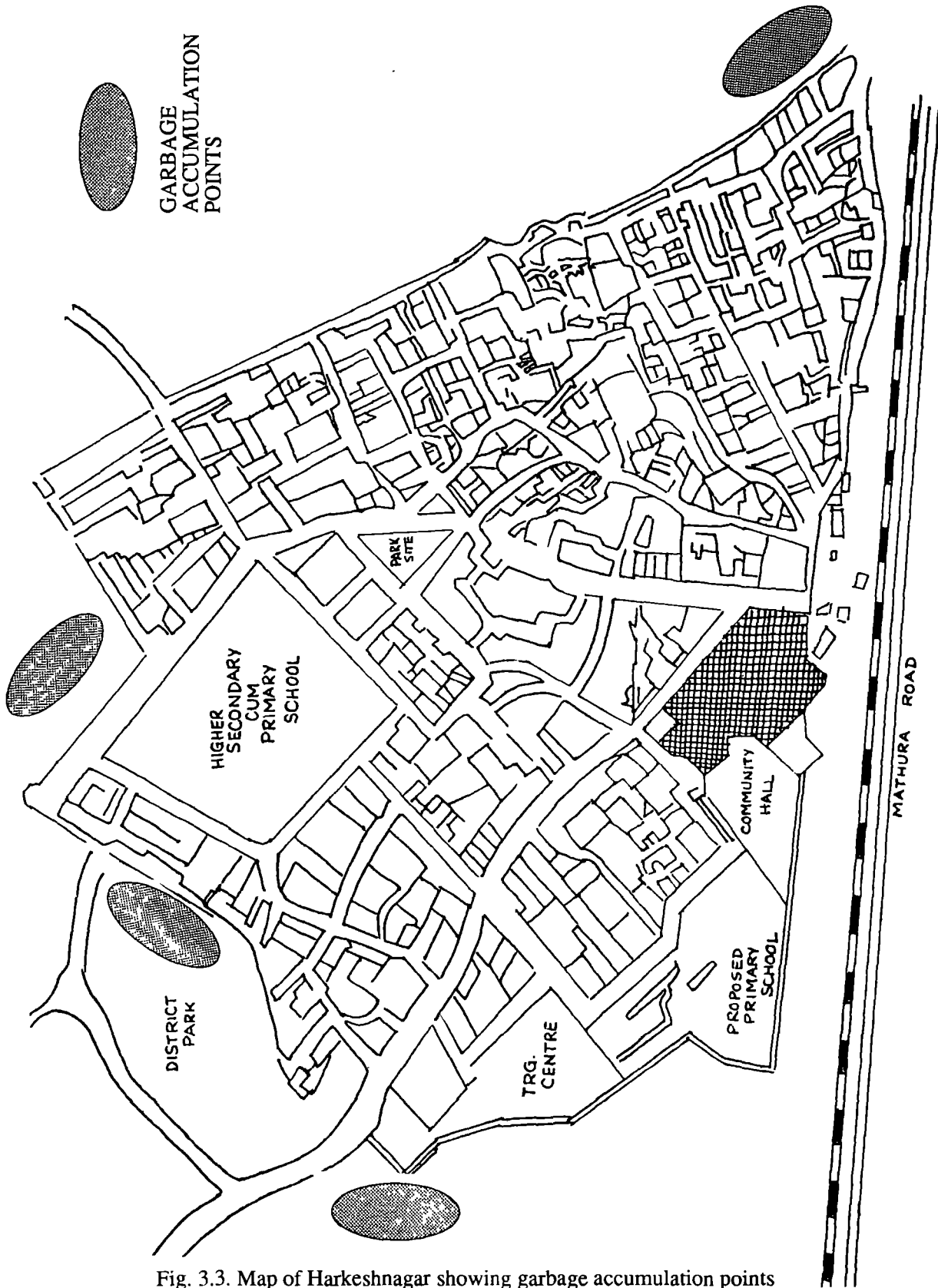


Fig. 3.3. Map of Harkeshnagar showing garbage accumulation points

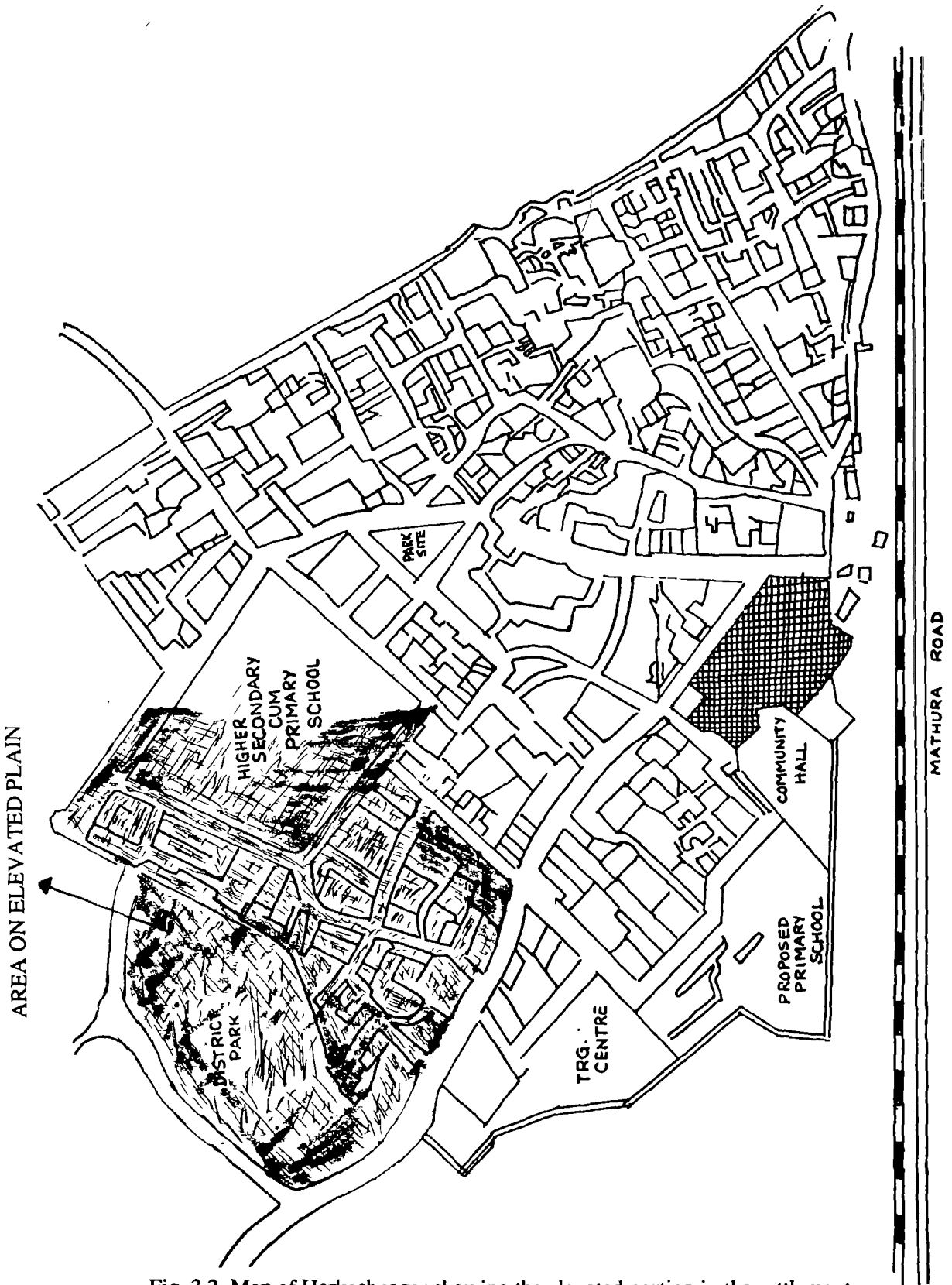


Fig. 3.2. Map of Harkeshnagar showing the elevated portion in the settlement

3.3 SAMPLE CHARACTERISTICS

3.3.1 Age

About a third of the heads of households included in the sample were in the age group 31 to 40 years; about 22% were in the age group 41 to 50 years; and 26.1% above the age of 51 years (See Table 3.2).

Table 3.2

Age-wise distribution respondents

Age range	Household	Percentage
21-30	70	18.6
31-40	120	33.2
41-50	83	22.1
51 and above	102	26.1
Total	375	100.0

3.3.2 Caste

30.4% of the households included in the sample belong to scheduled castes and 2.4% to scheduled tribes. Thus, approximately 33% of the sample belongs to socially disadvantaged groups. Nevertheless, the majority of the population of this area belongs to other, higher caste groups (See Table 3.3). This can be construed as highlighting the fact that slum formation in mega-cities is not so much caste-based as class-based.

Table 3.3

Caste-wise distribution of respondents

Groups	Frequency	Percentage
Scheduled Castes	114	30.4
Scheduled Tribes	9	2.4
Others	252	67.2
Total	375	100.0

3.2.3 Education

The educational level of the heads of households was ascertained as it has implications for the attitude and educational achievements of the rest of the members of the family. Approximately 69% of the heads of households included in the sample are literate and as many as 46% have been educated upto the secondary level (See Table 3.4). As such, Harkeshnagar can hardly be categorized as an illiterate community. At the same time, the sanitation conditions in Harkeshnagar are extremely poor. This, in a sense, shatters the myth that illiteracy is the root cause of unhygienic condition.

Table 3.4

Educational level-wise distribution of respondents

Educational Level	Frequency	Percentage
Illiterate	116	30.9
Primary level	59	15.7
Secondary level	172	45.9
Graduation	21	5.6
Professional	7	1.9
Total	375	100.0

3.3.4 Sex

The majority of the sampled households are male-headed the percentage of female-headed households being as lower 5.1% (See Table 3.5).

Table 3.5

Sex-wise distribution of respondents

Sex	Frequency	Percentage
Male	356	94.9
Female	19	5.1
Total	375	100.0

3.3.5 Income

The basic concentration of the income of heads of households seems to be in the category of Rs. 500/- and to Rs 1000/- per month (See Table 3.6). A rough estimate of the average income of the sampled heads of households is slightly below Rs. 1000/-. It may be pertinent to note here that the data pertaining to incomes relate to the income of the head of household and do not necessarily convey the income of the household. For instance, the 11.5% cases in which the heads of households reported no incomes are generally households where the head is someone other than the main earner, often an elderly person, rather than ones with no income at all. Similarly the total household income would be higher in cases where there are more than one earners. Likewise there could be cases, of say, nuclear families resident in the settlement who share their income with the residual family in the native place, where expendable income is lower.

Table 3.6

Income-wise distribution of respondents

Income categories (Rs.)	Frequency	Percentage
No income	43	11.5
Less than 500	19	5.1
500-1000	235	62.6
1000-2000	57	15.2
2000-3000	16	4.3
3000-above	5	1.3
Total	375	100.0

3.3.6 Concluding remarks

In brief, the characteristic of the sample suggests that Harkeshnagar has basically male headed households. A large number of heads of households belong to the age-group of 31 to 40 years and to castes other than scheduled castes and tribes. A large number of them are educated upto secondary school level and have incomes between Rs. 500/- and Rs. 1,000/- per month.

3.4 PHYSICAL ASSESSMENT OF SANITARY CONDITION

3.4.1 General condition

The first part of the Study was an assessment of the sanitation conditions inside as well as outside the houses. In this regard peoples' perceptions, as ascertained through the first part of the questionnaire, were supported by observations of the interviewers. These observations were made on following criteria :

- a) Presence or other-wise of garbage inside and around the house.
- b) Whether food and drinking water is covered or not.
- c) Presence or otherwise of cobwebs.
- d) Waterlogging inside and around the house.
- e) General cleanliness of the clothes worn by the family.

The data reveal that 84.8% of the respondents categorised the inside condition of their houses as clean, whereas 11.4% reported them to be very clean. However, observational ratings by interviewers of these houses were quite different, categorising 19.2% of them as dirty and only 3.73% as very clean (See Table 3.7)

Table 3.7

Ratings of conditions inside of houses as given observers and respondents

	Very Clean	Clean	Dirty*
Respondents	11.46%	84.8%	2.4%
Observers	3.73%	71.2%	19.2%

* Rest of the percentages fall into other categories.

Similar trends are seen in the analysis of the sanitation conditions outside the houses. The data reveal that 28.5% of the respondents classified the outside cleanliness condition as clean, whereas 58.1% reported it to be dirty. Field investigators, on the other hand, reported the conditions in 23.7% of the cases to be very dirty and in 48.2% cases to be dirty (See Table 3.8).

Table 3.8

**Rating of condition outside the house as reported by
observers and respondents**

	Clean	Dirty	Very Dirty*
Respondents	28.5%	58.1%	8%
Observers	20.5%	48.7%	23.7%

* Rest of the percentages belong to other classifications which were found to be negligible in number.

The gap that exists between respondents' views and interviewers' observations, particularly the percentages in the very clean and dirty categories, suggests that the very concept of cleanliness differs. The people in the community seem to have their own standards in defining cleanliness. In their viewpoint whatever is somewhat unclean is not perceived as such. Therefore, there seems to be a need to reorient people about the standards of cleanliness.

Furthermore, a comparison of Table 3.7 and Table 3.8 reveals that conditions inside the houses to be better than those outside the houses. Both observers as well as respondents have classified the conditions inside the houses as clean or very clean more often than they have done the conditions outside. Thus, it seems that people have a tendency to keep their houses clean whereas they are not very concerned about cleanliness outside. This is due, perhaps, to the different attitudes people possess about public and private hygiene.

Variations in perceptions/observations regarding the cleanliness inside the houses are understandable and could be due to variations in the actual levels of cleanliness maintained inside different houses. Variations in perceptions regarding cleanliness outside the houses, however, could be due to variations in actual situations as well as in standards of cleanliness. In spite of the community as a whole portraying a very dirty environment, some of the residents had taken efforts to keep the immediate surroundings of their own houses clean by either themselves cleaning the area outside or engaging sweepers to keep it clean. Differences in perceptions of the cleanliness outside in such cases is, indeed, due to exceptional factual situations. More often variations in perceptions are on account of the fact that what is perceived as clean by someone may not be perceived as clean by someone else who has higher standards for cleanliness. It is also possible that people who are used to greater uncleanliness, perceive some amount of uncleanliness as passable.

In general, it appears that the cleanliness conditions prevailing inside the houses, though better than those prevailing outside, can hardly be considered upto the standards. The data suggest that 62.4% houses had cobwebs and 35.2% even had garbage heaps within them.

The cleanliness condition prevailing in the area is the outcome of many factors including the nature of physical set-up, necessary basic amenities being available, the level of knowledge of the people and the level of community health consciousness amongst them. The rest of this section presents the findings on the physical set up and facilities available.

3.4.2 Living space

The data reveal that approximately 40% of the families live in either one or two room houses. Considering the fact that the average family size is about five members, there is considerable pressure on the living space available per family. Furthermore, the size of these rooms is extremely small. There is perceptible overcrowding in the area and one of the natural consequences of overcrowding is deteriorating sanitation and cleanliness conditions. The problem is most acute when more than two families share a house and cleanliness responsibilities become ambiguous.

3.4.3 Kitchen facilities

In 60% of the houses sampled there is no separate kitchen. Cooking is done within the limited living space. This can be a major health and environmental hazard in the context of the fact that the economically disadvantaged classes in India are not yet utilising the facility of smokeless cooking equipments like gas or electric heaters and coal and wood are the most commonly used cooking fuels.

3.4.4 Status of the house

27.2% of the sampled households live in rented houses. This has implications for the sanitation conditions in the settlement inasmuch as people living in rented houses generally show little concern about the community. Secondly, their expectations of moving out from the area in future may dissuade them to take any initiative in the process of cleanliness. This aspect is discussed in detail in chapter Five.

3.4.5 Water source

Approximately 47% of the families surveyed had their own water sources whereas the remaining 53% depended on sources like common taps and handpumps and mobile tanks provided by the municipality. In the light of the fact that the Union Territory of Delhi has been witnessing considerable water scarcity in the last two years, crises at community taps are very common. Frequent quarrels over water have been reported by the ACORD community facilitators who have been working in the area for quite some time. The data obtained through the questionnaire in the present study reveal that 92.4% of the families face problems due to scarcity of water.

3.4.6 Toilet facilities

There are no community latrine facilities in the area. Only 30% of the families have individual toilet facilities. The rest either share toilet facilities with others or use open spaces for toilet purposes. In view of the facts of the average family size in the area being approximately 5 and 64% of families not having any sanitary facilities of their own, the condition of the open spaces used for defecation and of common shared toilets can easily be inferred.

3.4.7 Drainage

There is no proper drainage system at Harkeshnagar. A visit to the settlement at any time of the year reveals the existence of open drains with pools of stagnant water around them, making it a very unhygienic site. Lack of own water and toilet facilities forces people to carry out activities like bathing, defecating and washing clothes in public places. In the absence of proper drainage facilities, stagnant water on roads and near the public taps is very noticeable. The open drains also contain raw sewage as children defecate in them. The waste water and raw sewage get accumulated at various places in the form of pools of stagnant water or a kind of muddy pits. Such accumulation is commonly visible in the district part near Blocks I and H and around the railway track near blocks A and D. However only 52.2% of the sample respondents reported being affected by open drainage. The others seemed unconcerned about the filth and bad odour resulting from open drainage. While people do seem to occasionally clean the drains inside their own houses, there is general apathy towards the drain outside. So far no initiative has been taken by the community improve the general condition of drainage nor is a regular clearing facility available at the initiative of the municipality.

3.4.8 Garbage disposal

There is no proper garbage disposal system in the settlement and garbage is commonly thrown as and where convenient. Within the houses, however, the practice of keeping a garbage basket is common and as many as 79.7% households reported using such arrangements for collecting garbage within the house. Many (86.6%) explicitly felt that garbage boxes should be kept inside the house to maintain cleanliness. However, there is no common garbage disposal centre. As a consequence, even as primary garbage collection within the houses, is effective, there is no arrangement for its proper disposal subsequently. Furthermore, no space is available within the settlement for a community garbage disposal centre and even if one were to be created at the outskirts of the settlement, people are not likely to be motivated to travel the necessary distance to dispose off garbage. A small mobile garbage collection system could be a possible solution.

3.2.9 Concluding remarks

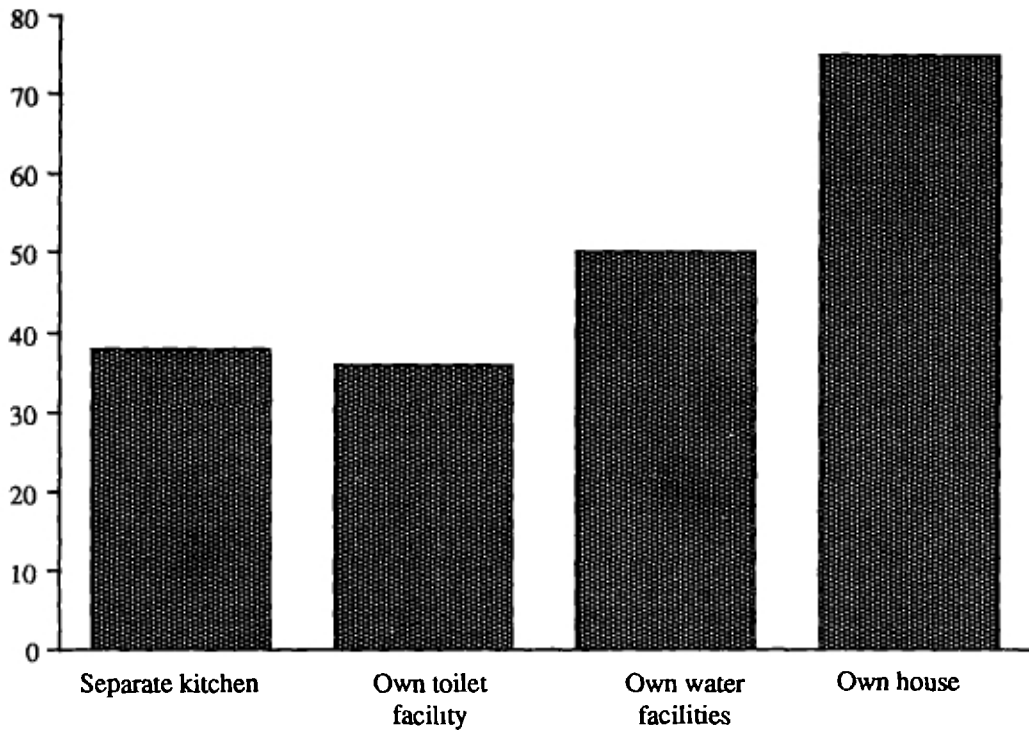
The aspects covered in this section give an overall picture of the physical set-up in relation to sanitation and hygiene in the area. The major aspects of the prevailing health and sanitation conditions in the area are recapitulated in Table 3.9 and Figure 3.4.

Table 3.9

Summary of physical amenities

Approximate family size	- :	5 to 6
Families living in 1 or 2 rooms	:	40%
Families using living rooms for the purpose of kitchen	:	61.3%
Families with their own toilet facilities	:	36.0%
Drainage	:	Open and Stagnant
Garbage disposal system	:	Lacking

Figure 3.4 : Graph showing percentage respondents having various physical facilities



CHAPTER IV

KNOWLEDGE, ATTITUDES AND PRACTICES IN RELATION TO HEALTH AND SANITATION

4.1 INTRODUCTION

The present Chapter highlights the major findings regarding knowledge, attitudes and practices of the people of Harkeshnagar in relation to health and sanitation. The major emphasis here was to elicit from the sample population their particular practices or attitudes and their knowledge or ignorance about certain aspects of health and sanitation. The analysis provides an insight into the behavioural characteristics of the people of Harkeshnagar.

4.2 ATTITUDES

4.2.1 Introduction

While the poor sanitation conditions in Harkeshnagar that can be inferred from the discussion in the previous chapter have largely resulted from inadequate infrastructure facilities like lack of toilets, non-availability of water, no space for separate kitchens, open drainage, non-existence of garbage clearance arrangements, etc., peoples' attitudes, beliefs and practices have also contributed not little to the problem. This section deals with the attitudes of the people of Harkeshnagar in terms of how they react to their environment, who they hold responsible for creating and cleaning dirt and filth, and what are their perceptions about the process of cleaning.

4.2.2 Peoples' attitude towards cleanliness

Harkeshnagar appears to be one of those settlements where unhealthy and unclean environmental conditions are very much part of life and people accept the contradiction between, on one hand, their knowledge that unhealthy and unclean conditions are dissatisfying and not good, and on the other, their unwillingness to take any initiative to overcome such conditions.

In the previous chapter the sanitation conditions within and outside the houses have been reported by the observers as not upto the standard, whereas many respondents rated them as clean. It is significant to note that while 8% of the respondents rated the outside condition as very dirty, 78.6% reported that they are dissatisfied with prevailing unhygienic condition in the community. The rest of the sample seemed unconcerned about the prevailing conditions. When enquired about the extent of dissatisfaction, 65.6% reported dissatisfaction to a great extent.

The respondents also identified the sources of their dissatisfaction. Flies and lack of water to cleanse were identified as two major sources of dissatisfaction, mentioned by more than 90%

of the respondents. Other sources like bad odour, open drains and garbage heaps were reported by, respectively, 57%, 52.2% and 41.0% of the respondents (See Table 4.1). Observational data also indicate an abundance of flies and scarcity of water in the area. The nexus of paucity of water, open drainage and lack of proper garbage disposal system makes the sanitation conditions in the area quite disturbing.

Table 4.1
**Various sources of dissatisfaction regarding environment
as identified by respondents (%)**

Source	Percentage of respondents*
Scarcity of water	92.5
Common flies	92.2
Bad odour	57.0
Open drainage	52.0
Garbage	41.0
Environmental pollution	14.1

* The observational data also support the existence of these sources of dissatisfaction.

4.2.3 Attitude towards responsibility for cleanliness

A logical follow-up to any response suggesting a perception of uncleanness is an enquiry into who is responsible for such conditions and who is responsible for their betterment.

Asked who they held responsible for the accumulation of dirt all around 64.8% of the respondents reported everybody is responsible and only a small percentage (20.8%) explicitly owned the responsibility as theirs. About 52% also mentioned animals as a cause of the unclean environment. In general, it appears that people do not directly own the responsibility for creating unclean conditions.

Asked who they held responsible for maintaining cleanliness within the houses, 92.2% of the respondents opined that it is the responsibility of the females of the family. As expected in most Indian male-dominated societies, only very few (6.1%) people thought that men are also responsible for keeping the house clean. Regarding maintaining cleanliness outside the house 49.0% held the government wholly or partly responsible, 46.9% held sweepers wholly or partly responsible, 42.1% felt it was everybody's responsibility, while only 24.5% explicitly owned the responsibility as theirs. The high percentages of respondents attributing the responsibility of maintaining cleanliness to cleaners and to the government suggests that

people typically have a recipient attitude and are yet to develop a strong consciousness about their roles in the tasks of sanitation management. Thus any action plan in the area in this regard must prepare people to involve themselves and modify their attitude towards owning responsibility. There are, however, a few people who do own responsibilities for unsanitary conditions prevailing (20.8%) or for the maintenance of cleanliness (24.5%). A further analysis of the data shows that only 9.6% own both responsibilities, while 11.2% consider that it is they who make the surroundings unclean but it is not their responsibility to make them clean and 14.9% think that they are not responsible for making the environment unclean, but it is, indeed, their responsibility to keep it clean. This last section of population might contain a sub-section who generally avoid blames.

In brief, it can be said that no dominant pattern emerges from the responses in this section. Yet the small but significant group of the 9.6% of the respondents who own responsibility for both creating and cleaning dirty environment could be activated to mobilise the community for a sanitation programme.

4.2.4 Peoples' concepts regarding the process of cleanliness

In respect of the various ways of keeping the area clean; importance was attached to a proper garbage disposal system by 86.6% of the respondents, to regular cleaning of the area by 61.8% of the respondents, to pressurising sweepers to do their job by 50.9% of the respondents and to discouraging people to defecate in the open places by 38.4% of the respondents. From these data it appears that a community sanitation programme for Harkeshnagar should focus on a garbage disposal system as people rate this action quite high.

Approximately 95% of the respondents thought that cleaning operations are required on an everyday basis and more than 90% thought that cleanliness is essential both within and outside the house. When asked what, in their opinion, was constraining the realisation of this desired state, 49.3% of the respondents reported a lack of interest amongst others in this regard; only 28.7% admitted not taking an interest themselves; and, despite the fact that more than 90% of the respondents had said that cleanliness is important, as many as 41% of the respondents said that others do not appreciate the importance of cleanliness. The characteristic feature that thus emerges is that people largely tend to blame each other for unclean conditions. This is an inhibiting factor in the development of a proper attitude of community cooperation. Nevertheless, when asked if they would participate in a community programme for cleanliness, 64.8% of the respondents replied in the affirmative, whereas 32% people refused and the remaining were undecided.

4.2.5 Concluding remarks

On the whole, respondents have shown some positive elements in their attitudes to cleanliness by emphasizing the importance of cleanliness and the need to clean the place everyday, and by expressing willingness to participate in the cleanliness drive. Therefore, it seems that the insanitary situation existing is not entirely due to ignorance and faulty attitudinal framework. Besides the inadequacies in the physical set-up of the settlement discussed earlier, a lack of motivation for community sanitation seem to be an important

factor contributing to the prevailing conditions. Presently the attitudes expressed by the people are not totally oriented towards community participation. There is both need and scope for a re-orientation of attitudes.

4.3 PRACTICE

4.3.1 Introduction

It is widely accepted that many a time there exists a gap between attitudes and behaviour. In this sub-section the findings regarding the practices of people in Harkeshnagar in relation to storage, purification and use of water, personal hygiene and related issues are discussed.

4.3.2 Practice related to water storage, usage and purification

Data pertaining to the storage of water suggest storage practices differ according to the purpose for which the water is meant. 94.1% people reported storing drinking water in pitchers. Water for cooking purposes was stored in pitchers in 35.4% of the cases, while 40.5% of the respondents stored water in buckets for this purpose, 67.4% of the respondents reported storing water for other purposes in tanks.

90.1% respondents reported washing the storage container everytime they stored water in it while the rest reported infrequent washing of storage containers.

Regarding retrieval of water people commonly take out water from the storage containers by dipping their hands inside it. This practice, reported by 37.6% of the respondents needs to be corrected.

4.3.3 Practices related to domestic and personal hygiene

In this subsection some findings in respect of such aspects of domestic hygiene as washing utensils and clothes, etc., and of personal hygiene as bathing, defecating etc., reported.

Regarding washing of utensils, 29.3% of the respondents reported using the kitchen, 27.2% reported using the space just outside the house, and 24% reported using public taps. These data throw some light on the causes leading to the condition of uncleanness that prevails in Harkeshnagar.

Only 37.5% of the respondents reported using racks for keeping their utensils, but as many as 96% reported that they keep their food items covered.

Like washing utensils washing of clothes at public places also seems to be a common practice, with approximately 50% of the families washing clothes at places like common taps. What is even more alarming is the fact that 50% of the families also wash defecated clothes of children at such places.

Regarding bathing practices, it was found that bathing in open places is quite common. Almost 23% of the men use public places for bathing purposes. Even in case of women the

practice was reported in 11.4% of the cases. In case of children 23% of the families reported bathing in public places. The practice is understandable considering the fact that most people do not have private taps. At the same time, with public taps being extensively used for bathing, there is noticeable uncleanliness in the area, especially in the absence of a proper drainage system.

Regarding frequency of bathing, 90.1% of the women, 84.0% of the children, and 70.9% of the men reported taking regular baths. There thus seems still a certain percentage of people who do not bathe regularly. Though this seems more or less a matter of habit, many people cited lack of water as a reason for not bathing regularly.

Like bathing, changing clothes is also a regular practice amongst the hygiene-conscious families, with 83.4% of the women, 80.8% of the men and 78.4% of the children reporting that they change clothes everyday. The practice of changing clothes everyday is, alarmingly, least common amongst children whereas it is most needed for them.

Peoples' defecation practices also seem to be quite alarming, with 76% of the children, 71.7% of the men and 70.1% of the women defecating in open places. Lack of private toilet facilities is a major cause for this practice. However, indiscriminate choice of place for defecation, specially in the case of children, is a major contributing factor in the uncleanliness in the area. Provision of proper toilet facilities seems to be a major concern in the area.

Nearly 90% of the adults reported washing hands after toilet activity. The percentage was slightly lower in case of children (80%). About 60% of the respondents reported that in their families the defecated clothes of infants were washed immediately.

Washing hands before and after meals is not very common, with only 61% of the respondents reporting the practice for adults and very few for children.

4.3.4 Concluding remarks

From the foregoing discussion of the practices of people in Harkeshnagar in relation to sanitation, two things are evident. First, there seem to be several practices which need to be discouraged by creating both the much needed facilities and an awareness amongst people. The major practice that need attention in this regard are defecation in public places and bathing and washing at public places. Second, there seem to be significant differences between practices relating to personal hygiene and those relating to public hygiene. As far as personal hygiene is concerned, people do not seem to totally lack necessary practices. Storage, usage and purification of water for various purposes, for instance, are satisfactory. The regularity of bathing and changing clothes are also largely evident. On the other hand, there is a tendency indiscriminately defecate and wash clothes in open places. On the whole, people seem to be less conscious about public hygiene than about private hygiene, a surmise that appears to be borne out by the data reported in the previous chapter in respect of the difference in cleanliness conditions that exist within and outside the houses. The discrepancy between personal hygiene consciousness and public hygiene consciousness could be attributed to several factors. Personal hygiene consciousness is possibly reinforced to some extent by

the fact that the people of Harkeshnagar go, for various kinds of work, to the city where personal hygiene is an important aspect of social acceptability. Public-hygiene consciousness, on the other hand, has no reinforcing factors in its favour and consequences are evident in the prevalence of several diseases. The data suggest that the most frequently reported disease is malaria, followed by typhoid, diarrhoea, worm infections, and dermatological problems, in that order of frequency of occurrence. These are all water-borne diseases, and, as such, directly linked with the cleanliness conditions prevailing in the settlement.

4.4 KNOWLEDGE

4.4.1 Introduction

It has been well established that there exists a relationship between knowledge, attitude and practice. In this section the findings in respect of people's knowledge regarding sanitation and health are presented.

4.4.2 Knowledge about causes of diseases

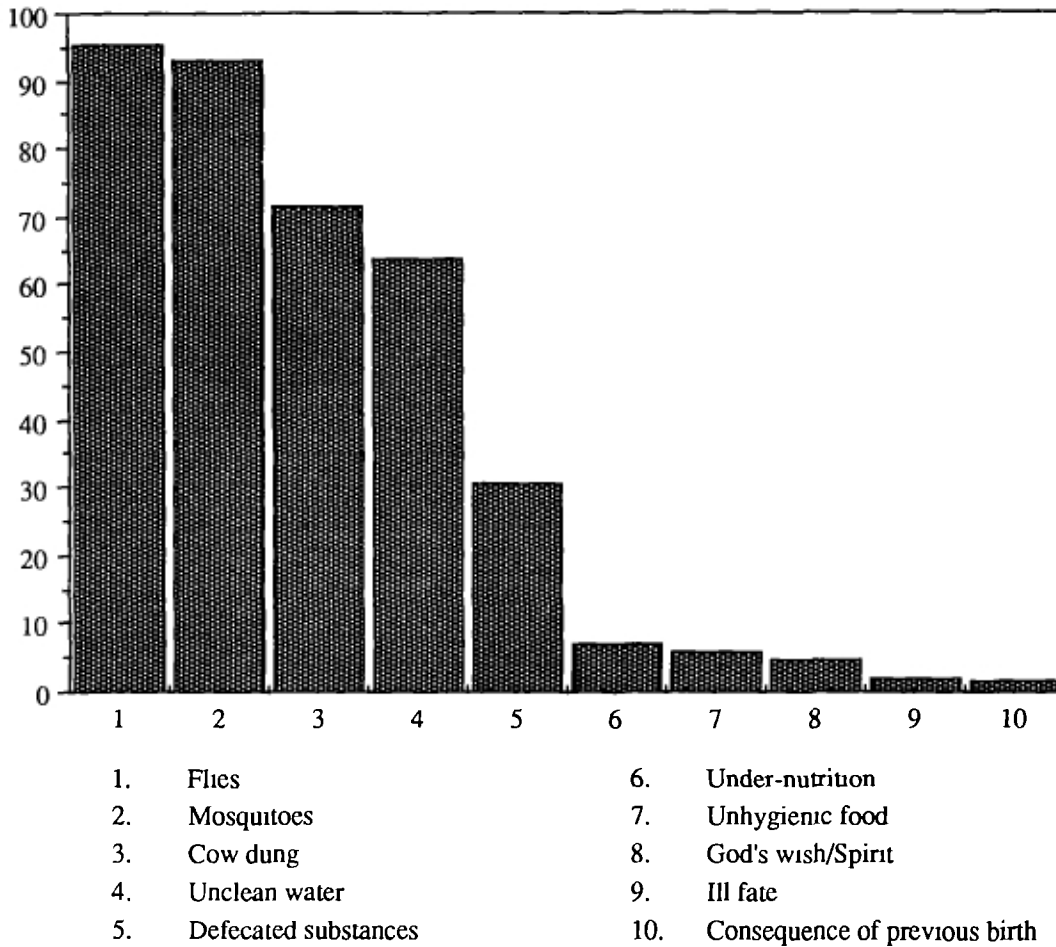
In general people seem to be quite aware of the causes of diseases. 93.6% of the respondents agreed that uncleanliness is the cause of diseases in general terms. As specific causes flies were reported by maximum respondents (95.2%) followed by mosquitoes (93%), cow dung, unclean water, defecated substances, etc. (See Table 4.2 and Fig. 4.1)

Table 4.2

Sources of diseases as reported by respondents

Sources	Percentage
Flies	95.2
Mosquitoes	93
Cow Dung	71.4
Unclean water	63.7
Defecated substances	30.4
God's wish/spirit	6.9
Ill fate	5.9
Under-nutrition	4.8
Un-hygienic food	2.1
Consequence of previous birth	1.6

Figure 4.1 : Causes of diseases reported by respondents



From the data presented in Table 4.2 and Figure 4.1, two things are evident. First, the people of Harkeshnagar, by and large, do not seem superstitious, as less than 10% of the respondents attributed diseases to God's will, evil spirits, ill-fate, or consequences of previous births. This is probably due to the fact that Harkeshnagar, being an urban slum, has been influenced by educated and rational city-dwellers. Second, the reporting percentage is higher for more evident causes like flies, mosquitoes and cow-dung and lower for more subtle ones like under-nutrition, and unhygienic foods. Again, as water-borne diseases are quite prevalent in the area, people have identified related causes more often than other sources of disease like undernutrition. It is also interesting to note that people considered that cow-dung is source of disease, but human excreta not so much. On the whole, while there is ample scope for educating people about, particularly, the more subtle causes of diseases, there do not seem to be any alarming major gaps in their knowledge about causes of diseases.

4.4.3 Knowledge about prevention of diseases

When enquired about ways of prevention of diseases most people, again, seemed to have the necessary knowledge. As many as 92.5% of the respondents reported immunization as a major preventive measure and 46.4% reported balanced diet as important preventive action. A number of routine activities were also reported by varying percentages of respondents (See Table 4.3)

Table 4.3

Activities that can prevent diseases as reported respondents

Activities	Percentage of Respondents
Drinking clean water	65.3
Keeping environment clean	65.8
Regular bathing & changing clothes	67.2
Washing hands with soap after defecation	46.1
Covering the food items	55.2
Washing hands before & after meal	34.1

On the whole, people in Harkeshnagar appear to be fairly well informed about the prevention of diseases. However, it seems that people perceive that immunization ensures prevention of all diseases. As such there is scope for educating people about various diseases and different methods of prevention.

4.4.4 Knowledge about ways of purifying water

The people were also tested about their knowledge regarding purification of water. As expected they were more aware about indigenous methods like boiling as compared to more technical ones like using bleaching powder or chlorine (See Table 4.4)

Table 4.4

Methods of purifying water as reported by respondents

Methods	Percentage of respondents
Filtering	65.6
Boiling	48.8
Bleaching Powder	4.8
Chlorine	9.3

4.4.5 Concluding remarks

In general, it can be seen that the households studied do not seem at all ignorant about the causes and the prevention of diseases, nor do they seem unduly superstitious.

4.5 ATTITUDE TOWARDS COMMUNITY PARTICIPATION

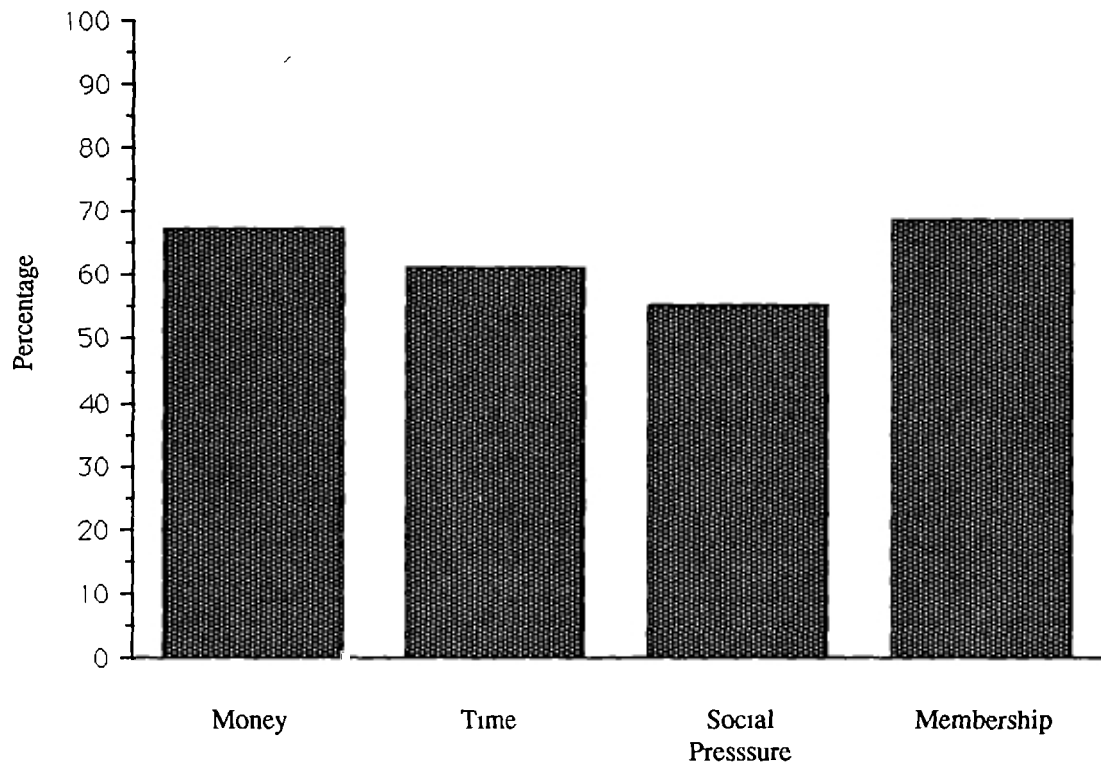
4.5.1 Introduction

Community participation can be a major factor in the success of any developmental project meant for people. In this study various aspects of community participation in relation to sanitation management were explored. At the outstart a distinction was appreciated between various possible levels of community participation ranging from merely being a passive member of a group through contributing money or time, to involving oneself in vigorous mobilisation of economic, material and human resources of the community. Accordingly, the attitudes of people towards community participation were ascertained in terms of the ways in which they were willing to contribute to a community sanitation programme.

4.5.2 Patterns of positive responses in respect of different aspects of community participation

When asked about their willingness to become a member of a committee formed for a community sanitation programme, to make a monetary contribution towards the programme, to contribute time for the programme and to mobilise others, over 50% of the respondents gave positive responses in respect of each of the four ways (See Fig. 4.2) and 43.4% of the respondents were willing to contribute in all the four ways. It is, therefore, quite evident that a community project on sanitation could be highly successful in the area.

Figure 4.2 : Aspects of community participation and percentage of positive responses



As many as 67.2% of the respondents were willing to become members if a committee were to be formed for a community sanitation programme. An even higher percentage (68.53%) were willing to contribute money for the community sanitation programme. Though respondents were not explicitly asked how much money they were willing to contribute, ACORD's discussions with various groups for running a project on health and sanitation has revealed that people are willing to contribute upto Rs. 500/- for creating latrine facilities and Rs. 3/- to Rs. 5/- for maintaining them. Considering the fact that Harkeshnagar is a slum and people are basically from economically disadvantaged groups, this response is very encouraging. The percentage of respondents reporting willingness to devote time for a community sanitation programme was somewhat lower (61.16%), a fact that can be attributed, to some extent, to most of the respondents being working men who generally spend long hours outside the settlement, earning their livelihood and have little time to spare in their daily routines. Again, while no explicit enquiry was made about the amount of time people would be willing to contribute, the involvement in terms of devoting time in

cleanliness, soakage pit preparation, and immunization camps suggests a willingness to contribute sufficient time. The percentage of respondents willing to create social pressure on others for maintaining hygiene conditions in the settlement was, relatively, the lowest (55.2%).

That relatively more people are willing to participate as members of the committee or by contributing monetarily may be attributed to the fact that these two aspects call for less active participation on the part of respondents. That comparatively fewer respondents are willing to devote time or create social pressure in the community may, similarly, be attributed to the fact that these two aspects call for greater involvement and effort.

4.5.3 Pattern of overlapping positive responses in the four aspects of community participation

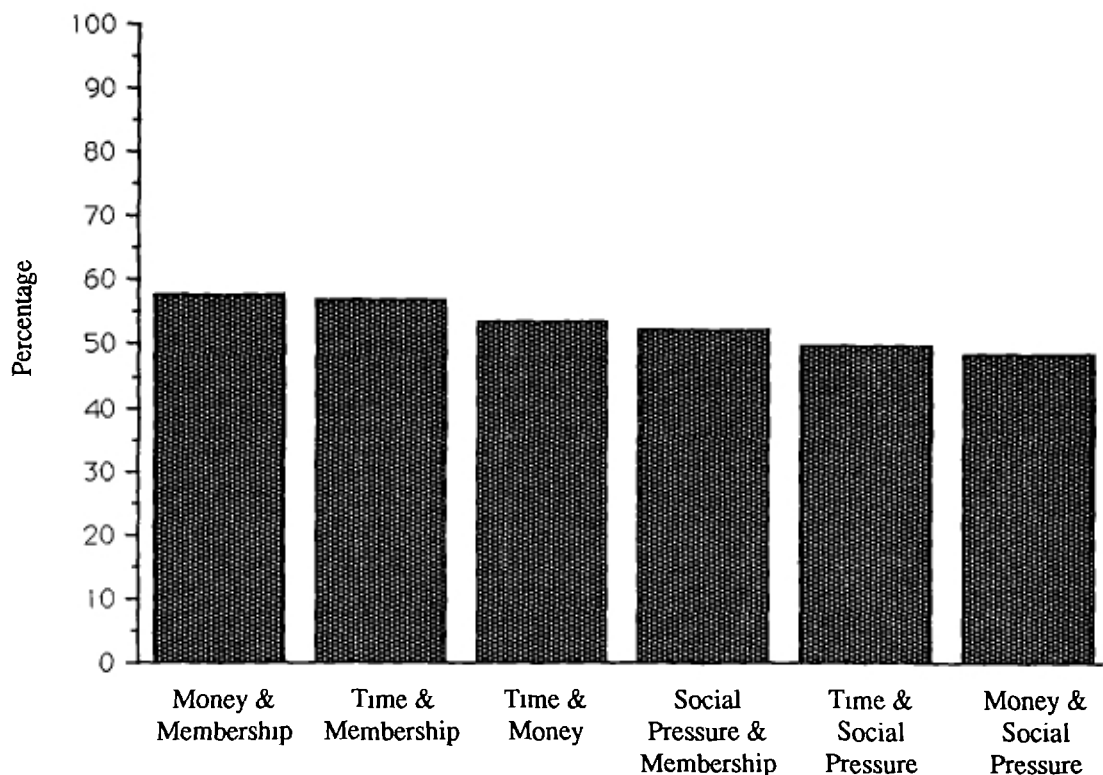
Almost 50% of the respondents were willing to participate in more than one way in a community sanitation programme (See Table 4.5 and Fig. 4.3)

Table 4.5

Percentage of overlapping responses on various aspects of community participation

Combinations	Percentage
Willing to contribute money and become member of the committee	57.8
Willing to devote time and become member of the committee	56.8
Willing to contribute money and devote time	53.6
Willing to create social pressure and become member of the committee	52.2
Willing to devote time and create social pressure	49.8
Willing to contribute money and create social pressure	48.5

Figure 4.3 : Percentage of overlapping responses given by the respondents on various modes of participation



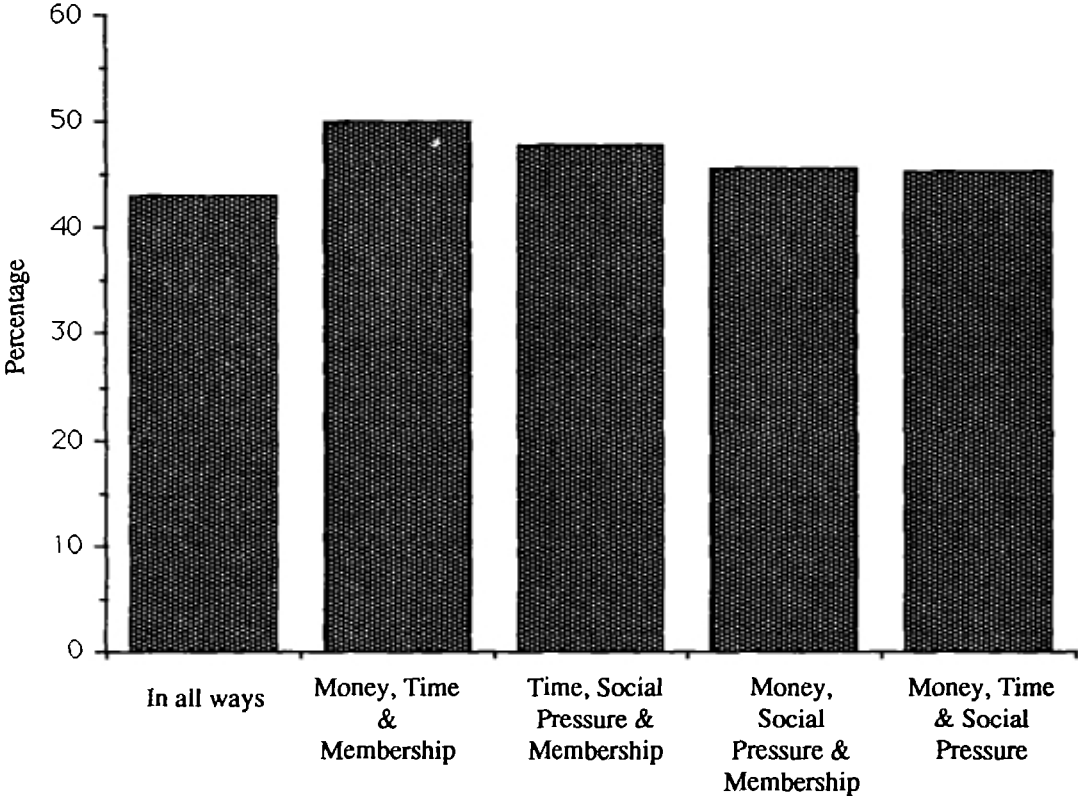
In order to explore attitudes further, responses in combinations of three aspects were worked out (See Table 4.6 and Fig 4.4). The results highlight a crucial group in the community consisting of 45.3% of the people who are willing to contribute money, devote time and create social pressure.

Table 4.6

Percentage of overlapping responses on various aspects of community participation

Combination	Percentage
Willingness for money, time and committee membership	50.13
Willingness for time, social pressure, committee membership	47.71
Willingness for money, social pressure and committee membership	45.6
Willingness for money, time and social pressure	45.3

Figure 4.4 : The various combinations of aspects of community participation and overlapping positive responses



CHAPTER V

FACTORS RELATED TO ATTITUDES TOWARDS COMMUNITY PARTICIPATION

5.1 INTRODUCTION

This chapter explores the relationship between willingness for community participation, on one hand, and factors like attitudes and practices in relation to sanitation and demographic variables like age and income of the respondents, on the other, with a view to ascertain if any dominant relational patterns exist.

5.2 GENERAL ATTITUDE TOWARDS ENVIRONMENTAL SANITATION

It would be reasonable to expect that people's general attitude towards environmental conditions in the community would be reflected in their willingness to participate in a community sanitation programme. However, this relationship does not emerge as predominantly as may be expected. Although, most people agreed that there is a need to keep the environment clean, comparatively fewer were willing to come forward for a community sanitation management programme. However, a high percentage of people who are concerned about environmental cleanliness were, indeed, willing to participate in such a programme.

5.3 PRACTICE OF CLEANING IMMEDIATE SURROUNDINGS AND WILLINGNESS FOR COMMUNITY PARTICIPATION

It would be reasonable to expect that those who themselves clean their immediate surroundings are more likely to volunteer for a community sanitation programme. The data, however, do not suggest any such pattern. This trend may be ascribed to a difference in levels of consciousness regarding personal hygiene and public hygiene. In other words, several people are inclined to keep their houses and immediate surroundings clean, but not many people are interested to take up the issue of public hygiene and community health. On the other hand, it was found that approximately half of the people who do not clean their immediate surroundings themselves are not necessarily unlikely to participate in a community sanitation programme.

5.4 STATUS OF THE HOUSE AND WILLINGNESS FOR COMMUNITY PARTICIPATION

It would be reasonable to expect that those who own houses in the area should be more concerned about creating public sanitation facilities and maintaining cleanliness in it. This hypothesis appears to be borne out by the data from the survey, which clearly suggest a more positive attitude towards community participation amongst owners than tenants. As many as 44.9% of the tenant respondents showed no interest in participating in any manner in a

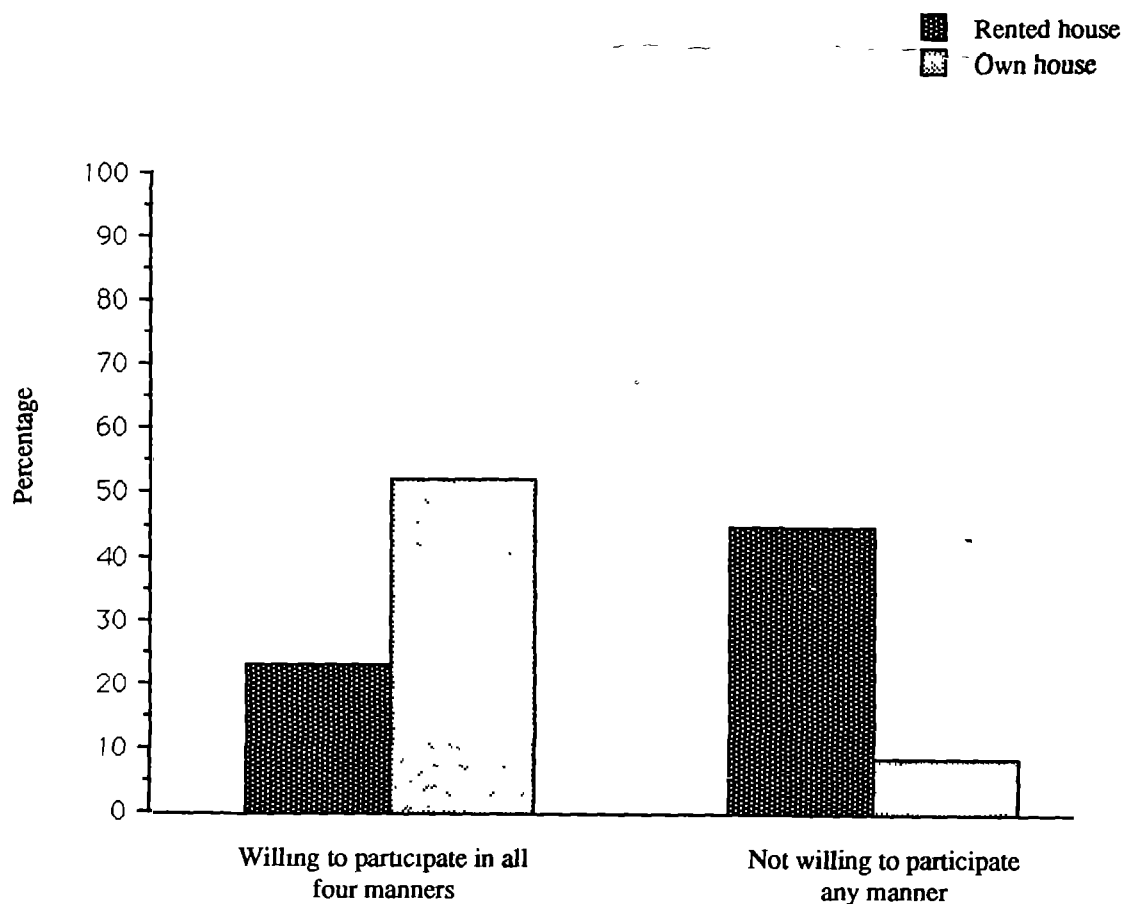
community sanitation programme, while the comparable figure for owners was only 8.6% (See Table 5.1 and Fig. 5.1). This is possibly because tenants often expect to move out of the area sometime in the future and are, in a way, emotionally detached from the community and the area and, therefore, do not own sanitation and cleanliness responsibilities.

Table 5.1

Ownership of the house and willingness to participate

	Rented House(%)	Own House (%)
Willing to participate in all four ways.	23.4	52.4
Not willing to participate in any manner	44.9	8.6

Figure 5.1 : Ownership of the house and community participation.



Therefore, it can be inferred that people who own houses in the area would form more effective target group for community participation than those living in rented houses, though many amongst the latter might later join the movement under moral pressure.

5.5 AGE AND WILLINGNESS FOR COMMUNITY PARTICIPATION

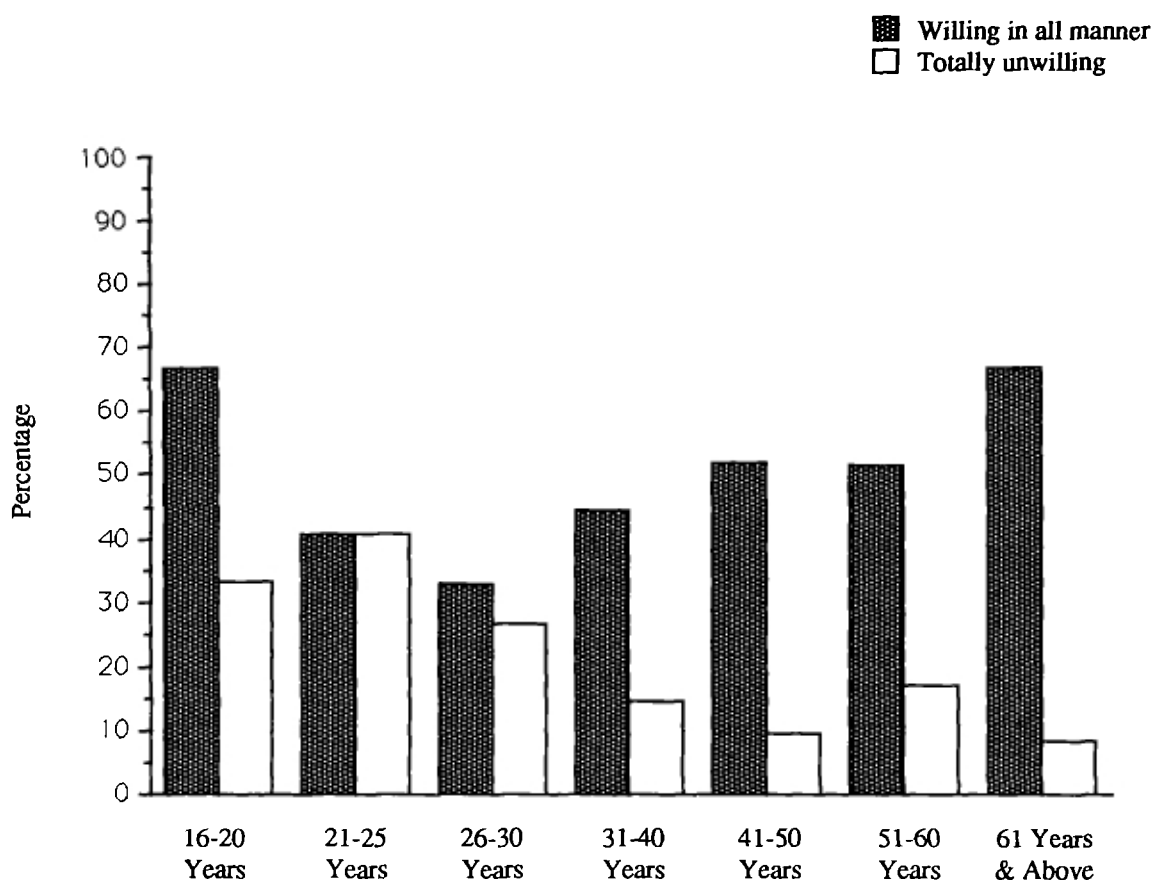
In order to explore the relationship between the age of respondents and their willingness to participate in a community sanitation programme, first, the people willing to participate in all four ways and those not willing to participate in any manner were classified according to their age (See Table 5.2 and Figure 5.2).

Table 5.2

Age-wise distribution of community participation responses

Age categories	Willing to participate in all four ways (%)	Not willing to participate in any manner (%)
16 - 20 years	66.6	33.3
21 - 25 years	40.6	40.6
26 - 30 years	32.8	26.5
31 - 40 years	44.4	14.6
41 - 50 years	51.8	9.6
51 - 60 years	51.4	17.1
60 years - above	66.6	8.3

Figure 5.2 : Age and willingness to participate in community sanitation programme



The results suggest that youngest and oldest groups are more favourably inclined towards community participation. A trend of increasing willingness for community participation is discernible from 30 years onwards. It appears that the middle age group is relatively less interested in a community sanitation programme, probably on account of engagements of a working life. This, however, is not a serious problem as, for any community action, oldest and youngest groups can make effective teams with the younger group taking up implementation work, which requires a high degree of mobility, and the older group playing a supportive role.

Next, the four aspects of community participation, willingness to become a member of the committee, to make a monetary contribution, to contribute time and to create social pressure were examined separately in relation to various age groups. Again it was observed that relatively fewer respondents in the age group 20 - 30 years were inclined to participate in each of the four ways (See Table 5.3).

Table 5.3

Age-wise distribution of various types of community participation

Age Group	Money (%)	Time Pressure (%)	Social (%)	Membership (%)
16 - 20 years	66.6	66.6	66.6	66.6
21 - 25 years	56.2	40.6	40.6	50.0
26 - 30 years	54.6	57.8	45.3	59.3
31 - 40 years	62.6	64.2	62.6	69.9
41 - 50 years	81.9	73.4	63.8	77.1
51 - 60 years	65.7	65.7	62.8	65.7
60 years - above	91.6	75.0	75.0	91.6

Figure 5.3: Age and willingness to become member of the committee

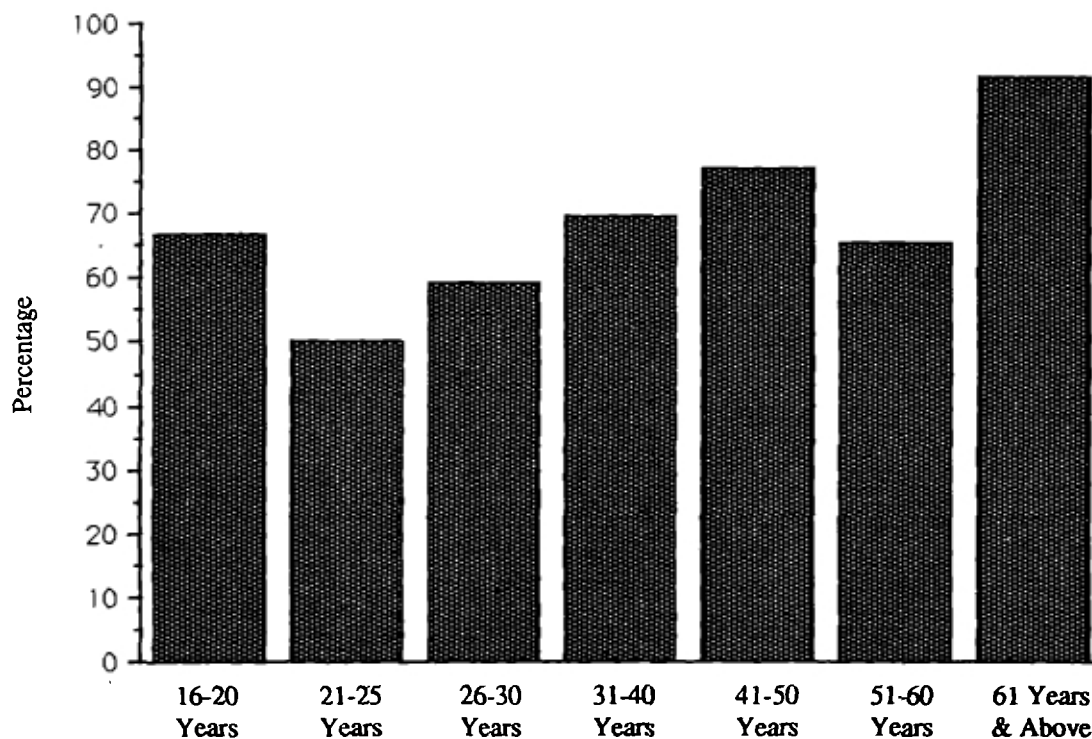


Figure 5.4 : Age and willingness to contribute money

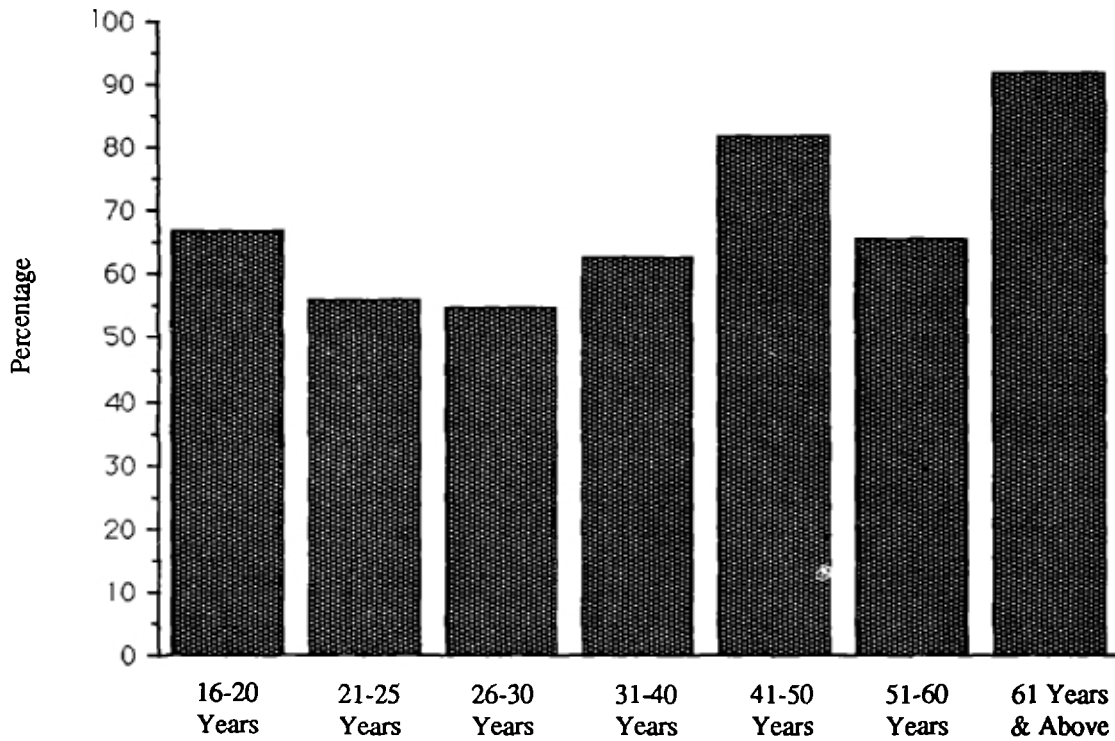


Figure 5.5 : Age and willingness to devote time for community sanitation programme

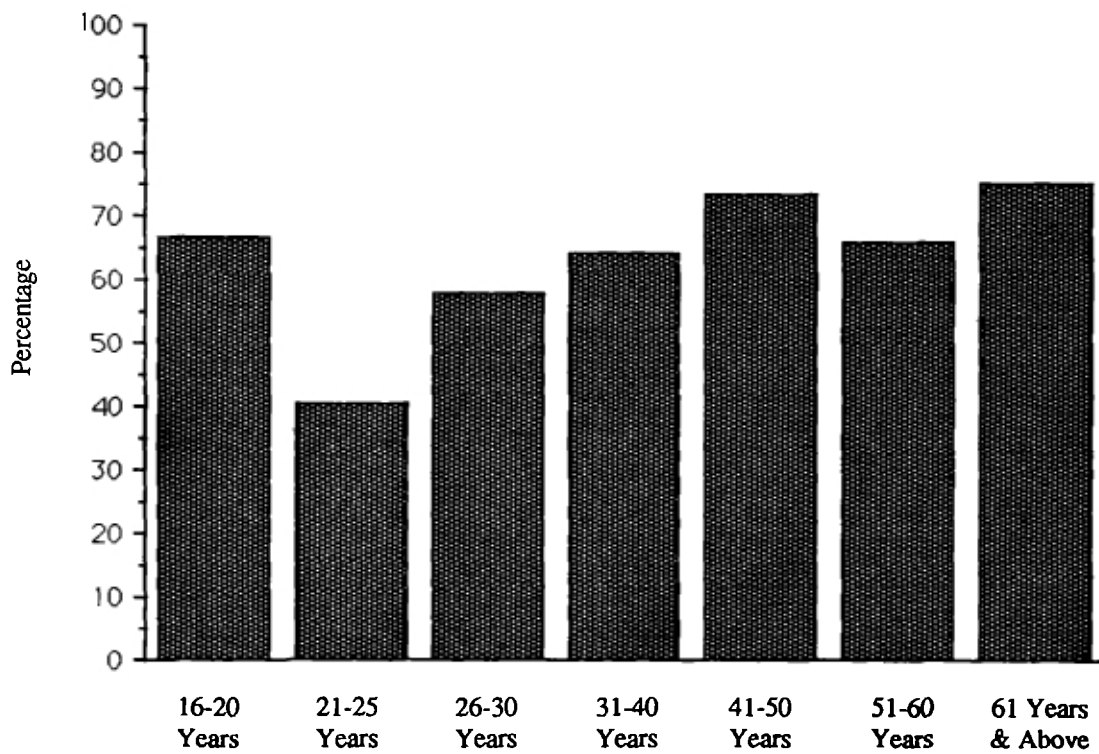
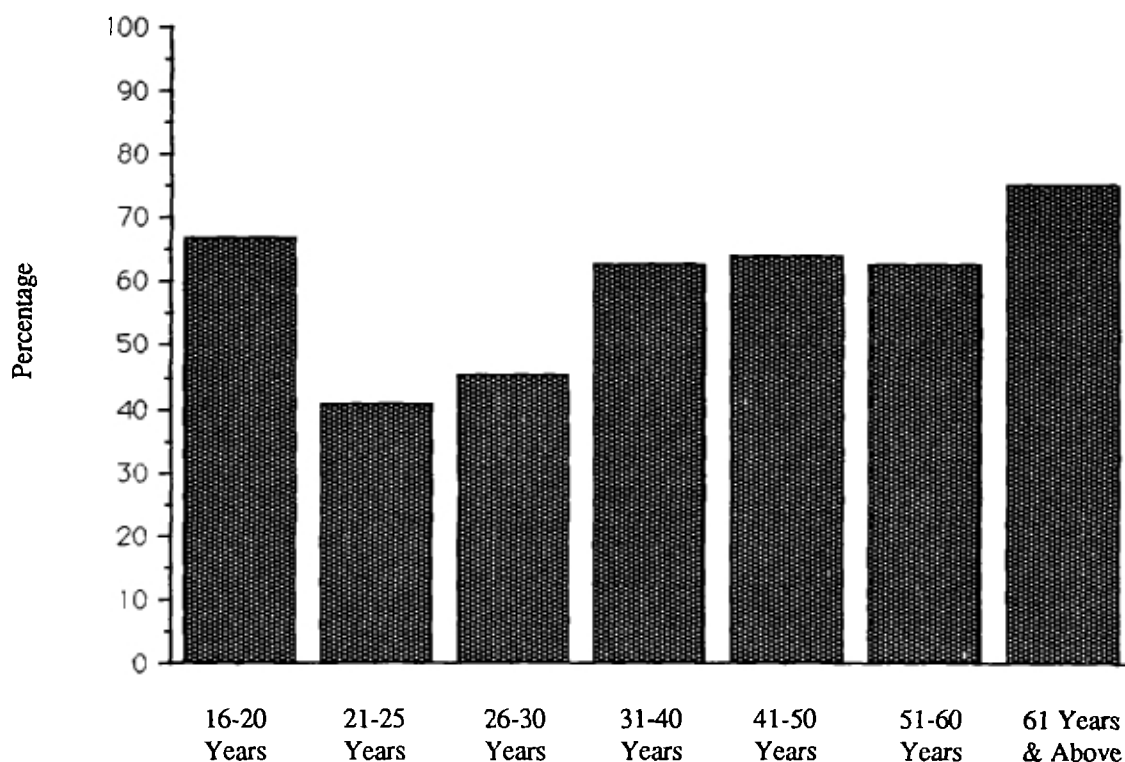


Figure 5.6 : Age and willingness to create social pressure for community hygiene



The variation was not significant, except for the oldest group, in respect of willingness to take membership of the steering committee for a community sanitation programme (See Table 5.3 and Figure 5.3) possibly because of the feeling that it does not necessarily call for investing a lot of time and is, therefore, the easiest mode of participation. A similar pattern can be observed in respect of willingness to make a monetary contribution (See Table 5.3 and Figure 5.4). In respect of willingness to devote time for a community sanitation programme, more favourable attitudes are discernable amongst the oldest and youngest groups (See Table 5.3 and Figure 5.5). With respect to willingness to create social pressure, an increasing trend with respect to age is discernible from 20 years onwards (See Table 5.3 and Figure 5.6) and it appears that if the social dynamics of the community do not undergo dramatic change, the oldest age group is, in fact, most capable of creating social pressure for community sanitation.

Throughout, the dominant percentage of adolescent group is positively oriented. Similarly a high percentage of the oldest group is also positively oriented. Thus the older age group can be used for continuous involvement till such time that the project attains stability as well as credibility, while the younger group can be involved in specific tasks. In the youngest group the specific individuals may change from year to year.

5.6 EDUCATION AND WILLINGNESS FOR COMMUNITY PARTICIPATION

In order to explore the relationship between education levels and willingness for community participation also, first percentages of respondents willing to participate in all four ways and those not willing to participate in any manner were classified according to their education

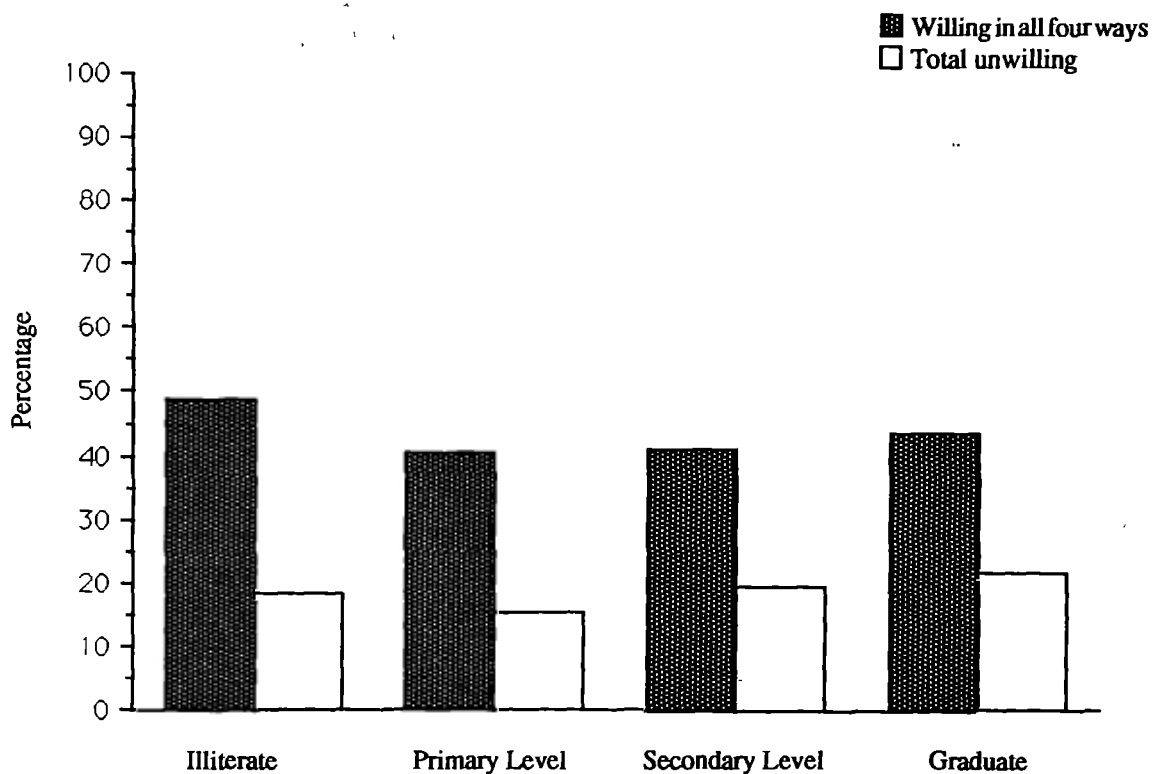
levels. The data suggest that the levels of willingness to participate in all four manners do not vary significantly across various educational levels (See Table 5.4 and Figure 5.7). Interestingly a slightly higher percentage of the illiterate group is willing to participate as compared to other groups.

Table 5.4

Educational levels and willingness to participate in community sanitation programme

Educational Level	Willingness to participate in all four manners (%)	Not willing to participate in any manner (%)
Illiterate	49.0	18.1
Primary level	40.3	15.3
Secondary level	40.9	19.3
Graduate	43.4	21.7

Figure 5.7 : Educational level and willingness to participate in community sanitation programme



Next, the four aspects of willingness for community participation were examined separately in relation to education levels. Here, too, no dominant pattern emerges (See Table 5.5 and Figures 5.8 to 5.11). The general belief that people with higher education would be more prepared to exert social pressure on others for community participation, is not borne out in these data and it appears that social pressure in the community is largely determined by the kind of social relationship people have amongst themselves.

Table 5.5

Educational levels and willingness responses on various aspects of community participation

Education	Money (%)	Time Pressure (%)	Social (%)	Membership (%)
Illiterate	68.1	31.8	58.1	70.0
Primary	69.2	67.3	53.8	65.3
Secondary	67.0	61.9	51.1	65.9
Graduate	65.2	52.1	56.5	69.5

Figure 5.8 : Educational level and willingness to become member of the committee

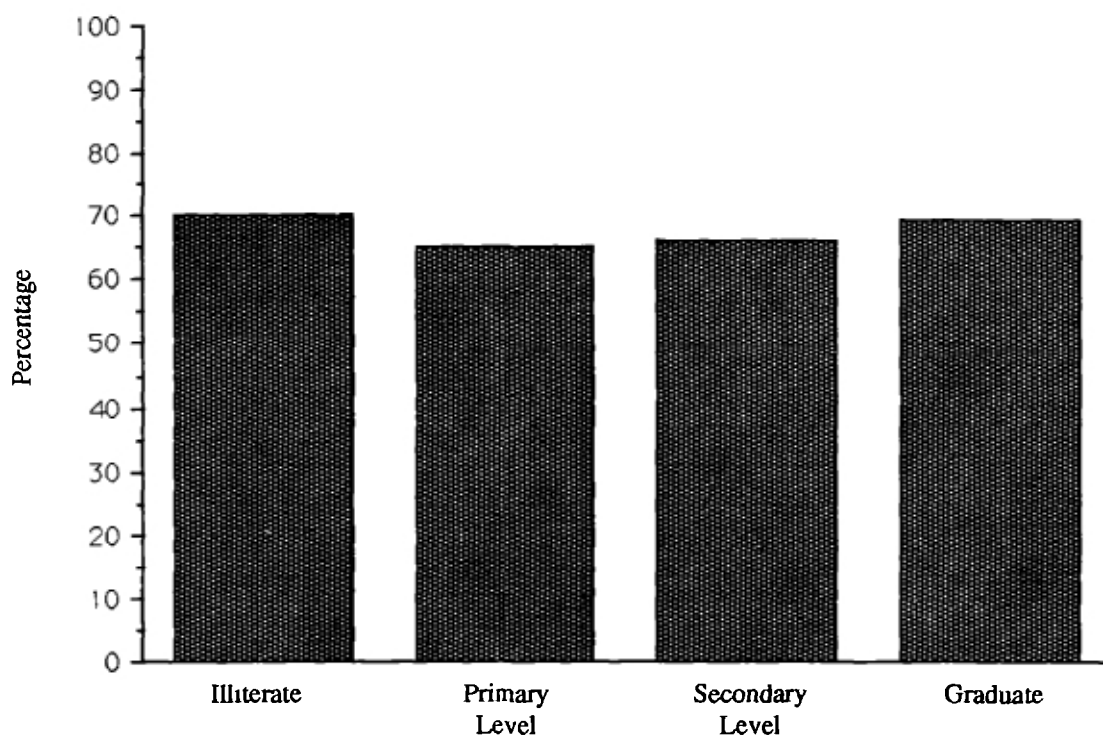


Figure 5.9 : Educational level and willingness to contribute money

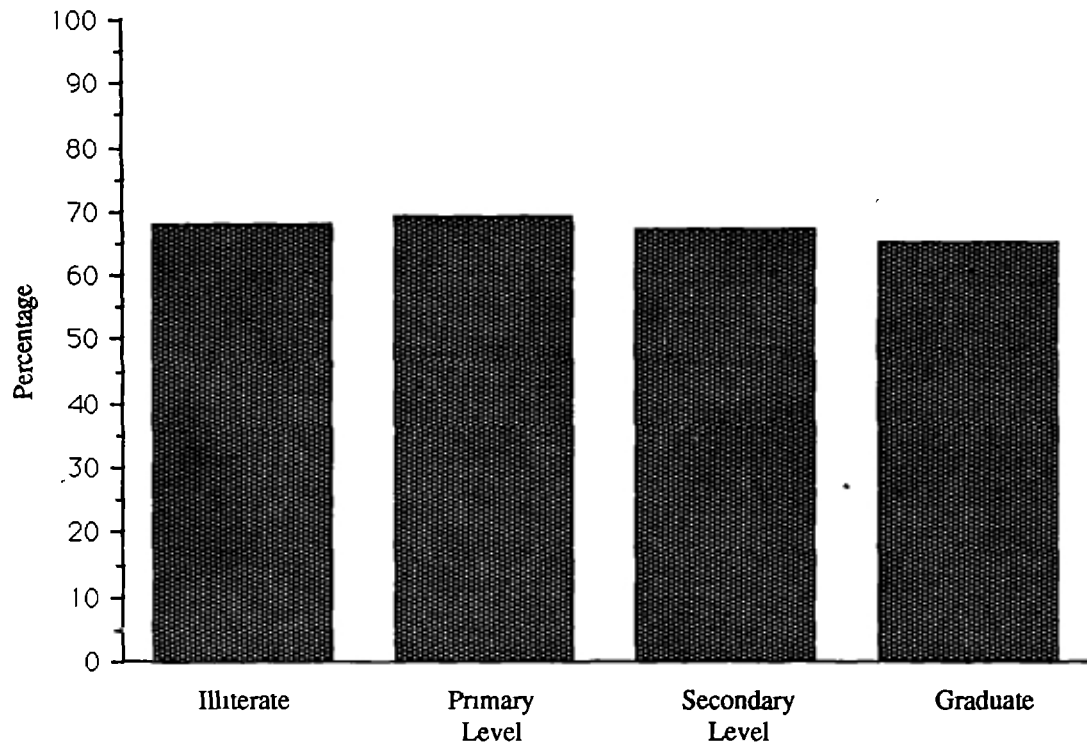


Figure 5.10 : Educational level and willingness to devote time

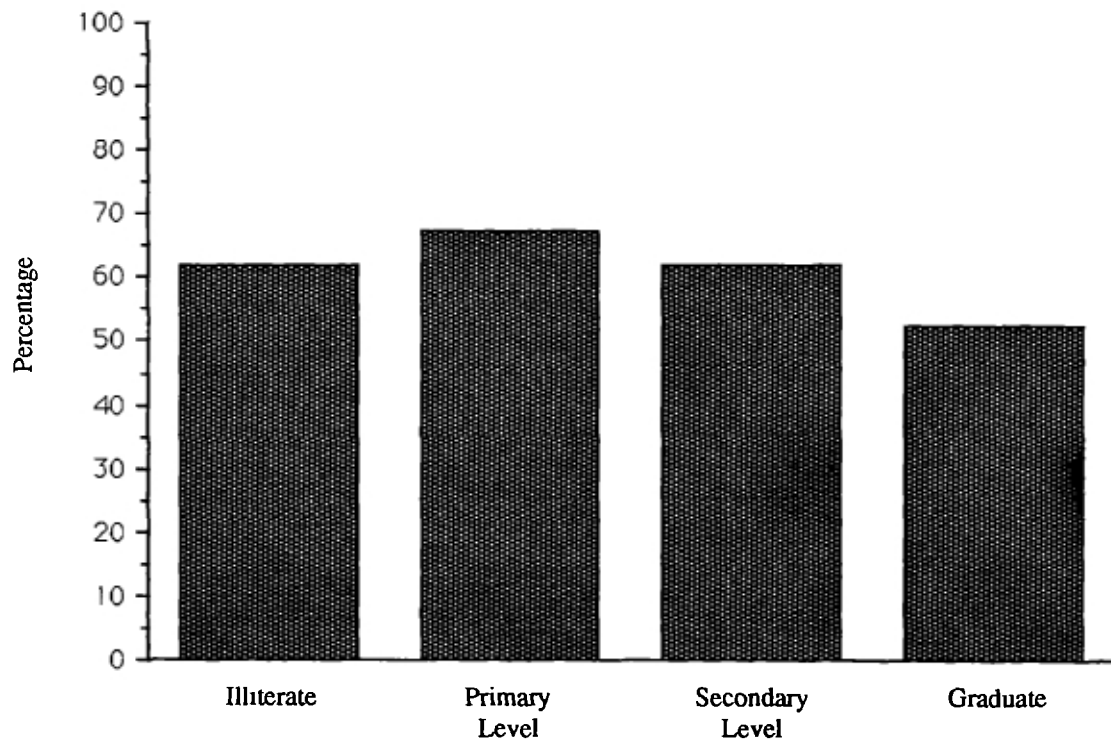
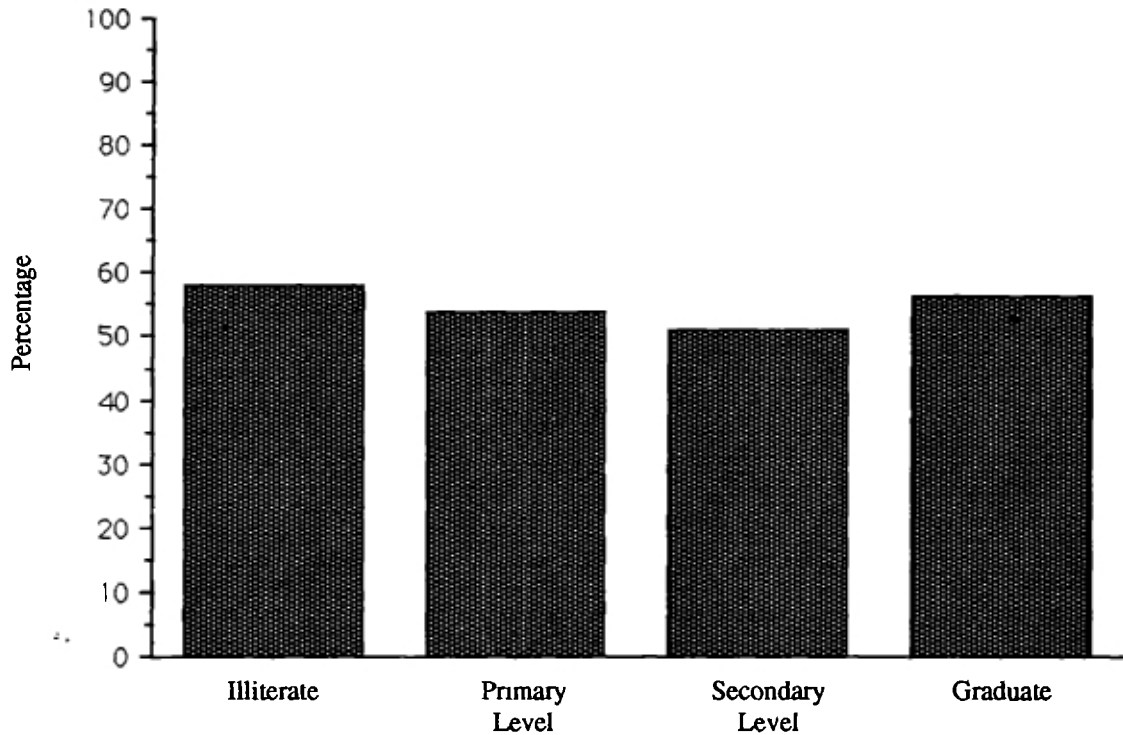


Figure 5.11 : Educational level and willingness to create social pressure for community hygiene



5.7 Sex and community participation

Data of the few female heads of households were looked into separately. The response percentages on various aspects of community participation show encouraging trends (See Table 5.6). Only 5.2% of the women seem to have refused to participate in any manner. Willingness to contribute money and time and to become members of the committee is quite high. Willingness to create social pressure is also quite high when viewed against the fact that in Harkeshnagar most women come from socio-economically disadvantaged groups. In this regard, the work carried out by ACORD over the last two years with women may have something to do with the improved awareness or female heads of households and their being relatively outgoing.

Table 5.6
**Willingness to participate in community sanitation programme
amongst females**

	Percentage
Willing to participate in all four manners	57.8
Not willing to participate in any manner	5.2
Willing to contribute money	78.9
Willing to devote time	68.4
Willing to create social pressure	57.8
Willing to become member of the committee	89.4

5.8 INCOME AND WILLINGNESS FOR COMMUNITY PARTICIPATION

There does not seem to be any systematic pattern relating income levels to willingness to participate in a community sanitation programme (See Tables 5.7 and 5.8 and Figures 5.12 to 5.16). However, it is encouraging to note that even people from lower income groups have reported a reasonably high degree of willingness for community participation.

Table 5.7
**Income level and 'willing' responses on various aspects on
community participation**

	Willing to participate in all four ways (%)	Not willing to participate in any manner (%)
No Income	66.6	2.5
Less than Rs. 500/-	23.8	19.0
500 - 1000	45.2	17.9
1000 - 2000	34.9	26.9
2000 - 3000	21.0	26.3

Table 5.8

Income level and willing responses on various aspects of community participation

	Money (%)	Time pressure (%)	Social (%)	Membership (%)
Less than Rs. 500/-	57.1	57.1	42.8	66.6
500 - 1000	67.7	64.5	54.2	65.9
1000 - 2000	61.9	50.7	46.0	42.1
2000 - 3000	52.6	36.8	52.6	68.4

Figure 5.12 : Income level and community participation

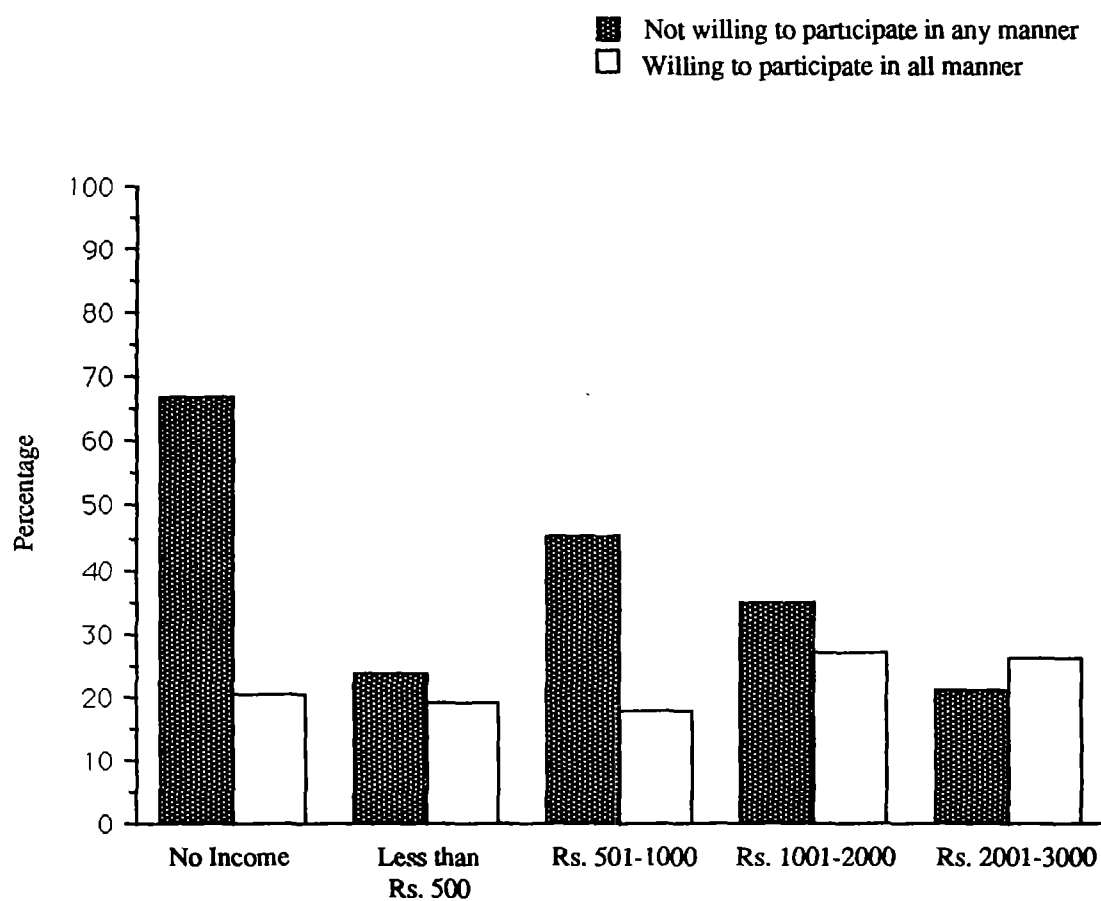


Figure 5.13 : Income level and willing to become member of the committee

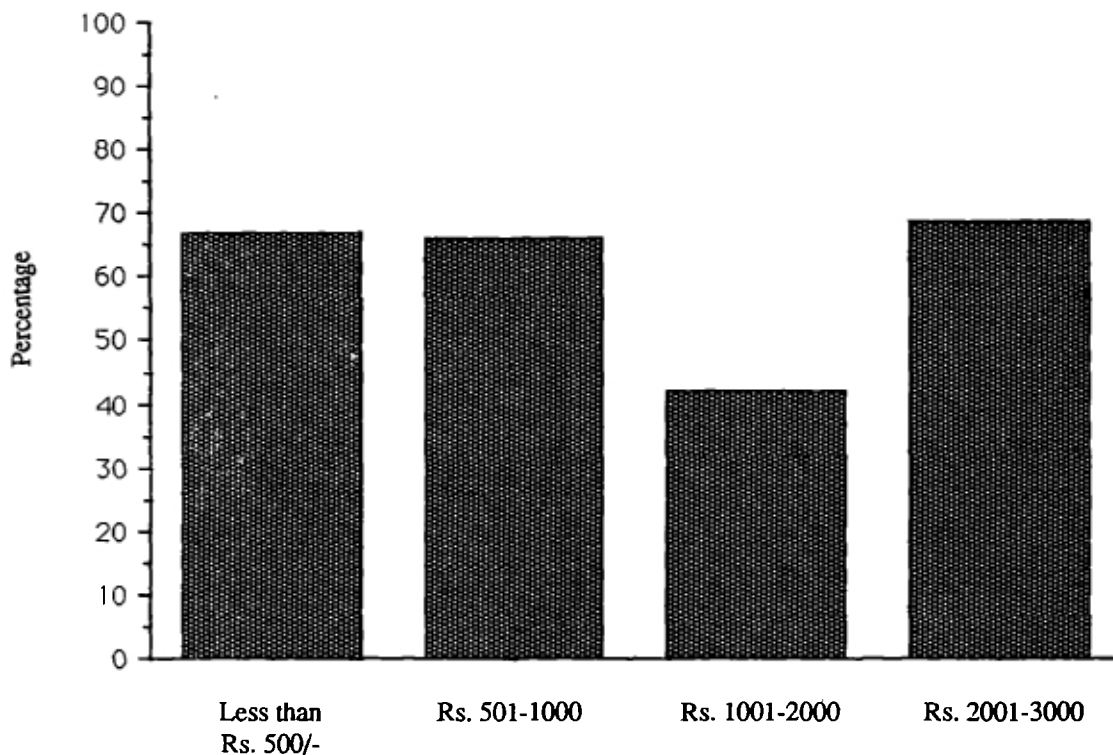


Figure 5.14 : Income level and willingness to contribute money

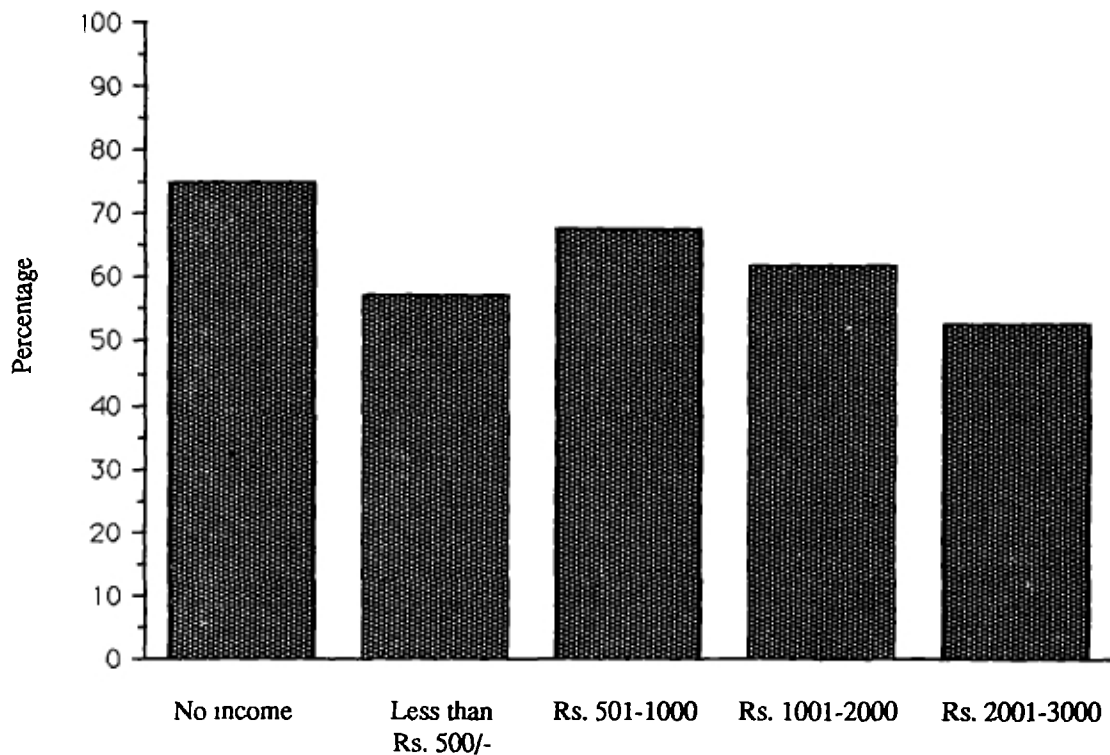


Figure 5.15 : Income level and willing to devote time

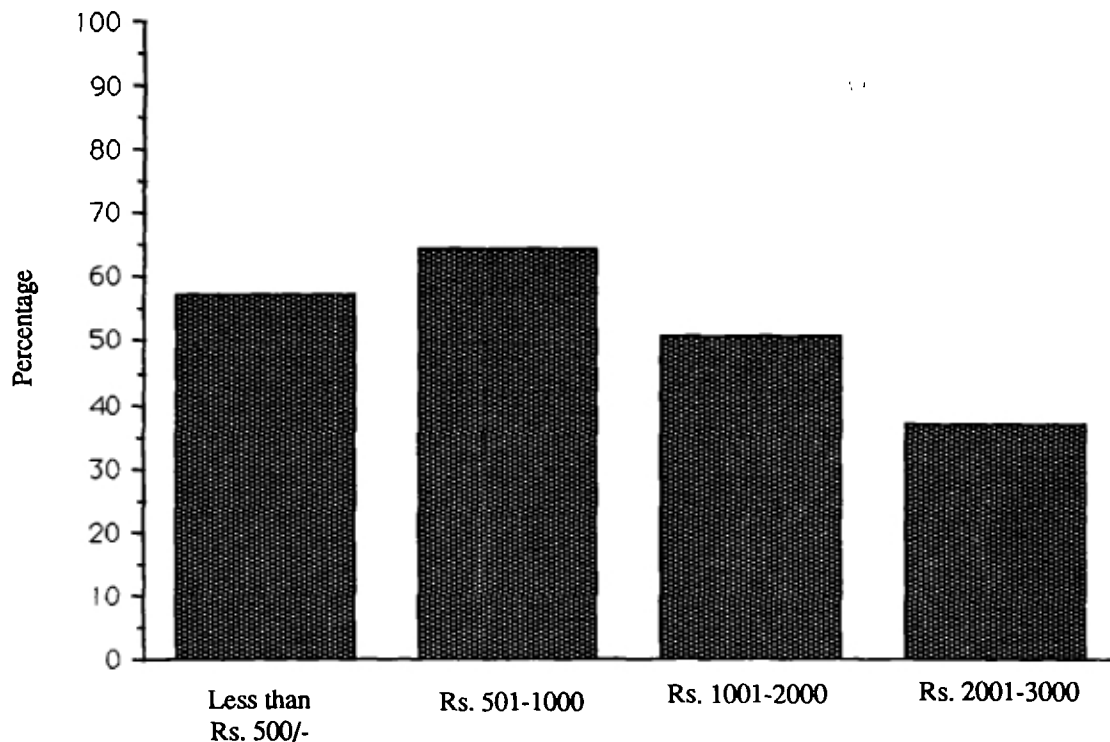
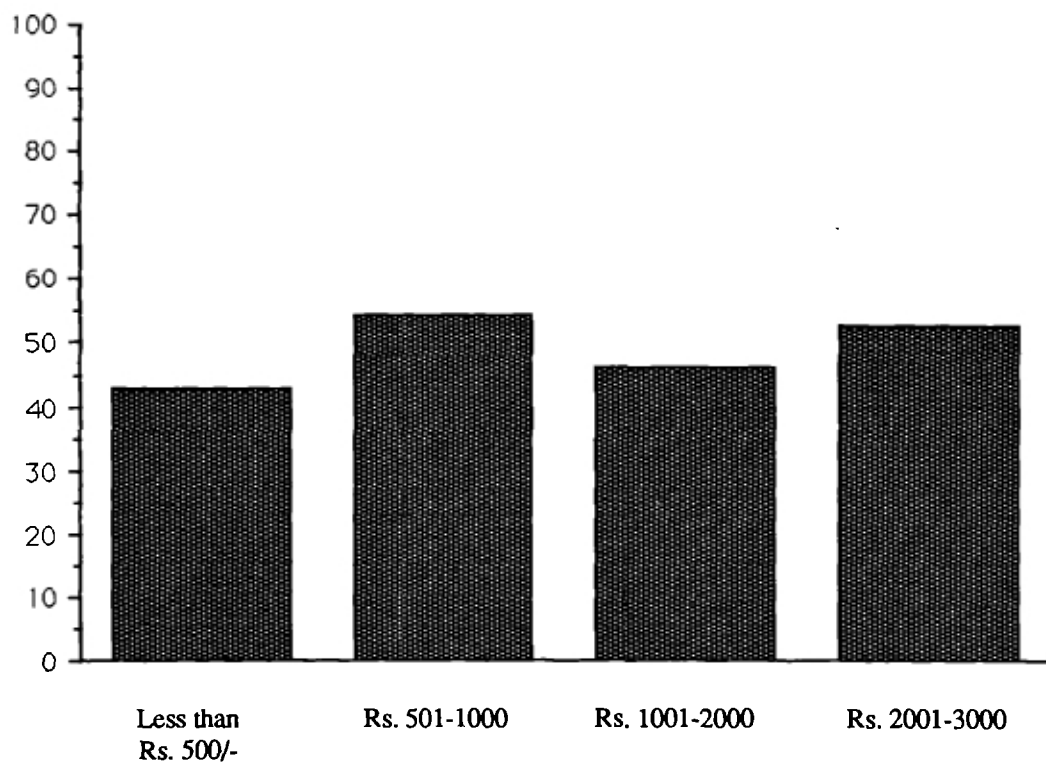


Figure 5.16 : Income level and willing to create social pressure for community sanitation programme



5.9 GEOGRAPHICAL LOCALITY AND WILLINGNESS FOR COMMUNITY PARTICIPATION

Though each block of the area had people, both, willing and not willing to participate in a community sanitation programme, a detailed scrutinization of the data reveals that Blocks A and B seem to have a slightly higher percentage of willing respondents. The observations made by community facilitators reveal that the locus of local leadership is concentrated in these blocks, where some freedom fighters, local political leaders and government servants reside. This might account for somewhat higher level of willingness of people in these blocks to participate in the community sanitation programme.

5.10 CONCLUDING REMARKS

On the whole, it appears that for a community sanitation programme, people who own their houses in the area and belong to slightly older age category would be a better target group amongst men. However, considering various other facets of the data, women could be a better target group.

CHAPTER VI

SALIENT FEATURES OF THE FINDINGS AND SUGGESTIONS

6.1 INTRODUCTION

The study covered the attitude, knowledge and practice of 375 people of Harkeshnagar. It also assessed the physical amenities available to people and their willingness to participate in a community sanitation programme. The study is based on responses from a fairly representative sample and observations made by the research team. The details of the findings have already been reported. This chapter highlights the main findings and offers possible suggestions stemming out of this case.

6.2 SALIENT FINDINGS

- i) The people differentiate between personal hygiene and public hygiene. Their attitudes and practices seem geared well for personal hygiene, but not so well for public hygiene and, as such, action plans should necessarily be oriented towards relating personal hygiene with public hygiene, rather separating the two as independent facets.
- ii) The cleanliness conditions prevailing inside the houses are better than those outside. People take up necessary activities to keep their houses clean. Some even keep the immediate surroundings of their houses clean. But most people avoid the responsibility of maintaining cleanliness outside their houses. Furthermore, most of them also disown responsibility for having created unclean conditions.
- iii) There are real physical limitations such as the lack of toilet and garbage disposal facilities. The settlement being very compact and condense and authorities having failed to provide necessary facilities, the condition of cleanliness is below par.
- iv) Open defecation and using public places for washing and bathing are common practices. In the absence of individual toilet and water facilities, people find such behaviour most functional.
- v) With regard to peoples' knowledge, it was found people are quite aware of general sources of diseases and are, by and large, not superstitious.
- vi) Many people showed a recipient attitude by refusing to ascribe roles for themselves in maintaining cleanliness in the community, and by blaming others and the government (sweepers) for not maintaining cleanliness.
- vii) Though people expressed their willingness to participate in a community sanitation programme, relatively more of them preferred to participate in less involving ways

like becoming members of the committee or donating money, as compared to participating in such ways as call for greater involvement, like pressurising others to keep the environment clean or devoting time.

- viii) Income and educational levels do not seem to form any dominant pattern in terms of willingness for community participation. Tenure status, on the other hand, appears to have a relationship with willingness for community participation inasmuch as people who own their houses in the area are more keen to participate in a community sanitation programme than those who live in rented houses. Age also appears to be related to willingness for community participation inasmuch as the youngest and oldest age groups are more willing than middle-age groups to participate in a community sanitation programme.
- ix) Men seem to detach themselves from the responsibility of maintaining cleanliness by ascribing these roles to women. The responses of women in respect of their willingness for community participation have also been encouraging.
- x) The population of Harkeshnagar is largely literate, but the advantage of education is not reflected in willingness to participate in community sanitation programme and there is need for interventions that would exploit this advantage.

6.3 SUGGESTIONS FOR INTERVENTION

As stated earlier, ACORD has been working in Harkeshnagar for the last two years. It has been able to develop a good rapport with people and obtain valuable insight into community dynamics. There have been certain accomplishments through the intervention of ACORD which could be utilised for a community sanitation programme notably that people have become more aware of the need for hygiene and its relationship with health, that a 'Mahila Samiti' has been formed and is instrumental in running a non-formal education programme and discussing issues related to health and hygiene within the community, that youth groups have been formed which have already taken a number of initiatives such as : observing a cleanliness day, digging soakage pits to hold running water and frequently taking up the issue of garbage collection with the MCD and that people have actually agreed to pay some money to get latrines build up in their area.

Under these circumstances, it seems that for starting a community sanitation programme, two kinds of interventions are needed : technological, and human. Technological interventions are called for, in the context of Harkeshnagar being an unplanned and very congested settlement, to develop a suitable strategy for sewage and waste water disposal. For solid waste disposal, on the other hand, since the circulation network in the settlement is not conducive to daily garbage collection by heavy vehicles, community action for public hygiene appears to be the only viable option. Human intervention is required to sustain any community programme. In this regard, three things are important. First, the attitudes, knowledge and practices of people in relation to health and sanitation need to be suitably oriented . In this regard ACORD, through its systematic work of educating people, has made a beginning.

Second, local leadership has to be evolved. In this respect, too, ACORD, through facilitating youth groups and the Mahila Samiti, has initiated a process. Third, the people have to be motivated to take up a community programme on a self-sustaining basis. The beginnings made by ACORD in Harkeshnagar need to be furthered, and in this ACORD and the community must join hands with other agencies like the Housing and Urban Development Corporation (HUDCO), Sulabh International, the MCD, etc.

In the context of the foregoing imperatives for interventions, a few suggestions are made here in respect of possible roles of various actors in a community sanitation programme.

Role of Technical Agencies

Organisations, such as the ones mentioned above need to be approached to undertake technical studies in the settlement to identify appropriate types of latrines, drainage and sewage systems, etc., and also extend support in actual construction of the same. It may be pertinent to mention here that Sulabh International has already been approached for this purpose.

Role of Funding Agencies

The households in the area have already indicated their willingness to contribute money for construction of latrines upto Rs. 500/-, besides a regular monthly contribution of Rs. 2 to Rs. 5 towards its maintenance. However, the contributions from the community would not be sufficient to create facilities for such a large population, and would need to be supplemented by external sources such as the Urban Basic Services Programme and the HUDCO.

Role of ACORD

Once basic infrastructural facilities are provided, ACORD, in continuation of its activities of generating awareness among people about hygiene, could educate them on the use and maintenance of the infrastructure created.

Role of the Community

The community's role could be organised along, for instance, one of the following lines :

- 1) Small lane-wise sanitation groups could be formed to undertake the responsibility of finding out and operationalizing effective and pragmatic ways of disposing garbage at a central place from where MCD trucks could collect it. An apex body for the entire settlement could additionally be created to look after major garbage heaps and public latrines and to continuously take up related issues with the relevant agencies like the MCD.
- 2) A sanitation cooperative for membership to all residents, could be formed. In this arrangement, residents would contribute money, elect office bearers, keep a watch on

the functioning of the office bearers, and cooperate with the workers. The office bearers would recruit sweepers and cleaners, allocate zone-wise duties to them, and supervise their attendance and functioning, besides collecting subscriptions, maintaining accounts and constantly being in touch with the MCD and other agencies to obtain facilities and services relating to sanitation.

हरकेशनगर का सर्वेक्षण

विभाग : धारणायें

1 आप अपने घर की सफाई स्थिति कैसा समझते हैं ?

	प्रतिवादी		प्रश्नकर्ता	
	घर के अन्दर	घर के बाहर	घर के अन्दर	घर के बाहर
बहुत साफ				
साफ				
गन्दा				
बहुत गन्दा				

2 घर के बाहर की सफाई परिस्थिति से क्या

- (1) आप खुश है ?
- (2) परेशान है ?
- (3) आपको कोई फर्क नहीं पड़ता ?
यदि परेशान हैं तो कहां तक --- बहुत/कुछ-कुछ

3 सबसे अधिक परेशान आप किस चीज से हैं ?

- (1) मक्खियों से
- (2) दुर्गन्ध से
- (3) पानी की कमी से
- (4) खुले नाली से
- (5) कूड़े से
- (6) वातावरण से
- (7) अन्य

4 जगह को गन्दा कौन करता है ?

- (1) सब लोग
- (2) दूसरे लोग
- (3) हम
- (4) बच्चे
- (5) जानवर
- (6) आदमी
- (7) औरतें

- 5 आपके घर को साफ रखने की जिम्मेदारी किसकी है ?
- (1) घर के औरतों की
 - (2) घर के बच्चों की
 - (3) पति की
 - (4) किसी की नहीं
 - (5) अन्य
- 6 घर के बाहर की सफाई की जिम्मेदारी किसकी है ?
- (1) पड़ोसियों की
 - (2) हमारी
 - (3) सबकी
 - (4) जमादार की
 - (5) सरकार की
 - (6) किसी की नहीं
 - (7) अन्य
- 7 आपके विचार में सफाई रखने के लिए क्या करना चाहिए ?
- (1) कूड़ेदान रखने चाहिए
 - (2) नालियाँ साफ रखना चाहिए
 - (3) खुले में पखाना नहीं करना चाहिए
 - (4) जमादारों से काम करवाना चाहिए
 - (5) नये जमादार रखने चाहिए
- 8 आस-पास की सफाई कब-कब करनी चाहिए ?
- (1) हर रोज
 - (2) सप्ताह में एक बार
 - (3) महीने में एक बार
 - (4) साल में एक बार
- 9 क्या आपके विचार में सफाई आवश्यक हैं ?
- (1) मौहल्ले में — हाँ/नहीं
 - (2) घर में — हाँ/नहीं
- यदि हाँ, तो इसमें क्या स्कावट है ?
- (1) लोग स्वचि नहीं लेते
 - (2) हम स्वचि नहीं लेते
 - (3) लोग सफाई का महत्व नहीं जानते
- 10 यदि कोई कदम उठाया जाए तो क्या लोग/आप सफाई रखने में सहयोग देंगे ? हाँ/नहीं
कारण :-

विभाग : व्यवहार
अवलोकन तथा प्रश्न

1 पानी कहाँ रखा जाता है ?

	खाना पकाने के लिए	पीने के लिए	अन्य कार्यों के लिए
1 बाल्टी में			
2 घड़े में			
3 बर्तन में			
4 टैंक में			
5 अन्य			

जिस बर्तन में पानी रखते हैं उसे कितनी बार साफ करते हैं ?
हर बार पानी भरने से पहले/कभी-कभी/कभी नहीं

2 रखे हुए पानी को बाहर कैसे निकाला जाता है ?

- (1) ठण्डी वाले बर्तन से
- (2) हाथ अन्दर डालकर
- (3) उडेल कर

3 बर्तनों को कहाँ धोया जाता है ?

- (1) रसोई घर के अन्दर
- (2) घर के बाहर
- (3) नल के नीचे
- (4) अन्य

4 बर्तनों को कहाँ रखा जाता है ?

- (1) रसोई घर में
- (2) जमीन पर
- (3) ताक पर
- (4) कोई अन्य स्थान

5 क्या खाने को ढक कर रखा जाता है ?
हाँ/नहीं

6 आम तौर से घर के लोग कहाँ स्नान करते हैं ?

	स्त्री	पुरुष	बच्चे
1 गुसलखाने में			
2 घर के अन्दर			
3 खुले में			
4 नल के पास			
5 अन्य			

7 आम तौर से घर के लोग कितनी बार नहाते हैं ?

	स्त्री	पुरुष	बच्चे
1 हर रोज			
2 दो दिन में एक बार			
3 हफ्ते में एक बार			
4 कोई विशेष नियम नहीं			

8 आम तौर पर घर के लोग कपड़े कितनी बार बदलते हैं ?

	स्त्री	पुरुष	बच्चे
1 दिन में एक बार			
2 दो दिन में एक बार			
3 हफ्ते में एक बार			
4 कोई विशेष नियम नहीं			

9 आप कहाँ कपड़े धोते हैं ?

- (1) घर के अन्दर
- (2) बाहर
- (3) कुरे/नल के पास
- (4) अन्य

विभाग : ज्ञान और विश्वास

- 1 बिमारियों के क्या कारण हैं ?
 - (1) गन्दगी
 - (2) मक्खियाँ
 - (3) मच्छर
 - (4) गन्दा पानी
 - (5) पखाना
 - (6) गोबर
 - (7) खाने की कमी
 - (8) खराब खाना
 - (9) ईश्वर का प्रकोप/भूत-प्रेत
 - (10) खराब किस्मत
 - (11) पूर्व जन्म के बुरे कर्मों का फल
 - (12) अन्य कोई

- 2 बच्चे को पखाना और मूत्र पड़े रहने या छूने से क्या स्वास्थ्य को नुकसान होता है ?
हाँ/नहीं
कारण :-

- 3 बिमारी के रोक-थाम के लिए क्या किया जा सकता है ?
 - (1) टीका लगवाना
 - (2) संतुलित भोजन
 - (3) स्वच्छ पानी पीना
 - (4) आस-पास सफाई रखना
 - (5) रोज नहाना और साफ कपड़े पहनना
 - (6) शौच के पश्चात् हाथों को साबुन से धोना
 - (7) खाने को ढके रखना
 - (8) खाने की चीजों को हाथ लगाने से पहले हाथ धोना

- 4 पानी साफ करने के क्या तरीके हैं ?
छानना/उबालना/ब्लीचिंग पाउडर/क्लोरीन/अन्य

- 5 पानी साफ रखने के क्या तरीके हैं ?
 - (1) ढके रखना
 - (2) गन्दे हाथ न डालना
 - (3) साफ बर्तनों में पानी रखना

विभाग : सफाई योजना में लोगों का सहयोग

- 1 क्या आप सफाई बनाये रखने के लिए किसी प्रकार का आर्थिक योगदान देने के लिए तैयार हैं ?
हां/नहीं
यदि हां तो आप हर महीने कितना योगदान कर सकते हैं ?
- 2 क्या आप कूड़ा-करकट एकत्र करने के कार्यों की देख-भाल के लिए समय दे सकते हैं ?
हां/नहीं
- 3 क्या आप सफाई बनाये रखने के लिए दूसरों पर जोर दे सकते हैं ?
हां/नहीं
यदि नहीं तो क्यों ?
- 4 यदि आपके समुदाय में सफाई कार्यों की देख रेख के लिए कमेटी का गठन किया जाए, तो क्या आप उसके सदस्य बनेंगे ?
हां/नहीं
यदि नहीं, क्यों ?
समय नहीं/रूचि नहीं/घर बाले नहीं करने देंगे

हरकेश्वर का सर्वेक्षण

विभाग : व्यक्तिगत सूचना

- 1 परिवार के कर्त्ता का नाम _____
- 2 पता : _____
- 3 परिवार के सदस्यों के विषय में सूचना :

	नाम	आयु	लिंग	शिक्षा	व्यवसाय	आय
1						
2						
3						
4						
5						
6						
7						
8						
9						
10						

- 4 जाति : अनुसूचित जाति/जन जाति/ अन्य
- 5 आप किस राज्य से यहाँ आये हैं ?
- 6 अन्य कब से यहाँ रह रहे हैं ?
- 7 घर की स्थिति :
 - (1) स्वयं का घर/किराये का घर
उस घर में कितने किरायेदार हैं ?

- (2) घर में कमरे :
- (3) बिजली हाँ/नहीं
- (4) पानी
- (5) निजी नल/सामान्य नल/हैण्ड पम्प/कमेटी का टैंक
- (7) रसोई अलग है/कमरे में है
- (7) प्रसाधन गृह अगल है/सामान्य है/खुले में है
- (8) घर किस प्रकार का है :
- (क) छत - टाईल की/सीमेन्ट की/ छप्पर की/खपड़े की/ अन्य
- (ख) दीवारे - सीमेन्ट की/ईटों की/ मिट्टी की/अन्य
- (ग) फर्श - पक्का/कच्चा/चिप्स

8 बच्चों के पखाने/मुत्र वाले गन्दे कपड़े कहाँ धोते हैं ?

- (1) घर के अन्दर
- (2) बाहर
- (3) कुर/नल के पास
- (4) अन्य

9 लोग पखाना कहाँ करते हैं ?

	पुरुष	स्त्री	बच्चे
1 निजी शौचालय में			
2 आम शौचालय में			
3 खुले में			
4 नालों में			
5 अन्य			

10 क्या आप पखाने के बाद साबुन से हाथ धोते हैं ?

	पुरुष	स्त्री	बच्चे
हाँ			
नहीं			

कारण :

- 10 (1) जब बच्चा कपड़ों में मूत्र, पखाना कर देता है, तब आप उसके कपड़े धोते हैं या यूँ ही बदल देते हैं, या बिना धोये सुखा लेते हैं ?
धोते हैं/यूँ ही बदल देते हैं/बिना धोये सुखा लेते हैं
- (2) ऐसे में आप उसके कपड़े कब बदलते हैं ?
उसी समय/थोड़ी देर बाद/नहीं बदलते
- (3) क्या आप खाना पकाने से पहले अपने हाथ साबुन से धोते हैं ? हां/नहीं
- (4) क्या आप खाने से पहले अपने हाथ साबुन से धोते हैं ? हां/नहीं
- (5) क्या आप बच्चों के खाना खाने से पहले उनके हाथ साबुन से धुलवाते हैं ? हां/नहीं
- (6) क्या आप बच्चों के खाना खाने के बाद उनके हाथ साबुन से धुलवाते हैं ? हां/नहीं
- 11 कूड़ा कहाँ एकत्र किया जाता है ?
- (1) कूड़ेदान में
- (2) नालों में
- (3) कहीं भी
- 12 घर के अन्दर की सफाई :
- (1) मकड़ी के जाल
- (2) गन्द
- (3) कूड़ा
- 13 आप अपने घर के बाहर की सफाई कैसे बनाये रखते हैं ?
- (1) खुद सफाई करके
- (2) जमादार से सफाई करवाके
- (3) कूड़ा-करकट न फेंक कर
- (4) दूसरों को कूड़ा-करकट फेंकने से मना करके।

IHSP sponsored Research Studies

No.	Title	Researcher (Organisation/Individual)
1.	In Search of Shelter: A participatory training programme for women pavement dwellers in planning and design of their own settlement	Society of Promotion of Area Resource Centres (SPARC), Bombay
2.	Analysis of Developmental Problems of Low Cost Income Settlements – A comparative study of Rehousing and Settlement Improvement Projects – A case of Cuttack and Bhubaneswar	K.C. Satpathy N C Shah
3.	Socio-physical evolution of popular settlements and Government supports – Case Study of Bhopal	Neelima Rishud
4.	Socio-Economic Facilities to Slum Dwellers – A Study of Two Squatter Settlements in Delhi	Bakshi D. Sinha Arun K. Ghosh
5.	Appropriate Technical Design – Low Income Settlement Infrastructure	S K Roy P K Dutta Kalyan Roy
6.	Role of Small Contractors in Shelter Sector – Baroda	Chetan Vaidya
7.	Development Controls in Low-Income Housing Activity – Vijayawada City	M V Sharma
8.	Urban Reconstruction – Displacement and Marginalisation of the Lower Income Group	DIALOG Research & Application P. Ltd. Calcutta
9.	NGO Implemented Housing Project and its effect on Community Development	Pankaj Modi Pranoti Modi
10.	Role of NGOs in the shelter process of Low Income People with special emphasis on Housing Finance – The Case of Delhi Catholic Archdiocese	M. Sivashanmugham Istiyak Ahmed
11.	Housing Finance in small and medium towns – Case Study of Shimla	Sanat Kaul Ranjana Kaul

- | | |
|---|---|
| 12. An Interactive Model for Determination of Low Income Housing Demand in Indian medium size towns. | R N Dutta |
| 13. Impact of Tenure Regularisation and Environmental Upgrading Programmes on Shelter Consolidation in Squatter Settlements in Bhopal | Banashree C. Mitra |
| 14. Slums, Squatter settlements and organised sector worker housing in India: Some affordability myths and alternate shelter strategies | R M Kapoor
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| 15. Evaluation & Impact of slum improvement programme in Ludhiana (Punjab) | Ravinder Singh Sandhu |
| 16. Cost Recovery Practices, Performances and Problems of a Public Housing Agency – Case of Tamil Nadu Slum Clearance Board | M. Sivashanmugham
C. Baskaran
R V Kathiravan
N. Usha |
| 17. A Construction Management Approach to involvement of beneficiaries in EWS Group Housing Project | Prof. T S Narayanaswamy
Dr M Dhanasekhar
A M Sharat Chandra |
| 18. Effectiveness of Site and Services as a strategy for promoting Low Income Housing | Delhi Productivity Council
New Delhi |
| 19. Residential Open Spaces – A behavioural analysis | Vastu-Shilpa Foundation
Ahmedabad |
| 20. Spatio-Temporal Patterns of settlement evolution: A comparative study of two low income settlements in Ahmedabad | Meera Mehta
Dinesh Mehta |
| 21. Infrastructure development in Low Income Settlements – Trivandrum City | C. Ravikumaran Nair |
| 22. Slum Upgradation: A Policy Alternative to Management of spontaneous settlements (Bombay Experience) | V.G. Panwalkar
Pratima Panwalkar |
| 23. Government Policies and Illegal Land Supply by Housing Co-operatives – Jaipur | Neelima Risbud |

