

FORMATIVE RESEARCH REPORT

Development of an Integrated WASH
SBCC Campaign for the Punjab Province



October 2018

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ACRONYMS & ABBREVIATIONS

AKU-	Aga Khan University
BCTs-	Behavior Change Techniques
CBM-	Community Based Motivator
CDO-	Community Development Officer
CDU-	Community Development Unit
DALY-	Disability-Adjusted Life Year
FGDs-	Focus Group Discussions
HWWS-	Hand Washing With Soap
NIPS-	National Institute of Population Studies
ODF-	Open Defecation Free
PATS-	Pakistan Approach to Total Sanitation
PHED-	Public Health and Engineering Department
PIDE-	Pakistan Institute of Development Economics
RANAS-	Risks, Attitudes, Norms, Abilities, and Self-Regulation
SBCC-	Social and Behavioral Change Communication
SDPI-	Sustainable Policy Development Institute
UNDP-	United Nations Development Programme
UNICEF-	United Nations Children's Fund
VWC-	Village Wash Committee
WASH-	Water and Sanitation for Health
WHO-	World Health Organization

EXECUTIVE SUMMARY

Background

The Government of Punjab, with the support of UNICEF, is developing an integrated Social and Behavioral Change Campaign for WASH initiatives in the province. The SBCC campaign aims to create demand for clean drinking water and storage, building and use of toilets, disposal of household waste, and Hand Washing with Soap (HWWS).

White Rice conducted a formative research to study the key behaviors mentioned at the household level and to study the existing channel of delivery for the campaign. The initial consultations indicated that the only formal channel existing on the ground for delivery of an SBCC campaign is that of the Community Development Unit of the Public Health and Engineering Department of Punjab, currently being employed for the community mobilization component of the Pakistan Approach to Total Sanitation (PATS) initiative. Thus, the PATS channel was selected for in-depth study as part of the channel analysis.

Methodology

The research design was informed by the Risks, Attitudes, Norms, Abilities, and Self-Regulation (RANAS) model for the behavioral analysis of the four key behaviors and the Social-Ecological Model was used to identify layers of influence and incorporate them into the research design.

Sample of thirty-two households was taken from the districts of Gujrat and Jhang, the best and the poorest performing districts with respect to attainment of Open Defecation Free (ODF) status under PATS, respectively. Research activities included three hour observations inside the household early morning followed by interviews of the mothers. Community Based Motivators (CBMs) of the CDU were also observed delivering sessions in the field and interviewed. In addition, Focus Group Discussions (FGDs) were arranged with fathers, mothers, Village Wash Committees (VWCs), and CBMs at the district level. A thematic analysis was conducted to analyze the data and elicit themes under the RANAS model.

Results

More than the perceived risk or health consequences, most of the key behaviors seem to be practiced due to a combination of norms, ability, and self-regulation factors. The difference between doers and non-doers seem to be a matter of habit, personalization of risk or high perceived severity of risk, and perception of that behavior as essential for seeming civilized and 'modern' which are normative beliefs. Some behaviors are completely new for the community such as garbage sorting and disposal and hence accurate information around them are lacking along with any strong beliefs or attitudes. The present campaign can capitalize on this finding and develop strong norms and attitudes for their practice. This is a departure from the current curriculum available for SBCC under PATS and indicates a need for revision.

With respect to the channel, several issues that hamper effectiveness and efficacy of delivery of SBCC messages were identified including: deficient training of field staff, lack of recognition and due compensation for field staff, dependence of Village Wash Committees (VWCs) which suffer from political interference and diffusion of responsibility. Detailed recommendations can be seen in the last section.

1. INTRODUCTION & BACKGROUND

According to the World Health Organization, in terms of deaths per year, 58% of the total DALY global burden of disease (842,000 deaths) can be attributed to unsafe drinking water, inadequate sanitation, and poor hygiene (WHO, 2014). The situation is worse in LMIC countries such as Pakistan where 19% of all neonatal deaths and 9% of under-5 deaths are due to diarrheal disease (UNICEF, 2016). Apart from diseases such as diarrhea and cholera, it plays a role in spreading the polio virus, impacting the country's goal of becoming polio-free and causing lifelong physical impairment in affected children. The two main reasons behind inadequate disposal of waste and use of unsafe water are: inadequate or absent water and sanitation services, and a lack of awareness about health and hygiene (NATPOW & NIPS, 2011).

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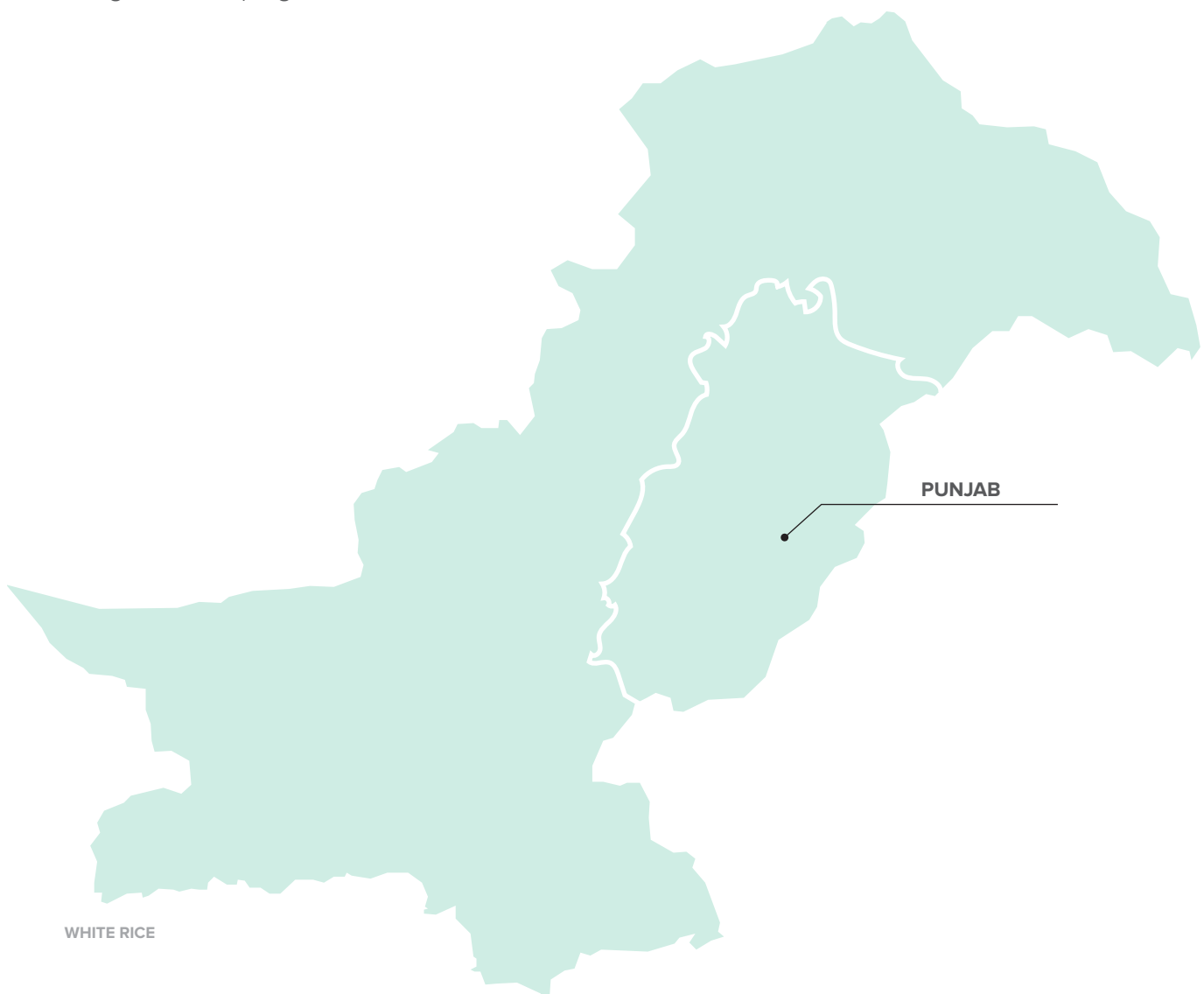


1.1. Government Initiatives for WASH in Punjab

The Government of Punjab is implementing several initiatives in the rural areas of Punjab to tackle the problem of inadequate water and sanitation services, which include:

- Pakistan Approach to Total Sanitation (PATs) which aims to end open defecation
- Saaf Dehat Program which aims to manage solid waste and build drains
- Rehabilitation of Rural Water Supply Schemes to make non-operational water supply schemes functional
- Saaf Pani and Aab e Sehat Projects to provide safe drinking water.

The initiatives shared above envision both service provision along with a Social and Behavior Change Communication (SBCC) component to enhance awareness of health and hygiene behaviors and ensure the uptake and use of new services. UNICEF is supporting the government of Punjab to devise an integrated campaign for generating demand for these services in rural communities, and to encourage the practice of targeted WASH behaviors. The initial consultations held with UNICEF and the Public Health and Engineering Department (PHED) informed that PATs was the only initiative with on-the-ground implementation currently and a defined SBCC component. Hence, it was jointly decided to select the PATs channel for further study as the integrated campaign will utilize the same channel.



2. FORMATIVE RESEARCH METHODOLOGY

As part of the Communication Analysis for the development of an integrated SBCC campaign for WASH in the province of Punjab, a formative research study was designed and carried out to:

Understand current practices of community members around the target behaviors and the reasons behind them

To analyze their behaviors within the layers of influence such as at the family, village, and districts

To identify differences between extreme cases i.e. those who always performed a behavior compared to those who never performed a behavior

To discover strengths and weaknesses of the PATS approach to inform implementation and design of the integrated campaign

2.1. Desk Research/Review

Extensive Desk Research was conducted to deepen understanding of the different initiatives with special focus on their desired behaviors at the community level, their communication channels, mechanism of delivery, and global and national research on WASH behaviors. Communication manuals and materials, PC-1s of the government WASH initiatives, researches and reports on WASH behaviors at the global and national level, and research methodology for the study of WASH behaviors were some of the areas explored in the desk review. The desired behaviors identified at the community level from their PC-1s and communication manuals obtained from UNICEF were:



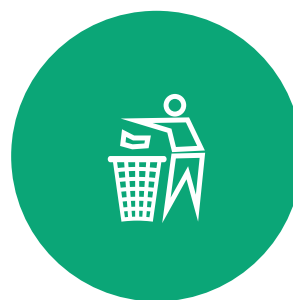
**BUILDING & USING
TOILETS**



**USING SAFE DRINKING
WATER & STORING
SAFELY**



**WASHING HANDS
WITH SOAP**



**SORTING & SAFELY
DISPOSING HOUSEHOLD
SOLID WASTE**

The study of water and sanitation issues, their causes, the situation in Pakistan, research methodologies for WASH studies, and best practices for generating demand was undertaken using the following criteria:

- | Only the literature published in English language was accessed.
- | Priority was given to research papers published within the last five (5) years, especially where figures were to be quoted.
- | Articles were searched and accessed using Google Scholar, Pubmed (EndNote) and Academia.edu.
- | Other relevant documents (policies/policy guidance etc.) were searched on the internet/obtained from the relevant departments.
- | UNICEF was requested to share some relevant documents they wished to be reviewed and added to the Desk Review.
- | Websites of organizations such the WHO, UNICEF, UNDP, WaterAid, etc. were accessed for updated and relevant information
- | Websites of national research organizations such as National Institute of Population Studies (NIPS), Pakistan Institute of Development Economics (PIDE), Sustainable Policy Development Institute (SDPI), and Aga Khan University (AKU).

Around 30 reports, briefs & articles were studied to inform the research methodology which follows.

2.2. Model for Behavioral Analysis

To conduct an in-depth behavioral analysis of the key behaviors at the household level, the Risks, Attitudes, Norms, Abilities, and Self-Regulation (RANAS) model was used which is one of the few that is intended to be applicable across multiple WASH practices and interventions. The RANAS approach to systematic behavior change is an established method for designing and evaluating gender-responsive behavior change strategies that target and change the behavioral factors of specific behaviors (Dreibelbis et al, 2013; Contzen & Mosler, 2015; SNV, 2016).

The RANAS model posits that five factors influence the practice of any behavior: the perception of risk associated with the consequence of non-practice, positive or negative attitude towards it, perception of norms with respect to its practice, personal level of ability to perform the behavior, and extent of self-regulation including planning and reminders associated with its practice. These beliefs and attitudes exist in a larger social, physical, and personal context such as geography, socio-economic conditions, social norms, etc. which influence their creation and maintenance.

The RANAS methodology allows for the identification of extreme cases, i.e. the positive and negative deviants, and compares them to identify the key factors significant for the practice of an individual behavior. E.g., a comparison of extreme cases can show that though they have a similar perception of risk, they differ primarily in their perception of norms. This identification of individual factors informs the focus of the SBCC campaign and the selection of Behavior Change Techniques (BCTs).

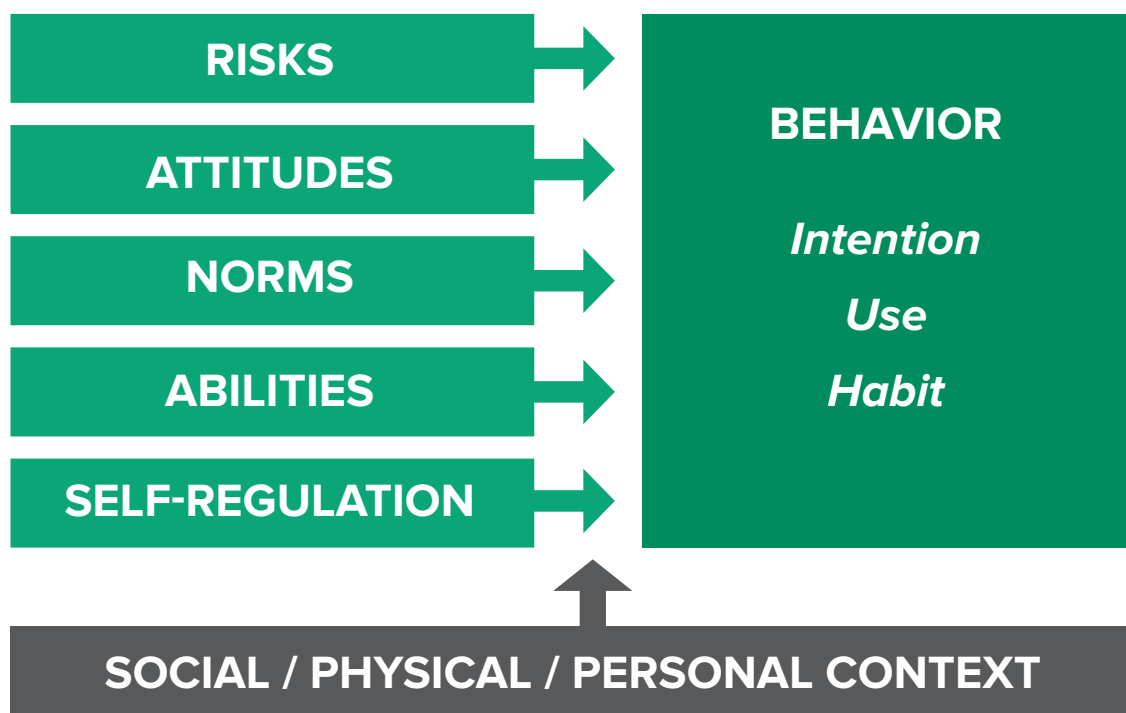


FIGURE 1: RANAS MODEL

2.3. Model for Contextual Analysis

To identify the primary influences and devise research tools for each layer and to study the different layers of influence and their interplay, the **Social Ecological Model (SEM)** was used for guidance. In addition to analyzing the current practices of people in each household, research was designed to explore the influence of contextual factors such as availability of services, influence of community workers, and influence of the larger environment such as features of the natural environment and political context on individual behavior.

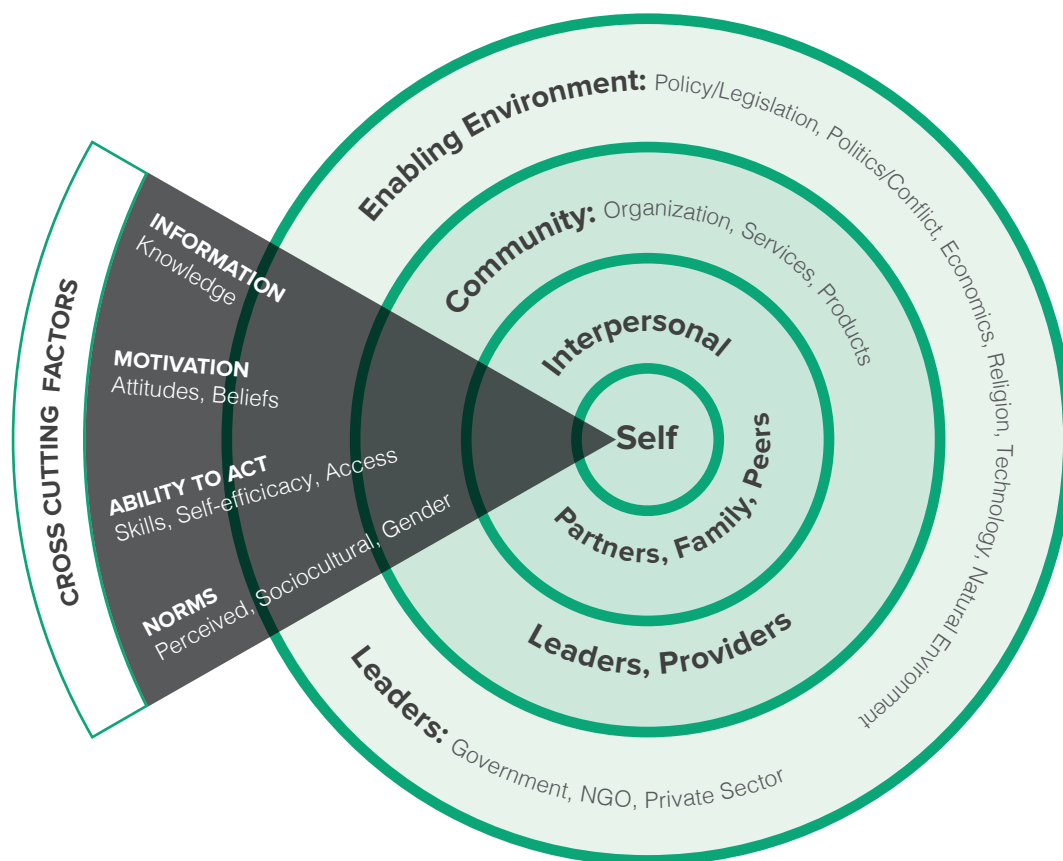


FIGURE 2: SOCIAL ECOLOGICAL MODEL (SEM)

2.4. Sample Design & Activities

A. SAMPLING OF VILLAGES

As the RANAS model includes a comparison of extreme cases, one best performing district and one poorest performing district with respect to their performance in achieving Open Defecation Free (ODF) status under the PATS initiative were selected. Gujrat was identified as the one of the best performing villages by PHED and Jhang as one of the poorest performing. Four villages were selected from each district, again based on their good or poor performance in achieving ODF status to ensure selection of extreme cases.

B. SAMPLING OF HOUSEHOLDS

In each village, four typical households were randomly selected who had at least one child below the age of two years; no other exclusionary criterion was imposed. The research coordinator visited each village a day before the research activity to get consent from households after explaining the purpose of the research. In the consenting households, three hour observations were conducted followed by an interview of the mother.

C. SAMPLING FOR FGD PARTICIPANTS

In each district, fathers were approached by the research coordinator to take part in two FGDs. One FGD was held in the best performing village, and one in the poorest performing village, keeping in mind the time and resources available for the research.

Similarly, members of the VWCs were invited for two FGDs in each district, with support of the assigned CBM.

Additionally, two CBMs of Gujrat were selected as per convenience to be observed while conducting a triggering session which was followed by an interview. The same activity could not take place in Jhang as there were no on-going PATS activities in the district during the study period.

All the current CBMs in both districts were included in the FGD conducted with them in each district.

2.5. Research Activities

A. OBSERVATIONS

A team of two female researchers arrived for observations at 6:30 am in the morning and observed household activities till 9:30 am including the overall state of the house, practice of the four target behaviors, support being received by the mother, and presence of materials required to perform the four target behaviors and their description. The purpose of the observations was not told to the family to limit bias, they were informed that the researchers were studying village life and prevalent issues. The researchers supported their observations with extensive visual documentation; they took pictures of the behaviors being performed and of physical features of the house, with permission.

Observations were also conducted of two CBMs in Gujrat in which their triggering sessions were observed to ascertain content and quality of the session, quality of interaction, and challenges faced.



FIGURE 3: RESEARCHER OBSERVING AND TAKING PICTURES OF KEY BEHAVIORS IN GUJRAT



FIGURE 4: RESEARCHER CONDUCTING AN INTERVIEW IN JHANG

C. FOCUS GROUP DISCUSSIONS

Focus group discussions were held with mothers, fathers, and the members of the Village Wash Committees. Each FGD lasted around 2 hours and was conducted by a team of two researchers, female researchers for the mothers' FGDs and male researchers for the others. The FGDs of the CBMs were conducted separately by White Rice in the first week of August.

The FGDs with mothers and fathers gathered data on service perception, perception of child's illness, perception of own role, and influencers. The FGD with the VWCs focused on gathering perception of their role, motivators and opportunities for improvement, and beliefs around toilet use. The FGD with CBMs explored their perceived strengths and weaknesses of PATS, areas for improvement, and challenges they face in their work.

D. MONITORING PROCEDURES

Researchers were instructed to share data daily through specially created Whatsapp groups each evening along with visual documentation. Real time feedback was provided daily to rectify mistakes and improve quality and depth. Conference calls were also held to provide in-depth instruction where needed. Separate Whatsapp groups were created to coordinate with the Community Development Unit district staff of PHED to schedule visits and coordinate in the field.

Audio recording of each interview and FGD, with the consent of everyone present, was ensured to quality of the activity such as time taken, quality of questioning and probing, etc. Physical monitoring visits were conducted in the first week of August by White Rice.

B. INTERVIEWS

Following the observations, the researchers conducted structured interviews with the mother around RANAS of each target behavior, reasons behind current practices, perception of child's illness, and child's role in the performance of the target behaviors. Each interview lasted 30-40 minutes and was audio recorded as well as noted with permission. Since the interviews followed observations, participant report could be compared with actual observation and the discrepancy noted.

Interviews were also held with CBMs around their view of the conducted session, perception of success, motivating factors and opportunities for improvement.



FIGURE 5: FGD WITH FATHERS IN JHANG

2.6. Data Storage & Analysis

A. DATA STORAGE

All interviews and discussions were recorded on the researchers' phones and notes were taken during the discussions/interviews on paper. The recordings, pictures, and the notes were sent the same day to White Rice with household number, village name, and date and were uploaded on Google Drive. The researchers deleted data from their phones at the end of the study. The Google Drive folder could only be accessed by the White Rice research team. A serial number was assigned to each form to ensure confidentiality and facilitate analysis.

B. DATA ANALYSIS

Thematic Analysis was carried out to elicit themes under the five factors of RANAS for each behavior, along with elicitation of additional themes related to children's health, media use, and contextual factors. The following steps were undertaken:

1

TRANSCRIPTION

All the recordings were transcribed in the local language for analysis.

2

CODING

Codes were generated based on the RANAS model for WASH. Excerpts from the transcriptions falling under each of the codes were identified.

3

THEMES

The process of organizing the data under the codes was continued until connections and themes began to appear which have been presented in the Results chapter.

2.7. Ethical Considerations

Written consent was obtained from all participants prior to commencement of interviews and discussions. All photographs were taken after obtaining a written consent from the participants, and were retained after the participant's approval upon observing the photographs. No names or specific identifying characteristics of any of the participants were recorded.

2.8. SUMMARY OF METHODOLOGY

TARGET AUDIENCE	ACTIVITY	LOCATION	OBJECTIVE
Mothers (Should have one child below or of 2 years of age)	Interviews + Observations (16 Gujrat, 16 Jhang) FGDs 2 Gujrat, 2 Jhang)	2 best performing ODF villages & 2 poorest performing non-ODF villages in each district 1 best performing ODF village & 1 poorest performing non-ODF village in each district	1.To explore Risks, Attitudes, Norms, Abilities, and Self-Regulation (RANAS) around the four target behaviors. 2. To identify current practices around the four target behaviors. 3. To facilitate doer and non-doer analysis for identification of key determinants for the target behaviors. 4. To gain an understanding of major influencers for the target behaviors including information from school-going children on positive practices. 5. To determine causes of positive deviance in poorly performing districts. 6. To determine differences in RANAS with respect to gender and possible causes behind the differences.
Fathers (Should have one child below or of 2 years of age)	FGDs 2 Gujrat, 2 Jhang)	1 best performing ODF village & 1 poorest performing non-ODF village in each district	1.To explore Risks, Attitudes, Norms, Abilities, and Self-Regulation (RANAS) around the four target behaviors. 2. To identify current practices around the four target behaviors. 3. To facilitate doer and non-doer analysis for identification of key determinants for the target behaviors. 4. To gain an understanding of major influencers for the target behaviors including information from school-going children on positive practices. . 5. To determine causes of positive deviance in poorly performing districts. 6. To determine differences in RANAS with respect to gender and possible causes behind the differences.
VWCs	FGDs 2 Gujrat, 2 Jhang)	1 best performing ODF village & 1 poorest performing non-ODF village in each district	1.To explore Risks, Attitudes, Norms, Abilities, and Self-Regulation (RANAS) around the four target behaviors. 2. To gather insights about opportunities and challenges in PATS implementation especially with respect to assimilation of other WASH communications. 3. To determine causes of positive deviance in poorly performing districts.
CBMs	Observations + Interviews (2 Gujrat) FGDs (1 Gujrat, 1 Jhang)	As per CBM schedule Community Development Unit office in each district	1.To explore Risks, Attitudes, Norms, Abilities, and Self-Regulation (RANAS) around the four target behaviors. 2. To gather insights about opportunities and challenges in PATS implementation especially with respect to assimilation of other WASH communications. 3. To determine causes of positive deviance in poorly performing districts.

3. RESULTS

3.1. Behavioral Analysis

A. MOTHERS

The results of the analysis of data gathered from the observations, interviews, and FGDs held with mothers are presented below separately for each target behavior and include information on RANAS of the typical mother; physical, social, and personal context; and key differences between extreme cases.

Use of Safe Drinking Water & Storage

Context

Safe drinking water is a far bigger concern in the district of Jhang with water brackish in several areas, or contaminated due to floods. Jhang is also a less affluent district with many households not able to afford motor pumps. People in the area were also less educated and aware of risks compared to Gujrat, but villages where NGOs had operated post-flood projects had a much better level of awareness and better facilities provided by the NGOs.



FIGURE 6: CHILD DRINKING WATER



FIGURE 7: CLAYPOTS OF WATER COVERED WITH CLOTH

Current Practice

Most houses acquire water from their own hand pump or motor pump, but it was often reported that they obtain drinking water from a deep bore from a mosque or a neighbor's if their own water is perceived to be unsafe. Practice of boiling or filtering water at home is very low.

Regarding safe storage, majority of the participants are aware of the importance of clean containers and keeping them covered and safe from contamination. A common practice seen is filling plastic bottles and keeping them in their own or neighbor's refrigerator with the traditional practice of using clay pots infrequent. The bottles are usually rinsed and replaced after they become discolored or old.

“Water from the village pond is not used for drinking as it is very dirty. Water source at home (water bore) is also not clean as the sewage water contaminates the bore water. We bring drinking water from the nearby mosque where there is a deep bore.”
MOTHER IN GUJRAT

“It’s taste is good and it’s not muddy, therefore we know that it is clean.”
MOTHER IN JHANG

Insight from Observations

It was seen that though mothers mentioned that the container was clean, it was observed to be clearly not clean such as the cooler shown in the picture. Same was the case with plastic bottles which were often discolored and dirty. Another insight received from the observations is that though water was being obtained from a supposedly safe and tested source, the mechanism was potentially contaminating such as a pipe that is used both in the washroom and outside or a pipe that is thrown on a dirt floor when not in use with its opening exposed.



FIGURE 8: WATER COOLER REPORTED AS 'CLEAN'

RANAS

Unlike other behaviors, vast majority of the participants are aware of the risk attached with consuming unsafe water and are taking measures to obtain what they consider safe. For the typical mother, water that tastes and smells fine, or water from a deep bore is automatically perceived to be safe even though that is questionable both in terms of the water itself, and its delivery mechanism.

Obtaining safe water is a behavior in which majority of the mothers have the support of their husbands, in-laws, and children with male members frequently bringing safe drinking water from deep bores in the area.

“We have deep water boring at our house. Our water is clean, as we have gotten it tested from Zeenat laboratory. Our neighbors also fetch water from our house.”
MOTHER IN GUJRAT



FIGURE 9: WATER COOLER FILLED WITH TURBID WATER

Difference in Extremes

Comparing the two extremes in this category reveals that those most concerned about safe drinking water seem to perceive the risk as being more severe, such as resulting in child's death, compared to those at the other extreme or the typical mother. These mothers also report relying on water testing to assure themselves that the water is safe for drinking or taking alternative measures to find a safe source. Overall, mothers in both districts have a clear demand for filtration plants, and already have the existing behavior of fetching clean water from outside the home.

“We want the government to provide filters so that our village also gets access to safe drinking water. A team from Islamabad had promised a water filter for the village as well. Boiling water is time consuming and hard work as we have to boil water first then wait for it to cool down, firewood would be an additional expense.”
MOTHER FROM JHANG

SUMMARY

In summary, the factors of ability and risk play a significant role in the practice of obtaining and storing safe drinking water with few people aware of the personal risk associated with their water source and lack of information and training about making water safe and storing it safely.

Hand Washing with Soap (HWWS)

Context

Households in both districts were found to have soaps and water available for hand washing. Soaps were mostly kept in an area designated for washing clothes and utensils; it was also often kept in a washroom.

Current Practice

Across the board, mothers have a clear understanding of the risks of not washing their hands and the severity of the diseases it can cause. However, it was observed that soap is not always used and they often perceive their hands as being clean if washed with just water. Mothers also seem too busy in chores to notice when they touch something potentially contaminating and go on to cook or eat without washing their hands with soap, and report otherwise. Even though they are aware of the risk, ensuring HWWS at critical times seems to be a challenge for most.



FIGURE 10: YOUNG CHILD SCRUBBING HIS FEET

“I have many chores to complete daily and I am very busy.”
MOTHER IN GUJRAT

Observation

Hands were not washed before cooking and eating food.

Insight from Observation

Self-report of soap use differs from actual use with many mothers unaware of contaminating their hands during their household chores. After some chores, it is deemed adequate to wash hands with just water. Though risk is known, their assessment of personal risk seems to be deficient.

“I wash my hands in the courtyard, sometimes when I am working in kitchen, I only clean my hands with a towel, I don't use soap when I think there is no danger of germs.”
MOTHER IN GUJRAT



FIGURE 11: MOTHER WASHING HER HANDS

RANAS

Majority of the mothers know about the severity of the risk and its types, along with the mechanism of contamination. Soap, washing stand, and water is available for all the households and there does not seem to be a problem of affordability of soap. But distance of the washing stand and the stove was sometimes a problem for mothers who couldn't get up repeatedly to wash hands after initiating the cooking process and had to change a child or do some other task in between.

All the mothers have a positive view of hand washing and shared that they would be very happy if their whole family washed their hands with soap at critical times. Mothers report that older children learned about HWWS from them, family, and school. Older children are able to wash their hands on their own, but younger children need to be helped by a parent.

Positive influence of social workers and CBMs was reported by those practicing HWWS. A flood-prone and relatively poor village in district Jhang had many positive deviants because of extensive work by NGOs who had provided facilities and awareness sessions. Influence of CBMs was also seen with many mothers reporting they had learned about the transfer of germs from *bajjaan* (government female workers) from the government:

“We know the critical times of hand washing and this is what we have taught to our children. We had learnt it from some baji who visited our house (CBM), our children have learnt it in school books and they have also taught us this.”
MOTHER IN JHANG

Difference in Extremes

There were some important differences between mothers who were very diligent about HWWS and those at the other extreme. Diligent mothers who washed their hands without delay whenever they contaminated their hands usually had more support at home with household chores with their sisters-in-law, daughters, or other female family member supporting them. Mothers who were busy in chores alone often delayed HWWS till all their tasks were done, not realizing that they were often eating, preparing food, or feeding a child in between, though they were similarly aware of the risks.



FIGURE 12: MOTHER PERFORMING CHORES & WASHING HANDS

SUMMARY

Overall, the reduced ability of mothers to wash hands repeatedly due to lack of support with household chores seems to be an important factor in the practice of this behavior. Lack of proper planning and weak commitment are also at play.

Toilet Use

Context

Toilets were available in almost all the households. One prominent exception was a village in Jhang which was poverty-stricken and flood-prone. People reported their unwillingness to invest money in the homes for fear of the annual devastation. Most toilets were squatting toilets and lacked an attached washroom or wash stand inside the toilet.

“Because going to the field was a hassle, we also had the fear of lack of privacy and being seen by someone. People also used to gossip.”
MOTHER IN JHANG

Current Practice

Majority of the households were observed to use toilets when it came to adults, but practices varied when it came to children. An important difference was observed in Jhang and Gujrat with respect to the handling of child's feces. In Gujrat, majority of the mothers flush their child's feces down the toilet and the children usually use a portable potty. In Jhang, a common practice of throwing young children's feces outside was seen, even though majority of the mothers report that open defecation can spread germs and cause disease.

“Yes, only two younger kids don't use toilet, we have trained older kids to use the latrine. We make younger kids defecate in courtyard, and we throw the faeces outside.”
MOTHER IN JHANG

Insight from Observation

It can be theorized that young children's feces is not considered 'dirty' like adults' is, and there is a prevalent myth that since young children either drink mother's milk or eat soft foods, their feces is not napaak (impure) and no risk of disease or embarrassment is attached with it. Another reason is that the villages in Jhang are less developed and more likely to be kacha, i.e. with dirt roads and mud houses with very little cement use. In such an environment, feces thrown outside quickly become part of the dirt compared to cemented streets and courtyards.



FIGURE 13: CLAYPOTS OF WATER COVERED WITH CLOTH

RANAS

Only two houses in the sample did not have a toilet, the vast majority of the sample used toilets for the most part. The reasons for building and using a toilet were reported to be the privacy and convenience afforded rather than a concern for health or hygiene. Especially for young girls, defecating outside is considered unsafe and indecent. Fathers also reported that building toilets is important since women can then relieve themselves with convenience and dignity inside the homes, and easily take multiple children as well. Toilet use was seen to be a norm in both districts.

“We are now constructing a latrine because girls have grown up, they cannot defecate in open and it doesn't feel right either.”

MOTHER IN JHANG

SUMMARY

In summary, the primary factor at play in the practice of this behavior is perception of norms, rather than perception of risk, which currently do not exist for throwing child feces outside.

Garbage Disposal

Context

No mechanism for garbage disposal was seen in both districts. All the villages were managing waste using measures of their own design. Piles of garbage were a common sight in most villages, along with piles of animal dung.

Current Practice

Cleaning the house itself was observed to be a shared activity with the mother being supported by female family members in sweeping, washing, and garbage disposal. Animal waste is usually shaped into patties and dried for fuel while kitchen and household garbage is collected and thrown outside. Data shows that there is a widespread norm of throwing garbage outside on pre-existing garbage heaps.

Insight from Observation

Efforts are being taken to manage solid waste, the efforts seem more cumbersome for the community members compared to what is proposed in the service. RANAS: Primary reason for the practice of throwing garbage in the open is that currently, no other options are available to manage waste. Majority is not happy with the arrangement and complains of the smell, disease, and overall aesthetic. Efforts are taken by the majority to either bury the garbage heap or burn it after it reaches a certain size.



FIGURE 14: MOTHER THROWING GARBAGE ACROSS THE WALL OF HER HOME

RANAS

Primary reason for the practice of throwing garbage in the open is that currently, no other options are available to manage waste. Majority is not happy with the arrangement and complains of the smell, disease, and overall aesthetic. Efforts are taken by the majority to either bury the garbage heap or burn it after it reaches a certain size.

Desire to live in a clean and hygienic environment is strong, one or two extreme cases were even cleaning the streets outside their home. There is an overwhelming demand by mothers for waste management facilities by the government in most areas. Apart from the aesthetics, the real risks of skin disease, respiratory infections, diseases from flies and mosquitoes, and other health risks are also a concern for majority of the mothers.



FIGURE 15: CHILD CYCLING IN GARBAGE STREWN STREETS

“All the neighbours throw their garbage at one place outside and I also throw the garbage at the same place. The villagers burn this garbage when it starts overflowing, this way that place is cleaned, diseases will spread if garbage is not burnt down.”

MOTHER IN JHANG

“There's no designated place/space for dumping waste. Where else should I throw waste? I don't like my current practice. It causes mosquito breeding and filthy environment”

MOTHER IN GUJRAT

SUMMARY

To summarize, there are no norms or services available around garbage sorting and disposal along with low perceived risk of current garbage disposal habits and lack of information about correct methods.

Child's Illness

RANAS

Interestingly, though most mothers reported the risk of disease associated with not washing hands and using toilets, they did not connect the reported illness of their child to hygiene but to eating harmful snacks from outside as opposed to clean, home cooked food or the garbage outside their homes. Flies and mosquitoes are considered to spread diseases like dysentery, fever, skin allergies, etc. and they are linked to garbage in the streets. Seasonal changes are another cause associated with a child's illness. It was observed that households that were diligent about hand washing and toilet use also reported less illnesses in the past 3 months compared to households with less adherence.

“(The reason for illness is) overeating of sweets and candies.”
MOTHER IN JHANG

“(The reason for illness is) cold and sour food items from shops.”
MOTHER IN GUJRAT

“Everybody at home said that my son is sick because of teething but I think my son gets sick because of eating things from outside.”
MOTHER IN JHANG

Mothers strive to keep things covered and keep the house clean. In most cases, handwashing, throwing the child's feces outside, or water is not linked with the child's illness. It can be theorized that mothers perceive their level of diligence regarding these behaviors as sufficient to prevent disease and look to other reasons for their child's illness. When asked about what they think they can do to prevent illnesses in the future, they again stress on hygiene and report they cannot prevent children from snacking as they are stubborn. This shows that mothers perceive that maintaining hygiene is within their control, but also that they may be overestimating the adequacy of their hygiene standards.



FIGURE 16: MEDICINE CABINET IN A HOME

“(To prevent future illness), I will ensure hygiene, children do not listen and I cannot stop giving money to children (for snacks).”
MOTHER IN JHANG

Media Use

Context

Almost every house in the sample had a TV and a satellite. Several households also had desktop computers with games and children's movies saved on it. The computers did not have internet and were primarily in the use of children.

Current Practice

Most mothers reported watching Indian soaps, especially *Iss Pyar ko Kya Naam Den* and *Saath Nibhana Saathiya* with the lead characters of Khushi and Gopi, respectively. They are both simple and less modern and get married into rich, modernized families. They always do the right thing no matter how many people are against them, they remain pure and simple and are vindicated in the end. Mothers also report watching religious programs, and news.



FIGURE 17: SATELLITE DISH INSIDE HOME

“I like gopi wala as she takes care of everyone in family and I like khushi as her acting is good.”
MOTHER IN JHANG

“I like character 'Pratigya' as she takes care of everyone and she is a good actress.”
MOTHER IN GUJRAT

Around half of the mothers have their own mobile phones and report using it for calls. Half amongst them have smartphones and reported using Whatsapp, and IMO as well. One or two only reported using Facebook. The others report not having their own mobile and using their husbands', sons', or brothers-in-law phones to call their families.



FIGURE 18: YOUNG GIRL WATCHING AN INDIAN SOAP

“ I call my mother and I take pictures of my children as well. I have used IMO to call my husband when he was abroad. Children also use my mobile to play games.”
MOTHER IN JHANG

B. FATHERS

The following analysis is based on the information collected in four FGDs conducted with fathers in the two districts.

Demand for Service

Most fathers demand a proper sewerage system and a garbage management system in Gujrat while latrine construction and clean drinking water is prioritized in Jhang which are less developed. Reason for prioritizing these services is their current unavailability and their importance in ensuring cleanliness in the village and personal health and hygiene. For most fathers, toilets are important for the convenience and privacy of women and girls, as was the case for mothers.



FIGURE 19: CHILD NAVIGATING THROUGH A FLOODED STREET

“After the construction of the latrine, we started using it as women did not use to feel safe by going outside for defecation.”
FATHER IN GUJRAT

Fathers stressed on the need for a proper sewerage system as it spreads filth everywhere and that can spread many diseases. According to a father in Gujrat:

“If the drainage system does not improve then there will be filth/dirt everywhere and due to unavailability of clean water, children will suffer from Cholera and Malaria.”
FATHER IN GUJRAT



FIGURE 20: RESEARCHER CONDUCTING AN FGD WITH FATHERS

Perception of Role of the Father

Fathers view their role as that of an advisor who provides guidance to the children about right and wrong and ensures their moral values are developing. Fathers also report that teaching children good habits is important, for which they strive to model the right behaviors. However, they believe that the primary role of ensuring children’s hygiene is that of the mother with fathers’ role limited to being a good role model and advising children.

Perception of Child's Illness

More than mothers, fathers report that children's illnesses are caused by a dirty environment, especially garbage strewn streets with no drainage system which breed disease. They do not report an active role in reducing the chances of a child contracting an illness in the future. Fathers often reported the influence of TV on hygiene practices in the FGDs, sharing that they had learnt the importance of hand washing from watching TV.



FIGURE 21: RESEARCHER CONDUCTING AN FGD WITH THE VWC

“We came to know through social media and electronic media that these basic facilities are very important in life (living a successful life).”
FATHER IN GUJRAT

3.2. Channel Analysis

A. VILLAGE WASH COMMITTEES (VWCs)

Two FGDs with VWC members were conducted in each district, one in a better performing village and one in a poor performing village with respect to PATS. On average, 7-8 members of the VWC participated in the FGDs. The FGDs were conducted by two male researchers with one facilitating and the other taking notes.

Context

The participating members in the FGDs of the VWCs were all men, showing that even if women had been part of the committees, they were not active in its functioning. Researchers report that out of all the attendees, 3-4 members were vocal and active while the others did not seem to have a clear idea about their role and were not active in the VWC activities.

Role of the VWC

The primary activity undertaken by the VWC members was to facilitate construction of latrines of the poorest of the poor in their village by identifying them and facilitating provision of materials delivered by PHED. Their role after the village being declared ODF is limited, some of the members mention striving for a drainage system and majority agree that is a primary need.



FIGURE 22: CHILD SITTING NEXT TO AN OPEN DRAIN

Challenges Faced

They reported some challenges such as displeasure of other households at not being selected, delay in receiving construction materials by up to a year, which frustrated people and resulted in anger being taken out at the VWC members. Lack of a proper sewerage system was also reported as a reason for discontinuation of toilet use by some people and source of dissatisfaction with their role since their houses may now be clean, but their village is not. There is great demand for a proper drainage and sewerage management system.

RANAS

Majority of the members have a positive view of using toilets because of the convenience awarded and the privacy for women. They also think that it is a function of changing times, open space for defecation is hard to come by now and it is considered indecent, especially by the younger generation. One person even mentioned that if a family visits with a proposal for your daughter, they notice whether you have a toilet or not and not having one can have a negative impact on marriage prospects. Though health risk is mentioned as another reason, but it is mostly related to possibility of bites by snakes, insects, or other organisms. Possibility of diseases is understood but is not mentioned as the primary benefit.

“Now days, people who bring marriage proposals for one’s sister or daughter also notice the presence of latrine in the household and they avoid making marital relations with people from such households where latrine is not present.”
VWC MEMBER IN GUJRAT

Impact of VWC

Majority of the members note a positive impact of joining the VWC on their hygiene standards and report becoming more careful about washing hands and other behaviors as well as teaching the same to their children. With respect to their impact on their community, they shared that usually people listen to them but the delays in provision of materials makes their community members to become displeased at them. Their role is also limited to facilitate toilet building and they do not seem to be involved in other activities, limiting their impact.

“Before becoming a member of the committee, we did not care for cleanliness as much but now we do.”
MEMBER VWC IN JHANG

Difference in Extremes

In one highly underdeveloped and flood-prone village in Jhang, members of the VWC only mentioned convenience of toilets as a benefit and not the privacy of women, a reason mentioned in all other FGDs. In that village, majority of the households practiced open defecation and there was no prevailing norm of toilet use. For them, saving time, saving effort of finding a place to defecate in floods, and not being embarrassed in front of visiting guests are the primary benefits of building toilets. Because it was a widespread norm in their own village, the issues of privacy and dignity of women were less of a concern but convenience was recognized.

***“We won’t have to go outside”,
 “it will be convenient in every season, hot or cold”,
 “It is difficult to find a place for defecation during the floods, this will be easier”.***
MEMBERS VWC

Women of the same village mentioned the embarrassment and awkwardness they face in finding a suitable place and time for defecation, highlighting the importance of representation of **women in the VWCs**.

B. COMMUNITY BASED MOTIVATORS

Two CBMs were observed delivering their sessions followed by an interview in the district of Gujrat. The same activity could not be performed in Jhang as CBMs were not performing their duties due to delay in receiving funds for the new financial year. Two FGDs with CBMs of both districts were also conducted by White Rice in their respective offices. The results of the analysis follow.

Content and Quality of Delivery

CBMs were observed talking about type and possibility of risk in their sessions, but not the severity of risk associated with the target behaviors. It was also observed that beyond toilet use, CBMs do talk about clean water, along with personal and environmental hygiene. The CBMs used easy to understand terms and language, and respond to questions.

They did not however, talk about norms, possible barriers and how to overcome them, or affordability or accessibility of materials. They also talked about the benefits of building and using toilets from a pure health perspective, i.e., prevention of diseases.

Perception of a 'Good' CBM: In their view, a good CBM is one who gives practical advice and conveys information in easy language. They consider a session successful in which attendance is high of men and women and there is a lively discussion.



FIGURE 23: RESEARCHER CONDUCTING AN FGD WITH FATHERS

Challenges Faced

Challenges reported include low attendance in harvesting and sowing time, political agendas, negative perception and self-interest of the community members.

“When people come to a session with a negative mind that session does not go well...people have a lot of hopes attached to a social project (expect to receive free things rather than just information).”
CBM IN GUJRAT

Strengths and Weaknesses of PATS

In the FGDs, the CBMs noted that PATS' ability to mobilize and engage people is strength of the approach, especially because it is interactive and involves the community members. The weaknesses in their view are that since people do not usually receive anything but information, they are less likely to participate and have a negative reaction to their work. Especially with NGOs working in the area, people's expectations from projects are high. Another issue they mention is **political involvement in the selection of VWC members** which lessens efficiency and creates various hurdles.

In their view, a very small percentage of houses in each village get help with the construction of materials, which greatly lessens the community's motivation in the project. It was observed by White Rice that the CBMs selected in the district with this complaint had irrelevant qualifications, such as MBA Finance or MSc Computer Science, and they reported a lot of difficulty in mobilizing communities. The same problem of cost of the toilets was observed to be well-handled in the preparatory visit to the Rawalpindi CBMs, both of whom had social work backgrounds. This raises the question of the impact of **hiring CBMs with irrelevant backgrounds**, which also goes against the TORs of the post, and the reasons behind this practice in some districts.

In both the districts, CBMs reported a **high level of dissatisfaction** with the conditions of their work. Some of their concerns include late and partial compensation for travel expenses, lack of conveyance for female CBMs, authoritative and disrespectful attitude of higher management, perception of their work as unimportant and lack of recognition by the department, and delay in receiving funds to initiate activities or continue activities which causes delays they are unfairly held responsible for.

An important insight shared by both districts was the **heavily politicized nature of the VWCs**. There are contentions at the village level between affiliates of different political parties and there is interference in the transparent selection of members of the VWC. There are instances of requests being made to select members from only a particular political party which creates hurdle in their work. Besides politics, both districts agree that working with the previous model of a Community Resource Person (CRP), was easier and more efficient than working with a committee since the members of a committee are much harder to convene and responsibility is diffused. It was also shared in one district that activities were conducted more efficiently when **third-party monitoring** was being done, something that can be further researched.

Another source of dissatisfaction and reduced efficiency was their involvement in various other projects such as water testing and planting trees. They shared that they were often **pulled from their regular responsibilities** and sent to do legwork of other projects such as collecting water samples.

Difference in Extremes

Overall, it was seen that there was not much difference in the capabilities and nature of working in the two districts, even though one was one of the best performing and the other one of the poorest performing. District Gujrat is more developed and urbanized, a three hour drive from the capital of Islamabad with many of its inhabitants migrant workers in developed countries. That might be the reason for its performance.

Regarding incorporation of additional communication objectives, CBMs were of the view that they already target solid waste, general personal and environmental cleanliness, and safe water and that the additional objectives will not add something new to their current work. They agree that villages have a great demand for sewerage system, clean water, and waste management.

4. RECOMMENDATIONS

4.1. Development Of Additional Behavior Change Techniques (BCTs) For Target Behaviors

The study highlighted several important gaps in the current PATS' activities which should be catered when finalizing the revised integrated campaign:

For the public behaviors of garbage disposal and toilet building and use, norm-based BCTs to encourage them should be developed using the aspirations and values identified in the study: being 'modern', safeguarding dignity, preventing feelings of shame, desire to present a positive image of 'rural' identity, etc. BCTs should incorporate the persistent gaps in knowledge still seen in the disposal of children's feces.

For HWWS, BCTs that target attitudes, strengthen commitment, and enhance ability will be useful coupled with triggers in the environment to serve as reminders. For safe drinking water, BCTs highlighting risk associated with current water sources, and improving ability to obtain and store water should be developed.

BCTs to strengthen the relationship between current practices and their own children's illness through a personal assessment of risk rather than general information about risk and severity would have greater impact on the practice of these behaviors.

BCTs that form a behavior ladder building on positive attitudes will serve to enhance personal standards of that behavior, which currently seems to be present but not up to the mark. A behavior ladder will also make the practice of the new behaviors easier.

BCTs employing the examples of positive deviants can be used in conjunction with promoting a positive group identity of clean, forward thinking villages to encourage target behaviors. This will also present examples of similarly-abled successes and enhance perceived ability.

BCTs around devising practical plans to practice those behaviors will make their practice more likely in the face of challenges, especially when they incorporate alternative plans or solutions to commonly faced challenges, 'relapse prevention'.

BCTs to encourage the spread of messages in the community should be designed since the number of sessions conducted in the villages is limited and many people are missed. Techniques that encourage mutual discussion, village-wide competitions, or other interactive post-session activities will help to sustain the message of the campaign.

DESIRED BEHAVIORS	FACTORS	BCTs
Building, using & maintaining toilets.	Norm: Do others appreciate having and using a toilet? Do they expect me to have and use a toilet? Risk: Am I personally at serious risk of harm by continuing to throw child feces out? Ability: Do I have the information, infrastructure, training, and social support to construct and maintain a toilet?	Provide instruction, infrastructure and training, organize social support
Washing hands with soap.	Attitude: How do I feel when I wash hands with soap? Planning: Have I planned, discussed coping strategies, and strengthened commitment to washing hands with soap? Ability: Do I have sufficient time with chores to wash my hands? Do I have support at home?	Evoke feelings of disgust and capitalize on feelings of nurture. Encourage planning, discuss coping with barriers, strengthen commitment . Encourage fathers to share responsibility of household chores/childcare
Sorting & safely disposing household solid waste	Norm: Do others appreciate my sorting and burying household waste? Risk: Am I personally at serious risk of harm by continuing to throw and or burn waste in the field in my neighborhood? Planning: Have I planned, discussed coping strategies, and strengthened commitment to sorting and safely disposing household waste?	Point out other's behavior, encourage public commitment, create social pressure, foster group identity and role models. Make them realize the risk, its seriousness and their vulnerability Provide instruction, infrastructure and training, organize social support.
Use safe drinking water & stores safely	Risk: Am I personally at serious risk of harm by continuing to drink whatever water is available? Ability: Do I have the information, infrastructure, training, and social support to treat and store water?	Make them realize the risk, its seriousness and their vulnerability. Provide instruction, infrastructure and training, organize social support

4.2.Development Of BCTs To Enhance The Role Of Fathers

Majority of the fathers view ensuring hygiene of the children as the mother's job, even when they recognize that she is unable to do so because of conflicting demands. BCTs around changing this view and enhancing their role in their children's wellbeing will provide much needed support to mothers, enhance children's wellbeing, and also ensure practice of hygiene behaviors by the fathers themselves. Their view of the ideal father as a wise advisor can be leveraged to design effective BCTs for this goal.

Activities with mothers should also include shared responsibility and attempt to change their views about assuming too much responsibility for childcare and the resultant guilt when something goes wrong.

4.3. Improvement In Training Of CBMS

The number of BCTs currently available to the CBMs is limited and leaves them unable to tackle some situations that arise in the field. A range of BCTs needs to be developed with particular focus on creating normative change and the CBMs need to be thoroughly trained on the entire range and have the ability to pick and choose BCTs according to the context. It was also seen that the skills of the CBMs were not consistent across three districts with some CBMs reporting difficulty with situations that others were adept at; the training should ensure a basic standard of skills and knowledge for all CBMs. On the same note, only individuals with relevant qualifications, as per the defined TORs, should be hired as the work involves mobilizing communities, which require skills and sensitivities possessed by someone with a social sciences background.

4.4. Recognition & Due Compensation For CBMs

The job satisfaction of the CBMs was seen to be very low and an impediment in their working. Being the primary channel for the SBCC campaign, measures should be taken to enhance their satisfaction and motivation. Especially the issues of political interference, respectful treatment, and timely payments should be addressed.

In addition to their due compensation, a recognition mechanism should be developed that recognizes good performance and encourages CBMs such as recruiting the best performing CBMs to train new batches and share their field experiences. Both monetary and non-monetary ways to recognize CBMs for their work would serve to greatly enhance their work engagement.

4.5. Alternative To VWCs

The VWCs are not only politically contentious but also inefficient with no accountability mechanism and a diffusion of responsibility. They were also reported to be difficult to coordinate and sustain on a large scale. An alternative to VWCs needs to be explored to provide the same quality of intervention in every village and to form a sustainable, efficient system in rural areas that performs its activities in the village in a transparent fashion. Female engagement in the VWCs also seems to be low despite claims that each VWC involve women. The alternative should consider a platform that is more likely to engage women in the future.

4.6. Monitoring Of Quality

Internal mechanisms of monitoring are present to account for the quantity of activities carried out but not to check the quality of the intervention as was the case in the third-party monitoring model adopted before. There is a need to strengthen monitoring systems so the quality of activities can be monitored by utilizing external sources if needed.

4.7. Lack Of Services

The practice of some behaviors such as toilet use, obtaining safe drinking water, and garbage disposal is complicated by the lack services being provided in rural areas. Lack of a proper sewerage/sanitation system prevents people from building toilets, or causes discontinuation of use when their streets become polluted from open drains. Similarly, the current practice of garbage disposal and drinking bore water is due to unavailability of other options. On a positive note, the demand for these services in the villages was frequent and the uptake of future services seems to be high.

On the same note, proposed future services should be designed in a way to make their uptake and continuous use likely with a user-centered design, and proper maintenance of facilities and quality.

4.8. Next Steps

1. Brainstorming to develop BCTs and communication materials at White Rice.
2. Consultations with stakeholders to share ideas and finalize the focus and content of the communication campaign.

REFERENCES

01

Contzen, N., & Mosler, H.-J. (2015). Comparing the RANAS approach to systematic behavior change with KAP surveys. Methodological Fact Sheet 6. Dübendorf, Switzerland: Eawag, Swiss Federal Institute of Aquatic Science and Technology.

02

Dreibelbis, R., Winch, P., Leontsini, E., Hulland, K., Ram, P., Unicomb, L., & Luby, S. (2013). The Integrated Behavioural Model for Water, Sanitation, and Hygiene: a systematic review of behavioural models and a framework for designing and evaluating behaviour change interventions in infrastructure-restricted settings. BMC Public Health, 13, 1015. <http://doi.org/10.1186/1471-2458-13-1015>.

03

NATPOW & NIPS (2011). WASH KAP Baseline Survey.

04

SNV, (2016). Behavior change Communication Guidelines. Retrieved from: http://www.snv.org/public/cms/sites/default/files/explore/download/snv_behavior_change_communication_guidelines_-_april_2016.pdf

05

Tahir, A.M., Rasheed, H & Imran, S. (2010). Water Quality Status in Rural Areas of Pakistan. Islamabad: Pakistan Council of Research in Water Resources. Ministry of Science and Technology.

06

UNICEF, 2016. Diarrhoea as a cause of death in children under 5. Retrieved from: <https://data.unicef.org/topic/child-health/diarrhoeal-disease/>

07

WHO, 2014. Preventing Diarrhoea through Better Water, Sanitation and Hygiene.