# Tribal Area Development Program (TADP):

# WATSAN

## The Flow of Change in Gujarat

TATA WATER MISSION

CInI

Collectives For Integrated Livelihood Initiatives


WASMO
TATA WATER
MISSION

# Foreword

Dear Reader,

We are happy to present to you our **Drinking Water - Sanitation Programme** (WATSAN) **Report** for Dahod, Gujarat. Collectives for Integrated Livelihood Initiatives (CInI), with the goal of making a sustainable difference in the quality of life of rural and tribal communities in Central India, has been implementing the Drinking Water - Sanitation programme since 2015.

Through its Lakhpati Kisan programme, it has been working towards ensuring the small and marginal farmers become Lakhpati families in an irreversible manner. Safe drinking water and sanitation facilities are basic necessities in the rural and tribal geographies. However, these basic necessities are still far-fetched for most families. One of the key areas where income gets spent is on health services due to the high incidence of waterborne diseases. To address this critical challenge, CInI has worked on an approach of layering the drinking water – sanitation interventions within the same clusters wherein Lakhpati Kisan is being led by the communities.

As part of the overall approach, focus has been on promoting safe drinking water, open defecation free hamlets/villages, school sanitation, menstrual hygiene management, and waste management through biogas plants. Technological integration has been key to these interventions, along with ensuring that the community owns and manages the interventions through their village-level water management committees. These programmes ensure the inclusion of hygiene practices at every level within rural-tribal communities, thus ensuring quality of life for all.

The report highlights the approach, learnings, challenges, and outcomes of the programme and the proposed way forward being led by the communities.

We sincerely thank you all for being part of the programme's journey, and request your continued support and guidance to ensure we meet the aspirations of the communities towards enhanced quality of life.

Yours truly,
**Ganesh Neelam**
Executive Director

## Subheccha Sandesh

Dahod is a tribal district. Its geography is characterised by hilly terrain and the tribal population lives in scattered habitations. Along with the challenges these bring, the implementation of Swachh Bharat Mission (SBM) in Dahod has multi-pronged challenges like low awareness of sanitation among the community, low willingness to construct and use toilets, and lack of technical knowledge about toilet construction.

In this regard, Collectives for Integrated Livelihood Initiatives (CInI) has supported the SBM in Dahod as Development Support Partners. Through their programmes, they have demonstrated a good example for the promotion of sanitation and achievement of ODF status at hamlet level in Dahod - especially in Limkheda block.

We appreciate the continued effort and contribution of CInI in Dahod towards improving the capacities of SBM and the water committees at the hamlet level.

We wish them all the best.

Thank you.
Yours,

C.B.Balat (GAS)
Director
District Rural Development Agency
Dahod

## Message from WASMO

Gujarat, and Dahod in particular, comes with certain developmental challenges. Industries are absent and the poverty level is relatively high. Undulating topography, scattered population, and scarcity of water resources makes it difficult to maintain cost-effective and even distribution of water.

While WASMO handles the technical aspect of water schemes, CInI works at the root level to bring about a change in the mindset because if the mindset doesn't change, then nothing changes. Apart from facilitating diverse and effective schemes, they are able to reach the remote areas in the villages of Dahod, build a rapport with the people who live in the locality, and obtain their willing consent for these schemes.

This is important considering how scattered the households are in terms of location and relationships, even within the same hamlet. Due to this, conflicts over sharing resources are common. For any scheme to work, it's important to help these communities come to a mutual understanding; to change mindsets that focus on immediate benefits to ones that embrace growth, mutual benefit and capacity building. CInI plays a valuable role not only by guiding people in the right direction, but also facilitating multi-layered schemes which address the issues of water, livelihood and women's health, sustaining the schemes with behavioural change programs, and providing exposure visits from peers which reduces the community's isolation and makes them part of a larger progressive movement.

In this regard, CInI has and continues to do a good job.

**RK Patel**
Executive Engineer and Unit Manager
Water and Sanitation Management Organisation
(WASMO)

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# GOAL OF WATSAN

To ensure the availability of safe, sufficient drinking water round the year for every household at their doorsteps to improve sanitation, and hygiene practices; hence improving the health of the families in rural-tribal areas.

# Overview

Despite the rich vegetation and rainfall in the tribal blocks of Central India, communities experience a poor quality of life due to acute food insecurity, shortage of drinking water due to unsustainable use of groundwater, lack of recharge measures, and lack of sanitation facilities.

Collectives for Integrated Livelihood Initiatives (CInI) evolved as a response to these. Established on May 17, 2007, CInI aims to transform the lives and mindsets of tribal households in the Central Indian Tribal Belt through thematic interventions to improve the quality of life and build the knowledge to create a promising and sustainable future.

## LIVELIHOOD

- Create Lakhpati Kisans through agricultural productivity and stabilisation
- Forest-based livelihoods
- Animal husbandry

## EDUCATION

- IT in education
- Traditional arts and crafts
- School libraries
- School sports

## WATSAN

- Drinking water security
- Community & HH (household) sanitation
- School WASH (Water, Sanitation & Hygiene)
- MHM (Menstrual Hygiene Management)
- Biogas

**The Water and Sanitation (WATSAN) Gujarat intervention** has established. community-managed systems to secure access to safe and sufficient drinking water as well as to achieve Open Defecation Free (ODF) status with improved hygiene behaviour in 53 villages covering 305 hamlets in Gujarat. This report focuses on CInI's achievements in Dahod under the Tribal Area Development Programme (TADP), with additional data on the programme area of Dangs for the purpose of disclosure. The programme strategies include:

- Sustaining behaviour change campaigns to ensure adoption of good hygiene practices.
- Helping with construction and repair of toilet units.
- Mapping and leveraging of drinking water facilities.
- Supporting the district administration with SBM.
- Developing WASH infrastructure in schools. Special emphasis on Behavioural Change Communication (BCC) interventions to ensure continued usage.

*Note: To ensure the best possible outcomes, WASH interventions are closely linked with the Education programmes of the Government.*

# Objectives of WATSAN

Providing seasonal security and conservation of water supplies with an integrated combination of pipes and local, traditional water sources

Providing hygienic households and community environments by improving sanitation and hygiene awareness among the communities

Empowering communities through implementation of community-managed water supplies and sanitation systems, and facilitation of inputs for community capacity building

# Components of WATSAN

## Water

- Establish decentralized, community-managed water supply systems, including technological options like piped water supply systems, water purification, and treatment systems.
- Create water sources for families in isolated areas through individual Roof Rain Water Harvesting Systems (RRWHS).
- Improve security and sustainability of drinking water through physical interventions for developing, enhancing and managing water resources in villages.

## Sanitation

- Generate demand by shaping social norms to promote ODF outcomes and hygiene.
- Explore different financial packages to encourage more HHs to install sanitation.
- Cover all HHs with sanitation facilities.
- Help improve water & sanitation facilities in rural schools.
- Change social taboos and hygiene practices to ensure menstrual health.
- Pilot design & technology innovations for sanitation facilities in resource-poor rural settings.

## Cross-cutting Activities

- Inculcate behavioral change among rural communities for adoption of improved sanitation and hygiene practices, handling of drinking water, and enhanced overall cleanliness on a sustainable basis.
- Coordinate with relevant government schemes, stakeholders, and programmes to enable communities to access resources and benefits.
- Establish maintenance systems to be owned and implemented by communities.
- Pilot innovations for waste management and alternative sources of energy (solar).

*WATSAN in Dahod:*

# A 3-Tier Challenge

## DISTRICT LEVEL


***DAHOD DISTRICT***

Drinking water and sanitation remains a critical issue in the tribal belt of Gujarat, and Dahod in particular. The average annual rainfall is 600-800 mm, compared to the average annual rainfall in Gujarat overall (856.8 mm), and scope for recharge was restricted. **Dahod** is one of the districts in Gujarat to be identified as 'aspirational districts'.

***Challenges:***

- Uneven distribution of water due to undulating terrain.
- Unsustainable use of groundwater.
- Lack of recharge measures.
- Faster depletion of groundwater during summer.
- Drying up of sources by the end of February - early March.
- Increased pressure on groundwater due to increased consumption by humans and animals.
- Health issues caused by humans and cattle sharing the same water source.

Geo-hydrologically, Dahod's terrain is hard rock which gets more dense the deeper it gets, and water storage is restricted to surface porosity, cracks, fissures and fractures*. Hence, communities in Dahod faced an acute water shortage during the summer.

*Source: BMGF 6th Year

## VILLAGE LEVEL

Water security was not only a matter of adequate and assured quantity. The quality of drinking water was a critical factor as well.

***Challenges:***

- Use of poor quality water sources due to acute shortage in summer and early winter.
- Spread of water-borne and skin diseases due to water scarcity.
- Irregular water distribution due to erratic power supply.
- Underdeveloped sanitation infrastructure at HH and community level.
- Abundant open space for defecation.
- Contamination of water sources due to runoff from open defecation areas during monsoon.
- Manifold increase in number of diseases reported during monsoon.

The lack of sanitation facilities created major health hazards, worsened by lack of accessible healthcare. For tribal communities, the impact on livelihood was especially severe because illness had serious consequences on their incomes.

## HOUSEHOLD/INDIVIDUAL LEVEL*

***Challenges:***

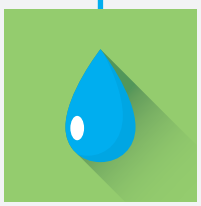
- During the dry season the nearest water source was 1-3 kms away from home.
- Filtering water by using a cloth was the predominant way of treatment. Awareness of technical alternatives for water treatment was low.
- 12% HHs had toilets in the programme area.
- Toilet usage and frequency of handwashing was low.
- Knowledge of the link between open defecation and disease was poor.
- There was a low level of willingness to change or contribute to schemes.

To address these challenges, a standalone intervention was not the solution. An integrated approach to drinking water, sanitation, and hygiene management was required to ensure overall impact on the quality of life. In order to tackle these issues, CInI and WASMO jointly initiated the Tribal Area Development Program (TADP).

Goal: Ensuring drinking water security and promotion of safe sanitation in the tribal villages of Dahod and Dangs.

*Source: WASH Baseline and KAP Study, 2014 (TARU)

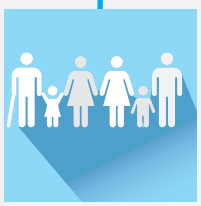
## IMPACT AREAS



Ensuring safe and sufficient drinking water in 41 villages covering 217 hamlets

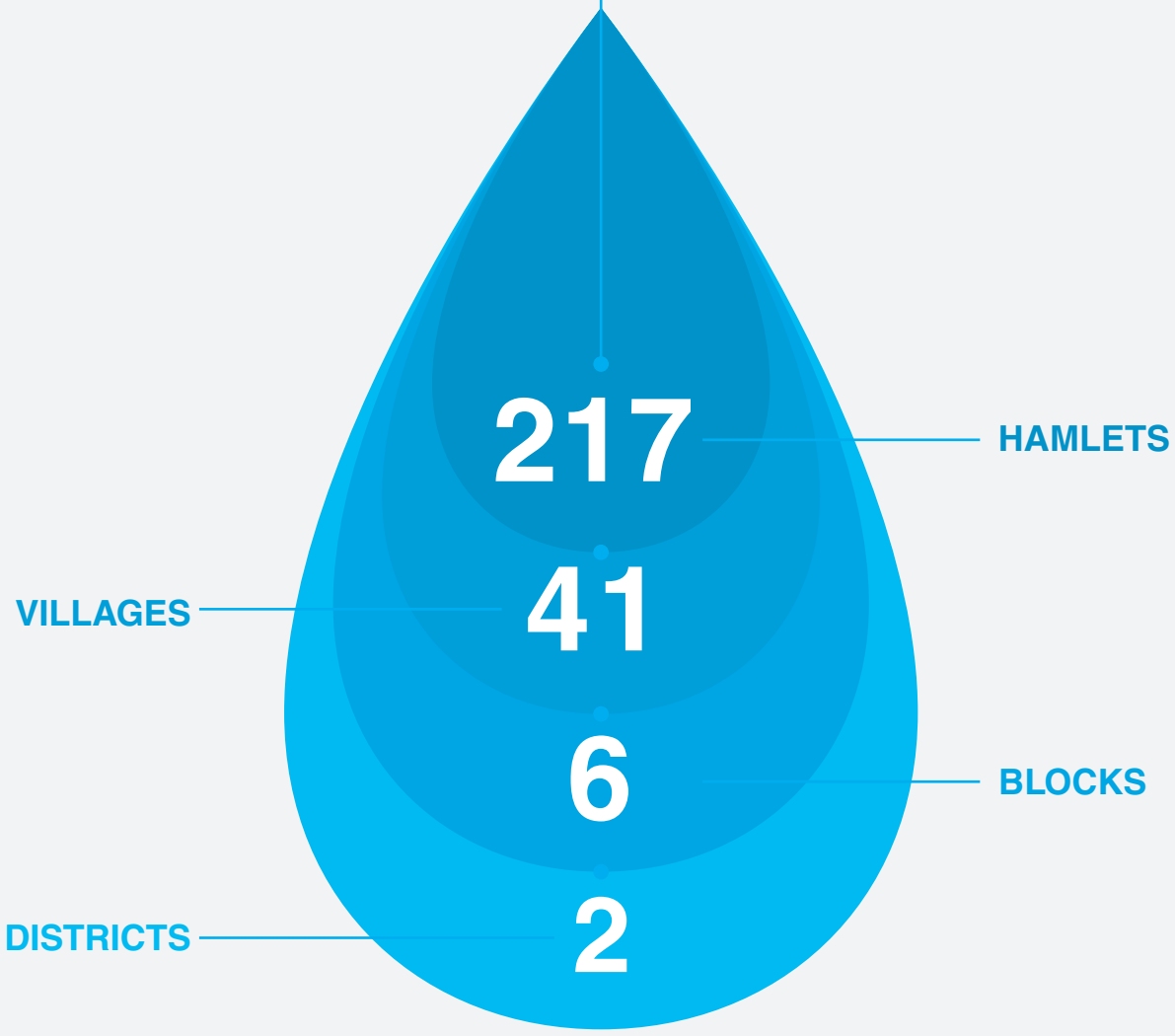
Improved sanitation facilities to ensure ODF status for 11,000 households in 41 villages

Increase adoption of better hygiene practices through Behaviour Change Communication (BCC)



Reach out through on-ground campaigns for sustainable and irreversible change

## Overall Outreach*




Note - the Government has launched SWAJAL scheme to address the problem of drinking water in 115 districts of India, including Dahod. CInI will be implementing the scheme in an additional 35 hamlets, covering an additional 2660 HHs under the program in 2020.

*Combined data for Dahod and Dangs as of December '19

*Drinking Water:*

# Implementation

CInI's Drinking Water programme was executed in three phases from 2015-2019. The first phase included the formation of the Pani Samiti (water committee), its capacity building, and the creation of a Village Action Plan (VAP). The second phase focused on implementation of the approved VAP. The third phase was to ensure the regular, sustainable supply of drinking water through tariff collection mechanisms and systems for Operation & Maintenance (O&M).

## PRE-IMPLEMENTATION

**Common source:** Community hand pump or open well

**88%** families depended on a **single water source** for all activities

**55%** families depended on **community hand pump** for drinking water

**1HR** was the avg. time taken in Dahod to **bring 1 vessel of water from source to use point**

**82%** families **covered drinking water vessels** with a lid

**17%** used a **ladle to take drinking water** from the vessel

**46.5% treated water** all round the year before use. **Method used was filtration with a cloth**

*Source: Project End Report, TADP

## PLANNING PHASE

1 Orient the community and gain their approval for the programme through hamlet-level meetings.

2 Form the Pani Samiti and build its capacities for the overall execution of the schemes.

3 Conduct Participatory Rural Appraisal (PRA) and baseline survey with community members and local leaders in the presence of Pani Samiti members to assess the situation, probable water sources, etc.

4 Do technical survey & resource mapping of identified locations to finalize components like water source, position of storage tank, cattle trough and pipeline layout, etc.

## ACTION PHASE

5 Orient and train the Pani Samiti for their roles and responsibilities.

6 Conduct exposure visits to Saurashtra and nearby areas of Dahod to understand the functioning of the schemes.

7 Execute the approved VAP.

8 Hand over the completed and functional schemes to the community.

## REINFORCEMENT PHASE

10 Provide hand-holding and support to the Pani Samitis to ensure regular water supply.

11 Establish tariff collection mechanisms and provide O&M training for each Pani Samiti.

12 Promote point-of-use purification to ensure safe supply of drinking water at HH level.

**Total Schemes**

**115***

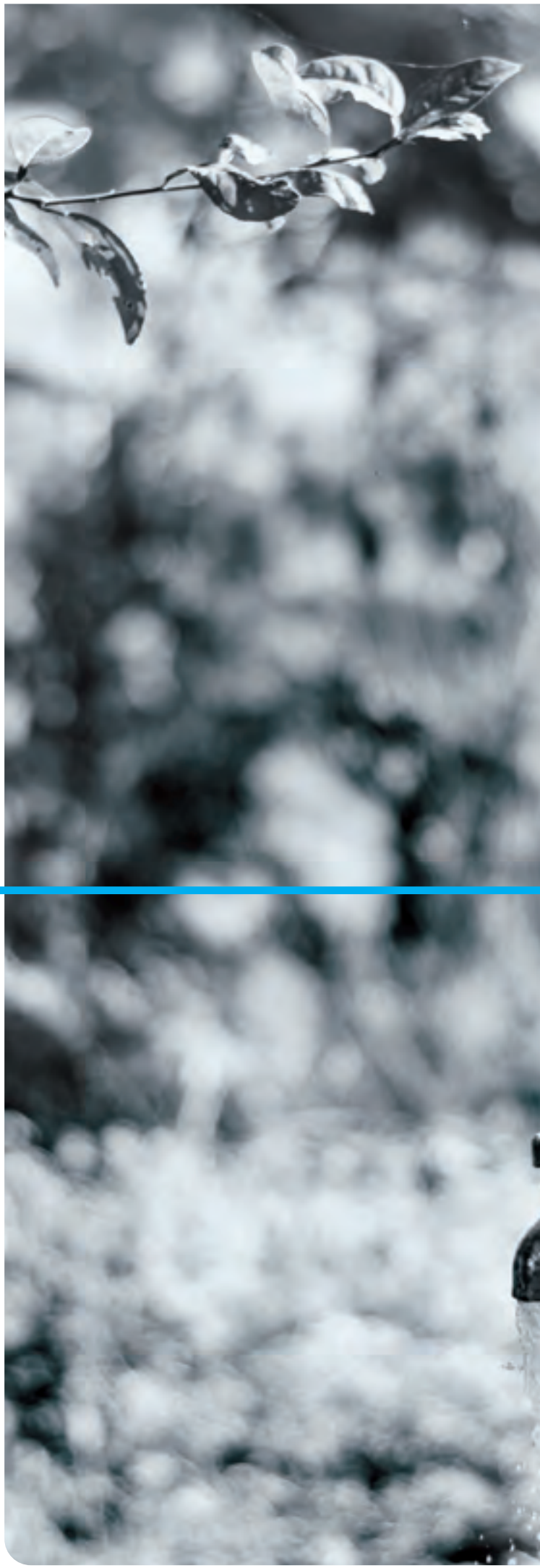
**Dahod**

**98**

**Dangs**

**17**

*As of December 2019



*CASE STUDY 1*

# Suthar Jhabol & Gola Mahuda

## INITIATIVES

DRINKING WATER | SANITATION | MHM | BIOGAS | SCHOOL WASH

## Pipeline to Prosperity

It's a hot and dry noon, typical weather in the hills where clean water is hard to find. But water gushes effortlessly from the taps and in every household in Suthar Jhabol - the product of a two-year combined effort by CInI and the community. The neighbouring hamlets of Suthar Jhabol and Gola Mahuda in Dabhda village are proof that great change happens when community members are willing to work for the greater good.

## Phase 1 - Mobilisation

- Inclusion of the hamlets under TADP in September 2015.
- Formation of Pani Samiti with residents Kiran Bhai Chauhan as Treasurer, Sardar Singh Bhai Chauhan as President and Teeka Bhai Narvat as Vice-President.
- After failure of the scheme's first borewell, a handpump and motor is installed and contributed towards the scheme by Kiran Bhai for the welfare of the community.
- Construction of a 1.8 km underground pipe by Pani Samiti to provide water to the whole hamlet in May 2018.

## Phase 2 - Reinforcement

- Initiation of construction of solar-powered water pump at a cost of 2 lakhs to solve issue of irregular power supply. Construction completed in May 2019 after five and a half months.
- Distribution of WASMO bacterial testing kits as well as direct chlorination to purify water.
- Establishment of water tariff in June 2019 at 60 INR/month

## Phase 3 - Sustenance*

- Reparation of toilets and hand pumps at the Suthar Faliya Primary School in 2018.
- Implementation of game-based training sessions on water usage for the students.
- All-female MHM cluster set up as part of sanitation intervention in December 2018.


*Started in parallel with Phase 2.
Time period: From Dec 2018 till date.

## Milestones Towards ODF

2018 - Construction of toilets by CInI, SBM and Lift Irrigation (LI) Federation at HH level. Toilets used by only 16 HHs while the rest continued to practice open defecation.

October 2018 - Meeting held by CInI at the house of Raisingbhai Somabhai Chauhan, a resident of Gola Mahuda, with the village sarpanch and leaders. Goal - to take the first step towards a clean village.

November 2018 - Triggering meeting held with all the families in the community. Formation of Yuva Nigrani Samiti to combat the practice of open defecation.

November 2018 - Awareness meet held by Feedback Foundation, CInI and Yuva Nigrani Samiti to educate the people about the dangers of open defecation, and to encourage them to use the toilets.

December 2018 - Exposure visit organized for Samitis from other hamlets.

December 2018 - Imposition of a fine of INR 501 for anyone who defecates in the open.

December 2018 - Attainment of ODF status in the village.

## RESULTS

- Water-secure communities that aren't affected by seasonal changes.
- 100% ODF hamlets.
- Improved quality of life.
- Approval of a new borewell by WASMO.
- A success story for other hamlets in the area.

*Drinking Water:*

# Innovations for Safety Under TADP

## Problem: INVISIBLE IMPURITIES

- Community perceptions of “safe” water in 2015 - sweet taste, clarity, lack of any odour.
- Absence of visible impurities.
- Awareness of germs - Nil.
- Knowledge of boiling water - Common.
- Usage of boiled water - Reserved for sick family members.

## Solutions

Promoted TATA SWACH to ensure purified water at HH level along with awareness activities for safe handling of drinking water.

**Total HHs using TATA SWACH -**

**2,647**

(As of December 2019)

### PurAll online chlorinator

Low cost technology for chlorination of drinking water upto 25 lakh liters. To ensure chlorination on a regular basis, CInI piloted the PurAll online chlorinator in 5 drinking water schemes in Agara - Nadi Faliya.

### TARALTECH device

Low cost treatment for water impurities.
Installed in the hand pumps of 10 hamlets.

## Problem: IRREGULAR WATER DISTRIBUTION

- Delay in electricity connection for drinking water schemes.
- Excessive cost estimates (upto 10 lakhs) for power connection from MGVCL (Madhya Gujarat Vij Company Limited) in certain cases.
- Irregular power supply and low voltage.
- Refusal of the community to pay for irregular water supply, thereby affecting tariff collection and overall functioning of the scheme.

### Solutions

Solar Powered Water Supply - Installed solar-based pumping systems in 15 drinking water schemes.

## Problem: INSUFFICIENT WATER SOURCES

- Failure of 27 schemes due to non-availability of sufficient water sources.
- Lack of access to regular water supply for isolated HHs due to undulating terrain and scattered population.

### Solutions

Roof Rain Water Harvesting System (RRWHS) - Systems promoted under TADP program, with the aim to provide drinking water security for individual families located in remote areas who don't have access to a regular water supply. Installation of 100 RRWHS with the support of WASMO.

*Case Study 2*

# Dungra

## INITIATIVES


### Women Water Warriors

The distribution of water has and will always be a political tool. But most rural and tribal women in India are affected by water issues at a personal level; apart from affecting menstrual hygiene, the collection of water continues to be their responsibility. That's why the all-female Pani Samiti of Dungra Faliya is a wondrous example of the courage and determination of women in the face of a water crisis.

Dungra Faliya, a hamlet in the Agara (U) locality of Dahod, has three hand pumps and a well which supplies drinking water. During summers, the water level in the well would decrease which led to hardships and long queues in the scorching heat.

### Phase 1 - 2015

- Meetings arranged with the residents by CInI in partnership with WASMO to tackle the problem.
- Formation of an all-women Pani Samiti with community members Reshamben Ramjubhai as President, Gangaben Mukeshbhai Ravat as member-secretary, and Kantaben Shankarbhai Ravat as treasurer.
- Meetings, exposure visits and training sessions organized for the Samiti under Reshamben's leadership. Work started on the new distribution scheme during the monsoon in 2016.
- Works completed in 2017 despite delays caused by the rain and negative attitude of other residents

### Phase 2 - 2017

- Reparation of water connections damaged by road maintenance works and resistance by other community members.
- Solar-powered system installed to solve the problem of regional power policy restricting multiple connections on a single survey number.
- Village-level meeting organized to explain repair and maintenance issues.
- An operator appointed to collect water tariff and maintain the scheme on a permanent basis.
  Charges: INR 70/month
  Operator's fees in 2017: INR 800/month

## Phase 3 - 2017

- Inauguration of the new distribution system on the occasion of World Water Day.
- Formation of rules by the Pani Samiti for the system's upkeep, which is unanimously approved.

## RULES

- Water tariff to be collected when the Samiti meets on the 1st week of every month.
- If a HH fails to pay the charge in the 1st week, it will be given one more week to pay.
- If it fails to pay after a week's extension, its connection will be cut.
- The treasurer will be responsible for collecting the money and depositing it in the Samiti's bank account.
- If maintenance costs rise in the future, the extra cost will be distributed equally among member HHs.
- The time for distributing water will be decided based on the people's convenience.
- HHs that waste water will have their connections cut.

## RESULTS

- The first all-women Pani Samiti.
- Regular water supply since 2017.
- Regular water tariff collection that began with INR 70/month and now increased to INR 100/month.
- Awarded as one of the best Pani Samitis by the state with a prize amount of INR 50,000 in 2019.
- A positive change in the attitudes of the community members.

# SANITATION

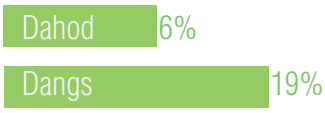
**Clnl's programme strategies include sustained behaviour change campaigns to ensure adoption of better hygiene practices, assistance for construction and repair of toilet units, and supporting the district administration with Swachh Bharat Mission** (SBM). **Special emphasis is given to training students included under Clnl's School WASH** (Water, Sanitation and Hygiene) **intervention along with changing social norms and practices surrounding Menstrual Health Management** (MHM).

CInI has multi-tier schemes in the water, sanitation and hygiene domain. The agency has also actively collaborated with Government agencies and NGOs working with communities in the programme areas of Dahod and Dangs.

Furthermore, in order to support the district SBM unit in the goal to achieve ODF villages/hamlets, CInI has further explored different strategies to achieve a sustainable model of toilet construction and usage.

# April 2014: Pre-Intervention

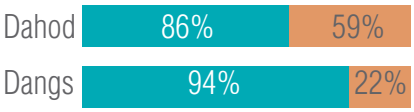
Families with a toilet




**60%**
families out of the 6% with a toilet preferred open defecation

**24%***
families in Dahod didn't use their toilets

Reasons for not constructing a toilet




# Solid Waste Disposal

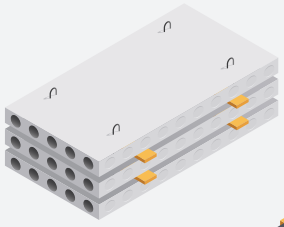
- Types of waste: cow dung, leaves and dust, plastic, food wastage, agriculture waste, papers and glass
- 30% families dumped waste in a pit behind their houses
- Less than 10% families disposed of child excreta in the toilet itself. Most disposed it with other solid waste.

*Source: TARU WASH Baseline and KAP Study, 2014

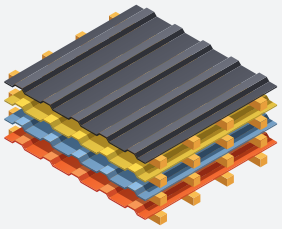
## MAY 2014 - PHASE 1

- Ensured supply chain for construction materials, given the challenges of remote location and market accessibility.
- Did demos with different available materials (brick, precast material, AAC panel, AAC block, bamboo).
- Selected the most efficient and economical model and materials.
- Started to spread awareness of technical know-how for masonry.

Felt need: A financing model to provide initial support to the family to initiate the toilet construction before getting incentive support from SBM.

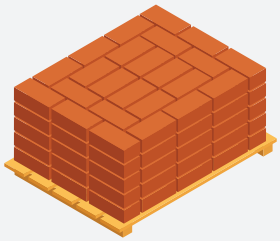


AAC panels



Precast Materials

Brick



AAC block

## DECEMBER 2016 - PHASE 2

- Partnered with LI (Lift Irrigation) Federation to provide a financing model that created an opportunity for customisation.
- Constructed toilets with varied costs as per the customisation.
- Used existing community institutions for better community mobilisation.
- Streamlined the process of leveraging and recovering funds from SBM.

Felt need: Scaling down efforts involved in material and construction management, and fund recovery, to focus more on community mobilisation.

## NOVEMBER 2018 - PHASE 3

- Shifted focus completely to community mobilisation.
- Handed over the responsibility of material management to the community.
- Tapped into the supply chain of other players, such as panchayats and motivated the beneficiary to fill their customisation need and gaps, if any.
- Provided facilitation support for beneficiary availing the incentive from SBM.
- Increased efforts towards capacity building of Nigrani Samitis; thus ensuring that they take charge of construction management, and even ensuring usage of toilets by all members of community.

Through these activities, CInI has demonstrated a sound model of toilet development that's sustained by Behavioural Change Communication (BCC), as well as supporting the SBM unit in Dahod. BCC activities are executed at the village and hamlet level to ensure toilet usage, hand washing, and water quality checks, along with repair of defunct toilets. During this period, CInI has collaborated with Feedback Foundation for supporting and strengthening the BCC component. Support extended to the district SBM (in Limkheda, Fatehpura, Jhalod, Dahod and Singvad blocks) will continue until 100% coverage is achieved.

# SANITATION:
## Steps of Implementation

1

**Pre-triggering**
meeting conducted in hamlets with sarpanch, influential leaders, and youth.

2

**Community triggering**
executed by FF facilitator and CInI team in hamlets.

3

**Formation of Nigrani Samiti**
consisting of men, women, and children. Taking of sanitation oath to make their faliya (hamlet) ODF.

4

**Follow up**
by CInI on the open defecation sites in the village. Follow-up visit by the team at all the HHs in the faliya.

5

**Door to door visit**
by Nigrani Samiti and CInI to each HH to motivate them to construct a toilet and stop defecating in the open.

6

**Technical options**
provided to the masons and HHs by CInI during visits to verify ongoing construction of toilets in the faliya.

7

**Repair of defunct toilets**
during follow up visits with the Nigrani Samiti. HHs are also advised to clean their defunct toilets.

8

**Formulation of social norms**
by the community themselves along with a fine of INR 100 - 500 at hamlet level for open defecation.

*CASE STUDY 3*

# Chhapervad

## INITIATIVES

BIOGAS | SANITATION | MHM | SCHOOL WASH

*"When going to defecate in the open, many people would use the fields. This would lead to quarrels, especially at the time of weeding the field and harvesting."*

*- Parvatbhai Kanubhai Patel*

### Building Blocks of Hygiene

In November 2016 Dalpat Bhai, a resident of Chhapervad, was facing a dilemma. There was enough material lying around for a toilet construction, but he didn't have the knowledge to construct one.

Open defecation used to be a common practice in Chhapervad, a village with 10 faliyas and a population of 5,000, consisting mostly of tribal communities. Despite the presence of a common toilet, it was rarely used. Most of the villagers viewed a toilet as an unnecessary expense. Who needed it when there was plenty of space?

This changed in 2017 with the involvement of CInI and Vibhagiya Udvahan Sinchai Sahakari Mandaliono Sangh (Departmental Lift Irrigation Federation of Irrigation Cooperatives). While the Federation handled overall management and operations, CInI provided technical and financial support.

*"Before the training I was blank. But now I understand the advantages of such a toilet and how to build with the correct dimensions and depth. Earlier we used bricks which take 2-3 days and cost more. With the blocks everything is easier. It's less costly, can be built within 1 to 1 ½ days. It saves on sand, cement, labour and is very durable."*

*- Arat Bhai, mason*

**Differences in approach**

- Contractor approach: constructing without prior permission, dumping of materials in some cases, profit-driven.
- CInI approach: collaborative, based on fieldwork and knowledge sharing, people-driven.

Trigger: Awareness campaign by CInI in partnership with LI Federation in 2016.
Step 1: Exposure visit for the residents of Chhapervad to the neighbouring village of Humadpur to view the efforts taken by community for toilet construction.

Step 2: Hamlet-level meetings held along with awareness activities in 2017 to encourage people to build toilets.

Step 3: At the community's request, 3-4 leading members given training in 2017 for construction of twin pit toilets using AAC blocks. Training sessions clear initial doubts & more people come forward.

Step 4: Material and Loan Card* supplied in June 2017 to recipients along with interest-free loans for people who don't have funds. Repayment instalment - INR 1000/month

* Material and Loan Card helps keep track of funds and materials for construction. People's perception is that a toilet is costly. But the costs vary as per the user's requirements which are mentioned in the Card.

Eg., A wants to build a toilet. He has some building material and labour supplied by family.
Cost: INR 4,000 - 5,000

B wants to build a toilet + bathroom. Material and labour to be purchased.
Cost: INR 17,000, out of which INR 12,000 is granted by the Government. Remaining amount to be repaid in instalments.

*Step 5:* Defunct toilets identified and repaired. Follow-up visits in December 2018 to HHs that don't have a toilet.

*Step 6:* Villagers encouraged to take pride in their toilets and keep them clean. This motivates some members to take part in the 'Sundar Shauchalaya' contest by SBM in January 2019.

## RESULTS

- Increased demand for toilets.
- 220 toilets constructed for 400 HHs in the past year.
- One of the residents, Mahesh Bhai, wins the 2016 'Sundar Shauchalaya' contest .
- Villagers perceive stark differences in contractor-made vs. self-invested toilets:
  **Space** - Contractor: 3x3; self-invested: 4x4.
  **Quality** - Self-invested toilets of better quality due to CInI's technical training.
  **Ownership** - a feeling of ownership in the case of self-invested toilets.

*Case Study 4*

# Pateliya

## INITIATIVES

DRINKING WATER | SANITATION | BIOGAS | SCHOOL WASH

### Water leads to wealth

The issue of livelihood cannot be addressed without tackling health concerns caused by lack of sanitation. But the question of sanitation cannot be solved without looking into the scarcity and quality of water. Such was the case in the hamlet of Pateliya in Kamboi village.

Located about 15 kms from Dahod, Pateliya is a hilly hamlet where the main occupations are farming, floriculture, and daily labour work.

### Challenges:

- Till 2017, the entire hamlet was dependent on one borewell for all their needs.
- When the well dried up in March-April, the women, and sometimes even the men, had to walk more than 2 kms every day to fetch water.
- In the dry season the occasional water tanker came from Agara, for which the cost was more than INR 500 per tanker.
- In addition, open defecation was the norm. Preferred spots were the jungle close by or near the roadside.

> *"It was worse at night, and in the rainy season, when we had to endure mosquitoes and the fear of animals. It was especially humiliating for the women."*
>
> *- Pratabh Bhai Parmar*

## Intervention A - Water

- Due to the hilly terrain, WASMO advises against laying a pipeline for water distribution in 2015 during research.
- To solve the problem and create alternate sources of water, 20 RRWHS units were installed to collect rainwater in January 2017. Capacity of each unit: 10,000 litres.

## Intervention B - Sanitation & Hygiene

- Awareness activities are held on the importance of toilets.
- Each household contributes in cash or kind to construct a toilet.
- Owners are encouraged to keep their toilets clean by participating in the 'Sundar Shauchalaya' contest.
- 8 biogas structures are installed in the hamlet to utilise cow dung for fuel from October 2018 till 2019.

## RESULTS

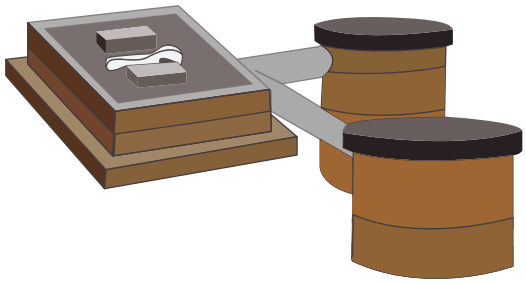
- Availability of sanitation facilities at doorstep.
- Community members, especially women, able to use WASH facilities with dignity.
- Achievement of ODF status.
- Ramsingh Krishna Bhai Patel, a community member, wins 'Sundar Shauchalay' contest.
- A clean, healthy community with improved livelihood outcomes.

# Sanitation Journey under TADP

## 2014-15

### ACTIVITIES

- Demo of sanitation units using precast, bricks and AAC material for cost analysis.
- Training of Community Resource Persons (CRPs) for need assessment and toilet usage training.
- More focus on mason training.



### OUTCOME

- Clarity about technical aspects and material cost to community.
- Acceptance from community for AAC blocks.
- Reduced construction time using AAC block.
- Streamlining of material supply in tribal areas.
- Developing a local pool of masons.
- Building up capacity of CRPs.
- Total toilets constructed: 125.

## 2015-16

### ACTIVITIES

- Nandini Sanitation Van
- Focus on awareness generation among community using various approaches.
- Development of various IEC (Information, Education and Communication) material on CLTS (Community Led Total Sanitation), toilet usage training and developing team capacity for triggering.
- Launch of 'Samjhdar' campaign.

### OUTCOME

- Increased awareness around behaviour change and the issues related to sanitation.
- Creation of a pool of natural leaders to support promotion of sanitation.
- Generation of demand at hamlet level for toilet construction.
- Total toilets constructed: 550.

## 2016-17

### ACTIVITIES

- Initiation of direct implementation of programme.
- Promotion of interest-free loan model through LI Federation.

### OUTCOME

- Assurance of quality construction through material loans.
- Greater community involvement compared to previous years.
- Total toilets constructed: 2217.

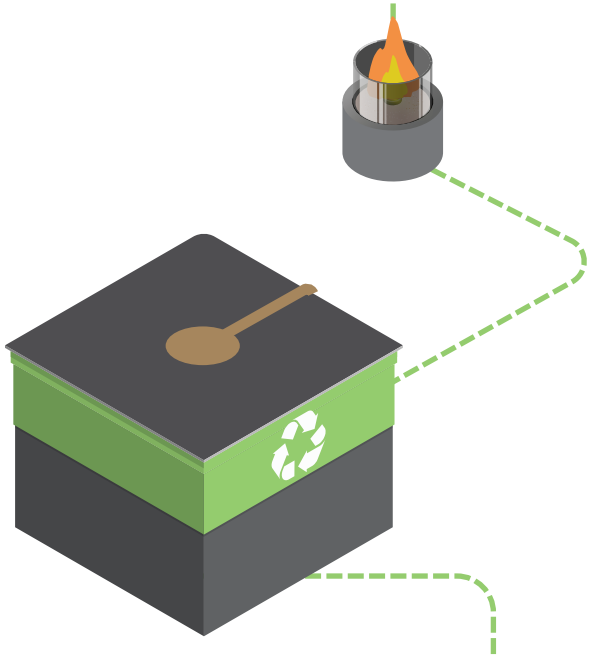
# 2017-18

## ACTIVITIES

- Collaboration with Government for BCC to district SBM unit of Dangs and Dahod.
- Promotion of biogas.

## OUTCOME

- Capacity building of more than 600 engineers and other government staff members under SBM.
- Streamlined fund flow due to collaboration with Government.
- 54 biogas units promoted for efficient waste management.
- Total toilets constructed: 7754.



# 2018-19

## ACTIVITIES

- Initiation of School WASH Programme.
- Efforts towards ensuring and sustaining ODF status by using CATS (Community Approaches to Total Sanitation) approach.
- Promotion of MHM intervention.

## OUTCOME

- Developed and strengthened drinking water and sanitation facilities in 35 schools.
- Focus on intensive BCC, and morning and evening follow-ups to ensure ODF status in 15 hamlets.
- Social norms are formed by community members at hamlet level to ensure ODF status.
- Increased awareness related to menstrual hygiene among 950 tribal women and adolescent girls.

# 2019-20

## ACTIVITIES

- Continued efforts towards sustaining ODF, MHM interventions, and School WASH.

## OUTCOME

- Targeted 100 hamlets to become ODF.
- Targeted more than 1000 women and 500 adolescent girls for MHM.

*Sanitation:*

# Technical Options for Toilet Construction

## MODEL 1: BRICK MASONRY

**Pros:**

- Traditional material.
- Widespread community acceptance.
- Strong and durable.

**Cons:**

- Long construction time - 4 days/unit.
- High mason and labour charges - INR 2200/unit.
- Overall high unit cost - INR 16,750/unit.

4 days/ unit | High mason charges | Durable

## MODEL 2: PRE-CAST CEMENT CONCRETE PANEL

**Pros:**

- Short construction time - 1 day/unit.
- Low mason and labour charges - INR 1100/unit.

**Cons:**

- Heavy weight poses a high risk while installing in levated areas.
- Low community acceptance.

1 day/ unit | Low mason charges | Durable

## MODEL 3: PRE-CAST AAC PANEL

**Pros:**

- Construction time - 2 days/unit.
- Lighter panel weight makes it easy to install compared to Model 2.
- Relatively affordable cost - INR 13,700/unit.

**Cons:**

- Requires a skilled, trained mason as panel elevation demands accuracy.

2 days/ unit | Light weight | Affordable

## MODEL 4: AAC BLOCK

**Pros:**

- Short construction time - 1.5 days/unit.
- Cost effective compared to other Models. Total: INR 11,600/unit.
- Strong and durable.
- Easy to handle due to light weight.
- Mason doesn't need any special skills.

**Cons:**

- Only bulk orders allowed due to local unavailability.

1.5 days /unit | Light weight | Durable

# SCHOOL WASH

As per the science of behavioural change, behaviours are grounded in a particular socio-ecological context. Behavioural change usually requires support and effort at multiple levels - physical, mental, individual, familial, and societal.

This becomes twice as challenging when the conversation is about sanitation and hygiene - an area which most people are reluctant to discuss openly.

*Case Study 5*

# Kaliagota

## INITIATIVES

SCHOOL WASH

One of the objectives of the ongoing Swachh Bharat Mission (SBM) programme is to bring effective behavioural change in hygiene and sanitation, which needs frank discussions supported by multi-layered interventions.

School is an institution that discusses and teaches students new things, and childhood is a stage when behaviour get inculcated easily. Therefore, CInI's WASH (Water and Sanitation) intervention in January 2018 school has a two-fold aim:

1.) To create a sustained good hygiene behaviour among school students
2.) To have a positive impact on the parents at household level through their children.

With this objective, CInI layered the interventions different schools within its project villages for drinking water and sanitation practices. One case that stands out is Kaliagota Primary School.

## Kaliagota Primary School

Location
**Singvad block in Dahod**

Strength
**202 students from Standard I-VIII**

BEFORE INTERVENTION:

- Inadequate sanitation facilities.
- Existing toilets in an unusable condition.
- Hand pump available in the premises yet knowledge about safe drinking water is poor.
- No water purification systems or separate hand washing stations available.


## STEPS OF INTERVENTION

1. Assessment in January 2018 with the goal of setting up proper sanitation infrastructure.

2. Installation of required infrastructure including toilets for girls, hand washing station, and water purification systems.

3. Behavioural change activities and campaigns for the teachers as well as students, such as Sanitation Day, Hand Washing Day, Safe Water Day, games with WASH elements, etc.

4. Formation of an effective sanitation committee of the students which is regularly facilitated by the teachers to ensure proper usage of the infrastructure.

5. Observance of Republic Day with a special focus on sanitation in which all the School Management Committee (SMC) members and parents participate.

6. School voluntarily invests INR 20,000 along with the estimate amount committed by CInI for ensuring better water and sanitation facilities in March 2018.

## RESULTS

- Change towards a progressive mindset for the teachers and students.
- Better sanitation practices leading to greater discipline.
- Increased ownership and care of the facilities.
- A better quality of life for the students of Kaliagota Primary School.

*Biogas:*

# Conversion of Waste to Fuel

- CInl has promoted biogas as one of the alternate options for managing solid waste at hamlet level in March 2017.
- Most of the solid waste in rural-tribal areas is in the form of cow dung and agricultural waste.
- To put this to use, CInl installed flexi-bag biogas units.
- The tank of a flexi-bag biogas system is made out of rubber or PVC tarpaulin. A stone placed on top helps to intensify pressure.
- Flexi-bag biogas units have certain advantages over conventional biogas systems:
  - i) Easy to repair & maintain.
  - ii) Can be shifted from one place to another.
  - iii) More amount of gas generated with high calorific flame.
  - iv) Slurry generated can be used as a bio fertiliser in agriculture.
- Each HH contributes INR 8000 for the installation of biogas units.
- Total biogas units installed: 94*.

(as of March 2019)

## RESULTS

- Conversion of waste into affordable cooking fuel and fertiliser.
- Reduced labour and time spent in fuelwood collection.
- Lesser smoke in cooking areas.
- Improved quality of life.

# Clearing the Myths Around Menstruation

Menstruation requires access to water and a private place for women and adolescent girls to manage their cycle. Unfortunately, menstruation - an uncomfortable topic even in urban areas - is surrounded by taboos in rural areas, compounded by physical challenges like water scarcity and access to safe menstrual absorbents.[1]

This established the need for a Menstrual Hygiene Management (MHM) programme that is integrated with Clnl's sanitation interventions at the household level and school level.

## PRE-INTERVENTION

Prior to developing a holistic MHM intervention, CInI conducted a survey in 2017 to understand the following:

- Current knowledge, attitudes and practices regarding menstruation, including myths and misconceptions, access, use and disposal of products.
- Industry trends and how they respond to the needs of girls and women regarding access to different types of products.
- Barriers to accessing community/institutional WASH facilities.

## FOCUS AREAS

Menstrual Hygiene Management (MHM) is currently an integral part of CInI's WATSAN intervention. Its goals are three-fold:

- Behavioural change for hygienic use of menstrual absorbents to ensure women's health.
- Address the misconceptions and social stigma around periods by creating awareness about the biology of menstruation.
- Build a socio-cultural environment that is conducive for girls and women to manage menstruation safely and with dignity.

Total coverage
**1191**
Individual women & girls
as of 2019

Targeted coverage
**1500**
additional women
by 2020

## IMPLEMENTATION

Initial interventions of MHM are focused on training groups of women in the community and adolescent girls in schools. These training sessions are implemented through 4 modules:

**Module 1: Puberty and Menstrual Cycle Education**
Discuss the basics of the menstrual cycle and the female reproductive system.

**Module 2: Products and Hygiene Management**
Showcase different menstrual products like pads, tampons, menstrual cups, etc. Explain their pros, cons, disposal, and hygiene management, so that the women can have an informed choice.

**Module 3: Myths and Taboos**
Rationalize myths and taboos around menstruation - why they originated, their possible purpose, etc. Through storytelling, discussions and activities, these sessions encourage the women to start questioning misconceptions around menstruation.

**Module 4: Normalising Menstruation**
Summarize overall information related to MHM. Build the capacity of the women and girls to break the silence around menstruation by spreading awareness and sharing their knowledge. Help to change perceptions about menstruation as a normal, natural phenomenon.

## FURTHER INTERVENTIONS

Workshops for Pad Stitching - Beneficiaries are taught to stitch their own pads with the cloth available to them. This helps overcome supply issues like the shortage of pads due to the distance it takes to travel to Limkheda in 2019 - the nearest source for sanitary products.
MHM Mela - Cluster-level melas where selected women from MHM groups gain exposure to a larger public forum. Activities include open discussions on MHM and sale of menstrual products created by the women themselves. This helps to boost their confidence and break the silence around the topic.

## PUTTING THE MEN IN MENSTRUATION

One issue that emerged regarding MHM is that no one wanted to discuss menstrual issues with men. Yet men have greater decision making power over resources that are critical for women's menstrual hygiene, like the construction of toilets and money for buying menstrual material.
This created a need for sensitising the menfolk to support women and girls in managing menstruation effectively across different areas including household, community and school. Hence, in 2019 men and adolescent boys were included in menstrual awareness sessions and couples' counselling to discuss how they can support women in menstruation.

## CONCLUSION

MHM interventions are specially planned to ensure regular dialogue with the community even after completion of toilet construction. This helps to ensure sustained toilet usage, because school children, adolescent girls and women are instrumental for achieving, and sustaining ODF status at the hamlet and village level.

## RESULTS

- Greater awareness and open conversations about menstruation in rural-tribal areas.
- A supply chain for reusable products (Ecco fem and Safkin).
- Increased self-reliance in menstrual management through pad stitching workshops.

> *"I used to think it was dirty. I understood it's a natural process and nothing to be ashamed of."*
>
> *- Name unknown, Dabhda*


> *"First I made 1 pad in the workshop. Later on I made 2-3 pads at home. I make and use my own pads"*
>
> *- Chandrika, Roz Haveli Faliya*

> *"Earlier we had to wash our dirty cloth and put it out to dry. I'm happy we don't have to do that anymore."*
>
> *- Name unknown, Dabhda*

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Celebration at Kamboi village, Dahod for achieving ODF status.


Young members of Nigrani Samiti getting recognition from the DRDA director of Dahod


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