



# Role of Volunteer Community Practices toward Behavior Change in WASH

Abid Anwar, Mussawar Shah, Hina Qamar & Yasrab Abid

Department of Rural Sociology, Faculty of Rural Social Sciences, The University of Agriculture, Peshawar Khyber Pakhtunkhwa-Pakistan

## Keywords:

Hygiene and Sanitation, Community satisfaction on WASH Program, Capacity building/awareness on hygiene & sanitation, Behavior change in WASH, Volunteer community practices.

## Correspondence:

Abid Anwar, Department of Rural Sociology, Faculty of Rural Social Sciences, The University of Agriculture, Peshawar Khyber Pakhtunkhwa-Pakistan.

## Funding Information:

No funding information provided.

## Manuscript History:

Received: August 2017

Accepted: September 2017

International Journal of Scientific Footprints 2017; 5(1): 47-59

## Abstract

The present study entitled an analysis of community satisfaction and Behavior change in WASH Program with hygiene and sanitation in district Peshawar. A total of 359 respondents' were proportionally allocated to each village and then selected through simple random sampling techniques. Data was collected on a 3 level Likert scale interview schedule encompassing all study variables. Chi square test was used test the association amount was study variable. treatments of water before drinking ( $p=0.000$ ), types of treatment methods been used for safe drinking water to remove contaminations ( $p=0.000$ ), the frequency of household treatment of drinking water Boil, Chlorination, Sand Filter, Water Filter ( $p=0.000$ ), treatment methods had been used before the hygiene promotion session ( $p=0.000$ ), usage of household to prevent children from getting diarrhea diseases ( $p<0.004$ ), what, if symptoms of dehydration begin to appear with community ( $p=0.000$ ), Respectively, the study found that people had high degree of satisfaction with regards to the initiation, execution and deliverance of the project. As strong follow up mechanism, maximum participation of community and intervention of public sector initiate such programs, to promote competition were some of the recommendations in the light of this study.

## Introduction

The Health promotion is “the process which contains the very philosophy of enhancement over controlling in the improvement of health with reference to initiation of progress, based on hygiene and sanitation while behavioral change pertaining to public health incorporates bunch of activities and approaches concentrating on individual community and

environment, which changes human behavior. These interventions are essential to improve quality of life revolving around an integrated WASH approach, leading to containment of mortality with particular reference to the vulnerable segment of population during humanitarian crisis (WHO, 1986; and Merlin, 2012).

Evan (2005) has classified the sanitation into a number of categories ranging from storage, safe collection, water treatment recycling of disposal of human excreta to industrial product and hazardous waste management. It has been conducted that almost 80percent childhood diseases, has roots in sanitation and hygiene foreseeing into the adults as well. Further revelation have been disclosed and linked with unsafe drinking water, open defecation, which has vivid relationship with pneumonia, which causes deaths of life almost 750000 children yearly (WHO, 2007)

In the report of PACOSAN (2009) Water Contamination stems out from the approach of locals achieving water as a God gift; seldom strive for its judicious use, making it free from pollution rather considering it as the sole responsibility of state. Such arguments over water distribution have long been diverted to the state. This is most obvious from the oblivious attitude of the locals only one filtration plant out of twelve is functional. (UNICEF, 2009) Health initiatives, conspicuously revolving around access to safe and clean drinking water with proper sanitation practices from general public irrespective of their social economic background can ensure a success against the contamination of water borne diseases. Perhaps, a policy bond on the assumption of a “some for all” instead “all for some” could lead to mitigation safe drinking water provision with maximum involvement of community by making them master of this vital resource with practical training on sustainable basis, It could safeguard millions of children from diarrhea, which engulf the lives of 1.6 million every five years on universal basis.(WHO, 2013; and Torres & Bandahmane, *et al.*, 2004; and WHO, 2003; and PAHO, 2001; and Berger & Esren, 1995)

Shuval *et al.* (1981) reported in his study who attend wash room are more comfortable than those who are

attending the call of the nature and open defecation. Moreover open defecation is harmful because the feces get entered into out edible items through our fingers as well as through air.

Churchill *et al.* (1987) summarized the study regarding budgetary matters of rural water supply that the most essential view point was work on availability of water supply at their door step. As in far flung areas majority of the people are getting their usable water from the streams or ponds which are very harmful for health, it is also waste their precious time by pitching water from such places. It would be useful if they have been provided water (stand-post/pipe) near to their houses. In this way they will get fresh and healthy water along with it, it will save their valuable time which will be consumed in other fruitful activities.

Water Aid (2011) water sanitation is considered as an important step to provide clean water to the people, in this regard the work of Non-governmental organizations in WATSON is highly appreciated, However development is sustainable, when WASH services continue to work as to bring positive change in people attitude. People become aware and no more ignorant from healthy attitude i.e. water born and other skin diseases etc which are due to use of contaminated items in negligence.

WHO and UNICEF (2014) delineated that as agreed in Millennium Development Goals (MDGs), the issue of WASH did not resolved until now, However half of the world population is going for open defecation. Moreover the WASH services need to be continued for more time. However, 2.5 billion individuals still need access to improved sanitation practices.

Touré *et al.* (2011) reported a study the findings are two aspects of healthy life one is open defecation free

environment and faecal disclosure leads to less contaminated stuffs and second concentrated on hygiene involvement. Additional research is relied upon setting up reasonability of progressing better-quality sustenance cleanliness, predominantly the cleanliness of preventing foods stuffs, consumed by children in the age expand most susceptible towards diarrheal disease.

Mudey *et al.* (2010) reported that investigations on sanitation have concentrated on wellbeing impacts among youngsters under five years old. However, there is developing acknowledgment of different kind safety dangers ladies and young ladies confront because of insufficient sanitation, including expanded maternal mortality hazard from unhygienic birth practices and poor contamination control, Uro-genital tract diseases and urinary incontinence and endless blockage of conception and fertility.

Hunter *et al.* (2010) presented that the financial advantages of enhanced hygiene and sanitation has solid relationship, between livelihoods and improved gentle water provisions, whether for drinking or domestic use. Moreover, in better-off states, past expenditure in water provision as well as the volume to put more in the contemporary expands water reservation and, apparently, success in well-being.

Curtis and Cairncross (2003) presented methodology that washing hands with cleansing agent or chemical reduced the danger of diarrheal illness up to 47percent. Furthermore, not only diarrheal disease but other diseases as well (cholera dysentery and typhoid). Moreover, there are methods about hand washing along with chemical possible can diminish terribleness by various sicknesses, for instance, Respiratory Infections, Ascariasis etc.

Miguel and Kremer (2004) reported that due to contaminated water people especially kids under five years facing worms in their intestines which affect their body growth i.e. snare worm illnesses have seemed to encounter the evil impacts of improvement deterrent, understanding and mental impedances. Moreover, the association of hookworm has been weakened wisdom, extended unfortunate lacks from school, reduces in coming days money related proficiency.

As reported by Luby and partners (2011) recommended about hand washing with chemical or soap is most important before preparing any sort of food for family, kids and especially for lactating women, before feeding their new natal, might be principally substantial in diminishing diarrheal diseases and get into sickness.

Bledsoe *et al.* (1994) found that women who use contaminated menstrual wipes has a high association with unhealthy situation. However, lacking individual cleanliness is the threat of conceptive tract violations. Furthermore, written work existing on the utilization of contaminated materials stuff in the mid of menstrual cycle. The overcast composition reports a relationship between non-commercial menstrual wipes and furthermore indigenous menstrual cleanliness sharpens and urinary and vaginal pollution. Moreover, psycho-social trauma, uncertainty and disturbance in peace of mind by using contaminated stuff as menstrual wipes in periods.

Jenkins and Sugden (2006) stated that there must be specified place for latrine construction the preparation of feasibility is vital. Furthermore, DRR component must be ensured in latrine construction design, especially the distance will be measure from water source i.e. well, storage as per hygiene standards, Moreover, latrine must not be constructed neat kitchen, also make sure the arrangement for sanitation water. In

addition every single latrine fabricated is required would promise that it is set aside. An outcome of this methodology, in any case, the toilet arrangement of an offer must be moderate to low wage packages. This concludes latrines need to be planned to a target cost and for a commercial area corner.

Adinma and Adinma (2008) reported that study conducted in Nigeria suggests that unhygienic materials, for instance, toilet/ tissue paper and pieces of clothing might harbor contaminating administrators that frequently flourish under blood society medium, and reusing of these stuffs may along these lines establish a wellspring of genital disorder. However it is obvious of proper disposing off these used toilet/tissue paper.

UNICEF/WHO (2009) summarized that in a health report published in session 2004 demonstrates that 1.9 million of children passed away from disease. All these deaths were due to savior water sanitation poor conditions. In another report of WHO (2004) passing's further prominent number of youths than HIV/AIDS, measles malarial sickness and combine. However, all these deaths are due to non-usage of hygiene and promote health measures.

## Methodology

The nature of the research study is descriptive to explore the behavior changed in relation to effective outcomes, in result of WASH Program been initiated in last decade either by Government or non-governmental development organizations. The research study was conducted in district Peshawar Khyber Pakhtunkhwa, the data was collected from mass community of target union council.

## Variables of the Study

<b>Independent variables</b>	<i>Volunteer Community Practices</i>
	<i>Behavior</i>
	<i>change/Community</i>
<b>Dependent variable</b>	<i>Satisfaction in WASH Program</i>

## Sampling Design

A Simple random sampling methodology was used to select the respondents for the purpose of data collection. The formulae of proportional allocation was used for the sample size to be drawn out from the total number of population size was 5714. The total sample size of the respondents 359 and were randomly drawn out on the basis of criteria mentioned by Sekaran (2003).

## Data Analysis

The collected data was analyzed by using the computer software i.e. statistical Package for social sciences (SPSS, 20 version). The collected data was then transferred on that program, frequencies and percentages were drawn on the basis of data entered in the data base of SPSS.

## Chi Square test ( $\chi^2$ )

Chi square test is of the great importance amongst the several test of implication established by statistics. Therefore the Chi-square test is appropriate in large number of problems (Kothari, 2004). Through the test it is possible for all researchers to test the significance of association between dependent and independent variables;

Chi Square test ( $\chi^2$ ) statistics was used for qualitative

data finding association between variables (Independent and dependent variables). The chi square ( $\chi^2$ ) was used while implementing the technique drawn by McCall (1975).

$$\chi^2 = \sum_{i=1}^r \sum_{j=1}^c \frac{(O_{ij} - e_{ij})^2}{e_{ij}}$$

(Chaudry &Kamal 1996)

Where “ $O_{jk}$ ” was the observed frequency in the cell corresponding to the intersection of “ $J$ th” row and “ $K$ th” Column “ $r$ ” the number of rows and “ $c$ ” the number of columns

The formula basically guides one to take the formed origination of the frequencies for each cell, divided by the expected frequency. The resulting value is distributed as Chi square with relevant degrees of freedom, calculated as follows.

$$d.f = (r-1)(c-1) \quad (\text{Mac Call, 1975})$$

Whenever the frequencies in the cell were less than 5 Fisher Exact Test used instead of simple Chi Square, by taking the procedures of Baily (1982)

In addition it is requisite that the sample size must be objectively huge such that no expected frequency is less than 5, for  $r$  and  $c > 2$ , or  $< 10$  if  $r=c=2$ . However, this hypothesis was violated several times in the data and therefore, Fisher Exact Test (also known as Exact Chi Square Test) was used instead of simple chi square. The relationship developed by Fisher is given in equation-II (Baily, 1982);

Fisher Exact Test Probability=

$$P = \frac{(a + b)! (c + d)! (a + c)! (b + d)!}{n! a! b! c! d!}$$

Where a, b, c and d are the observed numbers in four cells of contingency table and ‘n’ the total number of observations. SPSS 20, computer software was used for all data analysis, including frequencies, percentage, proportion and Chi-Square.

## Result and Discussion

### Volunteer Community Practices and Behavior change/Community Satisfaction in WASH (Chaudry &Kamal 1996)

Volunteer community practices are oft prime importance at community and group level for healthy life. Healthy practices improve effectiveness and efficacy for a good health in term of deliverance. To assess the role of volunteer community practices in the improvement of health conditions through Promotive health care, a few statements were developed and interviewed from the respondents. Each statement and the response of the respondents are given in table 1.

The table shows that 18.1percent of the total respondents disclosed treatment of drinking water before drinking. While 78.6percent of the respondents did not owing this practice and 3.3percent had no idea of it. The non-strictness owing to boiling practices could be attributed to its relative cost in finances and time as well. (The Pakistan Demographic and Health Survey 2006-07) indicates that 93percent of Pakistanis have an improved water source. Of that percent, 36percent have water piped into their homes, and 49percent source water from a tube well. But most of the piped water is not properly treated, and improper management of water brought into the home from outside sources often leads to contamination. Only 10 percent of people report using an acceptable treatment method for unsafe water. Moreover 4.5percent of them said that they treat drinking water before use through filtering or reverse osmosis (RO) and 83.3percent were

of the answer that they doing nothing with drinking water before use. The study disclosed further mechanism of treatment like filtration along with boiling etc. however majority, as indicated from the data had no interest in adopting water treatment practices. (Cairncross, 2006) Interventions included messages to boil water, or drink water with lemon in it, wash hands with soap, take precautions with food, sweep the family compound, keep children away from dirt, keep flies away, and build and use latrines.

In response to a statement regarding the frequency of household treatment of drinking water boil, chlorination, sand filter, water filter, majority of 76.6percent respondents revealed never boil, chlorination, sand filter, water filter and 13.1percent were with response of sometimes treat drinking water and 10.3percent of them responded that they always treat drinking water. These findings were in lines of the preceding data, where in no any significant adoption of water sanitation was executed by the locals. Likewise a majority of 50.4percent respondents were had the idea that these treatments were not used before the hygiene promotion session while 46.8percent of the respondents were showing disagreement with this statement and only 2.8percent of the respondents did not know about the statement. Doing by practices is vivid way of dissemination information. However the study revealed lack of such practices prior to its provision of information in theoretical shape.

Similarly, 84.4percent of the respondents thought that there were cases of diarrhea in their house in the last two weeks, while 14.5percent did not support it and 1.1percent of the respondents did not know about the statement. Wherever, the sanitation practices are not owned by the locals, either due to unawareness or refusal to adopt may lead to outbreak of the epidemics. To avoid such alarming and dismal situation, owing to

sanitation practices are essential for a proper and healthy way of life. (PDHS, 2008) approximately 70,000 children under the age of 5 in Pakistan die each year of diarrhea or related dehydration. While diarrhea is the disease most commonly associated with water and sanitation, related hygiene practices also have direct correlations to pneumonia and other acute respiratory infections for both children and adults. Additionally, diarrhea and fecal bacteria are a National Behavior Change Communication Strategy and Action Plan Safe Drinking Water, Sanitation and Hygiene. Likewise, when asked about how to prevent children from getting diarrhea. 52.2percent of the respondents disclosed that they cook food properly/Eat soon after cooking, while 17.8percent of them said that they boil drinking water, and 27.0 percent of the respondents were of the idea that they wash hands/vegetables/cooking/eating utensils with clean water. It could be deduced from the data, that people had same practices of protecting their lives from diseases. However, the magnitude, cost and direction of owing to such practices were lacking a proper and quantifiable approach to such practices to prevent them of epidemics. (PDHS, 2006-7) In Pakistan, diarrhea is the second leading cause of morbidity at 22percent and the leading cause of mortality for children under five years of age.

When asked about their practices affected family members with the symptoms of dehydration begin to appear. Almost, 58.8percent of the respondents disclosed that they use ORS for immediate treatment when symptoms of dehydration begin to appear, while 26.3percent of them thought that excessive use of hygienic food/water and 15.0percent of the respondents opined that the excessive intake of fluids/liquids when symptoms of dehydration begin to appear. Again there could be treated at poor to the above findings, however,

magnitude and direction was lacking. Likewise, 91.4percent of the respondents were of the idea that they know how to prepare ORS, while 5.3percent of them were negative response with the statement and 3.3percent of them were uncertain. Bartram and Cairncross, (2010); The wide presentation of oral rehydration treatment (ORT) in the 19 century the

decade of 80s contributed plentiful to reduce mortality by diarrheal disease. In any case, interventions have focused on death rather than terribleness and on discretionary, instead of vital, shirking. Likewise, ORT does not address the issues of steady detachment of the insides and looseness of the bowels.

**Table1. Perception of the Sample Respondents about Volunteer Community Practices**

Statements	Yes	No	Uncertain
<b>Do you treat water before drinking?</b>	65 (18.1percent)	282 (78.6percent)	12 (3.3percent)
<b>If Yes, What kind of treatment methods normally used for safe water? (A). Boiling water (B). Filtering, (B). Doing nothing</b>	44 (12.3 percent)	16 (4.5percent)	299 (83.3percent)
<b>Frequency of household treatment of drinking water Boil, Chlorination, Sand Filter, Water Filter etc (A). Always, (B). Sometimes, (B). Never</b>	37 (10.3 percent)	47 (13.1 percent)	275 (76.6percent)
<b>Were these treatment used before the hygiene promotion session?</b>	168 (46.8percent)	181 (50.4 percent)	10 (2.8percent)
<b>Was there any case of diarrhea in your house in the last two weeks</b>	303 (84.4percent)	52 (14.5 percent)	4 (1.1percent)
<b>What do you do in your household to prevent children from getting diarrhea? (A). Cook food properly/ Eat soon after cooking (B). Boil drinking water, (C) Wash hands /vegetables / cooking/eating utensils with clean water</b>	198 (52.2percent)	64 (17.8percent)	97 (27.0percent)
<b>What if symptoms of dehydration begin to appear? (A). Use of Hygienic food/water, (B). Use ORS for immediate treatment, (C).Excessive intake of Fluids/Liquids</b>	91(26.3percent)	211(58.8percent)	54(15.0)
<b>Do You know how to prepare ORS?</b>	328(91.4percent)	19 (5.3percent)	12(3.3percent)

**Association between Volunteer Community Practices and Behavior Change in WASH**

The table shows a highly-significant association (p=0.000) existed between the type of toilet facility in household use with community satisfaction.

Disposition of waste like stool preservation was appropriate with the coded procedures. All these could be the resultant contribution of the project initiation, its deliverance and proper implementation. These findings were similar to (Briscoe, 1984, and Kolsky, (1993)) who found that though the problem stays uncertain, the

agreement about large amounts of stool presentation, frequently show intensely debased situations.

Moreover, a highly-significant association ( $p=0.000$ ) was found between sharing of toilet by more than one households. It could be the obvious factor associated to huge population size at the household level. Further a limited number of toilets not up to the requirements of the number of household members could not also be ruled out. (Tshikuka *et al.*, and Mahfouz *et al.*, 2014) The measure of people per toilet was legitimately connected with *Ascaris lumbricoides* pollution control.

Notwithstanding, it is not clear whether the all-inclusive community per restroom were considered or found a common, and offering toilets to another family expanded the danger of intestinal helminthes and from protozoan parasites. This is probably because of the opportunities of using HH toilet leads to avoid open defecation in the field forests. Likewise, a high-significant association ( $p=0.000$ ) was found between the place where babies' feces are usually disposed with community satisfaction. WHO, (2004) Schistosomiasis causes countless passing consistently, for the most part in sub-Saharan Africa. That is emphatically identified with dirty excreta transfer and nonappearance of adjacent wellsprings of nontoxic water. These infections are firmly identified with absence of face washing, regularly because of nonappearance of adjacent wellsprings of safe water.

Likewise, a highly-significant association ( $p=0.000$ ) was found between the place where adults in HH usually go to defecate with community satisfaction. This is perhaps due to the reason that awareness of hygienic practices need led to healthy life achieved through practicing these messages. In fact utilizing healthy practices can play a role in healthy physique. WHO and UNICEF, (2014), In India, 66percent of the

population lives with unbothered sanitation and a usual 600 million individuals crap outside, speaking to 60percent of the worldwide populace honing open defecation.

However, a non-significant association ( $p=0.901$ ) was observed between latrine provided in this project meeting household needs with community satisfaction. It could be associated to cultural practices in which men consider using latrine as losing respect and prestige in the household members. The use of latrine was probably dependent on cultural constraints due to non-using of latrine by male family. It is only confined to children and women in certain cases. (Greene *et al.* 2014) creators find that the expansion of lavatories essentially builds the danger of *Escherichia coli* infection among young ladies, Moreover use of restrooms without take-up of cleanliness conduct change, may represent a hazard to youngsters.

Furthermore, indicated by Edward Miguel, educator of formative financial matters at UC Berkeley 6, and others there is an unanswered question with regards to the adequacy of enhancing instructive results through toilet development without hand washing offices, and a solid wellspring of perfect, running water. Furthermore, a non-significant association ( $p=0.140$ ) was found between the benefits they see in using the latrine with community satisfaction. They used latrine However, did not know little about its effects on the family life. There could be the low level of awareness on just considering these latrines as routine life event, having no profound effects in terms of its usage. Over late decades, persuading affirmation has been aggregated that basic and important prosperity impacts are associated with overhauls in access to basic sanitation and hand washing workplaces (Freeman, Stocks *et al.* 2014; Wolf, Prüss-Üstun *et al.*, 2014). Unlikely, a highly-significant association ( $p=0.000$ ) was found



between the latrine help them improving lifestyle including privacy with community satisfaction and a significant association ( $p=0.022$ ) between the drainage facility household latrine had with community satisfaction. Surface drains contaminated water source and when there was no drain flies and mosquitoes transfer open defecated feces particles into their food and made them contaminated through their legs, feathers and body as a source of quick transferring of contamination of open or no drain. (Bosch, *et al.*, 2002)

Regularly, everybody have requirements of water, whether they are rich or living below poverty line, oozes and urinates day by day. Be that as it may, where it happens significantly affects family wellbeing. Family units with private toilets have quantifiably brought down horrible rates than families which did not have it. Private toilet's advantage the family as well as neighbors who pick up security from the family unit's defecation. Poor people and their neighbors, particularly corporeal in a country or non-underserved ranges, regularly need isolated toilets, compelling crap in broad daylight spaces, abandoning them extra defenseless than the non-poor to transferable infections.

Unlikely, a non-significant association ( $p=0.597$ ) was found between washing of hands after defecating with community satisfaction to avoid inhaling of impurities and dust, open defecated feces particles. People were found opting for washing hands in the initial operationalization of project. However they were found pretending of not washing hands due to non-availability of soaps and other cleansing instruments. Kamal and chambers (2008) found as soon as no compost stay transparently visible of the air, in this manner an uncluttered control pit restroom will be best ODF whether secured by a lit, and the lit must be secured from flies. Furthermore, a high-significant association ( $p=0.000$ ) was found between the cleaning of teeth,

cutting nail, taking bath etc. with community satisfaction. These results depicted the exercise of certain practices which had led to bringing cleaning. They included were cleaning of teeth, cutting nail, taking bath etc. All these were found in the teaching of Islam as well, which were often preached by the religion shows at various sermons as well. (Cheng *et al.*, 2012) Approach examinations on sanitation have concentrated on wellbeing impacts among youngsters under five years old, there is developing acknowledgment of the one of a kind wellbeing dangers ladies and young ladies confront because of insufficient sanitation, including expanded maternal mortality hazard from unhygienic birth practices and poor contamination control. However, a non-significant association ( $p=0.617$ ) was found between the knowledge about O & M committee trained for water source maintenance with community satisfaction.

These findings depicted about the presence of such a facility. The existence of such facility had contributed to the sustainable preservation of cleaning practices and awareness over the issue. DFID, (1998) Operation and maintenance is a fundamental segment of sustainability, and a ceaseless purpose behind dissatisfaction of water supply and sanitation advantage workplaces some time recently. Various disillusionments are not specific ones. They may occur on account of absence of judgment skills, insufficient cost recovery, or the exertion inadequacies of united workplaces. The above findings concluded that sanitation practices were in practice as resultant factors based on awareness and operationalization of the practices from the project.

**Table 2: Association between Volunteer Community Practices and Behavior change in WASH**

Statements	Perception	Community Satisfaction			Total	Chi-Square (P-Value)
		Yes	No	Uncertain		
What type of toilet facility does this household use?	Flush to Pipe	67(44.6percent)	83(55.3percent)	0(0percent)	150(100percent)	$\chi^2= 105.339$ (P=.000)
	Sewer system	19(14.0percent)	116(85.9percent)	0(0percent)	135(100percent)	
	Bucket latrine	2(2.7percent)	59(79.7percent)	13(17.5percent)	74(100percent)	
	Filed/Bushes	88(24.5percent)	258(71.8percent)	13(3.6percent)	359(100percent)	
How many households share this toilet?	Not shared	84(26.2percent)	227(70.9percent)	9(2.8percent)	320(100percent)	$\chi^2=33.074$ (P=.000)
	Shared	4(10.5percent)	31(81.5percent)	3(7.8percent)	38(100percent)	
	Communal	0(0percent)	0(0percent)	1(100percent)	1(100percent)	
	Total	88(24.5percent)	258(71.8percent)	13(3.6percent)	359(100percent)	
Place where babies' feces are usually disposed.	Kids Use toilet	3(13.6percent)	19(86.3percent)	0(0percent)	22(100percent)	$\chi^2=29.000$ (P=.000)
	Put into toilet	79(25.1percent)	224(71.3percent)	11(3.5percent)	314(100percent)	
	Left it open	6(26.0percent)	15(65.2percent)	2(8.6percent)	23(100percent)	
	Total	88(24.5percent)	258(71.8percent)	13(3.6percent)	359(100percent)	
Place where adults in HH usually go to defecate.	H Latrine	79(31.1percent)	175(68.8percent)	0(0percent)	254(100percent)	$\chi^2=71.478$ (P=.000)
	Other Latrine	8(26.6percent)	22(73.3percent)	0(0percent)	30(100percent)	
	OD/Field/Forests/Bushes	1(1.3percent)	62(82.6percent)	13(7.3percent)	75(100percent)	
	Total	88(24.5percent)	258(71.8percent)	13(3.6percent)	359(100percent)	
Latrine provided in this project meeting	Yes	77(24.9percent)	221(71.5percent)	11(2.5percent)	309(100percent)	$\chi^2=.209$

your HH need.	No	11(22percent )	37(74percent )	2(4percent )	50(100percent )	(P=.901)
	Uncertain	0(0percent )	0(0percent )	0(0percent )	0(100percent )	
	Total	88(24.5percent )	258(71.8percent )	13(3.6percent )	359(100percent )	
What benefits do you see in using the latrine?	Reduce smell	68(24.0percent )	203(71.7percent )	12(4.2percent )	283(100percent )	$\chi^2=6.923$ (P=.140)
	Privacy	18(33.3percent )	35(64.8percent )	1(1.8percent )	54(100percent )	
	Uncertain	2(9.0percent )	20(90.9percent )	0(0percent )	22(100percent )	
	Total	88(24.5percent )	258(71.8percent )	13(3.6percent )	359(100percent )	
Latrine help you improving your lifestyle including privacy.	Yes	88(25.8percent )	248(72.9percent )	5(1.4percent )	340(100percent )	$\chi^2= 88.308$ (P=.000)
	No	0(0percent )	2(66.6percent )	1(33.3percent )	3(100percent )	
	Uncertain	0(0percent )	9(56.2percent )	7(43.7percent )	16(100percent )	
	Total	88(24.5percent )	258(71.8percent )	13(3.6percent )	359(100percent )	
Type of drainage facility your latrine have.	Underground	68(36.5percent )	118(63.4percent )	0(0percent )	186(100percent )	$\chi^2= 51.179$ (P=.000)
	Kacha	19(15.5percent )	97(79.5percent )	6(4.9percent )	122(100percent )	
	No Drainage	1(1.9percent )	43(84.3percent )	7(13.7percent )	51(100percent )	
	Total	88(24.5percent )	258(71.8percent )	13(3.6percent )	359(100percent )	
What do you use to wash your hands after defecation?	Soap	36(43.1percent )	76(67.8percent )	0(0percent )	112(100percent )	$\chi^2=11.478$ (P=.022)
	Ash/Sand	3(33.3percent )	6(66.6percent )	0(0percent )	9(100percent )	
	Water Only	49(20.5percent )	176(73.9percent )	13(5.4percent )	238(100percent )	
	Total	88(24.5percent )	258(71.8percent )	13(3.6percent )	359(100percent )	

Do you clean your teeth, cutting nail, taking bath etc.?	Yes	77(24.6percent)	223(71.4percent)	12(3.8percent)	312(100percent)	$\chi^2= 2.769$ (P=.597)
	No	10(28.5percent)	24(68.5percent)	1(2.8percent)	35(100percent)	
	Uncertain	1(8.3percent)	11(91.6percent)	0(0percent)	12(100percent)	
	Total	88(24.5percent)	258(71.8percent)	13(3.6percent)	359(100percent)	
Do You know if there is any O & M committee trained for water source maintenance?	Yes	86(28.4percent)	216(71.5percent)	0(0percent)	302(100percent)	$\chi^2= 99.181$ (P=.000)
	No	1(2.1percent)	33(70.2percent)	13(27.6percent)	47(100percent)	
	Uncertain	1(10percent)	9(90percent)	0(0percent)	10(100percent)	
	Total	88(24.5percent)	258(71.8percent)	13(3.6percent)	359(100percent)	

## Conclusion

Volunteer community practices i.e. household treatment of drinking water Boil, Chlorination, Sand Filter, were some other procedures taught which had been in practice since long. The toilet facility had considerably improved by impeding the contaminated disease like dysentery, cholera, etc. which included the adopting of sound criteria of digging well at appropriate distance from latrine. The study further explored a mechanism of group participation composed of Donors, locals and other washing groups, which the sole aims of identifying and delivering redress any scathing event with the smooth process of the project can improve health of lay man instead of open defecation and having of diarrhea, dysentery, cholera etc. Use of toilet can bring better health and washing of hands with soap at critical time can save lives from ill health. The distance of water source from sanitation drain and toilet leads to improved health conditions.

## References

- [1] Burger, S. and S, Esrey. (1995). Water and Sanitation; Health and Nutrition Benefits to Children; In: Child Growth and Nutrition in Developing Countries: Priorities for Action. New York: Cornell University Press, 153-174.
- [2] Clasen, T. and Bartram, J. and Colford, J. and Luby, S. and Quick, R. and Sobsey, M. Comment on "Household water treatment in poor populations: is there enough evidence for scaling up now?". *Environ Sci Technol.* 2009; 43(14):5542-4;
- [3] Curtis, V. and Cairncross, S. (2003). "Effect of Washing Hands with Soap on Diarrhea Risk: A Systematic Review." *Lancet Infectious Disease* 2003, May 3(5):275-81
- [4] Economic and health effects of increasing coverage of low cost household drinking water supply and sanitation interventions to countries off-track to meet MDG target 10. World Health Organization, (2007).
- [5] Global WASH Cluster, Strategic Plan 2011-2015, UNICEF
- [6] Jenkins, M. and Scott, B. (2007). Behavioural Indicators of Household Decision-Making and Demand for Sanitation and Potential Gains from Sanitation Marketing in Ghana. *Social Science & Medicine* 64 (2007) 2427-2442
- [7] Jenkins, MW. And Curtis, V. (2005). Achieving the 'good life': why some people want latrines in rural Benin. *Social Science*

- and Medicine. 2005 Dec; 61(11):2446-59.
- [8] Progress on drinking water and sanitation, (2012) update. UNICEF and WHO, (2012).
- [9] Scott, B. and M, Jenkins. (2005). Sanitation marketing for Managers: Introducing a sustainable approach to sanitation programs
- [10] Shuval, H. and R.Tilden. and B, Perry. And R, Grosse. (1981). "Effect of investments in water supply and sanitation on health status: a threshold-saturation theory," Bulletin World Health Organization, 59(2)243-48
- [11] Torres, M.P. and D, Bendahmane. M. Post, E. Kleinau. (2004). Combining Hygiene Behavior Change with Water & Sanitation: A Pilot Project in Hato Mayor, Dominican Republic, April 2000 – May 2002. EHP Activity Report 125. Arlington, VA: Environmental Health Project.
- [12] Vision 2030 - the resilience of water supply and sanitation in the face of climate change. WHO and DFID, (2009)
- [13] Water Aid, (2011). Water Environmental Sanitation and Hygiene Programme for Urban Poor. Water Aid and UN-Habitat.
- [14] WHO Technical Notes on Water, Sanitation and Hygiene in Emergencies, WHO, (2007)
- [15] Pan American Health Organization. (2001). Special Program for Health Analysis and Program on Communicable Diseases. Washington D.C.: Pan American Health Organization.  
<http://www.paho.org/English/HCP/HCT/IMCI/graficas.ppt> - Retrieved March 30, 2003.
- [16] Esrey, S. and J. Potash, L. and Roberts, C. Shiff. (1991). "Effects of improved water supply and sanitation on ascariasis, diarrhea, dracunculiasis, hookworm infections, schistosomiasis, and trachoma," Bulletin World Health Organization, 69:609-621
- [17] Evans, Barbara. (2005). Securing the sanitation- the compelling case to address the crisis. Stockholm: Stockholm International Water Institute (SIWI).
- [18] Hato, Mayor. Dominican Republic Shuval, H. and R. Tilden, and B. Perry, and R. Grosse. (1981). "Effect of investments in water supply and sanitation on health status: a threshold-saturation theory," Bulletin World Health Organization, 59(2)243-48
- [19] Pan American Health Organization. (2000). Evaluación de los Servicios de Agua Potable y Saneamiento en las Américas. Santo Domingo, Dominican Republic. Washington D.C.: Pan American Health Organization.
- [20] Shuval, H. and R, Tilden. and B, Perry. R, Grosse. (1981). "Effect of investments in water supply and sanitation on health status: a threshold-saturation theory," Bulletin World Health Organization, 59(2)243-48
- [21] References Kamal, K. and Chambers, R. (2008, March). Handbook on Community-Led Total Sanitation. Plan International (UK)
- [22] Kamal, K. (2010, April). Workshops for community-led total sanitation: A trainers' Training Guide. CLTS Foundation, Water Supply.