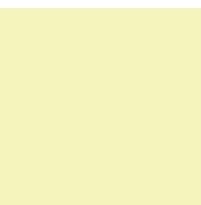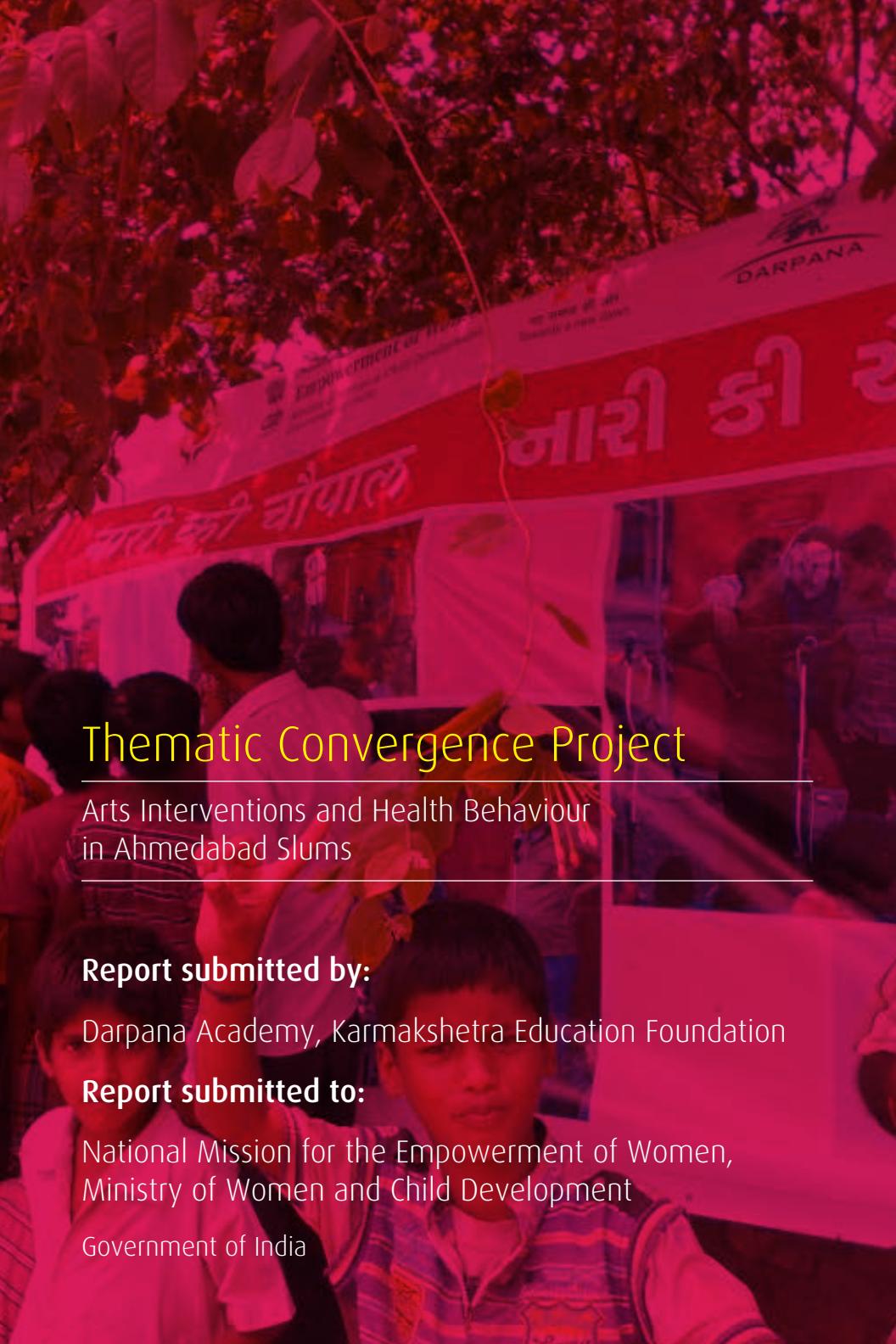**National Mission for Empowerment of Women**

*Ministry of Woman & Child Development, Government of India*

नए समाज की ओर
Towards a new dawn

DARPANA

G R C
AHMEDABAD

# नारी की चौपाल
# નારી કી ચૌપાલ

*Thematic Convergence Project*

# Thematic Convergence Project

## Arts Interventions and Health Behaviour
## in Ahmedabad Slums

**Report submitted by:**

Darpana Academy, Karmakshetra Education Foundation

**Report submitted to:**

National Mission for the Empowerment of Women,
Ministry of Women and Child Development

Government of India

# Executive Summary

This is the final report of a project conducted by Darpana Academy (an activity of the Karmakshetra Education Foundation), funded by the National Mission for the Empowerment of Women (NMEW) under the Ministry of Women and Child Development, Government of India. This pilot thematic convergence project aimed to systematically evaluate the impact of arts interventions on health related attitudes and behaviour change in population, particularly for women and children in slums of Ahmedabad. The research component was handled by the Indian Institute of Public Health, Gandhinagar, as Darpana's research agency for this project.

This project was based on the quasi-experimental methodology of a controlled study. Two slums in Ahmedabad were identified for their demographic match. Base-line surveys were conducted to identify key health-related issues and understand the level of health related information amongst the public.

Based on the findings of the baseline survey, Darpana devised the scripts for the performances, developed characters and composed songs. The dialect of the performance and the body language was devised based on that of the population of the intervention slum Vasana. Professional actors were trained into becoming actor-activists, and using the arts for social change. An extensive training session was conducted with the actors to train them into the health issues, as well as in the dialects, behaviours, beliefs and the sub-culture of the slum-dwellers of our intervention slum.

Keeping Kubernagar as a control slum, seven theatrical interventions were conducted in the Vasana slum. For maximum interaction and involvement with the audience, the project was designed to include participatory theatrical performances after every two performances, and one at the very end on all the themes covered. For this, the methodology of Forum Theatre, created by the Brazilian theatre-activist Augusto Boal was used. Our actors were specially trained in participatory theatre..

## The themes for the theatrical performances were distributed as follows:

*General health, sanitation and hygiene: This script covered wide-ranging issues such as hand-washing, water purification, public defecation, mosquitoes and flies infestation*

*Pre and ante-natal care: This particular piece focused on the superstitions surrounding breastfeeding and pre-natal care, and antenatal nutritional care*

*Participatory theatre (Boal) performance on the first two themes.*

*Menstruation: This performance focused on menstrual hygiene and generally on the importance of women's health*

*Family planning: The final theme to be touched upon was family planning, including permanent and temporary family planning methods, and spacing between children. The underlying theme was non-discrimination between male and female children.*

*Participatory theatre (Boal) performance on the fourth and fifth interventions.*

*Participatory theatre (Boal) performance on all of the themes covered.*

During the performances, Darpana involved the local link-workers and attempts were made to involve the local aanganwadis, doctors and health officials. The support of the link-workers was sought particularly for gathering women audiences, and to convert the generated demand into people availing the benefits of the government health infrastructure in place.

Upon the completion of these performances, an endline survey was conducted to measure the impact of these performances, and in particular, the proactive disclosures and recall of health-related messages were evaluated. The methodology of the analysis was "difference-in-difference". The results indicated a statistically significant positive change in the level of awareness. For a more in-depth understanding of the impact of the arts-based interventions, and to ensure that the change in attitudes get translated into measurable action towards a healthy behaviour, a longer term project needs to be conducted along these lines.

# About the Project

India is rapidly urbanizing. Slums lie at the heart of urban populations. And yet, they manage to be the ignored segments that remain untouched by developments in the cities, particularly in the area of health. Preventable diseases take a huge toll in urban slum populations. Women in these populations suffer multiple ailments ranging from anemia to pulmonary diseases and malnutrition. Their children are often born underweight, are given wrong foods, not breast-fed, drink dirty water and suffer water borne diseases often leading to death. Research has shown that one serious illness can put a family into debt for years. Many times, the populations living in the slums lead nomadic lives, creating a greater challenge for the policymakers to improve the health and hygiene conditions by simply increasing the supply of the amenities.

This project targets the demand-side of the health-related behaviours in urban slums, particularly those related to health of women and children by behaviour change communication through the arts. This thematic convergence project, titled, "Arts interventions and health behaviour in Ahmedabad slums: models for women empowerment", is funded by the National Mission for the Empowerment of Women (NMEW) under the Ministry of Women and Child Development is a project to test the effectiveness of the use of the arts in bringing about a change in health-related behaviour, and particularly regarding women's health related issues. This project was conducted by Darpana Academy in Ahmedabad, with the Indian Institute of Public Health, Gandhinagar as its research agency. This pilot assessed the effectiveness of arts based intervention for health education that can lead to avoidance of many health issues including maternal mortality due to poor nutrition and lack of basic hygiene. In particular, the performances focused on the following issues:

1) General health, sanitation and hygiene;

2) Breastfeeding, antenatal care and vaccination;

3) Menstruation;

4) Family planning.

# About Darpana

Started as an institution for the teaching and propagation of classical dance and music in 1949 by Mrinalini Sarabhai, Darpana is committed to the belief that arts have immense power to transform human lives. The arts, unlike other mediums of communication, transcend the artificial boundaries of language, culture, class; reaching out to humans on an emotional level. Audiences may be drawn to a performance because of music or costumes, but will leave with new knowledge or a new perspective of an issue that is important to their lives.

During the last three decades, we have worked on over **45 projects** all over India, reaching out to over **12.5 million people**. Our work has been in areas ranging from public health, women's empowerment, gender issues and education, to the environment, human rights, communal harmony as well good governance, citizens' participation in democracy, race to gender disability. Through the use of theatrical and street performances, quizzes and debates, puppets and board games, and films and videos on TV, we have been able to effectively talk about sensitive issues such as cervical cancer, family planning, menstrual hygiene and female foeticide.

For a systematic, objective, and unbiased evaluation of the arts-based interventions, Darpana hired the Indian Institute of Public Health, Gandhinagar, set up under the Public Health Foundation of India, as the research agency. It engages in providing high quality education, research and policy advocacy in the area of public health.

# Project Design

- Pre-research
- Training of Surveyors
- Script Development
- Actors training
- Baseline Survey
- Analysis of the findings
- Play Production
- 7 interventions
- End-line survey

# Pre-research
# the Baseline Survey

*a) Pre-research:* Before conducting the baseline survey, a preliminary research was conducted by the lead trainer and director of the performances, Mr Jignesh Patel along with Mr Gaurav Kumar and Professor Mayur Trivedi of the Indian Institute of Public Health, Gandhinagar. Initial findings were made about the demographics and social practices prevalent in these communities. It was decided that a total of 300 households in each of the slums would be surveyed, out of which 200 will be regular households, and 100 where there has been a delivery in last one year, or has a pregnant woman. The sample size was determined based on logistical feasibility, and in consultation with the officials of NMEW. Treating medical officers at the UHCs and Anganwadi workers of respective AWCs were consulted and briefed about the research as well as the theatrical performances and requested to facilitate recruitment of subjects and audiences for the plays.

**b) Preparation of the questionnaires:** Based on the preliminary findings and evidence, a structured questionnaire for the baseline survey was prepared by the team of Indian Institute of Public Health, Gandhinagar in Gujarati.

Two types of questionnaires were prepared: the category-A questionnaires were for households which had a child delivered over the previous twelve months, or had a woman who was pregnant at the time of the survey, and category– B for the other 200 households. A field level pre-testing was done before finalising the instrument. A copy of the baseline questionnaires is attached as **Annexure – 1.**

The questionnaire consists of six sections covering the following areas:

*Section 1: General information*

- · Identification codes (site, respondent code, etc.)

- · Background information on socioeconomic and demographic details

*Section 2: Hygiene, Sanitation and Water*

- · Details on hand wash

- · Details of house fly and mosquito control

- · Details of consumption of addictive substances

- · Knowledge and uptake of government services

*Section 3: Reproductive and child health (Only for Category A)*

- · ANC and Pregnancy

- · Breastfeeding practices

- · Family Planning

- · Vaccination

- · Menstruation and anaemia

The researchers were instructed to find out the best timing for the performances, the locations, and the co-ordination related details.

*c) Identifying and training the surveyors:* The following MSW students from Gujarat Vidyapeeth were identified to be surveyors for this project:

Hiren Gandhi  ·  Mayur Solanki  ·  Shwetangini Patel  ·  Smita Parmar

They underwent extensive training by Professors Mayur Trivedi and Gaurav Kumar, including in the methods and subtleties of asking questions to slum populations. The students underwent mock interviews before going into the field with the questionnaires. The listing of the households was done by Mr Dinesh Prajapati, an intern at the Indian Institute of Public Health, Gandhinagar. He spent weeks in these slums, observing the health practices and making notes about the misconceptions and faith-based beliefs surrounding health that existed in these populations.



*d) Conducting the survey:* The baseline survey was carried out over a period of two weeks during 2-17 May 2014. The data was collected through interviews with the help of a questionnaire.  All attempts were made to hold an interview one-on-one in a segregated space inside or near the home of the respondents. This ensured the privacy and confidentiality of the respondents to a certain extent. The data were collected by a team of seven investigators who were trained specifically for the purpose. The data collection was monitored on-field by a trained data supervisor.

*Ethical considerations: An informed consent was obtained prior to the conduct of interviews. The verbal consents were used; each respondent was provided with a participant information sheet, which provided all necessary details. The questionnaire and written consent were translated into Gujarati. The respondents who refused to provide consent were not interviewed.*

Based on the findings of the baseline survey, a report was prepared by the Indian Institute of Public Health, Gandhinagar. It is annexed as **Annexure-2.**

*e) Choosing the Intervention and the Control Slums:* Initially, we had decided based on random selection that out of the two slums, Kubernagar will be the slum where we conduct the performances, and Vasana will be the control slum. However, while the demographics in both the slums were similar, the general state of health and hygiene seemed much worse in Vasana, as compared to Kubernagar. Keeping in mind that the objective of this project, albeit partly academic, is to bring about a change in behaviour, we raised this concern to the NMEW officials, who kindly agreed to the suggestion that the performances be conducted in Vasana, where people can benefit more from these performances.

# Creating the
# Theatrical Interventions

**Script-writing:** The script writing process was conducted keeping closely in mind the findings of the baseline report prepared by the Indian Institute of Public Health, Gandhinagar. The scripts were written by Mr Pravin Pandya, a veteran script-writer for Gujarati movies and plays. Darpana was constantly in touch with the surveyors and the intern Mr Dinesh Prajapati while designing the script and characters, so as to be able to capture the nuances of the communities. We also consulted the Gujarat SRCW in creating the scripts, which gave very helpful suggestions. In particular, the following elements were emphasized on in the scripts:

*(i) The language:* The communities in Vasana, particularly the vaghris and rabaris, have a dialect that is unique to these communities. Discussions happened with the field-researchers on whether or not the people in these localities had contact with the rest of the city through their employment, and whether they were domestic labourers at outside households which might influence their dialect.

*(ii) The belief systems:* One of the observations of the survey researchers was that there exists a lot of superstition, such as 'seeking the approval of the goddess' before getting children vaccinated, or opting for sterilisation operation, and their other day-to-day activities. During script-writing, we had to ensure that we do not touch any raw nerves that incite any of these beliefs.

*(iii) The characters:* Based on the findings about the professions and life-habits of the populations living in the area of Vasana, we designed the characters to be believable. We were then faced with the dilemma: how can we introduce a character that can have knowledge that is beyond the common practices in the community? In particular, how will we communicate messages about health?

**(iv) The Music:** Songs and music are integral parts of our culture. The audiences are particularly drawn to music, and will retain the tunes and the words of the songs well after the performances are over. It is by humming these tunes and mumbling the lyrics of the songs about healthy living that trickle down into their minds, and subconsciously change their attitudes and even behaviours in health related issues.

Even when conducting the end-line survey and later, the songs have stayed in the hearts of the slum-dwellers.

# Actors Training and
# Play Production

*a) Selection :* Actors were chosen from the theatre performers from Darpana's theatre group: the Darpana Repertoire Company.

The actors were as follows:

1)      Mr Mayur Chauhan

2)      Mr Rahul Raval

3)      Mr Sabak Joshi

4)      Mr Varun Kelaiya

5)      Ms Aanal Suryawala

6)      Ms Komal Nagdev Chate

7)      Ms Jhanvi Patel

8)      Mr Ibrahim Sayani

9)      Ms Megha Mehta

10)     Ms Kelly Dhru

11)     Mr Gopal Parmar

The criteria used for the selection of the actors was their enthusiasm, their background in theatre, voice projection, their stage presence, ability to maintain eye contact with the audience, amongst others.  Of course, even if these were professional actors who are a part of the Darpana Repertoire Company, they needed to be specially trained for the requirements of this project.

**b) Turning actors into actor-activists:** Darpana inspires artists to contribute to society through the use of the arts. It strongly believes that arts are effective in bringing about a change in people's attitudes and behaviours. For this, we conduct activities to sensitise the actors about the problems of the society, and then educate them about the impact that arts can have in transforming human lives, alleviating human suffering and in bringing about a change in people's attitudes and behaviours. The trainers motivated these actors to use their talents to the benefit of humanity at large, rather than merely entertainment. Videos and presentations of Darpana's past work were showcased to further inspire them to want to contribute for the well-being of the society at large.



**c) Educating the actors about health issues:** It is very important to ensure that the right messages get communicated to the audience, particularly when the actors are playing characters such as a doctor, or a nurse, which are regarded as authority figures on the matters of health. Between 30-40% time spent in training the actors was spent in introducing and educating the actors about health-related issues. We ensured that they have sufficient information and understanding of the nuances of the health issues involved in the theatrical pieces. As a part of this training, discussions were facilitated with the local nurse from

the slums to sensitise the actors in the areas and issues of public health, health issues in the slums, and particularly, women's health issues. For the initial training, even the survey researchers participated in the actors' training. This made it possible for them to pass on the knowledge and the insights from the baseline survey into the theatrical performances. The surveyors were able to share their observations and insights about the slum-dwellers' lives to the actors-activists. The training of the actors in health-related issues included interactions with local health official from Vasana, who was thrilled to learn about these performances.

**d) Bringing to surface the taboos! :** Health issues such as menstrual hygiene, family planning and reproductive health are often not the easiest topics to have open discussions about, and it is completely possible that the actors themselves consider these topics difficult to talk about publicly. In order for the actors to break the ice on these issues with the audience, it was important to decode their own internal taboos and hang-ups about talking about these matters. If the actors themselves are shy communicating about these issues, how will they influence the members of the audience? Open discussions about the actors' beliefs and misconceptions, and breaking of the taboos played an important role as a part of the training.

**e) Training the Actors for the theatrical performances:** Our lead trainer, Mr Jignesh Patel, who has an extensive experience in using theatre for social change, and street theatre, conducted rigorous training to turn the actors into change-makers.

The actors were trained in the following:

**i) Voice projection:** Performing in the streets requires a good throw of the voice, despite the use of microphones. Afterall, it is essential for the actors to be able to project their voice to appeal to the audience and even make the passer-bys stop and take time out from their routines to watch the performances! While these actors already had good and loud voices, their abilities needed to be further honed.

**ii) Eye contact with the audience:** Street theatre requires a much greater involvement with the audience than proscenium. Only when the actors connect with the audiences, that the messages get communicated effectively and touch the audiences enough to bring about a change in their behaviours. Maintaining eye-contact is an important part of being able to connect with the audience, and the actors were trained in this.

**iii) Body language:** The actors were trained to adopt the body language of the members of the communities residing in Vasana slum. It is important that the audiences relate to the stories that are being projected in form of street theatre. The actors need to come across to the audience as people from their own culture and way of life, and therefore the body language becomes an integral part of an effective street theatre performance for social change.

**iv) Dialogue delivery:** While the script is written in the language that is commonly used in these slums, the dialect and diction needs to be convincing for the audiences from those communities. The speech, diction and the manner of speaking of each of the actors was carefully modulated to sound like members of the audiences in the slums.

**v) Puppetry:** We used the device of puppets to communicate certain messages. In particular, some of the problem areas such as malnourished children, or a repressive beliefs system commonly followed by the mother-in-laws regarding health and nutrition during pregnancy, or indeed, the stigma associated with menstruation, were represented through puppets. To also sensitise men about these gender related issues, the puppets of women, for example, the mother-in-law. For this, the actors underwent training in puppetry.

**vi) Interaction skills:** The interaction skills of the actors with their co-actors on stage, as well as with the members of the audience are pivotal for street theatre, and particularly for the Boal performances.

**vii) 'Boal' exercises for participative theatre:** The Boal technique in the theatre is named after a Brazilian artist Augusto Boal, who questioned the idea of mere spectators in a theatrical performance, and brought in the idea of 'spect-actors'. During a Boal performance, the members of the audience are encouraged to replace the existing actors and bring any changes to the play that they deem fit. Forum theatre is a part of the Theatre of the Oppressed. This form of theatre draws heavily on the concepts of the 'Oppressed' and the 'Oppressor'.Actors were given an exposure to the exercises designed by Augusto Boal in his book "training for actors and non-actors".

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*The Impact of Participative Theatre*

*Participative theatre is the form of theatre which engages the audience well beyond looking at their role as participants.*

*Typically, either a performance is repeated, and stopped at relevant places to induce audience participation, and/or a 'wrong' message is communicated with the expectation that the members of the audience will be able to identify the wrong message and by stopping the performance piece, correct the message through their own participation.*

*It has been argued in the academic literature in the field, that participative theatre is the most effective way to bring about attitudes change in the audience concerning pressing social issues, including public health.*

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# Co-ordination and Convergences

The purpose of this project was to draw linkages and convergence between the different government agencies and service providers in the area of public health in the locality. As a result, our focus too was on ensuring that different stakeholders are kept abreast about the performances, and that the audiences are able to relate between the theatrical interventions and the go-to persons for service delivery.

We worked closely with the local link-workers and aanganwadis in the Vasana slum. Before every performance, the designated local link-workers were asked to inform the local populations about the venue and the time for the performances to ensure that we get the right audiences to watch these performances. It has been a challenge to get women to come to watch performances, especially the lactating or pregnant women. The causes for their inability to come and watch performances were mainly their household duties and the care that their babies required.

In order to facilitate convergence, we incorporated the names of the characters in our performance, including that of the doctor, link workers and others. Our plays also included indications about where the government facilities could be obtained.

# Details of
# the performances

## Intervention 1: General Health and Hygiene

Darpana's strategy in tackling health issues is to begin with issues that target the population at large, before moving into issues that affect women in particular. This way, the community at large engages with the theatrical performances, and our actors build a rapport with the communities.

The first intervention focused on hand-washing, water purification and vector-borne diseases. This intervention also targeted public defecation, which is a serious issue in Mangal Talavdi, Vasana.

Bakri - the goat led the performance, and appears wearing green-glassed spectacles, because she has moved from a village to the city, and cannot see greenery anywhere. The goat eventually removes the glasses, to tell the audience that we need to remove the glasses of superstitions that we are wearing, and introspect into our own (health-related) behaviours.

A house-fly and a mosquito appear as characters who are ruling the locality, and this troubles the goat. The goat then goes on to suggest the different ways in which the mosquito and house-fly can be removed from the locality, including cleaning the houses, not letting water gather in nooks and corners in the monsoon, and avoiding public defecation, and covering the feces with ashes or sand if there is public defecation, and washing one's hands.

One of the scenes was that of an epidemic caused due to vector-borne diseases and the populations went to the local goddess to seek her blessings to get rid of the illness. The doctor and goat then appear, talking about how ignorant the locals are in relying on superstitions rather than introspecting about their health-related behaviours. This theatre piece ended with a song on how easy it is to purify water just by using a simple piece of cloth and folding it eight-times before using it as a strainer. This is a method that is easily affordable for the poor,

and is effective. The baseline survey had indicated that most households used the plastic tea-strainers to purify water, which is not a safe method to purify water.

**The impact:**

The level of information and knowledge about general health and hygiene has increased significantly because of the interventions. In particular, the knowledge about mosquitoes, and houseflies and handwashing has increased. (see the endline report, Annexure - 4). This is crucial in times of monsoon, and in particular, ebola and H1N1 that pervaded the city during this time period.

Here is a representative graph from the endline report that indicates that a huge amount of population was aware about the theatrical activities as their source of information about general health and hygiene issues:



PROPORTION OF RESPONDENTS INDICATING HEALTH AWARENESS CAMPAIGN AS SOURCE OF INFORMATIONON OF SELECTED ISSUES



PROPORTION OF RESPONDENTS INDICATING RECEIVING INPUTS ON SELECTED ISSUES FROM NGO
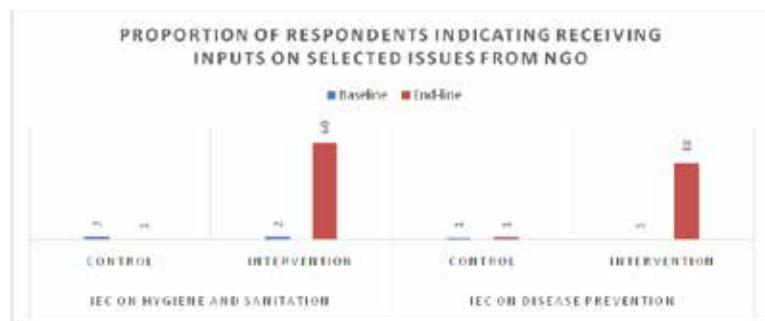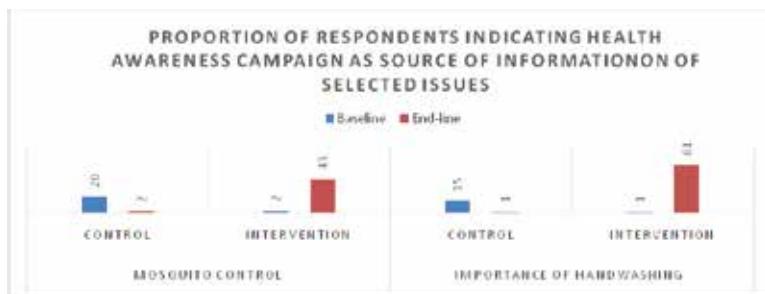
## Intervention 2:
# Ante-natal care, breastfeeding and vaccination

Having established an initial rapport with the community, we went on to talk about the issues of breastfeeding and antenatal care. We were battling countless superstitions about what to eat, and even the preference of a male child. To get the message across without offending the locals, we introduced the device of puppet, representing the superstitious mother-in-law of the lead woman character, Gauriben, who is pregnant. The use of puppet through a male puppeteer to represent the conventional repressive views was a deliberate attempt to communicate the most important health-related message in a manner that is humorous and non-offending.

There was even a song about how the mother-in-law is putting way too many restrictions on what to eat and what not to eat. Again, it is through the interaction with the goat that Gauriben is able to articulate what is bothering her. It is the goat who suggests that Gauriben talks to the doctor about the care she has to take. We composed a song to talk about the care she has to take during her pregnancy, what she can and cannot eat.

### The Local Doctor as a character

*In order to facilitate convergence between different women's health related activities in the area, we found that focusing on the local doctor might be a good focal point, which can bridge the gap between the communicated information, and service delivery.*

*The song as well as the character gained tremendous popular appeal, especially amongst the women folks of Vasana!*

*Unfortunately, the real local doctor could not remain present during the performances, preventing the translation of the information into actual service delivery.*

## Intervention 3:
## Boal performance on
## the first two interventions

This performance was a Boal intervention on the first two interventions. During this performance, we twisted the scenarios from the first two performances, adding more shades of grey to our characters, who became much more vocal in resisting some of the health related messages.

The goat was the facilitator of participation from the audiences, who appeared on stage to argue with the characters resisting health related messages, and asked the members of the audience to come and argue with the characters.

*This intervention had six different scenarios focusing on:*

**Handwashing** • **Public defecation** • **Water purification** • **Mosquitoes and fly infestation** • **Vaccination** • **General cleanliness.**

### The very first "Boal" experiment!

*This was the very first Boal intervention that we performed. In the beginning, our actors explained to the audience that they too can participate in this theatrical play, which surprised the audience at first. In some locations, it was easy to break the ice with the audiences, and for the locations where the audience members were hesitant to open up, we had brought in our own actors to act as though they are members of the audience and participate in the Boal performances.*

*The participation across the seven different locations became highly energetic particularly on the issue of flies and mosquitoes infestation. Because two of our actors represented a housefly and a mosquito who were trying to spread their kingdom across the locality, the members of the audience tried to fight back with solutions, with our actors retorting, and so on!*

# Intervention 4:
# Menstruation and Menstrual Hygiene

This intervention was about menstruation and menstrual hygiene. In Vasana, as is the case with most parts of the country, there exist social taboos surrounding the issue of menstruation.

This particular theatrical piece, a short and impactful one, brought to light the trauma that an adolescent girl goes through upon menstruating for the first time. The lead character Manjula is in her early teens. She is a wrestler, just like her two older brothers. Manjula is much respected by her two older brothers who have been often defeated by Manjula in wrestling matches. Manjula, a friend of the goat, is very excited to have been selected to participate in the National Wrestling Tournament to be held at New Delhi.

The next day, Manjula starts to menstruate and she is clueless about what is happening to her body. In that state of confusion, helplessness and vulnerability, she reaches out to her friend, the Goat. The Goat advises her to see the local nurse, and just then, Manjula's mother appears in the scene. Manjula's mother, again represented through a puppet (with a male puppeteer), tells Manjula that menstruation makes her impure, and imposes on her the traditional 'do's and don'ts' associated with menstruation.

The Goat calls the local nurse and then there is a dialogue between the nurse and Manjula's mother about menstruation and menstrual hygiene.

This play also featured a scene where one of Manjula's brothers has purchased a sanitary napkin for his wife, and tells his brother that it is also the men's responsibility to ensure that the women are taking care of their health.

**Impact:**

The impact of an open discussion in a community about a classic 'taboo' topic such as menstruation is huge. It was also surrounding the festive and holy part of the year that we performed this piece. We were worried that there would be opposition from the communities on such a topic, but that

did not happen. This success could perhaps be attributed to the subtle and sensitive manner in which the script was designed, which ensured that sentiments and customs of the slum communities were not offended. The audience seemed to be enthralled to watch a wrestling match between the petite Manjula, and her strong elder brothers.

During the time of conducting endline assessment, our research agency has noted that the respondents were able to talk about issues of menstruation and menstrual hygiene with much more confidence. A topic that was looked upon as a taboo during the baseline survey, had become much more familiar and accepted by the end of the performances. However, such a change in the respondents' reaction cannot easily be placed in terms of numbers in the endline report, and remains an observation, albeit a significant one!

## Intervention 5:
# On Family Planning

One of the strategies we adopted in addressing the very crucial issue of family planning keeping the male population at the center. While a lack of family planning has catastrophic effects on women's lives, women often fail to be decision-makers in this regard. If, on the other hand, the male populations are convinced about the importance of using condoms and adopting other methods of family planning, the women get to be the beneficiaries without having to bear the burden of convincing their partners.

Therefore, we focused on population outburst, and the economic implications at the family level. This performance also included a character called "Baardaan" (literally meaning 'an idiot' in Gujarati language) who has countless number of daughters, and has adopted no measure of family planning. Through ridiculing this character, and creating a peer pressure, we could generate a greater conviction in the audience towards family planning.

This play also included a story that our lead character Manjula has grown up, and is getting married. Worried whether she too will have to have many children, she consults the local nurse again, who advises Manjula and her husband about the different methods of family planning.

**Impact:**

There was an increase in the proactive disclosure of family planning and spacing methods during the impact assessment of the performances. The impact of our performance on family planning is reflected through this representative graph from the endline assessment:

**PROPORTION OF RESPONDENTS PROACTIVELY MENTIONING SPACING METHODS OF FAMILY PLANNING (IN %)**

Baseline ■ End-line

ORAL PILLS — CONTROL, INTERVENTION
INTRA UTERINE DEVICES — CONTROL, INTERVENTION
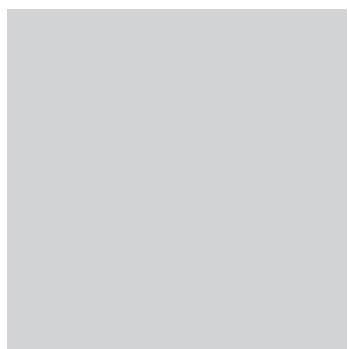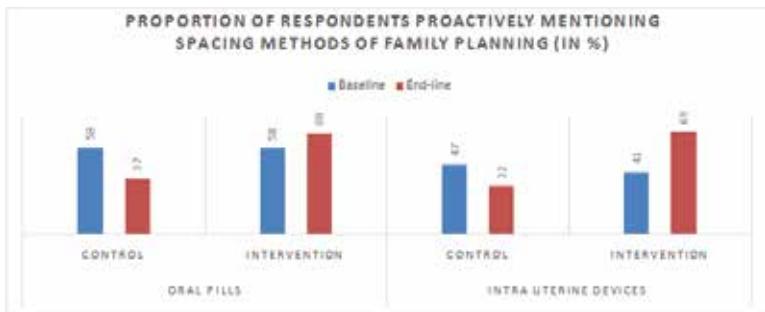
## Intervention 6:
## Boal performance on
## Menstruation and Family Planning

The Boal intervention focusing on the previous two performances was conducted in the manner that the audience could recall the previous performances and give their inputs. The previous plays were stopped at relevant points to propel the audience to participate in a dialogue with the actors.

Menstruation, menstrual hygiene and family planning are issues that are surrounded by huge amounts of taboo. In spite of this, some of the locations saw a high amount of audience participation. The women of the community, and in certain cases, even the men, responded that a woman does not become impure during her periods. In case of family planning, we got some responses from the adverse side, along the lines of 'more children mean more income'. But other members of the audience were able to retort and find flaws in the reasoning of the advocates of large families. The members of the audience seemed to identify with the character of "Bardaan", who has large number of daughters.

The fact that the audience was able to openly talk about these issues is a huge success for the use of arts based interventions.

## Intervention 7:
## Boal performance on
## all the previous performances

It was finally time to conclude all the previous performances. As the Darpana team went through the previous scripts and highlighted the key messages, songs and sequences from the performances, they were all struck by nostalgia. The final performance was a Boal performance that covered all the issues that had been addressed by the previous performances. Taking the final performance to the seven locations in the slums, too, was an emotional experience. As usual, the team was asked the question "when will you be here next?", but this time, there was no answer but the truth: that the performances have ended.

When, during the performance, our actors asked questions, or stopped the play for audience participation, the audience enthusiastically participated. By now, the team had the slum populations answer almost all the questions asked during the Boal intervention, and the rapport between the audience and the actors had been well-cultivated. The audience participation in answering questions had substantially increased. The Boal experiment had been successful. It was now time to evaluate the impact of these arts based intervention.

### Children as change-makers

*During all our performances, and specifically during the Boal performances, we observed that children are the most open to absorbing the messages communicated through these performances. The fearlessness and clarity with which they answer the questions is indeed heartwarming. Our hope is that they will be able to influence the decision-making within their families, and bring about a change in attitudes and behaviours of their older family members. With the reassuring participation by children in all the seven locations of Vasana, we can hope towards a more informed future!*

# The Endline Assessment

The endline assessment was conducted in both the intervention and the control slum, with the intention to evaluate the difference between the control and the intervention slums, between the baseline and the endline surveys.

Again, the methodology and the sample size used was the same as in the baseline survey: 200 general households, and 100 households with pregnant or lactating mothers. As far as possible, we tried to identify the same households that were targeted for the baseline assessment. However, we encountered two main challenges:

*1) Since we were focusing on women who had given birth during the past one year, that population changed by the time it was time to conduct the endline survey.*

*2) Slum-dwellers tend to be nomadic, and stay in a city or locality where they find employment. This is why, many people had changed their houses by the time endline survey began.*

Our tem of surveyors was the same as that of the baseline assessment, which made it much more effective and efficient.

In the intervention slum, we also evaluated the popularity of the songs and the actors/characters, which is visible in the endline report.

The endline questionnaire, and the report are attached as **Annexures – 3 and 4.**

# Scale-up Potential
# of this Project

This project was meant to be a pilot-testing of the evaluation of the impact of arts-based IEC interventions to bring about a change in attitudes and behaviours pertaining to general health and sanitation, and in particular health issues surrounding women and children.

The success of this project is evident, as reflected in the increase in the number of pro-active responses relating to health behaviours during the endline assessment. Our hypothesis, that arts can bring about a change in attitudes and behaviours, has been proved to be correct.

The scale-up potential of this project is huge. In particular, the following ways-forward can be looked at:

**Stage - 1: Increase the number of target slums in Ahmedabad:** We could conduct these performances in other slums of Ahmedabad, and in other districts of Gujarat. This would also be interesting in terms of the research outcomes of the project because we will have a much greater number of slums to evaluate the impact of the arts based interventions.

**Stage – 2: Regional and national level outreach:** We could train the trainers to create a much wider impact. Based on our experience in the area of using arts for behaviour change communication, we can guide and train trainers at a regional and national level to have a greater outreach.

Audience data for
each of the interventions

| Interventions | Month | Areas | No. of participants | | | |
|---|---|---|---|---|---|---|
| | | | Women | Men | Children | Total |
| Intervention: 1 | June | Dhobi ni gali | 80 | 40 | 55 | 175 |
| | | Godavari gali | 100 | 30 | 80 | 210 |
| | | Valmiki vas | 70 | 60 | 70 | 200 |
| | | Saroinagar-1 | 60 | 80 | 40 | 180 |
| | | Saroinagar-2 | 40 | 45 | 30 | 115 |
| | | Opp. Vijay complex | 70 | 30 | 55 | 155 |
| | | Talav faliu | 80 | 60 | 70 | 210 |
| Intervention: 2 | June | Dhobi ni gali | 70 | 30 | 40 | 140 |
| | | Godavari gali | 115 | 50 | 100 | 265 |
| | | Valmiki vas | 80 | 70 | 115 | 265 |
| | | Saroinagar-1 | 65 | 95 | 70 | 230 |
| | | Saroinagar-2 | 40 | 25 | 40 | 105 |
| | | Opp. Vijay complex | 80 | 50 | 60 | 190 |
| | | Talav faliu | 80 | 65 | 70 | 215 |
| Intervention:3 | July | Saroinagar-1 | 30 | 40 | 50 | 120 |
| | | Saroinagar-2 | 25 | 30 | 40 | 95 |
| | | Opp. Vijay complex | 30 | 30 | 40 | 100 |
| | | Talav faliu | 40 | 40 | 40 | 120 |
| | | Aanganwadi | 40 | 30 | 30 | 100 |
| | | Mandir | 40 | 30 | 55 | 125 |
| | | Bapa Sitaram | 80 | 60 | 70 | 210 |
| Intervention:4 | August | Saroinagar-1 | 45 | 50 | 60 | 155 |
| | | Gully no.4 | 40 | 40 | 50 | 130 |
| | | Bapa Sitaram | 50 | 40 | 60 | 150 |
| | | Aanganwadi | 20 | 30 | 30 | 80 |
| | | Mandir/Mangal talav na chhapra | 30 | 30 | 40 | 100 |
| | | Opp. Vijay complex | 35 | 30 | 50 | 115 |
| | | Talav faliu | 25 | 45 | 40 | 110 |
| Intervention:5 | August | Saroinagar-1 | 50 | 50 | 60 | 160 |
| | | Gully no.4 | 30 | 30 | 40 | 100 |
| | | Bapa Sitaram | 40 | 40 | 50 | 130 |
| | | Aanganwadi | 40 | 25 | 30 | 95 |
| | | Mandir/Mangal talav na chhapra | 45 | 40 | 40 | 125 |
| | | Opp. Vijay complex | 40 | 50 | 60 | 150 |
| | | Talav faliu | 55 | 50 | 50 | 155 |
| Intervention:6 | September | Saroinagar-1 | 25 | 30 | 40 | 95 |
| | | Gully no.4 | 30 | 30 | 30 | 90 |
| | | Bapa Sitaram | 40 | 40 | 60 | 130 |
| | | Aanganwadi | 30 | 20 | 30 | 80 |
| | | Mandir/Mangal talav na chhapra | 30 | 30 | 40 | 100 |
| | | Opp. Vijay complex | 40 | 40 | 45 | 125 |
| | | Talav faliu | 35 | 35 | 40 | 110 |
| Intervention:7 | October | Saroinagar-1 | 30 | 30 | 40 | 100 |
| | | V.S Gully | 25 | 25 | 35 | 90 |
| | | Bapa Sitaram | 25 | 40 | 60 | 125 |
| | | Aanganwadi | 20 | 25 | 35 | 80 |
| | | Mandir/Mangal talav na chhapra | 30 | 35 | 50 | 115 |
| | | Opp. Vijay complex | 30 | 50 | 50 | 130 |
| | | Talav faliu | 35 | 45 | 50 | 130 |

Annexure – 1
Baseline Survey Questionnaire

# BASELINE ASSESSMENT OF KNOWLEDGE AND PRACTICES OF SELECTED HEALTH ISSUE IN SLUMS OF AHMEDABAD

INDIAN INSTITUTE OF PUBLIC HEALTH GANDHINAGAR

Sardar Patel Institute Campus, Drive-in Road, Thaltej, Ahmedabad – 380 054

# Section-1 General Information

**Name of the Investigator:** _____

**Supervised/edited by:** _____

QID:

**1. Name of the Slum:** _____

**2. Date of Survey (Date/Month):**_____

**3. Name of primary respondent:**_____
**3a. Age of primary respondent:** _____
**3b. Sex of primary respondent:** Male 1_____Female 2 _____

**4. Household address:**

_____

**5. Name of the Household head:**_____
**5a. Age of household head:** _____
**5b. Sex of Household head:** Male 1_____ Female 2_____

**6. Religion of Household head :** _____

Hindu 1,  ·  Muslim 2,  ·  Christian 3,  ·  Sikh 4,  ·  other (specify) 5

**7. Highest education in the family**
Q7 : Code for level of education

Not literate -----1  |  Literate without education ----2  |  1 to 5  ----3

6 to 8 ----4  |  9 to 10 ----- 5  |  Diploma (post class X) ----- 6

11 to 12 ---- 7  |  Diploma (post class XII) ----- 8

Graduate and above ----- 9  |  Other: specify ----- 10  |  Not Applicable

**8. Household size:** Male_____Female_____Children (Below 18)_____

**9. Estimated monthly family income** (Rs.): _____

**10. Major source of family income:** _____

**11. Dwelling Unit :** Owned 1,  |  Rented 2,  |  other (specify)  3

**12. Type of Dwelling Unit:** Pucca 1,  |  Semi Pucca 2,  |  Kuchha 3,  Jhuggi/Jhopadi  4,  |  other (specify)  5

**13. Main source of drinking water :** Supply water 1,  |  Well water 2,  |  Tubewell/Handpump 3,  |  River/Pond/Canal  4,  |  Bottled/packaged water 5,  |  other (specify)  6

**14. Does someone in your house treat water in any way to make it safer to drink? :** Yes  1,   |   No  2 ( Skip to 16),   |   Don't know 3 (Skip to 16)

**15. How do you treat/purify water before drinking? :** _____

_____

**16. Where do the household members generally go for defecation?**

_____

Flush System 1,   |   Soap pit 2,   |   Open Space 3,   |   Sulabh sauchhlay  4,   |   other (specify)  5

**17. Is the abovementioned facility owned by the household or a shared one?**

_____

Owned 1,   |   Shared 2,   |   Open/other (specify)  3

# Section 2: Hygiene, Sanitation and Water

**1. According to you, what are the common factors that lead to diseases/illnesses/ injuries in your locality?**

Mentions without probing................1
Agree after probing.........................2
Disagree after probing.....................3
Don't know after probing................4

1. Scattered waste around households _____
2. Unsafe drinking water _____
3. Lack of proper hand washing _____
4. Water logging _____
5. Mosquito breeding _____
6. Mosquito bites _____
7. Food contamination within house _____
8. Consumption of contaminated outside food _____
9. Substance abuse (tobacco alcohol and others) _____
10. Lack of adequate nutritious food supply _____
11. Other (Specify) _____
12. Other (Specify) _____
13. Other (Specify) _____

**2. Any information on water borne diseases?**

_____
_____

**3. Do you think that hand washing is necessary?**
Yes  1,  |  No  2 (Skip to 5),  |  Don't know 3 (Skip to 5)  _____

**4. Why do you think that hand washing is important? (Please ask each option separately. Probe once the respondent finishes his inputs).**

Yes..............................1
No...............................2
1. To prevent diseases _____
2. To keep the hands appear clean _____
3. To remove dirt and stains _____
4. To make the hands smell nicer _____
5. Others (specify) _____

**5. Do you think that hand washing with soap is also necessary?**
Yes  1,  |  No  2,  |  Don't know 3  _____

**6. How often do you wash your hands with soap in a day?**
Not even once  1,  |  Once/twice a day  2,  |  three times a day  |  3 More than thrice  4  _____

**7. Describe the correct way of handwashing (Write as described in respondent's own words)**

_____

_____

**8. Which material do your household members generally use for hand washing?**
Water only  1,  |  Soap and water  2,  |  Ash/soil and water  3,  |
Wiping only with wet cloth  4,  |  Wiping only with dry cloth  5,  |
Other (Specify)  6                                          _____

**9. According to you, when MUST hands be washed?**

    Mentions without probing....................1
    Agree after probing.............................. 2
    Disagree after probing...........................3
    Don't know after probing......................4

    1. Before preparing food                                    _____
    2. Before feeding children                                  _____
    3. Before eating any food items                             _____
    4. Before eating regular meal                               _____
    5. After defecation/using toilets                           _____
    6. After cleaning a child who has defecated/used toilet     _____
    7. After blowing nose, coughing/sneezing                    _____
    8. After touching an animal, animal feed, or animal waste   _____
    9. Changing sanitary pads                                   _____
    10. Before after caring one's own wound/cut                 _____
    11. Before/after caring someone who is sick                 _____
    12. After touching garbage                                  _____
    13. Others (specify)                                        _____

**10. What was your source of information regarding benefits of hand washing? (Please ask each option separately. Probe once the respondent finishes his inputs)**

    Yes..............................1
    No...............................2

    1. Newspaper                                    _____
    2. Television                                   _____
    3. Radio                                        _____
    4. Health awareness campaign                    _____
    5. Government health workers                    _____
    6. Others (specify)                             _____

**11. Have you heard of house fly causing certain infection/ illnesses?**
Yes  1,  |  No  2, (Skip to 14)                    _____

**12. Can you explain how do house flies transmit infection/illnesses? (leave blank if no response)**
_____
_____

**13. Can you name one common illness which is caused by house fly? (leave blank if no response)**
_____
_____

**14. Do you protect your food from flies?**
Yes  1,  |  No  2 (Skip to 16),  |  Don't know 3 (Skip to 16)        _____

**15. How do you protect your food from flies? ( Write as described in respondent's own words)**
_____
_____

**16. What is the common practice of disposal of stool among young children (less than 3 year old)?**
Child used the toilet 1,  |  Put/rinsed into toilet or latrine 2,  |  Put/rinsed into drain or ditch 3,  |  Thrown into the garbage  4,  |  Buried 5, Left in the open  6,  |  Other (specify)  7                    _____

**17. What is the common practice of disposal of household waste?**
_____
_____

**18. What are the common diseases caused by mosquito bites?**

Mentions without probing..................1
Agrees after probing...........................2
Disagrees after probing.......................3
Don't know after probing....................4

1. Malaria                        _____
2. Dengue                         _____
3. Chikungunya                    _____
4. Japanese encephalitis          _____
5. Others (specify)               _____

**19. What are the different breeding sites for mosquitoes in your locality?**

　　　　　Mentions without probing..................1
　　　　　Agrees after probing..........................2
　　　　　Disagrees after probing.......................3
　　　　　Don't know after probing....................4

　　　　　1. Water stagnated in unused items like tyres,
　　　　　cups etc  in open area　　　　　　　　　＿＿＿＿＿＿＿
　　　　　2. Water stagnated in ditches/puddles　　＿＿＿＿＿＿＿
　　　　　3. Infrequently cleaned water storage containers ＿＿＿＿＿＿＿
　　　　　4. Garbage/Trash　　　　　　　　　　　＿＿＿＿＿＿＿
　　　　　5. Open drainage　　　　　　　　　　　＿＿＿＿＿＿＿
　　　　　6. Canvas Sheet/ Plastic Sheet　　　　　＿＿＿＿＿＿＿
　　　　　7. Others (specify)　　　　　　　　　　＿＿＿＿＿＿＿

**20. How can one get rid of mosquito breeding places?**

　　　　　Mentions without probing..................1
　　　　　Agrees after probing..........................2
　　　　　Disagrees after probing.......................3
　　　　　Don't know after probing....................4

　　　　　1. Prevent water stagnation　　　　　　＿＿＿＿＿＿＿
　　　　　2. Keeping water containers covered　　 ＿＿＿＿＿＿＿
　　　　　3. Change water regularly  in water tanks　＿＿＿＿＿＿＿
　　　　　4. Others (specify)　　　　　　　　　　＿＿＿＿＿＿＿

**21. How can one protect oneself from mosquito bites?**

　　　　　Mentions without probing..................1
　　　　　Agrees after probing..........................2
　　　　　Disagrees after probing.......................3
　　　　　Don't know after probing....................4

　　　　　1. Use of smoke to drive away the mosquitoes 　＿＿＿＿＿＿＿
　　　　　2. Use of mosquito coil, mat, liquid vaporizers 　＿＿＿＿＿＿＿
　　　　　3. Use of fan　　　　　　　　　　　　＿＿＿＿＿＿＿
　　　　　4. Covering of body with clothes　　　　＿＿＿＿＿＿＿
　　　　　5. Use of mosquito net　　　　　　　　＿＿＿＿＿＿＿
　　　　　6. Use of Mosquito spray　　　　　　　＿＿＿＿＿＿＿
　　　　　7. Others (specify)　　　　　　　　　　＿＿＿＿＿＿＿

**22. Does anyone in your house routinely use mosquitoes net?**

Yes  1,　|　No  2,　|　Don't know 3　　　　　＿＿＿＿＿＿＿

**23. What was the source of information regarding mosquito control? (Please ask each option separately. Probe once the respondent finishes his inputs).**

        Yes..............................1
        No..............................2

        1. Newspaper                      _____
        2. Television                       _____
        3. Radio                            _____
        4. Health awareness campaign      _____
        5. Government health workers      _____
        6. Others (specify)                _____

**24. Has anyone in your house consumed any form of tobacco in last one year?**

        Mentions without probing....................1
        Agree after probing.............................2
        Disagree after probing.........................3
        Don't know after probing....................4

        1. Smokeless tobacco products      _____
        2. Smoking form of tobacco products  _____

**25. Has anyone in your house consumed any form of Alcohol in last one year?**

        Mentions without probing....................1
        Agree after probing.............................2
        Disagree after probing.........................3
        Don't know after probing....................4

        1. Indian Made Foreign Liquor      _____
        2. Country liquor                   _____

**26. Did you receive any help in hygiene, sanitation and health inputs?**

        Yes..............................1
        No..............................2
        No need.......................3

        1. Only information about hygiene and sanitation
        NGO_____, GOVT._____
        2. Only information about disease prevention
        NGO_____, GOVT._____
        3. Only information about vaccination
        NGO_____, GOVT._____

4. Provision of supplies and services on hygiene and sanitation
NGO_____, GOVT._____
5. Provision of services and supply on disease prevention
NGO_____, GOVT._____
6. Provision of services and supplies on vaccination
NGO_____, GOVT._____
7. Other (Specify)
NGO_____, GOVT._____
8. Other (Specify)
NGO_____, GOVT._____

**27. Do you have any knowledge of government services/facility/providers available in your locality? If yes, has anyone in your family benefited from it?**

| Knowledge | Benefits(if yes to knowledge) |
| --- | --- |
| Yes......1 | Yes.............................1 |
| No.......2 | No..............................2 |
| | No need......................3 |

1. Anganwadi centre      _____
2. Anganwadi worker     _____
3. Link worker       _____
4. ANM/FHW      _____
5. Urban Health Centre   _____
6. Other (specify)     _____

**28. Have you heard of any ongoing government schemes in the social and health areas? If yes, has anyone in your family benefited from it? (Pl. ask each option separately. Probe once the respondent finishes his inputs)**

| Knowledge | Benefits(if yes to knowledge) |
| --- | --- |
| Yes......1 | Yes.............................1 |
| No.......2 | No..............................2 |
| | No need......................3 |

1. National Rural Health Mission   _____
2. Rashtriya Swasthaya Bima Yojana   _____
3. Indira Gandhi Matritva Sahyog Yojana_____
4. ICDS   _____
5. Mukhyamantri Amrutam Yojana   _____
6. Kasturba Poshan Sahay Yojana   _____
7. Chiranjeevi Yojana   _____
8. Bal Sakha Yojana   _____
9. Janani Suraksha Yojana   _____
10. Other (Specify)   _____

# Section 3: Reproductive and child health

This section is to be administered only to the households which have a) experienced any child birth during two years preceding the survey and b) a woman who is currently pregnant. The respondents need to be the women who have delivered/are pregnant. The investigator for this section will also be a woman.

## Section 3A: ANC and Pregnancy

**1. When was your baby born? (Only for women who have delivered. Put "0" in boxes for which details are not known)**  _____

**2. Which month of pregnancy? (Only for women who are currently pregnant. Put "0" if detail is not known)**  _____

**3. During which month did you come to know about your last/current pregnancy?**
Within 3 months into the pregnancy  1,   |   After 3 months into the pregnancy  2,   |   Don't know 3  _____

**4. Did you see any health professional during last/current pregnancy?**
Yes  1,   |   No  2 (Skip to 6)  _____

**5. Who was the health professional you regularly saw when you thought you were pregnant?**
Govt. Doctor  1,   |   Private Doctor  2,   |   Govt. female health worker 3,   |   NGO female health worker 4,   |   others (Specify)  5  _____

**6. Roughly how many weeks pregnant were you when you first saw this health professional about your pregnancy care?**
Before 7 weeks of pregnancy  1,   |   7-12 week of pregnancy  2,   |   More than 12 weeks pregnant  3,   |   can't say/don't remember 4  _____

**7. Roughly how many ANC check-ups did you have in total during your last/current pregnancy?**
None  1,   |   1-2  2,   |   3-4 3   |   More than 4 4  _____

**8. During your ANC checkups, were you advised on the following?**

Mentions without probing..................1
Agrees after probing...........................2
Disagrees after probing.......................3
Don't know after probing....................4

1. Family planning - Spacing methods  _____
2. Family planning – Limiting methods  _____
3. Importance of nutritional intake during pregnancy  _____

    4. Importance of Iron and Folic Acid tablets      _____

    5. Importance of Institutional delivery        _____

    6. Importance of breastfeeding             _____

**9. According, to you, how many IFA tablets should one take during pregnancy?**       _____

**10. According, to you, how many IFA tablets should one take during pregnancy?**       _____

**11. Where did the delivery take place (in case of women who delivered)/where is the delivery most likely to happen?**
Govt. health facility  1    |    Private health facility Doctor  2    |    Home, with assistance 3    |    Home, without assistance  4    |    can't remember/can't say 5    |    others (Specify)  6 (If 4-6, go to section 3c)    _____

**12. Do you know of Mamta Card?**
Yes  1,    |    No  2 (Skip to 17)         _____

**13. Have you prepared Mamta Card for your last pregnancy/last pregnancy?**
Yes  1 (Go to Q. 15) ,    |    No  2         _____

**14. Reasons for not having Mamta card for your last pregnancy/last pregnancy?**
_____
_____

**15. Do you think your baby is healthy and has normal weight as per the Mamta Card?**
Yes  1 (Go to Q. 17),    |    No  2,    |    Don't know  3 (Go to Q. 17)  _____

**16. Do you receive nutritional supplements for your baby from the nearest AWC regularly?**
Yes  1,    |    No  2,    |    Don't know  3       _____

**17. Do you know of cash incentive being offered by government for institutional delivery?**
Yes  1,    |    No  2 (Skip to next section)      _____

**18. Details of cash incentives?**
_____
_____

# Section 3B: Breastfeeding practices

**1. According to you, when should the breastfeeding start?**
Within an hour of birth 1, | Between 1-4 hours of birth 2, | Between 4-24 hours 3, After one day of birth 4, | can't remember/can't say 5, | others (Specify) 6 _____

**2. According to you, should the newborn be given colostrums?**
Yes 1, | No 2, | can't say/don't know 3 _____

**3. According to you, should the newborn be given pre-lacteal food?**
Yes 1, | No 2, | can't say/don't know 3 _____

**4. According to you, how frequently should a neonate be fed in a day?**
1-5 times 1, | 6-10 times 2, | More than 10 times 4, | can't say/don't know 3 _____

**5. According to you, for how many months neonates should be exclusively breastfeed?**
2-3 months 1, | 4 months 2, | 6 months 4, | can't say/can't remember 3 _____

**6. According to you, while on exclusive breastfeeding, should additional water be given to the neonate?**
Yes 1, | No 2, | can't say/don't know 3 _____

**7. Do you think the breastfeeding can be continued up-to 2 years?**
Yes 1, | No 2, | can't say/don't know 3 _____

**8. Do you think that a woman who is breastfeeding her baby can become pregnant?**
Yes 1, | No 2, | can't say/don't know 3 _____

**9. For how many months, did you exclusively breastfed your neonate after your last delivery?**
2-3 months 1, | 4 months 2, | 6 months 3, | can't say/can't remember 4, | NA 5 _____

**10. According to you, what should the minimum age for 1st pregnancy of any women?**
Onset of menstruation, no age preference 1, | 16 years 2, | 18 years 3, | can't say/don't know 4 _____

**11. At what age were you pregnant for the first time?** _____

**12. Do you think you could have delayed 1st pregnancy?**
Yes 1, | No 2, | Don't know/can't say 3 _____

**13. Are you aware of any modern family planning method to avoid pregnancy?**

Yes  1,    |    No  2 (Skip to next section)                    _____

**14. Which modern family planning methods do you know of that can be used for spacing?**

Mentions without probing..................1
Agree after probing...........................2
Disagree after probing........................3
Don't know after probing...................4

1. Oral Pills                                                    _____
2. Condoms                                                     _____
3. Intra Uterine Devices                                       _____
4. Male sterilization (Vasectomy)                              _____
5. Female sterilization (Tubectomy)                            _____
6. Other (Specify)                                             _____

**15. Which modern family planning methods do you know of that can be used for limiting family size?**

Mentions without probing..................1
Agree after probing...........................2
Disagree after probing........................3
Don't know after probing...................4

1. Oral Pills                                                    _____
2. Condoms                                                     _____
3. Intra Uterine Devices                                       _____
4. Male sterilization (Vasectomy)                              _____
5. Female sterilization (Tubectomy)                            _____
6. Other (Specify)                                             _____

# Section 3D: Vaccination

**1. Which modern family planning methods do you know of that can be used along with breastfeeding?**

Mentions without probing.................1
Agree after probing..........................2
Disagree after probing......................3
Don't know after probing.................4

1. No need of family planning till breastfeeding continues  _____
2. Oral Pills  _____
3. Condoms  _____
4. Intra Uterine Devices  _____
5. Sterilizations  _____

**2. According to you, which of the following is the minimum space/time period between births?**

12 months 1, | 18 months 2, | 24 months 3, | 36 or more months 4, | can't say/can't remember 5  _____

**3. Do you/your husband want more baby/babies in next two years?**

Yes 1, | No 2, | can't say/don't know 3  _____

**4. Which family planning method do you/your husband generally use these days?**

None 1, | Condoms 2, | Oral Pills 3, IUD 4, | Male Sterilization 5, Female sterilization 6, | can't say/don't know 7, | Other (specify) 8

_____

**5. Who chose the method of family planning?**

Me 1, | My husband 2, | Both of us together 3, | Can't say/don't know 4, Other (specify) 5  _____

**6. Do you discuss with your husband different methods of family planning?**

Yes 1, | No 2, | can't say/don't know 3  _____

**7. Have you heard of child vaccination?**

Yes 1, | No 2 | (Skip to 4), | can't say/don't know 3 (skip to 4)  _____

**8. How many times did you vaccinate (through injection) your child after your last delivery? (Blank if 1st pregnancy)**  _____

**9. How many times did you vaccinate (through oral drops) your child after your last delivery? (Blank if 1st pregnancy)**  _____

**10. Have you heard of vaccination of pregnant women?**
Yes  1,  |  No  2 (Skip the section),  |  can't say/don't know 3
(skip the section)                                    _____

**11. How many times did you vaccinate (through injection) yourself during your last/current pregnancy?**
_____
_____

# Section 3E: Anemia

**1. In your locality, what do women/girls use during menstruation?**
Cloth/towel 1, | Purchased sanitary pads 2, | Homemade recyclable pads 3, | Don't know/can't say 4, | other (specify) 5 _____

**2. Have your purchased any sanitary pads in last one year?**
Yes 1, | No 2, | can't say/don't know 3 _____

**3. Have you heard of anemia?**
Yes 1, | No 2 (Skip the section), | can't say/don't know 3 | (skip the section) _____

**4. According to you, what are the signs and symptom of Anemia?**
_____
_____

**5. According to you, what are the causes of Anemia?**
_____
_____

**6. According to you, what can be done to prevent/control Anemia?**
_____
_____

**7. Did anyone ever tell you that you are/were anemic:**
Yes 1, | No 2 (Skip to the next section), | can't say/don't know 3 | (skip to the next section) _____

**8. What type of advice were you given?**

Mentions without probing...............1
Agree after probing........................2
Disagree after probing....................3
Don't know after probing................4

1. Eat more food                              _____
2. Eat more iron-rich food                    _____
3. Consume Iron Folic Acid tablets            _____
4. Consume other Ayurvedic remedies           _____
5. Other (Specify)                            _____

Annexure – 2
# Baseline Survey Report

Submitted to

## Karmakshetra Education Foundation

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# CHAPTER 1
# BACKGROUND

Enough has been written about the fact that economic growth cannot be an end in itself, and is essentially a mean for what is known as economic development. This stands correct for India as it stands today. India has witnessed unprecedented economic growth during post-reform period over two decades or so. Despite the global slowdown post 2008, India continues to be one of the top fastest growing major economies in the world, along the side of China. However, this steady rise in gross domestic product, or average national income has not resulted in the concurrent economic development in the country. While the rising income has resulted in rising average income of its citizen and the overall poverty headcount ratio has declined from 45% in 1993-94 to around 30% of in 2009-10, there are around 354 million poor people in the country. The Human development parameters – measured in terms of gains in life expectancy, education and health attainments – of India are worse than its neighbours like Bangladesh and Sri Lanka. India continues to be at the bottom of the medium human development countries; as of 2013, it ranked 136 among 186 countries in human development. What is worst is the fact that India ranked 132 out of 148 countries that were ranked for Gender Inequality Index (GII), which captures the loss in achievement due to gender disparities in the areas of reproductive health, empowerment, and labour force participation. The GII is 16th worst globally indicates abysmal performance as far as women-sensitive development is concerned. Clearly, a more gender-sensitive policy orientation is essential. With this need in consideration, Government of India launched National Mission for Empowerment of Women (NMEW) in 2010. The Mission aims to strengthen overall processes that promote the all-round development of women. One of the mandates of the mission is to ensure inter-sector convergence; this involves coordination of various schemes/programmes of different central as well as state Ministries/Departments that are aimed at women's welfare and socioeconomic development. Very aptly named as Mission Poorna Shakti, the mission is oriented to provide 'a single window service for all programmes run by the Government for Women under aegis of

various Central Ministries'.  One of the proposed convergence themes involves 'Health and Nutrition' of women and adolescent girls.

Karmakshetra Education Foundation, Ahmedabad is one of 45 thematic pilot convergence models that are initiated across India to demonstrate convergence of programmes and schemes at the grass root level. The project called 'Arts Interventions and Health Behaviour in Ahmedabad Slums' aims to use innovative artistic techniques to generate awareness regarding healthy and hygienic behaviour.  The project specifically attempts to assess an arts based intervention for health education that can lead to improved health awareness.  The issues to be addressed include a) maternal morbidity due to poor nutrition and lack of basic hygiene, monitoring during pregnancy and unsafe home birth, b) neonatal care and breastfeeding, c) Immunization among infants, d) access to clean drinking water and the importance of hand washing using soap, and e) prevention of common infectious diseases. The target audience is pregnant women and women in child bearing ages, new mothers, neonates and older children and adolescent girls.

This report is based on baseline assessment of knowledge and practices of selected health issue in the slums of Ahmedabad. It also described the methodological aspects of selection of intervention and control slums for the proposed arts-based health awareness intervention.

CHAPTER 2
# METHODOLOGY

This section is divided into two sub-sections viz. Slum selection and survey methodology. While the former will describe the details of how intervention and control slums were selected, the details of survey methods that were adopted in baseline assessment is described in the later sub-section.

**Slum Selection**

It was decided to select two demographically identical slums from different part of the Ahmedabad Municipal Corporation (AMC). The AMC is divided into six zones, which are further divided into 64 electoral wards. The city is being served by a total of 57 Urban Health Centers (UHC); each of the UHC provides primary care to urban slums in their respective coverage areas. The selection of slums for the arts intervention underwent a consultative process with implementation partners as well as officials of AMC. To begin with, a list of slums along with its demographic details was explored from the AMC officials. After repeated efforts, a database of slums and slum-like agglomerates – spread across 62 MS Excel sheets - was availed. The database had important variables like a) Slum Area Name, b) Latitude and Longitude, c) Population and no. Of households, d) Households With toilets, and e) location and distance of nearest Anganwadi, primary school and UHCs. The database underwent a much-needed collation and cleaning before using it for shortlisting of the slums. At the end of the data cleaning, there were 4820 slums – out of a total of 4900 - with some population figures. Next, it was decided to short list slums with a) population more than 2000 and b) distance of less than 1 km from all the three public facilities as mentioned above. The shortlisted slums were then presented to officials of Karmakshetra foundation and a medical officer of AMC for their inputs. This first level discussion resulted into zeroing on four slums – two each under two Urban Health Centers (UHCs) – area, from which the slums would be finalized. While Kubernagar UHC was randomly selected for intervention area, the Vasna UHC was selected for a control area. It was decided to take inputs from the officials of these UHC for finalization of the slums. The final selection

was based on inputs from the Medical Officers and Health supervisors of these UHCs on the basis of a) population composition, b) presence of other NGO/interventions, and c) logistic feasibility. Thus, at the end of this consultative process, 'Kumbhajini Chali' in Kubernagar ward was identified as intervention slum and 'Mangal Talavadi' in Vasna ward was identified as a control slum .

Kumbhaji Ni Chali is served by Kubernagar UHC; out of the total 51 Anganwadi Centers (AWC) being run in the UHC coverage area, seven comes under Kumbhajini chali geographical area. Each of the seven AWC is located within narrow by-lanes within the slum. These alleys are 1. Navdurga ni chali, 2. Jay khodiyarnagar, 3. Sugarnagar, 4. Hanumannnnagar, 5. Kumbhaji ni chali, 6. Shivshakti nagar, and 7. Jay yogheswar nagar. The slum population of around 7000 comprises mainly of Patni, Tomar, Katheriya, and in-migrants like Bhaiyaji and Bihari communities. However, there is a dominance of Patni community.

Mangal Talavadi comes under the purview of Vasna UHC, which is jointly run by AMC and an NGO called Akhandjyot Foundation; out of 32 AWCs of Vasna UHC coverage area, 2 comes under Mangal Talavadi. The slum has population of Dantani, Patni, and Vankar communities.

### Survey Methods

The research is of cross-sectional descriptive study design that essentially involved a survey of slum dwellers to assess the baseline status of knowledge and practice parameters related to selected health issues in both the slums. Since the objective of the research is to analyse and explore the level of awareness, descriptive cross-sectional study design is considered appropriate because the information related to illnesses and prevention, hygiene seeking behaviour among communities, and care seeking behaviour during pregnancy, child birth and child care is to be compiled at a point in time. The data has been compiled using quantitative data collection tools. Household survey included quantitative data (e.g. Socio-demographic profile, hygiene seeking practices, and knowledge and practice about selected health issues, etc.) among slum dwellers. Questions were asked using the following variables **(Table 1).**

[1] An important learning of the entire process was about the documentation of slum being maintained at the AMC; not only the database is difficult to get, it has incomplete and inadequate details of slum population. For example, the area of the intervention slum of Kumbhajini Chali comprises 3-4 slums identified in the database as separate slums. At the ground level, these slums do not have geographical boundaries and more or less operate as an unit.

## Survey population

The survey population included adult slum dwellers who reside in the area of Kumbhajini chali and Mangal Talavadi, as mentioned in the coverage areas of respective UHC and AWCs. From each slum, the households (HHs) from where the data were collected included two kinds of households viz. a) Category A - HHs with a woman who is either pregnant at the time of the survey or who has delivered during a year preceding the date of the data collection, and b) Category B - neighbouring household without any such history.

Table 1 Details of research variables

· Age, occupation, Education, Marital status, economic status of slum dwellers

· Knowledge of common factors related to illness/diseases

· Knowledge and practice about the correct approach to hand washing

· Knowledge and practice about control of house fly

· Knowledge and practice about control of mosquitoes

· Source of help in hygiene, sanitation and health inputs

· Knowledge and uptake of government schemes/services/facility/providers

· Knowledge of and access to antenatal, natal and post natal care

· Knowledge and practice regarding the correct approach to breastfeeding

· Knowledge and practice regarding the correct approach to family planning

· Knowledge and practice regarding the correct approach to vaccination

· Knowledge and practice about control of anaemia

## Sample design

It was decided to interview 100 Category A HHs with current pregnancy or history of birth and an additional 200 HHs without such histories, from each of the two slums.  Thus, a total of 600 households were interviewed. The care was taken to equally distribute the sample across the slum area. This was assured by distributing the sample across the Anganwadi coverage areas.  The sampling technique employed for selection of HHs was non-probability snowball sampling technique.

While the AWC register was used to locate the first 'Category A' HH in each of the coverage area, the rest HHs in respective coverage areas were identified with the help of the respondents. The AWC register was relied upon as and when required. Two neighbouring HHs of each of the category A HH were selected as Category B HHs. Thus, with a ratio of 1:2 for Category A and B HHs were added to make a total sample of 300 HHs. House listing was carried out prior to the data collection. Also, there was around 12% of non-response rate; a total of 346 HHs in intervention area and 326 HHs in control slum were visited to ensure filling up of 300 questionnaires in each of the slum.

The survey was restricted to the selected slum areas of AMC as described above. The sample size was determined based on logistical feasibility, and in consultation with the officials of NMEW and Karmkshetra Foundation. Treating medical officers at the UHCs and Anganwadi workers of respective AWCs were consulted and briefed about the research and requested to facilitate recruitment of subjects.

### Data collection

The survey was carried out over a period of two weeks during 2-17 May 2014. Data was collected using a structured questionnaire, details of which are being given below. The data were collected through interviews with the help of a questionnaire. All attempts were made to hold an interview one-on-one in a segregated space inside or near the home of the respondents. This ensured the privacy and confidentiality of the respondents to a certain extent. The data were collected by a team of seven investigators who were trained specifically for the purpose. The data collection was monitored on-field by a trained data supervisor. All the investigators had postgraduate level education and some prior experience of fieldwork in similar settings.

### Ethical consideration

An informed consent was obtained prior to the conduct of interviews. The verbal consents were used; each respondent was provided with a participant information sheet, which provided all necessary details. The questionnaire and written consent were translated into Gujarati. The respondents who refused to provide consent were not interviewed.

### Questionnaire

A structured questionnaire was administered in local language to assess the existing knowledge and practices regarding selected health issues in the two slum areas (See Annexure 1). A field level pre-testing was conducted before finalizing the instrument. Data was collected from individual respondents by the interview method. The category-A questionnaire consisted of fifteen pages and took approximately 40 minutes to complete. The category B questionnaire was of around 8 pages and tool around 20 minutes to complete. The questionnaire consists of six sections covering the following areas:

• Section 1: General information

      Identification codes (site, respondent code, etc.)

      Background information on socioeconomic
      and demographic details

• Section 2: Hygiene, Sanitation, and Water

      Details on Hand wash

      Details of house fly and mosquito control

      Details of consumption of addictive substances

      Knowledge and uptake of government services

• Section 3: Reproductive and child health (Only for Category A)

      ANC and Pregnancy

      Breastfeeding practices

      Family Planning

      Vaccination

      Menstruation and anaemia

### Data management

The collected data were subjected to random field scrutiny to ensure optimal quality. All open-ended responses were translated into English and were quantified based on logical categories. The data were entered into specially designed software, using EPI-Info programme version 3.2. Attempts were made to minimize data entry error through inbuilt data entry check in the data entry programme. The data were then analysed using MS Excel and STATA software version 12.

CHAPTER 3
# ANALYSIS

The analysis is divided into following sub-sections viz. a) Background details of respondents, b) Hygiene, sanitation and water, and c) reproductive and child health.

## Background details of respondents

The average age of the respondents was 31 years (30 years for Kumbhajini Chali and 32 years for Mangal Talavadi). While the respondents of Category A questionnaires were all women, around 57% of respondents for Category B were also women; around two-third of respondents for category B in Kumbhajini chali – as compared to around half in Mangal Talavadi - were women respondents. Overall, around 12% HHs were headed by women. The respondents across slums were predominantly Hindu.

As far as level of educational attainment is concerned, around one-fifth (22%) respondents indicated that highest level of education in their household is not more than five years of schooling; around 10% of these were either illiterate or did not have any formal education. More than half (53%) respondents indicated 6-10 years of education and another 10% indicated education above schooling, including 8% who had a graduate in their house.  Among the two slums, Mangal Talavadi scored poorly on education performance; A one-third (36.3%) of HHs in this slum indicated no or only up to primary education, as compared to around 8% in Kumbhajini Chali. On the other hand, Mangal Talavadi had only 3% HHS with graduate or more education as compared to around 18% in Kumbhajini Chali. This can be better understood through Graph 1 Below.

An average household size was found to be 5.8, with slightly higher (6.1) in Kumbhajini Chali as compared to Mangal Talavadi (5.5). Similarly, an average monthly income for Kumbhajini Chali (Rs. 8857) is slightly higher than that of Mangal Talavadi (Rs. 7340).

More than 41% respondents indicated that manual labour work as a major source of family income. Vendor (29%) comprised second

highest category of occupation. An additional 19% family was having a major share of income through salaried employment of some kind. Among the vendors, major sub-category was a vegetable and fruit vendors; in Kumbhajini Chali these were largely women of Patni community.

**Graph 1 Composition of highest level of educational attainment in HHs of two slums (n=594)**
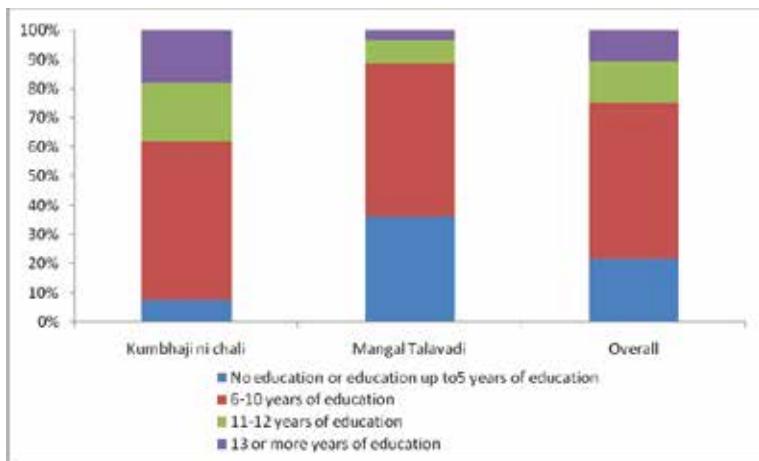


As for the type and ownership of dwellings, overall, 83% dwellings were owned by respondents; the proportion was relatively less (77%) for Kumbhajini chali. While more than one-fourth (28%) of the total dwellings were Pukka houses, the proportion as starkly different across the slums; Kumbhajini chali had nearly half of the houses were Pukka and Semi-Pukka, as compared to 88% semi- Pukka dwellings in Mangal Talavadi. Major source of drinking water in both the slums was supply water. In Mangal Talavadi, around 10% houses did not have a pipeline in their houses and dependent on other sources for water. Around 71% HHs reported to purify the water prior to drinking; In Mangal Talavadi, more than one-third (39%) HHs did not report the purification of water prior to drinking. The most common method of water purification involves filtering it through a mechanical strainer.

Nearly all HHs in Kumbhajini Chali used a flush toilet for defecation as compared to only two third (68%) in Mangal Talavadi, where around 7% reported open defecation and another 24% HHs reported the use of community toilet Sulabh Shauchalaya.

## Hygiene, sanitation and water

The respondents were asked a series of questions about knowledge of common factors related to illness/diseases, knowledge and practice about a) correct approach to hand washing, b) control of house fly and mosquitoes, d) source of help in hygiene, sanitation and health inputs, and e) knowledge and uptake of government schemes / services / facility / providers. The responses to most of these questions were recorded in four categories viz. Mentioning without probing, agreeing with probing, disagreeing after probing, and do not know. It is presumed that agreement without probing indicates a higher level of awareness as compared to agreement with probing.

Respondents were asked about possible common reasons for illnesses in their locality. As can be seen from Table 1, only 'Improperly discarded garbage', 'Stagnated water/overflowing drains', and 'Mosquitoes' were perceived as possible determinants of illnesses. There was a low level of risk perception for important factors like 'Unsafe drinking water, and 'Stagnated water/overflowing drains'. Similarly, very low proportion of respondents indicated improper hand washing, contaminated food, tobacco/alcohol use, and Malnourishment as determinants of illness or diseases. On the contrary, around 11% respondents disagreed to 'contaminated food' as one of the possible factors leading to illnesses. Similarly, around 8% of total respondents refuted the use of tobacco/alcohol as a factor responsible for illnesses in the community. Such refutation was relatively higher in Mangal Talavadi as compared to Kumbhajini Chali.

Also, the low risk perception about unsafe drinking water in Mangal Talavadi can easily be seen to get corroborated with a relatively low proportion of respondents reporting any form of purification of drinking water, as seen in the previous section.

Lack of cleanliness, Extreme heat and Mixing of sewage with drinking water pipeline are the three additional factors that were mentioned by some respondents.

Overall, 63% respondents indicated that they did not have any information on water-related or waterborne diseases. The proportion was higher for Mangal Talavadi (70%) as compared to Kumbhajini Chali (56%). Diahhorea, Cholera, Jaundice, Typhoid and Common fever were among the responses from those who indicated some awareness about

such illness. Interestingly, around 3% also referred Malaria as a waterborne disease.

## Table 2 Perception about possible reasons for illnesses in the community (in %)

| Particulars | Agreed | Agreed with probing | Disagree with probing | Don't know |
|---|---|---|---|---|
| | **Kumbhajini Chali** | | | |
| Improperly discarded garbage | 50.8 | 40.8 | 7.7 | 0.7 |
| Unsafe drinking water | 46.2 | 49.2 | 4.4 | 0.3 |
| Improper hand washing | 2.0 | 92.6 | 4.4 | 1.0 |
| Stagnated water/overflowing drains | 36.1 | 61.2 | 2.3 | 0.3 |
| Mosquito | 47.2 | 50.5 | 2.3 | 0.0 |
| Contaminated food - Homemade | 6.7 | 83.3 | 9.4 | 0.7 |
| Contaminated food - Outside | 7.4 | 84.3 | 7.4 | 1.0 |
| Substance abuse (tobacco alcohol etc.) | 3.7 | 87.0 | 5.7 | 3.7 |
| Malnourishment | 1.3 | 87.9 | 5.7 | 5.0 |
| | **Mangal Talavadi** | | | |
| Improperly discarded garbage | 75.0 | 23.3 | 1.7 | 0.0 |
| Unsafe drinking water | 21.7 | 71.7 | 6.7 | 0.0 |
| Improper hand washing | 0.3 | 95.7 | 3.3 | 0.7 |
| Stagnated water/overflowing drains | 54.7 | 44.0 | 1.0 | 0.3 |
| Mosquito | 71.3 | 27.7 | 1.0 | 0.0 |
| Contaminated food - Homemade | 2.0 | 84.0 | 14.0 | 0.0 |
| Contaminated food - Outside | 5.3 | 81.3 | 13.0 | 0.3 |
| Substance abuse (tobacco alcohol etc.) | 0.7 | 87.7 | 11.7 | 0.0 |
| Malnourishment | 0.7 | 87.0 | 12.0 | 0.3 |

## Hand washing

As for the importance of hand washing, all the respondents indicated that hand washing is important. However, a two percent disagreed with the fact that hand washing using soap is also essential. Around 80% respondents in both slums indicated that hand washing is important to prevent illness. Three-fourth of respondents (75%) indicated that they wash their hands at least three times a day; the proportion was higher in Kumbhajini Chali (85%) as compared to Mangal Talavadi (65%). In Mangal Talavadi, 7% respondents indicated that they do not wash their hands at least once a day. The majority of the respondents indicated use of soap and water for hand washing. In Mangal Talavadi, around one-fifth respondents indicated use of plain water, as compared to 12% in Kumbhajini Chali.

All the respondents were asked to describe their method of hand washing, which was then coded into five categories that involved components of scientific approach to hand washing. Little more than half of the respondents in both slums indicated 'only rubbing of the palms' as a method of hand washing. Another one-fourth (25%) indicated rubbing of palms from both front and back. Only one percent of respondents indicated nearly proper method of hand washing involving rubbing of palms from both front and back, in between their fingers and scrubbing of their nails.

**Table 3 Perception about importance of hand washing in possible occasions in daily lives (in %)**

| Particulars | Agreed | Agreed with probing | Disagree with probing | Don't know |
|---|---|---|---|---|
| **Kumbhajini Chali** | | | | |
| Prior to cooking | 58 | 42 | 0 | 0 |
| Prior to feeding children | 15 | 85 | 0 | 0 |
| Prior to eating any food items | 32 | 67 | 1 | 0 |
| Before eating regular meal | 87 | 13 | | 0 |
| After defecation/using toilets | 82 | 18 | 0 | 0 |
| After cleaning a child who has defecated/used toilet | 15 | 84 | 0 | 0 |
| After blowing nose, coughing/sneezing | 0 | 91 | 9 | 0 |
| After handling animals, animal feeds or animal wastes | 2 | 91 | 3 | 4 |
| After changing sanitary pads | 0 | 89 | 1 | 10 |
| Before/after handling wound/cut | 0 | 99 | 0 | 0 |
| Before/after caring ill person | 1 | 97 | 2 | |
| After handling garbage | 29 | 71 | 0 | 0 |
| **Mangal Talavadi** | | | | |
| Prior to cooking | 56 | 44 | 0 | 0 |
| Prior to feeding children | 11 | 89 | 0 | 0 |
| Prior to eating any food items | 11 | 89 | 0 | 0 |
| Before eating regular meal | 96 | 4 | 0 | 0 |
| After defecation/using toilets | 91 | 9 | 0 | 0 |
| After cleaning a child who has defecated/used toilet | 4 | 96 | 0 | 0 |
| After blowing nose, coughing/sneezing | | 91 | 9 | 0 |
| After handling animals, animal feeds or animal wastes | 1 | 97 | 2 | 0 |
| After changing sanitary pads | 0 | 97 | 0 | 3 |
| Before/after handling wound/cut | 1 | 99 | 0 | 0 |
| Before/after caring ill person | 2 | 98 | 0 | 0 |
| After handling garbage | 37 | 63 | 0 | 0 |

Respondents were asked to reflect on occasions during daily lives when one must hand his/her hands. In both the slums, two occasions viz. Before having a meal and after defecation were mentioned by a majority of the respondents. The next two occasions as mentioned by respondents were 'prior to cooking' and 'after handling garbage'. Although agreeing to wash hands prior to meals, only one third respondent in Kumbhajini Chali and 11% in Mangal Talavadi indicated that it is important to wash hands prior to eating any food item. There remains low awareness about the importance of hand washing after a) changing sanitary pads, b) handling wounds and cuts, c) handling animals or animal waste, d) coughing and sneezing, and e) handling ill persons. The details can be found at Table 3 below. Additionally, some respondents mentioned that one must wash hands after coming from outside and after cleaning the house.

Television is the preferred source of information for hand washing for both the slums. While the second preferred source was government health workers for Mangal Talavadi, it was relatives/friends for Kumbhajini Chali. Radio and health awareness campaigns were at the bottom of the list of existing sources of information for the importance of hand washing (Table 4). Certain respondents also mentioned health facilities/doctors, and schools as sources of information, while others indicated it as general knowledge.

**Table 4 Existing sources of information regarding benefits of hand washing**

| Particulars | Kumbhaji ni chali | Mangal Talavadi |
| --- | --- | --- |
| Newspaper | 27.5 | 187 |
| Television | 84.7 | 83.6 |
| Radio | 22 | 14.3 |
| Health awareness campaign | 15.3 | 1.3 |
| Government health workers | 48.3 | 76.7 |
| Relatives/Friends | 58.2 | 33.7 |

## House fly control and waste disposal

While 53% respondents indicated some knowledge about illness spread by house fly, the awareness was higher in Kumbhajini Chali (63%) as compared to Mangal Talavadi (43%). Of those who have heard about such illnesses, around half could not name any such diseases. While there were correct responses like Cholera, typhoid and diarrhoea, many respondents also indicated Malaria as an illness spread through house fly. Clearly, there needs to be focused educational inputs to differentiate housefly and mosquitoes.

The mode of transmission of germs through house fly was found to be well understood by the respondents. Along the similar line, almost all the respondents in both the slums indicated to cover food items in the house as a prevention measure.

Practices of child feces disposal were also explored. Around 43% household reported using the toilet for disposal of the child feces. The proportion was relatively less (39%) in Mangal Talavadi, where more than half of the respondents (52%) indicated disposal of faeces in the open area along with other garbage. Around one-fourth (23%) respondents in Kumbhajini chali – as compared to only 7% in Mangal Talavadi indicated children defecating in the latrine. Unsafe disposal of child feces in Mangal Talavadi is also a reflection of the fact that sizeable HHs in the slum indicated use of community toilet, as described in the previous section.

The system of household waste disposal was found to be different in both the slums. While Kumbhajini chali indicated a heavy reliance (78%) on garbage collector and collection by an AMC van dedicated for the purpose, around three-fourth respondents of Mangal Talavadi indicated open disposal of household waste. This can be better understood through Graph 2 below.

## Graph 2 System of household waste disposal in the slums



Graph 2 System of household waste disposal in the slums
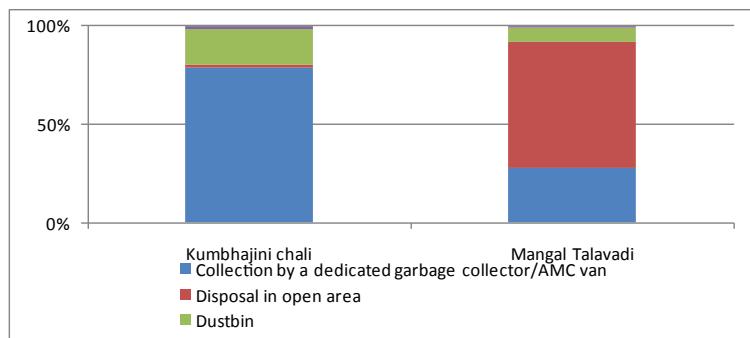
### Mosquito Control

A series of questions were asked about mosquitoes related illnesses, mosquito breeding, and mosquito control.

As can be seen from Table 5 below, while there was very high awareness about Malaria as a disease called by mosquito bites, there was relatively low level of awareness about Dengue and Chikungunya, respectively. In Kumbhajini chali, around 10% respondents either refuted or indicated lack of information about Chikunguniya as a mosquito-related illness. As expected, there was very low level of information about Japanese Encephalitis. This could be because of the fact that the disease is uncommon in Ahmedabad. Additionally, it is important to point here that some respondents, especially in Kumbhajini Chali' also indicated Typhoid as mosquito-related illness. This misconception would definitely need to be addressed.

### Table 5: Perception about illnesses caused by mosquito bites (in %)

| Particulars | Agreed | Agreed with probing | Disagree with probing | Don't know |
|---|---|---|---|---|
| | Kumbhajini Chali | | | |
| Malaria | 82 | 15 | 1 | 2 |
| Dengue | 41 | 53 | 2 | 4 |
| Chikungunya | 13 | 77 | 3 | 7 |
| Japanese encephalitis | 3 | 45 | 3 | 49 |
| | Mangal Talavadi | | | |
| Malaria | 81.0 | 18.0 | 0.3 | 0.7 |
| Dengue | 41.3 | 55.7 | 1.3 | 1.7 |
| Chikungunya | 21.7 | 75.0 | 2.0 | 1.3 |
| Japanese encephalitis | 0.7 | 43.1 | 2.7 | 53.5 |

As for the information about mosquito breeding sites, respondents agreed to stagnated water in ditches and puddles, and open garbage/trash as major breeding sites. As can be seen from Table 6 below, the relatively less awareness was found in intra-house breeding sites unclean water storage containers, canvas/plastic sheets, and stagnated water in unused items like old tyres, plastic cup etc. This finding is important in the light of the fact that AMC conducts annual intra domestic mosquito breeding elimination for the same purpose. Awareness about intra-house sites is crucial as the HHs can take preventive actions even without active help of the health machinery. Also, the plastic / canvas sheet was found to be least known breeding sites in both the slums. In slum areas with many dwellings without concrete ceilings use such material to cover the huts and can serve as potential mosquito breeding sites. Awareness about such sites is important in urban settings.

## Table 6 Perception about mosquito breeding sites (in %)

| Particulars | Agreed | Agreed with probing | Disagree with probing | Don't know |
|---|---|---|---|---|
| Kumbhajini Chali | | | | |
| Stagnated water in unused items | 17.7 | 80.9 | 0.7 | 0.7 |
| Stagnated water in ditches/puddles | 59.7 | 39.3 | 0.3 | 0.7 |
| Unclean water-storage containers | 6.3 | 91.3 | 1.0 | 1.3 |
| Garbage/Trash | 66.0 | 33.7 | 0.3 | 0.3 |
| Open drainage | 33.3 | 66.0 | | 0.3 |
| Canvas Sheet/ Plastic Sheet | 1.3 | 89.6 | 3.3 | 5.7 |
| Mangal Talavadi | | | | |
| Stagnated water in unused items | 31.1 | 68.2 | 0.3 | 0.3 |
| Stagnated water in ditches/puddles | 76.7 | 23.0 | 0.3 | |
| Unclean water-storage containers | 1.7 | 98.0 | 0.3 | |
| Garbage/Trash | 71.7 | 28.0 | 0.3 | |
| Open drainage | 28.3 | 71.7 | | |
| Canvas Sheet/ Plastic Sheet | 1.7 | 83.8 | 3.0 | 11.5 |

Relatively low self-awareness was found for breeding place elimination; however, almost all respondents agreed with the three major methods of elimination - preventing water stagnation, keeping the water containers covered, and changing water regularly in water tanks – after probing. Additionally, spraying or sprinkling of insecticides, and maintaining household cleanliness was also mentioned as measures for mosquito breeding site elimination.

Table 7 below presents details of respondent's perception about

prevention of mosquito bites. Interestingly, the least costly option of covering body with full sleeve clothes, and use of mosquito nets were not mentioned as preferred methods. The high awareness about the use of mosquito coil, mat, and liquid vaporizers can easily be attributed to a sustained marketing campaign of mosquito repellents by commercial producers of the same. Additionally, Odomos and similar mosquito repellent creams and lotions were also mentioned by respondents.

Use of mosquito net was mentioned by around one-fifth (18%) respondents; it was higher in Kumbhajini chali (23%) as compared to Mangal Talavadi (13%).

### Table 7  Perception about protection from mosquito bites (In %)

| Particulars | Agreed | Agreed with probing | Disagree with probing | Don't know |
|---|---|---|---|---|
| Kumbhajini Chali | | | | |
| Use of smoke | 37.6 | 58.1 | 4.0 | 0.3 |
| Use of mosquito repellent | 57.9 | 40.5 | 1.7 | |
| Use of fan | 41.5 | 55.9 | 2.7 | |
| Covering of body with clothes | 2.7 | 90.6 | 6.7 | |
| Use of mosquito net | 43.8 | 52.8 | 2.7 | 0.7 |
| Use of Mosquito spray | 19.4 | 65.2 | 5.4 | 10.0 |
| Mangal Talavadi | | | | |
| Use of smoke | 46.0 | 53.0 | 1.0 | |
| Use of mosquito repellent | 67.3 | 32.7 | | |
| Use of fan | 39.0 | 61.0 | | |
| Covering of body with clothes | 3.0 | 95.7 | 1.0 | 0.3 |
| Use of mosquito net | 30.7 | 68.3 | 1.0 | |
| Use of Mosquito spray | 11.0 | 66.2 | 2.0 | 20.7 |

As for the source of information about mosquito control, most respondents mentioned Television (85%) as a source, followed by government health workers (65%). As can be seen from Table 8, relatively higher proportion of respondents in Mangal Talavadi mentioned government health worker as a source of information, as compared to Kumbhajini chali. On the other hand, around one-fifth respondents in Kumbhajini chali indicated a health awareness campaign as a source of awareness about mosquito control, as compared to only 2% in Mangal Talavadi.

### Table 8  Existing sources of information regarding mosquito control (In %)

| Particulars | Kumbhajini chali | Mangal Talavadi |
|---|---|---|
| Newspaper | 30.4 | 19.0 |
| Television | 84.3 | 86.7 |
| Radio | 18.4 | 13.3 |
| Health awareness campaign | 20.6 | 2.3 |
| Government health workers | 58.1 | 73.0 |

### Tobacco use

Respondents were asked to report any form of tobacco use by anyone in their HHs. The information was sought for both smoking and smokeless forms of tobacco.  The high prevalence of tobacco use was reported from both the slums. As can be seen from Table 9, around 60% respondents reported some form of tobacco use in their HHs.  The tobacco use was higher (68%) in Mangal Talavadi as compared to Kumbhajini chali (42%). Smokeless tobacco – i.e. Gutkha, Mava, Khaini, Snuff etc. - remained preferred choice form of tobacco use. Around 32% of all HHs, one fourth in Kumbhajini chali (26%) and more than one-third (38%) in Mangal Talavadi reported use of smokeless tobacco. Around 10% HHs in both the slums reported use of smoking forms of tobacco that included Cigarette, bidi, hukka etc. Around 20% HHs in Mangal Talavadi and 16% HHs in Kumbhajini chali reported use of both the forms of tobacco use. Gender-based segregation of tobacco use was not possible as such information was not sought.

### Table 9 Pattern of tobacco use in the slums (In %)

| Overall | | Smoking | |
|---|---|---|---|
| | | Yes | No |
| Smokeless | Yes | 17.98 | 32.27 |
| | No | 10.25 | 39.5 |
| Kumbhajini chali | | Smoking | |
| | | Yes | No |
| Smokeless | Yes | 15.59 | 26.10 |
| | No | 10.85 | 47.46 |
| Mangal Talavadi | | Smoking | |
| | | Yes | No |
| Smokeless | Yes | 20.33 | 38.33 |
| | No | 9.67 | 31.67 |

Along the lines of tobacco use, information was also sought on the prevalence and pattern of alcohol use. The details were sought across the two forms of alcohol viz. Indian Made Foreign Liquor (IMFL) category and indigenously made country liquor. While the former category includes all kinds of hard liquor like beer, whisky, rum etc, the latter comprises of cheaper hooch (Laththa, as it is called in Gujarati) i.e. Locally made while whisky. While 81% of total HHs did not indicate consumption of any form of alcohol, in Mangal Talavadi, only 77% HHS did not do so. This means around one-fifth (19%) HHs reported consumption of any form of alcohol; this was lower (16%) in Kumbhajini chali as compared to Mangal Talavadi (22%). Country liquor remained the preferred choice of alcohol with 14% HHs in Mangal Talvadi and 9% HHs in Kumbhajini chali reported consumption of only country liquor. Around 1-3% reported consumption of IFML and around 5-7% reported consumption of both forms of liquor. Such pattern of alcohol consumption is higher for a state which is a dry state for more than 60 years.

## Table 10 Pattern of alcohol use in the slums (In %)

| Overall | | Country liquor | |
|---------|-----|------|------|
| | | Yes | No |
| IFML | Yes | 5.9 | 1.9 |
| | No | 11.5 | 80.8 |
| | | | |
| Kumbhajini Chali | | Country liquor | |
| | | Yes | No |
| IFML | Yes | 4.8 | 2.4 |
| | No | 8.9 | 84.0 |
| | | | |
| Mangal Talavadi | | Country liquor | |
| | | Yes | No |
| IFML | Yes | 7.0 | 1.3 |
| | No | 14.0 | 77.7 |

## Awareness about health services and schemes

Details were sought on various inputs the HHs received from governmental as well as non-governmental sources receive in hygiene, sanitation and health services. It was observed that in both the slums, there is miniscule or presence of Non Governmental Organisations (NGOs). As far as the inputs from the governmental sources is

concerned, Mangal Talavadi overall seems to receive more attention across the health and hygiene area. One intervention that stands out is vaccination, both in terms of information dissemination and provision of services.  The lesser proportion of HHs reported to have received any services/supplies related to public hygiene, and sanitation; although around half of the HHs in Kumbhajini chali and nearly two-third HHs in Mangal Talavadi received information about public hygiene and sanitation, only one-fourth and 13% received some kind of service inputs, respectively in both the slums (Table 5).

It is an interesting finding that while Mangal Talavadi seems to have received better IEC and service inputs from governmental sources, the outcome parameters in terms of knowledge regarding different health and hygiene issues were found low as compared to Kumbhajini chali, as seen earlier in this section.

**Table 11 Details of inputs received from governmental sources of health and hygiene and sanitation issues (In %)**

| Particulars | Kumbhajini chali | Mangal Talavadi |
|---|---|---|
| IEC on hygiene and sanitation | 48.8 | 62.7 |
| IEC on disease prevention | 55.2 | 68.7 |
| IEC on vaccination | 93.0 | 86.7 |
| Services about  hygiene and sanitation | 13.8 | 26.7 |
| Services about disease prevention | 33.1 | 68.7 |
| Services about vaccination | 84.6 | 83.2 |

Table 12 below provides information on knowledge of the respondents about government services/facility/providers and utilization of thereof. Kumbhajini chali indicated high level of knowledge (more than 95%) and utilization (84% among those who knew about the services) of about Anganwadi center and Anganwadi worker. On the other hand, Mangal Talavadi indicated better information about and utilization of services of link workers (90% and 95%, respectively) and urban health centers (93% and 84% respectively). Not only the knowledge about Anganwadi center and worker was lower in Mangal Talavadi, its utilization was further lowered. In fact, around 18% respondents in this slum indicated that they did not need the services of Anganwadi centre. The lower knowledge and uptake of Anganwadi services in Mangal Talavadi needs to be explored further.

The knowledge and utilization of services of link worker was sub-optimal in Kumbhajini chali. This finding of lower proportions of respondents indicating knowledge about link worker in Kumbhajini chali was corroborated during field visits as many HHs indicated lack of visits by a link worker. It was also learnt that the post of link-worker has been vacant over a year or so, in some part of Kumbhajini chali.

**Table 12 Knowledge about of government services/facility/providers and utilization thereof – comparison across slums (In %)**

| Particulars | Kumbhajini chali | | Mangal Talavadi | |
|---|---|---|---|---|
| | Knowledge | Utilization | Knowledge | Utilization |
| Anganwadi centre | 97.7 | 73.7 | 79.5 | 52.3 |
| Anganwadi worker | 95.3 | 73.1 | 62.1 | 64.0 |
| Link worker | 57.9 | 52.6 | 90.3 | 95.5 |
| ANM/FHW | 22.7 | 56.2 | 1.3 | 40.0 |
| Urban Health Centre | 63.3 | 69.1 | 92.9 | 82.5 |

Graph 3 and Table 13 below present data on knowledge of selected government health schemes. Overall, very high level of awareness was observed for Integrated Child Development Scheme (ICDS) (85%), followed by Rashtriya Swasthya Bima Yojana (RSBY) (36%). Very low awareness was found for schemes like Bal Sakha Yojana and Kasturba Poshan Sahay Yojana. The scheme called Indira Gandhi Matritva Sahay Yojana is not being implemented in AMC area and thus, there was least information about the same.

**Graph 3 Proportion of HHs reporting to have knowledge about selected government health schemes (in %)**
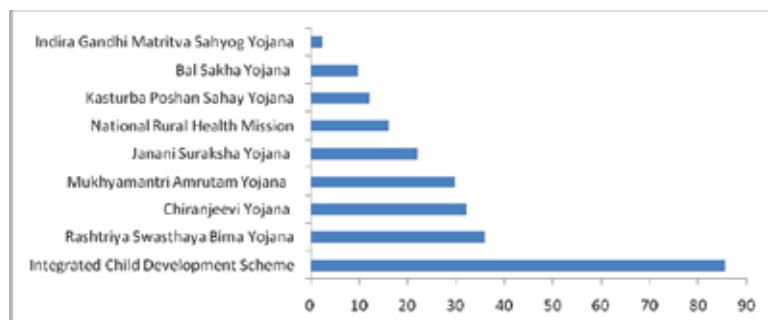
As for the comparison between the slums, while awareness about the ICDS scheme was very high in both the slums, its uptake among those who knew about the scheme was higher in Kumbhajini chali (80%) as compared to Mangal Talavadi (48%). This finding corroborates well with previous finding on awareness and uptake about services of Anganwadi center and workers. Mangal Talavadi indicated relatively higher awareness about the insurance schemes like RSBY, Mukhyamantro Amrutam, and Chiranjeevi scheme, as compared to Kumbhajini chali. There is an interesting pattern about Mangal Talavadi; while awareness about schemes is relatively higher awareness, but the uptake of scheme among those who knew about the scheme is lower. Details of such pattern can be seen in table 13 below.

The respondents in both slums indicated awareness and also utilization 108 emergency transport service facility and Khilkhilat Yojana that provides ambulances to drop the mother and the newborn child to their home at free of cost.

**Table 13 Knowledge about of government health schemes and utilization thereof – comparison across slums (In %)**

| Particulars | Kumbhajini chali | | Mangal Talavadi | |
|---|---|---|---|---|
| | Knowledge | Utilization | Knowledge | Utilization |
| National Rural Health Mission | 20.7 | 43.3 | 11.2 | 22.9 |
| Rashtriya Swasthaya Bima Yojana | 29.0 | 7.8 | 43.1 | 37.5 |
| Indira Gandhi Matritva Sahyog Yojana | 2.7 | 14.3 | 2.4 | 33.3 |
| Integrated Child Development Scheme (ICDS) | 89.0 | 80.2 | 81.8 | 47.7 |
| Mukhyamantri Amrutam Yojana | 23.7 | 8.0 | 36.0 | 13.8 |
| Kasturba Poshan Sahay Yojana | 6.7 | 40.0 | 17.9 | 28.1 |
| Chiranjeevi Yojana | 26.3 | 42.0 | 38.1 | 22.6 |
| Bal Sakha Yojana | 7.7 | 10.3 | 12.1 | 36.6 |
| Janani Suraksha Yojana | 16.0 | 35.9 | 28.4 | 14.0 |

## Reproductive and child health

In addition to the section on health, hygiene and sanitation, a section on reproductive and child health was offered to 100 women respondents in each slums. This was referred to as Category A respondents and included HHs with a woman who is either pregnant at the time of the survey or who has delivered during a year preceding the date of the data collection. These women were offered a series of question to explore their a) knowledge of and access to antenatal, natal

and post natal care, b) knowledge and practice regarding the correct approach to breastfeeding, family planning, vaccination, and c) knowledge and practice about control of anaemia.

## Pregnancy and Antenatal care

Overall, nearly two-third (65%) of these women had history of birth and the rest were pregnant at the time of data collection. The ratio was different across two slums; in Kumbhajini chali only 57% women had history of birth as compared to nearly three-fourth (73%) in Mangal Talavadi. In fact, in Kumbhajini chali, two respondents with a history of birth in last year were also pregnant at the time of data collection. From among the pregnant respondents, two-thirds (69%) have completed two trimesters of their pregnancy and were pregnant for more than 6 or months. This was slightly higher for Mangal Talavadi at 74%.

More than 90% women in both the slums came to know about their current or last pregnancy within the first trimester. Among 'currently pregnant' women in Kumbhajini chali around 10% women got to know about their pregnancy only after the first trimester. Similarly, the majority of women in both the slums sought some form of medical care during their current or last pregnancy. The choice of provider is largely restricted to a private doctor (55%) and government doctor (44%); in Mangal Talavadi, relatively higher proportion of women (61%) – more so in case of women with a history of birth - indicated reliance on private doctor. Only around one-third (36%) of those women who met health care provider, did so within 7 weeks of pregnancy; the proportion was even lower (31%) in Kumbhajini chali, where around 13% women met the health care provider after 12 weeks of pregnancy. This is an important finding as nearly one-fifth of all 'currently pregnant' women in Kumbhajini chali seek health care only after the first trimester. Nearly two-third women with history of childbirth indicated to have undergone 4 or more ANC checkups, as compared to one fourth with 3-4 visits and 11% with just 1-2 visits. As can be seen from Graph 4, the ANC performance in slums portrayed an interesting picture. While Mangal Talavadi has more than two-third women with a history of birth indicating 4 or more ANC visits, the corresponding figure for Kumbhajini chali was 56%. Around 16% such women in Kumbhajini chali – as compared to only 7% in Mangal Talavadi - indicated less than optimal i.e. Only 1-2 ANC visits (Graph 4).

**Graph 4 Frequency of ANC check-ups among women with history of pregnancy – a comparison across slums**
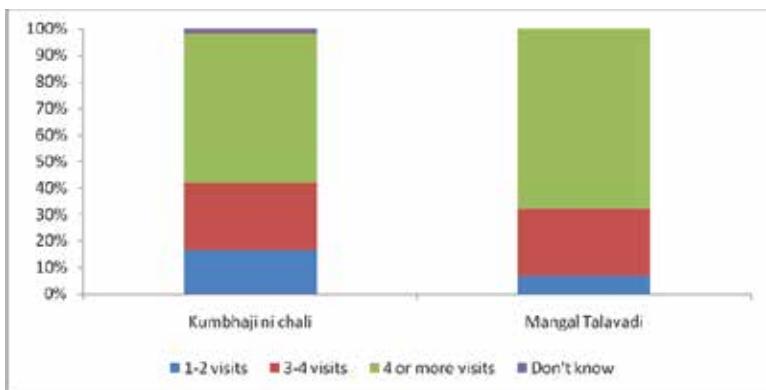


Those who have seen healthcare providers were asked about the details of the advices that were provided to them. The issues of importance of a) family planning, b) nutrition and intake of iron and folic acid (IFA) tablets during pregnancy, c) institutional delivery, and d) breastfeeding were explored. There are interesting findings about the advices being provided during the regular ANC checkups.

As can be seen from Table 14, there were only two advices that were prominently given to the majority of respondents. These were a) 'Adequate nutritional intake', and b) 'Importance of IFA tablets', in that order. 'Importance of family planning (especially terminal methods i.e. Sterilization)', and 'Importance of breastfeeding (especially that of exclusive breastfeeding)' were the advices that self-reported only by a very few respondents. Similarly, importance institutional delivery was also not mentioned by many respondents as an advice being given during regular ANC checkups.

Almost every respondent – irrespective of type of slum - indicated that they did not know about the optimal quantity of IFA tablets to be consumed during pregnancy. While around 60% of the respondents with a history of child birth indicated that they did not know the quantity of IFA they consumed during their pregnancy, around one-fourth (23%) of them indicated consumption of 30 or less tablets. No respondents with a history of birth reported consumption of 90 or more IFA tablets.

**Table 14 Details of adviccheckupsduring the ANC check-upthe slums comparison across slums (In %)**

| Particulars | Agreed | Agreed with probing | Disagree with probing | Don't know |
|---|---|---|---|---|
| | | Kumbhajini Chali | | |
| Family planning - Spacing methods | 0.0 | 40.2 | 56.7 | 3.1 |
| Family planning – Limiting methods | 0.0 | 23.7 | 72.2 | 4.1 |
| Nutritional intake during pregnancy | 54.6 | 37.1 | 7.2 | 1.0 |
| Intake of IFA tablets | 39.2 | 40.2 | 19.6 | 1.0 |
| Institutional delivery | 11.3 | 61.9 | 25.8 | 1.0 |
| Breastfeeding | 1.0 | 44.3 | 53.6 | 1.0 |
| Exclusive breastfeeding | 0.0 | 42.7 | 56.3 | 1.0 |
| | | Mangal Talavadi | | |
| Family planning - Spacing methods | 1.0 | 42.9 | 56.1 | 0.0 |
| Family planning – Limiting methods | 1.0 | 21.4 | 77.6 | 0.0 |
| Nutritional intake during pregnancy | 15.3 | 78.6 | 6.1 | 0.0 |
| Intake of IFA tablets | 12.4 | 72.2 | 15.5 | 0.0 |
| Institutional delivery | 7.2 | 66.0 | 26.8 | 0.0 |
| Breastfeeding | 2.1 | 27.8 | 70.1 | 0.0 |
| Exclusive breastfeeding | 0.0 | 23.7 | 75.3 | 1.0 |

As for the place of last delivery among those who had a history of births, there was a different pattern in both the slums. Civil hospital being in the close vicinity, around 58% of deliveries in Kumbhajini chali occurred in the government hospital. The corresponding figure for Mangal Talavadi was only 27% and more than 61% of deliveries in this slum occurred in the private hospitals. One in every ten deliveries in both the slum was reported as home deliveries with the help of traditional birth attendant.  For the currently pregnant women, nearly two-third pregnancy will take place in the government hospitals, as compared to 25% respondents who indicated that the delivery may take place in private hospitals. The rest 9% were undecided about the place of delivery at the time of the survey. In Kumbhajini chali, nearly three-fourth respondents indicated that they go to the government hospital for the delivery for the ongoing pregnancy. Interestingly, no respondents, among those who were pregnant at the time of the survey, indicated that they may undergo home-delivery as against the 10% who actually did so during their last birth.

When explored about the information on Mamta Card, a mother and child registration booklet, More than 90% respondents knew about the card. The performance of Kumbhajini chali was relatively low as around 12% of women with a history of birth did not know about MAMTA card as compared to only 1% in Mangal Talavadi.

As for registering the pregnancy and getting their Mamta card done for

their current or last pregnancy, 97% respondents in Kumbhajini chali and 93% in Mangal Talavadi had their Mamta card. Six of twenty-five currently pregnant women (20%) in Mangal Talavadi who knew about Mamta card, reported to not having a Mamta card for their ongoing pregnancy. The most common reason for not having a Mamta card was lack of visits to Anganwadi center.

Nearly two third women who had history of birth and who had Mamta card indicated that their child is healthy and has normal weight as per the Mamta Card. Around one-fifth (21%) such women in Kumbhajini chali reported that their babies are not healthy as per the Mamta card. When asked about the uptake of food supplement being provided at the AWCs for the babies, while 62% women in Kumbhajini chali indicated positively as compared to only half of their counterparts (34%) in Mangal Talavadi. Clearly, there is some issue about the functioning of AWCs in Mangal Talavadi as this result reinforces the findings observed in uptake of ICDS services in the previous section.

Only 39% of all the respondents (29% in Kumbhajini Chali and 50% in Mangal Talavadi) were aware about cash incentive being offered by government for institutional delivery. The low awareness was prominent among women if Kumbhajini chali, who had history of birth; only one-fourth of these women had any information about such cash incentives. Most of those who indicated knowing about the cash incentives had incomplete information.

### Information about breastfeeding

Overall, around 83% (72% for Kumbhajini chali and 93% for Mangal Talavadi) indicated that breastfeeding should be initiated within four hours of birth; of which, 48% respondents (52% for Mangal Talavadi and 43% for Kumbhajini chali) indicated it to be within an hour of the birth. Interestingly, in Kumbhajini chali, nearly one-fifth respondents (19%) indicated 'don't know' or' can't' say' as a response.

Around 62% respondents in Kumbhajini chali and 65% in Mangal Talavadi indicated that colostrums must be offered to the newborns; one-fifth of the respondents in both the slums indicated against it. Only one-third (37%) respondents in Kumbhajini chali and around one-fourth (24%) respondents in Mangal Talavadi indicated against the administration of pre-lacteal food. This is an important finding as the majority of the respondents in both the slums were either in favour of

administration of pre-lacteal or did not know about it.

Seventy percent respondents (72% in Kumbhajini chali and 68% in Mangal Talavadi) agreed to the idea of exclusive breastfeeding for at least six months after birth. Around 15% respondents in both the slums indicated no knowledge on the issue. Only 30% respondents in Kumbhajini chali and a miniscule 7% in Mangal Talavadi rejected the idea of administering water while the infant is being exclusively breastfed. Around 56% in Kumbhajini chali and a whopping 83% in Mangal Talavadi agreed that water can be administered while the infant is being exclusively breastfed.

Around one-third respondents (33%) in Kumbhajini chali and 20% respondents in Mangal Talavadi were either not sure or disagreed with the fact that lactating mother can become pregnant. While around one-third women with a history of birth (36%) indicated exclusive breastfeeding for less than 3 months, only 29% women indicated exclusive breastfeeding for six months. Performance of Kumbhajini chali was slightly better with 35% of such women reporting to exclusive breastfeeding for six months as compared to only 23% in Mangal Talavadi.

### Family Planning

Only 13% of respondents agreed to the fact that a woman can become pregnant at any age after onset of menstruation. A majority (80%) of them indicated 18 years as the minimum age after which one can become pregnant.

While around 6% of women indicated that they were pregnant before they turn eighteen year old, another around 70% women reported that they were between 18-21 year when they got pregnant for the first time.

Around one-fourth respondents in Mangal Talavadi indicated that they could have delayed their first pregnancy; of those who agreed to this, seventy percent had their first pregnancy in or before 19 years of age. An interesting finding also reflects in the fact that around 80% of these women were aware about family planning. Clearly, it is not the lack of awareness that is an issue as far as early pregnancy and childbirth is concerned. Overall, two-third respondents had some information about family planning (FP) methods.

The respondents were asked about their knowledge about spacing and limiting methods of family planning. While Table 15 provides the details of spacing method, findings on limiting methods are described in Table 16.

Self-disclosure about the spacing method was relatively low in Mangal Talavadi. Among the three common methods, higher proportion of respondents – 58% in Kumbhajini chali and 37% in Mangal Talavadi - were aware about oral pills. Overall around 39% respondents were aware about condoms and intrauterine devices like Copper T.  Being terminal methods of family planning, self-disclosure of awareness about sterilizations was almost absent. In fact, in Kumbhajini chali, quite a few of the respondents disagreed to it (Table 15).

Interestingly, there was not much of difference found in awareness about limiting methods as a high proportion of respondents also indicated spacing methods as options that can be used for limiting family size.  The three spacing methods were mentioned by more than 40% respondents as limiting method in their self-disclosure, as compared to only 10% and 12% who indicated male and female sterilization, respectively.

As can be seen from Table 16, self-disclosure about awareness of sterilization was relatively low in Mangal Talavadi (6.5) as compared to Kumbhajini chali. However, in Kumbhajini chali, around 8% women rejected male sterilization as a terminal method of family planning. Almost every respondent in both the slums – on their own or after probing - indicated spacing methods as methods for limiting family size. This clearly needs more exploration and attention.

## Table 15 Awareness about modern spacing methods for family planning (In %)

| Particulars | Agreed | Agreed with probing | Disagree with probing | Don't know |
|---|---|---|---|---|
| Kumbhajini Chali | | | | |
| Oral Pills | 57.8 | 39.1 | | 3.1 |
| Condoms | 40.6 | 57.8 | | 1.6 |
| Intra Uterine Devices | 46.9 | 51.6 | | 1.6 |
| Male sterilization (Vasectomy) | 3.1 | 79.7 | 14.1 | 3.1 |
| Female sterilization (Tubectomy) | 3.2 | 81.0 | 12.7 | 3.2 |
| Mangal Talavadi | | | | |
| Oral Pills | 37.1 | 62.9 | | 0.0 |
| Condoms | 35.5 | 64.5 | | 0.0 |
| Intra Uterine Devices | 32.3 | 66.1 | | 1.6 |
| Male sterilization (Vasectomy) | | 96.8 | 3.2 | 0.0 |
| Female sterilization (Tubectomy) | 1.6 | 95.2 | 3.2 | 0.0 |

## Table 16 Awareness about modern limiting methods for family planning (In %)

| Particulars | Agreed | Agreed with probing | Disagree with probing | Don't know |
|---|---|---|---|---|
| Kumbhajini Chali | | | | |
| Oral Pills | 50.0 | 48.4 | 1.6 | 0.0 |
| Condoms | 29.7 | 65.6 | 1.6 | 3.1 |
| Intra Uterine Devices | 50.0 | 48.4 | 1.6 | 0.0 |
| Male sterilization (Vasectomy) | 14.1 | 76.6 | 7.8 | 1.6 |
| Female sterilization (Tubectomy) | 17.2 | 79.7 | 1.6 | 1.6 |
| Mangal Talavadi | | | | |
| Oral Pills | 54.8 | 45.2 | | 0.0 |
| Condoms | 50.0 | 50.0 | | 0.0 |
| Intra Uterine Devices | 46.8 | 53.2 | | 0.0 |
| Male sterilization (Vasectomy) | 6.5 | 91.9 | 1.6 | 0.0 |
| Female sterilization (Tubectomy) | 6.5 | 91.9 | 1.6 | 0.0 |

A three-fourth of the respondents (75%) disagreed to the statement that 'there is no need of family planning till breastfeeding continues'. This clearly indicates good awareness about the fact that women may become fertile ahead of the return of their period during the postpartum period. However, only 48% disagreed with the use of oral contraceptive pills, which is contra-indicated during breastfeeding.

Overall, around two-third respondents (64%) indicated that there must be an interval of at least three years between two births. Another 31% indicated 2 year period for the purpose. No inter-slum difference was observed in this.

Around one-fourth (23%) respondents (15% in Kumbhajini chali and 30%

in Mangal Talavadi) indicated that they were planning for an additional child within next two years. Interestingly 23% 'currently pregnant' women in Mangal Talavadi and 13% in Kumbhajini chali also indicated that they are planning to have additional child in next two years.

Those who were not currently pregnant were asked about their current use of family planning. Around 68% of all respondents did not indicate use of any family planning method, followed by one-fifth of respondents who indicated use of condoms. The lack of use of family planning was also higher among women who indicated that they did not plan for a child in next two years. This clearly indicated unfelt need for family planning and must be explored further.

As for the decision-making about family planning methods, only 4% women in Mangal Talavadi – as compared to 33% in Kumbhajini chali – indicated that they decide upon the issue on their own. However, nearly two-third women (65%) in Mangal Talavadi mentioned that respondent and her husband jointly decide about the use of family planning methods. This pattern also gets endorsed by the fact that 87% women in Mangal Talavadi indicated that they discuss family planning issues with their husbands, as compared to 78% in Kumbhajini chali.

## Vaccination

All the respondents in Mangal Talavadi and 98% in Kumbhajini chali have heard about child vaccination. Of those women who had at least one child, around 8% women indicated that their last child did not have any vaccine through injection. This was as low as 3% in Kumbhajini chali and around 12% in Mangal Talavadi. More than 85% women reported to have vaccinated their child for 1-5 times. Amidst massive polio vaccination drive, around 3% women in Kumbhajini chali and 6% in Mangal Talavadi indicated that their last child did not have any oral vaccines.

There was very high awareness about vaccination for pregnant women and more than 85% women in both the slums indicated 1-3 doses of such vaccines. However, 7% women indicated that they did not have any such vaccines during their current or last pregnancy.

### Menstruation and Anaemia

More than three-fourth respondents (76%) in Kumbhajini chali and

95% in Mangal Talavadi indicated that women in their locality use cloth/towel during menstruation. In Kumbhajini chali, only 18% reported the use of purchased sanitary pads. It was only 3% in Mangal Talavadi. Nearly one-third (34%) women in Kumbhajini chali indicated that they have actually purchased a sanitary pad during a year preceding the survey. This was abysmally low at 6% in Mangal Talavadi.

Only 40% women in both the slums mentioned that they have heard about anaemia; this was relatively lower at 37% in Mangal Talavadi. This definitely needs further exploration and intervention. Of those who have heard about anemia, around 28% reported to be anemic at any point in their lives. When asked about the symptoms, three prominent symptoms as mentioned by the respondents were a) Dizziness, b) Pale skin, and c) Easy fatigue and loss of energy.  Lack of nutritious diet was appropriately mentioned as a reason for anemia by most of the respondents.  Intake of green leafy vegetable and other nutritious food was mentioned as a means to prevent anaemia.

Annexure – 4
# Endline Report

# BASELINE ASSESSMENT OF KNOWLEDGE AND PRACTICES OF SELECTED HEALTH ISSUE IN SLUMS OF AHMEDABAD

Submitted to

## Darpana for Development
(An activity of Karmkshetra Education Foundation)

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# CHAPTER 1
# BACKGROUND

**Introduction**

Urbanisation i.e. proportion of population living in urban spaces – is increasing rapidly across the world. It is estimated that more than half of the world's population (54%) is living in urban areas, as of 2014. This is close to doubling in six decades, from an estimated 30% in 1950. Asia has relatively low level of urbanization at 48%. However, from the perspective of the rate of urbanization, i.e. the average annual rate of change of the percentage urban population, Asia stands highest among all regions with 1.5 percent increase per annum.  Two Asian countries i.e. China (758 million) and India (410 million) account for nearly one-third (30 %) of the world's urban population.  As of 2014, India has 32 percent population living in urban areas, up from around 27.8% in 2001 and 31.2% in 2011.

The Slum Area Improvement and Clearance Act, 1956 defines slum as residential areas where dwellings are in any respect unfit for human habitation by reasons of "dilapidation, overcrowding, faulty arrangements and designs of such buildings, narrowness or faulty arrangement of streets, lack of ventilation, light, sanitation facilities or any combination of these factors which are detrimental to safety, health and morals".  However, the census of India categorizes slums into three categories of a) Notified slums, b) Recognized slums, and c) Identified slums. While in earlier census, only the former two categories were counted, in census 2011, Identified slums were categories as "compact area of population of at least 300 persons or about 60-70 households of poorly built congested tenements, in unhygienic environment usually with inadequate infrastructure and lacking in proper sanitary and drinking water facilities". These areas are not registered or notified by the state or local or government department or slum/housing board. However, such areas are personally inspected and identified by Directorate of Census Operations. According to the Census, slum population is almost equally divided into these three categories. While certain states like Haryana and Jharkhand show more people in identified slums than in notified or recognized slums, there

are certain states like Gujarat and Rajasthan show entire slum population in indentified category making all the slum dwellers unrecognized by the state governments. The non-notified status of slums renders them extremely vulnerable owing to the barriers to legal rights and basic services such as water, sanitation and security. Evidence also suggest that slums which are not notified by governments have relatively poorer health outcomes as compared to their other urban poor counterparts.

Despite the comparative advantage of cities, urban areas are more unequal than rural areas and hundreds of millions of the world's urban poor live in sub-standard conditions in slums. With an increasing trend of urbanization, India too is experiencing issues that emerge from linkages of urban poverty and health of urban poor residing in slums in cities. Around 17.4% of urban Indians - amounting to around 65 million (up from 46 million in 2001) - live in slums across the cities of India[2] .

### Health in slums of India

The slum dwellers comprise of communities who are neglected and have limited access to various services that form the foundation of good health. Slum dwellers are exposed to poor health conditions, and their care-seeking and treatment seeking behaviour also gets affected by their poor socio-economic conditions. Additionally, various slum conditions like poorly structured and congested housing, no or compromised access to sanitation facilities, poor access to safe drinking water, rampant water stagnation, open sewers, and deficient garbage collection adds to their vulnerabilities towards infectious diseases (Sclar, Garau et al. 2005; Hazarika 2010). Slum dwellers cannot afford expensive treatment like their better-off urban counterparts,

[2] *There has been issue of dearth of reliable estimates of slum population in India. The two major sources of data are Registrar General of India (RGI) that conducts censuses and National Sample Survey Organization (NSSO) that conducts sample surveys of different kinds. Both these entities use different definition of slums and thus, provide different statistics. A dedicated committee was, therefore, established in 2008 to streamline the calculation, establish a methodology and provide with reliable estimates of slum dwellers in India. This committee on slum statistics and census provided its report in 2010 to the Ministry of Housing and Urban Poverty Alleviation. It provided with a definition of slum as follows: "a compact settlement of at least 20 households with a collection of poorly built tenements, mostly of temporary nature, crowded together usually with inadequate sanitary and drinking water facilities in unhygienic conditions". This Pranob Sen committee report projected that there would be more than 90 million slum dwellers in India However, as seen above the census 2011 estimates was much lower. However, there also had been another recent controversy about the estimates of slums and population living in slums. The estimates provided by NSSO indicated much lower figure of slum dwellers at 44 million across 8.8 million households, as of 2012. With the variation in these two estimates, one eighth to one-sixth Indian till live in slums. Even after taking the comparability issue in consideration, it can be safely said that India has a long way to go towards providing basic amenities to its entire citizen.*

and their access to government and donor-funded healthcare services is also limited as compared to their rural poor counterparts    It is well-established by now that the level of access to healthcare and health outcomes of urban residents is generally better as compared to their rural counter parts.  However, the urban average conceals wide socioeconomic disparities; when the urban averages are disaggregated, it is clear that urban poor, at times, perform worst than the rural averages.  Needless to say, most of the urban poor live in the slums. The slum dwellers remain inadequately addressed entity, not only from the perspective of poverty reduction efforts, but also from developmental interventions.  As a net effect, most cities across the world witness increased poverty, inequality, and exclusions over a period of time.

The National Family Health Survey (NFHS) 2005-06 presented interesting picture of disparities within urban India. For most of the health indicators, slum population fared equally bad, at times worse, than rural population.  As for the marriage and fertility parameters, more than half of the surveyed women aged 20-24 were married by 18 years of age, as compared to overall urban average of 28%. Furthermore, one-fourth of such women had a child before reaching their 18th birthday; such proportion was only 12% for average urban women, and lesser at 8% for urban-non-poor.  Similarly, only 54% urban-poor pregnant women had received 3 antenatal visits and 44% had institutional deliveries, as compared to 83% and 78%, respectively, among urban non-poor women.  As for the child survival interventions, 58% urban children received all recommended vaccinations, as compared to only 40% urban-poor children.  As for the health outcomes, the disparity can also be seen from the fact that nearly half of the urban-poor children were underweight for age, as compared to only one-fourth (26%) non-poor children. The prevalence of Anemia among urban-poor children (80%) was much higher not only to their non-poor counterparts (59%) but also from rural average (71%).  While proportion of children who had Diahhorea prior to the survey was almost similar across poor and non-poor categories, the poor had lesser access to health facility (55%), as compared to non-poor (69%). Similarly, while an urban average Infant Mortality Rate (IMR) was 42 per 1000 live births, the IMR among urban-poor was 55.  Although gender based disaggregation of such results is not easily available, there are studies to indicate that women slum dwellers are at the most disadvantaged position. The knowledge of and utilization of reproductive health care among women slum dwellers are far from

encouraging, and called for sustained interventions.

## Rationale for interventions

Owing to the emerging social dystopia in Indian cities, public health issues also need urgent attention, in addition to other developmental challenges. This is also important for planning better health and social infrastructure in rapidly urbanizing India. Currently, various urban health initiatives are focused on creating urban health infrastructures and treating the urban poor as passive receivers of interventions. However, there are evidences to show that such approaches do not work in isolation, in longer run.  Slum dwellers face isolation and social exclusion, as most of them are also moving population. Some slum dwellers are also excluded because they live in non-notified or unrecognized settlements and public health officials do not collect information on them.  Additionally, the lack of social security – and thus inability to pay for healthcare – jeopardizes the continuous provision to adequate healthcare.  There is thus a need to meaningfully involve the poor into the process of improvement of the living conditions under which they live. Such participation needs to be at such a large scale and beyond tokenism, so that it can improve population health. One such approach is to improve awareness about, and thus capacities of slum dwellers to respond to determinants of their health. One such approach is participatory theater.

Participatory theater as a mean of raising issues, exploring options and influencing behaviour through awareness generation, is being talked about for quite some time now.  "Theater of the Oppressed" (TO) technique uses theater as a vehicle for participatory social change. Developed by a chemical engineer-turned-theater artist named Augusto Boal, this technique activates the spectators to stop the performances, change the dramatic actions, tryout solutions, discuss plans for change, suggest different actions, and thus, ultimately train themselves for social action in real-life situations  .

This report is based on assessment of one such arts-based intervention that aimed at improving health awareness among slum dwellers of Ahmedabad through the use of participatory theater through Boal techniques.

CHAPTER 2
# ABOUT THE PROJECT

In this chapter, four aspects of the project would be introduced. They are a) details of slums of Ahmedabad as project site where the interventions were carried out, b) National Mission for Empowerment of Women (NMEW), an organisation of government of India which funded the project, c) Darpana for Development, an agency in Ahmedabad which developed and implemented the interventions and d) details of the project interventions.

## About slums of Ahmedabad

With population of 5.8 million in municipal corporation area and 6.3 million in urban agglomeration area in 2011, Ahmedabad is the largest city of Gujarat, and seventh most populous city in India.  The city - administered by Municipal Corporation – is divided in six zones and 64 administrative wards.

The phenomenon and statistics around urban poor in Ahmedabad pose an interesting picture. The workers of erstwhile mills used live in chawls or challis, which typically were rows of rooms with or without sanitary facilities.  The industrial crisis of the late-1980s led to closure of mills and further resulted into degradation of many of chawls to slums.  Most of the discussions on urban poor in Ahmedabad revolved around people who lived in these chawls as well as typical slum like dwellings. Proportion of slum dwellers (i.e. people living in slums and chawls)  in city have been increasing from 17% in 1971, to 21% in 1982, and further to 41% in 1991.  Official estimates of slum dwellers as a proportion of total population are 16% cent (46 lacs) in 1991, 26% (91 lacs) in 2001 and 13% (73 lacs) in 2010.  The decline in the magnitude of slum dwellers is due to de-notification of slums after its upgrading. The city health plan of Ahmedabad Municipal Corporation (AMC) puts the population estimate at 60.08 lacs in 2012, of which around 18% lives in slums. These 9.9 lacs people live in 2.29 lacs households spread across a total of 739 slum pockets.

According to the City Sanitation Plan, around 52,000 households in the city did not have individual toilets, as of 2012. The plan estimated that

the city had more than 1800 community toilet blocks with more than 700 seats.  However, since locations of these toilets were unknown, it was difficult to ascertain its utility in serving the slum population lacking individual toilets. With around 500 identified open defecation sites, half of which has more than 50 people defecating in open in a day, the city poses serious sanitation related threat not only to the slum dwellers but all its citizens.

Ahmedabad with a tropical monsoon climate is hot and dry during most of the year. This climate makes the city one of India's hottest cities, and heat poses a significant public health challenge during the summer months of March-May. Owing to serious health effect of health, especially on the slum population living in areas of higher population density with compromised safe water access, AMC has launched pilot the first heat-health action plan and early warning system in India. Additionally, the vector borne diseases such as Malaria, Dengue and Chikungunya are also endemic in Ahmedabad, and by now have been established as major public health concerns in the city  .  While more cases of malaria are reported during the monsoon season, the Dengue is being reported throughout the year, with more intensity in monsoon. Studies have indicated that poor living conditions, inadequate water supply and sewerage network facilities in slums of Ahmedabad are determinants of water related communicable diseases. Thus, apart from vector borne diseases, other major illnesses observed in the slums are Jaundice, Gastroenteritis, and Typhoid.  Even at the time of writing this report, there were severe outbreak of jaundice in chawls of certain parts of the city, in which more than 160 people were affected and four died. Clearly, Ahmedabad acutely faces urban health challenges and need public health interventions.

## About NMEW

India has been performing badly in human development and gender related human development since quite some time now.  Having gender-sensitive policy orientation in consideration, the Government of India launched National Mission for Empowerment of Women (NMEW) in 2010.

The Mission aims to strengthen overall processes that promote the all-round development of women.  The mission statement of NMEW reads, "The Mission aims at strengthening processes that promote

holistic development of women, gender equality and gender justice through inter-sectoral convergence of programmes impacting women, forging synergy amongst various stakeholders and creating an enabling environment conducive to social change". One of the mandates of the mission is to ensure inter-sector convergence. This involves coordination of various schemes/programmes of different central and state Ministries/Departments that are aimed at women's welfare and socioeconomic development. Very aptly named as Mission Poorna Shakti, the mission is oriented to provide 'single window service for all programmes run by the Government for Women under aegis of various Central Ministries'. One of the proposed convergence themes involves 'Health and Nutrition' of women and adolescent girls.

## About Darpana

Darpana for Development, an activity under the aegis of Karmkshetra Education Foundation, Ahmedabad is one of the recipients of the 45 thematic pilot convergence models that are initiated across India to demonstrate convergence of programmes and schemes at the grass root level.

Darpana Academy of Performing Arts was established in 1949 as a center for teaching and advancement of classical dance and music in Ahmedabad. With a strong belief in the power of dance and music in enabling effective communication for behavioural and attitudinal change, Darpana for Development was started in 1980 and to initiate dialogues on sensitive social issues. The department was later on merged with another department – Darpana Communication – to create 'Darpana for Change', a wing that works holistically towards using communication for development. All interventions of Darpana are carefully selected from five approaches that the organization has developed out of their expertise and decade long experiences. These approaches are a) peer education and training, b) training local folk artists, c) street theatre intervention, d) performances at mainstream venues, and e) television and films.

Over more than 30 years of its existence, Darpana has conducted more than 45 projects funded by various bilateral agencies, multinational organizations, and central and state governments. Through these projects, Darpana has reached to more than 12.5 million people across India. Thematic areas of Darpana interventions ranged across developmental arena from health, education, and environment to

gender and women empowerment, governance, and communal harmony. Within broad ambit of public health, Darpana has worked – through films, theater, puppetry, board games etc. – on a) reproductive health issues including family planning, menstrual hygiene and cervical cancer, contemporary issues of anemia, nutrition and female foeticide and emerging issues of non-communicable diseases like Diabetes. More details on Darpana for Change can be found at http://darpanaford.blogspot.in/.

## About the interventions

The project called 'Arts Interventions and Health Behaviour in Ahmedabad Slums' aimed to use innovative art-based techniques to generate awareness regarding healthy and hygienic behaviour among slum dwellers in Ahmedabad. The primary target audiences for these performances were pregnant women and women in child bearing ages; however, the interventions were aimed at slum community in general.

A total of seven performances were held at selected seven locations in a selected slum of Ahmedabad. Of these, four were performances each focusing on themes of a) Pregnancy and related issues, b) Hygiene, sanitation and related issues, c) Menstrual hygiene and related issues and d) Population control and family planning related issues. The rest three performances used Boal interventions. All seven performances were offered at seven different locations within the slum over a period of six months during April to October 2014.

# CHAPTER 3
# METHODOLOGY

This chapter includes details of various methodological aspects of the research project. While, it involves description of survey research methods, the details of slum selection are also elaborated below.

**Survey Methods**

A quasi-experimental study design that involved 'difference in difference' technique with pre-post comparison was selected for the research. The purpose of the intervention project was to reach out to the community with series of interventions so as to improve practices and behvaiour that lead to healthy lives. The intermediate goal of the intervention was to improve knowledge, attitudes and beliefs around selected health parameters. An impact evaluation research was attempted to measure the magnitude of this intermediate goal of increasing awareness of community after various contacts have been made through arts-based interventions. As discussed elsewhere, such research design is well-suited for evaluating health promotion interventions. For any impact or outcome evaluation, experimental study design would have been ideal; however, a pre-baseline assessment of slums was not available and thus, random assignment of slums was not possible in this research.

The two-phase research involved measuring the target population's knowledge, attitudes, beliefs, and behaviors 'before' the interventions (baseline assessment) and repeating the same measurement 'after' the community received the pre-determined set of seven performances (end-line assessment). The measurement involved surveys of slum dwellers to assess the baseline and end-line statuses of knowledge and practice parameters related to selected health issues in two slums, one of which received interventions. The data has been compiled using quantitative data collection tools. Questions were asked using the following variables (Table 1).
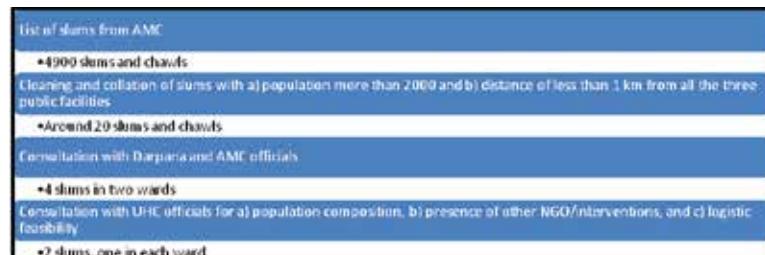
## Table 17 Details of research variables

| |
|---|
| Age, occupation, Education, Marital status, economic status of slum dwellers |
| Knowledge of common factors related to illness / diseases |
| Knowledge and practice about the correct approach to hand washing |
| Knowledge and practice about control of house fly |
| Knowledge and practice about control of mosquitoes |
| Source of help in hygiene, sanitation and health inputs |
| Knowledge and uptake of government schemes/services/facility/providers |
| Knowledge of and access to antenatal, natal and post natal care |
| Knowledge and practice regarding the correct approach to breastfeeding |
| Knowledge and practice regarding the correct approach to family planning |
| Knowledge and practice regarding the correct approach to vaccination |
| Knowledge and practice about control of anaemia |
| Exposure to interventions and recall of messages, songs, characters etc. |

### Study locations

For a quasi-experimental study that involved pre-post measurement in case and control study areas, it was decided to select two identical slums from different parts of Ahmedabad. Although detailed pre-baseline information was not available for slums in Ahmedabad, we undertook an exercise to select slums though systematic and consultative approach, details of which is depicted in Figure 1 and are described below.

Figure 1: Steps in selection of slums



List of slums from AMC
- 4900 slums and chawls

Cleaning and collation of slums with a) population more than 2000 and b) distance of less than 1 km from all the three public facilities
- Around 20 slums and chawls

Consultation with Darpana and AMC officials
- 4 slums in two wards

Consultation with UHC officials for a) population composition, b) presence of other NGO/interventions, and c) logistic feasibility
- 2 slums, one in each ward

The selection of slums for the arts intervention underwent a consultative process with implementation partners as well as officials of AMC. To begin with, a list of slums and their demographic details were explored from the AMC officials. After repeated efforts, a database of 4900 slums and slum-like agglomerates – spread across 62 MS Excel sheets - was availed. The database had important variables like a) Slum Area Name, b) Latitude and Longitude, c) Population and no. of households, d) Households With toilets, and e) location and distance of nearest Anganwadi, primary school and Urban Health Centers (UHC). The database underwent a much-needed collation and cleaning before using it to shortlist the slums. At the end of the data cleaning, there were 4820 slums with non-missing population figures. Next, it was decided to short list slums with a) population more than 2000 and b) distance of less than 1 km from all the three public facilities as mentioned above. The shortlisted slums were then presented to officials of Darpana and a medical officer of AMC for their inputs. This first level discussion resulted into zeroing on four slums – two each under the two distantly located UHCs i.e. Kubernagar UHC and Vasna UHC. The final selection of slums was based on inputs from the Medical Officers and Health supervisors of these UHCs on the basis of a) population composition, b) presence of other NGO/interventions, and c) logistic feasibility. Thus, at the end of this consultative process, 'Kumbhajini Chali' in Kubernagar ward was identified as intervention slum and 'Mangal Talavadi' in Vasna ward was identified as a control slum . These slums are geographically separated by around 13 Kms, and ensured minimization the spillover effects of the interventions. Below are details of these two slums.

Kumbhaji Ni Chali is served by Kubernagar UHC; out of the total 51 Anganwadi Centers (AWC) being run in the UHC coverage area, seven comes under Kumbhajini chali geographical area. Each of the seven AWC is located within narrow by-lanes within the slum. These AWCs are Navdurga ni chali, Jay khodiyar nagar, Sugar nagar, Hanuman nagar, Kumbhaji ni chali, Shivshakti nagar, and Jay yogheshwar nagar. The slum population of around 7000 comprises mainly of Patni, Tomar, Katheriya, and in-migrant communities from Uttar Pradesh and Bihar. However, there is a dominance of Patni community.

Mangal Talavadi comes under the purview of Vasna UHC, which is jointly run by AMC and an NGO called Akhandjyot Foundation. Out of 32 AWCs of Vasna UHC coverage area, two comes under Mangal Talavadi.

The slum has population of around 3000 comprise mainly of Dantani, Patni, and Vankar communities. Additionally, an adjacent slum of Sorainagar was also incorporated as study area so as to saturate the sample, as would be discussed in detail below. Sorainagar has three Anganwadi centers and has population of around 3500.

The two slums were found comparable during desk review across parameters like a) population size, population composition, c) occupation pattern among the dwellers, and d) access to AWC, primary school and UHC.  Also, these were suggested by medical officer of respective UHC as worst performing pocket within their coverage area. From baseline findings it was found that the slums were similar in a) source of drinking water, b) level and pattern of awareness about hand washing and mosquito breeding, c) television as source of information, and d) pattern of alcohol and tobacco.

However, there were stark differences in terms of awareness of health, hygiene and sanitation, as well as access to health services, with Mangal Talavadi performing worst. Although Kumbhajini chali was identified as an intervention slum before baseline assessment, the finding at the baseline survey indicated that the situation was far worse in Mangal Talavadi, as far as health, hygiene and sanitation, as well as uptake of government scheme were concerned.

Thus, with an ultimate objective of reaching out to the most disadvantaged population, and from programme efficiency and ethical perspectives, it was decided to spend the resources where they needed the most. An interchange of the intervention and control slum was agreed upon in the light of baseline findings. This meant that the arts-based interventions were implemented in Mangal Talavadi and Kumbhajini chali served as control slum, where no intervention took place.

### Survey population

The survey population included adult slum dwellers who reside in the area of Kumbhajini chali and Mangal Talavadi.  Data was collected from

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[3] *An important learning of the entire process was about the documentation of slum being maintained at the AMC; not only the database is difficult to get, it has incomplete and inadequate details of slum population. For example, the area of the intervention slum of Kumbhajini Chali comprises 3-4 slums identified in the database as separate slums. At the ground level, these slums do not have geographical boundaries and more or less operate as a unit.*

two kinds of households viz. a) Category-A: HHs with a woman who is either pregnant at the time of the survey or who has delivered during a year preceding the date of the data collection, and b) Category-B: Neighbouring household without any such history. While all category-A respondents were women, any adult consenting members of category-B HH were interviewed. Non-consenting individuals were not recruited for survey.

## Sample design

It was decided to interview 100 category-A HHs with current pregnancy or history of birth and an additional 200 HHs without such histories, from each of the two slums. Two neighbouring HHs of each of the category-A HHs were selected as category-B HHs. Thus, with a ratio of 1:2 for Category A and B HHs were added to make a total sample of 300 HHs. Thus, a total of 600 households were interviewed for baseline as well as end-line surveys. The sample size was determined based on logistical feasibility, and in consultation with the officials of NMEW and Darpana for Development.

The care was taken to equally distribute the sample across the slum area. This was assured by distributing the sample across the Anganwadi coverage areas. Non-probability snowball sampling technique was employed for selection of HHs. While the AWC register was used to locate the first category-A HH in each of the coverage area, the rest of the HHs in respective coverage areas were identified with the help of the respondents. Medical officers at the UHCs, and Anganwadi workers of respective AWCs were consulted and briefed about the research and requested to facilitate the recruitment of subjects.

House listing was carried out prior to both phases of the data collection. For the base-line survey, only 89 HHs with pregnant or nursing mothers could be reached in Mangal Talavadi area, and thus, nearby slum of Sorainagar was explored to saturate the sample. Therefore, 11 households were from Sorainagar in overall sample of Mangal Talavadi. During end line survey the proportion was 69: 31. The interventions were also accordingly spread across these two sub-intervention area.

While all attempts were made to visit and interview same households in baseline and end-line surveys, certain replacements were required. While 54 category-A HHs were traced and interviewed in end-line survey in Kumbhaji ni chali, the corresponding figure for Mangal

Talavadi was 39 HHs. One obvious reason was the fact that the respondents had a child elder than one year; baseline respondents who have surpassed the criteria of 'having delivered in last one year before the survey' were needed to be replaced. Three other common logistical reasons for high replacements were a) many of the pregnant women and nursing mothers who visited their parental home for first parity pregnancy were returned to their in-laws after delivery and were thus not available for interview at the time of end-line assessment, b) many slum residents who were living on rent have shifted their residence and thus, could be traced, and c) the end-line data collection happened around the festival of Diwali; many migrant residents of the slums were found travelling to their origin of residents and thus were not available for interviews. Few respondents from Mangal Talavadi were found to have moved out of the slum as well. There were rumor of demolition of the non-notified portion of the Mangal Talavadi slum, and that was one possible reason for movement of HHs out of slums.

The untraceable households were replaced with new pregnant women using AWC register. Additionally in Mangal Talavadi, locations of performances were also taken into account while identifying replacement households during end-line survey. Thus, relatively more HHs (31%) from Sorainagar was recruited for end-line survey as compared to baseline survey (11%). It was ensured that these HHs were selected through a similar procedure that was followed in Mangal Talavadi i.e. with the help of AWC register.

While there was around 12% of non-response rate in baseline survey, it was negligible in end-line survey. It can be concluded that team of investigators were well-received during the end-line data collection indicating the possible effect of rapport building.

### Data collection

The baseline survey was carried out over a period of two weeks during 2-17 May 2014. The end-line survey was conducted a week after the delivery of last intervention. The end-line survey happened in two phases during 16-28 October 2014. The data was collected using a structured questionnaire, details of which are being given below. The data were collected through interviews with the help of a questionnaire. All attempts were made to hold the interview one-on-one in a segregated space inside or near the home of the respondents. This ensured the privacy and confidentiality of the

respondents to a certain extent. While the baseline data were collected by a team of seven investigators, the end-line data was collected by four investigators. The data collection was monitored on-field by a data supervisor. Investigators and supervisors were trained specifically for the purpose. All the investigators had postgraduate level education and some prior experience of fieldwork in similar settings.

## Ethical consideration

An informed consent was obtained prior to the conduct of interviews. The verbal consents were used; each respondent was provided with a participant information sheet, which provided all necessary details. The questionnaire and written consent were translated into Gujarati. The respondents who refused to provide consent were not interviewed.

## Questionnaire

A structured questionnaire was administered in local language to assess the existing knowledge and practices regarding selected health issues and changes thereof, in the two slum areas (See Annexure 1 for copy of the questionnaires). A field level pre-testing was conducted before finalizing the instrument. Data was collected from individual respondents by the interview method. The category-A questionnaire consisted of 15 pages and took approximately 40 minutes to complete. The category B questionnaire was of around 8 pages and took around 20 minutes to complete. While the questionnaire consisted of three common sections covering the following areas, an additional section on experiences of health promotion campaign was added during end-line survey:

### Section 1: General information

Identification codes (site, respondent code, etc.)

Background information on socioeconomic and demographic details

### Section 2: Hygiene, Sanitation, and Water

Details on hand washing

Details of house fly and mosquito control

Details of consumption of addictive substances

Knowledge and uptake of government services

## Section 3: Reproductive and child health (Only for Category A)

ANC and Pregnancy

Breastfeeding practices

Family Planning

Vaccination

Menstruation and anaemia

## Section 4: Experience of health promotion campaign

Knowledge of health awareness performances, and attendance in them

Recall of the themes of the performances

Recall of characters from the performances

Recall of songs from the performances

Utility of messages from the performances

Awareness can be measured in binary variable as presence or absence of knowledge. The other approach to measure awareness is proactive expression of knowledge without probing as well as with probing. A good health promotion intervention must improve community member's confidence so as to express this awareness without probing. So as to enable measurement of such proactive expressions of awareness a novel approach was used in the questionnaire. All the knowledge questions were asked using four options for response viz. a) agreed without probing, b) agreed after probing, c) disagreed after probing, and d) do not know after probing. The idea was to solicit the proactive expression of awareness or lack thereof, which cannot be derived from a simple 'yes' or 'no' response. The investigators were trained accordingly to seek responses without revealing various options to begin with and record such positive responses with response option a), as mentioned above. After recording proactive responses, all other options were revealed and responses were recorded across response options b) to d), as mentioned above. It is important, therefore, to

reiterate that most of the knowledge results are reflection of 'proactive' expression and not that of absence or presence of awareness.

## Data management

The collected data were subjected to random field scrutiny to ensure optimal quality. All open-ended responses were translated into English and were quantified based on logical categories. The data were entered into specially designed software, using EPI-Info programme version 3.2. Attempts were made to minimize data entry error through inbuilt data entry check in the data entry programme. The entered data also underwent through cleaning. On-field verification of certain questionnaires was done after cleaning so as to ensure the optimal quality of the data.  The cleaned data were then analysed using MS Excel and STATA software version 12.

## Data Analysis

A basic Difference-in-differences (DID) or double difference estimation was done to measure the changes in intervention and control slums, between baseline and end-line surveys. In simple terms, DID involve comparison of a treatment and a comparison group (first difference), before and after the intervention (second difference).  The difference in difference is measurement of difference in average outcome in the intervention group before and after treatment, minus the difference in average outcome in the control group before and after treatment.

CHAPTER 4
# ANALYSIS

The chapter is divided in following sections viz. a) background details of respondents, b) knowledge of hygiene and sanitation parameters and changes in level of knowledge, c) knowledge of reproductive and child health parameters and changes in the level of knowledge, d) practice of hygiene and sanitation parameters and changes therein, e) practice of reproductive and child health parameters and changes therein, and f) experience of arts-based performances.

## A. BACKGROUND DETAILS OF RESPONDENTS

The average age of the respondents was 32 years in baseline survey as compared to 33 years in end-line survey. While the respondents of category-A questionnaires were all women, around 57% and 47% of respondents for category-B were also women in baseline and end-line surveys, respectively.   The respondents across slums were predominantly Hindu.

Among the two slums, Mangal Talavadi scored poorly on education performance; around one-third of HHs in this slum indicated no or only up to primary education, as compared to around 8% in Kumbhajini Chali. While Mangal Talavadi had only 6% HHs with graduate or higher level of education in end-line survey,  Kumbhajini Chali reported twice thereof.

An average household size was found to be slightly higher (6) in Kumbhajini Chali as compared to Mangal Talavadi (5.5).  Similarly, an average monthly income for Kumbhajini Chali (Rs. 8858 during baseline and Rs. 8100 during end-line survey) is slightly higher than that of Mangal Talavadi (Rs. 7340 during baseline and Rs. 6970 during end-line survey).

Manual labour work was major source of family income in both the slums. The next two classes of occupation were a) vendor and b) salaried employment. Among the vendors, major sub-category was a vegetable and fruit vendors; in both the slums, these were largely women of Patni community. The details of socio-demographic profile

can be found below as Table 2.

**Table 18: Socio-demographics of respondent households**

| Parameters | | Baseline | | End-line | |
|---|---|---|---|---|---|
| | | Kumbhaji ni chali | Mangal Talavadi | Kumbhaji ni chali | Mangal Talavadi |
| | | % | % | % | % |
| Age | Mean Age (years) | 30.6 | 32.7 | 32.3 | 33.0 |
| Gender | Proportion of women in category-B HHs | 64 | 49 | 52.5 | 41 |
| | Proportion of HHS headed by women | 11.7 | 12.7 | 9.7 | 9.7 |
| Education level | No education or up to 5 years of education | 7.7 | 35.7 | 8.0 | 36.7 |
| | 6-10 years of education | 54.0 | 51.7 | 58.3 | 49.3 |
| | 11-12 years of education | 20.0 | 7.7 | 19.3 | 8.0 |
| | 13 or more years of education | 18.0 | 3.3 | 14.3 | 6.0 |
| HH Size | Average Household size | 6.0 | 5.5 | 6.3 | 5.4 |
| Income | Average Monthly HH income (Rs.) | 8858 | 7340 | 8098 | 6970 |
| Occupation | Labourer | 38 | 45 | 40 | 38 |
| | Vendor | 30 | 29 | 23 | 21 |
| | Salaried employment (Job) | 19 | 18 | 20 | 26 |
| | Auto Driver | 7 | 4 | 9 | 7 |
| | Driver | 5 | 3 | 6 | 0 |
| | Others | 1 | 2 | 2 | 8 |

As for the type and ownership of dwellings, overall, more than 80 percent dwellings were owned by respondents; the proportion was relatively less for Kumbhajini chali. The distribution of housing across the type of dwelling was interesting.  Kumbhajini chali had all the houses were either Pukka or Semi-Pukka, as compared to Mangal Talavadi where majority houses were of semi-pucca types.  Major source of drinking water in both the slums was supply water. However, in Mangal Talavadi, sizeable proportion of houses (10% during baseline and 15% during end-line surveys) did not have a pipeline in their houses and were dependent on other sources for water.

Respondents were asked to report whether they purify water before using it for drinking purpose.  Overall in both slums, relatively higher proportion of respondents reported positively during end-line survey, as compared to baseline assessment. In Kumbhajini chali the proportion increased by 9 percent from 81% in baseline to 88% in end line estimates. However, in Mangal Talavadi, the proportion has gone up by

23 percent from 61% to 75% in baseline and end-line assessments, respectively. The most common method of water purification involved filtering it through a mechanical strainer.

## Table 19: Background details of households

| Parameters | | Baseline | | End line | |
|---|---|---|---|---|---|
| | | Kumbhaji ni chali | Mangal Talavadi | Kumbhaji ni chali | Mangal Talavadi |
| | | % | % | % | % |
| Residence | Proportion with own residence | 76 | 89 | 81 | 92 |
| Type of dwelling | Pukka house | 49 | 7 | 46 | 16 |
| | Semi pucca house | 50 | 88 | 52 | 77 |
| | Kuccha house | 1 | 3 | 2 | 6 |
| | Slum | 0 | 1 | 1 | 0 |
| Source of drinking water and purification | Pipeline | 93 | 84 | 99 | 84 |
| | Well | 0 | 2 | 0 | 0 |
| | Tube well/ hand pump | 6 | 3 | 0 | 1 |
| | No water source inside house | 0 | 10 | 0 | 15 |
| | Proportion of HHs reporting purification of water | 81 | 61 | 88 | 75 |
| Access to Toilet | Flush Toilet | 99 | 68 | 99 | 71 |
| | Open defeacation | 1 | 7 | 0 | 6 |
| | Community toilets - Sulabh Sauchalaya | 0 | 24 | 0 | 23 |

During baseline assessment, nearly all HHs in Kumbhajini Chali used a flush toilet for defecation as compared to only two third (68%) in Mangal Talavadi, where around 7% HHs reported open defecation and another 24% HHs reported the use of community toilet i.e. Sulabh Shauchalaya. During the end-line assessment, Mangal Talavadi reported 5% increase in use of toilet for defecation. The details can be seen as table 3.

Although the control and intervention slums were found to be different in various socio-economic status parameters, as was the case during baseline, the difference continued to be similar during the two time points of the surveys.

## B. KNOWLEDGE OF HYGIENE AND SANITATION PARAMETERS AND CHANGES IN LEVEL OF KNOWLEDGE

The respondents were asked a series of questions about knowledge of common factors related to different illnesses/diseases, and their determinants. As explain in the methodology section, the responses to these questions were recorded in four categories, with a presumption that agreement without probing indicates a higher level of awareness

as compared to agreement after probing. The results below are indicated in terms of proportion of respondents who proactively expressed their awareness of specific issues. The figures are not necessarily a true and complete reflection of level of awareness, something which could be better than mere proactive expression. Below is a discussion in level of awareness of such issues and changes therein.

## Awareness of factors affecting health

Respondents were asked about possible common reasons for illnesses in their locality. As can be seen from Table 4, four factors viz. a) consumption of contaminated outside food, b) unsafe drinking water, c) lack of proper hand washing, and d) water logging have seen positive improvement in the intervention slum over control slum and over intervention period.  The improvement in risk perception about unsafe drinking water in Mangal Talavadi can easily be corroborated with a corresponding increasing in proportion of respondents reporting some form of purification of drinking water, as seen in the previous section.

**Table 20: Proportion of respondents proactively mentioning possible reasons for illnesses in the community (%)**

| Particulars | Baseline | | End-line | | DD | p Value |
|---|---|---|---|---|---|---|
| | Control | Intervention | Control | Intervention | | |
| Consumption of contaminated outside food | 7.4 | 5.3 | 13.7 | 34.0 | 22.4 | 0.000*** |
| Unsafe drinking water | 46.2 | 21.7 | 38.0 | 30.3 | 16.8 | 0.002*** |
| Lack of proper hand washing | 2.0 | 0.3 | 6.0 | 20.0 | 15.7 | 0.000*** |
| Water logging | 36.1 | 54.7 | 42.3 | 71.0 | 10.1 | 0.073* |
| Malnourishment | 1.3 | 0.7 | 7.0 | 15.0 | 8.7 | 0.001*** |
| Scattered waste around households | 50.8 | 75.0 | 76.3 | 92.0 | -8.7 | 0.072* |
| Mosquito | 47.2 | 71.3 | 63.3 | 59.7 | -27.8 | 0.000*** |

At first instance, while it may appear that awareness about unsafe drinking water as a determinant of diseases has come down from 46% to 38% in control area, this is not the case. This figure reflects only proactive positive responses without probing. If one also adds positive responses after probing to this, the total proportion of respondents has improved from 95% to 98%. However, for the ease of better measurement of change in awareness, it was presumed that agreement without probing indicates a higher level of awareness as compared to agreement after probing. Thus, most of the results in

tables hereafter will only be presented with 'without probing' responses.

Respondents were also asked to report if they know of any waterborne or water related illnesses. Diahhorea, Cholera, Jaundice, Typhoid and Common fever were among the responses from those who indicated some awareness about such illness. The proportion of respondents who did not have any information on water-related or waterborne diseases has reduced significantly in Mangal Talavadi (from 70% to 43%) as compared to Kumbhajini Chali (from 56% to 41%). This comes to a statistically significant diff-in-diff (DD) of around 12% (p value= 0.028**).

## Hand washing

As for the importance of hand washing, all the respondents indicated that hand washing –with soap - is important.  Respondents were asked to reflect on occasions during daily routines when one must wash his/her hands. As can be seen from Table 5, more than 20% DID was observed for occasions of a) handling garbage, b) eating any food items (in addition to 'only meals'), and c) cooking. Decline in proactive expression of importance of hand washing after defecation clearly needs further investigation.

**Table 21: Proportion of respondents proactively mentioning importance of hand washing in occasions in daily routines (%)**

| Particulars | Baseline | | End-line | | DD | p Value |
|---|---|---|---|---|---|---|
| | Control | Intervention | Control | Intervention | | |
| After handling garbage | 28.9 | 36.8 | 25.3 | 62.7 | 29.5 | 0.000*** |
| Prior to eating any food items | 32.0 | 11.0 | 26.3 | 32.7 | 27.3 | 0.000*** |
| Prior to cooking | 58.0 | 55.7 | 71.7 | 93.7 | 24.3 | 0.000*** |
| After blowing nose, coughing/sneezing | 0.3 | 0.0 | 9.7 | 26.0 | 16.7 | 0.000*** |
| Before/after caring one's own wound/cut | 0.3 | 1.3 | 7.0 | 22.3 | 14.3 | 0.000*** |
| Prior to feeding children | 14.7 | 11.0 | 16.7 | 26.0 | 13.0 | 0.003*** |
| After changing sanitary pads | 0.3 | 0.0 | 5.7 | 17.3 | 12.0 | 0.000*** |
| After cleaning a child who has defecated/used toilet | 15.3 | 4.0 | 31.0 | 30.7 | 11.0 | 0.014** |

## Table 22: Existing sources of information regarding benefits of hand washing (%)

| Particulars | Baseline | | End-line | | DD | p Value |
|---|---|---|---|---|---|---|
| | Control | Intervention | Control | Intervention | | |
| Health awareness campaign | 15.3 | 1.3 | 1.33 | 61.3 | 74 | 0.000*** |
| Relatives/Friends | 56.7 | 33.3 | 24.3 | 23 | 22 | 0.000*** |
| Radio/television/newspaper | 86.7 | 85.3 | 92.7 | 97.7 | 6.3 | 0.057* |
| Government health workers | 48.0 | 76.7 | 39.3 | 43 | -25 | 0.000*** |

As for the source of information about benefits of hand washing, although popular media like Radio/Television/Newspapers continued to be the top source, health campaign has shown a huge – and statistically significant- improvement in Mangal Talavadi. The reduction in health awareness campaign in control slum could be reflection of the fact that while certain campaign was conducted before baseline survey, no such interventions were held in Kumbhajini chali during intervention period. The details can be seen from Table 6.

### House flies control and waste disposal

Overall, there was an improvement in proportion of respondents who indicated some knowledge about illness that are spread by house fly; the proportion has gone up in Mangal Talavadi with a diff-in-diff of 28% (p=0.000).

The mode of transmission of germs through house fly was found to be well understood by the respondents. Similarly, almost all respondents in both the slums indicated covering food items in the house as a prevention measure, as was the case with baseline survey too.

However, some misinformation of vector borne disease being spread through house fly was found. This reflected that respondents were unable to differentiate the health effects of housefly and mosquitoes, and the interventions seemed to have not made adequate effect in this context.

### Mosquitoes and vector borne diseases

A series of questions were asked about awareness of mosquito related illnesses, and mosquito breeding, and mosquito control activities. Below is the analysis of these sub-sections.

As can be seen from Table 5 below, awareness about Dengue and

Chikungunya have improved during the intervention period. The community who was exposed to interventions has reported 19% and 12% improvement over non-exposed community in Dengue and Chikungunya, respectively. This improvement was found to be statistically significant as well. A very high awareness about Malaria continued to be reported from both the sites; however, the DD of the improvement was not statistically significant.

**Table: Proportion of respondents proactively mentioning about illnesses caused by mosquito bites (In %)**

| Particulars | Baseline | | End-line | | DD | p value |
|---|---|---|---|---|---|---|
| | Control | Intervention | Control | Intervention | | |
| Dengue | 41.3 | 41.3 | 50.3 | 69.3 | 19.0 | 0.001*** |
| Chikungunya | 13.3 | 21.7 | 21.7 | 42.0 | 12.0 | 0.013** |

As for the information about mosquito breeding sites, statistically significant improvement was found for sites like a) open drainage, b) stagnated water in unused items like old tyre and plastic cups, and c) open garbage/trash. The details can be seen from Table 8 below. The improvement in intra-house site like stagnated water in unused household items is an encouraging sign. However, relatively less awareness about intra-house breeding sites like unclean water storage containers and canvas/plastic sheets was found during baseline as well as end-line surveys.

**Table: Proportion of respondents proactively mentioning about mosquito breeding sites (In %)**

| Particulars | Baseline | | End-line | | DD | p value |
|---|---|---|---|---|---|---|
| | Control | Intervention | Control | Intervention | | |
| Open drainage | 33.3 | 28.3 | 36.0 | 53.0 | 22.0 | 0.000*** |
| Stagnated water in unused items | 17.7 | 31.1 | 35.7 | 62.3 | 13.3 | 0.011* |
| Garbage/Trash | 66.0 | 71.7 | 62.7 | 80.3 | 12.0 | 0.022** |
| Canvas Sheet/ Plastic Sheet | 1.3 | 1.7 | 3.3 | 12.3 | 8.7 | 0.000*** |
| Stagnated water in ditches/puddles | 59.7 | 76.7 | 57.3 | 64.3 | -10.0 | 0.068* |

Table 9 below presents details of change in respondent's perception about prevention of mosquito bites. Statistically significant Improvement of awareness of found in use of mosquito net, and use of smoke to get rid of mosquitoes. Slight improvement was also observed in other low-cost option of covering body with full sleeve clothes as a

preferred method. There continue to be high awareness about the use of mosquito repellent liquid vaporizers and creams like Odomas.

## Table: Proportion of respondents proactively mentioning ways of protection from mosquito bites (In %)

| Particulars | Baseline | | End-line | | DD | p value |
|---|---|---|---|---|---|---|
| | Control | Intervention | Control | Intervention | | |
| Use of mosquito net | 43.8 | 30.7 | 28.0 | 42.0 | 27.1 | 0.000*** |
| Use of smoke | 37.3 | 46.0 | 49.3 | 78.0 | 20.0 | 0.000*** |
| Use of Mosquito spray | 21.3 | 11.7 | 13.7 | 21.3 | 17.3 | 0.000*** |
| Covering of body with clothes | 2.7 | 3.0 | 17.7 | 26.0 | 8.0 | 0.028* |

As for the source of information about benefits of mosquito control, health campaign has clearly shown a huge - and statistically significant - improvement of around 60% (DD) in Mangal Talavadi. The details can be seen from Table 10 below.

## Table 23: Existing sources of information regarding mosquito control (%)

| Particulars | Baseline | | End-line | | DD | p value |
|---|---|---|---|---|---|---|
| | Control | Intervention | Control | Intervention | | |
| Health awareness campaign | 20.3 | 2.3 | 1.7 | 43.3 | 59.7 | 0.000*** |
| Radio/television/newspaper | 86 | 87.7 | 96.3 | 96.3 | -1.7 | 0.601 |
| Government health workers | 57.7 | 73.0 | 46.3 | 46.3 | -15.3 | 0.008*** |

## Awareness about health services and schemes

Details were sought on inputs that the HHs received for a) health and sanitation, b) disease prevention, and c) vaccination from non-governmental sources. During the baseline survey, a miniscule or no presence of Non Governmental Organisations (NGOs) was observed in both the slums as far as information was concerned. However, as can be seen from Table 11 below, many respondents in Mangal Talavadi indicated that they received information on hygiene and sanitation (60% improvement), and disease prevention (48% improvement) from a non government source. Both these improvements were also found to be statistically significant.

**Table 24: Proportion of respondents indicating receiving inputs on selected issues from non-governmental organisations (In %)**

| Particulars | Baseline | | End-line | | DD | p value |
|---|---|---|---|---|---|---|
| | Control | Intervention | Control | Intervention | | |
| IEC on hygiene and sanitation | 1.7 | 1.7 | 0.7 | 60 | 59.3 | 0.000*** |
| IEC on disease prevention | 1 | 0.7 | 1.3 | 47.7 | 46.7 | 0.000*** |
| Services about vaccination | 1 | 0.3 | 5 | 0.7 | -3.7 | 0.015** |

With this discussion, below details of change in knowledge about various reproductive and child health parameters are discussed in detail.

### C. KNOWLEDGE OF REPRODUCTIVE AND CHILD HEALTH PARAMETERS AND CHANGES IN THE LEVEL OF KNOWLEDGE

In addition to the section on health, hygiene and sanitation, a section on reproductive and child health was offered to 100 women respondents in each slums. Below are summary of findings of these variables.

### Pregnancy and Antenatal care

Around 70% of these women had history of birth during end-line assessment, as compared to nearly two-third (65%) at the time of baseline survey. The intervention area of Mangal Talavadi had nearly three-fourth (73%) women respondents with history of births and the rest were pregnant at the time of both surveys.

No improvement in awareness about consumption of IFA tablets was found. Almost every respondent - irrespective of type of slum - indicated that they did not know about the optimal quantity of IFA tablets to be consumed during pregnancy.

When explored about the information on Mamta Card, a mother and child registration booklet, all respondents in Mangal Talavadi knew about the card during end-line survey as compared to 98% in Kumbhajini chali. There was a 9% improvement (p=0.028*) in case of women with a history of birth in Mangal Talavadi. No improvement in information about cash incentive was observed in either of the slums.

## Information about breastfeeding

Overall, improvement was found for early initiation of breastfeeding; more than 93% respondents in both slums have indicated that the newborn must be breastfed within four hours of birth.

An important positive finding was around disagreement to the administration of pre-lacteal food to the newborn. While higher proportion of respondents rejected the idea of administration of pre-lacteal food to newborn in both the slums, the difference was higher for Mangal Talavadi by 28%. Similarly, 56% higher improvement was observed for the disagreement to administration of water during the phase of exclusive breastfeeding. Only 41% respondent agreed to the knowledge of probability of conception during lactation period, as compared to around 80% during baseline survey. All these details can be seen in Table 12 below.

**Table 25: Proportion of respondents indicating agreement on importance of selected breastfeeding related issues (In %)**

|  | Baseline | | End-line | | DD | p-value |
|---|---|---|---|---|---|---|
|  | Control | Intervention | Control | Intervention | | |
| Disagreed to the administration of pre-lacteal food to newborn | 37 | 24 | 61 | 76 | 28 | 0.002*** |
| Disagreed to administration of water along with exclusive breastfeeding | 30 | 7 | 50 | 83 | 56 | 0.000*** |
| Probability of pregnancy during lactation | 67 | 80 | 65 | 41 | -37 | 0.000*** |

## Family Planning

Awareness on family planning has improved as the proportion of respondents who reported some information about family planning (FP) methods has gone up in both slums. An encouraging improvement in knowledge of spacing and limiting methods of family planning was reported in Mangal Talavadi.

**Table 26 : Proportion of respondents proactively mentioning spacing methods of family planning (In %)**

| Particulars | Baseline | | End-line | | DD | p-value |
|---|---|---|---|---|---|---|
|  | Control | Intervention | Control | Intervention | | |
| Oral Pills | 57.8 | 37.1 | 57.5 | 67.7 | 31.0 | 0.007*** |
| Intra Uterine Devices | 46.9 | 32.3 | 41.4 | 68.8 | 42.1 | 0.000*** |

As can be seen from Table 13, self-disclosure about spacing methods like Oral pills and Intra Uterine Devices (IUDs) like copper-T have gone

up in Mangal Talavadi. However, there continues to be confusion on differentiating two methods as far as terminal methods for family planning is concerned.

## D. SELECTED PRACTICE PARAMETERS OF HEALTH AND HYGIENE

While the arts-based intervention may directly affect the level of awareness, its ultimate aim remains the change in the practice and behaviour of the community. Below is the analysis of such selected practice parameters.

During the baseline survey, a higher proportion of respondents in Kumbhajini Chali (85%, as compared to 65% in Mangal Talavadi) indicated that they wash their hands at least thrice a day. The proportion was found to have reduced in both the slums. In Mangal Talavadi, 7% respondents continue to indicate that they do not wash their hands even once a day. The majority of the respondents indicated use of soap and water for hand washing. However, no improvement was found in method of hand washing.

Practices of child feces disposal were also explored. Overall, safe disposal of child feces – either child using the toilet or feces is flushed in toilet – has improved in both the slums. The improvement was relatively more in control slum. This finding, however, needs to be dealt with caution as the intervention slum has lesser proportion of household with access to toilet inside their houses.

Finally, the utilization of all government facilities has either improved or remained at the baseline level. Utilization of Anganwadi center and Anganwadi worker has improved in Mangal Talavadi over Kumbhajini chali by 15% and 12%, respectively. The negative change in utilization of the services of link worker, as can be seen from Table 14, is largely because of improved services in control slum.

**Table 27: Proportion of respondents with knowledge of selected government services/facility/providers indicating utilization thereof (In %)**

| Particulars | Baseline | | End-line | | DD | p-value |
|---|---|---|---|---|---|---|
| | Control | Intervention | Control | Intervention | | |
| Anganwadi centre | 82.4 | 63.6 | 68 | 63.9 | 14.8 | 0.014** |
| Anganwadi worker | 82 | 71.7 | 82 | 83.7 | 12 | 0.038** |
| Link worker | 57.6 | 95.5 | 83.2 | 94.3 | -26.8 | 0.000*** |
| Urban Health Centre | 70.6 | 83.4 | 55.7 | 82.3 | 13.8 | 0.015** |

## E. SELECTED PRACTICE PARAMETERS FOR REPRODUCTIVE AND CHILD HEALTH

More than 90% women in both the slums came to know about their current or last pregnancy within the first trimester. Similarly, a majority of women also sought some form of medical care during their current or last pregnancy. The choice of provider is largely restricted to a private doctor (55% in baseline and 40% in end-line surveys) and government doctor (44% in baseline and 60% in end-line surveys); reliance on government provider has increased in both the slums.

Respondents who met a health care provider were asked about the details of their visits. During baseline survey, the control slum performed badly as only 31% respondents visited healthcare provider within 7 weeks of pregnancy, as compared 40% in intervention slum. While Mangal Talavadi has maintained the proportion at 42%, the control slum has seen huge improvement to 74%. It is vital to note here that Kumbhajini chali has recently been provided with a fulltime functional link worker, who was absent during and preceding a year or so from baseline survey. The improvement in various indicators at control slum need to be seen with this improved health system presence. No improvement was recorded in any other maternal health parameters.

### Family Planning

The women who were not currently pregnant were asked about their current use of family planning. Around 68% of all respondents did not indicate use of any family planning method, followed by one-fifth of respondents who indicated use of condoms. The lack of use of family planning was also higher among women who indicated that they did not plan for a child in next two years.

### Vaccination

All the respondents in Mangal Talavadi and Kumbhajini chali have heard about child vaccination as well as vaccine for pregnant women. Of those women who had at least one child, there was no improvement reported in terms of proportion of children who were vaccinated either orally or through injection. Similarly, no improvement was reported in administration of vaccination to pregnant women

## Menstruation

An encouraging finding was reported in terms of use of sanitary pads. In Mangal Talavadi, around 15% improvement (DD, p=0.007) was found in proportion of respondents who indicated that women in their locality use sanitary pads during menstruation. On the other hand, around 36% improvement (DD, p=0.000) was found in proportion of respondents who have actually purchased a sanitary pad during a year preceding the survey. In Mangal Talavadi, this proportion has improved from a meager 6% in baseline to nearly one-fifth (19%) during end-line assessment.

## F. EXPERIENCE OF PERFORMANCES

During the end-line survey, details on experiences of health awareness campaign were explored for both the slums. Expectedly, all the respondents in control slum indicated that they did not know about any heath awareness campaign in their locality during six months preceding the survey.  On the other hand, 98% respondents in Mangal Talavadi indicated that they knew about the performances.  The proportion was slightly lower at 95% for category-A respondents, who were women with recent history of pregnancy or delivery (Chi2=6.8, p=0.009).

When explored about them attending or watching such performances, more than 61% respondents indicated they have seen at least one performance. Again, for category A respondents, this was down to 51%. The common reasons for not being able to watch even a full performance were a) household chores, and b) nursing responsibilities of the newborns.   The distribution of frequency of attending performances can be seen in Graph 1.
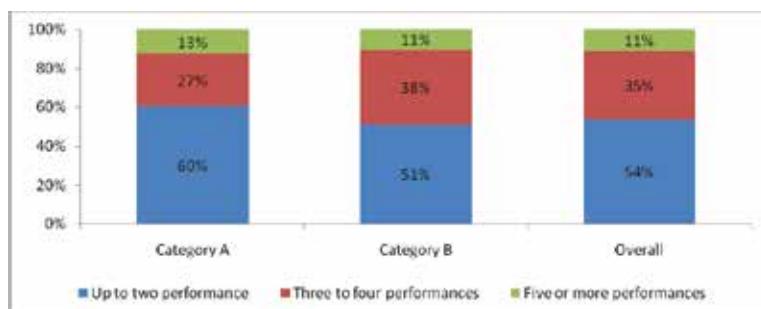


Graph 5: The distribution of frequency of attending arts-based performances in Mangal Talavadi

Pearson's chi-squared test was used to measure differences in attending the arts-based intervention performances with various sub-groups of determinants. As can be seen from Table 15, a statistically significant difference was observed only for a) type of respondents, b) type of dwellings and c) access to toilet.

## Table 28: Sub-group differences in respondents attending the performances (In %)

| Variable | Categories | No intervention | At least one intervention | Chi2 |
|---|---|---|---|---|
| **Type** | Nursing or Pregnant women | 49.5 | 50.5 | 6.93** |
| | Others | 33.5 | 66.5 | |
| **Gender** | Male | 43.9 | 56.1 | 0.24 |
| | Female | 39.0 | 61.0 | |
| **Education level** | No education or up to 5 years of education | 36.7 | 63.3 | 3.13 |
| | 6-10 years of education | 37.9 | 62.1 | |
| | 11-12 years of education | 37.5 | 62.5 | |
| | 13 or more years of education | 58.8 | 41.2 | |
| **HH Size** | Average Household size less than 5 | 37.4 | 62.6 | 0.29 |
| | Average Household size less than 5 | 40.5 | 59.5 | |
| **Occupation** | Labourer | 36.8 | 63.2 | 5.46 |
| | Vendor | 0.0 | 100.0 | |
| | Job | 41.0 | 59.0 | |
| | Auto Driver | 44.6 | 55.5 | |
| | Driver | 26.1 | 73.9 | |
| | Others | 31.3 | 68.8 | |
| **Residence** | Own residence | 38.2 | 61.9 | 0.33 |
| | Rented residence | 44.0 | 56.0 | |
| **Type of dwelling** | Pukka House | 46.8 | 53.2 | 10.53** |
| | Kuccha-Pukka House | 34.5 | 65.5 | |
| | Kuccha house | 66.7 | 33.3 | |
| | Slum | 100.0 | 0.0 | |
| **Source of drinking water** | Pipeline | 41.3 | 58.7 | 5.65 |
| | No water source inside house | 27.3 | 72.7 | |
| **Access to Toilet** | Flush Toilet | 38.8 | 61.2 | 5.24* |
| | Open defeacation | 15.8 | 84.2 | |
| | Community toilets - Sulabh Sauchalaya | 44.8 | 55.2 | |

## Recall of performances - themes

As can be seen from Table 16 below, more than 90% of respondents who have seen the performances could recall about performances of water, sanitation and hygiene issues. This included issues of breeding of mosquitoes and house flies. Around 70% of the respondents indicated this topic proactively without probing.  Around 81% of respondents

indicated 'pregnancy related issues' with or without probing. Only one-third respondents could recall about menstrual hygiene and family planning; however, after probing, the proportion went up to more than three-fourth. Nearly one-fourth of respondents either disagreed to or didn't know of menstrual hygiene as a topic of any performances. All the proportions – except for menstrual hygiene - were on lower side for category A respondents.

**Table 29: Proportion of respondents indicating the themes of intervention performances**

| Particulars | Agreed | Agreed with probing | Disagree with probing | Don't know |
|---|---|---|---|---|
| Water and sanitation hygiene | 70 | 21 | 3 | 6 |
| Pregnancy related issues | 41 | 40 | 7 | 12 |
| Family planning related issues | 37 | 42 | 8 | 13 |
| Menstrual hygiene | 36 | 40 | 7 | 17 |

## Recall of performances – characters of performances

When asked about the characters played during the performances, around three-fourth respondents proactively mentioned Doctor, and the central character of Goat. As can be seen from Table 17 below, around one-third respondents proactively mentioned about Manjula and Gauri as well. There was no major difference between categories of the respondents.

**Table 30: Proportion of respondents indicating the characters of performances**

| Particulars | Agreed | Agreed with probing | Disagree with probing | Don't know |
|---|---|---|---|---|
| Doctor | 77.2 | 18.9 | 2.2 | 1.7 |
| Bakari | 72.8 | 24.4 | 0.6 | 2.2 |
| Manjula | 44.4 | 52.2 | 2.2 | 1.1 |
| Gauri | 36.1 | 57.8 | 2.2 | 3.9 |
| Alel Tappu | 7.8 | 67.2 | 13.9 | 11.1 |
| Bardan | 7.2 | 67.2 | 13.9 | 11.7 |

## Recall of performances – songs

Of all the respondents who have seen at least one performance, around 57% could recall at least one song. Of all 197 song recall entries reported, more than two-third (70%) was about the theme song called 'Socho socho kuchh to socho'. Around 8% recall was about the song on purification of water i.e. 'ek be tran char pad valay' Seven percent each

was reported for pregnancy song ('Suvavadma tu darti na behna') and population control song ('Dhakka mukki chale'), respectively. Lastly, 'Manjula O Manjula' song was reported by some 10 respondents. Among category A respondents, around 10% could recall the pregnancy song, as compared to only 5% among others.

### Table 31: Distribution of self-reported health information received from the performances

| Details of health information | Proportion (In %) |
|---|---|
| **Hygiene and Sanitation related** | **32.93** |
| Importance of cleanliness | 27.54 |
| Harm effects of open defecation | 3.89 |
| Importance of food hygiene/personal hygiene | 1.50 |
| **Family planning related** | **19.16** |
| Family planning – Spacing | 7.78 |
| Family planning – General | 4.79 |
| Family planning – Condom | 2.40 |
| Family planning - Sterilization | 2.10 |
| Family planning - Copper T | 2.10 |
| **Pregnancy and delivery related** | **12.87** |
| Care during pregnancy - nutritious food | 4.49 |
| Care during pregnancy -ANC check ups | 3.59 |
| Institutional delivery | 2.99 |
| Care during pregnancy - rest/IFA tablets/Vaccination | 1.80 |
| **Menstrual hygiene** | **10.48** |
| Menstrual hygiene | 6.59 |
| Menstrual hygiene - avoid discrimination | 1.50 |
| Menstrual hygiene - rest | 1.20 |
| Menstrual hygiene - pads | 1.20 |
| **Water related** | **9.28** |
| Importance of water purification - proper filtration | 5.39 |
| Importance of water purification - Boil the water | 3.29 |
| Importance of water purification - proper filtration through 8 folds | 0.60 |
| **Importance of Hand washing** | **5.39** |
| Hand washing | 3.89 |
| Hand washing - soap | 1.50 |
| **Others** | **5.39** |
| **Mosquito control related** | **3.59** |
| **Breastfeeding related** | **0.90** |

Of the 344 messages that were received during the performances, 33% were related to hygiene and sanitation. For category A respondents, this was slightly at a lower side of 28%. This subset of message was largely dominated by messages of importance of cleanliness (28%), followed by harm effects of open defecation (4%).

The second largest segment of useful messages was related to Family planning (19%). Fro category A, this was slightly higher at 22%. This subset included specific messages related to importance of spacing between children (13%), condoms (2%), copper T (2%) and limiting the size of family (2%).

Some 13% messages were about matters related to pregnancy and delivery.  This was down at 6% for category A respondents. Three percent of these were about importance of institutional delivery. The other included care during pregnancy in terms of nutritious food (5%), ANC checkups (4%), etc.

Around 10% messages were about menstrual hygiene (15% among category A respondents), which also included importance of use of sanitary pads, rest during periods, and avoiding discrimination towards menstruating women.  Another 9% messages were about importance of water purification (14% for category A respondents), which included use of cloth for purification as well as boiling of drinking water before use. Two respondents indicated the message of filtering drinking water through 8 layers as well. Around 5% messages were about importance of hand washing and 4% on importance of mosquito control efforts.

# CHAPTER 5
# SUMMARY AND DISCUSSION

This report is based on a research conducted to assess the effectiveness of a series of arts-based health awareness interventions that aimed at generating awareness regarding healthy and hygienic behaviour among slum dwellers in selected slum of Ahmedabad. Although the interventions were aimed at slum dwellers in general, the primary target audiences for these performances were pregnant women and women in child bearing ages. The two-time point data collection was carried out in terms of baseline survey and an end line survey, at a distance of around six months. During the intervening six months, series of street performances using 'Participatory Theater through Boal technique' were carried out. The content of the performances were based on the findings from baseline research.

A 100 HHs with current pregnancy or history of birth, and an additional 200 HHs without such histories, from each of the two slums were sampled for data collection in baseline as well as end-line surveys.

Health and Hygiene

A positive and significant improvement was observed in Mangal Talavadi for proactive expression of certain possible common reasons for illnesses. Improvement in importance of safe drinking water was also reported. There was also a statistically significant decline in proportion of respondents who 'did not know' about water borne diseases. The importance of hand washing was corroborated with reflections on occasions during daily routines when one must hand his/her hands. However, no improvement was found in the practice of hand washing.

Health campaign as a source of information for importance of hand washing in Mangal Talavadi has clearly seen an improvement over control slum.

There was some improvement in awareness about illnesses that can potentially be spread through house flies. As for the information on vector borne diseases, along with high awareness of malaria, some

improvement in awareness on Dengue and Chikungunya was recorded. Significant improvement was observed for in the knowledge of various mosquito breeding sites.  For breeding place elimination, while some improvement was measured for means like a) 'preventing water stagnation' and b) 'keeping water container covered', no change was found for 'Change water regularly in water tanks', a common method being propagated by public health professionals.  The improved knowledge of mosquito net was not corroborated by improved use of mosquito net.

Health campaign was mentioned as a source of information about benefits of mosquito control. This further gets strengthened by statistically significant improvement in NGO as a source of information on hygiene and sanitation, and disease prevention.

### Reproductive and child health

No change was reported in care seeking during pregnancy, as well as in the pattern of choice of providers.  As for the frequency of ANC visits, there has been overall improvement in both the slums, with marginal increase in control slum, which could be because of the presence of a full time link worker.

Knowledge about breastfeeding saw a mixed response. No improvement was found for early initiation of breastfeeding as well as in administration of colostrums to newborn. However, an improvement was found for disagreement to administration of pre-lacteal food to new-born and water during the phase of exclusive breastfeeding.

As for knowledge of family planning, some improvement was reported in knowledge of spacing and limiting methods of family planning. Higher improvement was found for IUDs and oral pills, among spacing methods.  An encouraging finding was reported in terms of knowledge and use of sanitary pads in Mangal Talavadi.

As for the performances, while most of the respondents have heard about performances, around three-fifth have also seen at least one performance. A relatively higher recall was observed for performances on health and hygiene, and pregnancy and delivery.  Among the characters, doctors and goat were recalled by most of the respondents, followed by Manjula and Gauri. Of around three-fifth respondents who could recall songs, the theme song – 'socho socho' was recalled by

majority of the respondents. Hygiene and sanitation, family planning, and care during pregnancy were the core messages received by the community.

## Discussion

The findings clearly suggest information improvement in selected health and hygiene parameters in Mangal Talavadi. Information on infection being spread by house flies and vectors and mitigation thereof have seen some improvement. The diff-in-diff analysis also points to the fact that such improvements are over the control area over intervention period. Three parameters of sources of information also point to 'health campaign' by a non-governmental organisation. This further endorses the effectiveness of Darpana interventions.

While information about selected parameters has improved, no evidence was found to claim that it has led to positive changes in practice as well. Findings around hand washing after defecation, and handling of child feces are reflection of this.

There are some grey areas where the improvement could not be established. These include ability to differentiate between a) water-borne diseases and vector borne diseases, and b) spacing and limiting methods of family planning.

While health awareness information are showing to improve health awareness, such efforts needs to be continued and mainstreamed. A sustained efforts can not only improve awareness, but can ultimately feed into behaviour change, something which ultimately can lead to adoption of healthy practices.

Lastly, there needs to be a note on the limitation of this research. An ideal impact evaluation would involve more than two points of data collection, which was not possible in this research. Also, in absence of pre-baseline data, the selection of slum was resulted in difference in socio-economic status among households of the slums. This can affect the change in outcome. A more robust, propensity score matching estimation can yield better result for impact evaluation. However, with limited time and resources, the quasi-experimental study design, and diff-in-diff analysis over control and treatment, has yielded results, which are optimal, if not ideal.