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**REPORT ON SAMPLE SURVEY OF LOW COST
SANITARY LATRINES CONSTRUCTED UNDER
RURAL SANITATION FEASIBILITY STUDY
IN WEST BENGAL**

REPORT PREPARED BY
**GOVERNMENT OF WEST BENGAL
DIRECTORATE OF P. H. ENGINEERING
1990**

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P R E F A C E

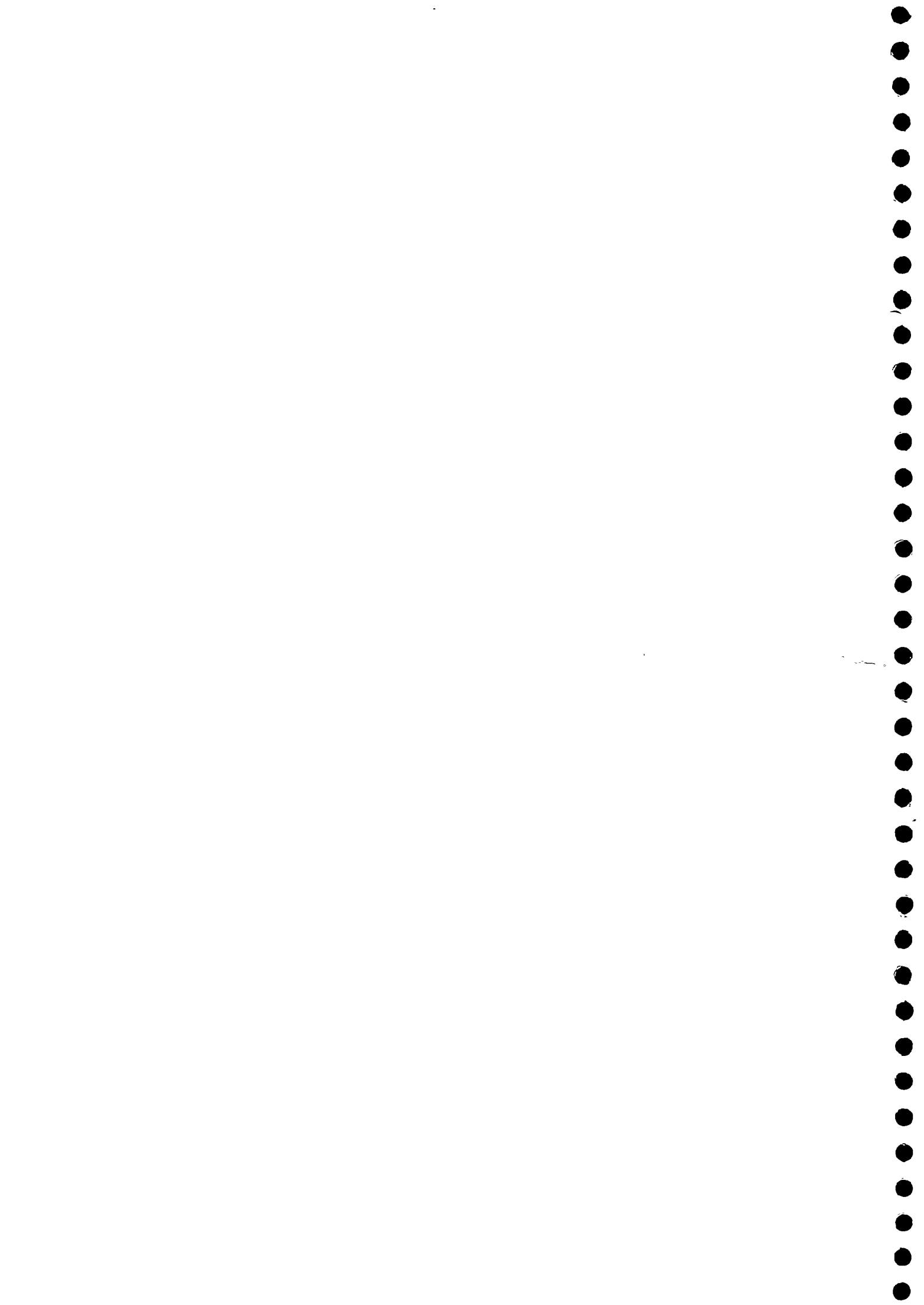
With the object of assisting Govt. of India's Programme for the International Drinking Water Supply and Sanitation Decade (1981-90) which included the target of covering 25% of rural population with low cost sanitation facilities, the UNICEF/UNDP aided project of construction of Low Cost Sanitary latrines on a demonstration basis was undertaken with the immediate purpose of preparing a Master Plan Report including preliminary engineering and feasibility study for low cost appropriate sanitary latrines with on-site disposal of human wastes in the rural areas of 12 States.

Feasibility studies in respect of low cost waterseal latrine programme in more than 200 representative urban areas were done by the UNDP and Technical Advisory Group some time back. It soon became obvious that extension of similar feasibility studies on these latrines for the rural areas was inescapable.

This report on the Feasibility Study in the rural areas of West Bengal covers the results of the efforts of three agencies namely Public Health Engineering Directorate (the major one), All India Institute of Hygiene and Public Health (AIIH&PH) and Women's Coordinating Council (W.C.C.) a non-Govt. Voluntary Organisation.

In this connection it should be mentioned that the UNICEF collaborated in these feasibility studies undertaken in West Bengal in a significant way. In regard to institutional latrines with superstructure they extended assistance to the extent of 100% while in the case of household units without superstructure they provided 40% subsidy.

The decision to undertake a fullfledged survey, in connection with these feasibility studies, was taken in collaboration with UNICEF and the modalities were finalised in a meeting at their Calcutta office on 11th August, 1987. The survey inquestion was conducted during the period from 6th August, 1987 to 19th September, 1987. In order to keep

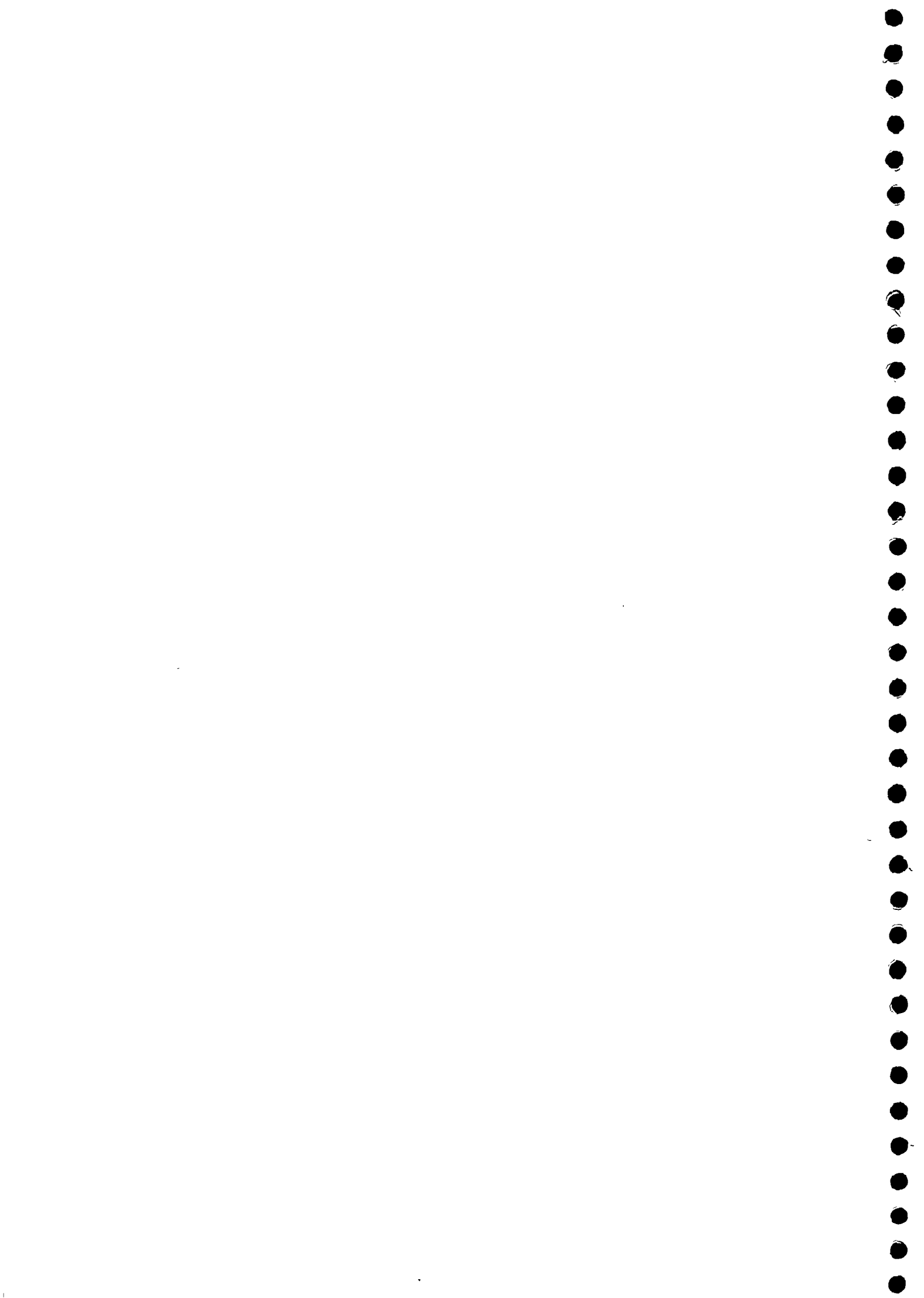


OTHER 12
states to know?

the volume of work to a manageable extent a sample survey was the obvious choice and the method envisaged was of the usual one-shot type. The salient features of the survey results have been summarised in section 4.3 of this report. The major findings as well as recommendations have been summarised in section 5 wherein the necessity of conducting similar feasibility studies on sampling basis using the current survey results as a useful feed-back has been felt.

Needless to add that such a survey as the one that has been conducted could hardly be made possible without the active assistance and cooperation of a number of agencies and individuals. The active participation and co-operation of All India Institute of Hygiene and Public Health and Women's Co-ordinating Council as also the Sabhadhipatis of the districts of North 24-Parganas, Nadia, Murshidabad and Hooghly are thankfully acknowledged. The East India office of the UNICEF, apart from financing the project and preparation of this report, actively extended assistance, technical as well as administrative, as and when they were called upon to do so. The survey data was computerised and processed by M/s Techno Machine Pvt. Ltd. This report could not be published without active cooperation from Dr. S. Chakrabarti, Director, Bureau of Applied Economics & Statistics, Govt. of West Bengal, who analysed the survey results, drafted the report and ultimately finalised the same on receipt of the comments from East India office of the UNICEF.

(S.B.KUNDU)
Chief Engineer,
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Genesis : After achieving reasonable solutions to the problems of food and clothing than which there is nothing more important, human endeavour has all along been directed towards good housing, better health and hygiene and best environments for work. It is precisely with the object of ensuring improved health conditions that planning and implementation of various welfare projects have been found necessary. The national planning for such welfare projects chiefly rests with the Central planning Authorities, whereas it is for the State Governments to take up various welfare projects with the sole objective of providing improved health conditions to the citizens.

It is well known that here, as in the most other spheres of activity, rural areas have to be considered with more attention and vigour. It needs hardly to be emphasised that improved sanitary conditions is a sine qua non for the improvement of overall health and hygiene as well as environment.

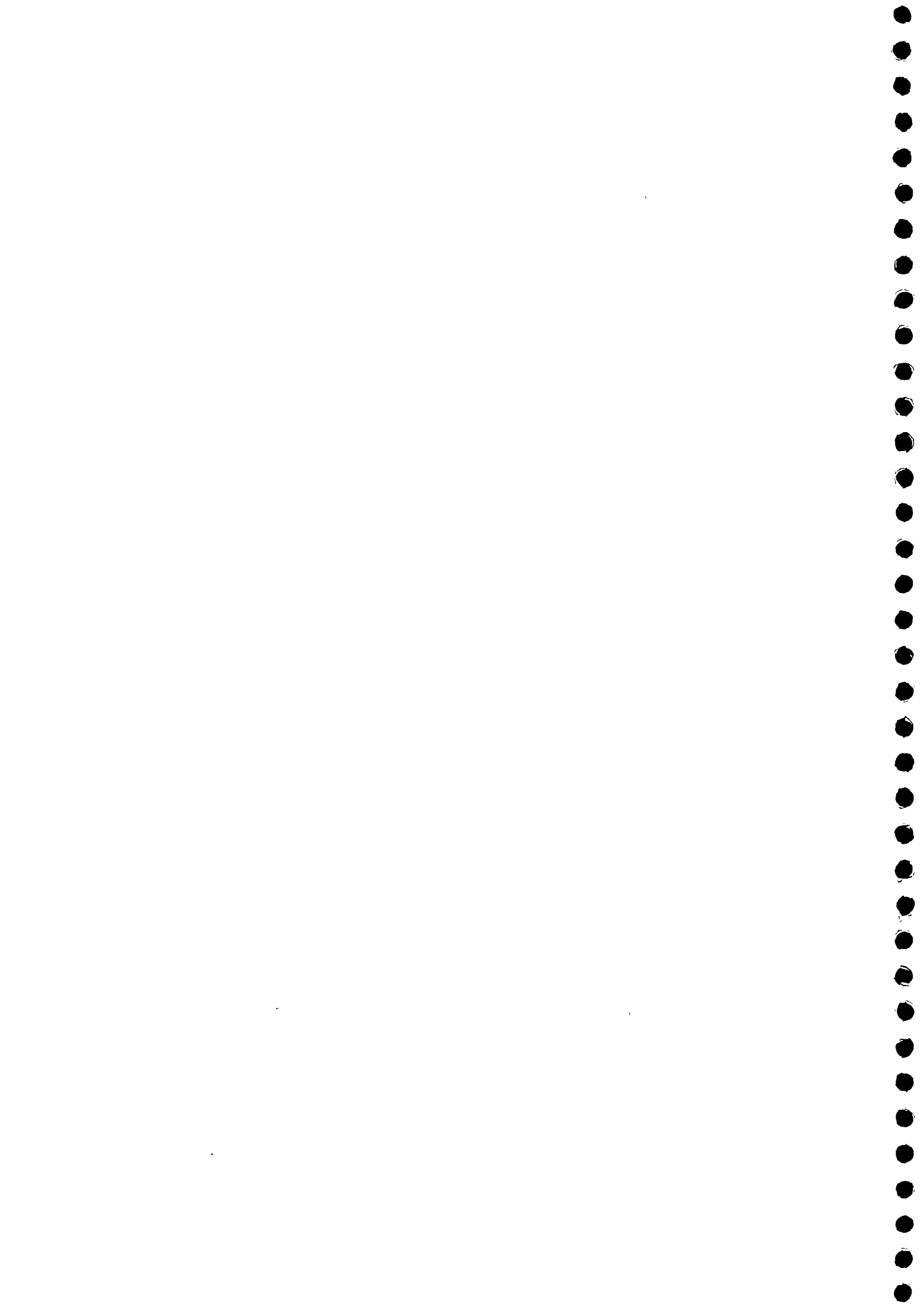
Even during the Britishraj, Way-back in 1940's some efforts, though scattered and sporadic in nature, were made by the then Government agencies to 1)

provide better sanitary conditions in some selected areas. Thus in Bengal, 1940's with the object of providing better sanitary conditions, some dugwell latrines were constructed in Singur village in the district of Hooghly.

After independence, Govt. of India during the 2nd Five Year Plan funded the projects for construction of sanitary latrines in rural areas in almost all the districts under Research-cum-Action Project. From 1983-84 onward 2)

the State Govt. have been providing some funds for this specific purpose and in the year of commencement (1983-84) some such construction activities had been started in the districts of Hooghly and Coochbehar. A repeat

performance about the same was also made in 1984-85. From 1985-86 the 3) State Govt. decided to get such constructions done through Panchayats to achieve improved participation of the beneficiaries and, accordingly, funds were allocated to the Sabhadhipatis (elected President) of the districts.



Hence it has become of paramount importance to undertake adequate monitoring of such projects, both during and after implementation. Govt. of India as well as State Govts. recently undertook such monitoring and decided to prepare feasibility reports on Rural Sanitation. Later on, UNICEF lent its assistance for expanding such feasibility studies all over India.

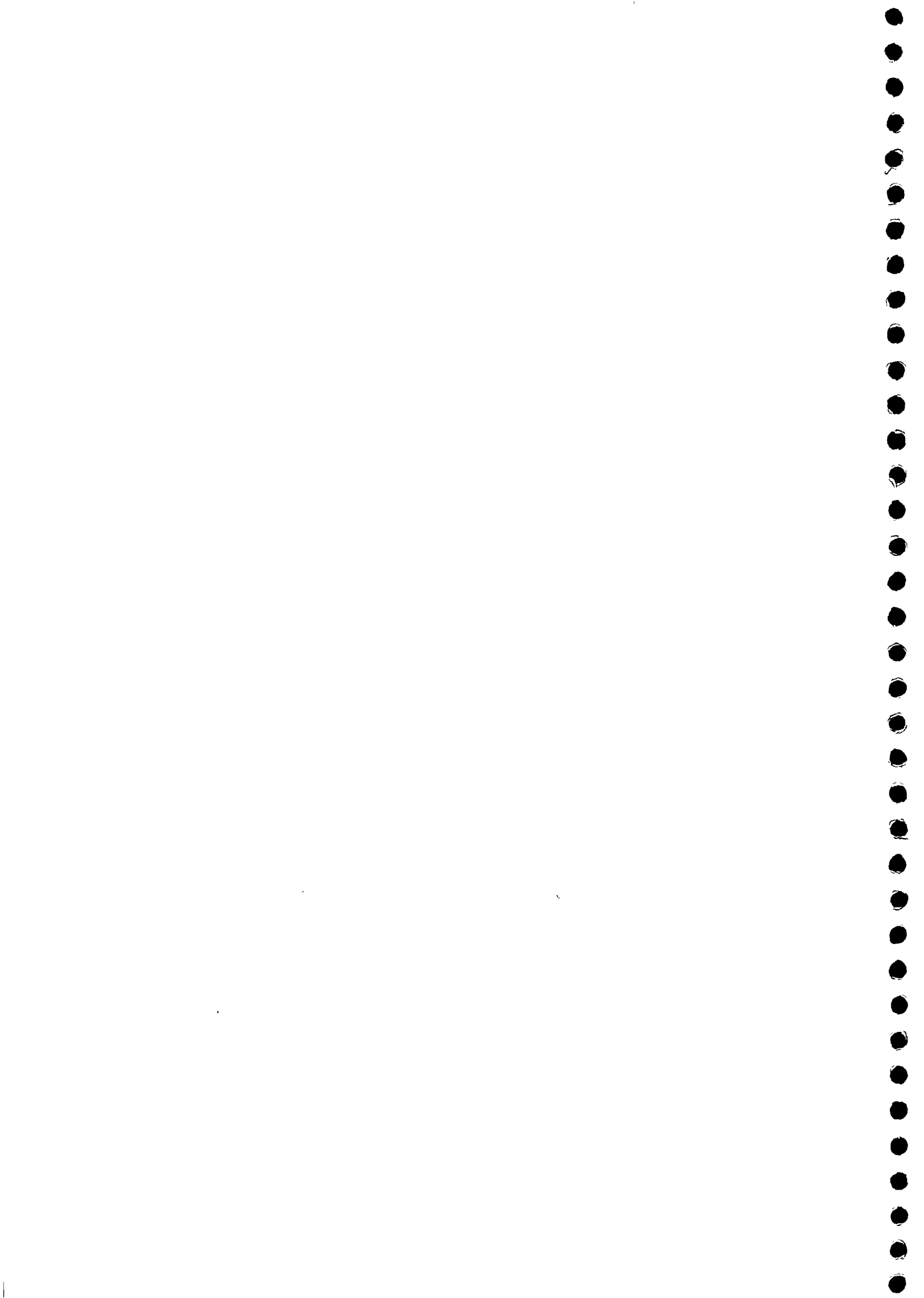
2. The Project - design/planning.

The Government of India's programme for the International Drinking Water Supply and Sanitation Decade (1981-90) included the target of covering 25 per cent of the rural population with low cost sanitary latrines. This necessitates the construction of rural latrines on a mass scale.

In order to fulfill this objective, sanitation schemes, on demonstrational basis, had already been undertaken by UNICEF in several States with the collaboration of State Governments since 1983-84. Subsequently a project with the object of making a feasibility study for rural latrines had started through the concrete support of UNICEF and with the collaboration of Govt. of India, UNDP and the World Bank. One of the objectives of the feasibility study was to pave the way for replication of the programme in Rural sector by the State Governments. as many as 37,000 demonstration latrines were planned to be set up as part of the project in representative locations in the 12 States namely Andhra Pradesh, Haryana, Kerala, M.P., Manipore, Maharashtra, Orissa, Punjab, Rajasthan, Tamil Nadu, U.P. and West Bengal.

The numbers were made up of an estimated 7 demonstration units (3 House Hold and 4 Community type) in each of the selected 3,600 villages in addition to the construction of at least 50 House Hold units in each of the 240 villages selected for intensive coverage in all these 12 States.

The selected block/villages in majority of the cases formed part of ICDS, IRDP, NREP, TRYSEM or other areas with ongoing UNICEF, Govt. or active non-Governmental organisations' development programmes.



2.1 Thus the development object of the project was to assist the Govt. of India's programme for the International Drinking Water supply and sanitation Decade (1981-90) which included a target of covering 25 per cent of the rural population with low cost sanitation facilities.

The immediate purpose of the project was, however, to prepare a Master Plan Report including Preliminary Engineering and Feasibility study for Low Cost Appropriate Sanitary latrine with onsite disposal of human waste in the rural areas of 12 states by undertaking sanitary latrine construction programme on a demonstration basis as a prelude to a larger programme envisaged in the Decade Plan.

2.2. In order to cover 25 per cent of the rural population in India with sanitation facilities, the financial investment needed was estimated at around U.S.\$ 2000 million benefitting about 25 million households.

The outlay for this programme in the 6th Five Year Plan was, however, only about U.S.\$ 40 million which was the aggregate amount intended to be invested by 17 States. The remaining States had not budgeted for any investment.

It may be noted, however, that even in the States where investments were contemplated the absence of tested solutions and proven strategies of implementation were felt. Hence this project was intended to assist the States in implementing the large scale programme of rural latrines and planning the size and phasing the investments needed.

2.3 The Union Government brought to the notice of the State Government in June 1982 the difficulties faced by the rural people especially women due to the lack of sanitary latrines. The Union Govt. exhorted the State Governments to take the programme of building sanitary latrines, involving local organisations to the extent possible. Several State Governments had responded and requested the Ministry of Works & Housing to get feasibility studies on rural sanitation prepared with the assistance of UNDP which had earlier prepared similar feasibility studies for the urban areas.



2.4 UNICEF, in collaboration with the State Governments and in association with non-governmental organisations, undertook Sanitation schemes on a demonstrational basis. The main activities in regard to these schemes were confined to (i) the construction of low cost sanitary latrines of the waterseal system of UNDP model and (ii) the training of the personnel supported by community participation and sanitary education. The services of some voluntary organisations with significant participation of womenfolk were also received for training and motivating the community. It was thought that during the period of study, feedback from the ongoing UNICEF sanitation activities under its own programme would supplement the data base for the study.

2.5 Although feasibility studies were conducted in the mass implementation of the low cost pourflush waterseal latrineprogramme in more than 200 representative urban areas by the Technical Advisory Group of UNDP, separate feasibility studies on the latrines constructed for the rural areas was considered necessary owing mainly to the rural-urban differentials.

2.6 It may be of interest to note here the rural and Urban differentials shown below, in regard to state domestic product and household consumer expenditures, obtained in the recent past in West Bengal.

Estimated Values of Annual Per Capita Household
Consumer Expenditure & State Domestic Product
at current Prices.

year	estimated per capita values in Rs. (00.00) at current Prices			
	household consumer expenditure		state domestic product	
	rural	urban	rural	urban
1980-81	933.68	1536.34	1227.71	2835.69
1981-82	1001.02	1643.13	1258.90	3043.75
1982-83	1073.52	1757.88	1384.05	3231.60



1983-84	1151.48	1881.00	1759.65	3619.73
1984-85	1235.44	2013.34	2037.55	4084.71
1985-86	1325.89	2155.59	2139.70	4427.87

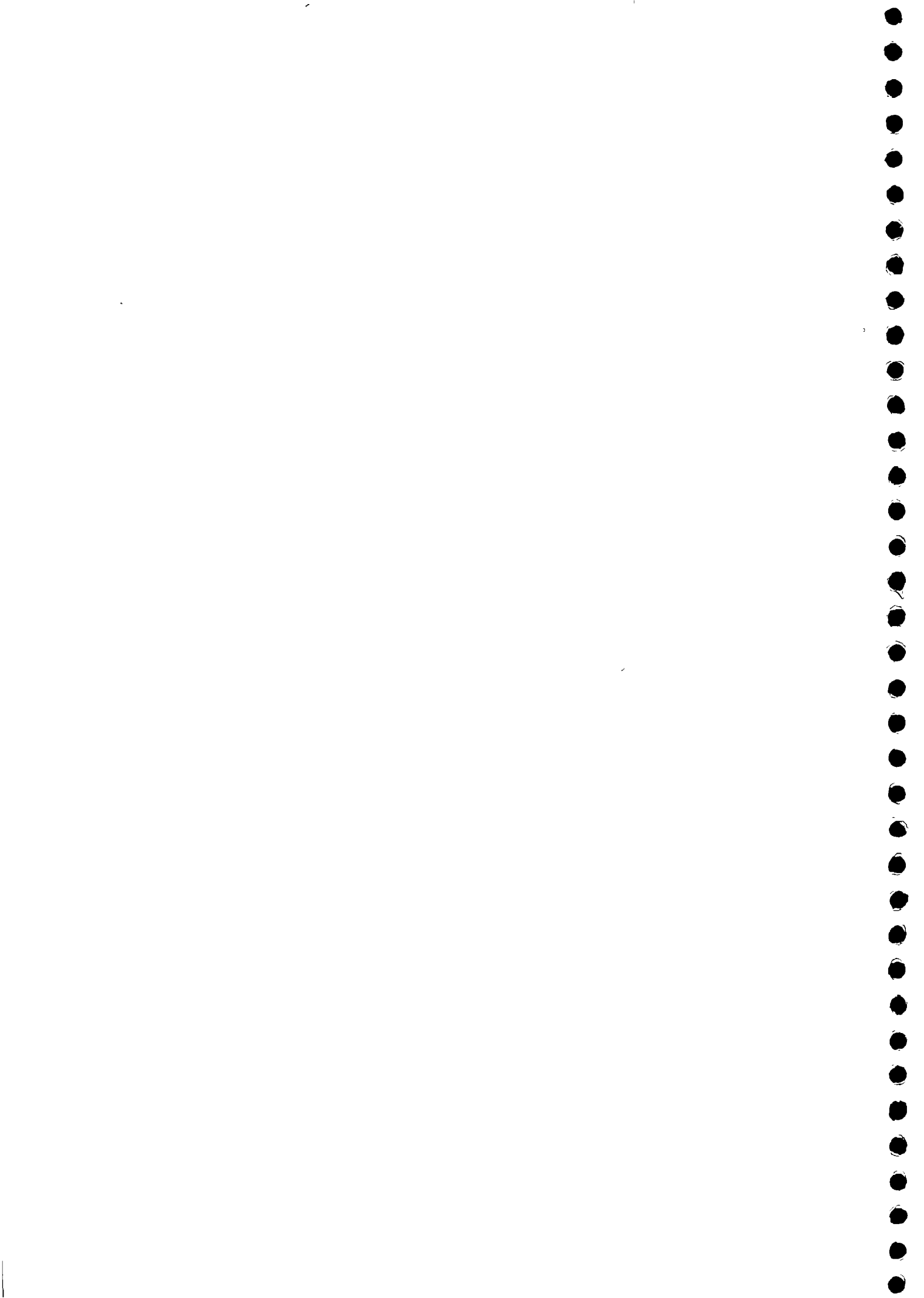
Source : Bureau of Applied Economics & Statistics.

The rural households obviously can afford far less than their urban counterparts and hence much lower cost options necessitate change in engineering design and technology in the construction of such latrines. It was also generally assumed that the rural community, still characterised by primary inter-personal relationship, would offer a congenial ground for attempting community participation by offering free and voluntary manpower input especially by the beneficiary families and their associates during the lean periods of agricultural operations.

In most of the rural areas, open area defecation is practised, leading to the hypothesis that the practice is perhaps voluntary and even conducive to health. Hence a related hypothesis of a latrine located within or close to the residence, being branded unclean and offensive atleast by some sections of rural population. It is therefore widely held that inculcating the latrine habits and promoting latrine programme in the rural community are considered more difficult and challenging than in the urban areas. The feasibility study, it was hoped, would attempt to corroborate or refute these hypotheses.

3.0 Under this National Feasibility Study which started in August 1984 and was to be completed by March 1986, the target given to West Bengal was institutional latrines 1400 and household latrines 2250 the total number of units being 3650. Actually, however, construction of 3512 units (Institutional- 1400 and House Hold - 2112) was approved. The beneficiaries were selected by Panchayats. Three agencies were involved in the construction of the latrines. Public Health Engineering Directorate (PHED) was the major

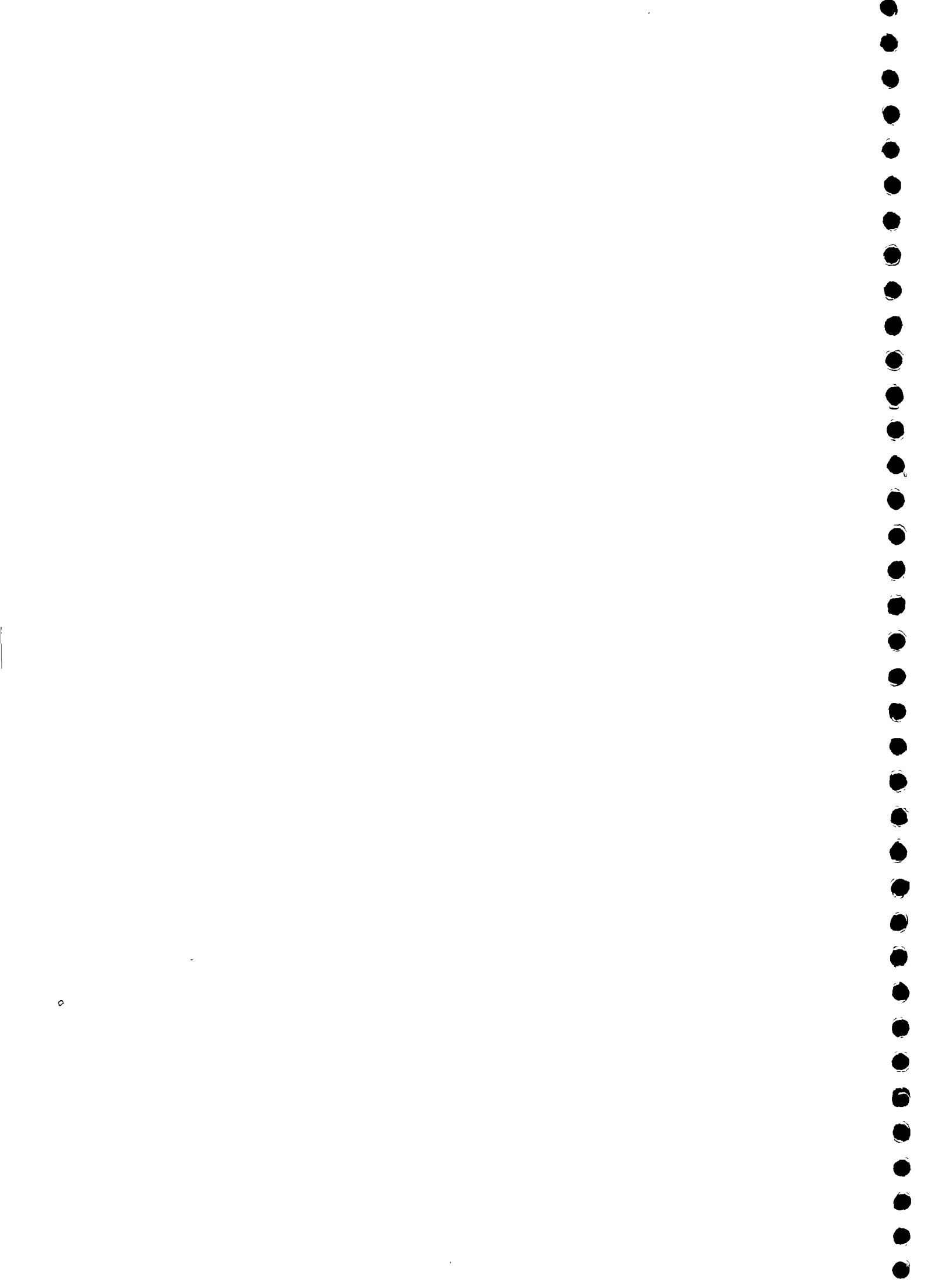
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one. All India Institute of Hygiene & Public Health (AIIH & PH) was entrusted with the construction of 175 household units and 100 Institutional latrines through its Rural Health Unit located at Singur block in the district of Hooghly. Women's co-ordinating Council (WCC), a Non Government Voluntary Organisation, was entrusted with construction of 100 institutional units in Barasat-I and Bagdah Blocks of North 24-Parganas District. Against this target a total number of 2763 units were constructed (1119 institutional Units and 1644 household units) by the three agencies. A summary of agency-wise distribution of targets and achievements is indicated in the table below.

	<u>institutional</u>		<u>house hold</u>		<u>total</u>	
	<u>approved</u>	<u>achievement</u>	<u>approved</u>	<u>achievement</u>	<u>approved</u>	<u>achievement</u>
1. PHED	1200	1002	1937	1542	3137	2544(81%)
2. AIIH & PH	100	30	175	102	275	132(48%)
3. W.C.C.	100	87	-	-	100	87(87%)
total:	1400	1119	2112	1644	3512	2763(78%)

The PHE Dte. had to take up the works through engaging contractors, W.C.C. and AIIH & PH, however, took up the works through engagement of labours and local purchase of materials. Annexure-I reveals that unit cost for the PHE Dte. was more than that for the other two agencies and the time available to AIIH & PH was much less compared to other two agencies. As many as 12 blocks (Viz., Singur, Haripal, Balagarh and Pursura of Hooghly District, Habra-I, Habra-II, Barasat-I, Barasat-II and Bagdah of North 24-parganas District, Budge Budge - II of South 24-parganas District, Krishnagor - II of Naida District and Raninagar - I of Murshidabad district) and 380 villages within the five districts were covered of which 24 villages had intensive coverage. Thus the achievements have been worked out at 75 per cent of the target or 78% of latrines approved as on end July, 1986. Annexure-I shows agency and blockwise distribution of the two types of



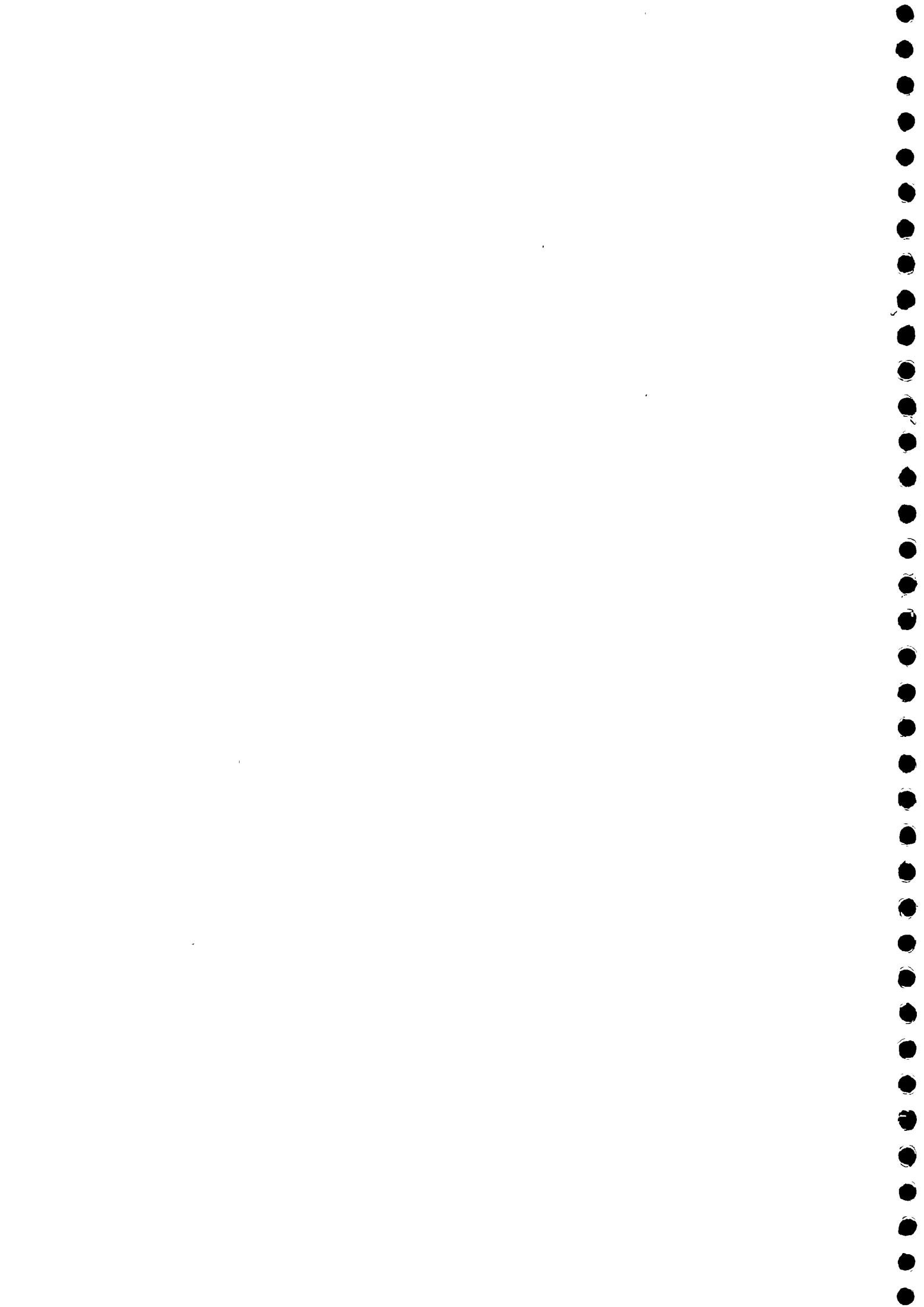
latrines constructed under the programme.

3.1. The pattern of UNICEF assistance was in the shape of 100 per cent subsidy towards institutional units with super structure & 40 per cent subsidy for household units without superstructure. WCC was involved by the State Government, in orienting district/block officials as well as the beneficiaries. W.C.C. organised 5 district level, 9 block level & 13 village level orientation camps. WCC also oriented 235 district level, 542 block level and 1089 village level functionaries and beneficiaries.

3.2 UNICEF supplied to the Public Health Engineering Directorate (PHED) an initial consignment of 706 Fibre Glass pans and traps and the balance requirements were met from the stock with the PHED. It was also recommended by UNICEF that a spot survey of the units constructed to assess the quality of construction, use and maintenance of these units, be conducted.

4. The Sample Survey of Household Sanitary Latrines :

With the object of conducting a spot survey of units constructed under the feasibility study and to assess the quality of construction, type of superstructure, kind of water source available to the households and its nearness from the residence, condition of the latrine in use, its maintenance and other related features etc, necessary formats were developed and used in the house to house survey (vide annexure - II, Sheet 5 to 12). It was decided to conduct the spot survey on sampling basis between 6th August and 19th September 1987. Planning for the survey was finalised in a meeting held at UNICEF office at Calcutta on 11th August 1987. A copy of the minutes of the meeting has been given in Annexure - II (Sheet 1 to 4). Although provisions were made in the schedule to generate data (from the household survey) on the aforementioned subjects, no attempt was, however, made to include particulars which might have thrown light on the socioeconomic conditions of the households covered. Hence, the survey results as such will not be in a position to pin-point the various socio-economic



and related factors which are believed to be partly responsible for the pattern of use of the sanitary latrines constructed, although a clear picture of the state of affairs relating to the actual use and maintenance of the latrines would be available.

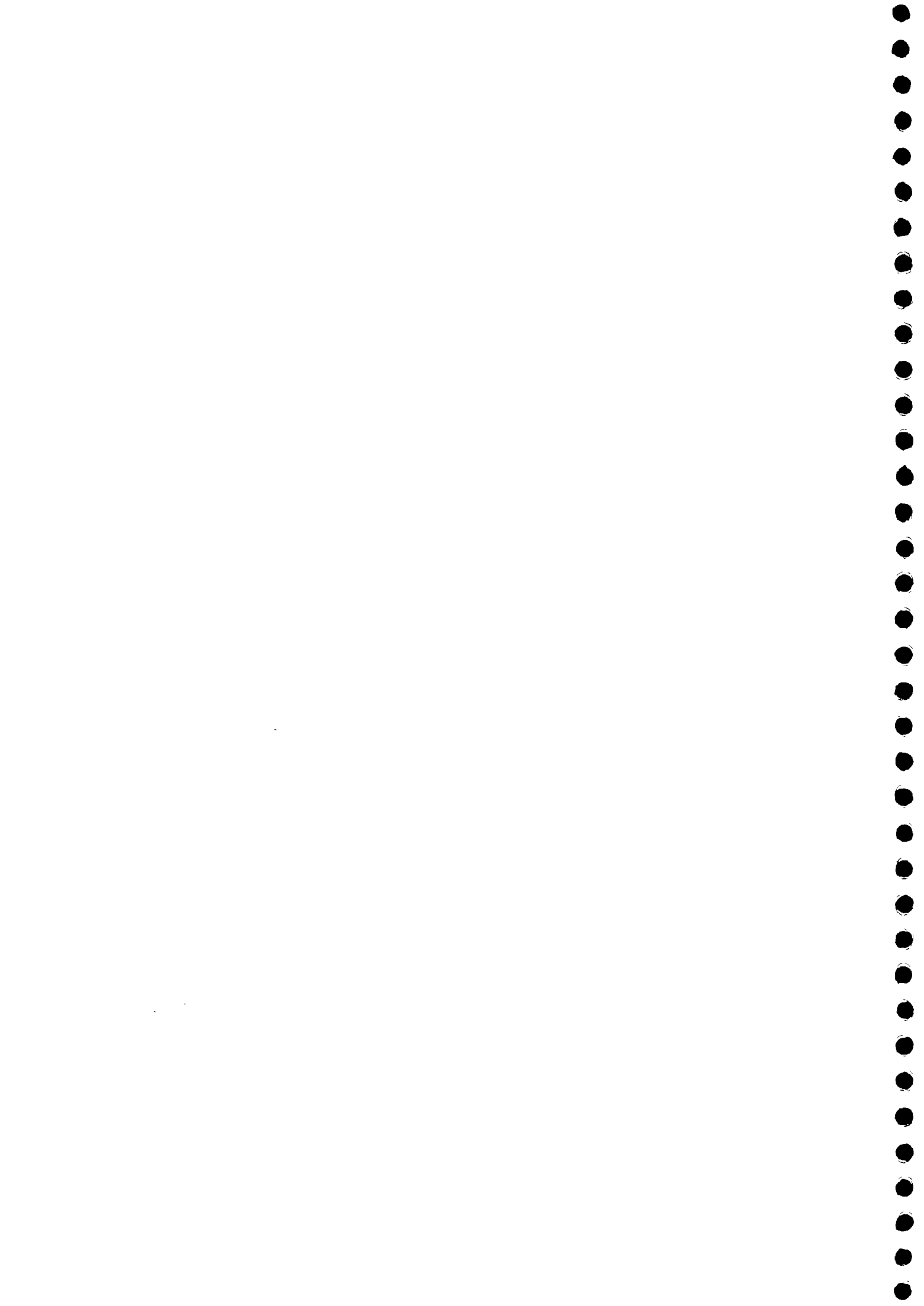
4.1 For the purpose of spot check survey, it was decided to cover 25% of the 24 villages having intensive coverage. Hence six villages were selected out of 24 at random. It was further decided to inspect each and every latrine constructed in the six intensive coverage villages. For the remaining 356 non-intensive villages it was decided to survey 2 villages from each of the 12 blocks in which the feasibility study programme of latrine construction was taken up. In this case the village at Sl. no. 2 and the last but one, in the list of villages under each Block were chosen, thus making a sample size of 2 in each block. It was also decided that every fifth number of the latrines as per list of latrines, in the ²⁴intensive and non-intensive villages would be thoroughly examined to ascertain the quality of construction. The list of ²46 villages thus selected and actually covered during the spot check survey has been given in Annexure - III.

4.2 The method of investigation was more or less akin to that of sample surveys of a number of households as is conducted by the National Sample Survey annually through one-shot investigations.

4.3 Salient features of the spot check survey results.

4.3.1. Distribution of Latrine Types:

Out of the 450 latrines covered in the survey, 296 were in the North 24-Parganas District, 128 in Hooghly District, 8 in South 24-Parganas District, 11 in Nadia District and 7 in Murshidabad District. The percentage distribution along with the number of household and institutional latrine surveyed in the above five districts, are given in table 1 below:



T A B L E - 1 .
distribution of latrine types as surveyed

district	no of hh latrine	of total (%)	no of inst.latrine	of total (%)	total latrines
24 PARGANAS (N)	242	81.8%	54	18.2%	296
24 PARGANAS (S)	3	37.5%	5	62.5%	8
NADIA	5	45.5%	6	54.5%	11
MURSHIDABAD	2	28.6%	5	71.4%	7
HOOGHLY	100	78.1%	28	21.9%	128
total	352	78.2%	98	21.8%	450

4.3.2 Quality of construction:

From the survey it was found that out of the 450 latrines, only 4.9% could be classified under the bad category. It may be interesting to note that in North 24-Parganas district only 12 out of 296 (4.1%) of the latrines were found to be bad while in Hooghly 10 out of 128 (7.8%) could be classified under bad category. No latrine covered under the survey in the other three districts was found to be bad. Information was not available regarding the quality in respect of 5.8% of the total latrines surveyed. The detailed districtwise break up of the different qualities of construction is presented in table - 2 below:

T A B L E 2
quality of construction

district	good		fair		bad		n.a.		total
	no.	(%)	no.	(%)	no.	(%)	no.	(%)	
24 PARGANAS (N)	238	80.4%	30	10.1%	12	4.1%	16	5.4%	296
24 PARGANAS (S)	5	62.5%	3	37.5%	-	-	-	-	8
NADIA	8	72.7%	3	27.3%	-	-	-	-	11
MURSHIDABAD	4	57.1%	3	42.9%	-	-	-	-	7
HOOGHLY	93	72.7%	15	11.7%	10	7.8%	10	7.8%	128
total	348	77.3%	54	12.0%	22	4.9%	26	5.8%	450



4.3.3 Source of Water:

Hand-pumps were used in 206 out of 450 latrines (45.8%). Ponds provided the source of water in 57 out of 450 latrines (12.7%). The distribution of these two most important sources in different districts both in numbers as well as percentages can be seen in table 3 below:

T A B L E - 3
source of water

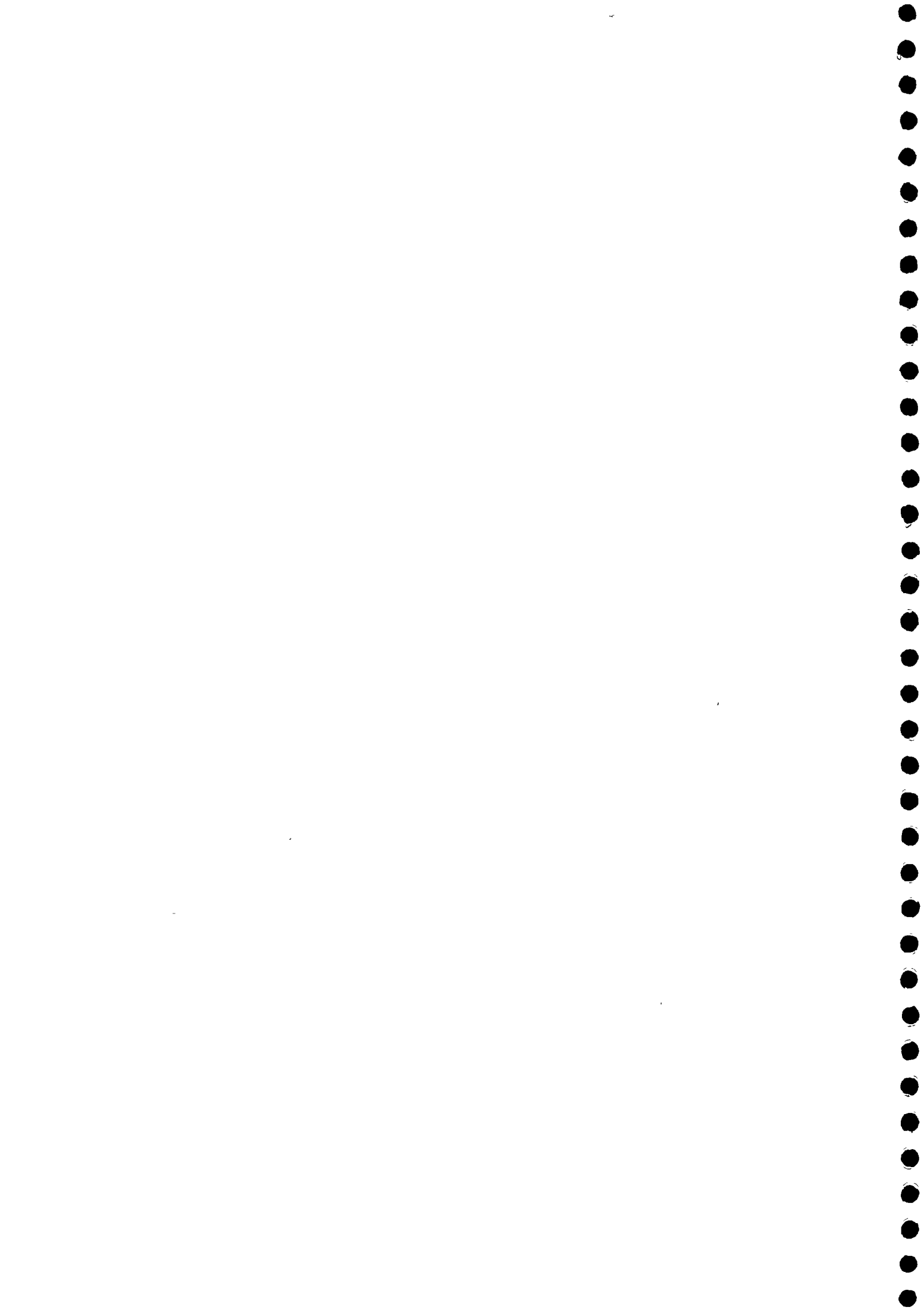
district	open well		pond		piped water		hand pump		n.a.		total
	no.	(%)	no.	(%)	no.	(%)	no.	(%)	no.	(%)	
24 PARGANAS (N)	-	-	12	4.1%	-	-	146	49.3%	138	46.6%	296
24 PARGANAS (S)	-	-	1	12.5%	-	-	7	87.5%	-	-	8
NADIA	-	-	1	9.1%	-	-	6	54.5%	4	36.4%	11
MURSHIDABAD	-	-	1	14.3%	-	-	5	71.4%	1	14.3%	7
HOOGHLY	1	0.8%	42	32.8%	1	0.8%	42	32.8%	42	32.8%	128
total	1	0.2%	57	12.7%	1	0.2%	206	45.8%	185	41.1%	450

4.3.4 Use pattern:

More than half (56.2%) of the latrines surveyed were not being used by any member of the households. In 36.4% cases children were found to use the latrines. Adult males and females were found to use the same only in about 27% of the cases. The use pattern has been presented in Table 4 below:

T A B L E - 4
use pattern

district	men	women	children	not used
24 PARGANAS (N)	34.1%	34.1%	44.3%	50.7%
24 PARGANAS (S)	12.5%	25.0%	62.5%	37.5%
NADIA	27.3%	27.3%	36.4%	63.6%
MURSHIDABAD	14.3%	14.3%	28.6%	71.4%
HOOGHLY	12.5%	12.5%	17.2%	68.8%
total	27.1%	27.3%	36.4%	56.2%



4.3.5 Water availability:

It is interesting to note that in majority of the cases (49.1%) the water sources were not available within the compound and in 45% cases only the same was available inside the compounds. The detailed picture, districtwise, is discernible from table 5 below.

T A B L E - 5
water availability

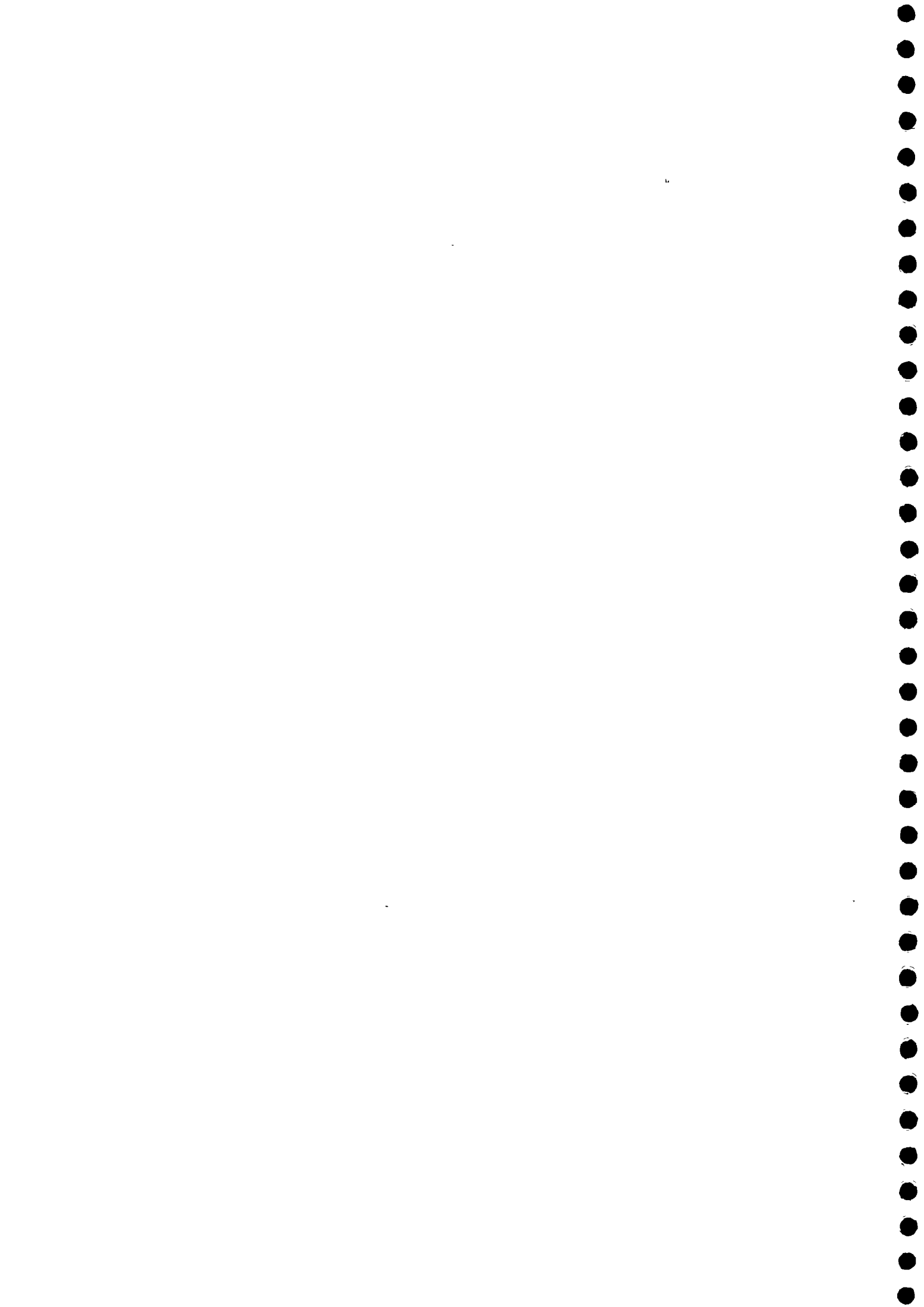
district	inside compound	outside compound	not available
24 PARGANAS (N)	54.7%	44.3%	1.0%
24 PARGANAS (S)	100.0%	-	-
NADIA	54.5%	45.5%	-
MURSHIDABAD	14.3%	85.7%	-
HOOGHLY	20.3%	61.7%	18.0%
total	45.1%	49.1%	5.8%

4.3.6 Site selection:

In more than two third of the cases site selection was found to be good, while in about 28% cases site selections were found to be unsatisfactory. Table 6 below gives the picture districtwise.

T A B L E - 6
s i t e s e l e c t i o n

district	ok.	not ok.	information not available
24 PARGANAS (N)	66.6%	29.7%	3.7%
24 PARGANAS (S)	75.0%	25.0%	-
NADIA	72.7%	18.2%	9.1%
MURSHIDABAD	100.0%	-	-
HOOGHLY	66.4%	28.1%	5.5%
total	67.3%	28.4%	4.2%



4.3.7 User awareness:

While in 65% of the cases users were found to be aware of the need of sanitation and maintenance of personal hygiene in about 19% of the cases they were not found so. In 16% of the cases the data was not available. Table 7 below sets out the picture in detail.

T A B L E - 7
user awareness

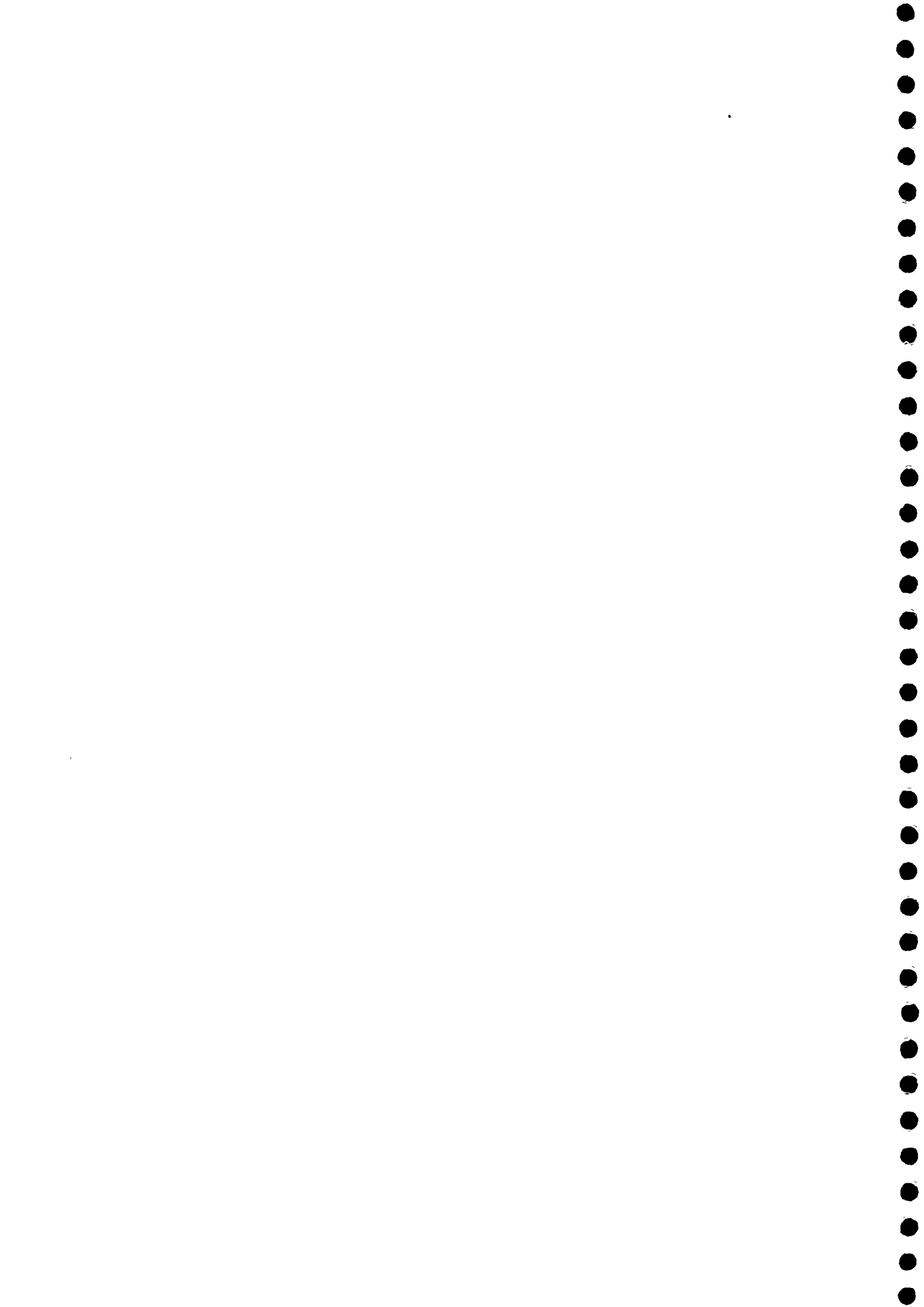
district	aware	not aware	not available
24 PARGANAS (N)	76.7%	12.5%	10.8%
24 PARGANAS (S)	12.5%	-	87.5%
NADIA	45.5%	45.5%	9.1%
MURSHIDABAD	14.3%	71.4%	14.3%
HOOGLY	46.1%	29.7%	24.2%
total	65.1%	18.9%	16.0%

4.3.8 Condition of latrine:

In as many as 56% of the cases the latrines were found to be not in use while in 30.2% of the cases the latrines were found clean in 4.7% of the cases they were classified as fair and in 3.3% of the cases they were found to be positively dirty. Table 8 below gives a detailed districtwise picture.

T A B L E - 8
condition of latrine

district	clean	fair	dirty	not used	not available
24 PARGANAS (N)	38.5%	6.1%	2.7%	50.7%	2.0%
24 PARGANAS (S)	37.5%	12.5%	12.5%	37.5%	-
NADIA	36.4%	-	-	63.6%	-
MURSHIDABAD	14.3%	-	-	71.4%	14.3%
HOOGLY	10.9%	1.6%	4.7%	68.8%	14.1%
total	30.2%	4.7%	3.3%	56.2%	5.6%



4.3.9 Reasons for not using the latrines:

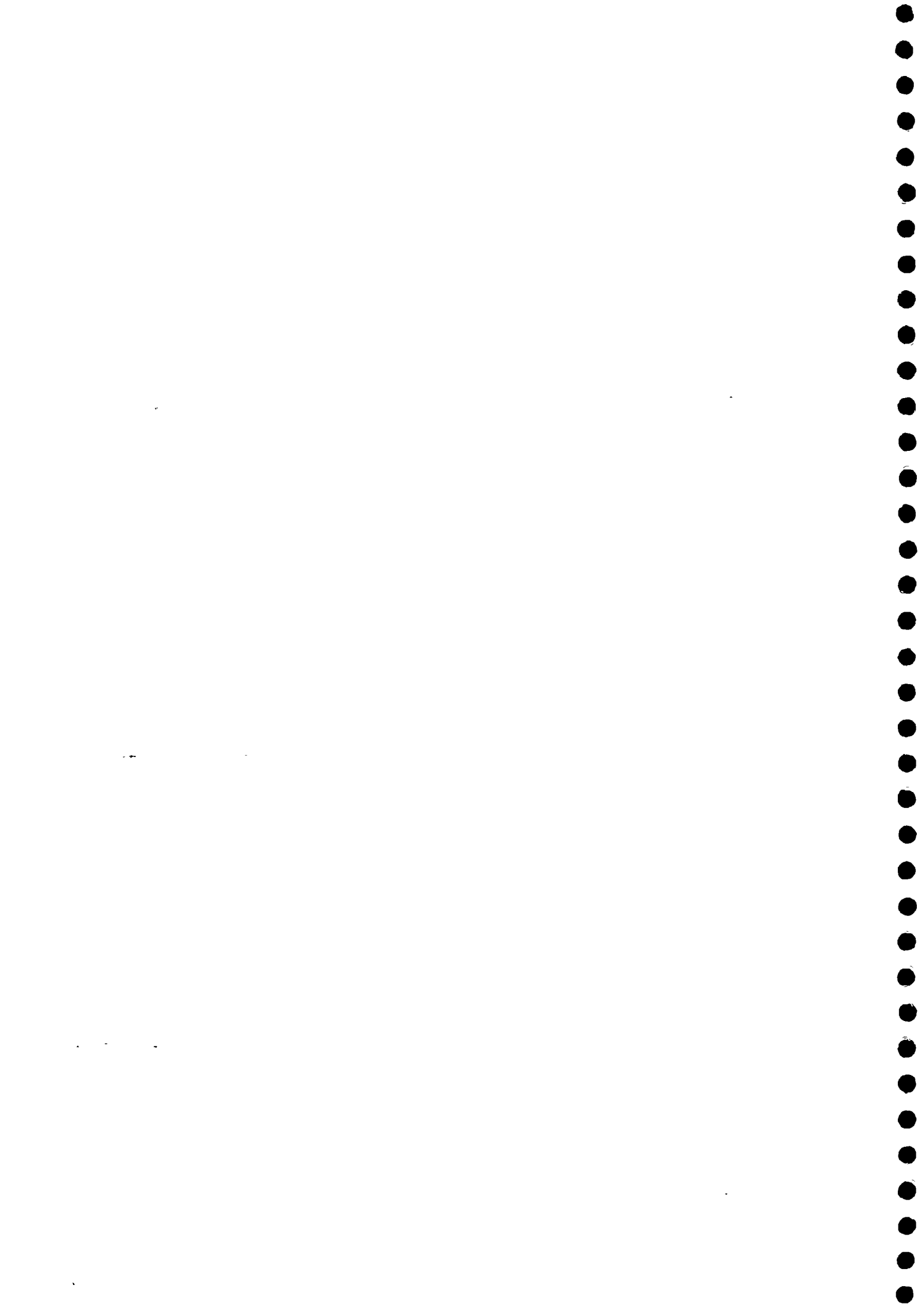
In table 9 the percentage distribution of the latrines, showing reasons for not using the same, has been set out. The most important reason (53.4% of the cases) was found to be "non-construction of the superstructure" and in as much as 8.1% of the cases, reason for non-use was given as "problem with the superstructure". Incomplete construction was also found to be an important (as much as 8.8%) reason for not using the latrines. The other major reasons of non-use of latrine are mentioned in the table.

T A B L E - 9
reason for non-use &
% of total latrine districtwise.

reason	24 PARGANAS(N)	24 PARGANAS(S) NADIA	MURSHIDABAD	HOOGHLY	TOTAL
con. incomplete	13.1%	-	-	3.8%	8.8%
damaged by flood	1.3%	-	14.3%	80.0%	7.5%
destroyed/damaged	5.6%	-	-	5.7%	5.3%
dispute	0.6%	20.0%	14.3%	-	3.8%
insuff.motivation	2.5%	20.0%	28.6%	-	0.9%
non-cons of superstructure	50.6%	40.0%	-	64.2%	53.4%
prob.with supers.	7.5%	-	14.3%	20.0%	8.5%
others	6.9%	20.0%	14.3%	-	4.7%
unknown	11.9%	-	14.3%	-	0.9%

4.3.10 Quality of superstructure:

Non-construction of superstructure was found to be the most important reason for not using the latrines. It may be of interest to note the quality of superstructure of the latrines covered in the survey which is shown in table 10 below. In only 11.5% of the cases the quality was found to be bad.



T A B L E - 1 0
quality of superstructure

district	good	fair	bad	n a.
24 PARGANAS (N)	33.0%	51.1%	10.6%	5.3%
24 PARGANAS (S)	50.0%	50.0%	-	-
NADIA	33.3%	66.7%	-	-
MURSHIDABAD	100.0%	-	-	-
HOOGHLY	27.3%	40.9%	18.2%	13.6%
total	32.8%	49.2%	11.5%	6.6%

4.3.11 State of completion of the superstructure.

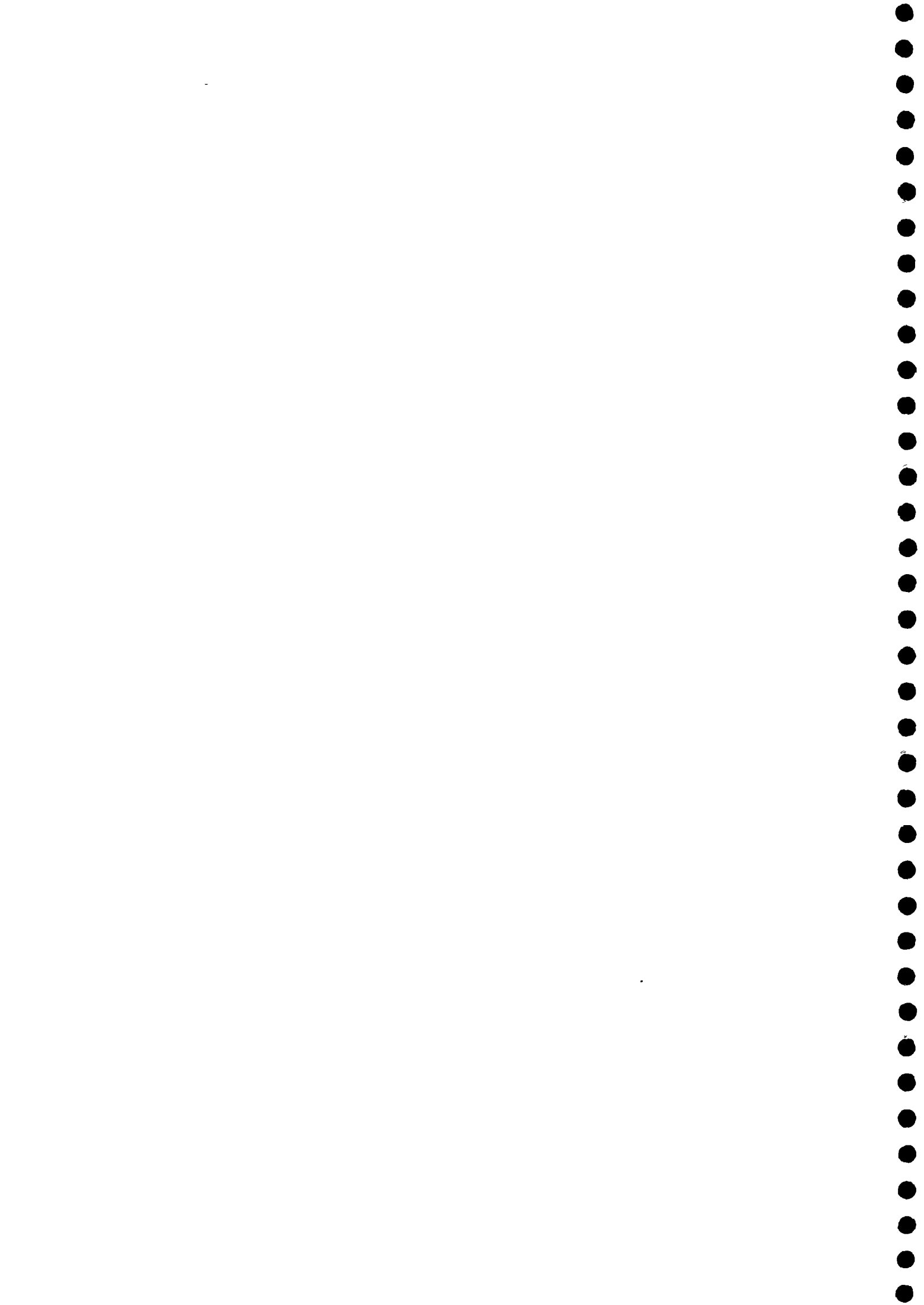
Of the latrines surveyed in only 27.1% of the cases the construction was found to have been complete in all respect which can be seen in table 11 below:

T A B L E - 1 1

district	complete in all respect
24 PARGANAS (N)	31.8%
24 PARGANAS (S)	25.0%
NADIA	27.3%
MURSHIDABAD	14.3%
HOOGHLY	17.2%
TOTAL	27.1%

4.3.12 Reason for not completing the superstructure:

It is most important to note that in almost half the cases (49.5%) even the reason for not completing the superstructure was not known. In 13.6% of the cases the reason was affordability while in 8.9% of the cases the reason was just insufficient motivation. Table 12 below gives the percentage distribution of the latrines according to various reasons.



T A B L E - 12
reason for not completing super structure

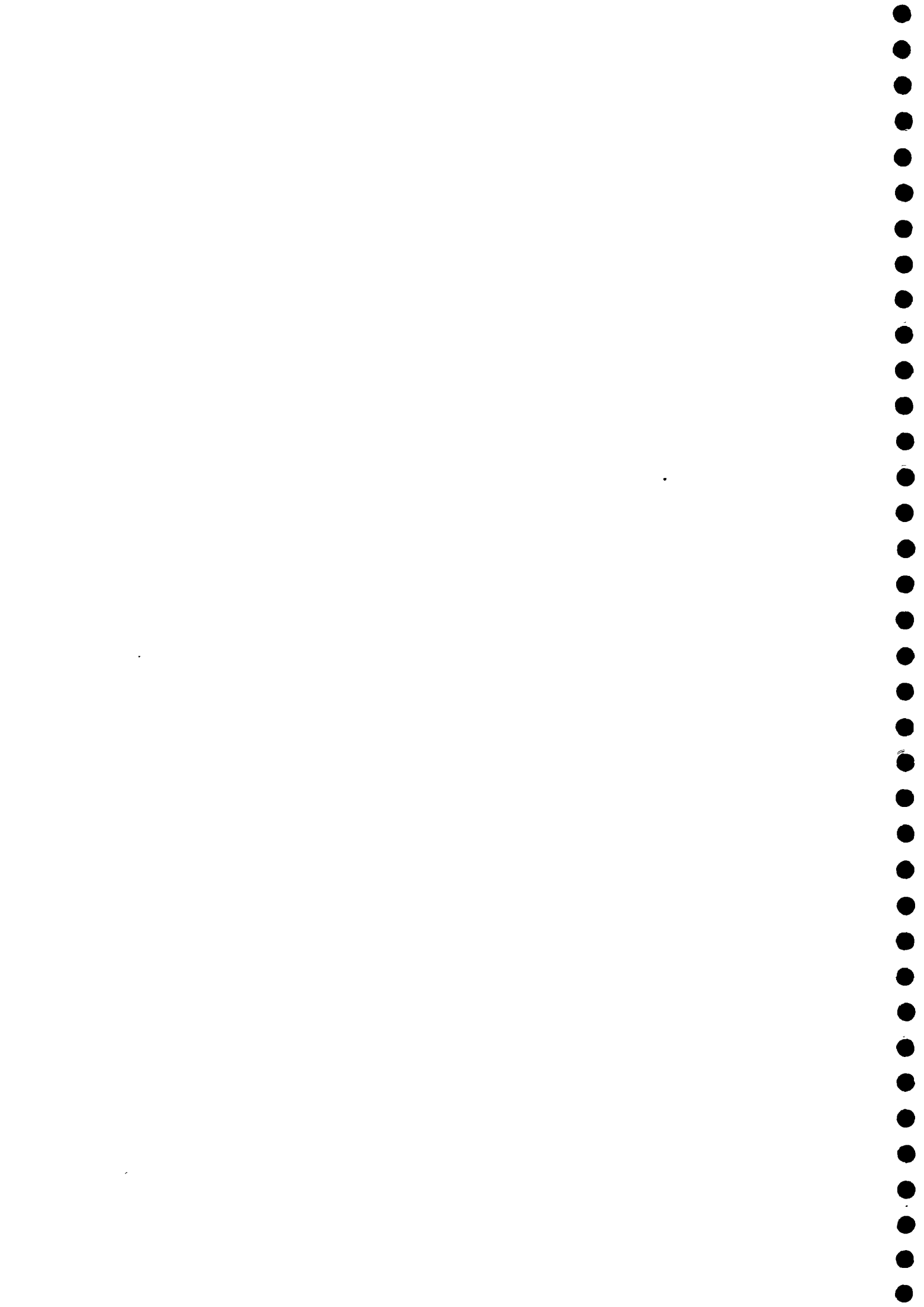
reason	24 PARGANAS(N)	24 PARGANAS(S)	NADIA	MURSHIDABAD	HOOGHLY	TOTAL
affordability	6.7%	-	-	-	26.7%	13.6%
defective const.	1.5%	-	-	-	5.3%	2.8%
dispute	1.5%	-	-	100.0%	5.3%	3.3%
insuff. moti- vation	3.0%	-	50.0%	-	18.0%	8.9%
sites started or willing to start	2.2%	-	-	-	4.0%	2.8%
others	11.1%	-	-	-	8.0%	9.8%
unknown	5.2%	-	50.0%	-	16.0%	9.3%
	68.9%	100.0%	-	-	16.0%	49.5%

4.3.13 Maintenance provision:

in 92.9% of the cases no tank was seen to have been provided with or near the latrine. In 29.6% of the cases, brushbroom were found to have been used and in 22.4% of the cases, buckets were used. The maintenance position can be seen from table 13 below.

T A B L E - 13
maintenance provision

district	storage tank with water	tank empty	no tank	brush/broom provided	bucket provided
24 PARGANAS (N)	3.7%	5.6%	90.7%	48.1%	33.3%
24 PARGANAS (S)	-	-	100.0%	-	20.0%
NADIA	-	-	100.0%	-	-
MURSHIDABAD	-	-	100.0%	-	-
HOOGHLY	-	-	92.9%	10.7%	10.7%
total	2.0%	3.1%	92.9%	29.6%	22.4%



4.3.14 Persons responsible for maintenance.

Table 14 below shows that students (25.5%), Anganwadi workers (2%), Sweepers (9.2%) and Users (6.1%) actually maintain the latrines. In more than half the cases (57.1%) maintenance was not being done by anybody.

T A B L E - 1 4
maintenance done by

district	students	anganwadi workers	sweepers	users	not maintained
24 PARGANAS (N)	40.7%	1.9%	13.0%	5.6%	38.9%
24 PARGANAS (S)	40.0%	20.0%	-	-	40.0%
NADIA	-	-	16.7%	-	83.3%
MURSHIDABAD	-	-	-	20.0%	80.0%
HOOGHLY	3.6%	-	3.6%	7.1%	85.7%
total	25.5%	2.0%	9.2%	6.1%	57.1%

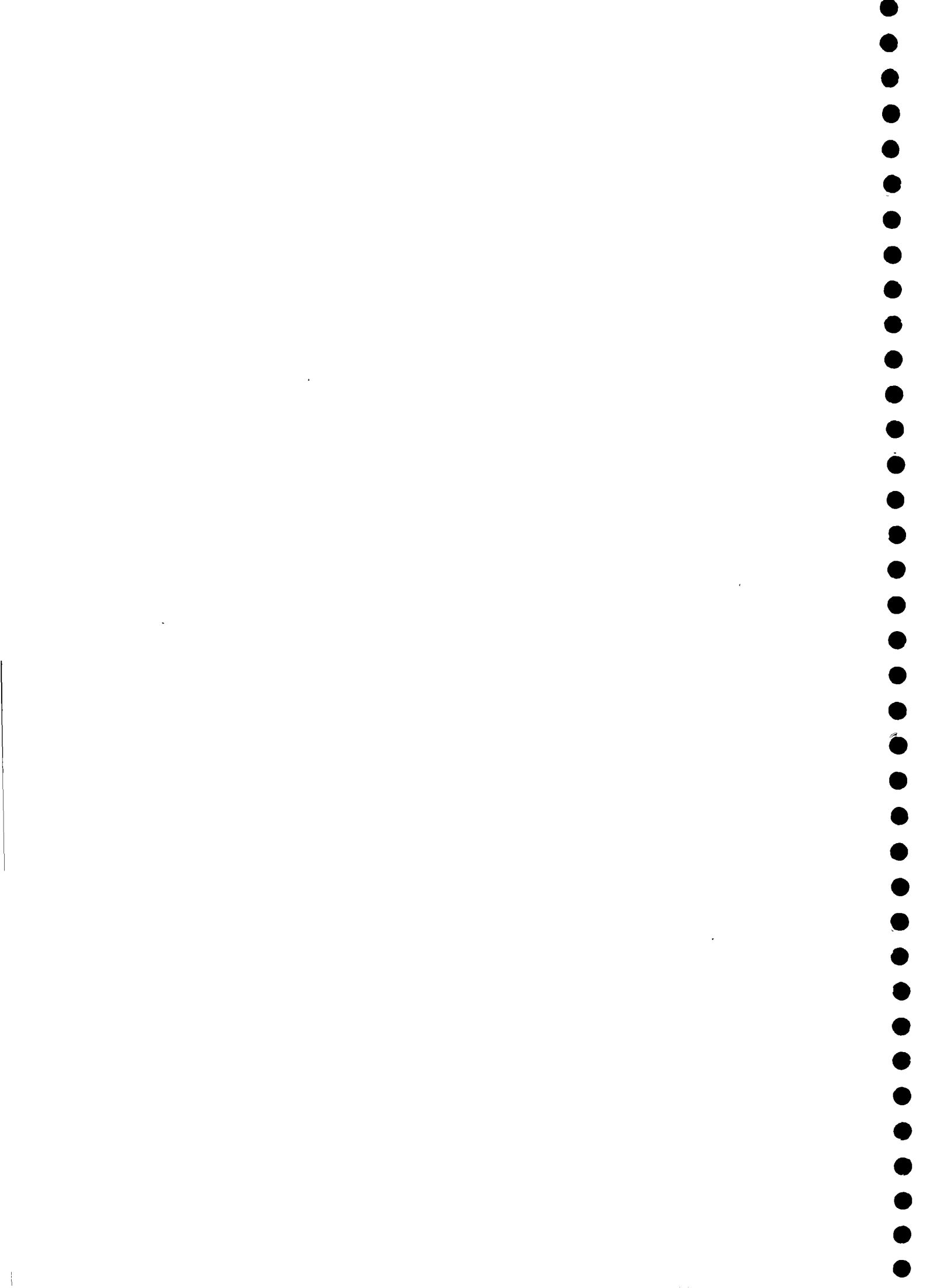
4.3.15

Reasons for not maintaining the latrines:

In the survey an attempt was made to probe into the reasons for not maintaining the latrines. In 37.5% cases non-use of the latrine was the reason for not maintaining it. In 25% of the cases, no maintenance was called for as the latrines were either destroyed or damaged. Lack of interest was found to be the reason in 5.4% of the cases while in 14.3% of the cases the reason given was either incomplete, or just completed construction.

T A B L E - 1 5
reason for not maintaining the latrines

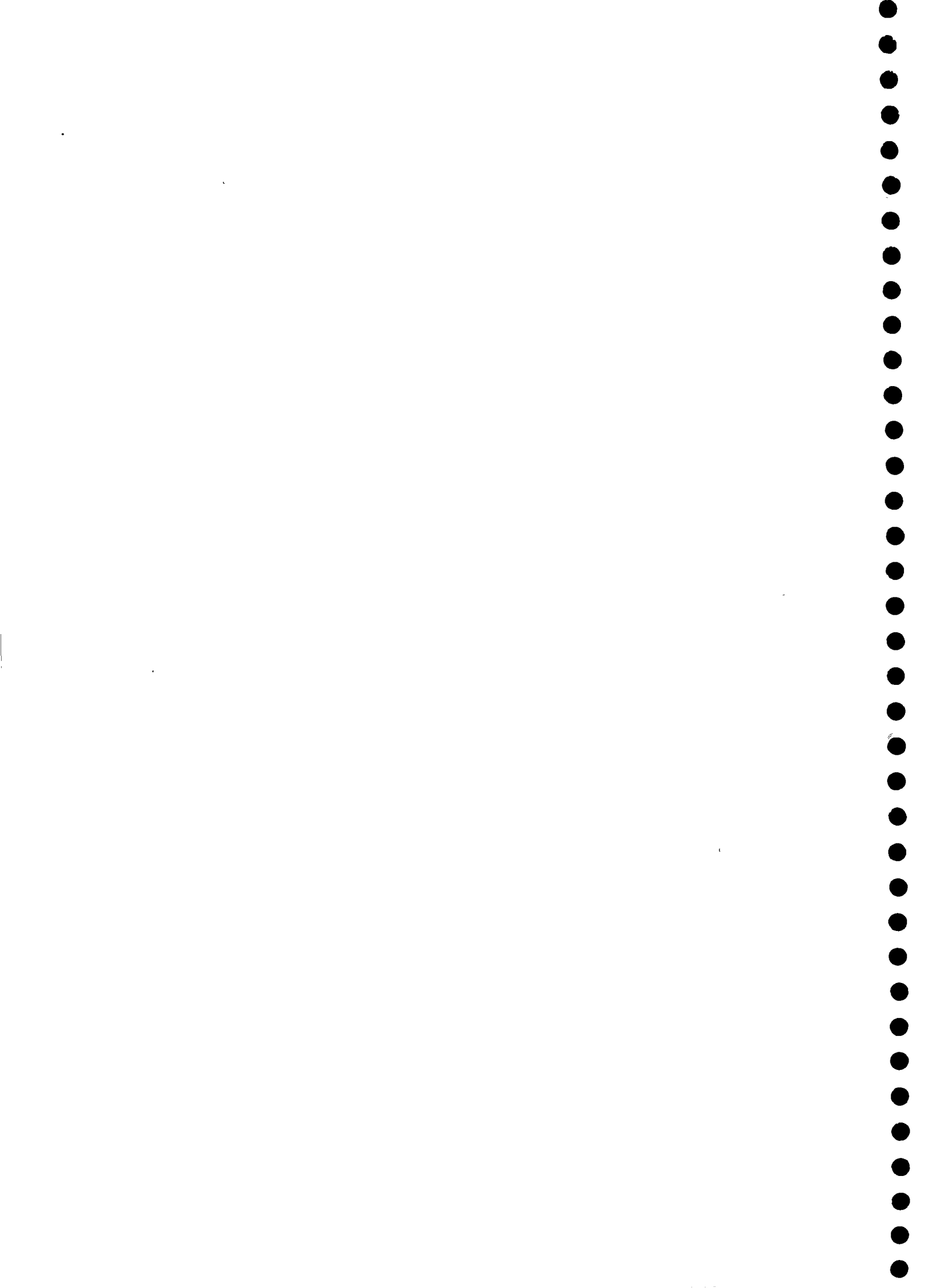
reason	24 PARGANAS(N)	24 PARGANAS(S)	NADIA	MURSHIDABAD	HOOGHLY	TOTAL
not used	47.6%	50.0%	40.0%	100.0%	16.7%	37.5%
constn. incomplete or just completed	4.8%	-	20.0%	-	25.0%	14.3%
destroyed/damaged	14.3%	-	20.0%	-	41.7%	25.0%
lack of interest	9.5%	-	20.0%	-	-	5.4%
unknown	14.3%	-	-	-	8.3%	8.9%
others	9.5%	50.0%	-	-	8.3%	8.9%



5. Summary of results and recommendations.

5.1. In section 4.3 the salient features of the survey results have been discussed. It is interesting to note that although more than 89% of the latrines surveyed could be classified under the good and fair category, in 56.2% of the cases it was found that no member of the households was really making use of the latrines. Again in more than two-thirds of the cases site selection was found to be in order. The main dominating reason for not using the latrines was found to be incomplete construction or non-construction of the superstructures (53.4%) and in 8.8% of the cases certain problems were detected in regard to the superstructure. As regards the quality of construction of superstructure, 82% of the latrines surveyed could be classified under good and fair category. On a further probe it was found that even the reasons for incompleteness of the superstructure were not known (49.1%) while affordability and insufficient motivation contributed only to 13.6% and 8.9% respectively. In other words although affordability and insufficient motivation are normally assumed to be the most important reasons for incomplete construction of the latrines, the real reasons were not known in most of the cases. This can however, be very reasonably attributed to the failure in mobilising people's involvement with the programme. In any case, there is a strong case for completing the superstructure of these latrines before their use can be ensured. Hence, there is perhaps no other alternative but to make good the short comings of the superstructure by the beneficiaries through proper motivation.

Another very important aspect is fixation of the responsibility for maintenance. Section 4.3.14 reveals that while students were responsible for maintenance of the institutional latrines in schools in 25.5% of the cases, the sweepers and users themselves were responsible for maintenance in only 9.2% and 6.1% of the cases respectively. In more than half the cases



(57.18) it was found that maintenance was not being done by anybody. Here also, creation of the awareness appears to be quite insufficient to motivate the beneficiaries to maintain their own latrines.

In general it can be said that the use of sanitary latrines is still not a felt-need of the rural people. Nor has it been possible to create sufficient awareness in them towards this direction in the course of the Feasibility Study.

It is recommended that intensive awareness campaign may be undertaken in areas where latrines have been constructed so that the beneficiaries themselves come forward to complete or make good the constructions where they are still incomplete or damaged and acquire a sense of responsibility of maintaining them. After this campaign is successfully over, another sample survey may be conducted to ascertain the improvement.

In this sample survey the method of investigation is recommended to comprise of close participant-observation of resident investigators instead of the periodic interviews of villagers by visiting social scientists or their agents in oneshot interviews as have been done in the present survey.

It is also recommended that no further programme of construction of rural latrines should be undertaken unless the beneficiaries are motivated to the extent that they demand the programme and they are agreeable to participate in the programme financially.

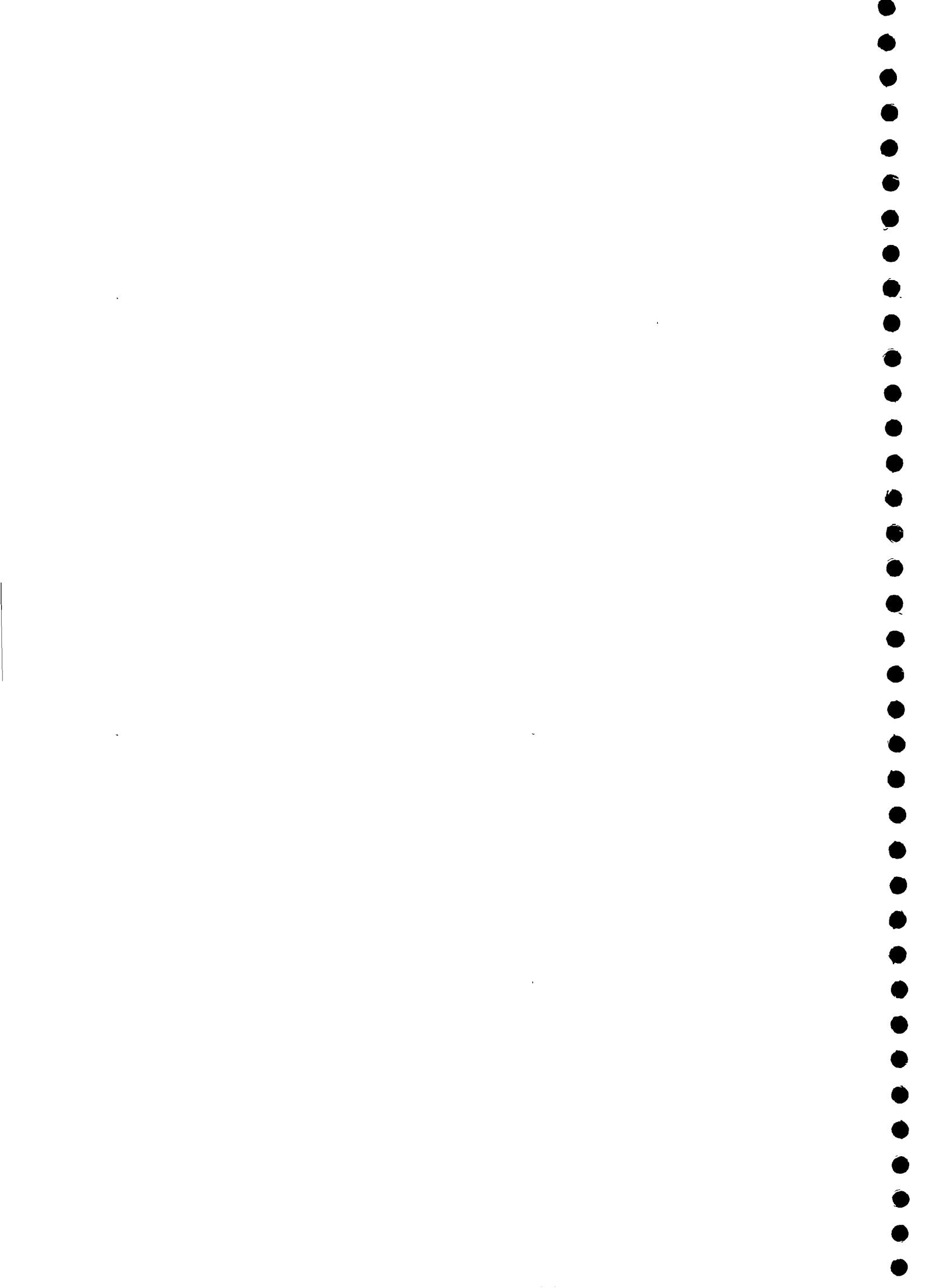
The only design of latrine type followed in the Feasibility Study is of Twin Pit Pour Flush type developed by UNDP and constructed and tested elsewhere. In the study itself, however, the design has not been tested as very few of the latrines has actually been reported to be used by the beneficiaries. But such non-use has never been related to faulty design



of the latrine. Therefore, in case of replicability of the programme, the same design may be adopted.

Annexure-I reveals that unit cost of construction of latrines is higher in case of PHE Dte. as they had to follow the Government procedure of engaging contractors after inviting competitive tenders. Therefore, agencies capable of carrying out the works through local labours and local purchase of materials may be better so far unit cost of construction is concerned.

It has been amply revealed during the feasibility study that success of a Rural Sanitation Programme is most dependent on motivation of the beneficiaries. Therefore, agencies capable of carrying out awareness campaign simultaneously with construction activities through local labours and local purchase of materials should be preferred.



Annexure - I

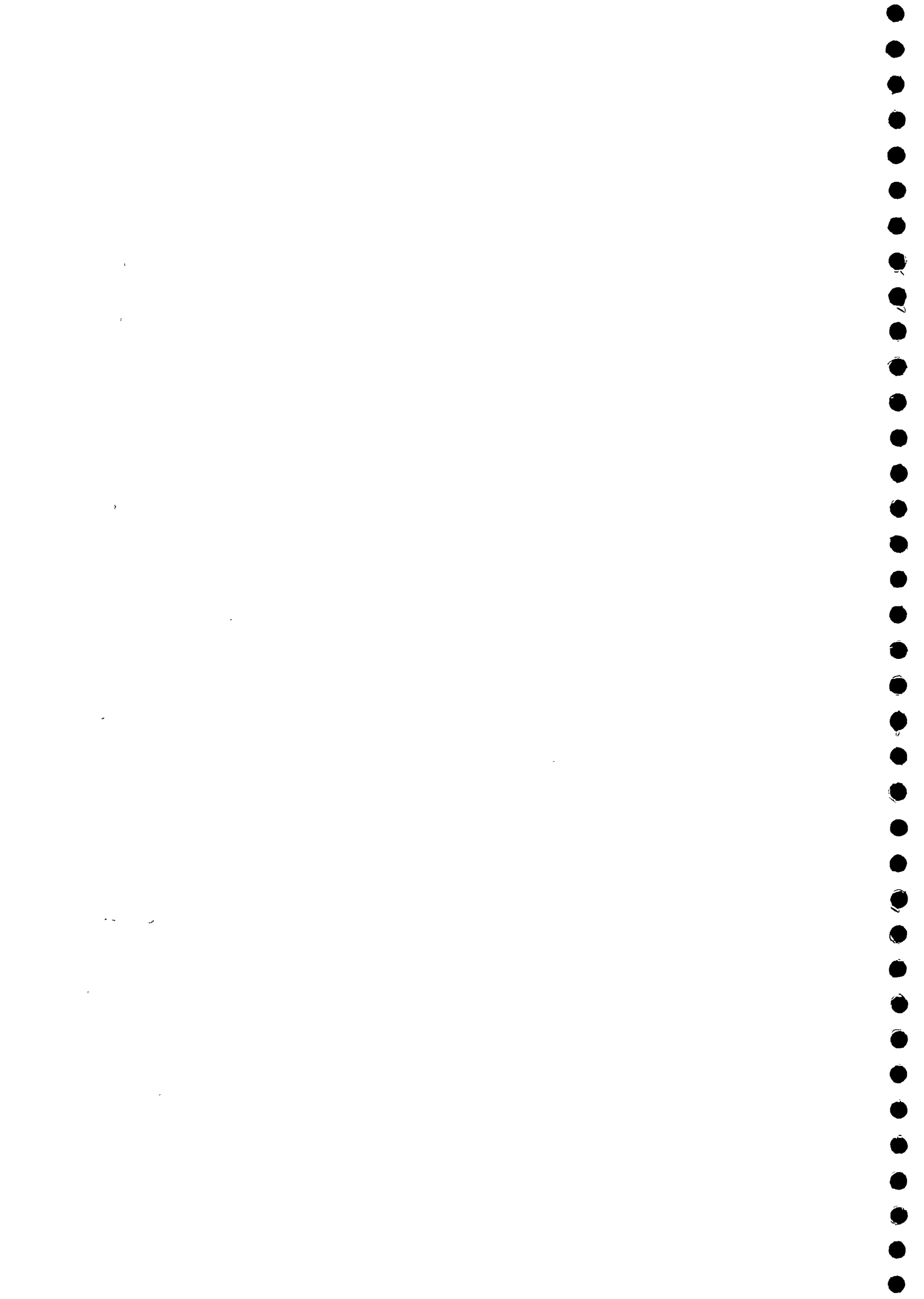
Agency and Block wise distribution of latrines constructed under rural sanitation programme (Govt. of India/UNDP/UNICEF project)

executing agency	name of block district	no. of villages		no. of latrines approved			no. of latrines constructed			unit cost (Rs.)		expenditure (Rs.)	
		intensive	ordinary	institution	motivator	household	institution	motivator	household	(a)	(b)	UNICEF share	STATE share
1	2	3	4	5	6	7	8	9	10	11	12	13	14
Barasat	Dt. 24-Pgs. (North)												
Divn.(PHED)	1. Habra-I	7	22	112	87	350	112	87	350				
	2. Habra-II	3	24	108	81	150	108	81	150	2580	1600	14,96,000/-	10,67,520/-
	3. Barasat-I	2	26*	16	84	100	16	84	100				
	4. Barasat-II	-	13	52	39	-	52	39	-				
	5. Bagdah	4	3+	16	21	200	16	21	200				
W.C.C.	1. Barasat-I	-	25	88	-	-	81	-	-	1900	-	1,65,300/-	-
	2. Bagdah	-	2	12	-	-	6	-	-				
Nadia	Dist. Nadia												
Divn.(PHED)	Krishnanagar-II	1	49	200	150	50	91	86	50	2686.31	1604.10	3.31,717/-	1,30,894/-
Berhampore	Dt.Murshidabad												
Divn.(PHED)	Raninagar-I	-	5	20	15	-	17	8	-	2580.00	1330.00	48,116/-	6,384/-
Howrah	Dist. Hooghly												
Divn.(PHED)	1. Singur	2	26	112	84	100	80	33	98				
	2. Haripal	3	57	240	180	150	224	-	142	2162.00	1346.00	10,49,050/-	2,30,974/-
	3. Balagarh	-	23	92	69	-	76	-	-				
	4. Pursurah	-	9	36	27	-	34	13	-				
A.I.I.H & P.H.	Singur	2	23	100	75	100	30	-	102	1866.00	1173.00	1,03,834/-	71,788/-
Alipore	Dt. 24-Pgs. (South)												
Divn.(PHED)	Budge Budge-II	-	49	196	-	-	176	-	-	2670.30	-	4,69,973/-	-
	total	24	356	1400	912	1200	1119	452	1192			36,63,990/-	15,07,560/-
				col 5+6+7=3512			col 8+9+10=2763						
				col 6+7=2112			col 9+10=1644						

sp/-

* 25 covered by WCC
+ 2 covered by WCC

a= institutional type
b= household type including those for motivators

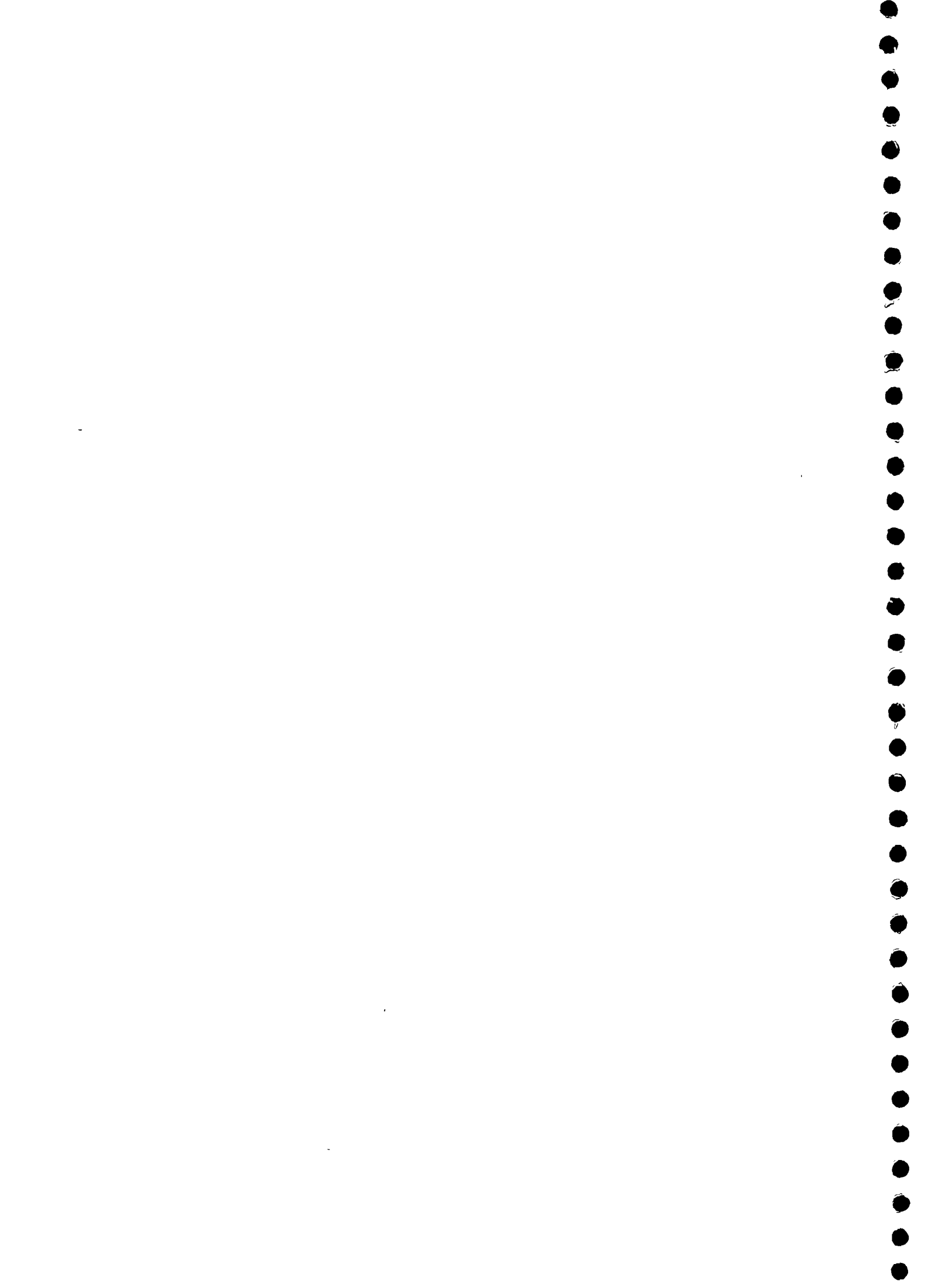


MINUTES OF THE MEETING HELD ON 11 AUGUST 1987
AT UNICEF, (RAINEY PARK) OFFICE WITH
REPRESENTATIVES OF PHED, WB, WCC AND
REGARDING INTENSIVE SANITATION PROJECT
IN THE STATE AND SPOT CHECK OF LATRINES
CONSTRUCTED UNDER FEASIBILITY STUDY

PRESENT: Mr. T.K.Basu, Chief Engineer, PHED WB
Mrs. Aloka Mitra, Hony. Secretary, WCC
MR. U.K.Das, PA to Chief Engineer, PHED WB
Mr. P.R.Basudhar, Executive Engineer, PHED Barasat (North)
Mr. C.D.Mitra, Executive Engineer, PHED Howrah/Hooghly
Mr. R.S. Giri, Executive Engineer, PHED Alipur Divn.
Mr. Philip Wan, WES, UNICEF New Delhi
Mr. Harish Jain, Programme Officer, UNICEF EIO
Mr. M. Muralidharan, Project Officer, UNICEF EIO
Dr. B.R. Das, Project Officer, Sanitation, UNICEF EIO
Ms. Joscelyn Jones, Secretary, WES, UNICEF EIO

In the beginning, the present position regarding construction of latrines in the State of West Bengal was highlighted. It was informed by the Chief Engineer, Mr. T.K.Basu, that the present arrangement of funding was not clearly known. Normally, the Dept. of Environment should be the nodal department for environmental sanitation schemes. However, the Rural Development Dept gets the money and carries out the work through the Panchayat Dept. He expressed a view that in the event PHED is given the responsibility to carry out the work by the state Govt., it will be possible for them to utilise experience gained in the 'Feasibility study' programme.

Mr. Basu, informed that for West Bengal, under PHED, there is an allocation of Rs.20 lakhs for the period 1987/88, out of which Rs. 12.4 lakhs is proposed for urban sanitation. Even though they have received requests for 10,000 latrines and the deptt has expressed for release of funds for construction, it has not yet been released. The latrines are constructed upto the plinth level, without any contribution from the beneficiaries (the beneficiaries are to construct the super-structure at their own cost). The cost of the latrines is based on rates as estimated and quoted by the contractors.



: 2 :

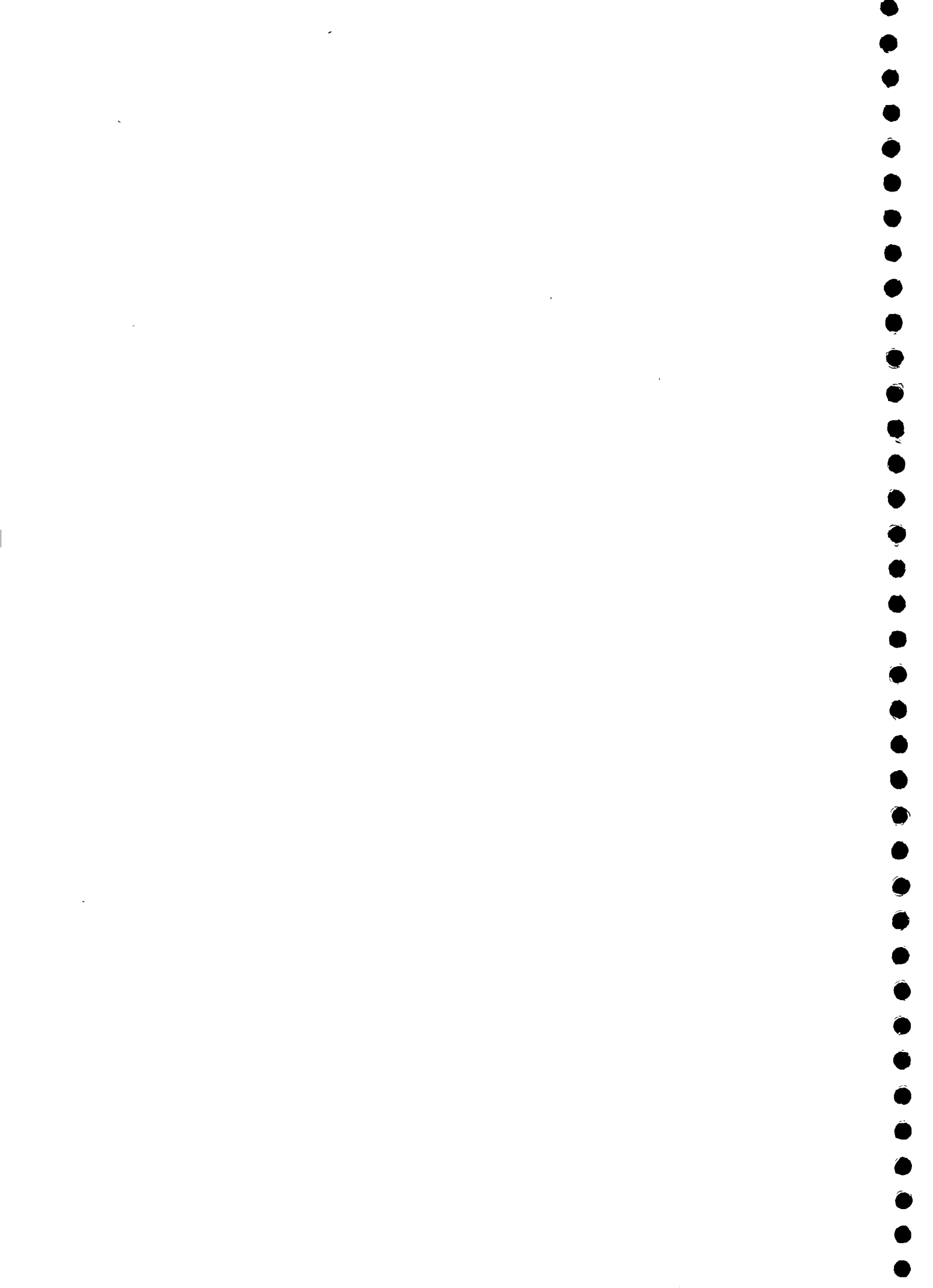
Mr. Philip Wan, then started the discussion on making a 'Spot Check' survey of the latrines constructed by the PHED under the feasibility study programme. The Chief Engineer, informed that the latrines under the feasibility study were constructed in 350 villages, out of which 24 villages had intensive coverage. The districts covered were 24 Parganas North and South, Hooghly, Nadia and Murshidabad. Each non-intensive village had seven units and each intensive village had 57 units constructed under the programme. The PHED allotted the construction of institutional latrines to Women's Co-ordinating Council and the All India Institute of Hygiene & Public Health. A few household latrines were also constructed by AIH & PH.

It was agreed that for spot check purpose, only six villages (25% of the total) will be taken up. The villages were selected by a draw of numbers and these were:-

1. Mondalhat	-	village serial	2	-	24 Parganas
2. Marackpur	-	do	7	-	do
3. Beyara	-	do	8	-	do
4. Ichapur	-	do	13	-	do
5. Baladband	-	do	17	-	Hooghly
6. panisheola	-	do	19	-	do

Each latrine in all these six villages will be surveyed.

Out of the rest 326 non-intensive villages, it was decided to take up two villages each from the 12 blocks namely Habra I, Habra II, Barasat I, Barasat II, Bagdah, Krishnanagar, Raninagar I, Singur, Haripal, Balagarh, Pursurah and Budge Budge II. Village serial number two and the last but one in the list of the villages are to be covered under each block and the PHED will supply the names of the villages as per the serial numbers.



: 3 :

Mr. Philip Wan shared a format to collect the information during the spot-check of household latrines, institutional latrines and Anganwadi Centres. The format was thoroughly discussed and some amendments were made.

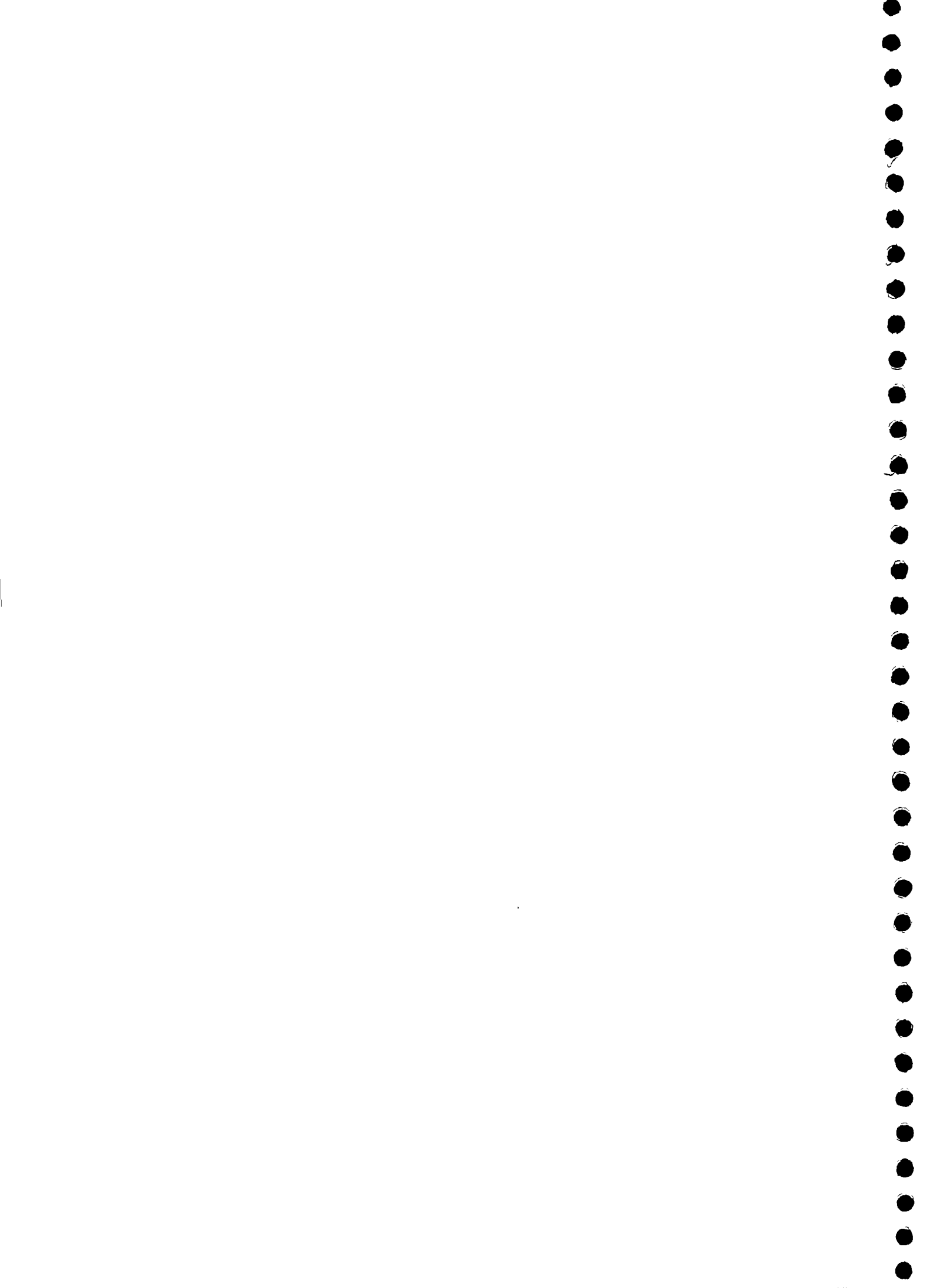
It was decided that every fifth number of the latrines as per list, in the intensive and non-intensive villages, will be thoroughly examined by lifting the pit covers etc. to ascertain the quality of construction.

PHED suggested that the survey team will consist of One Sub-Asst Engineer, One Work Assistant, supported by Two labourers. Initially respective Executive Engineer or Asst Engineer, besides representatives of UNICEF and WCC will accompany the team. The number of teams will be worked out along with the names of persons and will be discussed during the Orientation to be held on Tuesday, 25 August 1987 at 11 a.m. Each team will be required a vehicle which will be arranged by WCC and the amount will be reimbursed by UNICEF.

It was decided that UNICEF will be funding this programme of spot check.

It was suggested that WCC will meet the initial expenditure on behalf of PHED and the amount will be reimbursed by UNICEF.

The time schedule for the survey was worked out and total number of days required to complete the survey were found to be 13 days. It was suggested that the whole survey will be completed before the Puja vacation i.e. between 26 August and 19 September 1987. The details regarding the survey, formation of groups, actual visits and other relevant matters will be finalised on 25 August 1987. The orientation will take place in the Institute of Urban Management, Calcutta. PHED will inform the number of participants on or before 24 August, for making proper arrangements for the orientation.



: 4 :

All the selected persons of each team will attend the orientation, besides the representatives of WCC, All India Institute of Hygiene & Public Health, Zila Parishads and Panchayat Samities. Mr. T.K.Basu will send a letter to UNICEF confirming the points noted above for taking up at the orientation.

After completion of the 'Spot Check' survey, Mr. T.K. Basu will arrange to analyse the collected data and submit a report to UNICEF giving his findings and comments.

B.K.Das
Project Officer,
Sanitation

Minuted by Ms Joscelyn Jones

17 August 1987

bcc. Mr. Philip Wan - As discussed with him, we hope the cost for this spot survey/training would be not more than Rs. 50,000/-

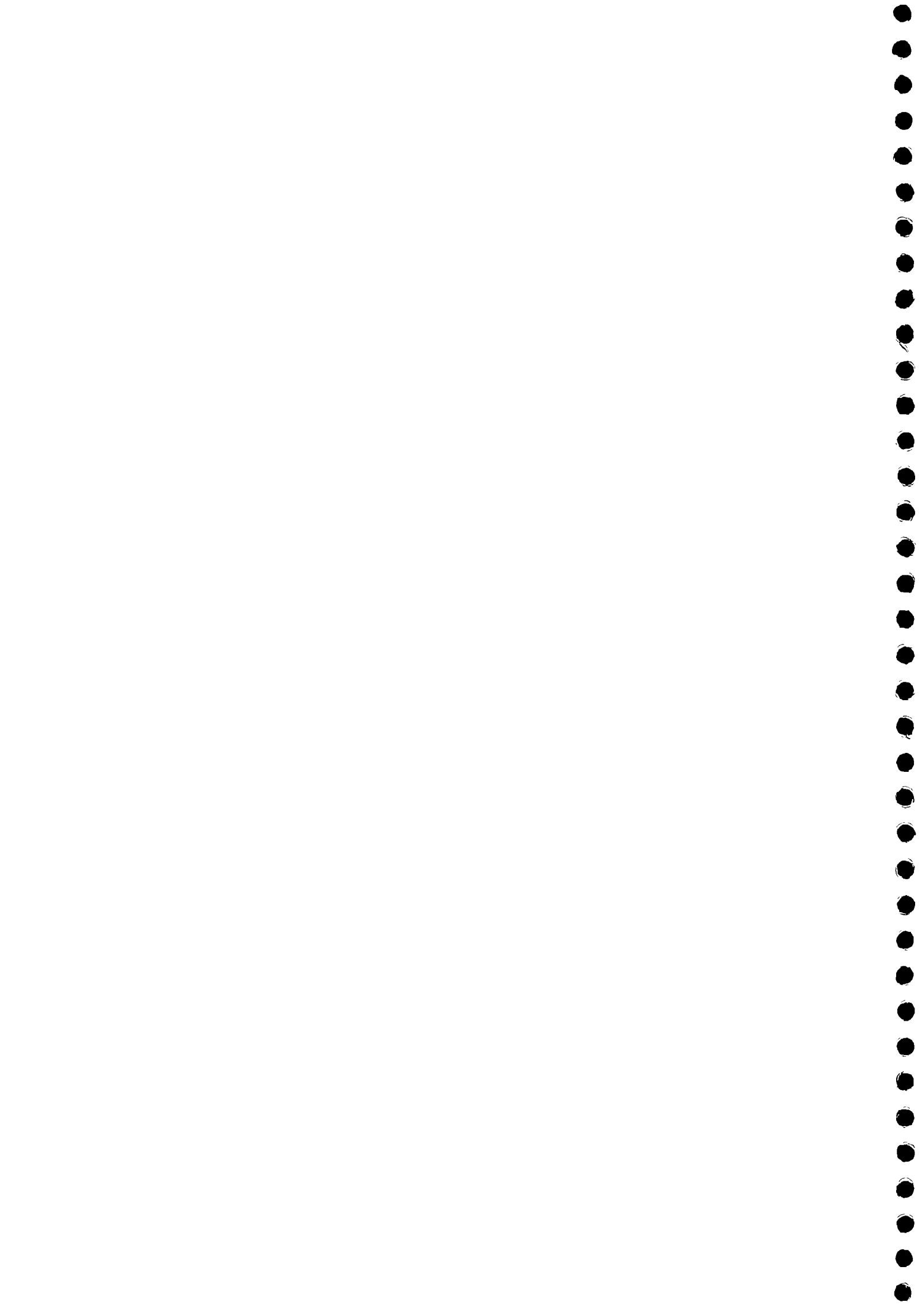


**WATER ENVIRONMENTAL SANITATION PROGRAMME
SAMPLE SURVEY OF HOUSEHOLD SANITARY FACILITIES**

1. Village _____ 2. Block _____ 3. Dist _____ 4. State _____
5. Name of family head _____ 6. Number of family members _____

7. Serial No of latrine (if any)-----
8. Date latrine completed (month & year).. Upto plinth level-----
Superstructure-----
9. Quality of construction Good []: Fair []: Bad []
10. Type of superstructure .. Brick []
.. Fair []
.. Bad []
12. Water source for household: Inside compound Yes [],: No []
Open well [],: Handpump [],: Pipe water [],: Pond [],:
Others []
13. Nearest water source less than 10 m from latrine pit Yes []
No []
14. Latrine used by Men []
Women []
Children []
None []
15. Condition of latrine if used - Clean []
Fair []
Dirty []
16. If dirty, what steps owner will take for better maintenance?

17. If not used, why?-----



18. Any other sanitary facilities - Smokeless chulha []

Soakage pit []

Bathing Platform []

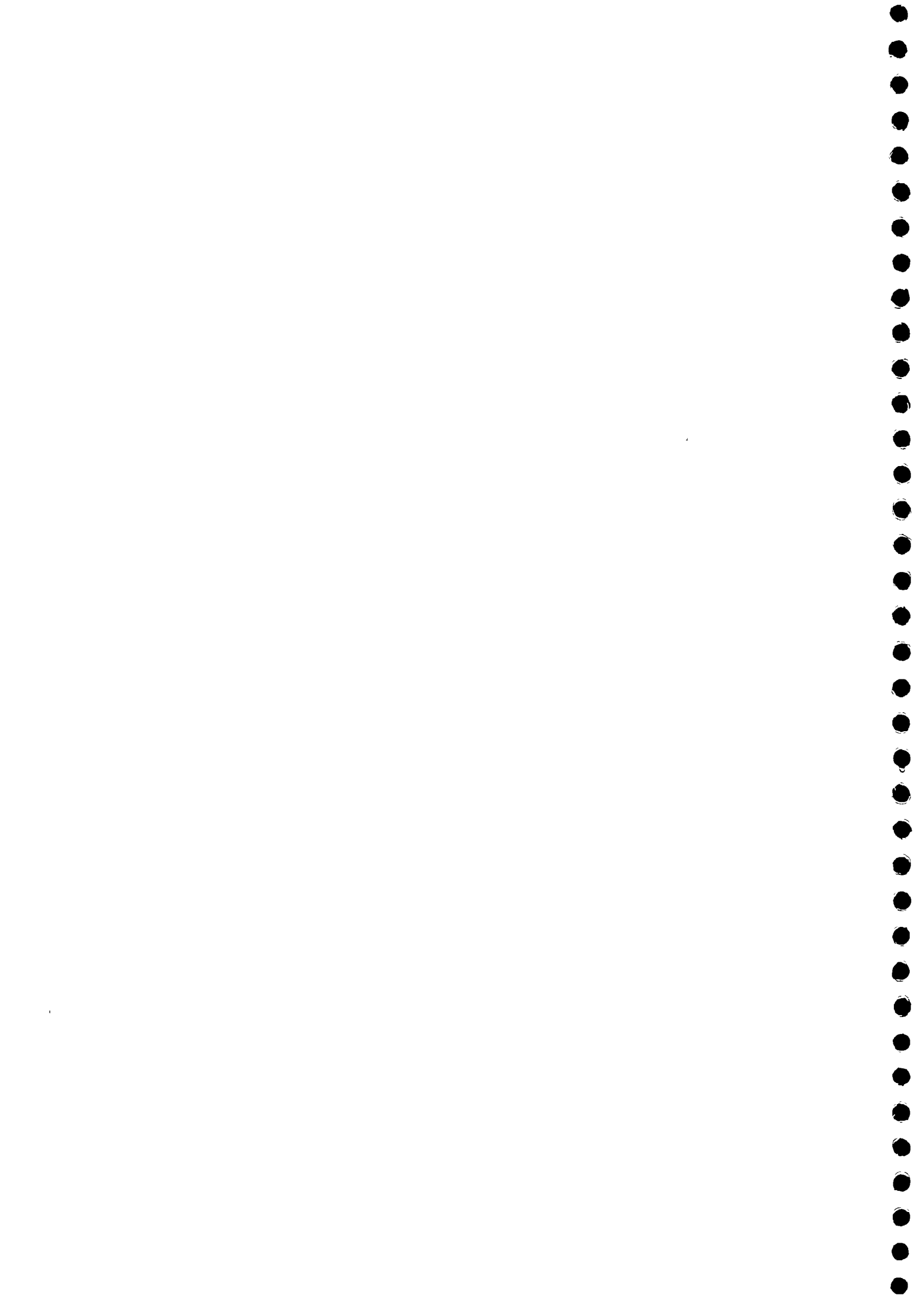
Garbage pit []

19. When one pit is full, does owner know that he/she has to divert flow
into second pit? Yes [] No []

20. Additional remarks and future action

Name of Interviewer (s)

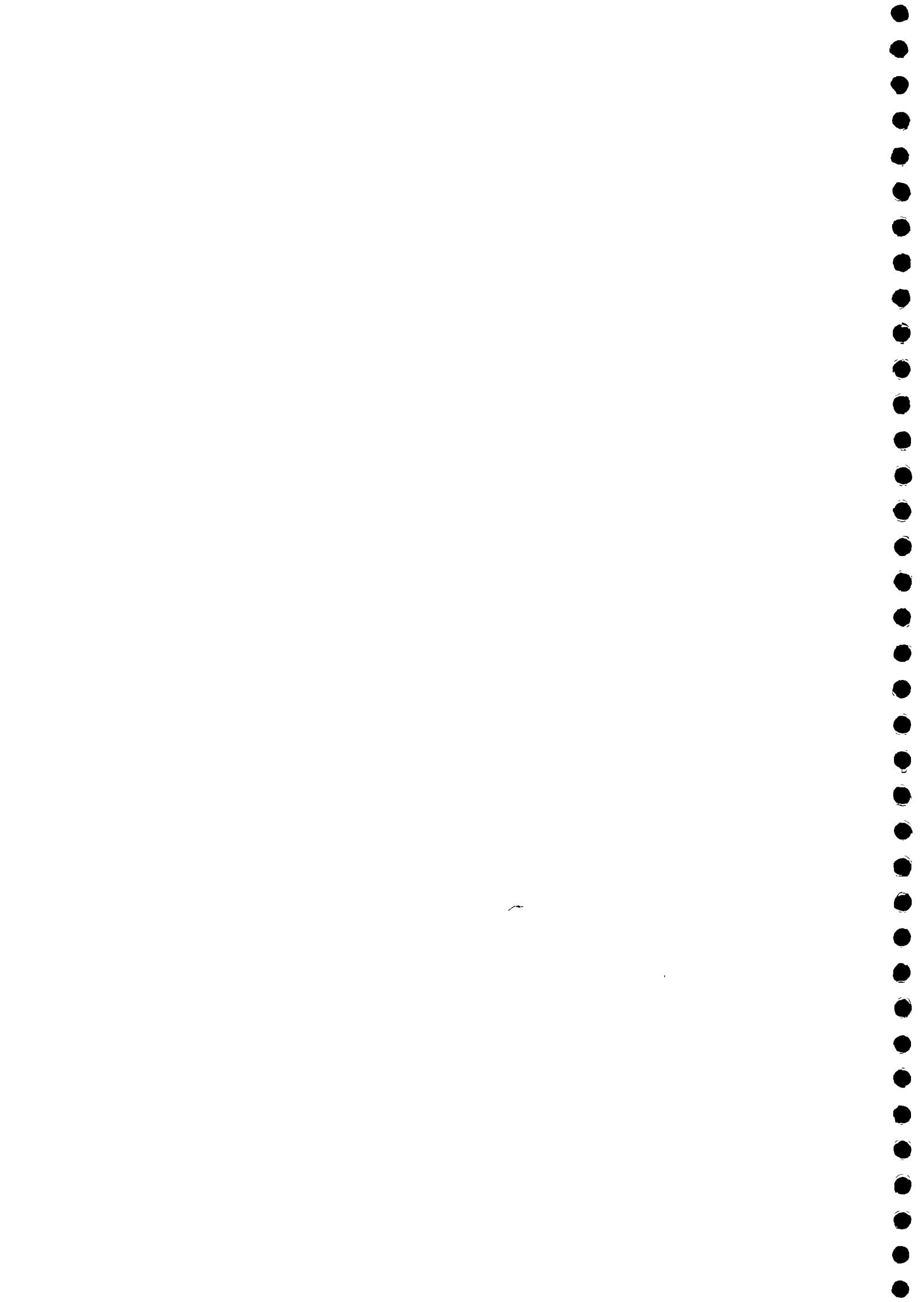
Date:



WATER & ENVIRONMENTAL SANITATION PROGRAMME

SAMPLE SURVEY - SCHOOL LATRINES

1. Name of Primary School-----
 2. Village----- 3. Block----- 4. Dist.----- 5. State-----
 6. Serial No. of latrine (if any)-----
 7. Number of pupils: Morning shift... Boys-----Girls-----
Afternoon shift ..Boys-----Girls-----
 8. Quality of construction Good [] ,: Fair [] ,: Bad []
- Water**
9. Water source for school; Inside compound Yes [] ,: No []
Open well [] ,: Handpump [] ,: Piped water [] ,: Pond [] ,:
Others []
 10. Nearest water source less than 10 m from latrine pit Yes [] No []
 11. Usage of latrine (From Headmaster)
Average daily usurs
Boys----- Girls-----
- Maintenance**
12. When was the latrine constructed? (give month and year-----)
 13. Water storage tank attached to latrine Yes [] ; With water []
Empty [] No []
 14. How latrine maintained? Not maintained []
by students []
by sweeper []
 15. If by sweeper, who pays? ----- Rs. -----per month
 16. Bucket provided Yes [] By whom-----
No []
 17. Brush/broom provided: Yes [] By whom-----
No []



: 2 :

18. (a) If not maintained properly, state why-----

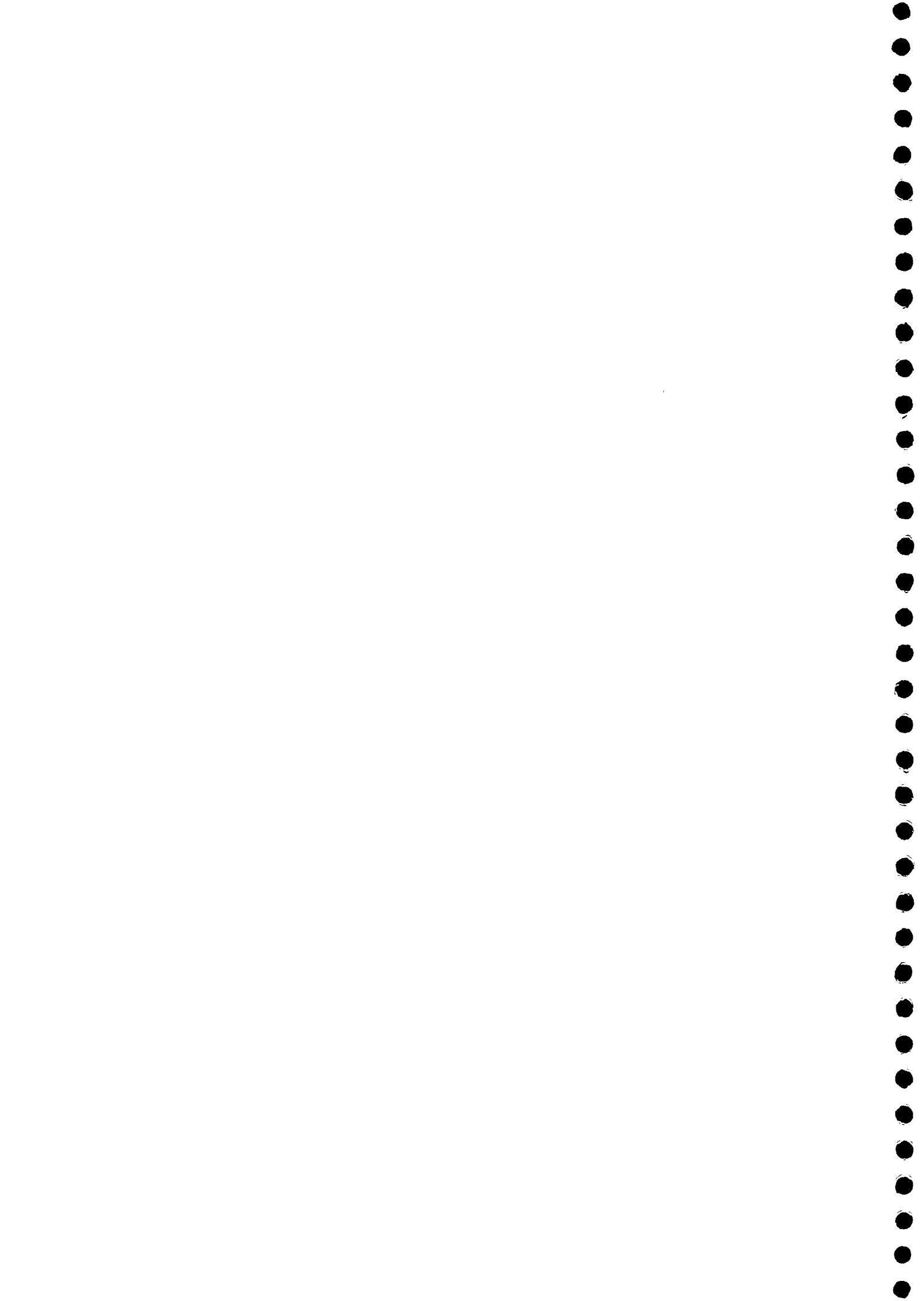
(b) What method is suggested for improvement? -----

19. When one pit is full, does owner know that he/she has to divert flow
into second pit? Yes [] No []

20. Additional Remarks

Name of Interviewer

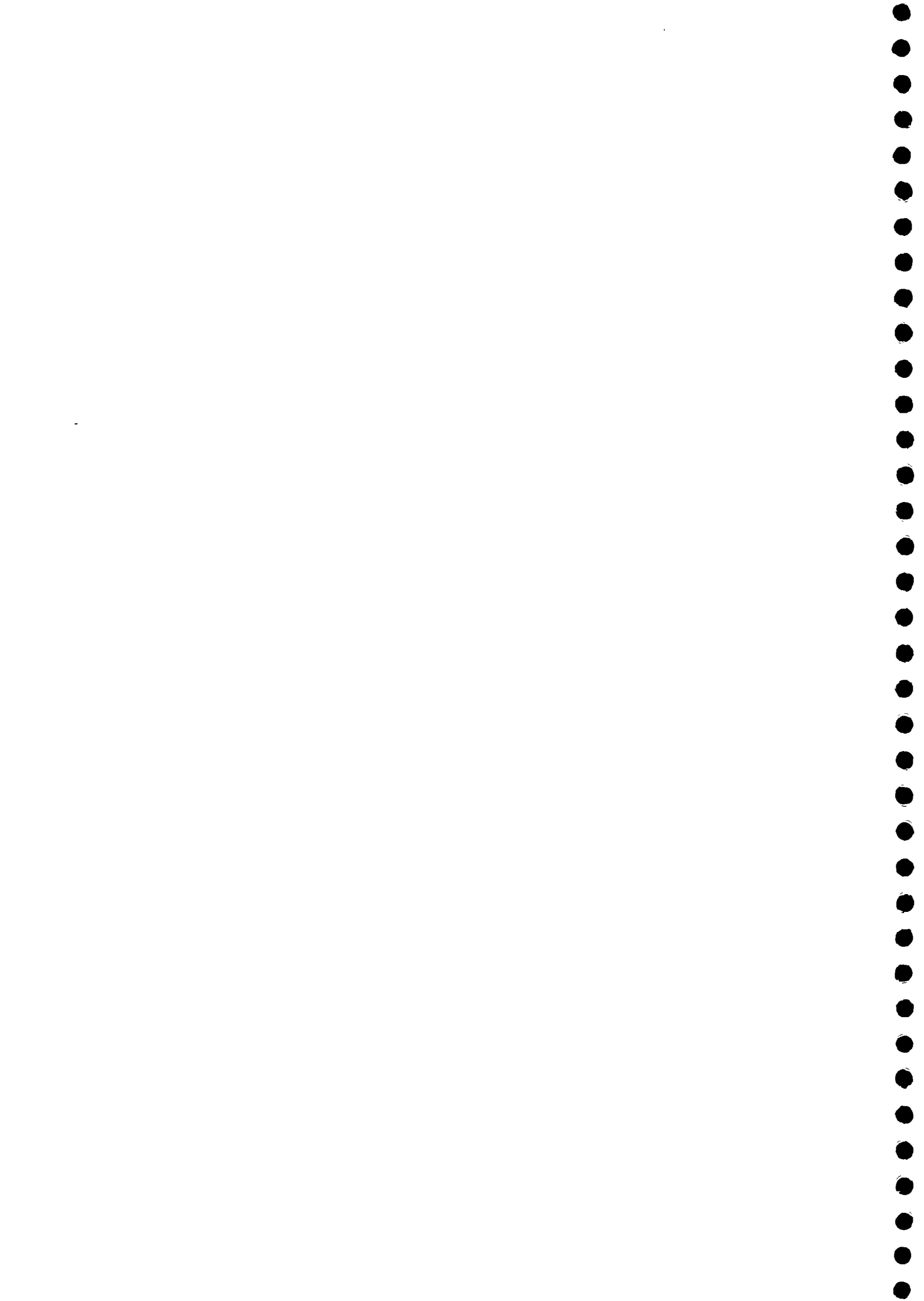
Date:-----



WATER & ENVIRONMENTAL SANITATION PROGRAMME

SAMPLE SURVEY - ANGANWADI LATRINES

1. Name of Anganwadi Centre-----
2. Village----- 3. Block----- 4. District----- 5. State-----
6. Serial No. of latrine (if any)-----
7. Number of Children-----
8. Water source for Anganwadi: Inside compound Yes [] No []
 Open well []; handpump []; Piped Water []; Pond []
 Others []
9. Nearest Water source less than 10 m from latrine pit Yes [] No []
10. Quality of construction Good []; Fair []; Bad []
- Usage of latrine
11. Average Daily users:
 Children ----- Mothers -----
- Maintenance
12. When was the latrine constructed? (Give month & year-----)
13. Water storage tank attached to latrine: Yes []:
 With water []; Empty [] No []
14. how anganwadi latrine maintained: Not maintained []
 By anganwadi helper/worker []
 By sweeper []
15. If by sweeper who pays?----- (Rs.-----per month)
16. (a) How much money regularly available for maintenance of latrine
 monthly Rs.-----
 (b) Where is the money coming from-----
17. Bucket provided: Yes [] By whom-----
 No []



: 2 :

18. Brush/Broom provided: Yes [] By whom-----

No []

19. (a) If not maintained properly, state why-----

(b) What method is suggested for improvement?-----

20. Anganwadi compound Clean []

Waste paper and garbage around []

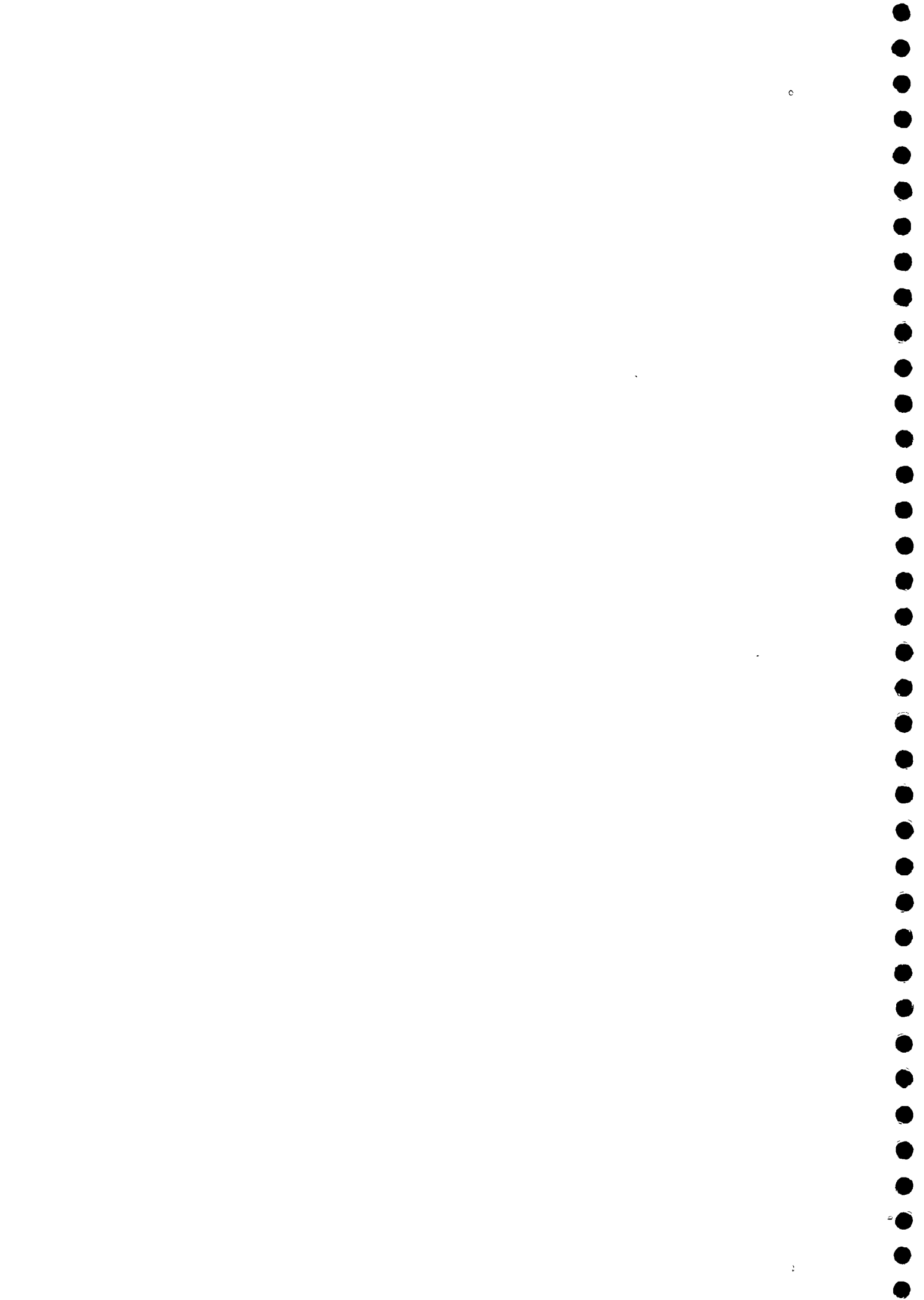
Stagnant water []

21. When one pit is full, does owner know that he/she has to divert flow
into second pit? Yes [] No []

22. Additional Remarks

Name of interviewer

Date-----



DETAILED EXAMINATION OF LATRINE UNIT

Every 5th latrine in the list i.e. sl. 5, 10, 15, 20 etc.
is to be examined for the following points during the
'spot check' survey after removing the pit covers/
inspection chamber covers etc.

Latrine sl. no.----- Village:-----
Beneficiary:----- Block:-----
Number of users----- District:-----
Used since (M & Y):----- Date of verification:-----

A. Leach Pits:

1. Are the pit covers of proper size, thickness, strong and fitted with hooks for lifting? Yes/No
2. Is it placed properly over the pit, making it air-tight? Yes/No
3. Is the thickness of pit lining 12.5 cm? Yes/No
4. Are the sizes of openings in the pit lining less than 1.2 cm? Yes/No
5. Is the construction of the lining good and effect free? Yes/No
6. Is the depth of the pit 100 cm or more? Yes/No

B. Inspection chamber and drains:

7. Is there a plug on the 2nd line? Yes/No
Do the plug stops water going to the 2nd pit
8. (pour water on the pan & see)? Yes/No
9. Are the covers on the inspection chamber and drains properly placed without gap or openings? Yes/No

C. Latrine cubicle:

10. Is the latrine construction generally good without cracks and defects? Yes/No
11. Are the pan, trap and footrests properly fitted? Yes/No
12. Is there a good slope (about 2 cm) of the floor towards the pan from all directions? Yes/No
13. Does the waterseal hold water properly without a gap? Yes/No
14. Is the latrine free from smell inside or outside the cubicle? Yes/No
15. Is the latrine constructed on high ground, not to be flooded? Yes/No

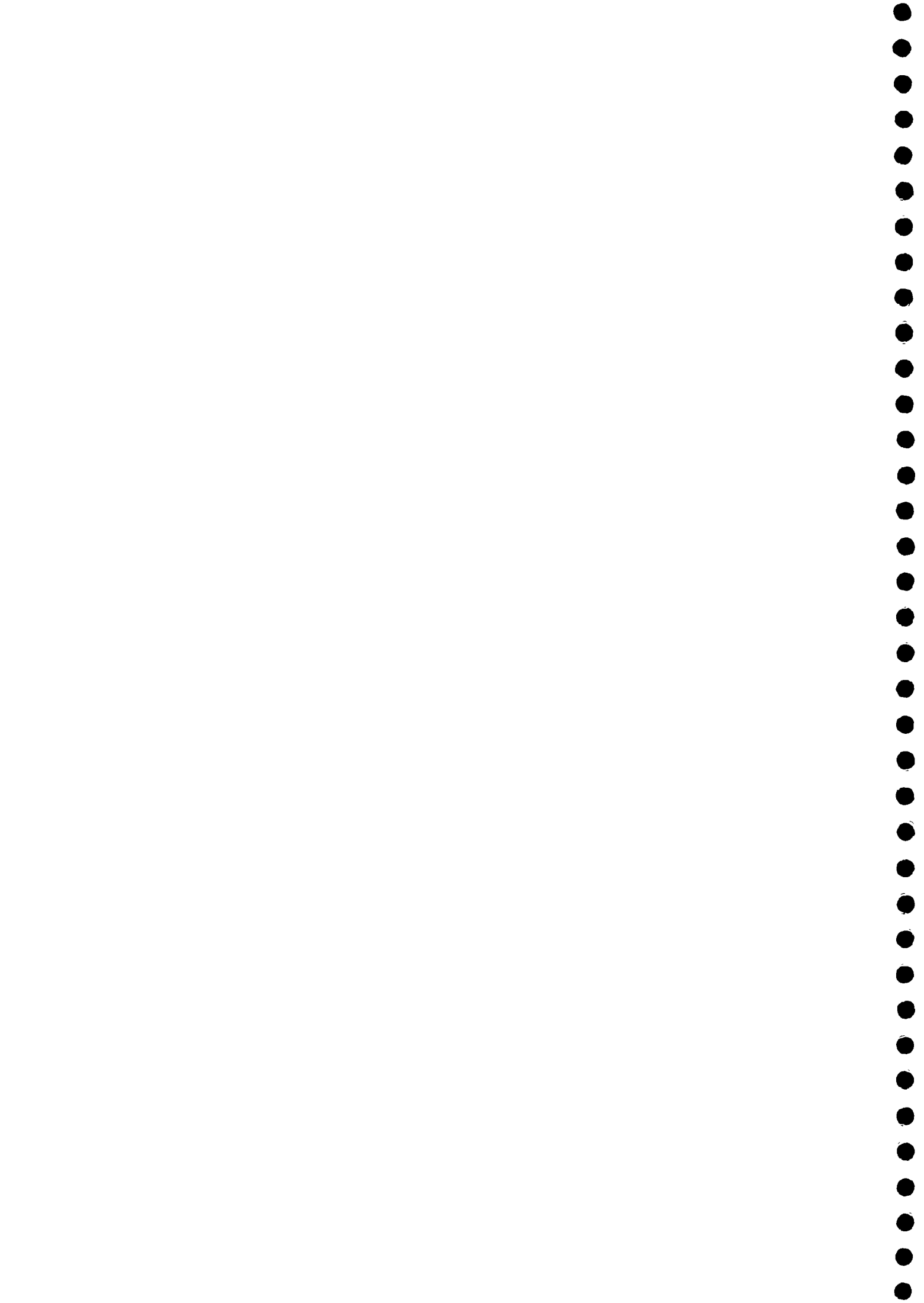
'Yes' - 1 to 4 points - poor (Bad)

5 to 7 points - fair

8 to 11 points - good

12 to 14 points - very good

Additional information: (give a tick mark for the right answer)



: 2 :

D. Pit filling up:

- a) The first pit is found to be full/half full/less than half full.
- b) The water table is below/above the pit bottom (cm below pit cover)

E. Superstructure:

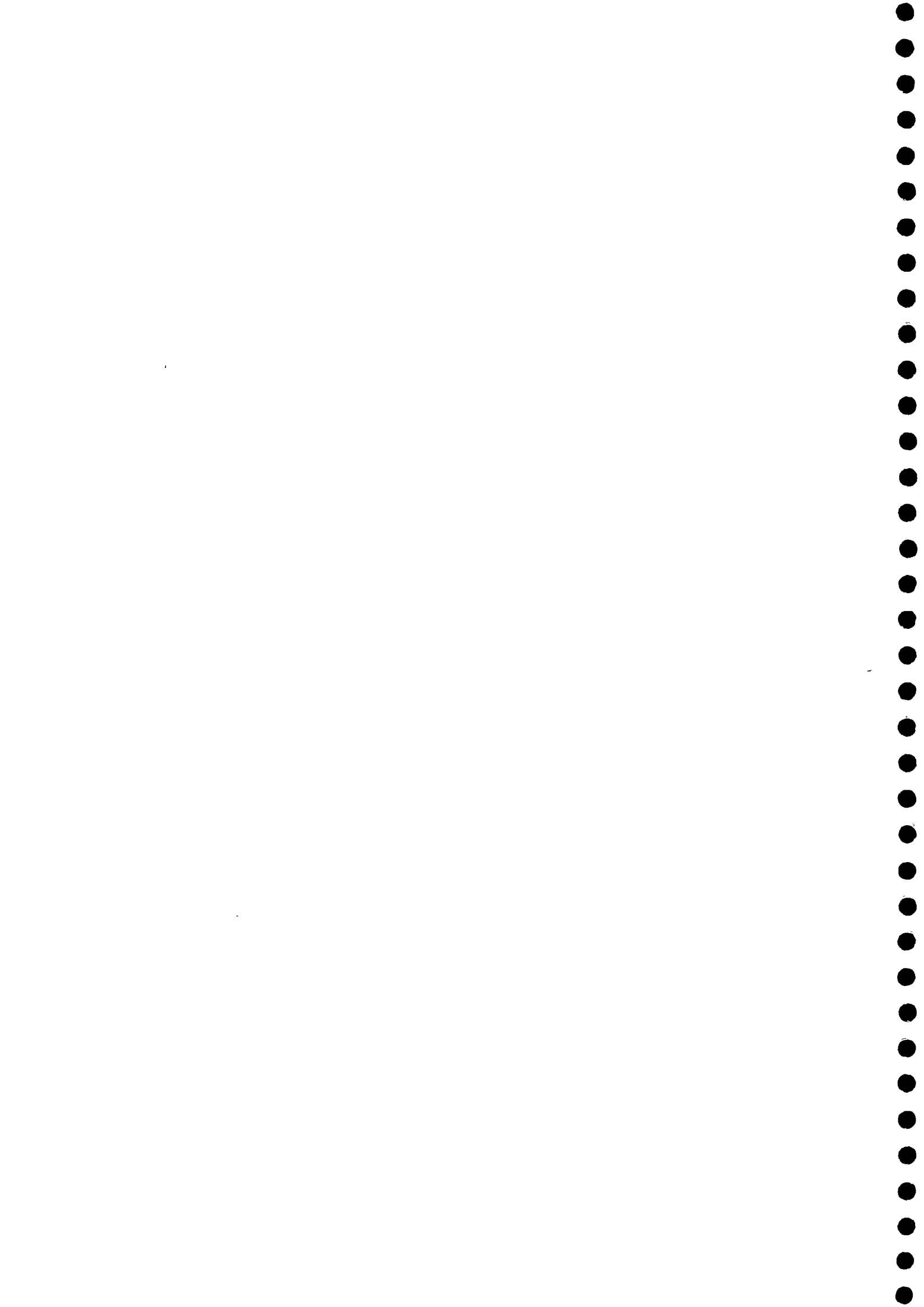
- a) Superstructure exists/does not exist.
- b) Posts are of brick/bamboo/timber
walls are of brick/tarza/split bamboo/tin/straw/leaves/cloth/others.
Roof is of RCC/tile/tin/straw/tarza/others
Door is of timber/tin/tarza/cloth/others.
- c) The superstructure is permanent/semi-permanent/temporary/dilapidated.
- d) The latrine has been kept clean/dirty.
- e) The surrounding of the latrine is clean/dirty.

Examined By:

Group No.

Designation:

Date:



ANNEXURE - III

LIST OF VILLAGES VISITED DURING SAMPLE SURVEY

PRITHIBA	:	01	:	
LAXMIPUR	:	02	:	
SONAKARIA	:	03	:	HABRA I
MARRACKPUR	:	04	:	
DOGACHIA	:	05	:	
BHURKUNDA	:	06	:	
DANTARI	:	07	:	
TAJPUR	:	08	:	
MONDALHATA	:	09	:	HABRA II
BIRA	:	10	:	
KOALIPATA	:	19	:	
GUMA	:	46	:	
KHILIKAPUR	:	11	:	
PALPUKURIA	:	12	:	BARASAT I
BAMUNGACHI	:	13	:	BARASAT I
UDAYRAJPUR	:	14	:	
DEYARA	:	15	:	BARASAT II
BEARA	:	16	:	
TEGHORIA	:	17	:	BAGDAH
HUDA	:	18	:	
BASUDEVPUR	:	20	:	
PANISHALA	:	21	:	HARIPAL
CHAK ANANTA	:	22	:	
JOYRAMPUR	:	23	:	
KALIAGARH	:	24	:	
JIRAT	:	25	:	
RUKESPUR	:	26	:	
HASIMPUR	:	27	:	
HATIKANDA	:	28	:	
BANESWARPUR	:	29	:	BALAGARH
ARAJI GUPTIPARA	:	30	:	
KRISHNABATI	:	31	:	
AIDA KISHWAT	:	32	:	
GOSAIDANGA	:	33	:	
RATANPUR	:	34	:	SINGUR
PALTAGARH	:	35	:	
KOLHATPUR	:	36	:	
BAITHA	:	37	:	PURSURA
BHANGRAMORA	:	38	:	
MUCHISA	:	39	:	
CHAKBANSBERIA	:	40	:	BUDGE BUDGE II
AAIMA	:	41	:	
SHIBKRISHNAPUR	:	42	:	
GHUGHUPARA	:	43	:	RANINAGAR I
GOBARKUTI	:	44	:	
DIHUBULIA (WEST)	:	45	:	KRISHNANAGAR II





