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Consultants' Report

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Low Cost Sanitation in Bangladesh

as related to the Low Cost Sanitation Project (BGD/85/004)
Covering 84 Pourashavas

By
Nils Finn Munch-Petersen

External
Socio-Economic Consultant
to Danida

Hoff & Overgaard a/s
Copenhagen, July 1989

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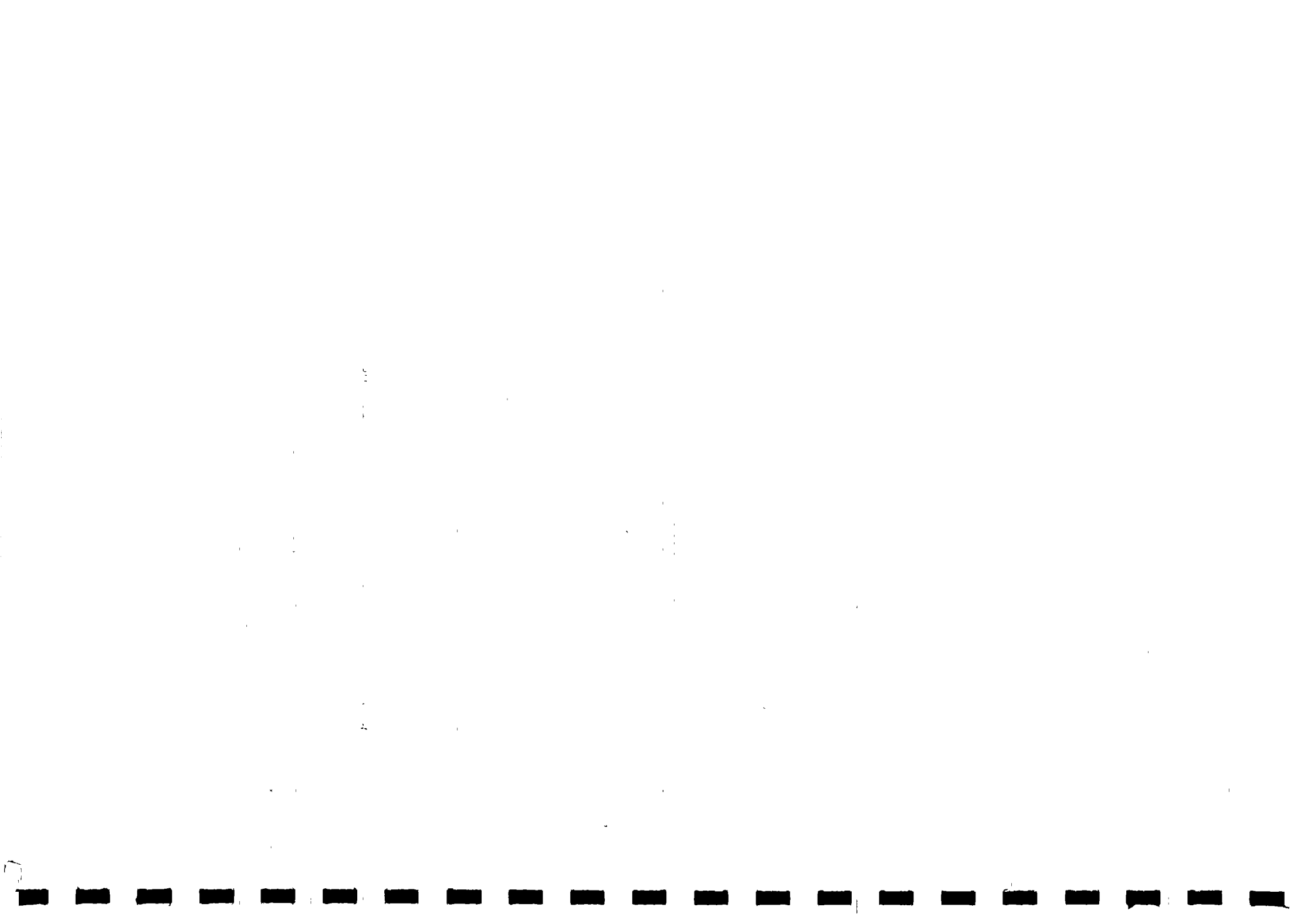
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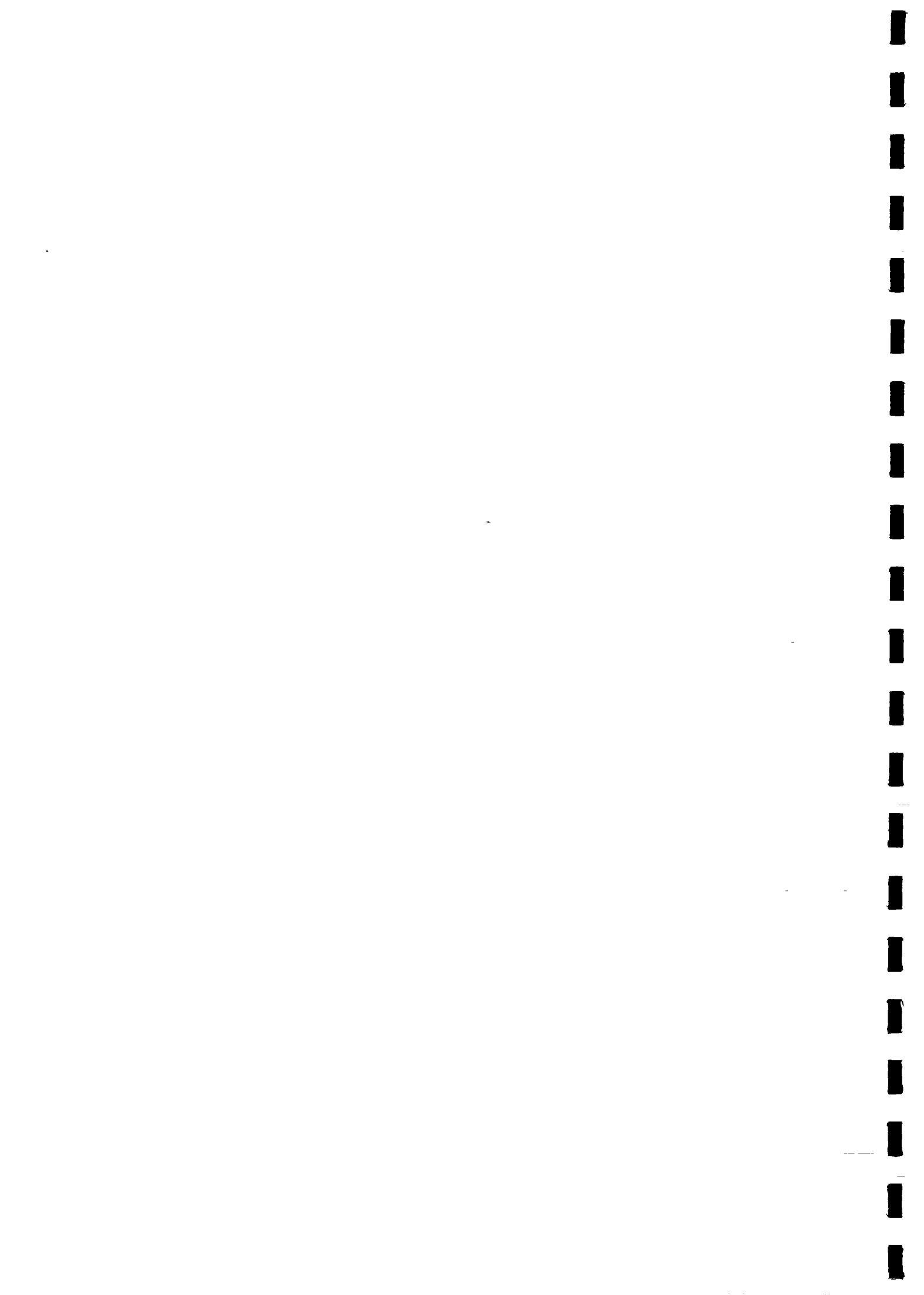
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LIST OF ABBREVIATIONS

CMC	Chittagong Municipal Corporation
DANIDA	Danish International Development Agency
DMC	Dhaka Municipal Corporation
DPHE	Department of Public Health Engineering
GOB	Government of Bangladesh
ICDDR,B	International Center for Diarrhoeal Disease Research, Bangladesh
LCS	Low Cost Sanitation
LCSL	Low Cost Sanitary Latrine
LGEB	Local Government Engineering Bureau
MLGRDC	Ministry of Local Government, Rural Development and Coop- eratives
PWD	Public Works Department
UNDP	United Nations Development Programme
UNICEF	United Nations Children's Fund
WASA	Water and Sewerage Authority
WB	The World Bank

1.

SUMMARY OF FINDINGS AND RECOMMENDATIONS

1. In 9 representative pourashavas studied (25%) of all households presently have a private sanitary latrine. Most of those having no sanitary latrine, or no latrine at all, would wish to acquire a good sanitary latrine.
2. Of the pourashava households for which information was collected (2293 households in all) more than 90% owned the land on which their house/accommodation was located.

3. In real terms a little more than one fourth of all pourashava households may want to buy and be able to afford and install a single pit sanitary latrine (or two-single-pit sanitary latrine).

4. Only one fifteenth of all pourashava households may be willing to acquire and able to afford the twin-pit "demonstration latrine" originally to be distributed by the Low Cost Sanitation Project as the only low cost latrine of choice.

5. It is therefore most unfortunate that the Project, while essentially being a research venture with the scope of creating a future realistic investment plan and designing information/promotion materials, has been burdened with the actual installation of a large number of latrines (5952 in all), the design and pricing of which is probably far less appropriate for the majority of the envisaged user groups than other adequate solutions presently available on the market.

The Project has thus been left with the paradox, that it should promote and install a single product, that will most probably, in the future, be seen as only a specific up market solution to pourashava low cost sanitation.

6. Unlike spot water sources latrines are perceived by the public as private installations (from the survey no woman ever reported, or was reported, as using a public latrine). One of the FUNCTIONS of a latrine, as seen by potential procurers, is that it provides full privacy, notably for the family women. Thus latrines for groups of fami-

lies are not considered a good solution. A latrine per family/household will thus be the logical objective of a full latrine programme.

as usual

7. Latrines are mainly bought by the public for reasons of convenience and privacy - not for reasons of health. A further reason is the improvement of property. Thus design and marketing should center on these functions (while ensuring that latrines are sanitary).

check with IA review

8. The decisive factor, for selecting a specific type of latrine, is cost. Secondly a latrine should be aesthetic (look nice) and be easy to clean.

9. The aesthetic element in latrine design should not be overlooked. Thus private producers compete well with subsidized latrine programmes by producing brightly colored mosaic latrine pans (at a slightly higher price) as contrasted with the grey and rough slabs/pans distributed by most subsidized sanitation programmes.

10. With a wide range in income levels, the market should provide a broad range of low-cost sanitary options, that reflect aestaetic qualities and status objectives as wanted by the public. As opposed to water supply hand-pumps, a wide range of different latrine designs will pose no maintenance problem (the argument for chosing one pump-type within an area only), neither will the production of a range of designs substantially increase costs.

check with IA review

11. The superstructure has most often been overlooked as a central element in latrine programmes. As a major motivation for acquiring a latrine is privacy and status, the superstructure is the main element that conveys these functions. Superstructure should thus always be an element in latrine programmes, and low cost presentable designs, based on local material availability, should be developed. Such programmes which leave superstructure construction to the recipients of subsidized latrines, or construct costly brick superstructures, should be discouraged.

12. Numerous private producers and sales outlets have sprung up in towns during the later years, and are highly competitive vis-a-vis government production centers as to

price, workpower utilization, design, services, opening hours and lack of bureaucracy. However the market is distorted by a range of subsidised programmes, that test the ingenuity of the private producer as to survival, while giving no support.

13. While low cost sanitation is a relatively simple technology, present products on the market leave much to be desired, both as to optimal technical functionality and as to user acceptability. There is accordingly great need for further research and further product development.

14. Water and sanitation are not linked in the minds of the general public. Tap water is clean and public, latrines are dirty and private, so is water carried to the latrine. The two amenities are conceived as of different orders and of quite different utility. It is thus very doubtful if the two should be linked in programmes and marketing. Probably each should be marketed and sold in their own right, where a separate health information component may establish a linkage. 99?

15. Health education materials as found in South Asia are most often deplorably confusing, misinformative or both. Notably such materials often center on the perceived dirty and clean, not on what is dangerous on medical grounds, neither on what is feasible, logical or useful for the target group. Also often health messages, posters etc. seem mainly aimed at government servants and funding agencies, not at the general public, women or school children.

16. Latrine programmes involving installments to be paid by the procurers of latrines seem to function well only where small, resident NGO's are involved. The main reason is the well established fact, that the government, larger organisation, Pourashawa etc. are reluctant to enforce payment, while the buyers feel no special relationship to such organizations (offering little service apart from the raw components). However Bangladeshis have good ability to save for wanted things and private producers and local shops do extend credit to known customers.

17. The installation and servicing of low cost private latrines, even with substantial growth in the sector, will form no future problem. The Methor community ("sweepers"/"scavengers") is well up to the task of installing and servicing private (as well as public) latrines, notably as bucket latrine systems now are being discontinued in a number of towns. Interestingly the Methor community is a community where both men and women take part in work.
18. Private production of low cost sanitary ware could be strengthened through the avail of establishment-loans to skilled artisans in areas where no production presently takes place as well as loans for the expansion of production. Also the private sector is in need of training, notably as to materials for production (mixing proportions/curing), dimensioning, marketing and customer services.
19. Training programmes should be designed for skilled masons and carpenters as to latrine installation and superstructure construction. Further a training component should be developed for the Methor community as to installation, repair and servicing of low cost sanitary latrines.
20. Little market information presently exist concerning the selectivity of private households as pertains to low cost sanitation. Neither has any comprehensive study been carried out as to the rejection by the public of specific latrine designs.

Such information presently rests almost exclusively with larger private producers of latrines, who would also possess some knowledge as to present (local) market trends, both as concerns the market in general and as to specific technologies and designs.

Much further research will be needed, notably as to market response to new designs and new products, as well as to the efficiency of such promotional campaigns that may be carried out in the future.

Only such an analysis based on registered market response, would allow us to draw a clear market profile leading to the development of full market strategies and to projections of future market trends.

2. INTRODUCTION

2.1 The Low Cost Sanitation Project (BGD/85/004)

The Low Cost Sanitation Project was initiated in December 1984, as a research and training project with some commitment to the installation of low-cost sanitary hardware. The Project was to operate in 51 Pourashavas (municipal centers), and on the hardware side should implement the production and installation of 5 "demonstration latrines" in each Pourashava, such demonstration latrines defined as, the rather costly, two-alternate-compartment pour-flush water seal latrines. Funding was committed to the Project by the UNDP with the World Bank as executing agency. Responsible on the side of the GOB was the LGEB, MLGRDC, agreeing to provide government support and supervision as well as office space.

At a tripartiate review meeting held in December 1986 by the GOB, UNDP and WB it was agreed to increase the number of Pourashavas to the (then) country total of 84, and the number of demonstration latrines to be installed in the Pourashavas to 5942. At this meeting the UNDP agreed to provide US\$ 250,000 over and above its original contribution of US\$ 399,000. Subsequently DANIDA agreed to provide US\$ 300,000 to the Project.

Further the revised project included: 1) The preparation of an investment proposal for a low cost sanitation programme in the 84 Pourashavas. 2) In-service training of various government staff categories envisaged, at this stage, to be given responsibility for project implementation; As well as training to masons and other "support staff". 3) Development of communication materials and techniques for the promotion of low cost sanitation and health. 4) A socio-economic survey/study of existing sanitary conditions as well as people's attitudes and expectations towards improved sanitation, in particular the cost aspects. The socio-economic survey was to be carried out by a local research agency under the supervision of a socio-economist to be recruited and funded by DANIDA.

The Project Period has been extended from June 1989 to December 1989 to ensure the fulfilment of Project objectives.

2.2 The Water Supply and Sanitation Sectors in Bangladesh

The Ministry of Local Government Rural Development and Cooperatives (MLGRDC) is the highest national authority responsible for public sector drinking water supply and sanitation in Bangladesh. The Ministry exercises its control at a number of levels through central, semi-Governmental and self-Governing institutions.

The Department of Public Health Engineering (DPHE) founded in 1936, is the major central Government water supply and Sanitation body. The Local Government Engineering Bureau (LGEB) established in 1984, under which the Low Cost Sanitation Project is carried out, is another central government organization in the sector.

Dhaka and Chittagong Water and Sewerage Authorities (WASA) are semi-government institutions operating in the two major cities of the country. Self-governing institutions are 4 Municipal corporations, 86 Pourashavas (Municipalities), 460 Upazilas (sub-districts) and 4401 Union Parishads.

Water Supply and Sanitation to all government central administrative departments and establishments is ensured by the Public Works Department (PWD). While government development agencies/departments and defence bodies maintain their own system establishments.

The Ministry of Planning and Finance is involved in prioritising and approving sector projects and chanelising funds, including external assistance.

DPHE was the only Government institution involved in the sector up to 1963 when two WASAs were created to handle major urban water supply systems. Today the DPHE is responsible for the planning implementation and monitoring of public rural Water Supply and Sanitation with exception to limited participation by Upazila bodies. After installation the DPHE maintains rural Water Supply. However, maintenance of rural sanitation is the users responsibility. In urban areas the DPHE is assisting the Pourashavas in developing Water Supply Systems. At present the DPHE is working independently on piped Water Supply in 30 district towns and jointly with Pourashavas in 9 district towns. The DPHE's Urban Water Sup-

ply programme is currently integrated with small scale low-cost sanitation programmes.

The LGEB is assisting the Upazila Parishads with technical guidelines and personnel support in implementing rural Water Supply and Sanitation activities undertaken by Upazilas from own sources and government allocated funds (not yet significant for the sector) side by side with other rural infra-structural development activities.

Dhaka WASA implements and operates piped Water Supply and Sewerage systems within Dhaka city while Chittagong WASA is involved in piped Water Supply only.

Dhaka Municipal Corporation (DMC) handles Solid waste collection and disposal in the city. Drainage, formerly the responsibility of the DPHE has been transferred to the DMC recently. Also the DMC is implementing limited sanitation (on-site-low-cost) in old and fringe areas of the city, not planned for coverage under piped sewerage by the WASA in near future.

Chittagong Municipal Corporation (CMC) operates the full fields of sanitation, drainage, solid waste, sewage and hand pump water supply. Piped Water Supply Systems are operated by the WASA.

Union Parishads are responsible for the promotion of health, health-education and the promotion of awareness on environmental sanitation among rural populations. Union Parishad chairmen and members co-operate with the DPHE and Upazila Parishads in selecting beneficiaries for Government funded water supply and sanitation activities.

2.3 Background and Objectives for the Socio-Economic Consultancy

The Terms of Reference for the Socio-Economic Consultant were finalized in January 1988 and have been included in the present discussion paper as Appendix 1.

Notably the activities of the socio-economic consultant (short term social anthropologist) should be viewed as an integrated component in the planning and preparation of the extended low cost sanitation programme, including:

- 1) the necessary socio-economic components of a feasible investment plan for low cost sanitation, e.g. beneficiary target group, capability and willingness to pay for latrines including a feasible cost recovery system.
- 2) appropriate communication materials and methods for the promotion of improved sanitation and health.
- 3) a system to monitor and evaluate beneficiaries' response to the programme.

The original responsibilities of the socio-economist are stated in the T.o.R. included in this report as Appendix I, where the present discussion paper predominantly deals with the points 3.9 to 3.14.

2.4 Work Programme as carried out by the Consultant

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The socio-economic consultant joined the Low Cost Sanitation Project on February 9th 1988 and worked with the Project during 1988 in Bangladesh from the 9.2-3.3, 10.3-5.4, 19.8-16.9 and 18.11-15.12 as well as from the 16.01-22.01 and 7.04-24.04 1989.

The first main task of the consultant was to participate in the selection of a local research agency, select and train field investigators and participate in the detailed design and planning for the implementation of a socio-economic study to provide comprehensive inputs to the preparation of an investment plan for low-cost sanitation.

Further the consultant acquainted himself with ongoing and past projects in the sanitation/water/health field and such available documentation as relevant to the project. The consultant liaised with the UNDP, UNICEF and the WB and established contact with a number of research agencies, and bilateral donors.

Additional to the socio-economic survey, a special survey was approved to cover private production and sales of low-cost sanitary latrines in 50 project pourashavas. This survey was initiated in March 1989 and survey data should be available in July 1989.

For Project recommendation and Project outline, for the survey to cover private production and sales of low-cost sanitary latrines, see Appendix II and III..

To more fully describe the Bangladesh market for low-cost sanitation options, funding was made available by Danida for a short-term economist to assist the Low-Cost Sanitation Project, utilizing such data as collected through the Socio-Economic Survey and the Survey of Private Production and Sales of Low-Cost Sanitary Latrines.

Terms of Reference for the short-term economist have been included as Appendix IV.

During his time in Bangladesh the consultant undertook field-visits to the locations listed below:

Dhaka Division

Ashuganj
Bhairab
Dhamrai
Jamalpur
Kakran
Kishoreganj
Mirzapur
Muktagacha
Mymensingh
Narsingdi
Sherpur
Tangail
Tongi

Chittagong Division

Chittagong
Chowmohoni
Cox's Bazar
Laxmipur
Maijdi
Teknaf

Much of the information presented in this discussion paper was collected on these field-trips.

2.5 Outline Preliminary Findings from the Socio-Economic Survey

A Socio-Economic Survey was carried out by a private Bangladesh consultant in nine pourashavas during 1988-89. Under the survey 715 households were covered through the utilization of a comprehensive questionnaire, as were 23 private producers of sanitary latrines, 14 government producers and one NGO producer. Further, a door to door check-list survey covered 1578 households. Households investigated under the surveys were selected within representative urban income zones in the pourashavas. The pourashavas surveyed were: Brahmanbaria, Chandpur, Chapai-Nawabganj, Cox's Bazar, Gazipur, Gopalpur, Jhenaidah, Laksham and Mymensingh.

The Socio-Economic Survey has been beset by a number of problems, notably stemming from an initial 5 months postponement of field-work as requested by the World Bank, later by a most unprofessional handling of collected data by the Bangladeshi consultant entrusted with the job.

However, as most of the data collected have been found to be basically sound, and data is presently being reprocessed, a final survey report is expected in August 1989. The following is a short presentation of preliminary survey findings, some of major interest to the present report:

Preliminary Presentation of Findings

The average size of households covered by the questionnaire survey was found to be 8.3, distinctly above the national urban average of 6.8. This is probably due to the surveys deliberate bias for established households.

For these households, the distributions of family incomes were found as follows:

Table 2.1

<u>Yearly family income</u>	<u>No. of households</u>	<u>%</u>
10.000 Tk and below	47	6.8
10.001-30.000 Tk	369	52.6
30.001-50.000 Tk	180	25.6
Above 50.000 Tk	106	15.1
<u>Total:</u>	<u>702</u>	<u>100.1</u>

Of the 715 households covered by the questionnaire survey, 535 wanted to improve their sanitary condition by acquiring a "good latrine". The household member interviewed was accordingly asked to state how much they were willing to pay, as a single payment, for their preferred latrine:

Table 2.2

<u>Payment offered</u>	<u>Number of Households</u>	<u>%</u>
Nothing	246	46.0
Up to Tk 250	47	8.8
Tk. 251 to Tk. 500	68	12.7
Tk. 501 to Tk. 1000	61	11.4
Tk. 1001 to Tk. 2000	63	11.8
Tk. 2001 to Tk. 3000	20	3.7
Above Tk. 3000	30	5.6
Total	535	100.0

Given the option to pay in installments 437 of the respondents gave an offer, while 98 still felt unable, or were unwilling, to pay anything:

Table 2.3

<u>Monthly Installment offered</u>	<u>Number of Households</u>	<u>%</u>	<u>%</u>
Nothing	98	18.3	
Tk. 10	22	4.1	40.9
Tk. 20	60	11.2	
Tk. 21-30	39	7.3	
Tk. 31-50	156	29.2	
Tk. 51-75	18	3.4	50.5
Tk. 76-100	96	17.9	
Tk. 101-200	27	5.0	
Tk. 201-300	10	1.9	8.6
Above Tk. 300	9	17.9	
Total:	437	100.0	100.0

As to housing, 8.3% of those interviewed lived in pucca houses, 16.2% in semi-pucca and 75.5% in katcha houses. Of such residences 17.2% had boundary walls while 82.8% had no boundary wall. Of those with family incomes above 50,000 Tk/year 51.9% live in katcha houses, while none with yearly family incomes of 10,000 or less live in pucca homes.

Significantly out of 1578 households interviewed during the door-to-door survey 95.5% had full ownership of their accommodation, while 94.6% also owned the plot of land on which the accommodation was located. The Questionnaire Survey covering 715 households similarly gave the respective figures of: 90.6% owning their accommodation, 5.2% living in rented premises and 4.2% having other (sometimes illegal) arrangements.

As to existing household sanitary facilities, a sample of 2293 households gave the following break-down:

Table 2.4

	Number of households	%
No latrine	554	24.2
Unsanitary latrine	1117	48.7
Sanitary Latrine	622	27.1
Total:	2293	100.0

what is that ?

While, out of a sample of 702 households, the following relationship between household income and ownership of sanitary latrines was found:

Table 2.5

Income range Tk/year	Percentage households in income group having own sanitary latrine
1-10,000	0.0%
10,001-20,000	10.1
20,001-30,000	20.4
30,001-40,000	30.1
40,001-50,000	36.0
Above 50,000	54.7

} *Rank 06*

Out of the above sample 57.4% of all households having yearly incomes below Tk 10.000/year, had no latrine (sanitary or unsanitary) at all, while this was the case in only 5.7% of households having yearly incomes above Tk 50.000.

This correlates well with data on the educational level of heads of households, where it was found that 48.9% of those with no formal education had no latrine at all, while only 6.4% of such households had sanitary latrines. The corresponding figures for those with higher education (intermediate, degree and post-graduate) were 6.8% (no latrine) and 51.5 (sanitary latrine).

Of 715 households interviewed 53.1% had access to a household-owned clean water source (own tubewell: 42.8%, pipe water: 10.3%), while a further 27.1% had access to a neighbours clean water source. 9.2% reported using the public water-supply (public stand-posts and tubewells), and only 10.5% reported using non-safe water sources, such as ponds.

As to the defecation practices of households having no latrine it is significant that only 14.7% of males were reported as using a neighbours latrine as opposed to 27.2% of females, meanwhile 10.5% of males were reported as using public toilets while no women were reported as using such a public facility. Almost all children (below 5) defecate in the open, 94.9% according to sample (N = 195).

info for
(LA)

All households reported (100%) adult hand-washing with water after defecation. 30.8% of the respondents reported using water only, while 35.7% used clay and 5.9% ash. An amazing 27.7% of all households reported using soap, a finding that may need further verification.¹⁾

Review info

From structured group discussions it transpired that although most women wash their hands after defecation, only a few would wash their hands before eating, preparing or serving meals.

1) See: towards a Strategy for Health Promotion (ed: Kr. Laubjerg), Bangladesh Rural Water Supply and Environmental Sanitation Programme, Socio-Economic Studies, DPHE-UNICEF-DANIDA, UNICEF, Dhaka, January 1986. This report gives a figure of only 5-6% for adults using soap for handwashing after defecation.

3.

PRODUCTION AND SALE OF LOW COST LATRINE COMPONENTS

Latrine components are produced in Bangladesh by government production centers and private producers as well as by non government organizations (NGOs). As concerns attitudes to production, quality control, consumer needs and marketing, there is a clear and marked difference between the government producer and the private entrepreneur, the NGO's being intermediate, tending to resemble either side according to their level of "officialdom".

Notably, where the private producer is oriented towards the market, the government department tends to be almost solely oriented towards fulfilling production quotas. } 0

Through his¹⁾ market orientation, the private producer gains flexibility, reflected in product development and product modification, aimed at satisfying market trends and utilizing market niches.

As opposed to the private producer, government production is conservative and stale, partly caused by product development being disjunct from the centres of production, but even more so from the quota-fixation of government monitoring bodies, the permanency of tenure of government employees and the lack of rewards for sales efficiency, where the fulfillment of service functions most often is seen as "unproductive".

NGO production may resemble the private or the governmental sector, depending on the management structure and government orientation of each given NGO.

A notable positive factor is the high motivation of many NGO employees, a negative factor the strong dependence on funding bodies evaluating performance by quantity of products delivered and installed, not by quality of performance or by the creation and fulfillment of genuine consumer demand.

A further difference between the private sector on the one side and the governmental and NGO sectors on the other is the product uniformity of the latter. Government and NGO produc-

1)He/his: So far all producers of latrine components encountered have been male.

tion centers are usually oriented towards one product, or a very limited range of products only, not taking product trends into account or the seasonal fluctuations in demand for specific products on the market.

Thus high demand for low-cost latrines in Bangladesh will typically be during the dry season, with very low demand during the Monsoon.¹⁾ This means low productivity or overproduction for Government and NGO producers during extensive periods of the year, while the private sector diversifies into other product lines, such as drainage pipes, of high demand just before and during the wet season.

Thus the government and NGO sectors, unless heavily subsidized, such as at present, would have little viability, contrasting with the private sector where cost-efficiency is totally dependent on the ability to sell.

3.1 Government Production

Government production is hampered by a fixation on production quota and by the absence of a commitment to balance productivity with sales²⁾.

As most production is dependent on outside funding, decision making as to product specifications tend to be slow, and once a product has been defined, a given prototype will be produced for years to come whether the market is receptive or not.

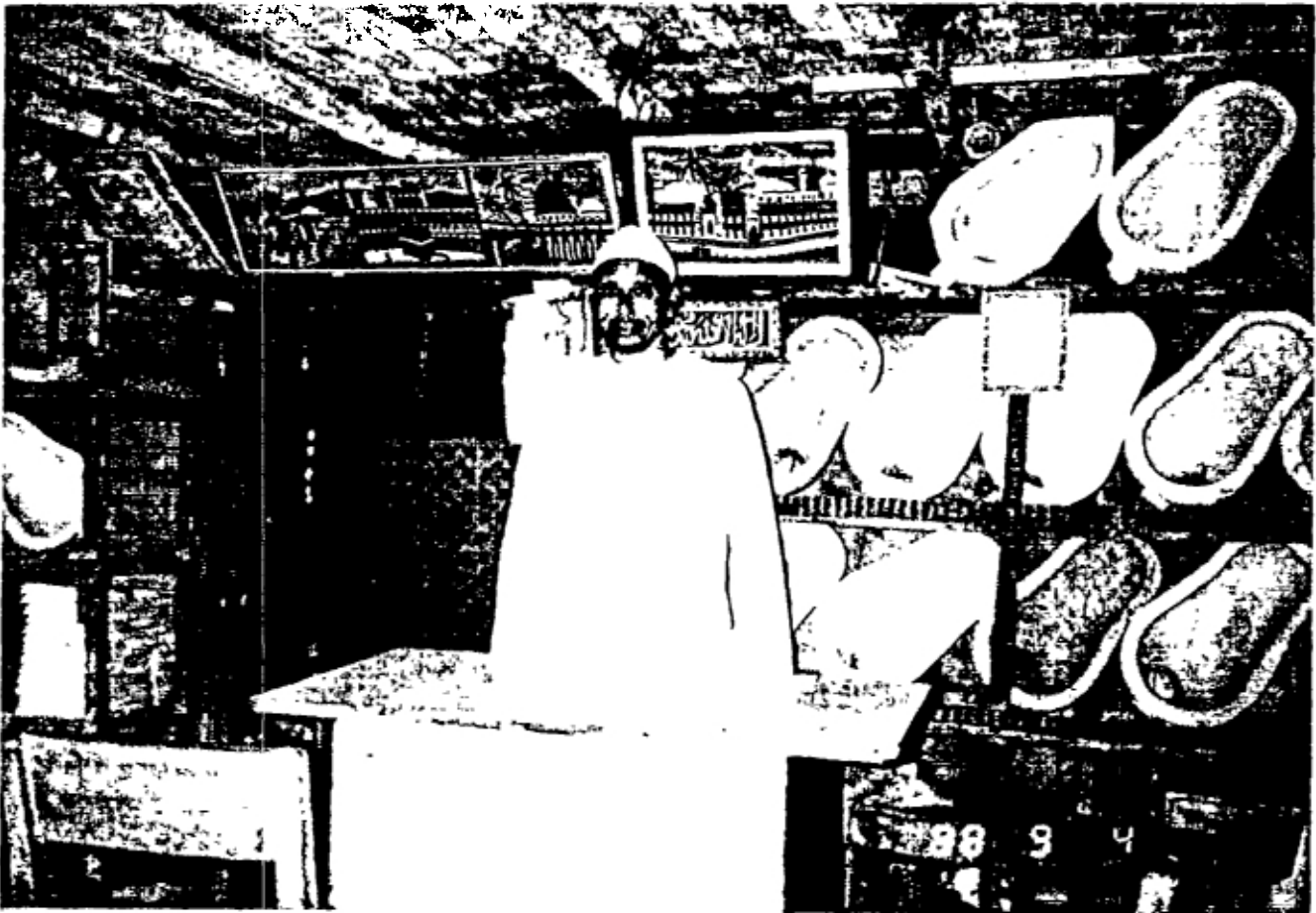
Government production centres, having only a very limited spread of products (or often a single product only), can not respond to yearly fluctuations in demand, except by laying off such non-permanent staff and local sub-contractors as may have been hired. This is notably the case during the rainy season when demand is low.

1) Preliminary findings from the Socio-Economic Survey indicate that less than 20% of a years production of latrine stabs are sold during the five rainy months (June to October).

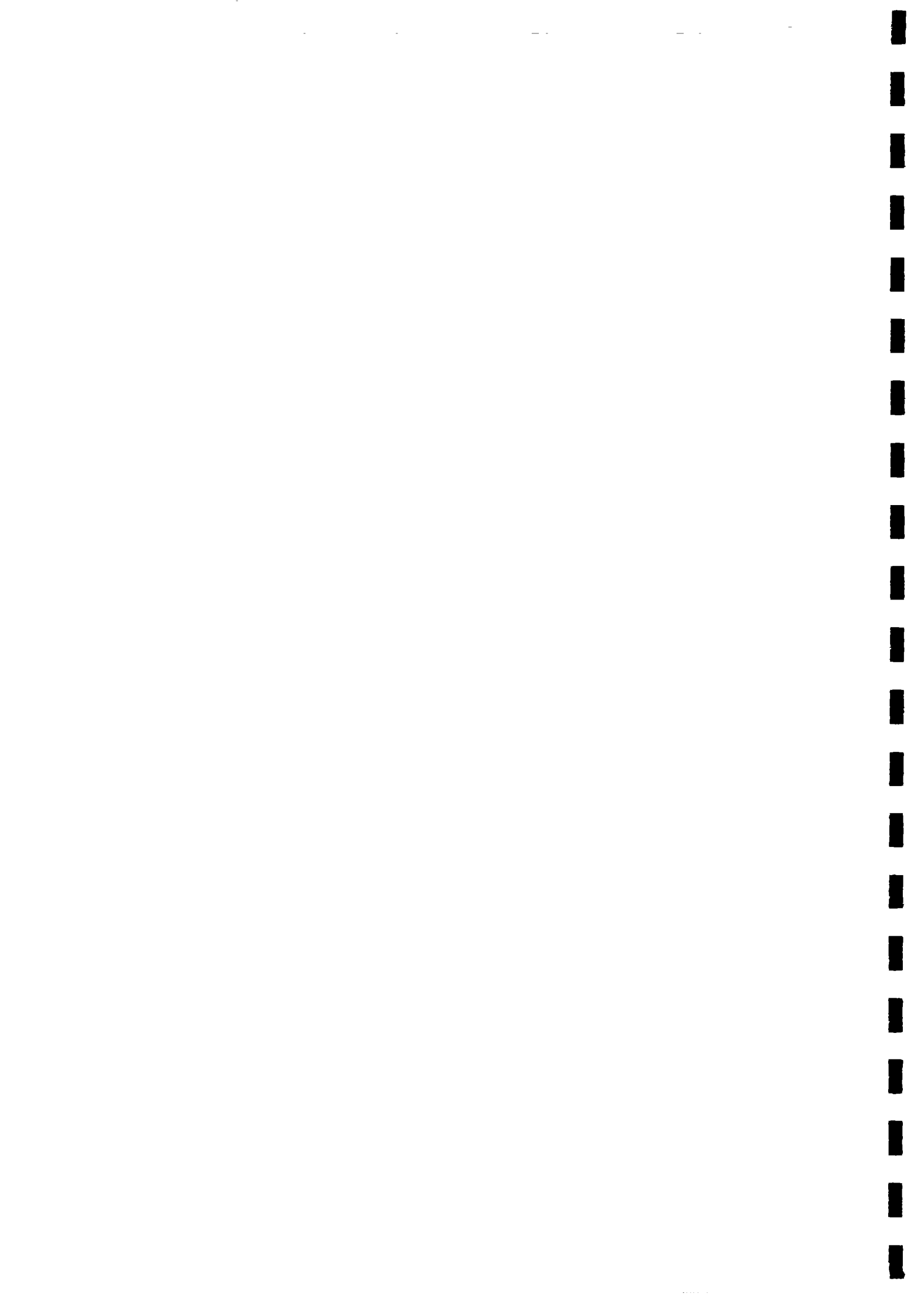
2) The consultant visited the CMC Production Center in Chittagong where during the last 2 years a number of 4,400 latrines have so far been sold against a target of 20,000 for an expected 3 year period.

*For urban areas.
But transport
may be easier
in wet season
in rural areas
See page 21*

Production and Sale of Low-cost Latrine Components



Sales display of low-cost mosaic latrine pans.
Private producer's sales outlet in Chittagong.



From this follows low levels of cost-efficiency and low levels of motivation caused by unproductive work time (permanent employees) as well as limitations in job security (non-permanent staff and sub-contractors).

Government Production Centres are usually located on government land developed for industrial purposes. Most often there is ample room for production, as well as storage of materials and finished products. However, such locations do not attract ordinary customers and link badly with outside sales points because of an underdeveloped marketing/transport structure.

Sales are low for four main reasons, namely:

- Product inflexibility
- Lack of sales motivation and service orientation of personnel
- An underdeveloped marketing structure with few, often distant, sales outlets and lack of linkage between production center and sales outlets
- Lack of qualified sales and marketing personnel

3.2

Private Producers

Private producers of latrine components are found in most urban centres and quite a few semi-urban agglomerations. Such production and sales survive competition with heavily subsidized governmental and NGO production programmes.

Private production units vary from the small family enterprise with one or two workmen on a part or full-time basis, to larger production centres having separate sales outlets and employing a larger number of specialized, permanent staff. Such centres train their own personnel or import specialists from other parts of Bangladesh whenever need arises.

Management is often familial, where the owner takes on a number of responsibilities for the workers such as accommodation, employing worker's near relatives and taking charge of

special occasions such as marriages. The familial relationship, much in line with traditional Bangla structures, ensures a good level of work motivation, a dialogue between owner and workers and a productive flexibility based on common interests.

Notably the tight margin of profits dictated by close (often subsidized) competition ensures that work-power is utilized to its full extent through product diversification both as relates to production and sales. The owner will most often be at the sales outlet(s) and thus be in close contact with the market. Also product diversification ensures that slack seasons for one product are negated by other products being in demand. Thus drainage pipes are sold during the wet season, latrines during the dry period.

Typically the products of small and large production units will be cast drainage pipes, window grills and latrine components, while the sales outlets may also sell other factory produced water and sanitary appliances including galvanized iron pipe, PVC pipe, chinaware latrine slabs, water taps, hand-pumps and hand-pump spare parts.

The smaller private production units often suffer from lack of storage space, primitive production equipment as well as lack of capital for expansion.

Further the private producers have little knowledge of modern marketing methods and modern marketing tools.

3.3 Sales Outlets - Sales Display

The lack of sales motivation is quite obvious from the sales displays at government production centers.

Latrine components are stacked in the yard, the entrance is governmental, thus prohibitive, and a person will not necessarily be on hand to welcome and advise the customer.

At a local sales-outlet - a Ward Office - visited in Chittagong, latrine components were left out in the open, with no advertising sign. Further the office opening hours were normal government timings (10 to 17), excluding potential customers during the morning and evening shopping periods.

At a Government Production Center visited at the same locality, two "demonstration latrines" were placed at the back of the Center and left on their own. Access was made difficult by an overgrowth of weeds and a kitchen garden, the latrines had no up-keep, were dirty and one latrine slab was covered with creepers. Obviously the "demonstration latrines" were never utilized for their purpose.

Local, private sales outlets display a notable difference. Small, cramped for space and often full of people, such shops are located on the town's main streets or in regular shopping quarters.

The messages of shop-signs are mostly lost in the forest of motley small board- and tin-plate advertisements on shop roofs and fronts, and customers find their way by knowledge of locality more than by advertisement.

Sales display is crude, a simple stacking and lining up of all items for sale in the shop, but the effect is one of variation in objects and colors, and suits the "bazar" environment well.

Apart from the contrast outlined above, another difference between private and government sales outlets is striking. While government production centers, NGO production centers and government sales outlets display the whole latrine structure: slab, rings and all..., private sales outlets display only the latrine pans and squatting slabs. This may be because of lack of space, but is certainly attractive to the customer, who will normally only be interested in the on-the-ground structure. This is what he/(she) will see in their home. What is below ground is uninteresting to the buyer, if not slightly unattractive, considering the future use as a receptacle for human excrement.

3.4 Distribution - Transport of Materials and Finished Products

For government production centers distribution and transport of finished products most often constitute one of the serious bottlenecks in the system.

Firstly because of the time-loss involved in screening potential customers to receive subsidized latrines. Secondly because of a limitation on transport for serving individual customers.

Under the UNICEF Water Supply and Sanitation Project (in Urban Areas) as visited in Chittagong the distribution of subsidized latrines is the responsibility of the Ward Commissioner. Here first the customer has to deposit money for the latrine to the Ward Secretary, from where the money goes to the Corporation. Hereafter the Ward Commissioner has to certify the residency of the customer, after which certification, the Ward Commissioner will issue a delivery order. Only then the project will transport the latrine to the user. The project has recently (after 2 years in operation) received two trucks for this purpose.

The private producers have fewer transport problems, their production centers usually being located in town, where different types of transport abound (for the transport of larger latrine components notably pull-push-carts). Private producers will usually be willing to arrange transport for customers (as well as installation), and as the price has some flexibility, transport may be included as a customer service.

For transport of materials for production, government departments utilize the given departmental transport networks. Private producers utilize public and private transport as available. Apart from seasonal disruptions of the transport links through flooding, transport of materials for production, as well as procurement of materials, was not found to constitute a problem for either government or private producers.

Using traditional means of transport, the single-pit latrine is obviously the most transportable as contrasted with the two pit latrine.¹⁾

Further it should be noted, that river transportation in Bangladesh gives good potential for the shipping of latrine components. In Ashuganj a producer serving the cross-river

1)As to weight and size. Frequent breakages of goose-necks during transport (and during installation and use) may warrant design modifications.

town of Bhairab sold more latrines during the rainy season than during the dry, due to easy river transport. Also river transport gives good options for the transport of especially brittle low-cost latrine components, such as burnt clay latrine rings (see chapter 4.4).

3.5 Cost of Production - Market Price

Government production of low cost latrine components in Bangladesh has been heavily subsidized through the years, as has also been the case for most NGO production. Subsidies have mostly been in the range of 50% of the government production cost¹⁾.

So high a subsidy should by all logical calculations completely have eliminated the private producers from the market, or, rather limited private producers to the up-market range of sanitary products.

As is presently seen this has not been the case, and the causes may well be stated as:

- 1) Heavy production overheads on government products, notably:
 - a) Costs of management and permanent staff
 - b) Unproductive time, due to production inflexibility, seasonal inactivity and lack of linkage between productivity and sales
 - c) Losses of materials and leakages
- 2) Lack of market orientation and product diversification

The lack of market orientation tends to dictate purely "technical" solutions to markets that may well be receptive to "aesthetic" product developments. Thus private producers adjust to the customers choice of polished, colorful latrine pans while government departments continue to produce raw-surface cement slabs and pans, even when the market is decidedly unreceptive.

¹⁾A recently developed strategy is to have the customer pay in interest free installments with a limited down payment, often 10%, and installments of 10% a year. As shall be shown later the customer will rarely feel the obligation to pay the yearly installments, and this strategy thus often may represent a subsidy not of 50 but of 90%.

As seen from the private sales outlets market price is not the determinator of sales, as polished mosaic pans at 80/100 Taka a piece most often sell better than the grey cement pans at Taka 40/60, not to mention the "up-market" porcelain pans at an average of 250 Taka.

Does it imply people who can afford it,
buy latrine?

4

DESIGN AND MATERIALS

Design and materials for low cost sanitary latrines basically relate to three distinct components as seen from the users point-of-view. Namely:

- 1) Substructure
- 2) On-ground structure
- 3) Superstructure

4.1 Substructure

For the potential user the substructure is of little interest except that the receptacle of excreta should function to specifications, and not be demonstratively seen. Thus "technical" and economical solutions are perfectly appropriate, and will in no way interfere with the owners concept of what is nice and prestigious.

An underground receptacle of perforated latrine rings thus has a definite advantage over the still common bucket latrine, where the contents of the bucket is exposed to the eyes and nose of the user, and where latrines have to be serviced by non-family-members on a bi-weekly or 5 day basis.

Materials

The standard substructure is made up of a number of cement concrete rings that may, or may not be, reinforced with an interior iron ringband. The cement rings allow percolation to the surrounding soil, and should under normal soil conditions, allow the contents of the ring receptacle to digest within a period of 2 to 3 years. After this period the contents should be aseptic, free of harmful organisms, and disposal form no threat to the public. Experience from single- and two-pit latrines however show that the digestion period in most cases may be longer than anticipated, and that substructure design thus calls for further testing and research.

Also where soil types are not receptive to percolation at anticipated speeds alternative designs will be needed.

Other materials are utilized in Bangladesh for latrine pit lining, notably honeycomb brick, stones and burnt clay. Burnt clay gives a less expensive option for latrine construction, and the technology is well known to local potters as similar rings are used for the construction of traditional open-wells. Clay rings are brittle, thus transport gives problems, however where river transport is available losses through breakage can be minimised.

A private producer in Gopalpur town sells burnt clay rings for latrine pits at half the price of similar size reinforced cement concrete rings.

Installation

In urban and semi-urban settings space is a scarce resource, notably in medium-low and low-income areas. Thus a latrine suitable for areas with high population densities, should take up only little space.

Notably twin-pit latrines do not fulfill this criterion, and can thus only be considered as a choice for urban areas, when and where space by coincidence is available¹⁾.

Also single pit-latrines are easier to install. Most often the cost of installation is not reconed when promoting subsidized latrines. However in an urban setting the buyer most often does not have the skills and/or possess the time and/or manpower to effect such an installation cost-free. The installation of a two-pit latrine thus may represent a substantial increase in cost over a single-pit latrine.

Further, in flood-prone Bangladesh, there is every good reason to elevate latrines, i.e. raise the latrine rings above normal ground in a small mound. Again here the installation of a two-pit offset latrine will represent a significant cost increase.

1) While low income and medium income areas have little available land for latrine installation, such land is found in high income areas. The inhabitants of such localities however usually can afford, and prefer, septic tanks.

From the above it may be inferred that the two-pit latrine may not be considered an optimal solution for urban or semi-urban habitational settings.

Maintainability

The two-pit latrine has a high level of maintainability¹⁾, as it may function continuously as alternate pits are emptied when contents have digested to become germ-free and free of odor.

However the single-pit latrine gives the same option provided a new single latrine pit is installed at the point-in-time where the latrine first installed fills up. Two single-pit latrines take up less space than a single double-pit latrine, thus serving the space-saving function. And payment for the new latrine (pit-rings only!) is deferred in time for 2 to 3 years (thus serving the function of spreading costs). All in all the single pit solution carried out in this way will be most preferable to the two-pit offset option.

Market Response

As mentioned early in this chapter, the buyer seldom has any interest in the underground structure except that it should function as described by the seller. Thus the single most important point for the buyer will be price. Any product development or prototyping should thus be geared at selecting the least costly options for underground structures, that will still have the necessary durability and fulfill the adequate functions for a sanitary latrine.

4.2. On-Ground Structure

To the potential owner/user the on-ground structure and superstructure are the all-important parts of any low cost latrine installation.

¹⁾ If used correctly! From the Socio-Economic Survey it was found that, out of 73 alternate pit latrines in use, 9 had both pits filling at the same time.

Such elements should preferably present themselves well, thus being prestigious and increase the value of the property as well as highten the standing of the owner/family.

Further, the on-ground structure should be maintainable, in the sense that the structure may be kept clean through the use of ordinary cleaning utensils, and such that the installation does not change its appearance significantly in a negative direction through use and wear.

Thirdly all elements should be durable enough to withstand the stress of normal use and cleaning. The more the need for harsh cleaning measures the greater the need for material strength.

Finally the installation should be functional, in the sense that it should perform it's functions in regard to a full household. I.e. it should serve both males, females and children, the old and the young; have an adequate run-off for washing the latrine slab and an adequate goose-neck/water-seal trap.

All the elements listed above become elements of perceived utility to the owner/user and as such will be advertised by word-of-mouth to potential buyers.

Maintainability

A polished surface lends itself much more easily to cleaning than a rough texture, which is clearly brought out in consumer preferences. Ordinary cement slabs and latrine pans with an uneven texture form adhesive surfaces where faeces will collect with ensuing visual as well as odoriferous pollution. An uneven texture within the goose-neck/water seal may further obstruct the free passage of faeces when only minimal water is used.

As to latrine slabs, most models do not include an adequate sloped run-off to facilitate easy washing and brushing of the slab.

Durability and Functionality

From what has been seen and gathered by the consultant, notable faults are to be found with the present use of cement concrete water-seals/goose-necks. Passages are often obstructed forcing the cleaner to use a stick for cleansing. In the process the water-seal/goose-neck often breaks - and such breakages are among the most common complaints from users¹). There is accordingly a further need for testing of designs as pertains to water-seal and gooseneck developments.

However, the simplest solution, as presently by the Low Cost Sanitation Project, is to use water-traps in cast-plastic (as may be produced by very simple means). If made of plastic a detachable water-trap will not break, but merely fall into the pit if cleaned by rough means. From the pit the water-trap may be recovered or, if this is too offensive, a new inexpensive, cast-plastic water-trap of the same type, may be installed in place of the old:

Prestige and Value of Installation

As is probably well known to the reader, the material- as well as production costs of a product may neither directly or indirectly relate to the prestige, the value or the perceived utility it confers to it's owner. Let aside products of sub-quality (where production costs may still be high), all salable products do at least to a degree confirm to the general expectations of the public, and/or the specific expectations of distinct consumer groups, as to nicety, aesthetics and functionality. While some of these aspects are valuations of a purely technical nature (such as the ease with which a latrine pan is kept clean) other are less tangible and based on concepts such as beauty, traditionality and signal effect.

1) Part of the so common obstructions are caused by users employing odd objects for anal and genital cleansing such as grass, leaves and stones. Such misconceptions of use may of-course only be changed through instruction and through the avail of adequate water sources, where necessary.

Here again the case-in-point will be the "nice" latrine pan/slab as opposed to the raw "technical" solution.

To counter government and NGO subsidies, the private sector has found a most excellent alternative in polished, colourful latrine pans and latrine slabs. This is what the customer wants, i.e. an installation that fulfills (most) technical functions, while being aesthetic and thus improving the home of the owner and the value of the property. In this way the investment in a low-cost latrine becomes logical as opposed to investment in an installation that, all too obviously, only demonstrates its (partly unspeakable...) technical function.

Costs

The two-pit offset latrine is vastly more expensive than the single-pit option.

As by information given by the CMC Low-Cost Latrine Production Centre in Chittagong the production and sales prices are as follows:

	<u>Production Cost</u> <u>of Latrine Components</u>	<u>Subsidized Sales Price</u>
Two-Pit Latrine	Tk 1456:-	Tk 660:-
Single-Pit Latrine	Tk 580:-	Tk 275:-

Ad to this an installation cost of Tk 350:- for the two-pit latrine as opposed to an installation cost of only Tk 150:- for the single-pit. On top of this cost difference the two-pit latrine further needs a floor construction at a cost of apx. Tk 800:-, bringing the full cost (gross production and installation cost) of a two-pit latrine to apx. TK 2600: - as contrasted with a gross production and installation price of Tk 730:- only, for the single-pit latrine.

To this expenditure the further costs of superstructure and of transport have to be added.

For purposes of comparison: The full installation cost of an in-house septic tank toilet for 10 users, at present is apx. Tk 11,000.

4.3 Superstructure

As we have seen in the preceding chapters, the concern of the potential buyer/user of a latrine is not centered on technical simplicity but on aesthetics and convenience.

Nor will the potential buyer primarily be motivated by, the often complex, health issues as related to sanitation, presently brought forward by large aid organizations and the government, to argue the use of sanitary latrines.

The potential user's main interest in acquiring a sanitary convenience will be such issues as privacy and comfort, durability and maintainability, and therefore related to the full structure, not to the "technical" underground and on-ground structures only.

The superstructure is thus an essential part of a low-cost latrine, all the more, as the superstructure presents the private installation to the outside world. It is the view of the consultant that the lack of full latrine options for sale, including a choice of low-cost superstructures as part the installation sold, is one of the greater draw-backs in marketing low cost sanitation¹⁾.

Design, Materials and Price

A latrine-superstructure is either a small house or, more rarely, a screen set up as an unroofed house or a spiral wall inhibiting an outside view of the user.

1) The consultant has visited a number of UNICEF low-cost water and sanitation schemes in India and Bangladesh where UNICEF had provided the on-ground and pit structures at subsidized cost. It was however the responsibility of the buyer (as a show of sincerity!) to provide the superstructure. At none of the locations visited had such superstructures been constructed, demonstrating an obvious flaw in this "community participation" strategy.

The screen may be seen as a part solution only, and is usually found in slum areas, concealing non-sanitary-latrines or bare-ground-urinals for women.

A "house" is the preferred superstructure on a sanitary latrine and has the function to give privacy and shelter to the user. It should further, as far as possible, give a nice appearance, as it often may be viewed by neighbours. It should give good ventilation to control odors from the latrine, and should admit light during daytime, while blocking any outsiders view of the user.

The durability of such a construction, as expected by the buyer, will be related to price.

At present a brick (pucca) construction seems to be the customer preference for a superstructure. A pucca choice is logical whenever the latrine is built into a pucca house construction and thus forms a part of a pucca house. However, such a structure is expensive, and notably unnecessary when the latrine is located on the house compound away from the main house construction. Further a pucca latrine house is imovable and thus does not form a viable option when a superstructure has to be relocated, such as needed when using an alternative "two single-pit installation" with deferred installation of the second pit.

Nor are the compact pucca latrine superstructures (presently seen in urban areas) constructions of optimal functionality. They do give shelter (and are in actual fact small copies of pucca houses) but do not serve the significant functions of good ventilation and daytime lighting (of concern notably to child users of the facility).

Lastly the pucca latrine superstructure is expensive, bringing the cost of an installation to double, or (most often) more than double, the price of the actual latrine facility¹).

1) In Kishoreganj the consultant visited a large building contractor who also produced "demonstration latrines", and would take responsibility for full installation including a pucca superstructure. The costs for such superstructures were given as: TR 9000:- for a large superstructure, TR 6000:- for a smaller one.

The reasons for customer preference for the pucca latrine superstructure are probably simple:

- 1) The structure is known and designs, as well as skilled manpower for construction, are readily available
- 2) The construction is prestigious and durable and may be seen as a property investment

The preference for pucca constructions is unfortunate as it brings the price of the total latrine installation to a level where costs will be prohibitive to a majority of potential low-income purchasers. It is thus further regrettable that most "demonstration latrines" have been topped with pucca structures, giving the impression that this is the construction of (government and donor) choice¹).

Alternative Superstructures

Alternative superstructures exist in large variety and are mainly based on inexpensive local or industrial materials:

LOCAL MATERIALS

- Bamboo
- Jute-stick
- Straw
- Wood
- Mud-brick and mud-plastering
- Palm leaf

INDUSTRIAL MATERIALS

- Jute sack
- Polyethylene sack
- Plastic sheet
- Corrugated iron, plastics etc
- Tin plate

1) The usual outcome as so often seen where beneficiaries are themselves to build latrine houses, is that superstructures are never constructed, and that donated or subsidized latrines are left out in the open, never to be used.

Where notably the local, natural materials give good possibilities for very aesthetic architectural solutions of good functionality (if sometimes lesser durability) and at a reasonable cost¹).

Also superstructures constructed from local-natural or inexpensive (often rejected) industrial materials are light and lend themselves easily to movable constructions.

To further such simple, inexpensive, but not necessarily low-prestige constructions, it will be important centrally to prototype constructions based on a spectrum of suitable, locally available materials catering to the needs of potential users both as to tangible and intangible functionality.

Designs for inexpensive superstructures should be available at the sales-outlets for low cost latrines, both so as to enable the buyer to carry out the construction (with possible assistance) and as to enable sub-contractors, available through the seller, to be contacted for the delivery of specific, non-pucca superstructures.

Such designs should also allow the facilitation of water for personal hygiene and outline locations for cleaning utensils and soap. Further, designs should describe such other elements of construction as raised latrine pits including walkways and stairs.

4.4 Use of Local Materials

The involvement of private producers and the development of appropriate prototypes would increase the possibilities of using local skilled workpower and local materials at the same time as strengthening traditional technologies and skills.

¹) On a visit to Mirzapur the consultant encountered a superb latrine superstructure constructed from jute sticks. Not only was the construction exquisite in its architectural simplicity (bound jute sticks), but the grill structure created provided excellent ventilation while obviously giving good shelter. The grill of brown jute sticks further functioned as a one way window where the user could look out from the latrine through the walls and contemplate the surroundings while not being seen from the outside.

For low-cost latrines notably burnt clay gives good possibilities for utilization as latrine pit-rings (at present mostly produced as open-well rings and quite competitive with cement rings). Burnt clay pot-covers are utilized by the WB/ICDDR,B Project in Mirzapur and CARITAS has been testing glazed clay latrine slabs. Such development, will involve the instruction of local potters, and the development of appropriate methods of transportation.

The other area where local materials could come to full use is the prototyping and development of superstructures. Here developments should follow local technologies and accepted styles, as well as be based on the local availability of inexpensive or free materials.

Another small area for investigation is the "bodna" - the water container for toilet use. Here a wide span is available in design, materials and prices: Burnt clay (traditional), brass (traditional) and plastic. The sale and general utilization of such containers is of concern to the Project, both as ample ablution after toilet visits is paramount to the Project health objectives and as the use of water in adequate amounts for anal cleansing will do away with the nuisance of latrines being blocked or broken by sticks or blocked through the use of stones, cloth, paper, plastic-sheat and other inappropriate materials.

4.5 Possible Improvements in Latrine Design

As has been pointed out in the preceding paragraphs the "demonstration latrine" cannot be considered as a feasible sanitary solution as pertains to Bangladesh low and medium income households. Notably, only 9-11% of Bangladesh households could be expected to be able to bear the base cost of a "demonstration latrine", while such latrines further have to compete in the up-market with the more prestigious septic tank. Also the "demonstration latrine" has been linked in the mind of the public with pucca superstructures as well as ceramic latrine pans and squatting slabs, increasing the cost of a "good" latrine even further.

The simple alternative is a single pit sanitary latrine that fulfills basic perceived needs not only to technical performance but also as to aesthetics and prestige as seen by the

majority of the low and medium income population. Notably, a two-single pit latrine would perform as well as, or better than, the "demonstration latrine", given the latrine slab and pan were easily movable, and that easily transportable latrine pit covers of good quality were available to provide safe lids, for such pits where excreta were left to decompose.

4.5.1 The "Demonstration Latrine"

Apart from such problems relating to "demonstration latrines" as mentioned in the earlier text, a number of minor - but sometimes significant - faults were pointed out during the socio-economic survey by the Bangladesh consultant.

- The 75 mm diameter pan hole is too narrow to function properly. This often leads to passage obstruction and/or excessive water use.
- The rough surface of the ferro cement trap forms an adhesive surface for excreta, leading to problems with cleaning (excessive water use, use of a stick for clearing the passage, etc.). Further, the trap is often not water-tight. Both design faults lead to problems with odor control.
- The cement concrete joint of the pan-trap is not air-tight but releases odor when the trap dries up (usually during the night, when not in use).
- The connection pipe, made of reinforced cement concrete, often corrodes as well as develops cracks. Leakages from pipes, with ensuing odor and site pollution, is a common occurrence.
- Water-seals, as presently produced, often exceed their design dimensioning, thus forcing users to use excessive amounts of water for flushing.

4.5.2 Single Pit/Two-Single Pit Latrines

The primary goal for the improvement of single pit/two-single pit latrines will be to create a strong demand for sanitary latrines so as to be highly competitive with less costly, non-sanitary options.

Such a strategy will involve designs which at little additional cost will cater to the consumers preference for "nice" and perceived useful facilities, i.e.:

- Superstructures of fine appearance, giving adequate privacy and shelter, while ensuring odor control through proper ventilation.
- Colourful and smooth on-ground structures (slabs, foot-rests, and latrine bowls) that are pleasant to look at and easy to clean, as well as usable by both adults and children.
- Water-seal traps should be made of durable and flexible materials such as plastic/PVC that will not break easily on mechanical impact. Further such materials should be used, as will not expand/contract under the impact of heat or moisture, thus causing leakages and release of odors from the latrine.
- Improvements as to facilitate familial use and maintenance such as easy to transport latrine-slabs and pit-cover lids: Both provided with cast-in catch-hooks or rings for lifting and manual transporting.

Probably, a number of varying designs should be tested as to user acceptability and preference within different areas and communities of Bangladesh, where also compost latrines may be included in such experiments¹⁾.

Such tests of acceptability and preference could best be carried out through private producers, the production flexibility and market orientation of which would ensure a fast feed-back as to marketing responses and product demand.

1) A wide range of options as to sanitary latrines, including two-pit compost latrines, may be found in Uno Winblad and Wen Kilama: Sanitation without Water, MacMillan, London, 1985.

5. TRAINING NEEDS

Presently the project proposal for the ongoing low cost Sanitation Programme includes a training component for various government staff categories implementing the programme, as well as the training of masons in the casting of latrine components.

As have been pointed out in the preceding chapters, such skills and/or expertise are already present within the private sector, a sector which furthermore is willing and able to train and locate further skilled and unskilled staff whenever growth in the market makes this necessary.

From preliminary and informal discussions with private producers of latrine components it is quite clear that many established producers are reasonably conversant with the technologies as used at government and NGO production centers, notably as a number of private producers function as subcontractors to such centers.

A great need for training, however, is found in localities where no large private producers have yet been established. Such training, along with soft loans for establishment, could well be offered to producers and traders in such localities operating in related fields and willing to expand into low-cost latrine production and sales.

Also training packets may be offered to private-, government- and NGO sellers/producers on ("modern") marketing methods and sales display so as to link up all production and sales units to overall marketing strategies for the promotion of low-cost sanitation in Bangladesh.

A further training programme will be needed for installation and servicing of low-cost latrines: Installation of elevated latrine pits, replacement of broken latrine components, and

the sanitary emptying of latrine pits as well as sanitary disposal of pit contents.¹⁾

Finally a training component should be developed for the construction of simple and functional superstructures, based on prototyping involving local materials and technologies. The selection of candidates for such training will have to be done in liaison with local (government and private) producers, as future producers of latrine superstructures will have to link directly to, and be promoted by, local sales outlets for low-cost latrine components.

5.1 General and Specific Fields for Training

Training for the low-cost sanitation sector should primarily be aimed at existing and potential small-scale producers of low-cost sanitary ware.

However, training should also be extended to potential producers (sub-contractors) of superstructures as well as to such enterprises or persons undertaking installation (which may be others than the producer) and the construction of raised platforms/mounds for latrine installations, in areas prone to flood.

Finally, training should be offered to such persons and groups presently involved in the servicing and maintenance of latrines, such as members of the Methor community (see Chapter 10.5).

The training programmes to be developed should take into account such skills already inherent with the potential trainees. Notably, many producers of sanitary ware, were originally trained as masons. Constructors of superstructures will naturally be carpenters, while the Methor community already has wide experience in the sanitary field.

¹⁾Notably such training should be aimed at head-men and women from the Methor ("scavenger") community and at Corporation and Pourashava officers with responsibility for conservancy. At present the disposal of night-soil from bucket latrines poses a health hazard to populations as does servicing of (private) septic tanks and pit latrines. Also, as mentioned in Chapter 4.1, there is some doubt as to the digestion period for night soil in low-cost latrine ring pits which, until product development is concluded, will necessitate the disposal of not fully digested latrine matter in a number of instances.

Such persons or small private enterprises selected for training, should be so selected on the basis of technical skills and proven performance, while such criteria as age, educational qualifications, literacy or present level of income, etc. should in no way play part.

Further, specific training components should be developed for specific regions, such as being flood prone, having specific soil conditions, etc., as well as geared to the utilization of available natural resources (clays, materials for superstructure construction, etc.) and skills.

General Training

By general training is understood such training components directed at latrine production as may benefit the whole of the primary target group (small-scale and potential small-scale producers of sanitary ware).

Notably, the initial findings from the survey of private producers show that most small-scale producers have poor knowledge of materials as well as poor ability to follow design specifications (dimensioning).

Thus basic training (as adjusted to the skills of the trainees) should include:

- Mixing-proportions for cement concrete types
- Curing
- Design and dimensioning
- Quality control
- Installation
- Superstructure design and construction

Further, general training should include:

- Small enterprise management
- Marketing and sales

- Customer services¹⁾
- Basic maintenance and repair

and possibly, basic health information as related to sanitation.

Specific Training

Specific training should relate to distinct area conditions and consumer attitudes as well as to producers/service groups who may function as subcontractors or supply services directly related to low-cost sanitation. Further, specific training could encompass such other skills and technologies (such as drainage pipe-making, hand-pump servicing, etc.) as may make latrine production viable in a broader context.

Such specific training could include:

- The preparation and use of special materials, such as for the casting of mosaic pans
- Installation of latrines as related to special conditions such as soil types and likelihood of flood
- The use of local materials, technologies and designs for the construction of superstructures, clay pit-rings, etc.
- Maintenance and repair of low-cost latrines
- Products related to the sanitary field and/or to sanitary latrine production technologies, so as to make a small enterprise viable through product diversification.

5.2 Location for Training

Training should preferably be carried out on locality. Both so as to be able to reach the full range of potential trainees and to ensure adequate consideration for local conditions.

¹⁾Including advising customers on options as related to financial ability and family needs (such as pit dimensioning as related to household size).

6. RESEARCH NEEDS

Though many of the Project data collection- and research needs have been covered through the Socio-Economic Survey and the Survey of Private Producers (see Appendices III, IV, and V), there are still significant research areas pending as pertain to the low-cost sanitation sector. Such research needs are most obvious in the areas of:

- 1) Technical Performance
- 2) Consumer Behaviour

6.1 Technical Performance

A number of problem areas as to technical performance have been sketched out in Chapter 4.5, where research and testing will be needed to ensure adequate product development. Other specific problems of a technical nature have presently been identified as:

- Problems with permeability of soils limiting percolation from the standard latrine pit(s). (A soil survey for the Project pourashavas has recently been carried out by the Project Office).
- Questions of the speed with which the digestion of night-soil takes place within the standard latrine pits.
- Problems with run-off from latrine slabs limiting the effects of washing-brushing.
- The development of latrine slabs and latrine pans suitable for children as well as adults.
- Easy quality control methods for finished products.

6.2 Consumer Behaviour

Data on consumer behaviour vis-à-vis the wide range of sanitary options in Bangladesh are presently as good as non-existent. Such data should be collected over a reasonable period

of time from a number of sales outlets offering a spectrum of latrines and services, including low-cost sanitary latrines. Notably new product developments and prototypes should be tested on the market at such specific locations with known consumer generality, before being brought to the full market.

It is the opinion of the consultant that product development will in the near future call for the part- or full-time Project input of a marketing/promotion specialist. A marketing/promotion specialist should advise not only on the sale and promotion of low-cost latrines, but also on prototyping as related to consumer needs and preferences. Further a marketing/promotion specialist could have the function of translating consumer behaviour into technical terms for use by the engineering sectors involved in product developments.¹⁾

¹⁾A simple model of the lack of linkage between the technically oriented developer and the consumer is shown below. The need for "translation" between the technical solution and consumer preference is obvious.

LCSL PRODUCT DEVELOPMENT

	DESIGN/FUNCTION	APPEARANCE	COST
"TECHNICAL" SOLUTION	Simple design. <u>Production oriented</u>	Raw Appearance as related to production orientation	Low - as function of technical solution
CONSUMER PREFERENCE	Should be durable and easy to clean. No interest in full functioning of LCSL	Parts that are seen should be aesthetic	Low - but related to <u>appearance</u> of LCSL

7. EXCRETA AND HEALTH

Excreta is the main element in the transmittal of gastroenteritic and diarrhoeal diseases in Bangladesh. Either directly through the ingestion of faeces brought by hand to the mouth or indirectly through the contamination of food and water.

Therefore the control of faeco-orally transmitted diseases will primarily be dependent on:

- 1) The sanitary disposal of faeces and the subsequent destruction of the harmful organisms contained in the faeces
- 2) Personal hygiene. Notably the washing of hands after defecation and before meals, as well as before feeding children and babies.

Further a number of parasitic worms are spread by faeces,¹ of which only hookworm and roundworm are of serious concern. The control of hookworm and roundworm is mainly through the sanitary disposal of faeces.

From the description above it may be inferred that the sanitary disposal of faeces does not in-it-self control the spread of disease, and a drop in incidence will only be encountered when sanitation is linked to the provision of ample water for hand-washing and bathing as well as to the introduction of adequate health practices followed by a majority of the population.

¹Urine has little importance for the spread of disease except in parts of Africa where schistosomiasis (*Schistosoma haematobium*) is prevalent. Other diseases carried by urine is Leptospirosis (a very rare disease) and, possibly, viral Hepatitis.

The following is a systematisation of important communicable and sanitation related diseases found in Bangladesh that may be controlled through sanitation linked to water provision and health education.

IMPORTANT SANITATION
RELATED COMMUNICABLE DISEASES IN BANGLADESH

Disease	Primary Mode of Transmission	Simple Control Measures
Cholera	Drinking water	Provision of clean drinking water
Typhoid	Drinking water	Provision of clean drinking water
Paratyphoid	Faeco-oral	Sanitation, hand washing
Shigellosis ¹⁾ (Bacillary Dysentery)	Faeco-oral	Sanitation hand washing, removal of childrens faeces

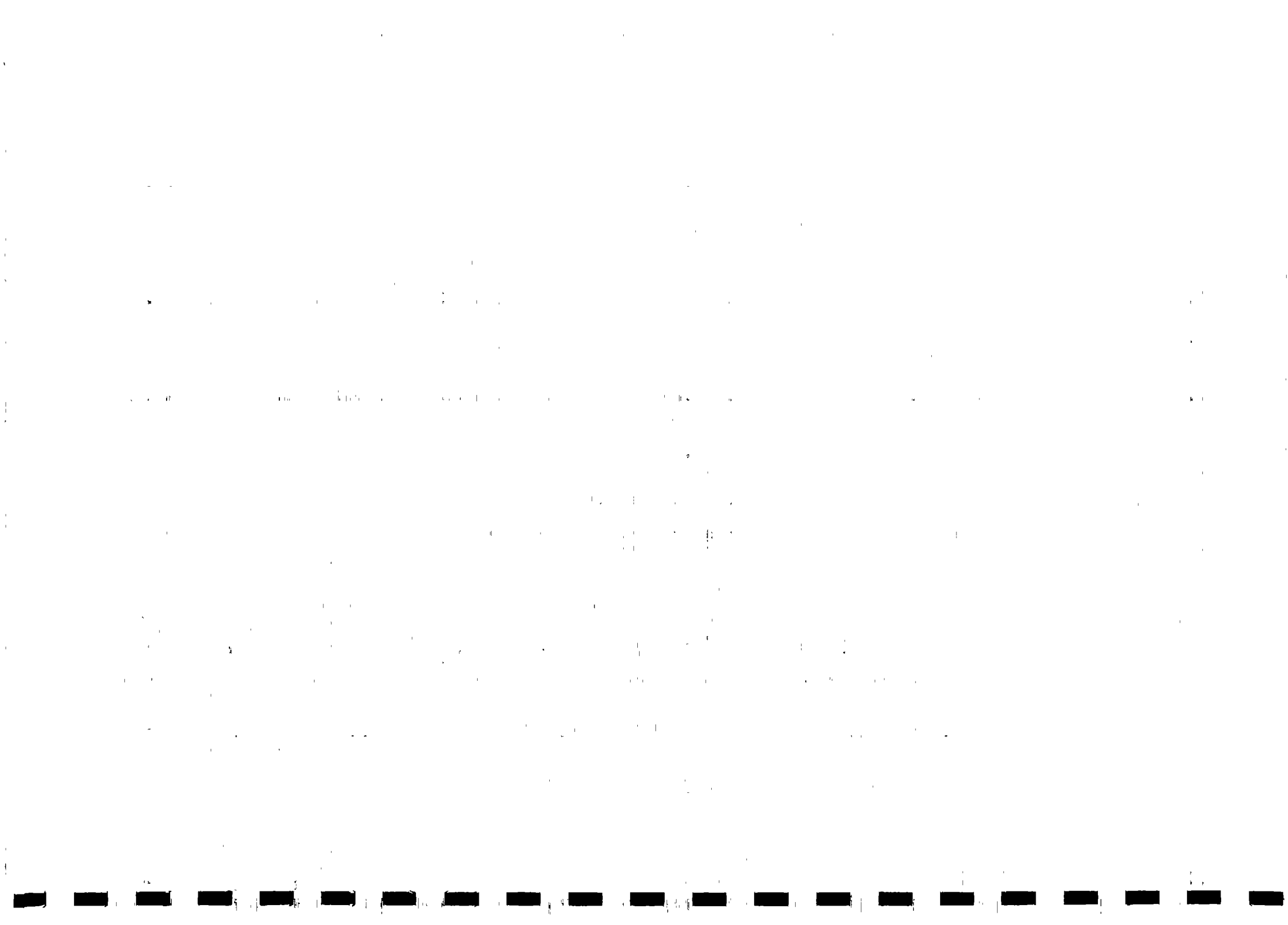
1) Children are the main reservoir of infection. As the bacilli are present in the stools several days after an attack, and children defecate within the house and on the house compound, transmission of the disease will easily take place where childrens faeces are not disposed of properly.

Disease	Primary Mode of Transmission	Simple Control Measures
Amoebiasis	Faeco-oral	Sanitation, hand washing
Salmonellosis (other than Typhoid and Paratyphoid)	Faeco-oral	Sanitation, hand washing
Viral Diarrhoeas	Faeco-oral	Sanitation, hand washing
Enterobiasis (pin worm) and Trichuriasis (whip worm)	Faeco-oral	Sanitation, hand washing
Ascariasis (Roundworm)	Faeco-oral	Sanitation. Washing of fruit and vegetables
Ankylostomiasis (Hookworm)	Direct contact with faeces in wet, shaded, non-saline soil	Sanitation. Wearing of shoes
Tetanus	Soil and human/animal faeces into wound	Washing deep wounds with soap
Hepatitis A & B	Mode of transmission not fully understood Faeces and urine may have some importance for spread	High level of <u>general</u> hygiene

Marketing and Promotion of Hardware and Health



Sign-painters shop in Chittagong.



8. MARKETING AND PROMOTION OF HARDWARE AND HEALTH

As can be seen from the preceding chapter the availability of sanitation and water are prerequisites for health improvements for populations in general. While this is the case, neither does the provision of clean water, nor the establishment of fixed places for defecation per se lower the risks of infection.¹⁾

Thus hardware by-it-self will not improve health conditions, and will only do so if of adequate type, and if the provision of sanitation and water is accompanied healthy hygienic habits adhered to by the far majority of the population.²⁾

If the objective at hand, is an increase in infant-, child-, family-, and community health, a sanitation programme will need a firm base comprising more than just sanitary facilities, i.e.:

- That sanitary facilities such as provided are technically sound, and will remain sanitary with a minimum of upkeep and maintenance
- That such sanitary facilities are, or can be made, acceptable to the full populations of given areas, including such population segments as defined on the basis of age and sex
- That such sanitary facilities can be delivered within cost ranges acceptable to the majority of households
- That an apparatus for the production, distribution and provision of such sanitary facilities to full area populations can be established

1) In fact the opposite may be the case:
Notably fixed, but unsanitary, places for defecation may function as loci for the spread of disease, while water, unless used for thorough personal hygiene, washing of hands etc., will have little or no impact on morbidity.

2) As brought on by the general avail of sanitation and water linked with a general change in practices related to sanitation and personal hygiene. A reduction of the incidence of most diseases communicated by the faeco-oral route will not work as a linear function related to minor changes in service levels and/or health attitudes, but be dependent on a general and drastic reduction in pathogenic organisms as found in the full environment.

- That water of a reasonable quality is available for adequate personal hygiene as linked to sanitation
- That health practices as related to sanitation and water are well established, or alternatively:

That a relevant and efficient health promotion programme, changing current unsound practices, is carried out reaching all significant parts of the population.

Accepting widespread community health improvement as our objective, and considering the realistic prerequisites for such improvement as given above, our marketing task becomes a "social marketing" venture, where each marketing element is part of an integrated approach leading to the fulfilment of a general social goal.

In such a context project indicators of achievement can no longer be numbers of latrines produced and sold, training sessions held or health messages imparted etc., but will be intristically linked to the quality of each project element and the integration of all project elements as a whole.

This is important to bear in mind, especially as the linkage between sanitation and health, while being obvious to a health worker, may not be the key promotional issue for the sale of latrines. Thus a marketing thrust will do well to keep sales of latrines apart from health promotion campaigns. Integration of the two should take place at a higher level and form the basis for the general promotional strategy.

The central issue in marketing and promotion, whether we consider low-cost latrines or the related health issues, is that the products brought on the market should be made relevant to the customers. Most low-income Bangladeshi will probably not buy a latrine primarily for its health function, but rather for reasons of convenience, i.e. privacy, shelter and utility. Further considerations will be presige and increase in property value. Also the customer will have only minimal interest in the technical functioning of the facility, but he and she expects it to function, to keep its neat appearance, suffer no break-downs and be easy to clean and service.

Price is an important determinant, and should be low as to relate to the preceived utility of the product, however, when the price range is seen as manageable by the customer, he/she will be conditioned by perceptions of a non-technical or only limited technical nature and chose an installation that primarily fulfils criteria such as those given in the paragraph above.

As the potential user has little interest in the technical functioning of a latrine, as apart from conceived inconvenience, product development and prototype choice takes on central importance. The project will have to ensure that not only are products acceptable to the consumer and competitive in the market, but also acceptable from a project objective of sanitary functioning over time, thus resulting in general health improvement.

As for the promotion of health related behaviour, the issues involved should be easy to practice if not always to "understand". Specifically, health-behaviour, as promoted, should be possible and practicable in the sense that health messages such as: "Do not bathe, wash or swim in a river or a pond" and "always use soap" have little relevance to the life of an ordinary villager or slum dweller, and thus only tend to make the full promotionary effort irrelevant in the mind of the receiver.

8.1 Defining the Target Groups for Low-Cost Sanitation and Health Promotion

8.1.1 Low-Cost Sanitation

The target group for low-cost sanitation may well be defined as:

- Those who can not afford a more prestigious sanitary solution, while being able to pay the cost of a simple sanitary latrine.¹⁾

On the basis of the findings of the Socio-Economic Survey we know that (in the 9 representative pourashavas studied) approximately 25% of the households will presently have a private sanitary latrine. Most of those having no sanitary latrine, or no latrine at all, would wish to change to a good sanitary latrine (as well as a few of those presently having sanitary latrines considered less than optimal). Of the full population on which information was collected (2293 households), more than 90% owned the land on which their house was located.

This leaves a total marketing target for sanitary improvement at-a-cost of 75% of the total population, less those (10%) not owning the land on which their accommodation is situated, and for which alternative solutions will have to be found.

From the survey the correlation of household income and the availability of private household latrines was found as follows (Table 2.5):

¹⁾This definition excludes those who can not even afford a simple sanitary installation and/or such households who do not own the land on which to install a sanitary latrine.

Such groups may of-course be provided latrines cost free under full aid programmes. Here however marketing should be geared at the utilization and upkeep of the facilities, and not be a sales promotion effort.

Income range Tk/year	Percentage households in income group having own sanitary latrine
1-10.000	0.0%
10.001-20.000	10.1
20.001-30.000	20.4
30.001-40.000	30.1
40.001-50.000	36.0
above 50.000	54.7

Giving actual percentages for those having no sanitary latrine as related to income group as:

Table 8.1

Yearly family income	Percentage of total sample population	Percentage of total sample population having no sanitary latrine
10.000 Tk and below	6.8	8.9
10.001-30.000 Tk	52.6	59.1
30.001-50.000 Tk	25.6	23.0
above 50.000 Tk	15.1	9.0
Total	100.1	100.0

Where the group with yearly incomes of 10.000 Tk and below will contain the majority of those not owning their own land.

The main target population for the sale of improved sanitation should thus be found in the family income bracket of 10.001 to 50.000 Tk a year.

When we consider the willingness and/or ability to pay as expressed by household members in the socio-economic survey sample of those households (535 in all) wishing to acquire a "good latrine", we find (see tables 2.2 and 2.3):

- That 50 households (9.3% of sample) offered more than Tk 2,000 as one single payment

- That 46 households (8.6% of sample), corresponding to the above group, offered a similar amount as payment through installments over a period of one year
- That 124 households (23.2% of sample) offered a full single payment of from Tk 501 to Tk 2000
- While 270 households (50.5% of sample) offered a similar amount through installments over a period of one year.

In contrast 46% of those questioned (246 households) would offer nothing as a single payment, correlating with 40.9% (219 households) stating they could pay from nothing (18.3% of sample) to Tk 30 a month only, if provided latrines on an installment basis.

Accepting the given figures¹⁾ it could be expected that, between 30 and 40 percent of those wishing for a "good latrine" would pay the cost of a single pit sanitary latrine on a single payment or short-term installment basis, while only 9 percent of the same group could or would willingly, afford a two-pit "demonstration latrine" at current rates.

In real terms this would define the market presently available as apx:

- 1/4 of all pourashawa households. These households would be willing to and able to pay for a single-pit sanitary latrine

Plus

- 1/15 of all pourashawa households. These households would be able to pay for a twin-pit "demonstration latrine"

A ratio of apx. 4:1.

Those excluded are such households that already have satisfactory sanitary latrines (1/4 of the present pourashava

¹⁾These figures will probably need some downward adjustment: The low offers, due to the volatility of income and purchasing power in Bangladesh. The high offers due to competition from more prestigious options such as septic tanks.

population) and the very large low-income sector, that could not presently afford, or be willing to allocate funds for, such an installation.

Target groups as by the given economic criteria can only tentatively be identified by types of housing as located in distinct urban and semi-urban areas. Groups with good ability to acquire a "high cost" latrine to a degree live in pucca houses with boundary walls and in low to medium density residential areas, while those who may only afford a single-pit latrine (possible single-pit-two-pit-option) will predominantly live in pucca or semi-pucca housing in medium density, high density or semi-rural areas. However house type and location, were not found by the socio-economic survey to be very efficient criteria for defining income groups.

Apart from income levels and ability to pay a further target group distinction will be:

- Males (traditional shoppers and buyers)
- Females (often the decision makers in the home). Also, females, because of the purdah tradition, have a primary need for privacy.

Further distinctions may have to be made according to possible ethnic attitudes and preferences, as held by groups such as:

- Muslim
- Buddhist
- Christian

Where such distinctions may have importance for promotional messages to be carried across.

8.1.2 Health Promotion

The target group for water and sanitation related health promotion is general, and will thus encompass the full populations of the areas within the Project confines. Especially so, as good outlets for health information will be public institutions such as schools, hospitals, health centers and public latrines, as well as the public media, from which no group could reasonably be excluded.

Health messages to be promoted will accordingly have to be meaningful to a large sector of the population and should therefore only indirectly relate to the provision of public and private water sources and private sanitary latrines.

Target groups for promotional health messages and materials should thus not primarily be distinguished on the basis of income levels or social status but rather be defined on the basis of age, gender and ethnicity.

Such primary target groups would be:

- Women. Who are the keepers of the homes and have the responsibilities for children, food preparation, serving food, washing and cleaning. Any improvement in family hygiene practices will thus be dependent on women.
- Children. To be reached through schools. Children are the main victims of faeco-orally transmitted diseases.
- Men. Less important in a health promotion context. However men most often take final decisions in a household, and male concensus will be important in such matters as changed hygienic family habits, notably where involving expenditure, such as the use of soap.

Ethnic groups will comprise Bengali/tribal populations, Muslim, Buddhist and Christians where slight differences in the concepts of the clean and unclean as well as differences in ritual hygiene may have to be taken into account for local marketing purposes.

Also a health promotion programme will have to deal specifically with the large population group having no access to sanitary latrines, and no option of obtaining such access in the near future.

8.2 The Objectives of Marketing versus the Allocation of Scarce Family Resources

Before continuing it may be necessary with a word of caution. Projects often tend to gather a momentum of their own, and

just like a production oriented approach tends to value projects by the number of items produced, a marketing oriented project may fixate on numbers of items sold.

Allocating its scarce resources a low-income Bangladesh family will first have to consider its needs in terms of food, clothing and housing, then in terms of education for children and medical care and only then for a clean water supply.

Toilet facilities come low on the list of family priorities, and while of benefit to the society as a whole (if the full society is provided with latrines) will have little impact for the specific family except convenience.¹⁾

It is therefore important to bear in mind that the objective of low-cost sanitation programmes in Bangladesh, where latrines are to be sold at a price, will not be to promote and sell inconsiderate of the needs of the buyer, but to sell to those who can afford it, with the understanding that the investment in a latrine should not take away scarce resources otherwise necessary to cover primary needs, or needs for education or medicare.

8.3 Marketing in Bangladesh

Marketing in Bangladesh shows little of the promotional sophistication evolved in the industrialized countries during the last half of the century. The reasons are multiple:

- A market dominated by a limited number of firms each having monopolized specific product categories and marketing well known brands of everyday commodities, with little need for advertising.
- A large "bazar" sector of small producers and shops catering to local, visible markets with easy customer contact, and thus little need for advertising apart from sales display.
- Low literacy rates and underdeveloped media
- A very limited (legal) market for imported high-cost consumer goods

¹⁾In a grossly septic environment improved health practices as related to water and sanitation will have far greater impact than the access to a private sanitary latrine.

This means that the bulk of all sales are effected through direct customer contact within the bazar as well as by word-of-mouth from customer to potential customer.

Shop signs, while sometimes colorful, tend to have their messages dampened in the motley variety of the bazar, and most signs do little except state a profession, name and/or range of products sold by their owners.

As literacy is confined to about 1/5 of the population and functional illiteracy widespread among the literate 20%. The range of printed media is limited, and advertisements in such often take on a form of little more than statements of presence.

In such an environment by far the most effective medium to reach broad audiences is the radio, well listened to by a large sector of the population. In contrast TV is mainly the domain of an extremely limited up-market audience.

Other common marketing tools are posters, billboards and wall paintings, as well as movable street signs, that indicate the location of shops. Street signs and billboards are the creations of professional commercial painters, sometimes of considerable skill.

A final and probably quite efficient marketing tool (notably used for promoting films and political issues) is a bicycle rickshaw (more rarely a motorized vehicle) fitted with a large loudspeaker through which a male announcer will describe the virtues of the issue at hand.

Public means of transport such as busses and rickshaws rarely carry advertisements.

8.4 Informing the Customers - selling Latrines

Latrines, as viewed by the majority of the Bangladesh population, are not primarily facilities for the improvement of health, nor is the link between toilets and water as obvious as in the industrialized countries, where toilets euphemistically are termed "bathrooms", even if no bath or washing facility is present. However, there is a clear link to water, as South Asians are "washers" not "wipers", but water is, in general, considered external to a latrine - Something to be brought to a facility, from such places where other, public, water utilization takes place.

Thus to the Bangladeshi the toilet is not a bathroom, but simply a place for defecation, most often located apart from the main housing structure. The main house is part public, except for traditions of purdah, and is the location for clean activities as opposed to the place of defecation, which is by nature unclean.

As being external to the main housing structure a latrine, however, may be seen by outsiders, and it is therefore in the interest of the owner, that a superstructure is present that is sound, ensures privacy and is presentable to an outside view.

Unlike spot water sources, latrines are perceived by the public as private installations (from the survey no women reported or were reported as using public latrines). Thus latrines for groups of families are not viewed as a good solution. Further, one of the main functions of a latrine, as seen by potential procurers, is that it provides full privacy, notably for the family women. A latrine per family/household will thus be the logical objective of a full latrine programme.

The reasons for acquiring a "good", family latrine are primarily convenience and privacy while a further reason is the improvement of property. In most instances the installation of a latrine will therefore be seen as an investment, not in family health, but in property value, where both the hardware (including superstructure) and the added privacy are elements of property investment.

Finally, the deciding factors in the choice of a latrine is how well the on-ground facility and superstructure fits the aesthetic concepts of the buyer, and how easy it will be to keep the on-ground facility clean. Thus a latrine pan/slab with good acceptability in the market should be smooth, shiny and of a color that will distinguish it from other parts of the construction.

To ensure project health objectives, such latrines sold should further be sanitary and easily maintainable/serviceable.

8.4.1 Informing the customer

The important information that a (potential) customer will need at the time of selecting a latrine will be:

- A description of (sanitary) latrine types on the market as related to true cost (sub-structure, on-ground-structure, options for superstructure, installation cost, cost of transport and possible maintenance costs).
- The options for superstructure construction. Designs as related to availability of local materials. And options as to constructing with self-help or giving the task to a skilled artisan.
- Pit size, as related to size of household.
- Servicing of latrine, as related to self-help and/or hired specialists (including handling of pit contents).
- cleaning and maintenance as related to materials and material strength (preserving water-seal etc.).

Also, to further project health objectives, the customer should be informed as to the advantages of procuring a sanitary latrine. Such advantages may be explained as lack of smell, and the sealing off of faecal matter, and should not necessarily be translated into direct health terms.

8.4.2 Selling Latrines

As brought out by the socio-economic survey there is a broad and wide ranging public interest in acquiring latrines, but very little public knowledge as to different latrine options on the market.

In this context campaigns marketing the expensive two-pit "demonstration latrine" as the latrine-of-choice have probably been quite unfortunate.

Also such campaigns centering on health issues, instead of privacy, convenience and aesthetics, or forcefully linking the provision of latrines to subsidized water supply schemes may be counterproductive by confusing the otherwise straightforward issue of selling sanitary latrines.

As seen from the socio-economic survey the market is very willing, and a significant sector of the Bangladesh population would buy latrines as latrines (not as health implements or as accessories to water supply) given the right price and design.

As to the promotional aspects, sales display is presently probably the most important factor in sales. In the bazar sales line-ups of colorful latrine pans and slabs gives the general bazar customer an impression of options, that may then be discussed at home.

Given an increased capacity in the pourashavas for the production of customer oriented, sanitary latrine designs, general promotional campaigns could probably do much to further sales.

Such campaigns could take the form of radio programmes describing types of sanitary latrines with approximate (realistic) price ranges. And such information could also be imbedded in community radio programmes of a more general nature.

Further promotional activities could be loudspeaker announcements from bicycle rickshaws, or motorized vehicles, moving through relevant sectors of towns. Such rickshaws or vehicles

might carry placards giving a visual description of latrines. An important part of announcements will be price as a total and as a breakdown of hardware and other costs, as price will form the crucial element in any decisive choice.

Further marketing tools may be the exhibition of latrine on-ground-structures and superstructures (to view - not for use) at markets and fair-grounds, where personnel employed for the purpose may in detail describe each type of installation and give combined calculations of cost. Such promotional activities could be enacted in collaboration with local producers.

An indirect outlet for sales messages will be schools. Children form captive audiences and are disseminators of information in the home, notably to the household women. As childrens concepts of privacy (and cost) are not well developed, it is suggested that, in the school context, information about latrines is made a part of health education, and that simple (but true) health messages are made to convey the importance of latrines. For school purposes small pictorial folders should be developed, and, possibly, small burnt clay models of latrines that may be used for descriptive purposes.

The use of posters as well as demonstration latrines placed on private premises for marketing/promotional purposes should not be encouraged, as the effects will probably be minimal.

Promotional Messages

Promotional messages and catchwords should be aimed at males (who may be reached in public), females (mainly in the home) and children (in schools). Such messages should center on issues as outlined below:

Males:

- Good value for money (investment)
- Low cost
- Privacy for family females
- Prestige
- Durability

Females:

- Privacy
- Pleasant to see (improves your home)
- Easy to clean and maintain
- No smell
- Prestige
- Easy to use by children (if such design improvement has been developed)

Children:

- Sanitary latrines are healthy (if you wash your hands and clean your nails properly)
- Such latrines keep excreta away and keep flies out. When emptied after a few years contents pose no threat to health.

8.5 Health Information and Health Promotion

Health information and health promotion in Bangladesh has been beset by a number of problems:

- 1) Target groups have most often only been vaguely defined, with the result that health messages often become unrealistic in a village/low-income context.
- 2) The issue of health is often confused with questions of what is perceived as clean or unclean, not on what is healthy on medical grounds. As an example urine is often dealt with as a health hazard, while on medical grounds free urination poses little threat to community health.
- 3) Important health messages are often blurred by the inclusion of messages of minor importance, lessening the effects of messages as a whole. Thus serial health messa-

ges, while containing imperative instructions such as: "Wash your hands after having defecated (and washed your behind)" often also contain such messages as: "Remove your shoes before entering a house." A traditional custom (of very moderate importance for health) and followed by all, having the means to wear shoes.

- 4) This leads to the conclusion that health messages are only rarely graded as to importance and thus the aim of promotional campaigns is blunted.
- 5) Finally health campaigns often show confusion as to under what conditions low-income Bangladesh populations live, i.e. health messages, even when clear and concise are placed in a pictorial environment, that reproduces the artists/designers concept of peasant/low-income-urban life, not a picture with which the general target group can identify.

To counteract such communication problems as outlined above it will be imperative, before implementing any health campaign, to secure that the following points have been adequately dealt with:

A) Definition of target group:

- The population in general
- Villagers
- Urban/semi-Urban low-income populations
- Women and infants/children
- Children in school
- Those having latrines/having no latrine
- etc.

B) Defining spatial and service context:

- Does health communication relate to standard conditions or to an expected change in service levels

- Village/semi-urban/urban
- General health or health measures specifically related to the provision of latrines (and possibly water)

C) Present health concepts and practices of target population¹⁾

- What are present practices and concepts as related to health campaign objectives
- Concepts of the clean and unclean
- "Folk" concepts of the etiology of disease(s)
- What will be the usefulness of present beliefs and practices in a health campaign context

D) Priority health messages/information

- Where are the important needs, on strict medical²⁾ grounds,

¹⁾"Folk" beliefs and ritual as related to concepts of health and the clean/unclean should only be reinforced by health campaigns if this serves a further purpose. Thus it gives little meaning to tell people to bathe regularly, if this is normal practice. A message in such a context should advise a more healthy way of bathing (if this is imperative), and in such a way that this can be accommodated within traditional beliefs and practices.

Thus for population groups that have fixed places for defecation, the idea of a fixed place should not be reinforced. Instead one should try to link this concept to the concept of a sanitary latrine.

²⁾"strict medical grounds" should be taken literally. An example is: "Keep a lid on your water jar and to keep such water jars inside the house", as advocated in many health campaigns at present. Investigations have shown that water in containers kept outside the house and in unlidded jars are in fact less prone to bio-pollution. Thus, while a lid might look nice to a health worker, the use of a lid should not be encouraged and even less be allowed a full campaign message.

for changes in health practices¹⁾ as concerns the target population.

- Select a hierarchy of such primary changes in health practices as desired, and select those of central importance (on medical grounds) for translation into primary health messages.
- Adjust selected messages to the present practices and concepts of the target population.

E) Adjust health messages to the given situation

Make sure that health messages are realistic in a given context. Envisaged changes in health practices should relate to given income levels and service levels.²⁾

F) Select marketing tools as related to target groups, health messages (health campaign objectives), health campaign timing and logistics.

The possible marketing tools are multiple, and a range of such tools should probably be utilized for any given campaign.

G) Field testing

Envisaged health messages and marketing tools should be thoroughly field-tested as to target groups and standard localities. The data obtained should be analysed as to relevance and optimal impact and rectification/adjustments should be made accordingly, before implementing any health campaign.

1) To reach primary health objectives, only a change in practices will be necessary. If effectuated through "folk" concepts of what is healthy, clean or unclean, such changes may be lasting and widespread. On the contrary a "true" medical explanation may be confusing to the target group (possibly in conflict with tradition and world-view) and will thus not lead to the expected change in practice.

2) To exemplify: "Do not use river or pond water" may sound nice in Geneva or Washington but is not a realistic health message to a villager or slum dweller where no alternative exists. In such a case: "Boil river or pond water for drinking purposes/collect rain water for drinking purposes" would be community oriented and realistic health messages.

A selective list of marketing tools is given below:

Direct verbal communication

Dissemination of health information (to change health practices) by community health workers, midwives, health clinic- and hospital personnel, school teachers and other persons involved in community work.

The spread of health information by such channels will involve a training programme for involved personnel, pinpointing the important issues at hand, as well as what should be considered irrelevant (or counterproductive) in a campaign context.

Such groups may be given printed marketing materials, flip-overs, slide series, films etc. for use in communicating with the public.

Printed media (newspapers and magazines)

Little promotional impact should be expected for low and medium income groups due to low literacy rates.

Radio

Very high impact should be expected, notably if health messages are imbedded in popular programmes. Also songs and jingles may be developed.

TV

Little impact should be expected, as TV caters mainly to the very high income group.

Films/Video

Should be used in well defined contexts only, and made to suit well defined target groups. Then may have high impact.

Posters and stencilled wall prints

Long-term impact is probably very limited, but posters and wall prints may be used to highlight specific issues during campaigns of limited duration.

Wall paintings and billboards

Wall paintings and billboards may be quite efficient marketing tools. But paintings have to be perspicuous and of high artistic quality.

Announcements by loudspeaker from a moving vehicle

Will probably pose difficulties in a health promotion context as core health messages, as related to latrines, are often of a personalized and slightly "shameful" nature.

However, songs or jingles developed on health themes may be broadcast.

Wall calendars for use in the home

This is an excellent way to bring easy to understand pictorial messages into the homes.

The best types of calendar will have a page for each month or bi-monthly pages, where each page sheet gives a colorful representation of a health message. The quality of paper has to be good (as the calendar has to last for a year) and pictures should be pleasant to look at and convey positive messages¹⁾ only.

Printed materials for public distribution or use by health educators will be discussed in chapter 8.7.

8.6 Core Health Messages

Core health messages should cover essential changes in health practices to be desired. These form the basis of any given health campaign and may be elaborated or expanded to suit specific contexts.

Core health messages should relate directly to sanitary practices.

1)The calendars primary use from the point of the receiver will be decorative. Thus negative aspects of health such as sick persons, or pictures of victims of diarrhoea should not figure on wall calendars.

Health messages should be realistic (i.e. be consistent with the availability of latrines, the service levels for water supply, the affordability of water and the provision of free water for washing, laundry and other purposes).

Messages should be short, and lend themselves well to elaboration by health instructors, teachers etc.

Further the number of health messages should be limited, as not to confuse the issues involved, and be directly aimed at desired preventive or curative changes in health related behaviour.

Lastly health messages should be directed at defined target groups (i.e. females, males, school children, health personnel, Muslims etc.). A colorful poster meant to activate bi-or multilateral funding agencies, may not be functional in a rural Bangladesh context.

Thus all core health messages should be fully tested under true field conditions as to clarity, necessity and acceptability before being incorporated in any health campaign.

The following is a tentative suggestion as to such basic (core) health messages:

- wash your hands with soap or ash after having visited the latrine
- see that your childrens hands are washed with soap or ash when they have been to the latrine
- if you defecate in the open then cover your faeces with soil (and wash your hands etc.)
- remove childrens faeces from the house and yard and see that these faeces are buried
- keep your nails and the nails of your children clean. And cut your nails so that you may keep them clean.
- always wash your hands with soap or ash before eating or preparing meals. And see that your childrens hands are washed.

- keep food covered (possibly suggest type of cover) to avoid flies
- wash your eating utensils and dry them in the sun

Of these suggested core messages the washing of hands after defecation and behind-washing is far the most important along with the message to wash hands before meals and meal preparation.

8.7 Existing Printed Health and Sanitation Information Materials
- An Evaluation

Printed information materials comprise drawings of health related behaviour as presented in booklets, folders, posters, calendars etc. in the form of single pictures or short cartoons, as well as short printed texts for health educators, and the 1/5 of the Bangladesh population which is deemed literate.

Problems with such information materials have been outlined in paragraph 8.5, notably that such materials often only to a moderate degree fulfill objectives as to clarity of message, relevance of message and the presentation of realistic messages in a context recognisable by the target groups.

The following evaluation presents drawings and texts presently utilized as health education materials in Bangladesh and India with a short description, mainly of faults, as identified by the consultant. The selection, will thus not give a general overview of average information materials, but will be biased towards the obvious. Also, it should clearly be stated at this point, that the selection in no way should reflect negatively on persons or organizations having designed or produced the following drawings or texts. Quite to the opposite such drawings and texts have most often been selected because of the quality of drawings which bring out essential (if negative) points in the exercise.

The following discussion will be based on the assumptions that drawings or texts:

- 1) Should be aimed at a defined target group
- 2) Should be aesthetic as perceived by the target group
- 3) Should be self-explanatory
- 4) Should convey clear messages
- 5) Should convey important health messages of actual prophylactic value

- 6) Should be realistic. I.e. should advocate health practices that could be followed by the target group, as well as realistically depict context, such as: Houses, dress, crops, spatial outlay, family roles, postures etc. in such a way that these do not conflict with the perceptions of the target group
- 7) Have been thoroughly field-tested under realistic conditions as to the above points

8.7.1 Examples of Health and Sanitation Information Materials with a Discussion

Also refer to Appendix VI page 14 and 15.

IMPORTANT HEALTH RULES

1. Drink boiled or tubewell water. Where available use tubewell water for cooking, washing utensils, bathing and other purposes.
2. Take fresh and warm food. Avoid taking food from open places and markets.
3. Keep food covered to avoid fly nuisance and contamination.
4. Wash your face, hands and feet before entering your house after outdoor activities.
5. Wash your hands with soap/detergent before taking food.
6. Use a fixed place for defecation by all the family members including children.
7. Wash your hands with soap/detergent after defecation each time.
8. Do not bring back in your house, the water pot which is used to carry water for anal cleansing.
9. Do not construct open/kutchha latrine in places which have connection with rivers/channels, water bodies and ponds.
10. Use of sanitary latrine ensures primary health care to a large extent against water and excreta borne diseases.

1. "Important Health Rules" as produced by the Low Cost Sanitation Programme during project inception. These health rules were based on materials received from TAG.

Discussion:

The sequence of health messages is not according to importance. Thus encouragement to wash hands is given as points 5. and 7. while messages of lesser importance have been given priority.

Point 2. makes little sense. Why should food be warm ? And is it realistic to ask normal persons to refrain from eating out.

Point 4. gives little meaning. This is normal practice after work in the fields or dirty work in general, otherwise of minimal health value.

Points 5. and 7. these are essential health messages and should have been placed at top of list. Also ash should have been mentioned as an alternative to soap/detergent.

Point 6. may in fact be counterproductive in a health context as a fixed place for defecation may form a focus for the spread of disease.

Point 8. This is a point to take into consideration, but probably of very minor importance.

Point 9. This "health rule" would be very hard to follow, notably in a low-income urban context, and it would certainly apply to closed/pucca latrines as well. Also the message is far too general to be effectively understood.

Further the list does not mention the handling of food, utensils used for food or general hygiene.

Keep Yourself Healthy

1. Tube well and tap water is clean. For all purposes use clean water.
2. Always wash drinking pots/glasses and household utensils in clean water.
3. Before eating and after using the latrine always wash your hands with soap or ash.
4. Use a sanitary latrine; do not defecate or urinate elsewhere
5. Always hold the water pot in your right hand while using water to clean yourself after defecation: Your right hand is always clean.
6. Before using the latrine wet the pan with a little water. This makes cleaning the pan after use easier.
7. Keep your latrine clean. For the purpose always keep some water by your latrine.
8. Teach young children to use the latrine.
9. Use clean water and sanitary latrine and be free from cholera, typhoid, dysentery and worms.

Chittagong Municipal Corporation

2. "Keep Yourself Healthy". Health messages issued by the Chittagong Municipal Corporation.

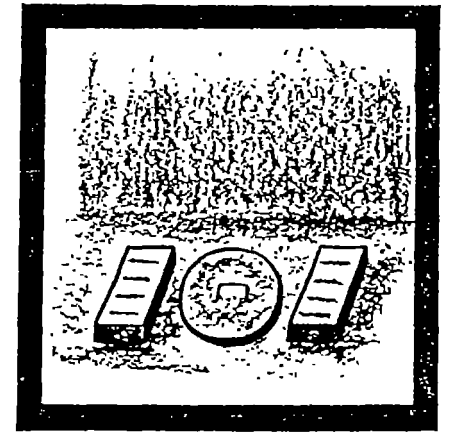
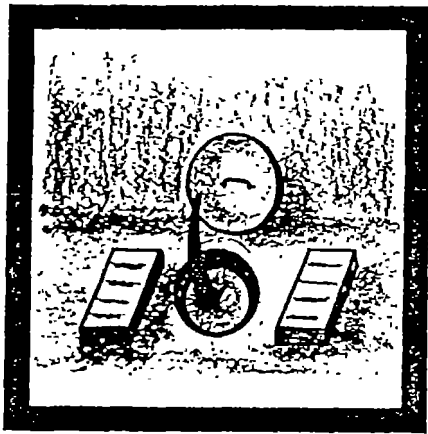
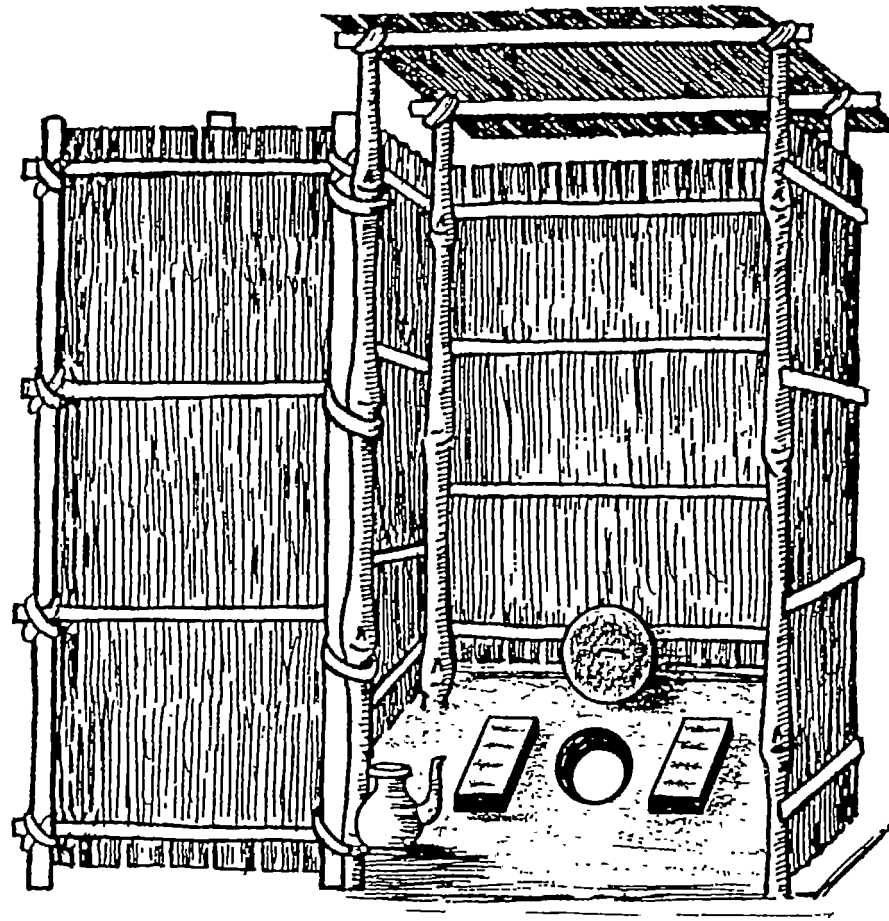
Discussion:

These health messages are far better than the preceding and the sequence gives realistic priorities. However:

Point 4. A more realistic message would have been: "When you defecate elsewhere cover your excreta with soil...". Also it makes little sense from a health, or practical, point-of-view to advocate against urination "elsewhere".

Point 5. As anal cleansing will be with the left hand this should not be an important point for a health message. Point 3. Washing of hands should do away with the need for pt. 5.

পায়খানা ব্যবহার করুন



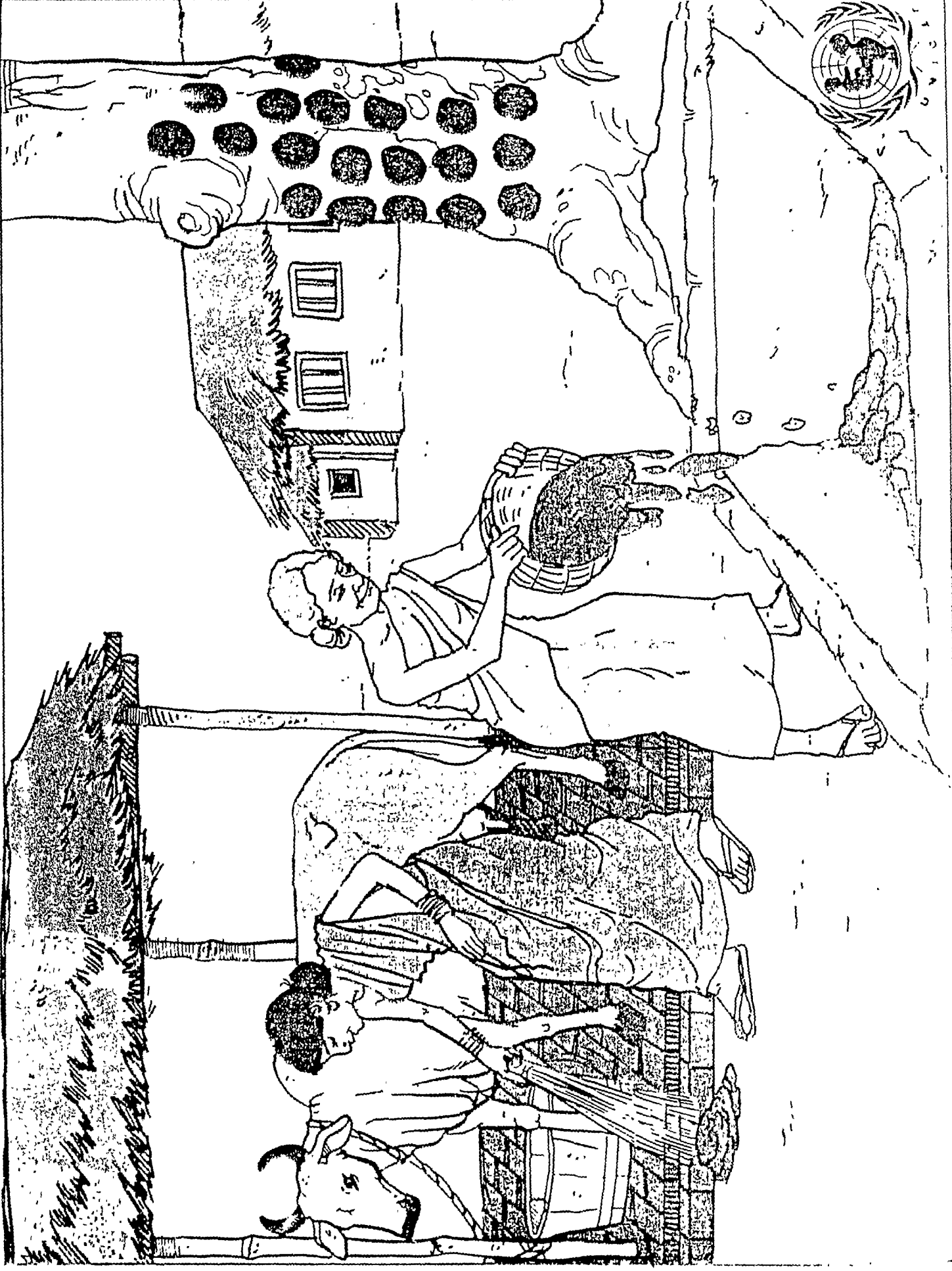
3. "How to put a lid on your latrine". Danida communication Unit

Discussion:

The picture is confusing and the arrow not easily understood. Further the lid may be a source for contamination of the hand(s) of the next user. The picture does not show a possibility for hand-washing, while clearly showing a badna.

Waste Water and Cattle Dung/Garbage Disposal

card 7 of 8 cards



4. UNICEF Health Education Materials, India

"Card 7 of 8 cards".

Discussion:

The picture is not realistic in a rural context, but displays a horror of cowdung that can only be ascribed to an urbanite.

Somehow the designer/artist expects the woman on the left to sweep fresh cowdung with a broom, after which the dung should be carried in a basket and deposited in a pit. One wonders how the cowdung gets from the pit to the trunk of the tree (then again no-one would dry cowdung on the trunk of a large tree, as the trunk would be shaded by the foliage).

The logical (and perfectly healthy) thing to do for a farmer, would be to pick up the cowdung by hand and place it on a wall to dry.

Cowdung is not a health hazard, and does not carry any of the diseases associated with human excreta. Thus the drawing is a typical example of confusing white collar urban notions of the clean and unclean with medically founded health practices.



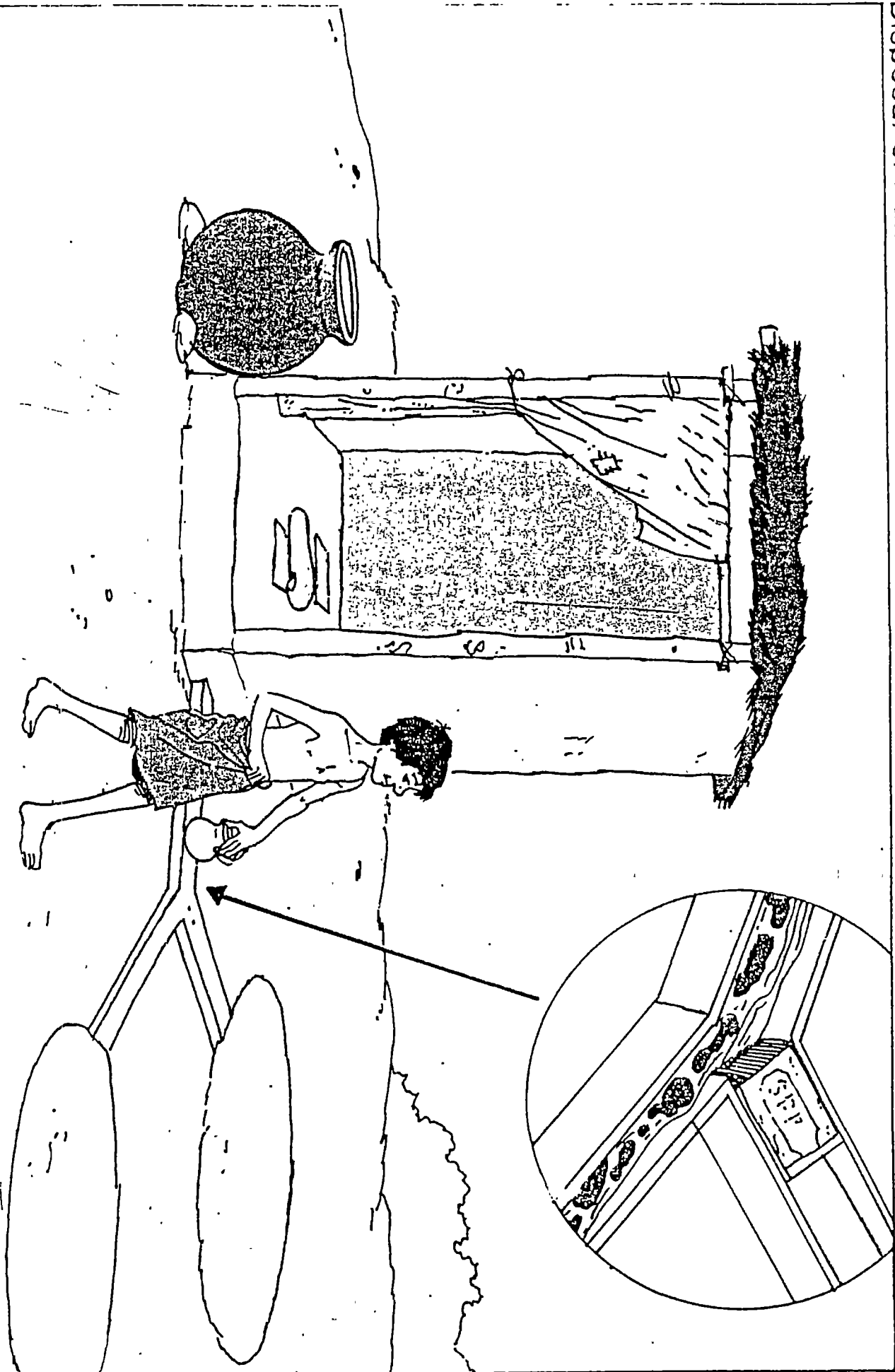
"Card 2 of 10 cards."

Discussion:

The picture supposedly conveys that landlords do not allow defecation on their fields during the cropping season.

It is doubtful if this message will result in the sale of many latrines.

Also the drawing is most unrealistic to a rural audience: What landlord would defend such a strange "crop" on such vast stretches of barren land? Also the boy in the picture is obviously floating freely in the air.



"Card 7 of 9 cards" and "card 5 of 10 cards"

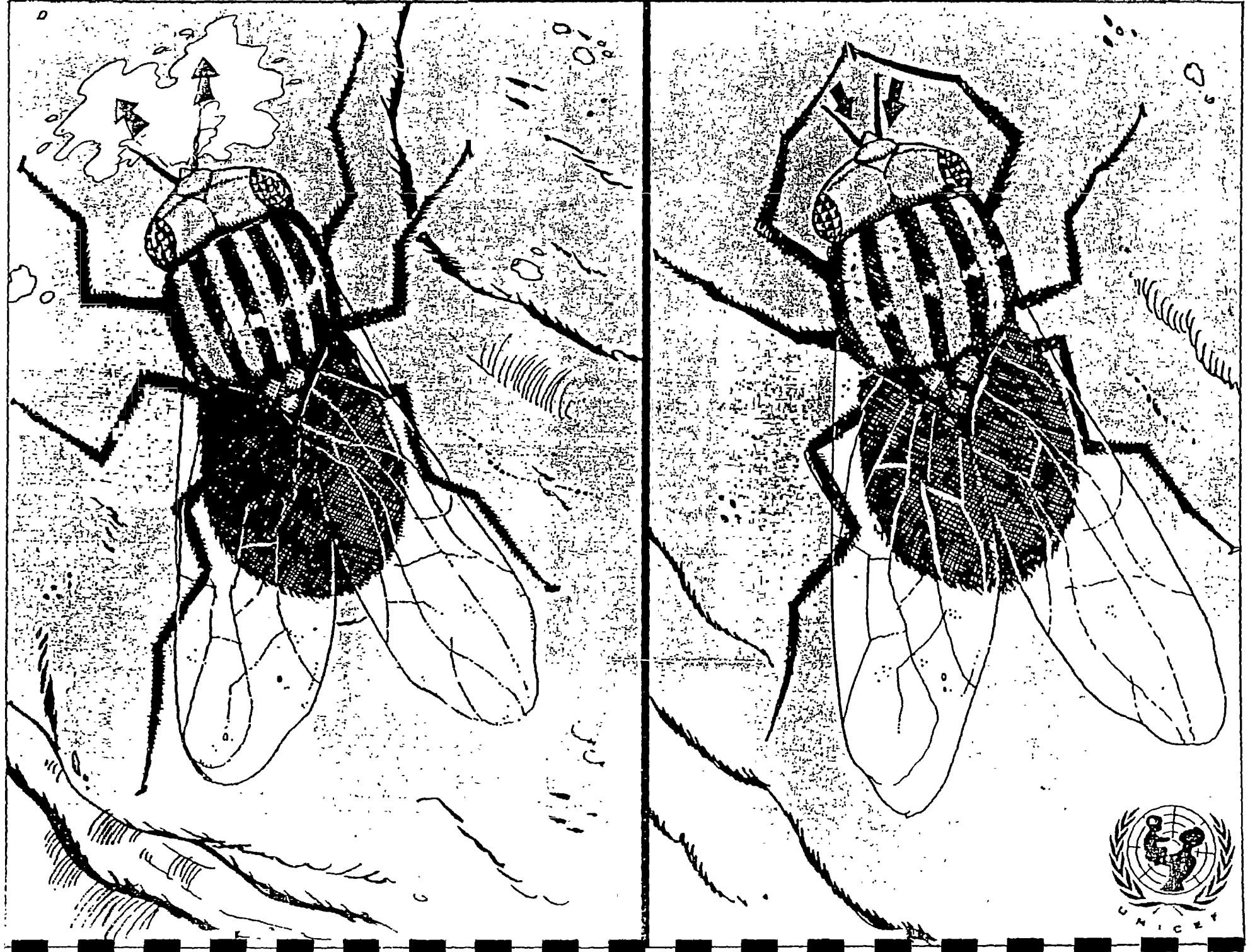
Discussion:

While advocating the use of sanitary latrines, both illustrations show strange, dilapidated superstructures, without a proper door.

As pointed out throughout present report, the superstructure is one of the most important elements in a potential customer's choice of "a good latrine".

Thus illustrations showing latrines used by low-income households should display good, sturdy, presentable and inexpensive structures, that may be built with local materials, utilizing local skills.

Otherwise such illustrations, whichever point is to be highlighted, may be counterproductive in an overall context.



"Card 2 of 4 cards"

Discussion:

A fly disgorging and eating as depicted by the designer/illustrator, who seems to be under the impression that a fly eats with its antenna. Any country boy/girl will have seen that this is not the way a fly eats, and the health story to go with the illustration will thus also be open to doubt.



APPENDIX 5 :
HEALTH COMMUNICATION
MATERIALS

2"

"By the village tank". UNICEF/DANIDA Health Communication Materials.

Discussion:

The illustration, depicting an angular village tank in gentle rural surroundings, lacks realism.

At such a tank certainly no children would be allowed to defecate/urinate directly into the water, without a strong adult reaction.

The illustration is thus superfluous, as any villager would agree that such acts should not take place.

Defecation and urination are shown as negative acts on an equal level, while in fact faeces will affect the water quality from a health point-of-view, urination probably not.

The Demonstration Effect of Latrines Installed on Private Premises

One of the main objectives of the Low Cost Sanitation Project was to deliver a number of "demonstration latrines" (at reduced cost) to private households within the project Pourashavas. It was then expected that the demonstration effect of such latrines would lead to increased latrine sales. The target group for the installation of "demonstration latrines" were persons of some standing in society such as teachers, doctors and government servants in general.

While it is too early to evaluate the promotional performance of such "demonstration latrines", predictions should probably be modest for two main of reasons, as given below:

- Latrines are very private installations, thus even "demonstration latrines" will only (apart from superstructure) be seen by family members and close family friends.
- No general promotional effort was linked to the dispersment of "demonstration latrines", and latrines were distributed through local government channels only.

As stated earlier, it is the opinion of the consultant that latrines utilized for demonstration should not be latrines for use, but latrines installed for demonstration purposes only at sales-points, fairs, etc. Such latrines should be built with a full and sturdy superstructures made from locally available materials, so as to demonstrate that acquiring a sanitary (and prestigious) latrine is within the financial capabilities of a large number of ordinary households.

In this way demonstration latrines could also demonstrate local skills and the use of local materials.

A possible location for demonstration latrines for actual use could be schools, but only in so far such latrines could be built with a capacity to cater to the full number of teachers and pupils, and procedures were developed so that latrines would be used by the pupils, and maintained clean and sound.

8.9 Research Needs

Little market information presently exists as to the selectivity of private households as pertains to low cost sanitation. Neither has any study been carried out as to the rejection by the public of specific latrine designs.

Such information presently rests almost exclusively with larger private producers of latrines, who would also possess some knowledge as to present (local) market trends, both as concerns the market in general and as to specific technologies and designs.

Research has presently been carried out under the Low Cost Sanitation Project in the form of the Extended Survey covering production and sale of low cost sanitary latrines (see Appendix III and IV) while data collected on production and sales during the Socio-Economic Survey, as well as the Extended Survey are being analysed by a marketing economist (see Appendix V).

Much further research will however be needed, notably as to market response to new designs and new products, as well as to the efficiency of such promotional campaigns that may be carried out in the future.

Only such an analysis based on registered market response, would allow us to draw a clear market profile leading to projections of future market trends.

9. SAVINGS AND CREDIT

Savings and credit in Bangladesh has been extensively described by Clarence Maloney¹⁾ and by A.B. Sharfuddin Ahmed.²⁾

Some of the conclusions of Maloney and Ahmed are:

- That Bangladeshis have excellent saving ability
- That such savings are mainly not kept as cash, but reinvested as soon as possible
- That it is difficult to draw the line between consumption, savings and investment³⁾

1)Maloney, Clarence: "Why do Bangladesh People remain so poor, though they work and save ?". Paper read at the Conference on South Asia, November 1985

2)Maloney, Clarence and A.B. Sharfuddin Ahmed: "Rural Savings and Credit in Bangladesh". The University Press Ltd., Dhaka 1988

3)"In asking people why they save/reinvest, we found the most important reasons, in order, are: buying or leasing land, future security, investment in trade or shopkeeping, son's education, daughter's marriage, agriculture, house building or repair, then other purposes..."

"...But rural Bangladeshis do not save much cash; they reinvest their savings personally and as soon as possible. We found that it is not possible to draw a line between consumption and savings, or between those and investment. Our figures for savings are higher than economists might compute because many things consumed are also thought of as savings/investment. If a farmer buys sheet iron for his roof it is thought of as a form of savings which can be sold in time of crisis. Entertainment of a guest, marriage of a daughter, or house improvement are all regarded as socio-economic investments".

Maloney, 1985

- That personal loans and credit, based on verbal agreement only, are very common, and that such loans and credit, based on (traditional) trust, function well.1)
- However this only accounts for personalized and informal loans, whereas newer and impersonalized organizations have deplorable records as to loan recovery.2)
- As pertains to loans and credit extended by NGOs and development banks/funds, repayment is totally dependent on the degree of personalized service that such organizations/institutions may offer.

The findings of Maloney and Ahmad were verified by the consultant in such instances where credit and savings were discussed with pourashava chairmen and local producers.

 1)"For example, sharecropping and land leasing are undertaken by millions of people on verbal agreement only, and such agreement is hardly ever broken. The rice trade is so organized that millions of tons are sent by boat all over the country, far away from the big rice merchants and the boat owners. The agents in the network of rice collection, storage, processing, measuring, shipping, and distributing, work essentially in a system of trust."

Maloney, 1985

"Many people have small debts to local grocery shops (mudi dokans). More important, producers of various items often are indebted to agents who supply their raw materials (yarn for weavers, seeds for oil crushers). In both cases interest charges are often concealed in prices, or the borrower is in a position where he has to buy exclusively from the creditor. But without such credit many small farmers and cottage industry operators would not function. The creditors sometimes also take care of the marketing, so the producer may be tied to him for years."

Maloney and Ahmed, 1988

2)"It is commonly thought that dishonesty is rife in the society, and newspapers regularly report examples. However, it is my observation that traditional economic relations operated almost entirely on trust, whereas the newer and impersonal organizations suffer from more dishonesty."

Maloney, 1985

Thus, in the opinion of the consultant, future low-cost sanitation projects should only extend credit to family recipients of latrines to a minimal extent, but let sales be based on full and immediate payment, thereby regulating customer choice to what can be acquired on the basis of family income and savings. On the other hand there is no reason to advise against such credit as is traditionally extended by local business people or extended by locally established NGOs, if such credit and recovery becomes the full responsibility of the parties involved.

INSTALLATION - MAINTENANCE - SERVICING

The installation of a low-cost latrine is most often, fully or partly, the responsibility of the household acquiring such a facility.

As part of projects the installation of sub-structure and on-ground-structure will mainly be carried out by the implementing organization, notably when projects are carried out in an urban setting and where latrines are of a complex type necessitating special skills for installation. In contrast the construction of superstructure is rarely considered the responsibility of the implementing agency, and may even be left to the procurer of a latrine, so that he/she may "demonstrate sincerity."

As the construction of a full latrine structure, as well as correct site selection and site preparation, are specialized tasks, it is suggested that workers and artisans receive training in installation, site selection and site preparation in such a way that they can carry out installation tasks both as related to sanitation projects, as subcontractors to producers/sellers of latrines and as private contractors.

A community group suitable and motivated for the task would be the Methor, the traditional "scavengers"/"sweepers" of Bangladesh towns, carrying out the profession of servicing bucket latrines as well as being road sweepers (Jharudar), drain cleaners, removers of bodies of the Hindu dead etc. The Methor may also carry out the tasks of latrine repair.

Another training component would need to be designed for artisans, notably carpenters, as to the construction of solid, but inexpensive superstructures, made from local materials.

10.1

Installation

The skills involved in the installation of a sanitary latrine are much dependent on the type of latrine to be installed and materials used.

A two-alternate-compartment pour-flush water-seal latrine ("demonstration latrine") will need skilled or semi-skilled workpower for installation as this involves platform construction, the laying of connecting pipes, fitting of junction box etc., while the installation of a single pit latrine is a simple task.

However, to ensure that installations are sound as to general health objectives as well as to optimal performance it is imperative that installation is done in accordance with soil type, ground water level and chances of flooding. Also it is important that necessary distance is kept to water supply sources, that may otherwise be contaminated from latrine pits, and that distance is kept to other latrine pits so that seepage is not hindered by moisture saturation of the soil.¹⁾

It is thus important that the task of installation is only left to the procurer of a sanitary latrine in cases where ample instruction and supervision may be given both as to installation, and as to the selection of an optimal site.

It will therefore be wrong to leave the installation to the user²⁾ (as a sort of "community participation", or otherwise) except in such cases, where the household concerned has known expertise or can be instructed/supervised on site.

For the future it is suggested that all low-cost latrine programmes will include a well defined installation component giving the buyer of a low cost latrine the option of advise/supervision or full installation of the latrine. Both options including such essential elements as site selection, site preparation and superstructure design/construction.

Presently a number of private producers as well as NGOs will give advise and/or take charge of primary installation (at a price) when necessary for the customer. However, there is a

1)At some locations visited where subsidized latrines had been installed, no such guidelines had been followed with the ensuing possibility of malfunctioning of installations and pollution of water sources.

2)Notably in an urban or semi-urban situation where most buyers of low-cost latrines will have no acquired skills for earthwork, brickwork or superstructure construction.

need for specific guidelines as to site selection, site preparation and superstructure construction (as related to the availability of inexpensive local materials).

Further there is a training need among local producers and future potential sub-contractors, as found among skilled communities (notably the Methor) and skilled artisans such as carpenters and masons.

10.2 Repair and Maintenance

Maintenance and repair of private installations have always been the responsibility of the owners/users.

The Socio-Economic survey however revealed serious problems with maintenance and repair of water-seals, connecting pipes and junction boxes where the active involvement of producers/sellers as distributors of spare parts would be an asset. The involvement of the Methor community as an "installation, repair and servicing squad" is an option that naturally suggests itself.

The maintenance of private latrines will also in the future be the responsibility of the owners/users. Future project objectives will thus be confined to evolution of optimal maintenance-friendly designs, to develop customer services and to the production of easy-to-understand guidelines for latrine repair and maintenance aimed at private users and service specialists.

10.3 Servicing

The servicing of latrines comprises the emptying of latrine pits. In the case of two compartment latrines (either two-pit offset or two-single-pit) the latrine contents should be fully digested by the time of emptying. As the latrine pit contents will be free from smell and pose no health danger, the clearing may, in theory, be done by household members, while in most cases skilled persons from outside the household will probably be brought in to perform the duty.

Such persons will logically belong to the Methor community which presently carry out the servicing of bucket latrines

(service latrines), an unsanitary concervancy system now to be discontinued.

To ensure efficient servicing, Pourashavas will have to make available adequate facilities for the disposal of nightsoil whether this will be used as field manure, or, more traditionally, deposited as waste.

10.4 Community Participation

The Bangladeshi perception of sanitation differs significantly from that of water supply. Water is traditionally public while locations for defecation are private; water is ritually clean while latrines are ritually dirty, as associated with excreta and menstrual blood. It would thus be very difficult to organize any programme for significant urban community participation in the installation and upkeep of latrines.

Because of the distinct difference in the Bangladesh perception of water-supply and sanitary installation, it may well prove counterproductive to link the two in programmes for community participation, notably where latrine installation is an enforced prerequisite for the receipt of water supply.

10.5 The Methor Community

The Methor community is a Hindu caste that by tradition carries out the work of street cleaning, drain clearing, collection of solid waste, collection of night soil and the removal of Hindu dead.

The caste is well organized, and carries out functions as described above for municipalities and city corporations. Members of the caste are housed by municipalities and city corporations in special quarters, and working members of the community are paid for their services on a monthly basis.

Apart from such salaried work, the Methor will service private installations, such as septic tanks, as by free market rates.

In a Bangladesh context the Methor community is significant in that work is carried out by both males and females. Thus, out of 309 Methor employed in Chittagong for servicing 21,000

bucket latrines, 100 were females, while in Cox's Bazar 1500 bucket latrines were serviced by 20 Methor of which 10 were females.

The Methor are thus a very specialized work force, highly skilled within their special niche.

Further the Methor in each locality have links to other Methor groups within the country in such a way that extra workpower can be mobilized whenever need arises.

The consultant had meetings with representatives of the Methor community, notably in Chittagong and Cox's Bazar. Here there was full agreement that the Methor were very willing to carry out such other tasks associated with latrines as installation and repair. However, there would be a need for training in these fields.

It seems obvious that the Methor should be given a central role in any new low-cost sanitation project, notably as more Methor workpower will be made available as traditional bucket latrines are replaced with sanitary latrines.

TERMS OF REFERENCE
for
Social Anthropologist as a Short Term Consultant
on a Socio-Economic Survey and Planning
of Activities within a Low Cost
Sanitation Programme in Pourashavas (municipalities)
in Bangladesh

1. BACKGROUND

With the objective of strengthening "software" elements in an extended phase of an on-going World Bank/UNDP supported low cost sanitation programme in 84 Pourashavas Danida indicated interest in early 1986 to contribute with financial and technical assistance. Consequently a revised project proposal was worked out which envisages:

- preparation of an investment proposal for low cost sanitation in the Pourashavas
- construction of 5942 demonstration latrines
- in-service training of various government staff categories implementing the programme, masons and other support staff
- develop capabilities for the production of latrine components at the Pourashavas level
- develop communication materials and techniques for the promotion of low cost sanitation.

In order to ensure people's motivation for, and participation in the installation of latrines it was decided to carry out a socio-economic survey/study of the existing sanitary conditions incl. people's attitudes and expectations towards improved sanitation, in particular the cost aspects. Such a study would provide essential inputs for the overall investment plan for low cost sanitation in the Pourashavas.

2. OBJECTIVES

The activities of the short term social anthropologist are to be viewed as an integrated component of the planning and preparation of the extended low cost sanitation programme. The outcome of this planning-cum-preparation exercise with regard to socio-economic activities is expected to include detailed proposals for:

- the necessary socio-economic components of a feasible investment plan for low cost sanitation, e.g. beneficiary target group, capability and willingness to pay for latrines incl. a feasible cost recovery system
- appropriate communication materials and methods for the promotion of improved sanitation and health
- a system to monitor and evaluate beneficiaries' response to the programme.

3. SCOPE OF WORK

The short term consultant shall work closely with the project team of the Local Government Engineering Bureau (LGEB), other programme consultants and Pourashava officials as and when required. While undertaking the assigned work tasks the consultant shall, as far as possible, put emphasis on immediate transfer of technical knowledge to the government implementing staff so that all components of the programme may continue after the project ends.

The short term consultant's work shall comprise, but not necessarily be limited to the following components:

- 3.1 participate in the selection of a suitable local research agency which will conduct the socio-economic study as an input to the preparation of the investment plan
- 3.2 participate in the selection of field investigators for the study to ensure that very qualified and experienced personnel is allocated for the field work
- 3.3 participate in the detailed design and planning of the study e.g. pre-testing and approval of questionnaires and checklists incl. the method(s) of their administration and use at field level
- 3.4 assist the research agency in conducting data collecting, data processing, data interpretation and final analysis
- 3.5 supervise and monitor the progress of the study
- 3.6 participate in all necessary meetings and coordinate activities with other programme consultants and officers of the LGEB and other relevant government agencies.
- 3.7 coordinate and liaise with other agencies, in particular UNICEF, engaged in low cost sanitation in order to learn from experiences gained and to work towards establishing uniform policies regarding e.g. subsidy., cost recovery and design of low cost latrines
- 3.8 based on the study identify relevant socio-economic components to be included in the investment plan and assist the project team in incorporating these components in the investment project documents for the low cost sanitation programme
- 3.9 give special attention to the following aspects when identifying socio-economic components for the investment plan
 - 3.9.1 the felt need for improved sanitation
 - 3.9.2 ability and willingness to pay for latrines
 - 3.9.3 relative size and socio-economic profile of the beneficiary groups

- 3.9.4 appropriate latrine design
- 3.9.5 subsidy policy
- 3.9.6 cost recovery incl. credit facilities different programmes, if any
- 3.9.7 required, if any, sanitation and health promotion programme to further enhance the demand for latrines
- 3.10 develop methods and activities on information, promotion and health awareness campaigns related to low cost sanitation
- 3.11 design effective means of recovering costs from beneficiaries of the project
- 3.12 design a system to monitor and evaluate the effects of the programme by focusing on acceptability, use, maintenance and durability of latrines
- 3.13 suggest a suitable institutional framework for a sanitation delivery system taking into consideration e.g. the cost-efficiency of government, private and voluntary (NGO) institutions
- 3.14 assist in developing appropriate training curricula for government implementing staff by incorporating socio-economic aspects,
- 3.15 identify the need for further socio-economic/social-anthropological advisory support to the programme

4. TIMING

The total time frame of the consultancy will be 6 months. The short term consultant will commence work by 7th February 1988 for a period of approx. 2 months. The remaining 4 months will be spread out over 2 subsequent work periods, each of which will be of two months' duration, during 1988.

5. REPORTING

After each of the first 2 months work periods a brief progress report not exceeding 8 pages shall be prepared for Danida. Upon the Completion of all 6 months a final report incl. the specific socio-economic proposals for the investment plan and other general recommendations to the low cost sanitation programme shall be submitted to Danida.

DB.IV, den 5. januar 1988

Kurt Mørck Jensen

POURASHAVAS AND MUNICIPAL CORPORATIONS OF BANGLADESH

	Municipal Corporation/ Pourashava	District	Population in thousands	
			1981	1985
I.	<u>Municipal Corporations (4)</u>			
A.	Dhaka Municipal Corporation	Dhaka	3,458	4,325
B.	Chittagong Municipal Corporation	Chittagong	1,388	2,154
C.	Khulna Municipal Corporation	Khulna	623	757
D.	Rajshahi Municipal Corporation	Rajshahi	172	209
II.	<u>Class-I Pourashavas (12)</u>			
1.	Narayanganj	Narayanganj	209	248
2.	Sylhet	Sylhet	167	197
3.	Barisal	Barisal	159	194
4.	Rangpur	Rangpur	156	190
5.	Jessore	Jessore	149	178
6.	Comilla	Comilla	126	153
7.	Mymensingh	Mymensingh	108	131

	Municipal Corporation/ Pourashava	District	Population in thousands	
			1981	1985
8.	Tongi	Gazipur	94	110
9.	Chandpur	Chandpur	73	85
10.	Bogra	Bogra	68	83
11.	Faridpur	Faridpur	67	81
12.	Nawabganj	Nawabganj	65	76
<u>III. Class-II Pourashavas (24)</u>				
13.	Syedpur	Nilphamari	128	150
14.	Pabna	Pabna	101	123
15.	Serajganj	Serajganj	100	122
16.	Dinajpur	Dinajpur	96	117
17.	Brahmanbaria	Brahmanbaria	89	108
18.	Tangail	Tangail	78	95
19.	Kushtia	Kushtia	70	82
20.	Narsingdi	Narsingdi	70	82
21.	Bhairab	Kishoreganj	64	75
22.	Kishoreganj	Kishoreganj	52	61
23.	Naogaon	Naogaon	52	61
24.	Jhenaidah	Jhenaidah	49	58
25.	Chuadanga	Chuadanga	48	56

	Municipal Corporation/ Pourashava	District	Population in thousands	
			1981	1985
26.	Patuakhali	Patuakhali	46	54
27.	Bagerhat	Bagerhat	39	45
28.	Gaibandha	Gaibandha	38	44
29.	Rajbari	Rajbari	36	42
30.	Jhalkathi	Jhalkhati	31	37
31.	Choumuhani	Noakhali	31	37
32.	Magura	Magura	29	34
33.	Thakurgaon	Thakurgaon	25	29
34.	Feni	Feni	23	27
35.	Kotchandpur	Jhenaidah	22	25
36.	Moulvibazar	Moulvibazar	17	20
IV.	<u>Class-III Pourhashavas</u>			
37.	Jamalpur	Jamalpur	90	109
38.	Madaripur	Madaripur	59	69
39.	Satkhira	Satkhira	39	69
40.	Ishwardi	Pabna	59	69
41.	Sherpur	Sherpur	52	61
42.	Noakhali	Noakhali	47	57
43.	Kurigram	Kurigram	46	54
44.	Munshiganj	Munshiganj	39	45

	Municipal Corporation/ Pourashava	District	Population in thousands	
			1981	1985
45.	Netrakona	Netrakona	39	45
46.	Joypurhat	Joypurhat	39	45
47.	Manikganj	Manikganj	38	44
48.	Rangamati	Rangamati HT	37	42
49.	Lalmonirhat	Lalmonirhat	36	40
50.	Pirojpur	Pirojpur	32	37
51.	Natore	Natore	32	37
52.	Gopalpur	Tangail	31	36
53.	Cox's Bazar	Cox's Bazar	30	35
54.	Gazipur	Gazipur	30	35
55.	Nilphamari	Nilphamari	29	34
56.	Monglaport	Bagerhat	27	31
58.	Habiganj	Habiganj	23	27
59.	Meherpur	Meherpur	23	27
60.	Sunamganj	Sunamganj	22	25
61.	Narail	Narail	20	23
62.	Sreemangal	Moulvibazar	20	23
63.	Muktagacha	Mymensingh	19	22
64.	Parbatipur	Dinajpur	19	22
65.	Bajitpur	Kishoreganj	19	22

	Municipal Corporation/ Pourashava	District	Population in thousands	
			1981	1985
66.	Gopalganj	Gopalganj	18	21
67.	Bhola	Bhola	18	21
68.	Bandarban	Bandarban HT	18	21
69.	Bheramara	Kushtia	18	21
70.	Kumarkhali	Kushtia	16	19
71.	Borguna	Borguna	16	19
72.	Fulbari	Dinajpur	15	18
73.	Gouripur	Mymensingh	15	18
74.	Kalia	Narail	14	17
75.	Laksem	Comilla	14	17
76.	Mohanganj	Netrakona	12	14
77.	Sherpur	Bogra	11	13
78.	Hajiganj	Chandpur	10	11
79.	Moheshpur	Jhenaidah	10	11
80.	Khagrachari	Khagrachari HT	8	9
81.	Alamdanga	Chuadanga	8	9
82.	Panchagar	Panchagar	6	7
83.	Shariatpur	Shariatpur	5	6
84.	Nalchithi	Jhalkathi	-	-
85.				
86.				

LOW COST SANITATION PROJECT BGD/85/004

RECOMMENDATION FOR ADDITIONAL SURVEY OF PRODUCTION, SALE AND SERVICING/MAINTENANCE OF LOW COST SANITATION IN POURASHAVA URBAN AND SEMI-URBAN AREAS.

BACKGROUND

At present, as by the instructions of the World Bank, a socio-economic survey of low cost sanitation is being carried out in 9 Pourashavas through the services of a Bangladesh consultancy firm. This survey includes a thorough description of local producers/sellers of latrine products, of costs of production, sales prices, variety in products, market response, seasonality etc.

On the basis of earlier investigations and preliminary findings from the survey, it can be safely stated that:

- There is a most positive response from the public to the concept of low cost sanitary latrines
- There is very little knowledge among the public of the variety of low cost options for sanitary latrines
- Private producers of low cost latrines and elements for low cost sanitation are found in a number of urban and semi-urban areas, and are competitive as to subsidised production both as concerns quality and price.
- Private producers give a fair amount of instruction on the functionality, durability and health benefits of low cost latrines, may function as service centres and may extend credit to the customer

It is thus seen, that within the framework of the market economy, the private producers/sellers of low cost latrines provide significant benefits to the public, at no cost to the Bangladesh Government or foreign aid donors.

As private producers/sellers are still few, while the market seems most willing and interested in low cost and very low cost sanitary options, the scope for the inclusion and support of the private pro-

duction/sales sector in on-going sanitation projects could be immense. However, the organization and needs of the sector is presently little known.

OBJECTIVES

The objectives of an additional study of the private production/sales sector would be to gather a comprehensive overview of the sector for future use in the creation of programmes/projects pertaining to the low cost sanitation sector in Bangladesh.

Further, such a survey would give firm information on the technical skills inherent among the producers, market coverage, market response to different types of products and price levels, seasonality, bottlenecks and constraints as to production, storage, transport and sales, training needs, promotional needs and capital needs.

It is further suggested that such a survey should collect comparative information on subsidised production (such as carried out by Government agencies and NGOs) and on the state of servicing and maintenance notably as carried out by producers/sellers and by the Methor (scavenger) community. Here also the organizational aspects should be investigated.

MANNING

The survey should be manned by:

- One Socio-Economist (Anthropologist or Sociologist)
- One Sanitary Engineer, with good knowledge of low cost sanitation

AREA COVERAGE

The survey should cover all pourashavas with a population above 40,000 inhabitants (apx. 50 by 1988 figures). The survey could also partly or fully include the 4 metropolitan areas of Bangladesh, namely Dhaka, Chittagong, Khulna and Rajshahi.

METHODOLOGY AND WORK PLAN

The survey should basically use the questionnaire form utilized for the present low cost sanitation survey (see Appendix I).

Further interviews should be conducted with Government and NGO producers on questions of quality, product types, production and sales prices.

Investigations should be conducted as to types of latrine superstructures in use, and such produced locally and by private/NGO/Government producers.

A special survey should be carried out as to latrine maintenance and servicing (emptying of latrine pits) notably conducted as unstructured and semi-structured interviews with representatives of the Methor (scavenger group). This group should also be asked to inform on product problems, i.e. broken water seals etc.

For interviews with producers/sellers both the socio-economist and engineer should be present.

Interviews of members of the scavenger group may be carried out by the socio-economist alone.

ORGANIZATION

The survey team should be hired directly by the LOW COST SANITATION PROJECT OFFICE, and work under the supervision of the same.

DURATION OF STUDY

The duration of the field survey should be 2 1/2 month

The duration of data processing (manual) and report writing should be 1 month

Total duration 3 1/2 month, i.e. 7 manmonths

OUTLINE FOR EXTENDED SURVEY
TO COVER PRODUCTION AND SALES
OF LOW COST SANITARY LATRINES
IN APX. 50 POURASHAVAS

BACKGROUND & OBJECTIVES

As by recommendations for an Extended Survey of Production, Sale and Servicing/Maintenance of Low Cost Sanitation Components in Pourashava Urban and Semi-Urban Areas (as attached).

AREA COVERAGE

All Pourashavas with a 1988 population of 40,000 or above (APX. 50).

DURATION OF STUDY

The duration of the field survey should be 2 1/2 months.

The duration of processing (manual) and report writing should be 1 month.

Total duration of study 3 1/2 months, i.e. 7 manmonths.

METHODOLOGY AND DATA COLLECTION

The Questionnaire Sheet III from the Socio-Economic Survey (Private Latrine Producers & Sellers Survey Investigation) will be utilized, both as to private producers/sellers and for Government producers/sellers and NGO's.

The Main objective of the Extended Survey will be to gain a full understanding of the private low cost latrine producing/selling sector. However, Government and NGO producers/sellers, whenever present should also be interviewed, as time allows, to give comparative data to the study.

The time frame for the study should allow for a full days coverage of each Pourashave on the average.

Prior to initiating the survey the Socio-economist and the engineer should have acquainted themselves with existing data on all Pourashavas to be visited - such as general and specific data on population and such other data that may exist and be meaningful for project purposes.

The Project Office will assist with travel arrangements and notably assist by pre-informing Pourashava Administrators and Engineers of pending visits, so that such Pourashava personell may be of assistance to the survey.

ON ARRIVAL

On arrival the Project Team should meet with the Pourashava Administrator, Pourashava Engineer or other person who may inform on present conditions as to sanitation, water, latrine production/sales and related matters.

On the basis of information earlier collected, and information now collected the team should take down a short description of the Pourashava, to be finalized at the end of the visit.

The team should now proceed to interview private producers as by Questionnaire Sheet III.

Further the socio-economist should conduct open-ended interviews as to:

- Customer preferences
- Seasonality in sales
- Customer interest in technical details and functioning of facilities
- The ability of the producer/seller to deliver/refer to/subcontract services such as: Installation, superstructure, repair, servicing (removal of contents)

If place of production is not at the sales location, a visit should be made.

the Engineer should discuss all products produced and products for sale with the owner/producer/sales person. So as to get insights in the economics of the given business venture.

The Engineer should further discuss:

- Technical problems
- Problems with financing
- Problems with competition and marketing.

He should further describe any such new and/or innovative developments in the field of sanitation that may be seen on location.

The team should also evaluate sales-display and discuss with the owner/manager/sales person, the reasons for given sales displays. It should here be noted which items are in the forefront of the sales-displays both as to latrine components and to overall display of all items for sale.

The team should discuss consumer complaints on low-cost latrines such as encountered by the sellers.

The team should visit Government and NGO production and sales centres and discuss such issues as relevant to production and trade with relevant personnel.

During the first Pourashava visits the two team members should both be present at all meetings and interviews. After a field routine has been established (say after 5 to 10 Pourashavas have been covered) the team members may work single to cover the full range of survey aspects within a Pourashava within a short time-frame.

In Pourashavas where service (bucket) latrines are in use, the socio-economist should take contact with the Methor (scavenger) group. To discuss the possible future Methor involvement in the installation, repair and servicing of latrines. The socio-economist should ascertain the numbers of Methor (working and non-working, male and female) in each given Pourashava, and describe how they carry out their present work.

The team should further visit public toilets (where present) and describe these from a technical, commercial (when applicable), maintenance, service and users point-of-view.

Finally the team should acquaint themselves with such types of super-structures (notable katcha) that may be found. And describe such types that may be of project interest from the point of technical issues (such as transportability, ventilation etc.) as well as functionality from a users point-of-view.

PRIOR TO THE STUDY

The project team should make out a list of the Pourashavas to be visited and a tentative programme for all visits within the given time frame.

The project team should acquaint themselves with such documentaiton that pertains to all the pourashavas in Bangladesh, notably such information, centering on population growth, migration, ethnic diversity) and information pertaining to service levels for sanitation, water and health.

Finally on the basis of the above, the Questionnaire form III and the "Recommendtions for an Extended Survey", the project team should design a Check-list (to be modified later according to field experience) for use by themselves during their Pourashava visits.

The list of Pourashavas to be visited, the travel schedule and the Check-list should all be approved by the Low Cost Sanitation Project Office.

Nils Finn Munch Petersen
November 1989

Terms of reference for a short-term economist to assist
the Low-Cost Sanitation Project (BGD/85/004)

Objectives

The activities of the short-term economist should form an integrated component of the planning and preparation of the extended Low-Cost Sanitation Project. The outcome of the economist's assistance to the programme should thus be an analysis of future project viability as related to production and sales of varied types of locally produced low cost sanitary latrines. Such latrines fulfilling basic criteria as to technical functionality, durability and community acceptability (including target group acceptability of full installation costs for given latrine types).

Scope of Work

The short-term economist shall work closely with the Project Consultant and the Junior Consultant of the Low Cost Sanitation Project, and should primarily base his/her analyses on existing project information, notably such as is contained in the Socio-Economic Survey Report on Low Cost Sanitation (due January 1989) in preparation by Aqua Consultants, and the Discussion Paper (October 1988) prepared by the (external) socio-economic project consultant.

The work of the short-term economist should include field visits whenever deemed necessary for the proper collection or verification of information. Such field visits may also necessitate the participation of a project engineer or project architect.

The analysis carried out should be based on private production, -distribution and -sales/government production, -distribution and -sales and combinations of such, where the most cost-efficient solution(s) should be selected.

The work of the short-term economist will comprise, but not necessarily be limited to, the following components:

- On the basis of data from the Socio-Economic Survey estimate the present and projected annual demand for different

groups as well as the market penetration by new products. The market study will be based on information already collected but it is anticipated that some field research will be required. This research will focus on supply, market channels and target consumer groups.

- Elaboration of a marketing strategy for new products including product pricing, promotional efforts during pre-production and production stages, organisational set-up of distribution and sales credit on discount sales and after sales service.
- Calculate the total investment costs for local production as well as overall costs for the totality of project localities including land and site preparations, technology and equipment, pre-production capital costs and working capital.

It is anticipated that the economist will be assisted by the project engineer.

- Recommend sources of financing
- Calculate total production costs including factory costs, administrative overheads, sales and distribution costs, financial costs and depreciation.
- Undertake a financial evaluation of the project based on prepared cash-flow tables. The evaluation should include establishment of the net present value, the internal rate of return, pay-back period and sensitivity analysis.

The various parameters for sensitivity analysis are the market penetration rate, product pricing and project financing.

- Undertake a national economic evaluation covering future employment effects as well as income generation as related to scenarios based on the sensitivity analysis.

Qualifications

The person selected as short-term economist should have adequate academic qualifications as well as diversified

work experience. He/she should preferably have work experience pertaining to medium/small private enterprise and marketing studies.

He/she should be fluent in English.

Timing

The duration of the study will be 6 weeks.

Reporting

After five weeks of the study the short-term economist will deliver a draft report covering the points specified in the terms of reference. A final report will be delivered within 3 weeks of the receipt of comments by The Low Cost Sanitation Project Office.



PRIVATE PRODUCERS



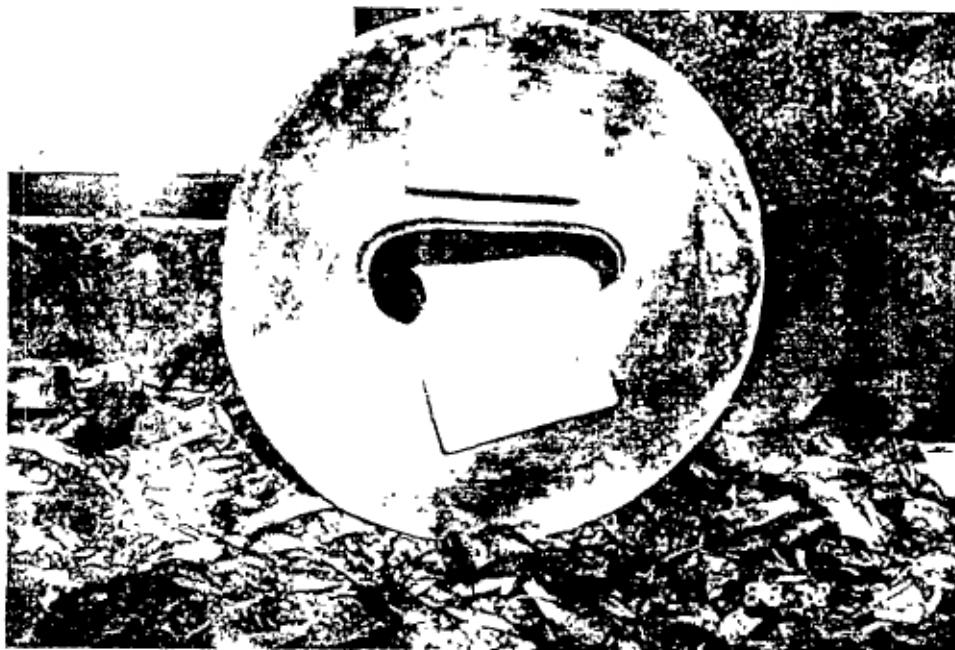
During the rainy season drainage pipes dominate sales. Photos from Chittagong and Cox's Bazar.



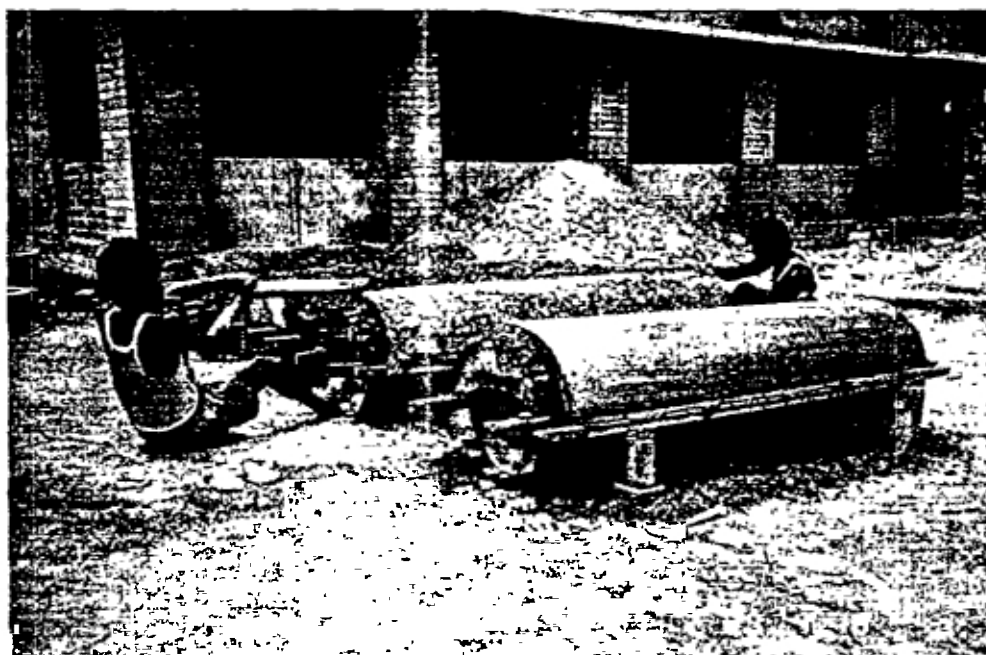


Sales-outlet for producer of sanitary latrines in Cox's Bazar. Sales sign however advertises pipes and pumps, the main items sold.

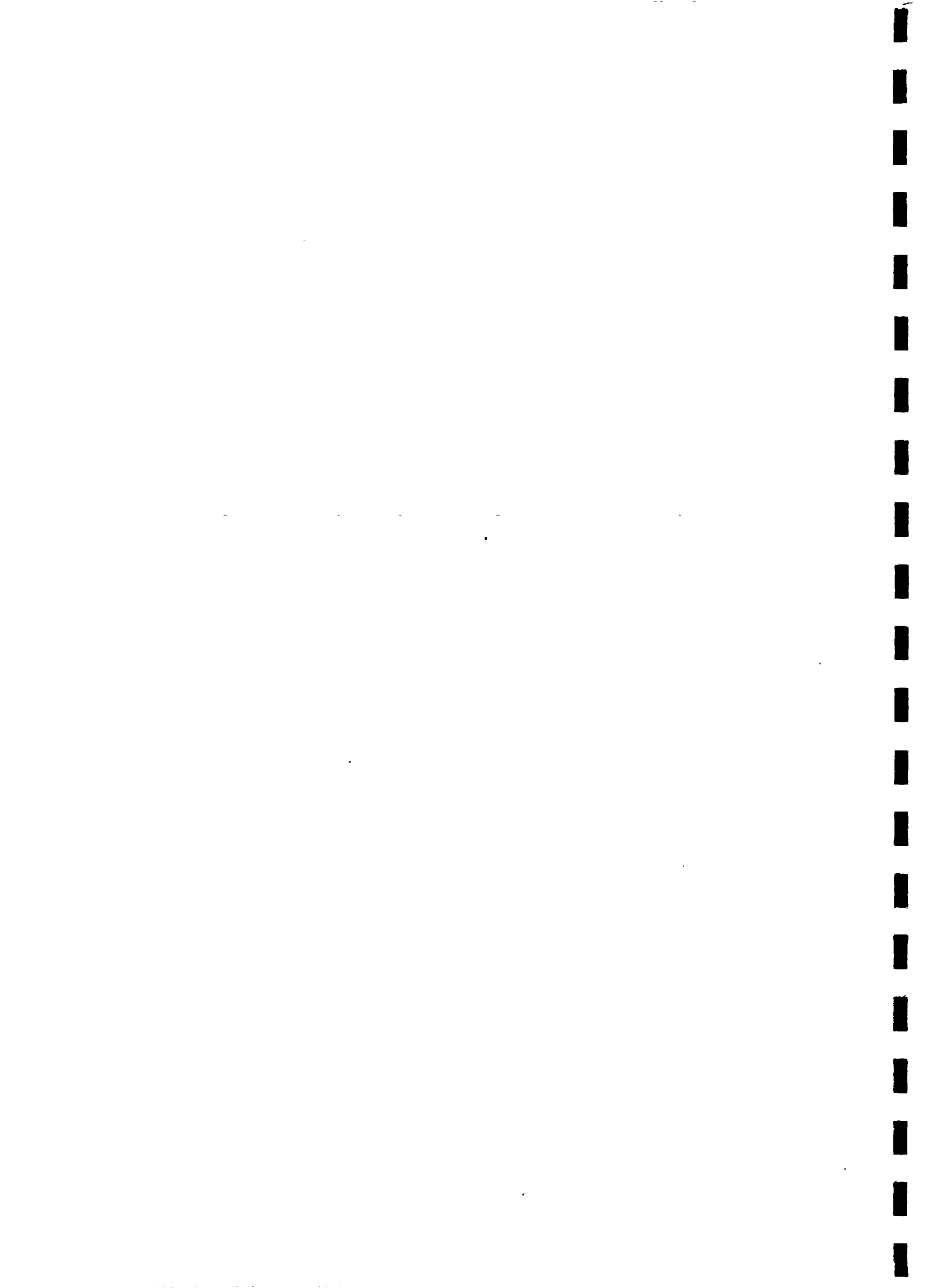




Most small-scale producers do not master the technology of making mosaic latrine pans. As an alternative, the pan is painted with cement paint. (Photo from Kishoreganj).



Production of drainage pipes at Ashuganj.





Shops in Chittagong selling "up-market" sanitary ware, including mosaic latrine slabs.



GOVERNMENT PRODUCTION



Sanitary latrines for sale at Ward Office in Chittagong. The latrines are left in the open. Signs advertise local doctors, not the latrines.





Sanitary latrines for demonstration at Government Production Centre at Chittagong. Entrance to latrines is blocked by weeds and kitchen-garden. Squatting-slab is overgrown with weeds.



SUPERSTRUCTURE DESIGN



Heavy and costly superstructure to accommodate "demonstration latrine" for use by police in Tangail.

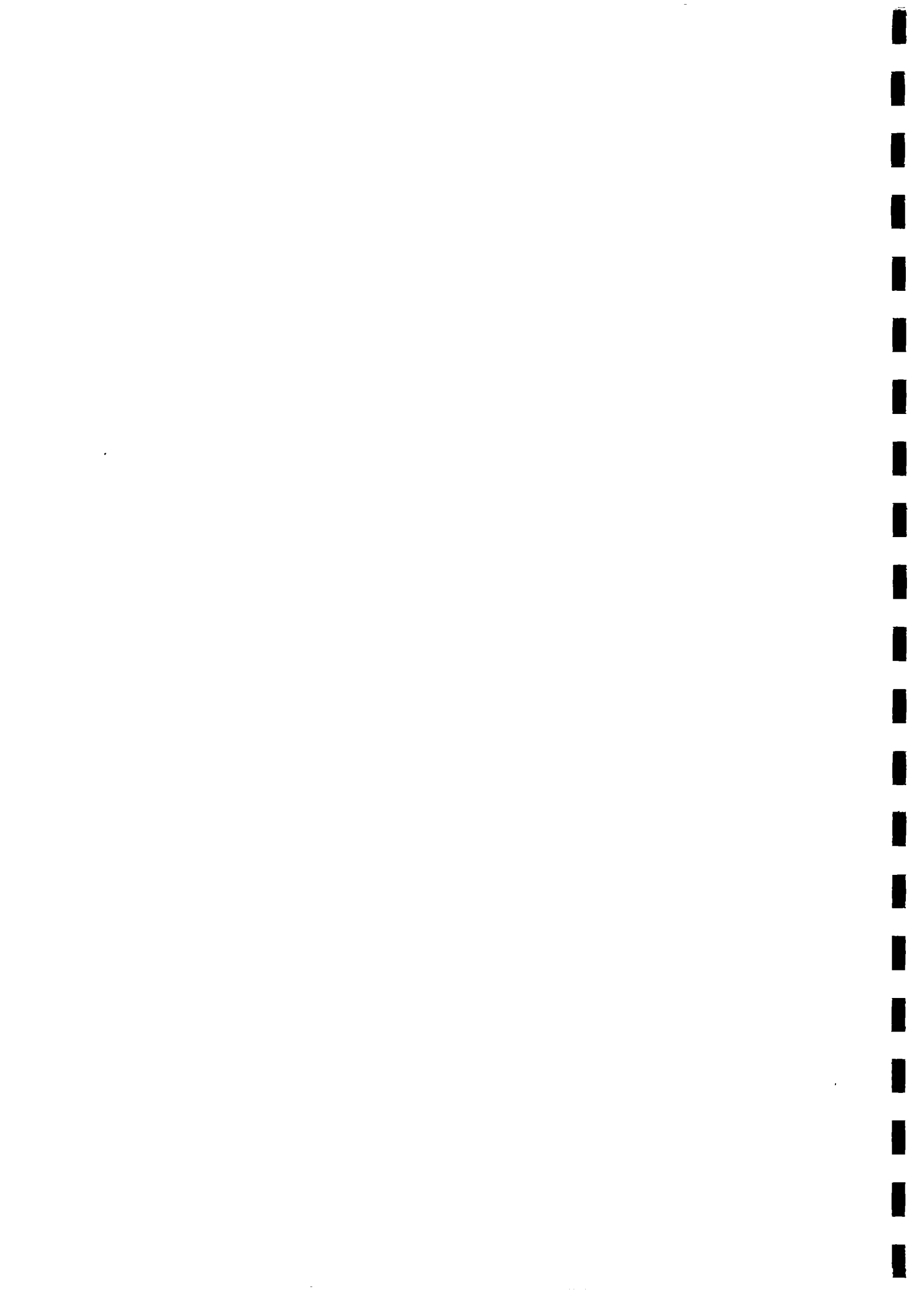


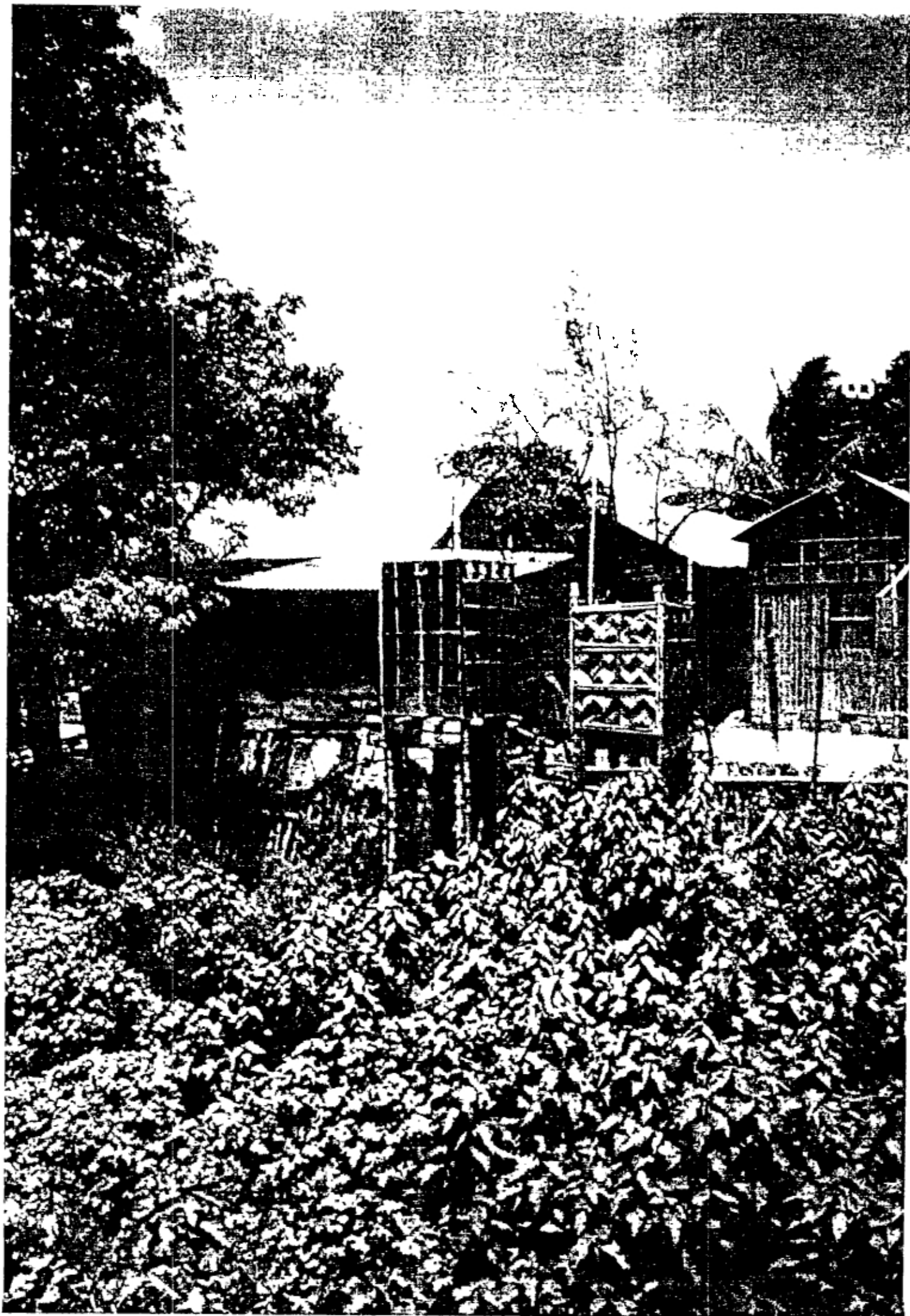
"Traditional" high cost latrine superstructure belonging to a colonial period mansion in Bhairab.



Opposite page:

Hang-latrines constructed from bamboo and tin-plate



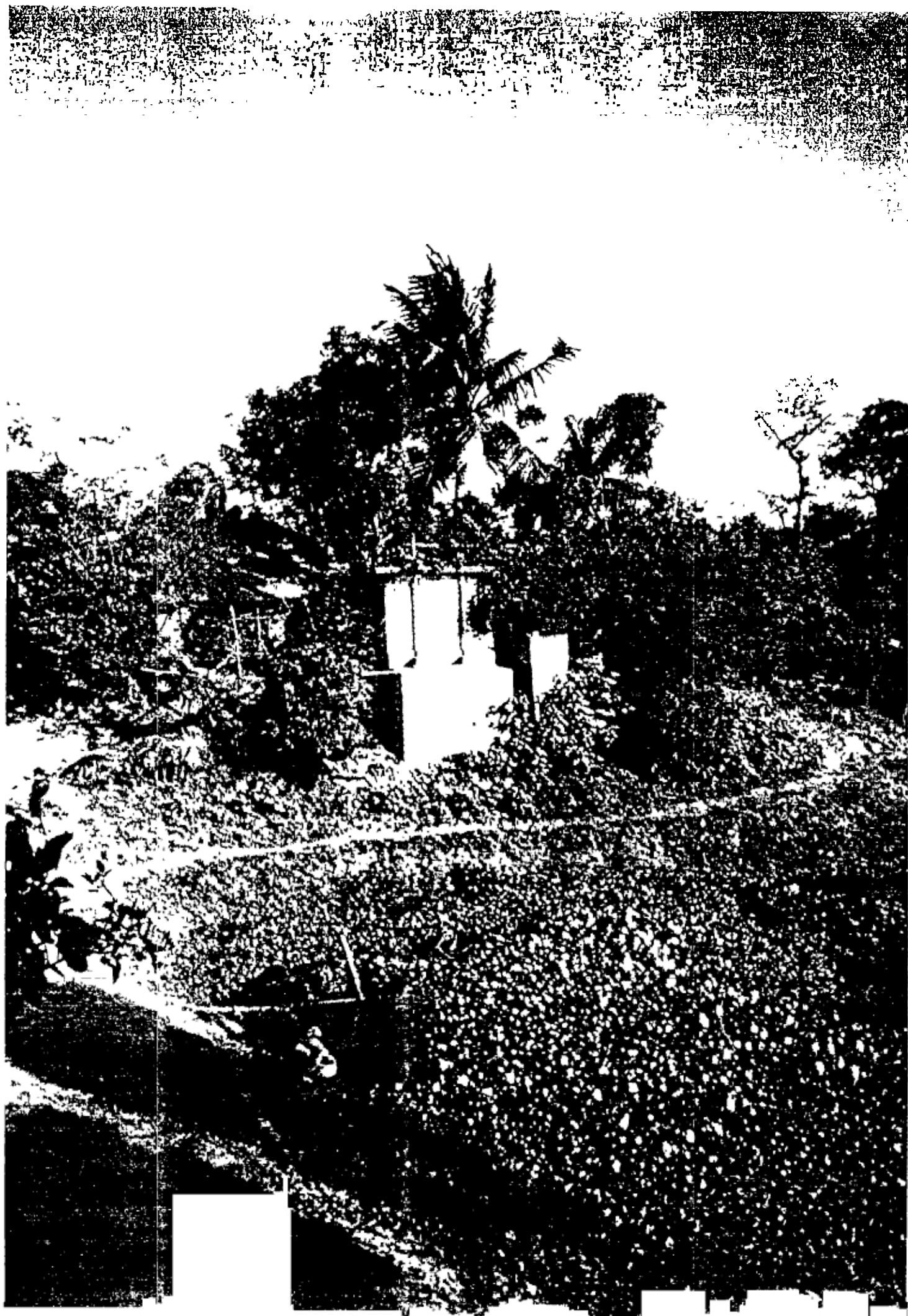




Opposite page:

Latrines are normally private and belong to specific households. The illustration shows an expensive, brightly decorated pucca latrine construction next to a traditional hang latrine.









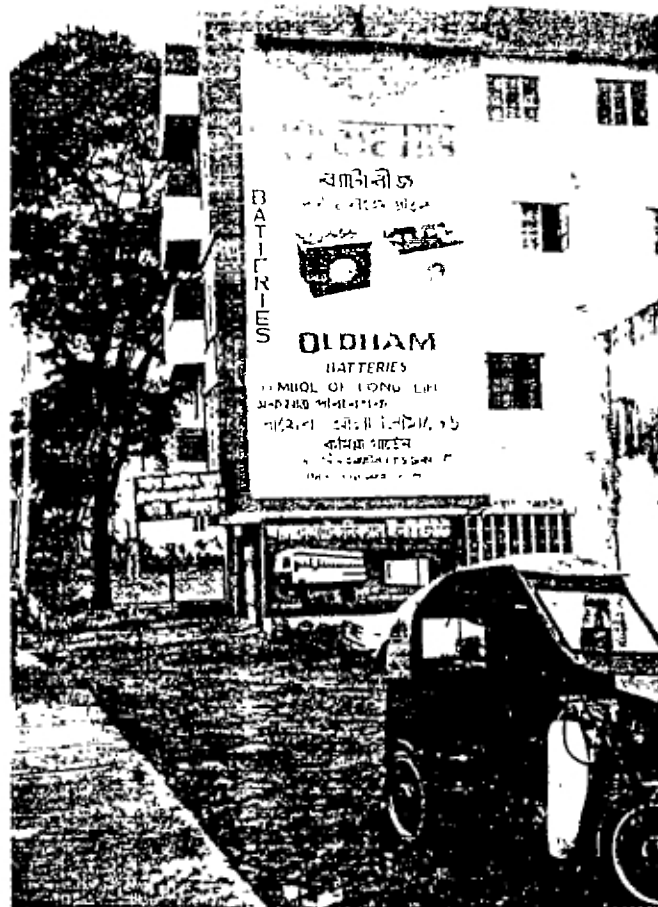
Natural and light materials such as bamboo, as well as the skills for working such, abound in Bangladesh.



Simple but efficient latrine superstructure made from coconut leaves. The construction admits daylight and gives excellent cross-ventilation.



MARKETING



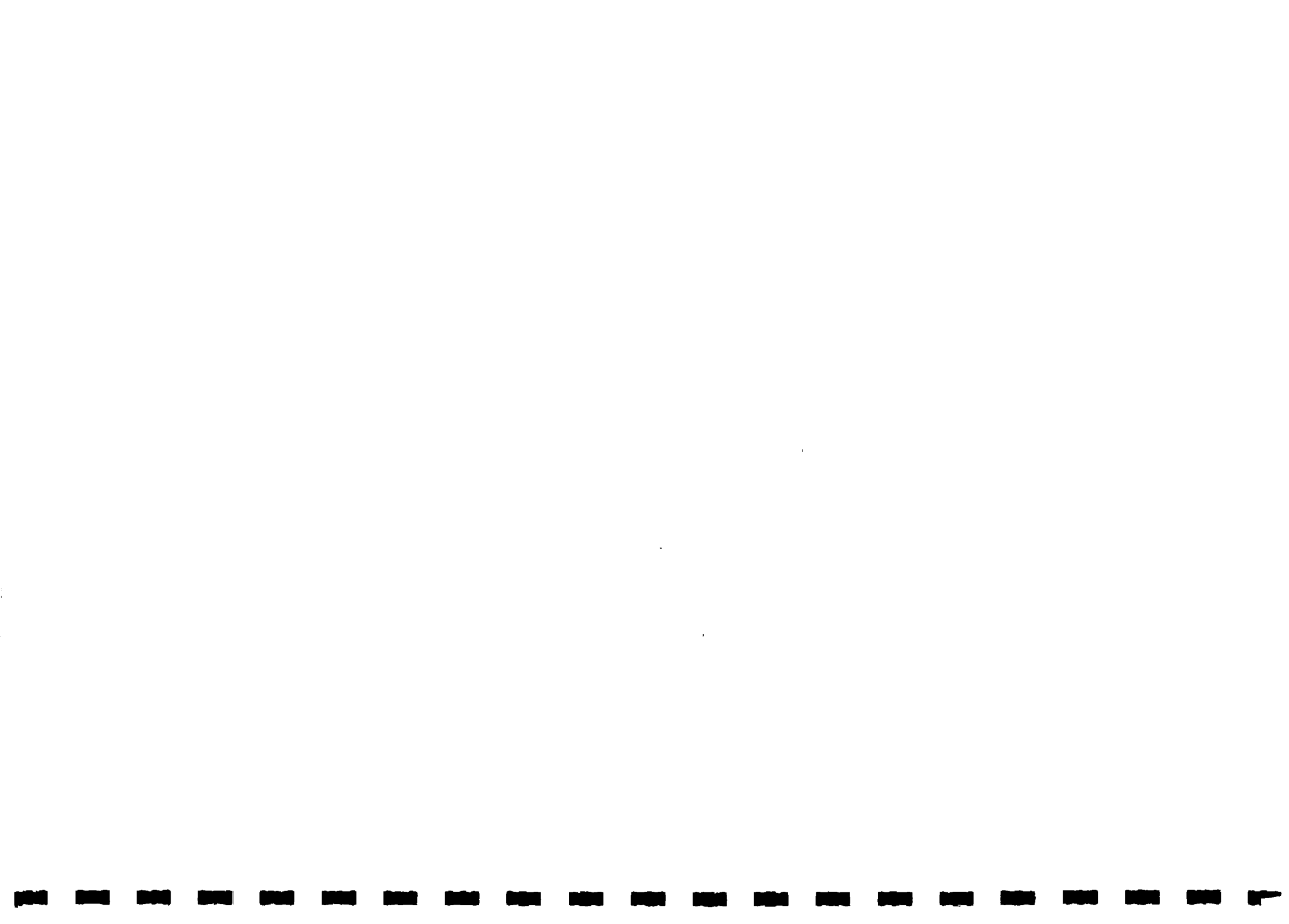
Wall on apartment building used for advertising in Dhaka.



A "traditional" and efficient marketing tool used all over Bangladesh is "miking" by bicycle rickshaw.



Marketing through painted shop advertising boards and movable street signs.



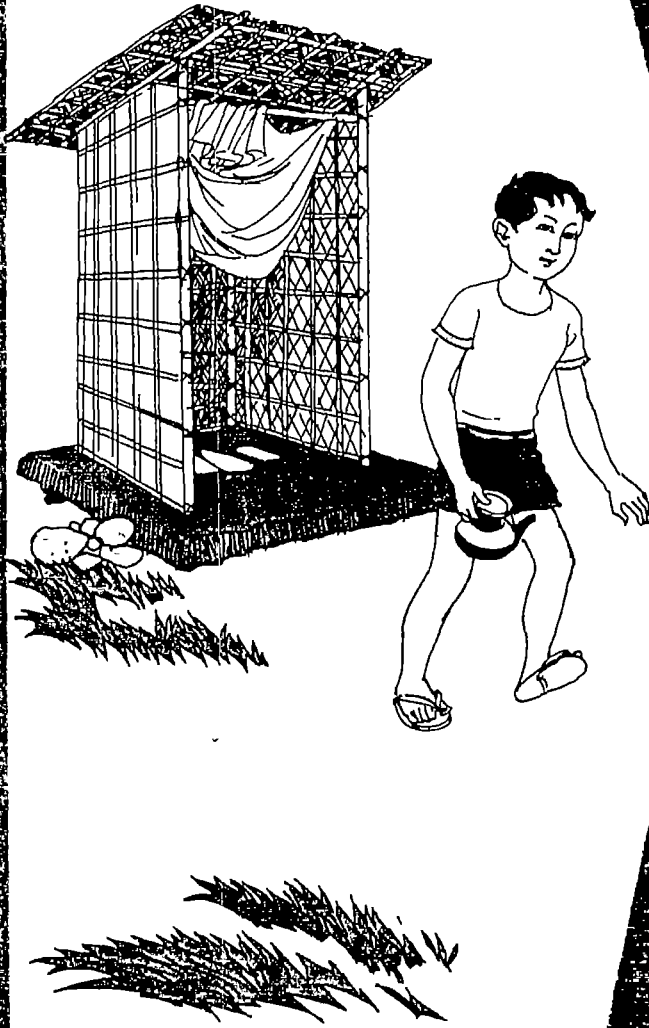


Movable street sign advertising a dentist.

100

100

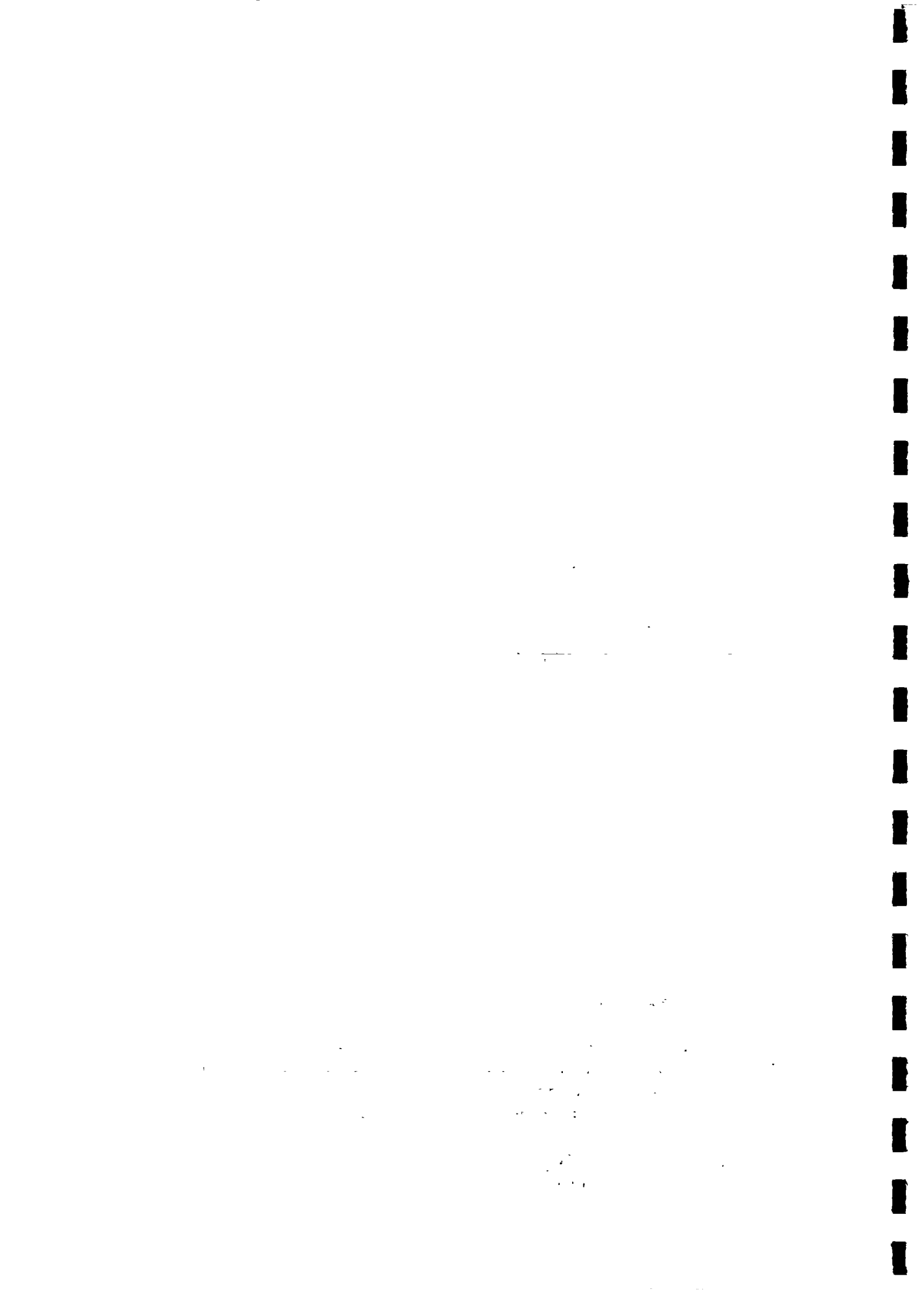


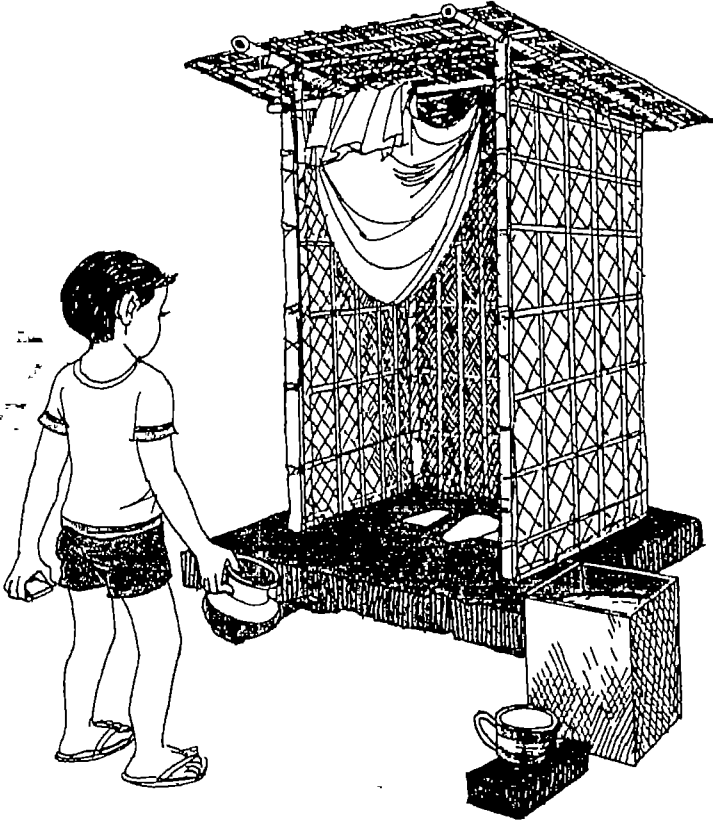


পায়খানা থেকে এসে ভাল করে হাত ধুতে হবে

The UNICEF Bangladesh poster is confusing to villagers:

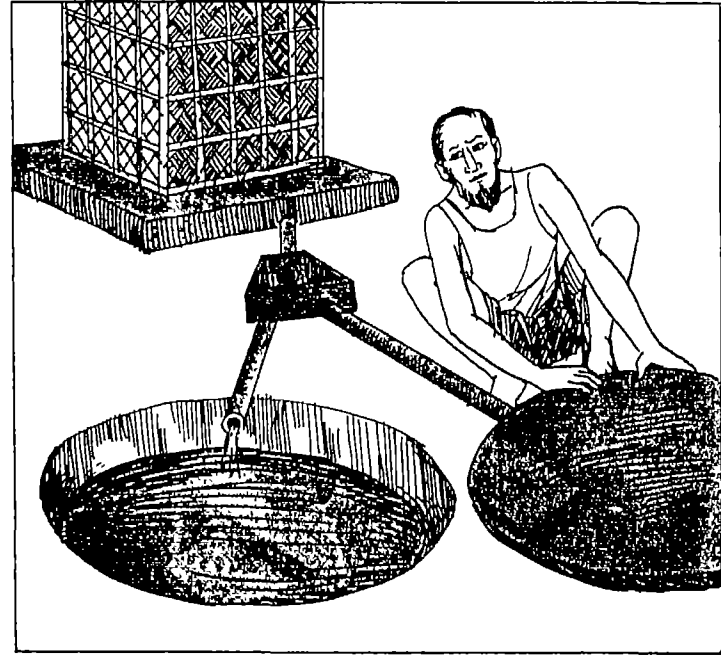
- What is the connection between the two pictures ?
- Why does the latrine not have a door ?
- Why does the boy squat at a central place in the village dipping his hands in mud ?
- Why does he not use the soap ?
- What is the reaction of the woman with the shopping-bag ?





স্যানিটারী পায়খানা ব্যবহারের নিয়ম

পায়খানা সব সময় পরিষ্কার রাখা উচিত।
সে জন্য পায়খানার ঝাঞ্জেই কলসী বা কোন পাত্রে সব
সময় পানি জমা রাখুন।



এর পরও যদি মল আটকে থাকে তাহলে দেখতে হবে
গর্ত ভর্তি হয়ে গেছে কিনা। যদি তাই হয় তাহলে এই
ভর্তি পিটের নল বন্ধ করে অপর পিট চালু করার ব্যবস্থা
করুন।

UNICEF Bangladesh folder:

Washing utensils are now placed correctly, but latrine still has no door.

The gross mistake of the brochure is confusing messages:

Initially it is a child's guide to hand-washing and keeping a latrine clean. Then it becomes a guide for maintenance of two-pit-latrine, involving such complexities as transparent ground and the servicing of a latrine in use.

The brochure neither has a well defined message, nor a defined target group.

