Household sanitation and hygiene practices of BRAC member and non-member households: evidences from Matlab, Bangladesh

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Executive Summary

Background Provision of potable water and sanitation facilities for the vast majority of the poverty-stricken people of developing countries remains a formidable challenge for sustainable development. To accomplish this task, policy makers agree that water and sanitation should be a task of the people with government participation rather than being a task of the government with people's participation. The health benefits resulting from improved sanitation and water supplies will be limited if behaviour modification does not occur simultaneously. NGOs can play a significant role in this field. BRAC's EHC integrates preventive health inputs with RDP's mainstream activities in a comprehensive package. We tried to see how these activities translate into desirable health behaviour among beneficiary households by comparing them with households of a similar socioeconomic status but not receiving these inputs.

Methods The data used is a sub-set of a panel data collected by BRAC-ICDDR,B Joint Research Project for studying the pathways through which socioeconomic development impacts on the lives of the poor in rural Bangladesh. A pre-tested structured questionnaire was administered to a knowledgeable adult female member of the household, usually the wife of the household head available at the time of survey.

Results Of the 2061 successfully surveyed households, 604 were BRAC-member households and 1,658 were BRAC-eligible non-member households. The average size of the households was around five, the BRAC member households being a bit larger than the eligible non-member households. Literate persons were more likely to be head of a BRAC household. Fewer BRAC member households were labeled as labour-selling.

From the findings of this study, there is an apparent trend towards hygienic household sanitation practices among the BRAC member households. Some of these differences in sanitary excreta disposal persisted when literacy or labour-selling status of the households is controlled for. To

break the transmission chain of faecally-transmitted diseases, in addition to sanitary excreta disposal, good standards of personal hygiene like hand washing before eating is essential. In this study, BRAC-member households used tube-well water for hand-washing more frequently than those from the non-members, though not uniformly. These favourable health practices may be due to the fact that these are the targeted households and are the principal beneficiaries of credit related and preventive health inputs from BRAC. Almost all the households used tube-well water for drinking, but the use of this water for other domestic purposes was limited. Performing domestic work with pond water is more convenient to them than using tube-well water for cultural reasons.

Conclusion In conclusion, it can be said that BRAC-member households have started to reap some benefits from the preventive health inputs of RDP-EHC, though a long road still lies ahead. More efforts from programme are needed to sustainable changes in hygiene behaviours of the beneficiary households.

Introduction

Three factors are needed to ensure a minimum level of health in a community. First, an accessible and safe water supply; second, appropriate and sanitary method of excreta disposal; and third, hygiene education. Provision of potable water and sanitation facilities for the vast majority of the poverty-stricken people of developing countries remains a formidable challenge for sustainable development. At the end of the International Drinking Water Supply and Sanitation Decade (1981-'90), 390 million people were still without safe water and close to 1000 million people had no proper excreta disposal facilities in WHO's south-east Asia region (1). At any given time ... one-half of all peoples in the developing world are suffering from one or more of the six main diseases associated with water supply and sanitation (diarrhoea, ascariasis, dracunculiasis, hookworm, schistosomiasis and trachoma). In Bangladesh, more than 75% of all illnesses are ascribed to the lack of safe drinking water and adequate sanitation facilities (2).

To attain coverage goals by the year 2000, water supplies will have to be increased twofold over the level 1990 and sanitation by about fivefold. To accomplish this huge task, policy makers agree that water and sanitation should be a task of the people with government participation rather than being a task of the government with people's participation. During the Water and Sanitation Decade, a partnership between the non-governmental organisations and the Government of Bangladesh in the form of NGO forum, supplemented Government activities to provide water and sanitary facilities for communities through a 2-year rural Water Supply and Sanitation (WSS) project. An evaluation of the project showed that WSS achieved 100% of its targeted activities in terms of: tube-well installations, establishment of 40 sanitation centres by NGOs which constructed and sold 8838 latrines; and training and dissemination activities (3). During this time access to safe water increased in rural areas from 37% to 96% though only 16% of the population used tube-well water for all domestic purposes (4). Efforts to improve the scenario continued in the following years. In a recent publication, Bangladesh Bureau of Statistics (BBS) reports that in rural areas, 95% of households use safe water (tube-well+tap) for drinking and 59% for domestic work; 44% of the households have slab or pit latrines (5).

The health benefits resulting from improved sanitation and water supplies will be limited if behaviour modification does not occur simultaneously. In a study done in low land rural Bangladesh to improve hygiene practices and reduce diarrhoea morbidity, a community based intervention was implemented with the assistance of village leaders through a "Clean Life" campaign. The project workers were assisted by volunteer mothers who were chosen from the target households. Following intervention, it was found that the intervention site had substantially higher level of cleanliness, lower diarrhoea morbidity, and better growth status of children with differences increasing over time. The authors concluded that this type of community-based intervention can be very beneficial in modifying hygiene behaviours and lowering diarrhoea and malnutrition (7).

Since 1991, BRAC, an indigenous NGO of Bangladesh, has been promoting the use of safe water, sanitation and hygiene practices since 1991 among the poor. This paper attempts to explore the effect of the BRAC intervention on water, sanitation and domestic hygiene practices by comparing the beneficiary households with households of a similar socioeconomic condition but not involved in BRAC programmes. The data used is a sub-set of a panel data collected in 1995 for studying the pathways through which socioeconomic development impacts on the lives of the poor in rural Bangladesh.

Materials and methods

The BRAC-ICDDR,B Joint Research Project

Founded in 1972, BRAC is a large indigenous non-governmental organisation involved in rural poverty alleviation (8). BRAC's Rural Development Programme (RDP) targets the poorest of the poor with special emphasis on improving the health and socioeconomic conditions of women and children. Essential Health Care (EHC) under RDP provides a selective mix of basic health interventions described as an "essential package of health services." These include provisions of:

temporary family planning methods; basic curative services for some common diseases; tube-wells and latrines for safe water and sanitation; health and nutrition education; and mobilisation for immunisation. These services are delivered mainly to the BRAC member households by Shasthya Sebikas (SS), or the community health workers, through household visits at regular intervals (9).

In 1992, BRAC extended RDP activities including micro-credit and non-formal education to 100 villages of Matlab thana where the International Centre for Diarrhoeal Disease Research, Bangladesh (ICDDR, B) has been operating a Demographic Surveillance System (DSS) since the early 1960s. A research collaboration between BRAC and ICDDR, B was established to examine the pathways through which socioeconomic development effects health and well-being of the rural poor in a systematic, statistically valid manner (10). In Phase I of the project, a baseline survey covering about 12,000 households and a series of exploratory and qualitative studies were done to elucidate the socioeconomic and environmental context within which the programme would operate (11). Informed by these studies, phase II studies were conducted in three seasonal rounds (collected April '95 to April '96) of panel data on sociodemographic, health, sanitation and household economy from a sub-sample of the 1992 baseline households (12).

The Data

Data on household sanitation and hygiene practices for this study were taken from the first seasonal round (April-Aug'95) of the panel data referred to above. Pre-tested structured questionnaire was administered to a knowledgeable adult female member of the household, usually wife of the household head, present at the time of survey. Information on children's stool disposal, place of defaecation, garbage disposal and source of water for domestic purposes and hand washing were collected. Households possessing less than 0.5 acre of land and selling manual labour for at least 100 days a year is considered eligible to be included in BRAC's rural development programme. These households rank among the poorest of the poor. Households that are not eligible for BRAC's RDP are comparatively better off socioeconomically, and include rural elite as well. For our analysis, we included BRAC-eligible households only.

Information on stool disposal or place of defaecation was collected for children of 1-5 years only. The interviewers recorded appearance of the courtyard as observed on entering the household. Data regarding source of water for hand-washing was collected with reference to cleaning hands before taking food only. Literacy is enumerated in terms of ability to read, write or sign. Those who could both read and write are taken as literate. Occupation of the household head is defined as the activity in which the individual spends major part of her/his time in a working day. Accordingly, households are categorised either as a labour-selling or a non labour-selling depending upon whether the household head is engaged in wage-labour or not.

A medium scale embankment on the banks of the river Meghna and Dhonagoda was constructed between 1982 and 1989 for flood control, drainage and irrigation. Study villages under DSS area fall both within and outside the embankment and accordingly, proportionate households from both side of the embankment were sampled.

Analysis plan

Bivariate analysis is done to study the household sanitation and hygiene practices between BRAC member and non-member households controlling for literacy and occupation of household head, household size, location of the household, presence of MCH-FP programme of ICDDR, B and length and depth of BRAC membership. The statistical software package SPSS PC for Windows is used for analysis.

Results

a) Socioeconomic characteristics of the study households

Out of a total of 2262 BRAC-eligible households, 2061 were surveyed successfully. Of the households surveyed, 604 were BRAC-member households and 1,658 were BRAC-eligible non-member households. The average size of the households was around five, the BRAC member

households being a bit larger than the eligible non-member households. The BRAC member households possessed greater amount of land and non-land assets compared to their counterparts. Also, literate persons headed a greater proportion of these households. On the other hand, the proportion of female-headed households was more among the eligible non-member households. Labour-selling households were proportionately less among BRAC member households (Table 1).

b) Household sanitation and personal hygiene practices

Regarding household sanitation/ hygiene practices by BRAC membership, literacy and occupation of household head and household size—only the safe disposal of children's excreta and the appearance of the courtyard were significantly linked to each of these variables. The BRAC-member households were found to be performing better in terms of household sanitation such as children's stool disposal or maintaining cleanliness of the court yard and hygiene practices like washing hands before taking food. In Tables 3-7, these effects have been examined in more detail when confounding factors are controlled.

Table 3 presents the sanitation and hygiene practices of the study households controlling for the literacy of the household head. Irrespective of literacy, BRAC-member households were found to be significantly better in using fixed places for children's stool disposal, thus maintaining cleanliness of the courtyard. The beneficial effect of literacy is evident from the increased use of a fixed place or sanitary latrine for children's stool disposal, BRAC-member households with literate heads did better compared to illiterates (47.5% Vs 37.3%). This literacy had no effect on disposal of garbage or domestic hygiene practices like hand washing before taking food or use of water for purposes other than drinking. Though not statistically significant, the BRAC-eligible non-member households were found to use tube-well water in greater proportion for domestic purposes. Significant differences between member and eligible non-member households was observed in the sanitary disposal of children's' stool, appearance of the courtyard, and water used for hand washing before taking food whether or not the household is a labour-selling one (Table 4).

Household size was not found to be an important determinant of use of fixed place or sanitary latrine for children's stool disposal by the BRAC-member households (Table 5). The same was also true for the appearance of the courtyard. However, BRAC-member households did better than their eligible non-member counterparts in these respects. On the one hand, large household size did not hinder the eligible non-member households in increasingly using tube-well water for hand-washing or washing utensils. The presence of MCH-FP programme of ICDDR, B, had little influence over and above the better performance of BRAC-member households with respect to children's stool disposal; the influence was pronounced in case of the appearance of the courtyard (Table 6).

Significant differences existed between BRAC-member and eligible non-member households inside the embankment with regard to the use of fixed places for children's stool disposal or sanitary latrines, disposal of garbage, appearance of the courtyard and water used for hand washing purposes (Table 7). In all these matters, BRAC-member households fared better than the others except for disposal of garbage. Outside the embankment, differences were observed only in the case of appearance of the courtyard between these two types of households. When controlling for the length and depth of BRAC membership status of the households, no differences were observed with the exception of 'appearance of the courtyard' in case of length of BRAC membership and 'water for washing utensils' in case of depth of BRAC membership (Tables 8 & 9).

Discussion and conclusion

This is part of a larger study done at Matlab to explore the pathways through which socioeconomic development effects health and well-being of the rural poor. We have included only BRAC-eligible households in our analysis, as we wanted to compare the BRAC beneficiary households with households of similar socioeconomic condition, thereby excluding BRAC non-eligible households. BRAC's EHC integrates preventive health inputs with RDP's mainstream activities in a comprehensive package. We tried to see how these activities translate into desirable health

behaviour among beneficiary households by comparing them with economically similar households not receiving these inputs.

From the findings of this study, BRAC households apparently have begun moving towards hygienic household sanitation practices like disposal of children's excreta or kitchen garbage. In addition to sanitary excreta disposal, a strategy to break the transmission chain of faecally-transmitted diseases would include an improved standard of personal hygiene like hand washing before eating; In this study, greater use of tube-well water for hand-washing by BRAC-member households is seen. These differences are more pronounced for households inside embankment. BRAC households' favourable health practices may be due to the fact that these targeted households are the principal beneficiaries of credit and preventive health inputs.

For diarrhoea and other conditions related to water borne diseases to be reduced, water that is ingested must be clean from the tap, be properly collected and stored within the house, drunk from clean containers. Almost all the households used tube-well water for drinking, but the storage facilities were not always hygienic. Use of this water for other domestic purposes such as washing cooking utensils or bathing was quite limited. This may be due to several factors. Culturally, the rural people in Bangladesh are used to bath or wash in ponds, canals or river-bank and feel more comfortable because the high mineral content (especially of iron) of the water makes their hair sticky and stains clothes. Performing domestic work with pond water is more convenient to them than using tube-well water. Moreover, discrimination from the tube-well owners and distance to the tube-well site are other important factors which may hinder the use of tube-well water for all purposes (13).

In conclusion, it can be said that BRAC-member households have started to reap some benefits from preventive health inputs of RDP-EHC, though a long road still lies ahead. More efforts from programme are needed to sustainable changes in hygiene behaviours of the beneficiary households.

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Tables

Table 1: Socioeconomic characteristics of the study households by BRAC membership status of household, Matlab 1995

	BRAC member HHs (n=604)	BRAC-eligible non-member HHs (n=1658)	All HHs (N=2262)	't' test
(1)	(2)	(3)	(4)	(2) vs (3)
Mean household size	5.3	4.7	4.8	p<..001
Mean total land owned by household (decimal)	34.0	18.0	65.0	P<.001
Mean total value of non-land assets of household (taka)	20,184	15,911	38,248	P<.001
				χ^2
Sex of Household head				
Male%	86.1	79.8	81.5	p<.001
Female%	13.9	20.2	18.5	
Household Head's literacy				
Illiterate%	62.1	72.9	70.0	P<.001
Literate%	37.9	27.1	30.0	
Labour selling status of household				
Labour-selling (farm and non-farm)	26.4	32.1	30.5	P<.05
Non labour-selling	73.6	67.9	69.5	

Table 2: Household sanitation and hygiene practices of the study households by BRAC membership status, Matlab 1995 (%)

	BRAC membership status of households (HHs)		
	BRAC-member HHs	BRAC-eligible non-member HHs	All HHs
Stool disposal/place of defaecation of children (1-5yrs)			
Surface water	58.6	75.1	70.5
Fixed place/sanitary latrine	41.4	24.9	29.5
N			
Significance (χ^2)		**p<.001**	
Appearance of courtyard			
Dirty (children's stool, cowdung etc.)	27.9	47.6	42.0
Clean	72.1	52.4	58.0
N	**584**	**1477**	**2061**
Significance (χ^2)		**p<.001**	
Disposal of garbage*			
Anywhere outside courtyard	41.3	39.5	40.1
Fixed place	58.7	60.5	59.9
N	**276**	**534**	**810**
Significance (χ^2)		**ns**	
Water for washing hands (before taking food)			
Tube-well	88.9	92.8	91.7
River/canal/pond	11.1	7.2	8.3
Significance (χ^2)		**p<.01**	
Water for washing utensils			
Tube-well	6.2	7.6	7.2
River/canal/pond	93.8	92.4	92.8
Significance (χ^2)		**ns**	
Water for bathing			
Tube-well	1.7	2.5	2.3
River/canal/pond	98.3	97.5	97.7
Significance (χ^2)		**ns**	
N	**584**	**1477**	**2061**

*for households which where found to be clean

Table 3: Household sanitation and hygiene practices by BRAC membership status of HHs and literacy status of household head, Matlab 1995 (%)

	Literacy of HHH			
	Illiterate		Literate	
	BRAC member HHs	BRAC-eligible non-member HHs	BRAC member HHs	BRAC-eligible non-member HHs
Stool disposal/place of defaecation of children (1-5yrs)				
Surface water	57.8	77.7	58.3	67.4
Fixed place/sanitary latrine	42.2	22.3	41.7	32.6
N	**192**	**524**	**72**	**172**
Significance (X^2)	**p<.001**		**ns**	
Appearance of courtyard				
Dirty (children's stool, cowdung etc.)	26.9	47.6	29.2	49.0
Clean	73.1	52.4	70.8	51.0
N	**412**	**1111**	**144**	**296**
Significance (X^2)	**P<.001**		**p<.001**	
Disposal of garbage*				
Anywhere outside courtyard	42.3	39.6	38.2	39.3
Fixed place	57.7	60.4	61.8	60.7
N	**189**	**394**	**76**	**117**
Significance (X^2)	**ns**		**ns**	
Water for washing hands (before taking food)				
Tube-well	87.9	92.6	91.0	94.0
River/canal/pond	12.1	7.4	9.0	6.0
Significance (X^2)	**p<.05**		**ns**	
Water for washing utensils				
Tube-well	7.2	10.2	4.7	6.6
River/canal/pond	92.8	89.8	95.3	93.4
Significance (X^2)	**ns**		**ns**	
Water for bathing				
Tube-well	1.2	2.2	2.4	3.2
River/canal/pond	98.8	97.8	97.6	96.8
Significance (X^2)	**ns**		**ns**	
N	**412**	**1116**	**144**	**298**

*for households which where found to be clean

Table 4: Household sanitation and hygiene practices by BRAC membership status of HHs and occupation of household head, Matlab 1995 (%)

	Labour-selling status of households			
	Labour-selling		Non labour-selling	
Stool disposal/place of defaecation of children (1-5yrs)				
Surface water	54.9	81.8	59.8	74.5
Fixed place/sanitary latrine	45.1	18.2	40.2	28.5
N	**71**	**247**	**209**	**475**
Significance (X^2)	**p<.001**		**p<.01**	
Appearance of courtyard				
Dirty (children's stool, cowdung etc.)	32.9	47.4	26.1	47.6
Clean	67.1	52.6	73.9	52.4
N	**155**	**474**	**429**	**997**
Significance (X^2)	**p<.01**		**p<.001**	
Disposal of garbage*				
Anywhere outside courtyard	41.7	43.2	41.2	37.9
Fixed place	58.3	56.8	58.8	62.1
N	**60**	**162**	**216**	**372**
Significance (X^2)	**ns**		**ns**	
Water for washing hands (before taking food)				
Tube-well	82.6	93.2	91.9	92.6
River/canal/pond	17.4	6.8	8.9	7.4
Significance (X^2)	**p<.001**		**ns**	
Water for washing utensils				
Tube-well	8.4	7.6	5.4	7.6
River/canal/pond	91.6	92.4	94.6	93.1
Significance (X^2)	**ns**		**ns**	
Water for bathing				
Tube-well	3.9	2.7	0.9	2.4
River/canal/pond	96.1	93.3	99.1	97.6
Significance (X^2)	**ns**		**ns**	
N	**155**	**474**	**429**	**997**

*for households which where found to be clean

Table 5: Household sanitation and hygiene practices by BRAC membership status of HHs and household size, Matlab 1995 (%)

	Household size			
	≤ 5		>5	
	BRAC member HHs	BRAC-eligible non-member HHs	BRAC member HHs	BRAC-eligible non-member HHs
Stool disposal/place of defaecation of children (1-5yrs)				
Surface water	56.4	74.4	59.8	76.3
Fixed place/ sanitary latrine	43.6	25.6	40.2	23.7
N	**133**	**406**	**132**	**291**
Significance (X^2)	**P<.001**		**p<.01**	
Appearance of courtyard				
Dirty (children's stool, cowdung etc.)	25.6	45.9	29.7	51.6
Clean	74.4	54.1	70.3	48.4
N	**308**	**906**	**249**	**502**
Significance (X^2)	**P<.001**		**p<.001**	
Disposal of garbage*				
Anywhere outside courtyard	42.6	37.5	39.5	44.0
Fixed place	57.4	62.5	60.5	56.0
N	**136**	**352**	**129**	**159**
Significance (X^2)	**ns**		**ns**	
Water for washing hands (before taking food)				
Tube-well	89.0	92.0	88.4	94.5
River/canal/pond	11.0	8.0	11.6	5.5
Significance (X^2)	**ns**		**p<.01**	
Water for washing utensils				
Tube-well	6.8	6.9	4.0	9.1
River/canal/pond	93.2	93.1	96.0	90.8
Significance (X^2)	**ns**		**p<.05**	
Water for bathing				
Tube-well	1.9	2.5	1.2	2.6
River/canal/pond	98.1	97.5	98.8	97.4
Significance (X^2)	**ns**		**ns**	
N	**308**	**908**	**249**	**507**

*for households which where found to be clean

Table 6: Household sanitation and hygiene practices by BRAC membership status of HHs and presence of ICDDR,B's MCH-FP programme, Matlab 1995 (%)

	Programme area			
	MCH-FP		Non-MCH-FP	
	BRAC member HHs	BRAC-eligible non-member HHs	BRAC member HHs	BRAC-eligible non-member HHs
Stool disposal/place of defaecation of children (1-5yrs)				
Surface water	62.0	78.2	55.2	72.4
Fixed place/sanitary latrine	38.0	21.8	44.8	27.6
N	**137**	**331**	**143**	**391**
Significance (X^2)	**P<.01**		**p<.001**	
Appearance of courtyard				
Dirty (children's stool, cow dung etc.)	28.0	52.9	27.8	41.8
Clean	72.0	47.1	72.2	58.2
N	**311**	**760**	**273**	**710**
Significance (X^2)	**P<.001**		**P<.001**	
Disposal of garbage*				
Anywhere outside courtyard	39.5	34.8	43.4	44.9
Fixed place	60.5	65.2	56.6	55.1
N	**147**	**287**	**129**	**247**
Significance (X^2)	**ns**		**ns**	
Water for washing hands (before taking food)				
Tube-well	88.7	90.6	89.0	95.2
River/canal/pond	11.3	9.4	11.0	4.8
Significance (X^2)	**ns**		**ns**	
Water for washing utensils				
Tube-well	6.1	4.2	6.2	11.2
River/canal/pond	93.9	95.8	93.8	88.8
Significance (X^2)	**ns**		**p<.05**	
Water for bathing				
Tube-well	1.3	1.2	2.2	3.9
River/canal/pond	98.7	98.8	97.8	96.1
Significance (X^2)	**ns**		**ns**	
N	**311**	**763**	273	**714**

*for households which where found to be clean

Table 7: Household sanitation and hygiene practices by BRAC membership status of HHs and location of household, Matlab 1995 (%)

	Location of Household			
	Inside embankment		Outside Embankment	
	BRAC member HHs	BRAC-eligible non-member HHs	BRAC member HHs	BRAC-eligible non-member HHs
Stool disposal/place of defaecation of children (1-5yrs)				
Surface water	71.3	77.4	49.7	72.4
Fixed place/sanitary latrine	28.7	22.6	50.3	27.6
N	**115**	**385**	**165**	**337**
Significance (X^2)	**ns**		**p<.001**	
Appearance of courtyard				
Dirty (children's stool, cow dung etc.)	24.6	38.1	30.3	56.3
Clean	75.4	61.9	69.7	43.7
N	**244**	**708**	**340**	**769**
Significance (X^2)	**P<.001**		**P<.001**	
Disposal of garbage*				
Anywhere outside courtyard	66.1	49.3	20.1	28.9
Fixed place	33.9	50.7	79.9	71.1
N	**127**	**278**	**149**	**256**
Significance (X^2)	**p<.01**		**ns**	
Water for washing hands (before taking food)				
Tube-well	94.7	98.2	84.7	87.9
River/canal/pond	5.3	1.8	15.3	12.1
Significance (X^2)	**p<.01**		**ns**	
Water for washing utensils				
Tube-well	11.5	11.2	2.4	4.3
River/canal/pond	88.5	88.8	97.6	95.7
Significance (X^2)	**ns**		**ns**	
Water for bathing				
Tube-well	3.7	4.0	0.3	1.2
River/canal/pond	96.3	96.0	99.7	98.8
Significance (X^2)	**ns**		**ns**	
N	**244**	**708**	**340**	**769**

*for households which where found to be clean

Table 8: Household sanitation and hygiene practices in BRAC member HHs by length of membership in BRAC, Matlab 1995 (%)

	Length of BRAC membership of the HH	
	≤ 24 months	>24 months
Stool disposal/place of defaecation of children (1-5yrs)		
Surface water	65.9	56.1
Fixed place/sanitary latrine	34.1	43.9
N	**44**	**187**
Significance (X^2)	**ns**	
Appearance of courtyard		
Dirty (children's stool, cow dung etc.)	37.6	25.5
Clean	62.4	74.5
N	**93**	**411**
Significance (X^2)	**p<.05**	
Disposal of garbage*		
Anywhere outside courtyard	39.5	41.8
Fixed place	60.5	58.2
N	**38**	**189**
Significance (X^2)	**ns**	
Water for washing hands (before taking food)		
Tube-well	86.0	88.1
River/canal/pond	14.0	11.9
Significance (X^2)	**ns**	
Water for washing utensils		
Tube-well	2.2	7.1
River/canal/pond	97.8	92.9
Significance (X^2)	**ns**	
Water for bathing		
Tube-well	1.1	1.5
River/canal/pond	98.9	98.5
Significance (X^2)	**ns**	
N	**93**	**411**

*for households which where found to be clean

Table 9: Household sanitation and hygiene practices in BRAC member HHs by level of inputs from BRAC, Matlab 1995 (%)

	Level of inputs from BRAC	
	Basic	**Basic plus**
Stool disposal/place of defaecation of children (1-5yrs)		
Surface water	64.0	50.6
Fixed place/sanitary latrine	36.0	49.4
N	**136**	**85**
Significance (X^2)	**ns**	
Appearance of courtyard		
Dirty (children's stool, cow dung etc.)	31.2	23.3
Clean	68.8	76.7
N	**263**	**206**
Significance (X^2)	**ns**	
Disposal of garbage*		
Anywhere outside courtyard	44.8	38.5
Fixed place	55.2	61.5
N	**105**	**104**
Significance (X^2)	**ns**	
Water for washing hands (before taking food)		
Tube-well	89.7	86.4
River/canal/pond	10.3	13.6
Significance (X^2)	**ns**	
Water for washing utensils		
Tube-well	1.9	11.2
River/canal/pond	98.1	88.8
Significance (X^2)	**P<.001**	
Water for bathing		
Tube-well	0.8	2.4
River/canal/pond	99.2	97.6
N	**263**	**206**
Significance (X^2)	**ns**	

*for households which where found to be clean

N.B. Basic package of BRAC inputs e.g., savings, loan and VO membership; Basic plus id Basic package + skill development training/para-professionals in BRAC