WATER, ENVIRONMENT AND SANITATION

Report on Qualitative Phase of Knowledge, Attitudes and Practices Study in Rural India (IMPLEMENTORS)

APRIL 1989

unicef
United Nations Children's Fund
REGIONAL OFFICE FOR SOUTH CENTRAL ASIA
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INDIA

WATER AND ENVIRONMENTAL SANITATION

Report on Qualitative Phase of Knowledge,
Attitudes and Practices Study
- Implementers

APRIL 1989

Prepared for UNITED NATIONS CHILDREN'S FUND
By INDIAN MARKET RESEARCH BUREAU
DELHI IMRB/RI/HV/SP/40509

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I. BACKGROUND

I BACKGROUND

The social costs of poor water and sanitation facilities are high. It results in disease and poor general health which affect both productivity as well as quality of life.

In the International Drinking Water Suply and Sanitation Decade (1981-1990) the Government of India has set itself the enormous task of providing safe drinking water to the entire rural population in the Seventh Plan and low cost sanitation facilities to 25% of its rural population by 1990.

It has been found that provision of safe water and sanitation systems alone do not lead to a change or result in improvements in environmental hygiene or even in the use of facilities provided. This is because the needs, priorities and benefits of these facilities as perceived by the intended beneficiaries are considerably different from those visualised by the city bred planner.

In order to bridge this gap so that the programme can be successfully implemented it becomes important to understand the Knowledge, Attitudes and Practices (KAP) of the rural population with regard to drinking water, environmental and personal hygiene and sanitation.

The KAP of the beneficiary group, however, cannot be studied in isolation, since it exists within a certain socio-cultural framework with different forces working on it. In the context of this programme persons who could influence village people and implementers of the programme working directly with the villagers were seen as important change agents. The KAP of these two groups, to the extent that it affects the beneficiaries, therefore needed to be assessed.

With this aim in mind UNICEF commissioned IMRB to carry out a comprehensive study among the rural population in eight states in India. The qualitative research module therefore covers three target groups :

- beneficiaries
- influencers
- implementers

The findings will be used to establish the nature of resistance to the effective implementation of water and sanitation programmes. They will help discover ways in which existing individual and community Knowledge, Attitudes and Practices can be exploited to help shape the programme and to develop effective IEC materails. The study will also serve as a baseline against which subsequent shifts in KAP and programme impact can be measured.

The study is to be covered in four phases. The qualitative research component is the second phase of the study. This document is the report of the qualitative research among the implementer segment and defines the range of existing KAP in this group. Findings from this phase would be used to generate hypotheses for testing through subsequent quantitative research and define data that needs to be quantified in order to be actionable.

II. INTRODUCTION

II INTRODUCTION

i. DEFINITION OF AN IMPLEMENTER

An implementer is a porson who is involved in the implementation of the Water and Environmental Sanitation (WES) programme. The category includes resource persons at various levels of hierarchy in the programme implementation process. The 170 responses obtained for the 'implementers' section of this study have been obtained from officers,(for e.g Block Development Officers & Assistant Development Officers) Engineers, Sanitation Inspectors, Handpump Mechanics and Village Level Workers.

ii. OBJECTIVE OF INCLUDING IMPLEMENTERS

Respondents in the qualitative phase of research have been chosen to represent all those groups of people who, directly or indirectly have the power to influence the success of the water and sanitation programme. The 'implementers' have been interviewed to understand beneficiary KAP from the point of view of persons who have had the opportunity to closely observe these KAP. The relevance of implementers to this KAP study exists to the extent that they can contribute towards the understanding of the benoficiary KAP, rather than understanding the implementer KAP as an end in itself.

iii. PROFILE OF THE RESPONDENT

Separate interviews were conducted with respondents for the two main areas of study - water and sanitation. The demographic profile of the respondents is presented briefly.

WATER

Average age	:	39.9 years
Average monthly income	:	Rs 2300
Education	:	87 out of 88 respondents been formally educated most at least matriculate
Work experience	:	Average work experience of 16 years

SANITATION

Average age	:	44.1 years
Average monthly income	:	Rs 2300
Education	:	80 out of 82 respondents been formally educated most at least matriculate
Work experience	:	Average work experience of 20 years

iv. AREAS OF ENQUIRY

The following areas of information are covered in the implementer section of this study :-

a/ Classification of water

b/ Understanding of problems faced by villagers with regard to water

c/ Handpumps - site selection, installation, use and maintenance

d/ Waste water accumulation

e/ Defecation practices of villagers and problems

f/ Latrines - need, and problems

A detailed list of the topics covered in this report can be obtained from the 'contents' page.

METHODOLOGY

The information from respondents was obtained in a personal interview using a semi-structured questionnaire. A separate questionnaire was used for water related issues and sanitation related issues. As there is a difference in the job responsibilities of implementers for water and for sanitation, these two groups were interviewed separately.

Respondents were selected from 22 districts across the eight states. The districts had been chosen on the basis of the value of the Thompson Rural Market Index and whether the district came under the purview of the rural water supply programme. Four implementers were interviewed in each district, for water and for sanitation. 88 responses were obtained for the water section and 82 responses were obtained for the sanitation section, thus 170 responses were obtained overall.

It needs to be repeated that this study was qualitative in nature, and numbers have been provided to give qualitative rather than quantitative indications. Wherever a table with numbers or percentages has been presented, the reference number of the computer printout from which the data has been extracted is also provided. Wherever percentages do not add up to 100, it is because respondents may have given more than one response; for example in the table on understanding of good water, the respondents' may have mentioned more than one attribute of good water.

The fieldwork was done in the months of June and July, 1988 by trained interviewers and field executives of IMRB.

FORMAT OF THIS REPORT

A comprehensive executive summary has been provided immediately following the introductory chapter of this report.

The report is presented in two parts. The first part entitled - 'Water' deals with findings about water related issues. These are :

i. Issues about water in general and
ii. Issues regarding handpumps

The second part - 'Sanitation' deals with findings about sanitation related issues. The sanitation related issues have been grouped under issues relating to :

i. Waste water accumulation
ii. Defecation and
iii. Latrines

Data has been presented by the following analysis breaks :

- respondent's designation, education and area of responsibility and the eight states covered by the study.

Each part i.e.'Water' and 'Sanitation' is followed by a brief section entitled 'Respondent related information' which contains information specific to repondents' respective jobs.

An appendix has been provided at the end which contains information about the respondents.

III. SUMMARY OF FINDINGS

This summary refers to the views of implementers. The summary is provided in two parts - separately for water and sanitation.

WATER

* The handpump emerges as the most important source of drinking water. The handpump is also widely used for other end uses such as household uses, bathing and washing of clothes.

* The dug well emerges as the second most important source, after the handpump

* There is little discrimination in the use of various sources of water by different groups of people

* Good water is seen as water which is visually clean, sweet and tastes good

* The handpump is a source regarded as safe by most respondents. Pond water is regarded as unsafe by most respondents

* Villagers face the problem of scarcity of good quality water and problems due to handpump breakdown.

* Availability of water is mentioned as a major problem in almost all states

* Implementers are aware that impure water may lead to serious illnesses

* Respnsibility for site selection for drilling a handpump lies with technical people and villagers' representatives

* Villagers' views are sought either through representatives or through a meeting with villagers.

* Women play a negligible rôle in site-selection though implementers felt that women's views should be considered

* Villagers do not consider the maintenance of handpumps as their responsibility, as they would not make payment for upkeep

Based on the findings, the following conclusions may be drawn :

- Handpumps are regarded as an important source of good water by villagers according to the implementers

- However, villagers do not appear to have a sense of ownership towards handpumps. As implementers have also mentioned that villagers would not be able to make a financial contribution towards handpump installation and maintenance, there is a greater need for communication designed to address the issue of community participation.

- Implementers are knowledgeable about the harmful consequence of impure water and insofar as implementers' KAP is different from the villagers' KAP, this has implications for the designing of effective information, education and communication (IEC) materials and activities.

SANITATION

* The problem of waste-water accumulation is widely mentioned. It is also mentioned that in most cases action is not undertaken to solve the problem

* There is only sporadic mention of construction of soak-pits

* Implementers viewed the construction of drains as the best possible action by authorities

* Open field defecation and non-disposal of excreta mentioned universally

* Implementers were divided about whether villagers consider defecating in the open as a problem, but implementers themselves considered open-field defecation as a problem

* Interest and use of private latrines restricted to financially well-off and educated persons

- Scepticism about the need for community latrines and the practicability of the same.

The following conclusions may be drawn from the findings about sanitation.

- According to the implementers the need for latrines is low and conditional and implementers have mentioned that latrines would only be used if their cleanliness can be assured, which means adequate funds, adequate provision for sweepers and adequate availability of water. From the implementers opinions, it can be inferred that sanitation facilities are constrained more by a supply-side problem rather than a demand side problem which can be addressed through IEC activities.

IV. DETAILED FINDINGS

SECTION 1 : WATER

1.0 SOURCES OF WATER

In order to understand primary and secondary water sources that were used by people, implementers were asked their opinion on the same. The objective was to get second-hand information on water source usage as well as to identify contradictions, if any, between water usage practices as believed by implementers and as they actually existed.

1.1 DRINKING WATER

When asked to mention one main source of drinking water, over half the implementers mentioned borewells and tubewells, followed by a third who spoke of dug wells. These two sources accounted for 85% of the responses in terms of main drinking water sources.

An interesting aspect emerges when one considers the responses according to the respondent's designation. While borewells or handpumps are mentioned as main source of drinking water by 5 out of 15 officers (i.e one third), 19 out of 31 (i.e nearly two third) engineers considered borewells or handpump to be the main source. Likewise only 1 out of 15 handpump mechanics mentioned dug-wells as the main source while 8 out of 15 mentioned handpumps as the main source. The above responses indicate that the implementers' views are influenced by the job designation and that engineers and handpump mechanics tend to give greater importance to handpumps than implementers from other categories.

One-third of the respondents each mentioned handpumps and dugwells again in the context of secondary water sources, making handpumps and dugwells the two dominant sources for drinking water.

The following table presents the data for the implementers opinion on the sources of drinking water in their areas. Responses for 'main sources'does not total upto 100 because some respondents may have mentioned more than one main source. Responses present diagramatically in the pie-chart, however, have been converted to total 100.

Sources of drinking water

Sources of drinking water

	Main sources %	Other sources %
Base : 88		
Borewell/Handpump	51	32
Dug well	34	36
Flowing water	6	18
Piped water taps	9	13
Lakes/Ponds	2	14
Mechanised pump	3	-

(Table 1a)

In Madhya Pradesh and Gujarat all implementers (100%) mentioned handpumps as a main or secondary source of drinking water. In addition, in Madhya Pradesh, all respondents also mentioned dug wells, indicating simultaneous use of both sources by villagers. Two out of three implementers in Madhya Pradesh also spoke of rivers and canals being used for drinking water. In Gujarat, on the other hand, 50% mentioned dug wells but it is significant to note that no source other than handpumps/dugwells for drinking water was mentioned, either as a main or secondary source in this state.

In Uttar Pradesh, handpumps. piped tap water and dugwells were all equally mentioned. In addition, a fourth of the implementers interviewed also mentioned lakes and ponds.

In Manipur, handpumps were not mentioned by a single implementer. Of the three implementers interviewed in this stage, 2 each mentioned lakes or ponds, rivers and taps. One respondent mentioned rain (as had one implementer in Uttar Pradesh).

In Andhra Pradesh, handpumps and dugwells were mentioned as the most important drinking water sources while less than a third mentioned rivers. Discussions with villagers however point to much higher usage of river water for drinking purposes.

1.2 WATER FOR IRRIGATION

Dug wells, rain and flowing water sources (river, canals) were the primary sources used for irrigation that were most frequently mentioned.

Borewells and tubewells with handpumps or mechanized pumps were also mentioned as primary or secondary sources.

The four most important sources of water for irrigation purposes were :

	Main %	Secondary %
Base : 88		
River	23	22
Dug well	35	18
Borewell/Tubewell	20	22
Rain	25	11

{Table 1b(i)}

Rain water was the most important source of irrigation water in Manipur and West Bengal. In West Bengal, rivers and lakes/ponds were also mentioned.

Dug wells were important sources of irrigation in Rajasthan, Madhya Pradesh, Gujarat and Tamilnadu. In these states.implementers mentioned these sources more often than any other source.

Rivers/canals were clearly the most important irrigation water source for Uttar Pradesh followed by borewells/tubewells. They were also mentioned by almost half the implementers in West Bengal, Manipur and Andhra Pradesh.

Borewells and tubewells were also mentioned as important sources in Tamilnadu.

1.3 WASHING OF CLOTHES

Most implementors believed that villagers washed clothes at the well - i.e either dug well or borewell. This is particularly true for Gujarat, Madhya Pradesh, Rajasthan and Tamilnadu. In West Bengal, Manipur and Andhra Pradesh there is greater mention of the use of lakes or ponds for the purpose of washing clothes. Respondents in Uttar Pradesh mentioned the use of flowing water sources such as rivers and canals to a higher extent than in other states.

The following table presents the data for the various sources used for washing clothes, in the opinion of the implementers.

Washing of clothes

	Main %	Other %
Base : 88		
Dug well	31	24
Pond/lake	25	15
Borewell/Handpump	24	28
River/Canal	23	18

{Table 1b(ii)}

1.4 BATHING

The sources mentioned most often as being used for bathing purposes are dugwells and borewells or handpumps. The next most important source is lakes or ponds, particularly in West Bengal and Manipur. The following table presents the data for the sources of water used for bathing by people in the implementers' opinion.

Sources of water for bathing

	Main %	Others %
Base : 88		
Dug well	44	17
Borewell/Handpump	30	30
Lake/Pond	11	21
River/Canal	7	22

{Table 1b(iii)}

1.5 WATER FOR HOUSEHOLD USES

The use of borewell or handpump is mentioned as the most important source of water for household uses, almongwith dug wells. The use of lake or pond water and water from rivers and canals is mentioned to a lesser extent. The following table presents the data.

	Main %	Others %
Base : 88		
Borewell/Handpump	44	26
Dugwell	38	31
Lake/Pond water	8	9
Piped water	7	5
River/Canal	2	13

[Table 1b(iv)]

1.6 WATER FOR BATHING CATTLE

The most frequently mentioned sources for this use are dug wells, lakes or ponds and rivers or canals. Borewells or handpumps are mentioned by more respondents in Uttar Pradesh. Andhra Pradesh and Tamilnadu than in other states. Madhya Pradsh, Andhra Pradesh and West Bengal are states where there is also a higher mention of rivers or canals than in other states. The following table presents the data for the sources used for bathing cattle, according to the implementers.

Source of water for bathing cattle

	Main %	Others %
Base : 88		
Dug well	30	18
Lake/Pond	27	13
River/Canal	23	14
Borewell/Handpump	14	15

{Table 1b(v)}

1.7 CLASSIFICATION OF WATER SOURCES

It is of importance to note the nature and extent of differentiation in the use of water sources by different groups of people. These groups may be according to sociological factors such as caste, community, social status etc. or according to the actual collection of waer, viz groups according to ownership of water source or location of a water source.

The highest number of responses (30 out of 88 respondents) indicate "no difference at all" in the use of water sources by various groups of people.

A high mention has also been made of differentiation in use of water sources based on practical aspects of ownership and location of water sources. It may be pointed out here that the presence of caste-based clusters of houses in rural India implies that if a number of water sources exist within a village, there would be separate water sources for separate castes. In a case where each community does not possess its own water source, or there is a general scarcity of water, caste-based differentiation would be caused by factors other than locational. Respondents have mentioned "caste-based differences" but there is an even division between those respondents who mention societal caste-based differentiation, i.e lower castes are not permitted to fetch water from wells belonging to upper castes and those who mentioned government imposed positive discrimination in favour of Harijans and other low castes, for e.g by providing handpump first for Harijans.

An interesting finding has also emerged from the fact that 7 out of 10 respondents in Gujarat (as compared to an all-states average of 34%) have mentioned the complete absence of any form of differentiation in the use of water sources. West Bengal and Andhra Pradesh are the other states where there is low mention of discrimination. This would perhaps indicate that the extent of discrimination in the use of water sources changes with the availability of water and the prevalant socio-economic conditions.

The following table presents the responses regarding the use of water surces by different groups of people.

Classification of water sources

	Total %
Base : 88	
No difference at all	34
No difference for public sources	18
People use source in their locality	24
Special provision for scheduled castes	17
No difference on caste basis	6
Caste based difference exists	13

(Table 1c)

2.0 UNDERSTANDING OF GOOD AND BAD WATER

A respondent's understanding of what makes water 'good' or 'bad' indicates both his knowledge as well as his attitude towards water, both of which would be influenced by his experience regarding the actual use of water. When one examines the implementers' understanding of what constitutes 'good water', one observes that the most important attribute of good water is nearly unanimously seen as water which is visually clean, i.e water in which soil, dirt or other visible foreign matter can not be seen. The range of responses regarding the understanding of good water, alongwith important state-wide variation, is reproduced in the following table and represented in the attached bar chart

Understanding of good water

	Total %	Remarks
Base : 88		
Visually clean	66	High in all states, except Gujarat
Sweet water	34	High in Andhra Pradesh
Tastes good	28	High in Tamilnadu
Tubewell/Handpump water	25	High in West Bengal, Tamilnadu
Meets chemical norms	23	High in Madhya Pradesh, Gujarat
Free from excessive minerals	18	High in Madhya Pradesh, Gujarat
Free from germs, bacteria, pollutants	17	High in Uttar Pradesh

In the state of Gujarat the taste of water and less mineral content were the properties mentioned more often than visual cleanliness, a finding which would be expected, given the problem of high mineral content in water faced in that state. Other important attributes of good water were mentioned as water which

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is sweet (and this belief was particularly strong in Andhra Pradesh), water which tastes good (Tamilnadu) and water ;which meets norms of chemical analysis (Gujarat, Madhya Pradesh) - the latter response to be expected . as the two states face a problem of excessive mineral content in water. Interestingly, handpump or borewell water as good water was mentioned by a fourth of the implementers, with this particular belief being stronger in West Bengal and Tamilnadu. However,less than a fifth of the respondents mentioned good water as free from germs or bacteria. This strengthens the impression tht good water is judged more from sensory perceptions of sight and taste, rather than its intrinsic safety from the point of view of health.

When one analyzes the findings across implementer categories one finds that village level implementers laid more stress on visual cleanliness (17 out of 21 respondents as compared to the average of 66%) whereas engineers laid more stress on laboratory and chemical analysis.

2.2 UNDERSTANDING OF WATER WHICH IS NOT GOOD

The following table presents the information about the implementers' understanding of what they would consider as water which is not good.

Understanding of water which is not good

Base : 88	Total %	Remarks
Muddy/dirty	50	Low in Madhya Pradesh, Gujarat and Tamilnadu
Brackish	34	High in Andhra Pradesh, TN
By seeing/cooking	27	High in Madhya Pradesh
Tasteless	18	High in Gujarat
Does not cook food well	17	-
Coloured	17	High in Andhra Pradesh
Pond water/Accumulated rain water	15	-
Smells bad	14	-
Does not pass lab test	10	High in Gujarat

As a logical corollary to the definition of good water, bad water was first identified on the basis of visual senses. Impementers' understanding of water which is not good would primarily be water which has mud or dirt. The exceptions to this finding come from the states of Madhya Pradesh, Gujarat and Tamilnadu. In Madhya Pradesh, not good water is water which, apart from not being visually clean, does not cook food well. In Gujarat, water which is chemically unfit is regarded as not good, while in Tamilnadu, water which is brackish or salty is regarded as not good. As in the case of good water, engineers and officers tend to talk more of mineral content and chemical anlysis, whereas village level implementers appeared to be more concerned about the visual aspect of water.

3.0 UNDERSTANDING OF SAFE AND UNSAFE WATER

3.1 SOURCES WHICH ARE NATURALLY SAFE FOR WATER

Over 60% of the respondents spontaneously referred to handpump water as water which would be naturally safe. The response was similar across all states, with greater mention of handpump water as a safe source in Gujarat, West Bengal and Tamilnadu. The following table illustrates :

Sources of water regarded as naturally safe

	Total %	Remarks
Base : 88		
Tubewell/Hand-pump	61	High in West Bengal, Tamil-nadu, Gujarat
Spring/Jharna	18	High in Madhya Pradesh. Manipur
Well	10	High in Gujarat, Uttar Pradesh
Underground sources	10	High in Gujarat, Uttar Pradesh
River/flowing water	10	High in Andhra Pradesh
No source	14	High in Rajasthan

Water from natural spings is seen as safe particularly in Madhya Pradesh and Manipur. Well water or underground water is seen as safe in Gujarat and Uttar Pradesh while implementers in Andhra Pradesh also regarded river water or flowing water as safe. In the state of Rajasthan, a majority of the implementers were of the view that there is no source of water which can be regarded as naturally safe.

Sources of water regarded as natural ly safe
No source
14
River/Flowing water
10
Underground sources
19
Well
16
Spring/Jharna
19
Tubewell/Handpump
51
0
10
20
30
40
50
60
70
Percentage
Sources
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It is possible that implementers' opinions about the source of water which is naturally safe is influenced by the actual usage of various sources in their respective areas. This would explain the higher mention of springs in Madhya Pradesh and Manipur, wells and underground water in Uttar Pradesh and Gujarat, river water in Andhra Pradesh and no source in Rajasthan.

When one observes the understanding of safe water across respndent designation categories, one finds a similarity of responses. However, engineers appear to have more faith in underground water sources whereas village level implementers expressed greater faith in well water.

3.2 SOURCES WHICH ARE NATURALLY UNSAFE FOR WATER

The one source of water that was considered naturally unsafe by 2 out of 3 respondents was water which came from a stagnant surface source such as a pond or a pit near the river. The response pattern is similar across states as well as across implementer categories.

A third of the respondents mentioned well-water as being unsafe though more implenters in Uttar Pradesh and West Bengal mentioned this source. River water or canal water is regarded as unsafe by respondents, particularly in Uttar Pradesh and Gujarat. It is of interest to note that lesser number of respondents regarded well water or river water as unsafe than those who regarded pond water as unsafe. Well water is regarded as less unsafe than pond water, even though both are stagnant sources, perhaps because a well is a sub-terranean source of water.

4.0 UNDERSTANDING OF PROBLEMS FACED BY VILLAGERS WITH REGARD TO WATER

4.1 MAIN PROBLEMS

Implementers were asked about what they thought were the main problems regarding water in the geographical areas under their responsibility. For ease of analysis, the problems can be classified into certain broad types :

a/ Problems of scarcity

b/ Problems related to handpump installation or maintenance

c/ Problems due to the absence, drying up, or contamination of natural sources

d/ Problems due to low level of the water table

e/ Problems related to the quality of water available

The responses obtained are summarised in the following table :

Main problems regarding water

	Total %	Remarks
Base : 88		
Problems related to :		
Quality	46	High in Gujarat
Scarcity	40	-
Low level of water-table	30	High in Rajasthan
Handpumps	19	High in West Bengal
Natural sources	15	-

The most important problems were scarcity of water per se and scarcity of water of good quality. This came through from all the states except for the state of Rajasthan where the scarcity problem was further linked to the low level of the water table, especially

in summar. Problems relating to the installation, use and maintenance of handpumps were also mentioned, particularly in West Bengal. Handpumps have been covered in greater detail in a later section.

When directly questioned, 50% of all implementers said that availability of water was a major problem.

Whether availability is a major problem

	Total
Base : 88	
Yes, major problem	50
Problem at some times or in some areas	18
Not a major problem	11
Not a problem at all	20

These responses were consistent across all states with the exception of Tamilnadu where the availability of water was not considered to be a serious problem by a majority of implementers.

4.2 UNDERSTANDING OF PROBLEMS DUE TO WATER WHICH IS NOT GOOD OR NOT PURE

The understanding of the attributes of good water and the problems faced by villagers with regard to water exhibits a cause-effect link. Water which is understood to be bad or impure would cause problems to villagers. Having already mentioned the problems with regard to water in general in section 4.1, one needs to examine the understanding of implementers regarding problems caused due to 'bad' water.

The implementers' understanding of problems due to impure water indicates a high level of knowledge about the link of impure water with diarrhoea, dysentery and cholera. A number of implementers mention fatal diseases as a general term, indicating knowledge of the seriousness of the problem. Fluorosis is mentioned in Uttar Pradesh, Rajasthan , Gujarat and Tamilnadu while guinea worm is mentioned in Madhya Pradesh and Gujarat.

The infomation about problems caused due to impure water is presented in the following table :

Problems due to impure water

	Total %	Remarks
Base : 88		
Dysentery/Diarrhoea	61	All states
Cholera	38	All states
Fatal diseases	24	All states
Systemic disorders	19	All states
Cold/fever/cough	18	All states
Fluorosis	11	Uttar Pradesh, Gujarat Tamilnadu
Guinea worm	8	Madhya Pradesh, Gujarat

SECTION 2 : HANDPUMPS

Since the handpump is a proven source of safe drinking water for our rural population, a number of issues regarding handpumps were addressed in this study. These issues relate to the setting up, maintenance, and usage of handpumps as well as perceptions regarding handpumps. An understanding of these issues is relevant to the choice of IEC materials designed to help in the success of the WES programme.

5.0 SITE SELECTION AND DRILLING

The following questions may be regarded as critical to the proper selection of a site for a handpump and drilling activity :

a/ Who is responsible for site selection ?

b/ What is the role of the villagers in the selection of the site, given that villagers are the ultimate beneficiaries ?

c/ What is the role of women, who are the main users of handpumps ?

d/ What are the suggestions of implementers, who have been closely connected with the activity of setting up handpumps ?

These questions are addressed in turn.

5.1 RESPONSIBILITY

To be aware of the person with whom the responsibility for site-selection lies would be an important input in the proper selection of sites for handpumps. Implementers' responses indicated that the responsibility for site selection lies with two groups of people - technical people (primarily geologists) and the village people, either directly or through the village pradhan. The following table illustrates the above mentioned finding :

Responsibility for site selection

	Total %	Remarks
Base : 88		
Geologists	38	High in Gujarat, Andhra Pradesh, Tamilnadu
Panchayat Samiti/Village Pradhan	34	High in Uttar Pradesh, West Bengal
Villagers are consulted	17	High in West Bengal
Engineers at middle level	10	-
Engineers at junior level	9	High in Madhya Pradesh

{Table 8a(i)}

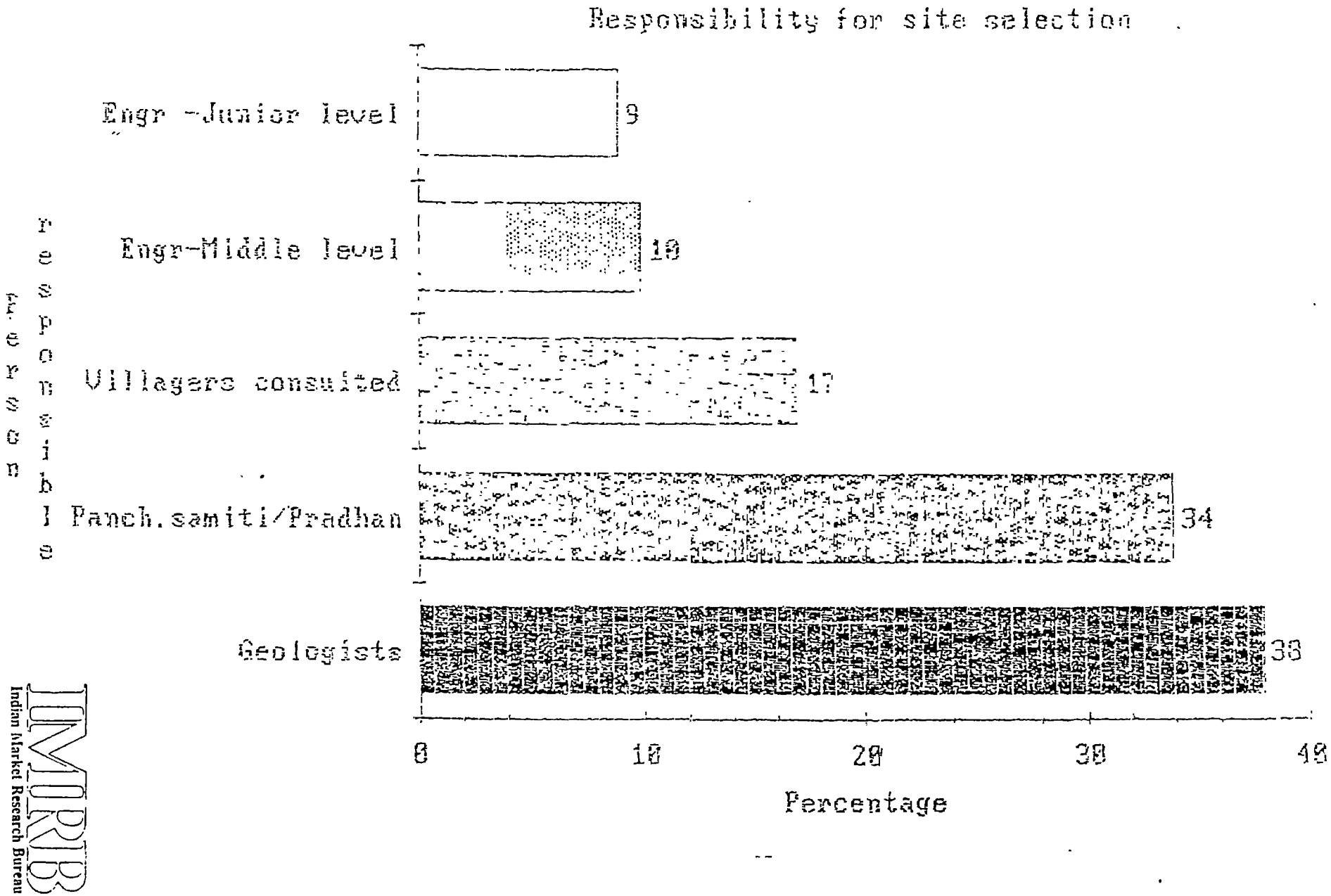
A state-wise pattern does emerge in the above data. Technical persons came through as being of greater importance in the states of Madhya Pradesh, Gujarat, Andhra Pradesh, Tamilnadu and Manipur. Villagers or their representatives are mentioned by more implementers in the states of Uttar Pradesh and West Bengal.

Respondents were nearly unanimous in the opinion that the drilling team always drills at a pre-selected site. There appear to be two factors that could result in the site being shifted. These are

a/ if rock is encountered in the process of drilling

b/ in case of a local dispute or the bidding of an influential person

However, these did not appear to be regular or frequent occurrences. In fact, they appeared to be the exception.



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5.2 ROLE OF VILLAGERS

9 out of 10 respondents in all states except for Tamilnadu (6 out of 17) stated that villagers' views are sought for the selection of a site.

There are mainly three ways in which the preference of villagers regarding the selection of a site is sought to be represented. These are as follows :

a/ A representative of the villagers such as the village pradhan is asked. Others, considered knowledgeable about village needs such as school teachers and village elders are also considered.

b/ The majority view is taken either formally, through a general body meeting or in an informal way such as by consultation with the head of each family.

c/ The team of geologists asks individuals directly.

The following table presents the information from implementers about the manner in which villagers' preferonces are sought.

These questions were asked in an open-ended manner and,the responses received therefore represent a spontaneous list of site selection methods.

Manner in which villagers' preferences are sought

	Total %	Remarks
Base : 88		
Only head/pradhan is asked	37	High in Rajasthan
Majority view is taken	34	High in Rajasthan
Team of geologists asks individuals directly	25	High in Andhra Pradesh
Village elders are consulted	19	High in Gujarat
General body meeting is called	18	High in West Bengal

(Table 9b)

5.3 ROLE OF WOMEN

Women's opinion are not considered in selection of the site for drilling, according to most respondents in all states with the exception of West Bengal. Even in cases where the opinion of women is considered, it is usually done through representatives, rather than by direct interaction. Women's representatives are teachers, gram sevikas, chair-persons of mahila mandals, or simply the male members of the household.

When implementers were asked about the reasons why women's opinions were not considered, the following reasons were given :

Reasons for not considering opinion of women

	Total %
Base : 59 (who said women's opinion is not considered)	
Women do not come forward	25
Due to culture/tradition/purdah	22
Females have lower status in the society	10
Village representatives represent women too	10
Need not ask women as all factors already considered	10

{Table 10b(i)}

When respondents were asked about their opinion about the necessity to ask women, nearly two out of three respondents gave an affirmative answer as, according to them women are the ones who fetch water and use it most.

In theory, respondents voiced the opinion tht women sould be consulted in site selection. However, the fact these persons who could have put their opinion into practice had still not done so indicates that either they were not really convinced of the need or that the idea/need had not occured to them. Both possibilities reveal an underlying ignorance of the importance of selecting a site such that it would be suitable for women who were the main users of handpump.

5.4 SUGGESTIONS FOR IMPROVING THE PROCESS OF SITE SELECTION

A majority of the respondents were satisfied with the present system of site selection and drilling. On being questioned, however, some suggestions were provided. These are :

a/ The process will be more effective if village people's views are taken

b/ Elected representatives of people should be consulted

c/ Drilling should be done near a river or other existing water source

6.0 INSTALLATION

6.1 BUILDING OF PLATFORM

Implementers were asked whether a platform is built at the same time at which a handpump is installed. The following responses were obtained.

Whether platform built at time of installation

	Total %	Remarks
Base : 88		
Yes, always	65	Low in Madhya Pradesh High in Rajasthan
Yes, in most cases	10	-
Not in most cases	6	-
No, never	8	High in Madhya Pradesh, West Bengal

(Table 12)

The findings indicate that a platform is usually built at the same time as the installtion of a handpump. Exceptions to this practice were primarily found in the states of Uttar Pradesh, Madhya Pradesh and West Bengal. The usual stated reason for the non-construction of a platform was the shortage of funds and materials.

6.2 BUILDING OF DRAIN

Implementers were asked whether a drain is always made when a platform is made around the handpump. The following responses were obtained.

Whether drain made along with platform

	Total %
Base : 88	
Yes, always	82
Yes, in most cases	11
No, not in most cases	2
No, never	2

(Table 13)

The responses mentioned in the above table indicate that if material is available for the construction of a platform, there is usually no constraint in the builing of a drain attached to the platform.

6.3 MODE OF DISPOSAL OF WATER AT THE HANDPUMP SITE

Respondents were asked about what, in their experience, happened to the water that overflows or is used at the handpump site. The following responses were obtained.

	Total %
Base : 88	
To the vegetable garden	30
Accumulates at side	26
To roadside drain	24
Dries up in hole/ditch/soak pit	15
Is soaked up by the soil	14

(Table 14)

7.0 MAINTENANCE OF HANDPUMPS

7.1 RESPONSIBILITY FOR MAINTENANCE

The maintenance of handpumps is of crucial importance for its continued use. Implementers were asked, therefore, about who, in their opinion, was responsible for the maintenance of handpumps.

According to implementers the following persons/groups were responsible.

Responsibility for maintenance of handpumps

	Total %
Base : 88	
Water works department/water board	21
Gram Panchayat/Panchayati Raj	22
Block Development Officer/PHED Engineers	21
Panchayat union fitter	19
Mechanics go and reparit it	25

(Table 15b)

7.2 SYSTEM FOR MAINTENANCE

An effective system for maintenance appears to exist only in the state of Tamilnadu, where a caretaker is appointed in each village and a mechanic of the panchayat union makes minor repairs while a mobile team from the nearby town makes periodic repairs.

The pattern in other states is that minor repairs are attended to at the village level while major repairs entail action from the block, tehsil or district headquarter level.

In Madhya Pradesh implementers mentioned the presence of a handpump mechanic appointed by the PHED.

7.3 PROBLEMS WITH REGARD TO MAINTENANCE

Implementers were asked whether they faced problems in the maintenance of handpumps and how frequent these problems were. The responses were recorded in a close onded format of the following nature and a mean score calculated.

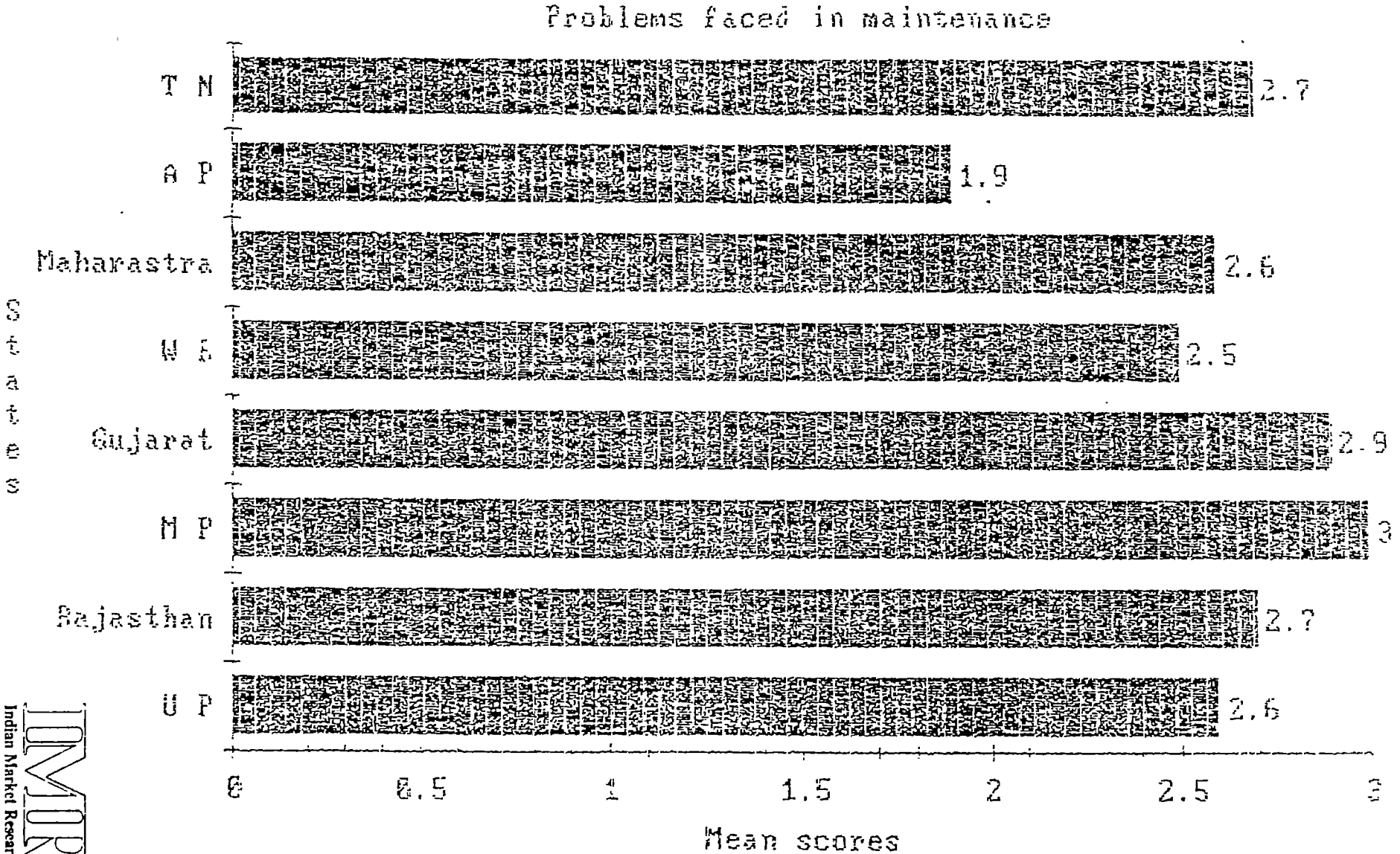
	Weight
Severe, frequent problems	4
Some problems	3
Not many problems	2
Almost no problems	1

The mean scores obtained were as follows and they are also represented graphically.

Whether problems faced in maintenance

	Mean Score
Officers	2.4
HP Mechanics/fitters	2.1
Village level/Panchayat Engineers	2.4
Uttar Pradesh	2.6
Rajasthan	2.7
Madhya Pradesh	3.Ø
Gujarat	2.9
West Bengal	2.5
Manipur	2.6
Andhra Pradesh	1.9
Tamilnadu	2.7
Average	2.6

(Table 16)



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There appears to be a greater concern about problems by engineers and greater mention in Madhya Pradesh and Gujarat. Implementers in Andhra Pradesh appear to be having lesser problems than in other states.

The following problems were mentioned :

	Total %
Base : 85	
Problems	
Rough handling	22
Wear and tear of washer	21
Chain gets cut	15
Rod/Handle breaks	14
Water level goes down	11

{Table 16(i)}

The most frequent problems were the wear and tear of washer of filter while there was some mention of chain being cut or the rod breaking. Most of the problems were attributed to the improper or extensive use of the handpump. Problems were also associated with normal wear and tear and lowering of the water level.

8.0 USE OF HANDPUMPS

Resources spent on the installation of handpumps would be wasted if village people do not use the handpump, for whatever reason. The success of the WES programme would be ensured if demand for the handpump is generated among the villagers themselves and the villagers use handpumps.

There is a noteworthy diversion between the views of implementers and beneficiaries regarding the usage of handpumps. While implementers have mentioned with near unanimity that the handpump is used by all villagers, beneficiaries in some areas have indicated non-use of handpumps (see Beneficiaries report - Qualitative Phase) due to reasons such as bad taste, smell or cooking property of handpump water. The divergence indicated above might imply that implementers are not fully aware about the issue of use of handpumps. It is interesting to observe that while nearly 90% of all implementers have mentioned that "all villagers use handpump', a lesser, 81% of implementers have mentioned extensive use - perhaps pointing to a greater atunement of village-level panchayat implementers with the ground reality regarding handpump usage.

8.1 USAGE PATTERN

Equitable distribution of handpump use among all sections of society would mean that the benefits of safe, uncontaminated water would be available to all villagers. Implementers have indicated that the distribution of handpump use is not a problem area, as the following table indicates.

Distribution of handpump use

Base : 88	Total	Remarks
First come/first served	32	High in Rajasthan, West Bengal
Disputes are mutually solved	12	High in Madhya Pradesh
Handpump installed for different population concentrations	13	High in Gujarat, Tamilnadu

(Table 19b)

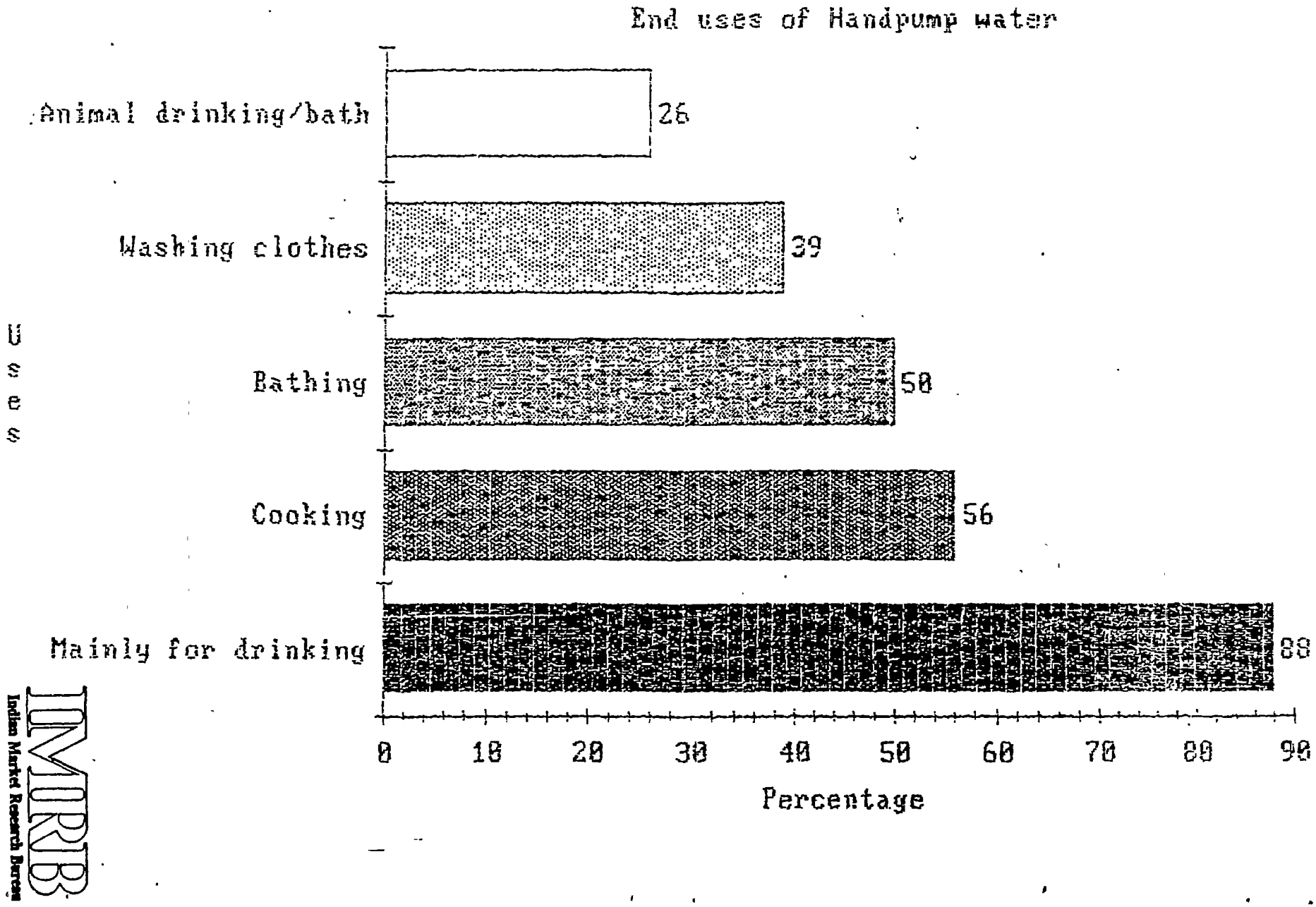
8.2 END-USE OF HANDPUMP WATER

The handpump is believed by implementers to be mainly used for drinking water, and this is true for all states. However, a range of other uses was also mentioned and these are reproduced below :

End uses of handpump water

Base : 88	Total %	Remarks
Mainly for drinking	88	All states
Cooking	56	High in Uttar Pradesh
Bathing	50	Low in West Bengal
Washing clothes	39	-
For drinking/bathing of animals	26	Low in West Bengal

(Table 20a)


End uses of Handpump water
Animal drinking/bath
26
Washing clothes
39
Bathing
50
Cooking
56
Mainly for drinking
88
Uses
0
10
20
30
40
50
60
70
80
90
Percentage
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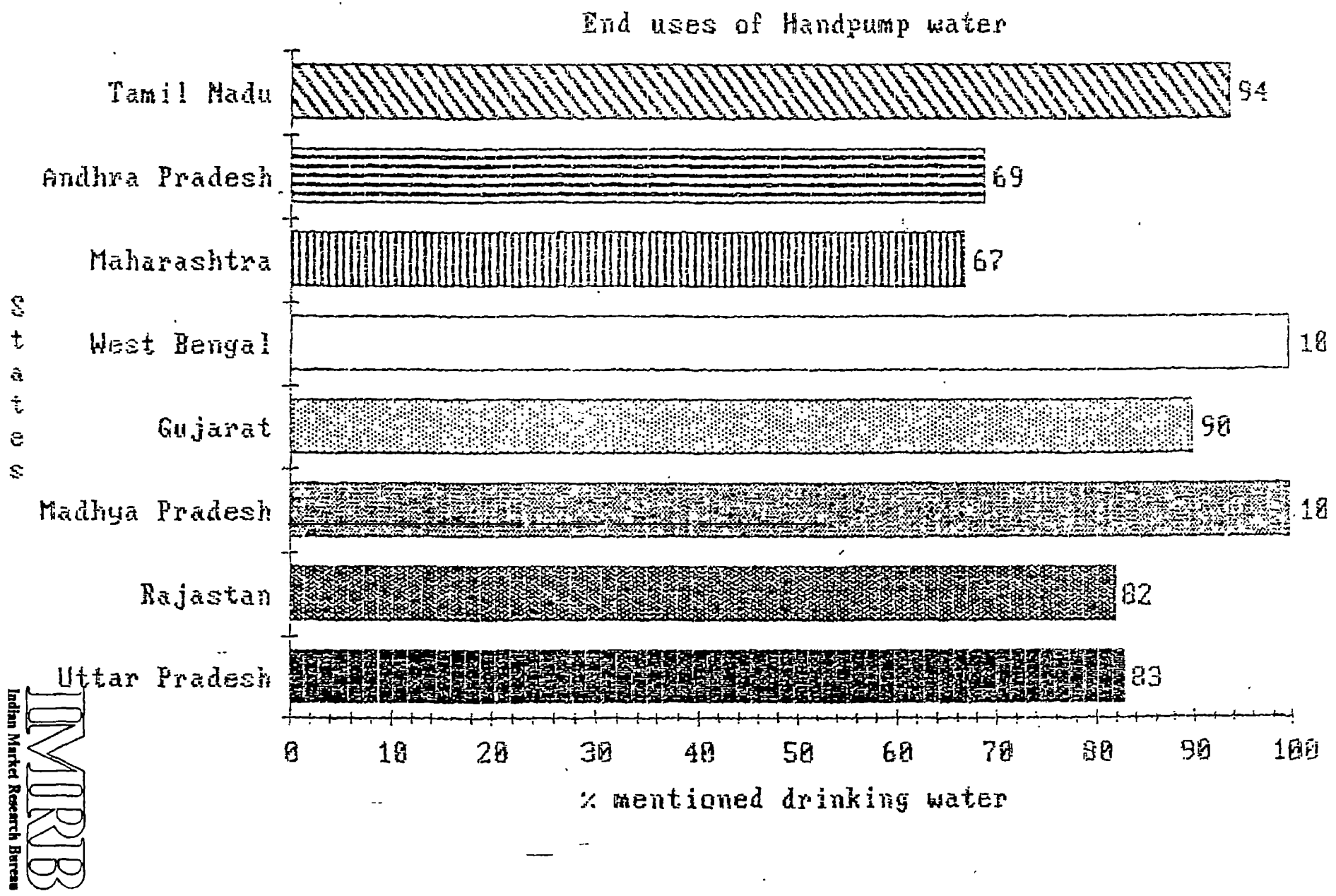
End uses of Handpump water
Tamil Nadu
Andhra Pradesh
Maharashtra
West Bengal
Gujarat
Madhya Pradesh
Rajastan
Uttar Pradesh
94
69
67
10
90
10
82
83
States
0
10
20
30
40
50
60
70
80
90
100
% mentioned drinking water
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9.0 PERCEPTIONS REGARDING HANDPUMP

Implementers were nearly unanimous in their opinion that villagers value the handpump. The reasons cited were that there is scarcity of water and that the handpump was sometimes the only source of drinking water which was easy to collect.

When asked about perceived ownership of the villagers, most of the implementers said that the villagers though the handpump to be government's property. Some also mentioned that they think it is the panchayat's property or public property. The following tables illustrate :

Perceived ownership of handpumps

	Total %	Remarks
Base : 88		
Belongs to government	61	Low in West Bengal
Public property	10	-
Panchayat's property	14	High in Gujarat
Own property	9	-
Property of government/ Panchayat but belongs to them	9	-

(Table 22b)

Perceived ownership of handpumps

(By Implementer Category)

	All	Officers	HP Moch/ Fitter	Village level/ Panchayat	Engi-neers	Others
Base :	88	15	15	21	31	6
	%	%	%	%	%	%
Belongs to government	61	60	47	57	81	17
Public property	10	7	20	10	7	17
Panchayat's property	14	13	13	24	10	-
Own property	9	7	13	10	7	17
Property of govt/Panchayat but belongs to them	9	20	7	5	-	50

Figures may not add upto 100 because of rounding off)

(Table 22c)

Opinion however, was divided on whether villagers saw handpump maintenance as their responsibility with half of the respondents saying 'yes' and another half saying no. The only exception comes from the state of Gujarat where respondents said that villagers do not regard handpump maintenance as the responsibility of villagers. The reason given for the attitude of villagers regarding responsibility was that they believed the handpump was the property of the government or the panchayat.

Implementers were also of the opinion that people would not be willing to pay for maintenance of the handpump. People would be unwilling, according to the implementers, as the villagers saw the maintenance of the handpump as the government's or the panchayat's responsibility, and also because they would not be able to afford making a payment.

The above observations are a cause of some concern because if the villagers do not have a sense of ownership about the handpump, less care would be taken during use and there is the danger of a faulty handpump remaining in disuse until the government machinery undertakes some action.

IMPLEMENTER RELATED INFORMATION - WATER

1. Job responsibility

Implementers were asked regarding their job responsibilities in gneral, and specifically with regard to water. The responsibilities of the implementers were as follows.

Job responsibility (overall)

	Total %
Base : 88	
Supervising allocation and availability of water	31
Maintenance of handpumps and other water sources	22
Execution of development work	18
Chairing meetings/Advicing people	21
Propagate family planning and rural related issues	14

(Table 32)

Job responsibility (with regard to water

Base : 88	
Ensure adequate water supply	30
Maintenance/installation of handpumps	21
Look after sanitation facilities	15
Purification of water sources	14
Repair handpumps/borewells	11

(Table 33)

The main difficulties faced by the respondents while executing their jobs were shortage of funds and staff, and transport problems. To make the job more successful, respondents suggested financial help, more staff and better means of communication. Implementers suggested that water is more important an issue as compared to sanitation.

2. Communication ideas

Most implementers were of the view that it is a good idea for implementers themselves to act as communicators. The reasons for this opinion was that as implementers have sufficient knowledge about relevant issues and visit the villages frequently, the villagers would be willing to listen to the implementers.

Suggestions on what could be the most effective communication method was as follows :

Suggestions for effective communication

	Total %
Base : 88	
Films	30
Mass media (Radio/TV/Newspapers)	24
Call local meetings	19
Use those in direct contact with villagers	11
Through government departments	8

SANITATION

The issues discussed under sanitation include :

i/ Waste-water accumulation

ii/ Defecation and

iii/ Latrines

The findings included in this report present the implementers' opinion on villagers' practices, the implementer's own knowledge and attitudes regarding sanitation, as well as the implementers' perceptions of villagers' knowledge and attitudes with regard to sanitation. The first section deals with the issues of waste-water accumulation.

SECTION 1 : WASTE WATER ACCUMULATION

1.0 OCCURRENCE AND PROBLEMS DUE TO WASTE-WATER ACCUMULATION

1.1 WHETHER WASTE-WATER ACCUMULATES IN THE VILLAGE/VILLAGES

The following table gives the answers received to this question :

Whether waste water accumulates

	Total %	Remarks
Base : 82		
Yes	66	High in Rajasthan, Gujarat Manipur
No	24	-
Sometimes/some villages	9	-

1.2 SITE OF WASTE-WATER ACCUMULATION

Implementers were asked about the places in the village or villages where waste water accumulated. The following table illustrates the responses :

Site of waste water accumulation

Base : 62	Total %	Remarks
On the road/beside the road	40	High in Rajasthan, Low in Andhra Pradesh
In pits/hollows	27	High in Madhya Pradesh
Open field	26	High in West Bengal
Near water source	24	High in TAmilnadu

(Table 2b)

It is a matter of concern to note that a number of implementers (1 out of 3 at village level) have mentioned that the site of waste-water accumulation is near a water source.

1.3 DISPOSAL OF WASTE WATER

Half the respondents mentioned that nothing is done about disposing off waste water and that it lies as it is or gets soaked up by the earth.

A few respondents mentioned some steps which were taken and these were as follows :

- swept off/cleaned off
- channel is dug which goes outside or joins the river
- diverted to uninhibited land
- drains are cleaned and water is made to flow
- used for irrigation/to bathe cows

1.4 PROBLEMS DUE TO WASTE-WATER ACCUMULATION

Implementers were asked about their understanding of the problems which could be caused due to the accumulation of waste water. Essentially two kinds of problems were mentioned - disease and general inconvenience. The following table presents the information.

Problems due to waste water accumulation

	Total %
Base : 82	
Diseases such as malaria/Typhoid/ Elephantiasis	67
Mosquitoes/flies breed which cause diseases	56
Diseases like diarrhoea/Gastro Enteritis/ Cholera	45
Contagious diseases	11
Pollutes environment/causes inconvenience	35

(Table 2e)

It appears that though implementers are aware of the consequences of waste-water accumulation, they have not been concerned enough to take concerted action (Refer section 1.3 above) about the problem.

2.0 ATTITUDES TO WASTE WATER ACCUMULATION

Implementers were asked about what they thought about the level of concern of villagers regarding the accumulation of waste-water. The responses are shown in the following table.

Concern of people about waste-water accumulation

	Total %	Remarks
Base : 82		
Highly concerned	34	High in Uttar Pradesh, Rajasthan. Low in Madhya Pradesh and West Bengal
Somewhat concerned	20	-
Some people are concerned	13	-
People are not at all concerned	22	-
Very few people are concerned	6	-

(Table 2f)

As can be seen from the above table opinion regarding people's concern is divided though concern is high (in the implementer's opinion) in Uttar Pradesh and Rajasthan.

2.1 STEPS CURRENTLY TAKEN BY VILLAGERS TO SOLVE PROBLEM OF WASTE-WATER ACCUMULATION

According to implementers, the villagers mostly did not bother to take any action regarding waste water though some respondents did mention the building of drains. The following table prsents the implementer's views :

Steps taken to solve problems of waste water accumulation

	Total %
Base : 82	
Noting is done	35
No waste water problem	10
No initiative of villagers	18
Refer to Panchayat	12
Drains are dug/used for irrigation	22

2.2 POSSIBLE ACTION BY AUTHORITIES

Implementers viewed the building of drains as the most important thing that authorities could undertake to solve the waste water problem. The following steps by authorities were suggested.

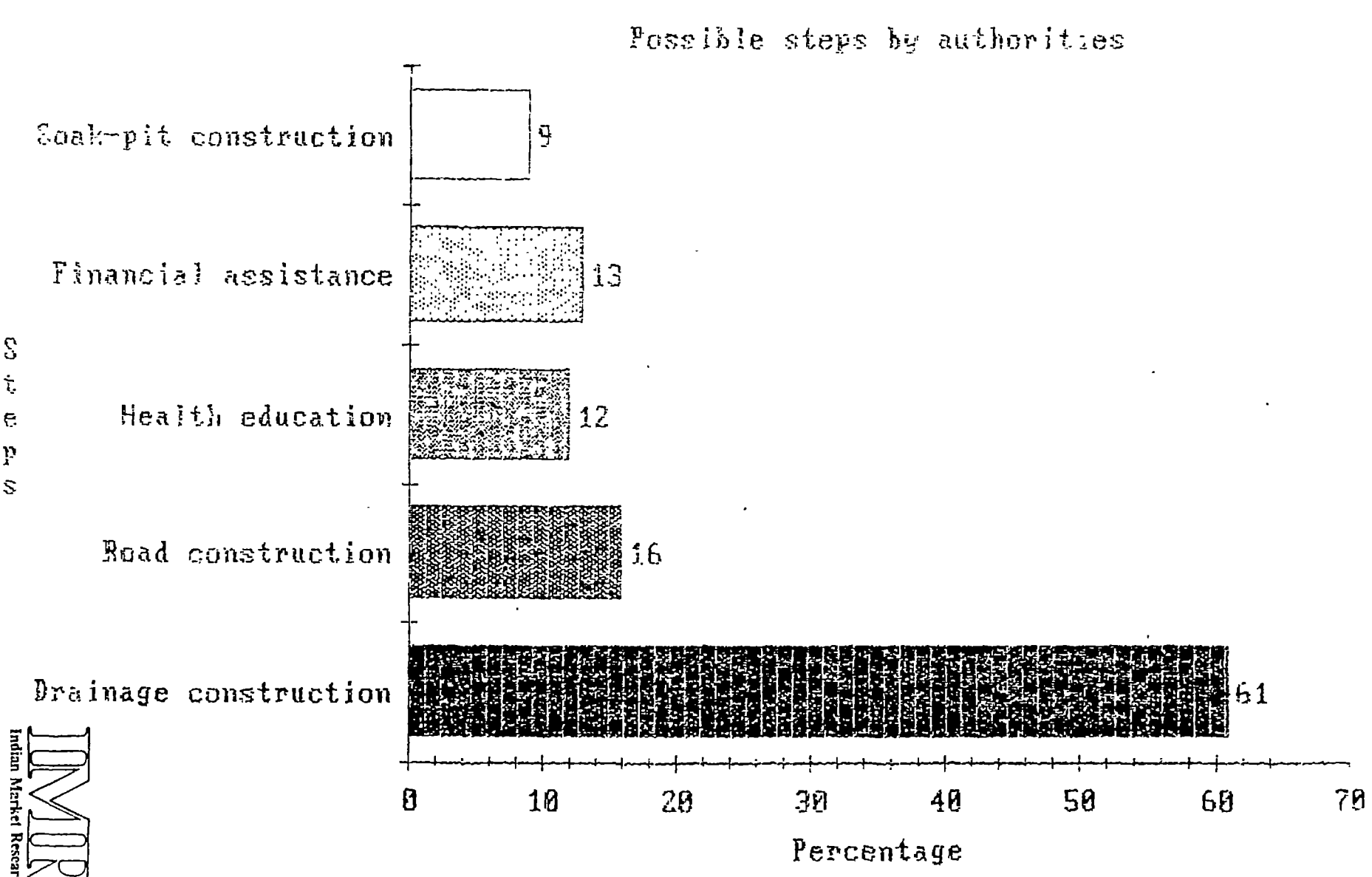
Possile steps by authorities

	Total %
Base : 82	
Proper drainage construction*	61
Government should construct proper roads	16
Health education should be given	12
Government should provide finance to local bodies	13
Construction of soak pits**	9

(Table 2h)

* The high figures for the suggestion of proper drainage construction can be seen in connection with the high response on a question related to most important sanitation related needs where a majority of the respondents mentioned 'Drains along roads' Please see the attached graph for a visual image of the importance attributed to drainage.

** The suggestion of 'construction of soak pits' came primarily from sanitation insepctors; officers did not mention soak pits at all.



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3.Ø The construction of soak-pits offers an easy and cost-effective way of dealing with waste-water, especially waste waer generated from household uses. We have thus covered issues connected with soak-pits in some detail.

3.1 EXISTENCE OF SOAK-PITS

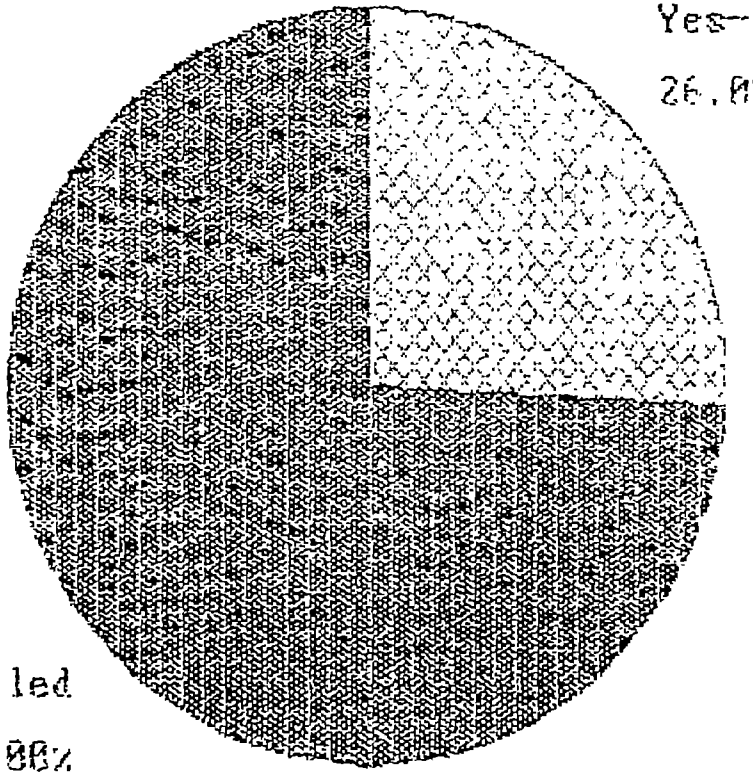
Implementers from all states with the exception of Gujarat and Tamilnadu mentioned that soak-pits had not been installed. The following table illustrates :

Existence of soak-pits

	Total %	Remarks
Base : 82		
Yes, soak pits are installed	26	High in Gujarat Tamilnadu
No, soak pits are not installed	74	Low in Gujarat, Tamilnadu

(Table 3a)

Existence of soak-pits



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3.2 PROBLEMS REGARDING INSTALLATION OF SOAK PITS

There was very little mention of problems with regard to the installation of soak pits. In Uttar Pradesh, Madhya Pradesh, West Bengal and Tamilnadu, where 10 respondents had mentioned the installation of soak pits, none mentioned any problems.

Where there was some mention of problems, the following problems were mentioned :

- Roads have to become narrow if pits are made on roadside, causing inconvenience
- The material is not bought
- Cannot dig deep pits because of rocky soil

As in the case of installation of soak pits, there was scarce mention of problems in the use and maintenance of soak pits. No problems were mentioned in Tamilnadu where a number of respondents had mentioned the installation of soak pits. Problems mentioned were the overflowing of water from soak pits and one respondent even mentioned that the pits need to be opened after 3 months, which indicates that the soak pits were either of inadequate size or improperly constructed.

SECTION II ; DEFECATION

4.0 CURRENT VILLAGE PRACTICES REGARDING DEFECATION

4.1 GENERAL PRACTICES

There was near unanimous mention from all 8 states regarding open-field defecation by villagers. There were a few implementers who mentioned that latrines are used by those who own them and some implementers mentioned use of community latrines.

Respondents also mentioned that there are no specific areas for men and women though a norm exists, with men either going a further distance or women going before sunrise in the dark. Respondents also mentioned that children defecate near the house or at the street corner. There were no difference, according to caste, income or social class, in the opinion of the implementers. The above responses concur with the findings from the beneficiary segment of this study.

4.2 DISPOSAL OF EXCRETA

All respondents with the exception of one respondent mentioned that excreta is not covered or disposed off in any way. When asked about the reason for this practice, respondents gave a set of revealing answers, reproduced in the table below.

Reasons for non-disposal of excreta

	Total %
Base : 80	
Due to habit	44
Due to lack of awareness about harmful effects	34
Lack of education regarding health	11
Lack of need	23
Feel uneasy to clean	14
Pigs/other animals eat excreta	9

{Table 4e(ii)}

5.0 PERCEPTIONS OF CURRENT DEFECATION AS A PROBLEM

Perceptions regarding current defecation practices have been covered in the present study from two perspectives. Firstly, the implementers understanding of villagers' perceptions and secondly from the implementers' own understanding.

5.1 DEFECATION PRACTICES PERCEIVED AS A PROBLEM BY VILLAGERS

Responses about whether, in the implementers opinion, defecation practices are regarded as a problem by villagers are best analysed by making inter state comparisons. The eight states covered by the study can be formed into two groups :

i/ In the first group are states where 2 out of 3 respondents mentioned that a problem is perceived. These states are :

- Uttar Pradesh
- Rajasthan
- Andhra Pradesh

ii In the second group are states where 1 out of 3 respondents mentioned that a problem is perceived. These states are :

- Madhya Pradesh
- Gujarat
- West Bengal
- Manipur
- Tamilnadu

Interestingly, a higher majority of implementers at the village level said that a problem is perceived by villagers. Insofar as the implementers at the village level may have a closer feel of villagers' needs, the perception of villagers regarding current defecation practices as a problem become more intensified.

When asked about which aspect of the situation creates a problem, implementers mentioned the following reasons.

Aspect of situation which creates problem

	Total %
Base : 41 (who said there is a problem)	
Distance is a problem*	27
Causes problem in rainy season**	24
It is not respectful/lack of privacy	20

(Table 5b)

* Distance is a problem because one has to go far

** 'It causes problem in rainy season as one may get wet and catch illness'

'In rainy season areas become slimy and feet become dirty'

Of the three main reasons viz. distance, rainy season and problems. one can see that implementers view the physical discomforts as more important than the lack of privacy.

As regards the implementers' who said that villagers do not perceive current practices as a problem, the reasons given were habit, not perceiving the practice as an inconvenience or the lack of knowledge about health.

5.2 DEFECATION PRACTICES PERCEIVED AS HARMFUL BY IMPLEMENTERS

While opinion was divided on the issue of villager's perception of current defecation practices as a problem, implementers themselves said that there is harm in the system of defecating in open fields. The following table gives the reasons cited by implementers for saying that defecating in the open was harmful.

Reasons for saying that there is harm due to current practices

	Total %
Base : 69 (Who said there is harm)	
Diseases would spread	32
Causes health problems	29
Uncleanliness/spoilt environment	26
Stomach problems/worms	26
Encourage mosquitoes/related diseases	26
Unpleasant odour	13

{Table 7a(i)}

SECTION III - LATRIENS

6.0 EXISTENCE OF LATRINES

With the development of low cost sanitary latrines, for e.g the Ventilated Improved Pit (VIP) latrine, there is an increased possibility of achieving better levels of sanittion in rural areas. Latrines form an important input towards the overall goal of improving rural sanitation, and thus issues connected with latrines have been convered in depth. The first issue was the existence of latrines in the implementer's area of operations.

The following responses were obtained :

Existence of latrines

	Total %
Base : 8	
Yes	88
No	11

(Table 8a)

The high percentge of affirmative answers to the above question came from all states. The respondents were further asked whether these were private latrines or communty latrines. Nearly twice as many respondents mentioned community latrines as mentioned private latrines. The following table illustrates :

Type of latrines

Base : 72	Total %
Private/household latrines	50
Community latrines	7
Both	43

(Table 8b)

6.1 OWNERSHIP AND USE OF PRIVATE LATRINES

The ownership of private latrines, in the implementers opinion, is linked mainly to economic well-being, and to some extent, to education. The following table lists the categories of people who own latrines, according to the implementers.

Owners of private latrines as mentioned by implementers

	Total %
Base : 67	
Higher middle class/Rich people	52
Service people/Government servants	49
Businessmen/Traders/Banias	34
Educated people	27
Higher castes	21
Cultivators/Agriculturists	19
Big farmers/Rich farmers	15

(Table 9b)

Implementers were further asked whether private latrines were used by all the members of the households which owned them. The following responses were obtained :

Use of private latrines

	Total %
Base : 67	
All use	63
Some use	34
None use	-

(Table 9c)

Those implementers who said that only some members of the household use private latrines were asked which persons used the latrines. Those in the habit of using latrines and elderly people were mentioned in this context.

6.2 CLEANING OF PRIVATE LATRINES

Imlementers were asked about how private latrines were cleaned. The table exhibits the responses to this question.

Mode of cleaning of private latrines

	Total %
Base : 65	
People who use clean it with water	29
Personal sweeper cleans it	26
Water is flushed into tank	26
Cleaned with water and cleaning powder	11
Village sweeper cleans it	9

(Table 9e)

From the above table, a third of the implementers mentioned that a sweeper cleans the household latrine, which implies that a number of people (in the implementers view) were not willing to clean the latrines themselves. This might prove to be a major constraint in spreading the use of latrines because an individual household may not have the resources required to hire a private sweeper or a sweeper may not be available when needed.

7.0 DECISION-MAKING FOR PRIVATE LATRINES

7.1 DECISION REGARDING LOCATION

Implementers were of the opinion that the main factor considered by people regarding the location of a household latrine was that it should not be a part of the house or it should be away from the kitchen. The information is presented in the following table.

Factors in deciding location of latrines

	Total %
Base : 71	
Away from kitchen/drinking water source	48
In garden/outside house/at the back of the house	31
Away from house so that stink/flies do not come in	17
Away from rooms/courtyard	13
In a corner	13

(Table 12a)

7.2 BASIS FOR DECIDING ABOUT SINGLE-PIT OR DOUBLE-PIT OR SEPTIC LATRINES

Implementers mentioned that the choice regarding the type of household latrine to be constructed depended larely on financial position of the household and the number of family members. The following table outlines the information.

Basis for deciding about type of latrine

	Total %
Base : 71	
Financial position/money	37
Number of family members	35
Only single-pit preferred	18
Availability of space	9
Lack of knowledge regarding options	9

(Table 12b)

7.3 DECISION MAKER REGARDING NEED, LOCATION AND CONSTRUCTION OF LATRINES

Implementers said that decisions regarding need, location and construction of a household latrine were taken mainly by the head of the family.

Some implementers also mentioned that a mechanic/mistry takes decisions regarding construction (sub-structure and super-strucure) and that housewives are secondary decision makers regarding the need for and location of the household latrine.

8.0 COMMUNITY LATRINES - INITATIVE AND USE

8.1 HOW BUILDING DECISIONS ARE TAKEN

Respondents were not very clear about how it is decided by the villagers that a community latrine is needed. The only method which comes through with some clarity is that a suggestion is passed by majority in a panchayat meeting and routd to the higher authorities through the sarpanch.

The decision regarding the location of a community latrine is usually taken by the sarpanch or by mutual consent of villagers. The following table outlines the factors mentioned.

Decision about location of community latrine

	Total %
Base : 53	
A little distance away from house/village	23
On Panchayat/government land	13
Everybody's opinion considered	13
Sarpanch decides	26

(Table 13b)

Further, according to the implementers the decision regarding the sub-structure and super-structure of the latrine is taken mainly by the panchayat and government officers or engineers.

8.2 WHO IN THE VILLAGE ASKED FOR A COMMUNITY LATRINE

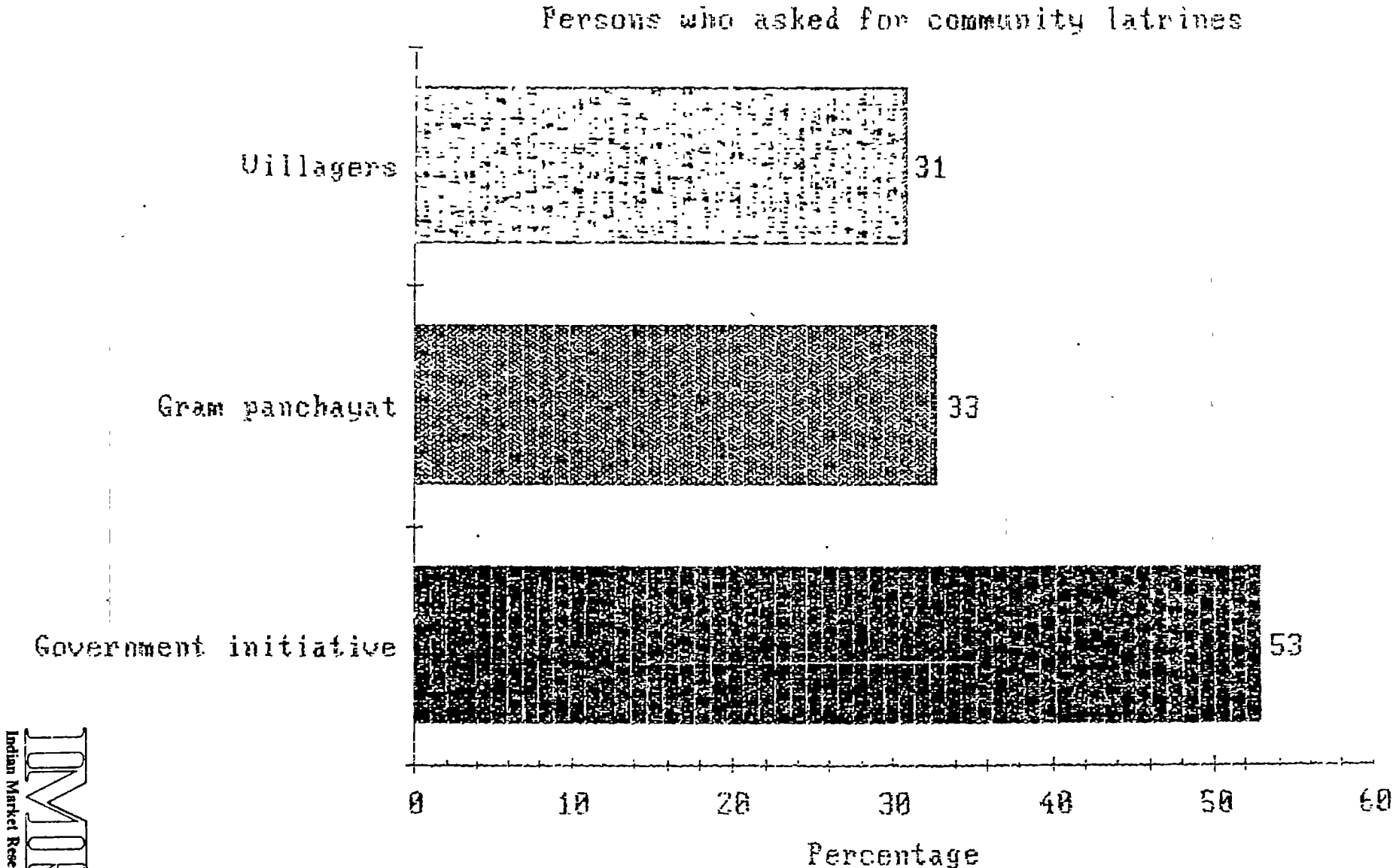
Implementers who had mentioned the presence of a community latrine were asked about which persons in the village had asked for a community latrine. The responses are reproduced in the following table :

Persons who asked for community latrine

	Total %
Base : 36	
Government initiative in various forms (outside of village)	53
Gram panchayat	33
Villagers	31

(Table 10b)

As can be seen from the table, the initiative for latrines came less from the villagers themselves and more from authorities. The success of a programme encouraging people to use latrines would be greater if the people who will be beneficiaries are willing to take the initiative.



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8.3 USAGE OF COMMUNITY LATRINES

Implementers who had mentioned the existence of community latrines were asked whether they were being used. The following responses were obtained.

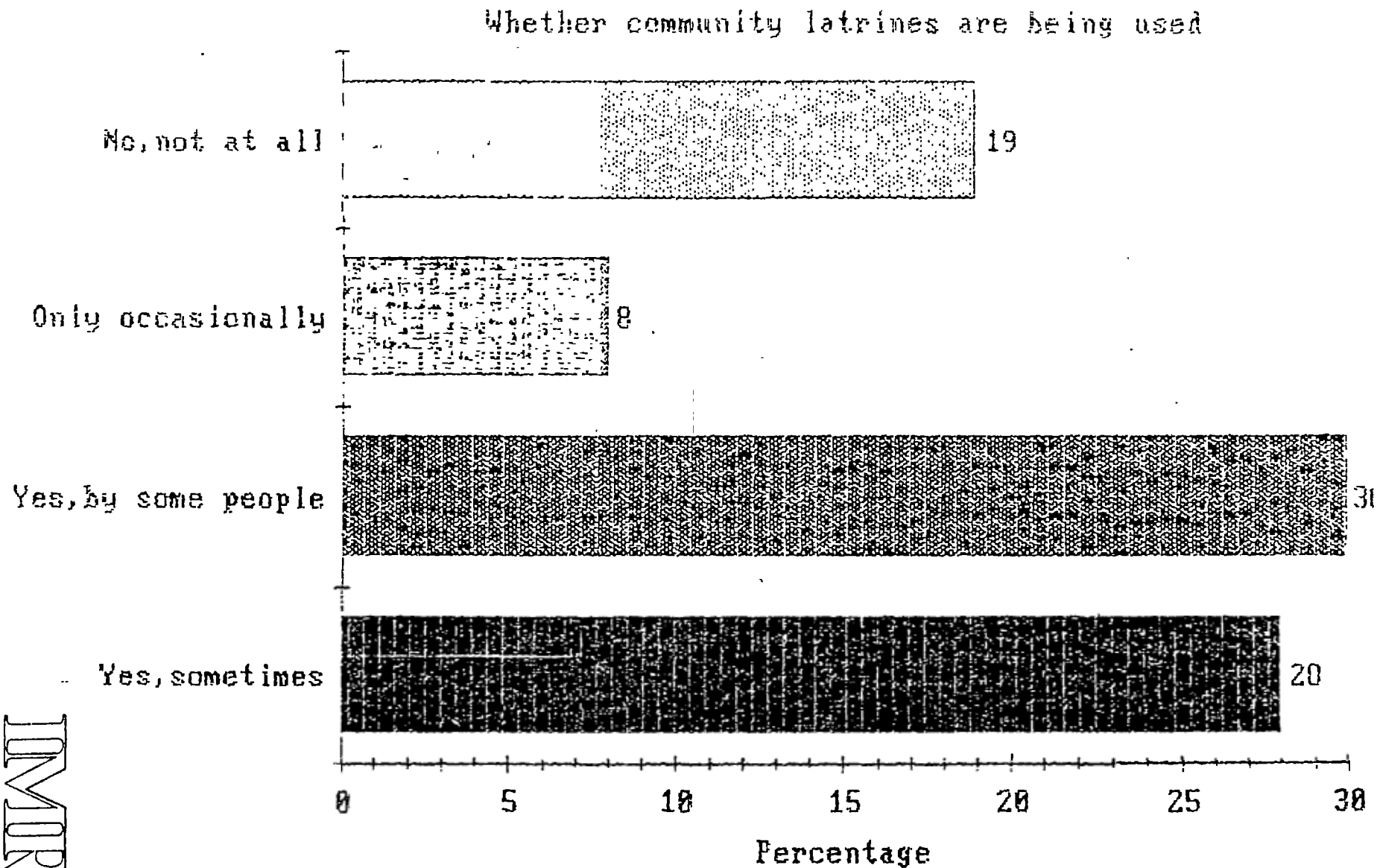
Whether community latrines are being used

	Total %
Base : 36	
Yes, sometimes	28
Yes, by some people	30
Only occasionally	8
No, not at all	19

(Table 10d)

The responses indicate that use of community latrines was conditional and nearly a third of the respondents mentioned non-use or occasional use.

Only 2 respondents mentioned that all used community latrines. Implementers mentioned that use was restricted to women only or those living close by. Besides, as many implementers as those who said that community larines are used all the time said that these latrines are used only in the rainy season or when there is adequate water supply and the latrine is clean.



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9.0 POSSIBLE PROBLEMS REGARDING CONSTRUCTION AND MAINTENANCE OF LATRINES

9.1 OPINION ON POSSIBLE PROBLEMS REGARDING CONSTURCTION OF LATRINES

It is sometimes thought that rather than a lack of need for latrines, it is the practical problems of construction which prevent the use of latrines.

Implementers were thus asked about the possible problems regarding construction of latrines. The data has been presented for both public and private latrines as an aid to comparison.

Possible problems regarding construction of latrines

	Public %	Private %
Base : 82		
Availability of funds	66	61
Water for flushing not available	54	38
Cleaning of latrines	56	32
Cleaning of pits	49	32
People not willing to use	44	22
Technical problem of construction	-	27

(Table 14)

The problems of availability of funds and water for flushing or cleaning are common to both community and private latrines, though there is higher mention for community latrines. 'People's unwillingness to use' is mentioned by twice as many respondents for public latrines as for private latrines. Implementers have also mentioned the additional problems of construction for private latrines.

9.2 OPINION ON POSSIBLE PROBLEMS REGARDING THE MAINTENANCE OF LATRINES

Implementers mentioned maintenance problems to a much higher extent for public latrines than for private latrines, as the table indicates.

Whether maintenance of latrines is a problem

	Total %
Base : 82	
Public latrines	63
Private latrines	28

Problems of maintenance, in the implementers opinion, was caused due to the lack of resources (funds, water, sweepers), lack of awareness and lack of a positive attitude. Maintenance problems were mentioned to a greater extent for both private and public latrines in Uttar Pradesh and for public latrines in Gujarat. Maintenance problems for public latrines received lesser mention in the Southers states of Andhra Pradesh and Tamilnadu and in the state of West Bengal.

10.0 ATTITUDES TO LATRINES

10.1 WHETHER VILLAGE PEOPLE FEEL THE NEED OF LATRINES

This is an important issue because opinion is divided about villagers need gap regarding defecation (see section 5.1 above). The villagers' needs were assessed for community and private latrines and the answers of implementers are reproduced below :

Whether any village people feel the ned for latrines

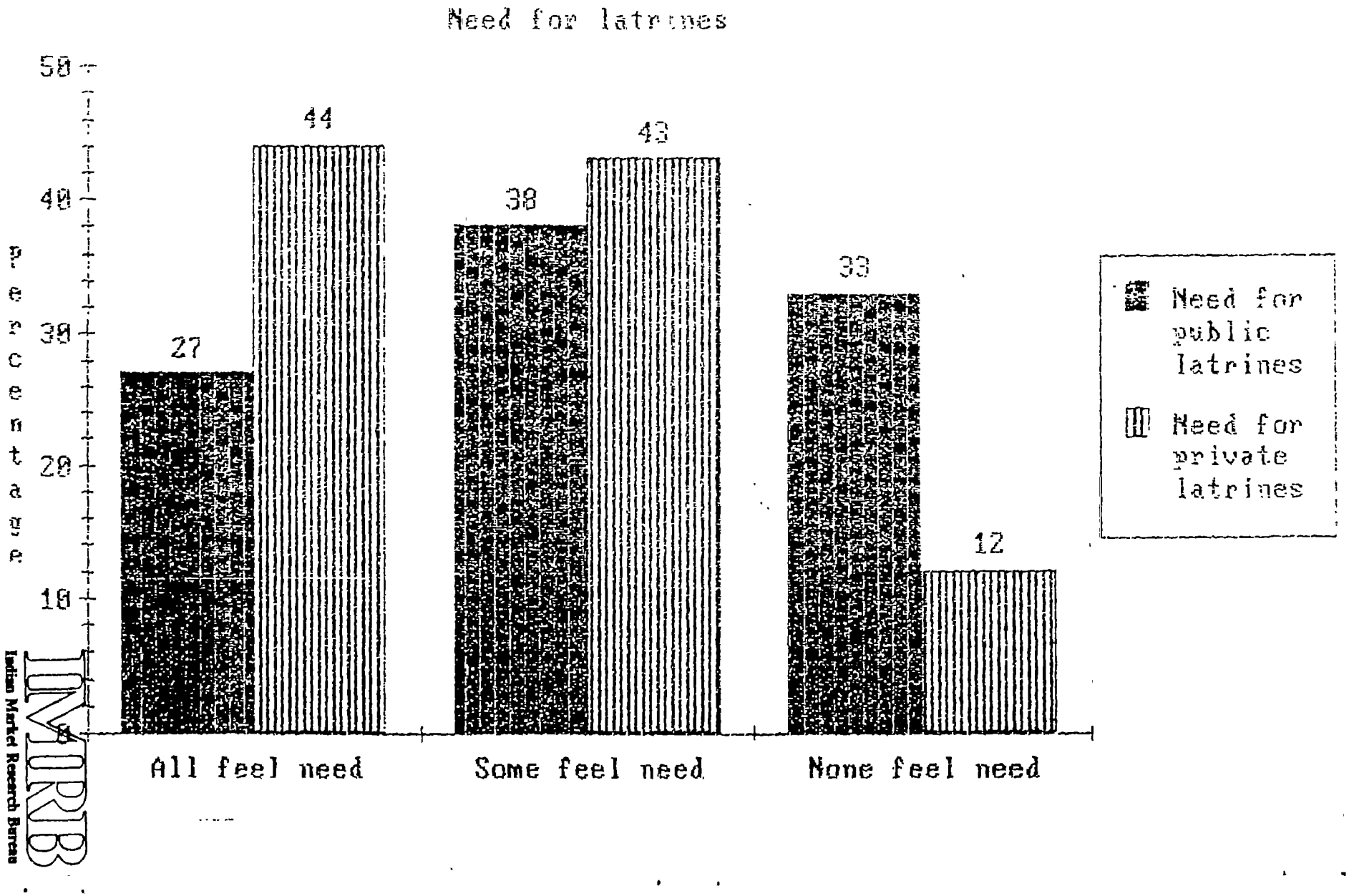
	Public %	Private %
Base : 82		
All feel need	27	44
Some feel need	38	43
None feel need	33	12

(Table 11

As can be seen from the above table, the number of implementers who said that none feel the need for community latrines is nearly twice as much as the number who mentioned that none feel the need for private latrines.

10.2 TYPOLOGY OF PEOPLE LIKELY TO ASK FOR HOUSEHOLD LATRINES

Implementers said that those villagers who were likely to ask for household latrines would be economically well off or educated, as the following table indicates.


Need for latrines
50
40
30
20
10
percentage
44
43
38
33
27
12
All feel need
Some feel need
None feel need
Need for public latrines
Need for private latrines
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Types of people likely to ask for household latrines

	Total %
Base : 82	
Businessmen/Traders/Banias	44
Service people/government servants	48
Educated people	38
Middle class people	20
People in income range Rs 1000+	22
Rich people/higher middle class	39
Farmers/Rich farmers	30

(Table 15a)

The implementers were of the view that the people who felt the need for latrines to a greater extent than other people would do so because they were better aware of hygiene and were financially better off and urbanised, as the following table indicates :

Reasons for some people feeling greater need for latrines

	Total %
Base : 82	
Education is higher/Greater awareness of hygiene	45
More money	27
More shy/not habituated to go out	24
Urbanised/better living standards	20
Status symbol seekers/feel superior	21

(Table 15b)

RESPONDENT RELATED INFORMATION - SANITATION

1. Job Responsibility

Implementers were asked regarding their job responsibilities in general and specifically with regard to sanitation. The job responsibilities of the implementers were as follows :

Job responsibility (overall)

	Total %
Base : 82	
Administration, liase with higher authorities	20
Look after public health/implement family planning, family welfare, Universal immunization programme	29
Sanitation, construction and cleaning of latrines and drains	29
Development work; roads, schools, bridges, tanks, electricity	28
Economic functions, grants, control flow of funds	12

Job responsibility (with regard to sanitation)

Base : 66	Total %
Supervise implementation of scheme related to safe drinking water	21
Supervise disinfection of water sources	18
Supervise sanitation related activities like drains/soak pits	17
Supervise construction of water supply sources	14
Supervise construction of latrines	12
Impart health eduction	10

The main difficulties faced by the respondents while executing their jobs were shortage and misallocation of funds, lack of staff and the prolems of political interference, bureaucratic tangles and lack of cooperation from people. To make the job more successful, respondents suggested increased finances and manpower and improved systems of functioning. Implementers suggested that water is more important an issue as compared to sanitation.

2. Communication ideas

Most implementers were of the view that it is a good idea for implementers themselves to act as communicators. The reason for this opinion was that implementers have more knowledge and there is greater faith of villagers in officers or government people.

Suggestion on what could be the most effective communication method was as follows :

Suggestions for effective communication

	Total %
Base : 82	
Film shows in village	30
Weekly/periodic meetings/group discussions in village	20
Show on TV	16
Hoardings/posters	13
Training of village leaders	11
Pamphlets	12
Use radio	16
Health camps in village	9
Slides in cinema halls	9

APPENDICES

RESPONDENT PROFILE - WATER

	Base : 88	Total %
1.	**Age**	
	Less than 25 years	2
	25 - 30 years	17
	31 - 35 years	20
	36 - 40 years	15
	41 - 45 years	18
	46 - 50 years	10
	51 - 55 years	10
	55+ years	7
	Average age = 39.9 years	
2.	**Designation**	
	Officers	15
	Handpump Mechanic/Fitter	15
	Village level/Panchayat	21
	Engineers	31
	Others	6

(Table 26)

3. **Average Monthly Income from present job :**

Officers	Rs 2400
Handpump Mechanic/Fitter	Rs 1000
Village level Panchayat	Rs 1200
Engineers	Rs 2600
Other	RS 1700

4. Average monthly income from other sources

Category	Number having income from other sources	Average monthly income
Officers	4	Rs 1500
Handpump Mechanic/Fitter	2	Rs 900
Village level Panchayat	12	Rs 1100
Engineers	8	Rs 2000
Others	1	Rs 1500

(Table 28)

5. Education

	(Nos.)
Never been to school	1
Attended school for 1-4 years	3
Attended school for 5-9 years	7
Attended school for 9+ years but non matriculate	5
Matriculate	24
Attended college but non-graduate	11
Graduate	25
Post graduate	12

(Table 29)

6. Work experience

. Average in present job at this designation = 8 years

. Average in this job totally = 12.5 years

. Average in other jobs before this = 5.6 years

. Average total number = 15.5 years

(Table 30)

7. Geographical area covered	Total %
Base : 88	
Whole district	19
1 Tehsil	13
1 Block	26
1 Mandal*	7
Some villages	23
1 village	17

(Table 31)

* An Administrative unit in Andhra Pradesh

RESPONDENT PROFILE - SANITATION

Base : 82	Total %
1. Age	
Less than 25 years	1
25 - 30 years	10
31 - 35 years	15
36 - 40 years	11
41 - 45 years	12
46 - 50 years	22
51 - 55 years	18
55+ years	11
Average age = 44.1 years	

(Table 18)

2. Designation	Total %
Officers	26
Sanitation Inspectors	22
Village level Panchayat	17
Engineers	12
Health people	5

(Table 18)

3. Average monthly income from present job :

Officers	Rs 2300
Sanitation Inspectors	Rs 1800
Village level Panchayat	Rs 2100
Engineers	Rs 2100
Health people	Rs 1700

4. Average monthly income from other sources

Category	Number having income from other sources	Average monthly income
Officers	7	Rs 1700
Sanitation Inspectors	6	Rs 600
Village level Panchayat	8	Rs 1800
Engineers	2	Rs 2200
Health people	1	Rs 800

5. Education

(Nos.)

Base : 82

Never been to school	2
Attended school for 1-4 years	3
Attended school for 5-9 years	4
Attended school for 9+ years but non-matriculate	3
Matriculate	28
Attended college but non-graduate	13
Graduate	11
Post graduate	18

(Table 21)

6. Work experience

. Average in prsent job at this designation	= 9.4 years
. Average in this job totally	= 15.5 years
. Average in other job before this	= 9.Ø years
. Average total number	= 19.6 years

(Table 22a)

7. Geographical area covered

	Total %
Base : 82	
Whole district	13
1 Tehsil	12
1 Block	32
1 Mandal*	4
Some villages	22
1 village	17

(Table 23

* An administrative unit in Andhra Pradesh