



**CSPC**

Coastal Salinity Prevention Cell

AN INITIATIVE OF TATA TRUST, AKRSP(I) AND ACF



# ANNUAL REPORT

2018-2019







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# Abbreviations

Acronym	Full form
BCC	Behaviour Change Communication
Cu	Copper
Fe	Iron
FPO	Farmer Producer Organisation
IEC	Information, Education & Communication
KVY	Kharash Vistarotthan Yojana
LG	Learning Group
MHM	Menstrual Hygiene Management
MMPCL	Mangrol Magfali Producer Company Limited
Mn	Manganese
NDDB	National Dairy Development Board
PBW	Pink Bollworm
PC	Producer Companies
pH	Potential of Hydrogen
PIM	Participatory Irrigation Management
PMFBY	Pradhan Mantri Fasal Bima Yojana
PPM	Parts Per Million
S	Sulphur
SBM	Swacch Bharat Mission
SWM	Solid Waste Management
TCSR	Tata Chemicals Society for Rural Development
TDS	Total Dissolved Solids
WaSH	Water, Sanitation and Hygiene
WRM	Water Resource Management
Zn	Zinc





# Introduction

## CSPC's Developmental Approach

Coastal Salinity Prevention Cell (CSPC) has developed an integrated developmental approach with its core focus on salinity. CSPC strives to address major concerns of the communities and create a holistic and sustainable development model.

### Salient Features of the Development Approach

- Develop an integrated scientific natural resource management model to avert salinity ingress
- Enhance incomes of households through agricultural and allied livelihood activities and by creating market linkages
- Improve access to drinking water and sanitation services
- Develop and strengthen community institutions who own and sustain the co-created interventions

## About Us

CSPC was established in the year 2008, registered under section 8 of Companies Act, with the mandate of upliftment of rural communities settled in coastal salinity ingress affected areas of country. It was envisaged with a pivotal role to reinforce and scale up various initiatives of government and civil society organizations, focused to address the issue of salinity and thereby improving the quality of life of the coastal communities. CSPC's multi-pronged social development program primarily focuses on concerns related to agriculture and land development, natural resource management, drinking water, sanitation, health and education with a view to address the core issue of "Salinity ingress". CSPC is also actively involved in Early Childhood Education (ECE) and learning enhancement with grade-appropriate literacy and numeracy skills in primary grade students.

The organization aims to facilitate cross learnings, create knowledge products, undertake innovative pilots and design large scale programs, which could be implemented across the country in salinity ingress hit geographies. CSPC is a joint initiative of the Aga Khan Rural Support program India (AKRSPI), Ambuja Cement Foundation (ACF) and TATA Trusts.

## Our Philosophy

CSPC aims to promote greater interaction and learning between practitioners, researchers, and policymakers so that the unique problem of coastal salinity is understood, solutions implemented and policies and programs modified or formulated to scale up solutions.

## Our Vision

Evolve sustainable approaches for prevention and mitigation of salinity ingress, while enhancing the livelihood resilience of communities affected by salinity in coastal villages of Gujarat.

# Message

from the Chairman



**“CSPC works in a multi-thematic approach to improve health, livelihood, WaSH, and education in its intervention areas.”**

Climate-induced changes are increasingly being faced by humanity. While climate change effects are being felt across the globe, coastal communities living in arid and semi-arid regions of the world are getting disproportionately impacted. These communities are now at higher risks of incidents of natural disasters such as cyclones and crop failures, and their health and livelihoods status are becoming increasingly vulnerable due to salinity ingress and land degradation in groundwater and on land resources.

Coastal Salinity Prevention Cell (CSPC) is working in 936 salinity affected villages of Coastal Gujarat to help communities evolve, cope and mitigate adverse impacts of salinity ingress and to improve the quality of life of the local communities. The adverse impacts of salinity ingress are varied and multifarious. CSPC works in a multi-thematic approach to improve health, livelihood, WaSH, and education in its intervention areas. Activities such as ensuring access to potable drinking water and sanitation facilities, strengthening and diversify livelihood, ensuring water management to conserve groundwater, menstrual health management, and providing early learning support for children are some of the major initiatives being led by CSPC.

During the year, CSPC took up various innovative pilots to strengthen the effectiveness of interventions. The organisation is promoting intercropping vegetables, fodder, and pulses with the main crop to diversify income base of farmer household. Green manuring and composting are also being promoted and have good acceptance among farmers. Water management





is key to improving productivity and preventing salinity ingress. Innovations such as Laser irrigation undertaken on onion crops has significantly improved productivity and appreciated by farmers as a low cost substitute to drip systems.

CSPC has worked actively to ensure potable drinking water to coastal communities. Usage (volumetric) based water meters were piloted during the year to ensure judicious use of the precious resource. Improving the quality of water in salinity affected regions is a key intervention of the drinking water program. A water filter chamber was piloted to address iron contamination, which has shown promising results.

Another innovation undertaken in 2018 was the initiation of the Smart Toilet Campaign, which used innovative messaging to induce behaviour change among community members to improve the usage of toilets.

A detailed hydrogeological survey was also undertaken in 12 coastal villages to identify potential recharge areas. The study was crucial as it led to the creation of fractures in aquifers by fracturing techniques. This intervention has yielded promising results as it successfully increased the water level in the wells of the farmers.

Such innovations bring promise for coastal communities by enabling them to better combat salinity ingress and usher hope for a more sustainable future. The efforts have been possible due to the constant support of our civil society partners, donors, government agencies, and academic institutions and our communities.

**Apoorva Oza**

Chairperson

Coastal Salinity Prevention cell

# Board of Directors



**Shri Apporva Oza**  
Chairman



**Shri V.S. Gadhvi**  
Additional Chief Secretary (Rtd)



**Shri Arun Pandhi**  
Tata Trusts



**Shri Burzis Taraporevala**  
Tata Trusts





**Prof. Sukhpal Singh**

Chairperson Centre for Management  
In Agriculture, IIM Ahmedabad



**Dr. Indira Khurana**

Independent Development  
Consultant



**Shri Chandrakant Kumbhani**

ACF



**Shri Divynag Waghela**

Tata Trusts

# Contextualizing Development



The increasing salinity of land and water resources in coastal areas is one of the serious environmental problems in Gujarat over the past few decades. Prolonged use of saline water for irrigation has led to a decline in agricultural yields and decreased soil fertility, rendering the land unsuitable for future cultivation. Salinity has also affected underground water aquifers, leaving over 1,500 villages with drinking water unfit for human consumption.

In an effort to facilitate a solution to the environmental problems caused by salinity ingress in the coastal belt of Gujarat, Aga Khan Rural Support Programme (India) and Sir Ratan Tata Trust, along with their partner organisations, launched the “Kharash Vistarotthan Yojana (KVY)” in 2002, earlier known as the “Gujarat Coastal Salinity Prevention and Mitigation Initiative”.

In recognition of the complexity and multi-faceted nature of the problems, it was felt that to make a substantial impact, joint efforts of both government and civil society organisations were required. CSPC was able to coordinate and provide technical inputs to ongoing salinity projects in the state as well as develop innovative programmes and initiatives.

Over the last 10 years, CSPC with its pivotal role as the nodal agency for Kharash Vistarotthan Yojana has established a collaborative platform with the government, civil society organisations prominent National and International donor agencies

**Our multi-sectoral initiatives have impacted over one Lakh Households of 932 villages across 9 districts of Gujarat.**

and premium Academic Institutions to mitigate the effects of salinity in coastal areas. The roles envisaged for CSPC also include to formulate a repository of knowledge on content related to salinity, evolve as the fulcrum to develop and strengthen salinity mitigation initiatives.

In the journey so far, CSPC has been able to ensure safe drinking water to 70,000 households and sanitation facilities to over 56,000 households. Similarly, in agriculture, CSPC now works with over 60,000 farmers, helping them train on mitigation strategies for salinity ingress, efficient water management, the creation of both individual and common water harvesting structures, animal husbandry and technological solutions for extension mechanisms.

CSPC supports the creation and strengthening of Farmer Produce Collectives (FPC) to ensure safe input, timely input supply as well as forward linkages for their produce. CSPC is also actively involved in Early Childhood Education (ECE) and learning enhancement with grade-appropriate literacy and numeracy skills in primary grade students.



# Our Initiatives



## A. Sustainable Agriculture with a focus on:



- Enhancing agricultural productivity.
- Intercropping
- Water saving and conservation practices
- Regaining agricultural dynamism by introducing improved practices, salinity resistant crop varieties and enhancing the efficiency of irrigation
- Formation of Community Based Organizations and enhancing the institutional capacities of the communities to manage their scarce resources.

## B. Soil and Water Conservation



- Well recharge,
- Farm pond,
- Check dam deepening
- Rock fracturing
- Bore blasting
- Natural Resource Management interventions to enhance the quality of assets of the farmers.

## C. Drinking water and sanitation



- ➔ Capacity Building (civil society partners)
- ➔ Securing access to safe drinking water for the rural communities
- ➔ Sustainable Sanitation Practices
  - SWM: Solid Waste Management (SWM)
  - Smart toilet Campaign
  - MHM: Aims to educate the menstruating women and the male counterparts about science of Menstruation, the hygienic practices associated with it, disposal of the menstruation waste and also to break the negative beliefs around it.
  - Water Budgeting: interventions will be designed towards equitable water balancing and usage in the village.
  - WaSH in Schools: To take up the interventions for repairs of dysfunctional Drinking Water Systems, repair of Toilets, and develop the habit of proper Hand Washing among the students.
  - Controlling microbial contamination of drinking water at point of use

## D. Education: Interventions in Public Schools



- ➔ Developing foundational skills of literacy and numeracy grades
- ➔ Enabling libraries in public schools and developing capacity of government school teachers to run libraries effectively
- ➔ Integrating technology with education
- ➔ Interventions in Anganwadi Centers under ICDS scheme





## E. Livestock Development



Animal husbandry for milk production has emerged as one of the most important contributors to household income in coastal families. Almost 70% of the small and marginal families in coastal villages are involved in milch animals rearing for regular income from milk sales.

The intervention focuses on establishing milch animal rearing as a viable economic activity among the small and marginal families through:

- ➔ Awareness generation about animal care and feeding practices through village level trainings on vaccination
- ➔ Providing access to timely and affordable veterinary services for Infertility and other treatment through conducting animal health camps and on call vet.
- ➔ Provide options for balance feed through promotion of green fodder access through multicultural fodder crop, Azola and silage production.
- ➔ Organized milk marketing through establishment of Milk Pooling Points (MPPs)



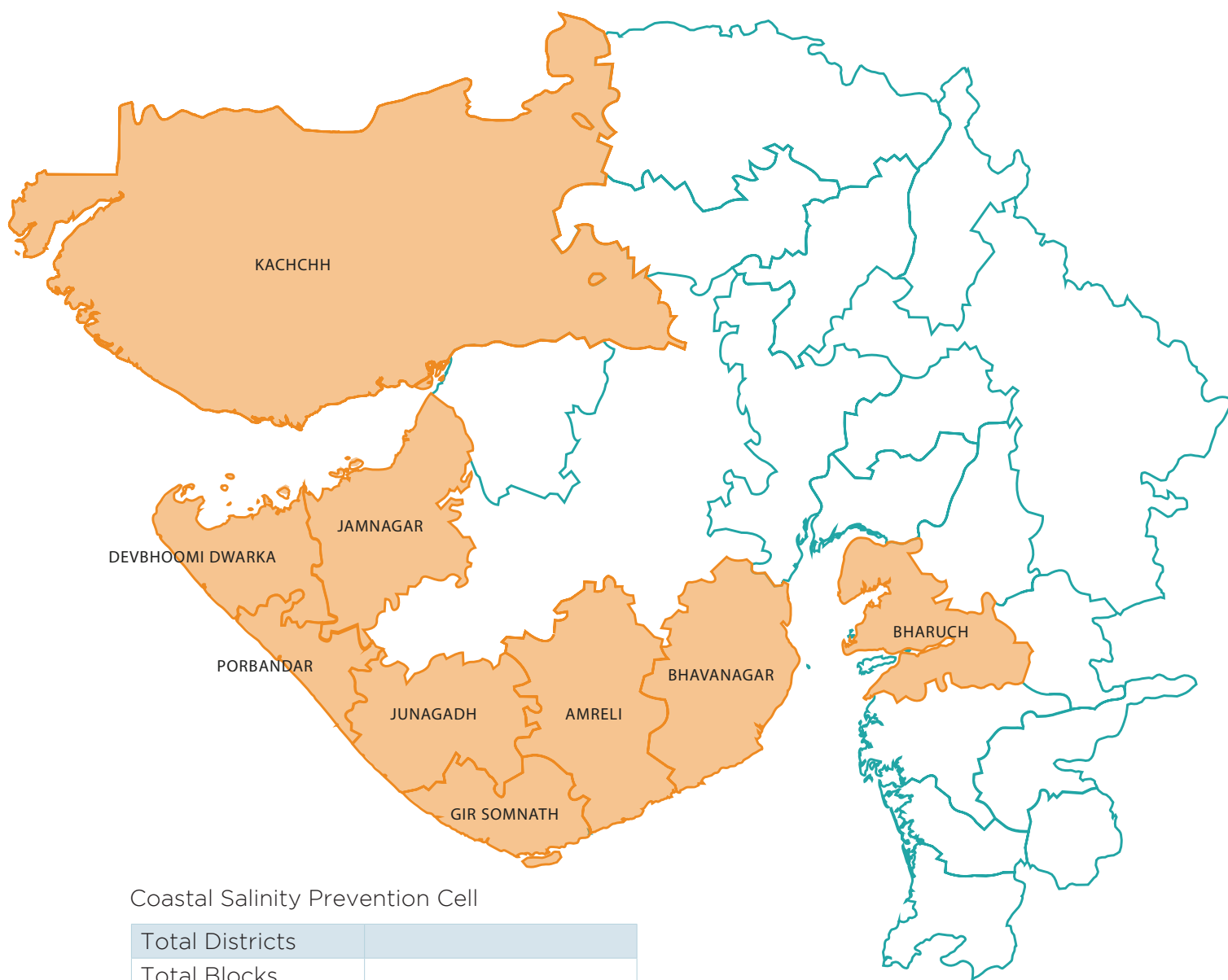
## F. Institution Building



CSPC has promoted and nurtured various community level institutions for implementation and management of different activities across all thematic and geographic areas. The institutions are led by community leaders and provide a platform for demonstration, learning and scaling up of ideas for the sustainable development of salinity affected communities and villages.



# Outreach Districts



Coastal Salinity Prevention Cell

Total Districts	
Total Blocks	
Total Villages	
Total Households	



# Sustainable Agriculture



The implementation strategy focuses on addressing the long term sustainability of farm-based livelihoods, through piloting innovative models and approaches for agricultural diversification. Our emphasis has been on expanding and scaling up various agricultural interventions to reach a larger number of farmers.

## Key highlights

- Fairtrade procurement of 880 tonnes to fetch an additional premium of 0.5 crores to 3 FPOs and 14% additional price realization to farmers.
- Maize crush unit added a turnover of 1.6 crores and a quality energy feed supply to its members.
- Diversification into new crops like watermelon enabled farmers to realise a gross income of 2.31 lakhs per acre within 90 days. The same plot intercropped with chilies fetched 0.82 lakhs and is still counting.
- The use of mulching and green manuring in cotton yielded significantly higher results compared to irrigated control plots.
- White grub management in 12 villages was reported with a reduction in crop losses by 30%.
- Pest monitoring for ETL reduced input costs up to Rs. 900 – Rs. 1500 per acre in cotton
- Yield increment of 12-50% was reported with the use of water structure devices used in 3 clusters.

## Primary focus areas for sustainable agriculture in CSPC:

- Improved farming practices
- Salt tolerant crops and varieties
- Horticulture and vegetable crops
- New agriculture practices
- Soil testing
- Solar fencing
- Micro Irrigation Systems (MIS)
- Farmers' ability to form Producer Companies
- Awareness building of producer companies on matters pertaining to governance and legal compliances.

- 2944 horticulture plants like ber, pomegranate, and lemon were distributed to farmers through demonstration promotion of solar fencing is done in 643 acres land area with a total of 147 HHs.
- Kitchen garden created in 797 households saving approx. INR 200 per hh per week

We piloted this in two coastal districts – Gir - Somnath. In both cases, irrespective of soil and water quality, farmers experience an increase in productivity. In Gir - Somnath, crop productivity increased by 0.4 to 1.2 tonnes/ha for seasonal crops, 7 tonnes/ha for sugarcane, and 20 tonnes/ha for bananas.

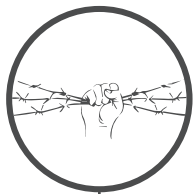
# Our Interventions



## Soil Testing

Over the last couple of years, soil testing campaigns were initiated in project villages, during which 8 - 12 soil samples were collected from each village. 1,900 samples in 357 villages were tested for macronutrients {Nitrogen (N), Phosphorous (P), Potassium (K), Electric Conductivity (EC), pH} and micronutrients {Iron (Fe), Zinc (Zn), Manganese (Mn), Copper (Cu), Sulphur (S)}.

The data gathered from the measurement of these micro and macronutrients in the samples formed the basis for soil mapping, which is developed using GIS (Geographic Information System) software. These soil maps, which indicate the status of nutrient-availability in the soil, are strategically painted at common places across the villages and at Village Information Centres to disseminate the critical information gathered. This data is also presented during LG or Farmer Group meetings to generate awareness among the farmers.



## Solar Wire Fencing

Crops damaged by wild animals cause a significant economic loss to farmers. This risk can be tackled by the use of securing measures for crops, such as solar-powered wire fencing. A total of 375 farmers protected their farms on 1,225 Ha of land by adopting the use of solar-powered wire fencing systems.



## Micro Irrigation System

Water is the key factor in preventing salinity ingress. Moderate and conscious use of water helps not just conserve the valuable resource, but also of the ingress. Drip is emphasized as a necessary irrigation method to reduce the effect of salinity in the region. Micro Irrigation Systems have aided around 786 farmers who have adopted the Drip Irrigation System across 1000 Ha of land and around 379 farmers who have adopted sprinkler irrigation systems across 771 Ha of land.





# Achievements



A total of twenty activities were carried out under sustainable agriculture initiatives. The overall achievement against the set targets has been on the higher side. In three of the activities the **achievement has been higher than 100%**, namely farm bund, well-recharge and new farmer's registration.

In five of the activities, establishment of MPP, vegetable trellis, soil and water testing, training and capacity building and farm pond, the **achievement has been between 90% to 100%**. In the eight activities the achievement has been **more 80%**. The activities with lower achievement are demonstration, **micro irrigation system**, solar fencing and FPO membership.





# Natural Resource Management



## Key interventions

### Well recharge



Well recharge structure

Pumping of underground water has caused depletion of the underground water table, resulting in increased ingress of salinity, which is directly affecting the livelihood of peoples in the coastal area of Gujarat. Recharge the groundwater table is necessary to improve the availability and quality of groundwater. Well recharge / bore well recharge remains the best cheap and economic tool in the recharging of groundwater in huge quantities. The approximate cost for the construction is INR 6,000 to INR 11,000 of which 50% contribution is from farmer's end. Recharging pit is normally constructed in the middle-lower part of the farmland close to a well. The recharge pit is dug with a filter media where the rainwater from

the farmland gets collected, from there it passes into the well. The experiences and feedback from the beneficiaries highlight that both water quality and water availability have improved after the recharging of the well.

### Farm Pond

#### The need

For the last 30 years, the rainfall pattern in the operational areas has been erratic and irregular. Crops get heavily affected if not irrigated at the right time. The stored harvested rainwater from the farm pond comes of use for 1 or 2 support irrigations during the critical period. The farm pond helps in recharging the groundwater through water storage and recharge.



Farm pond

### Site selection and construction

The farm pond is dug in the lower area of the farm where excess rainwater gets collected. The farm pond is constructed with inflow and overflow arrangement by the farmer. The size of farm pond storage varies based on the requirement and land availability to farmers.

### Benefits

- ➔ In Kalyanpur, Okhamandal, and Anjar, the farmers depend upon farm pond based irrigation, and the farmers have been able to provide irrigation to 2 to 8 acres of land, and irrigated crops during a dry spell and drought conditions.
- ➔ In the saline area, the farm pond acts as assets of the farmer, and every year, fertile silt gets deposited into the farm pond, which can be reused by farmers on the farm, improving the texture and structure of the soil.

### Approach

- ➔ Farmers are identified based on both their need and awareness levels.
- ➔ Baseline data is collected to formulate the plan
- ➔ Demand from beneficiaries and verification of the location, collection of pre-data is recorded.
- ➔ The preparation of layout, implementation, and monitoring of the structure is done by the farmer.
- ➔ Based on the measurement, payment is made
- ➔ Structures are handed over to beneficiaries with a completion certificate.
- ➔ End-line data is collected.

## Technological Innovations for Improving Water Productivity

Water scarcity in arid and semi-arid areas is a huge concern. The increase in number and duration of dry spells and consequently, a heightened dependency of irrigation, require measures which may result in per drop more crop. CSPC has been promoting Micro Irrigation Systems like Drip and Sprinklers in its operational areas. In addition, CSPC has also been promoting a number of innovations to promote water productivity.

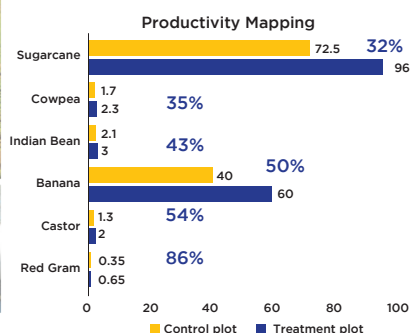
### A. Structured Water Devise

The molecules of water flowing down the hills acquire a hexagonal shape, which reduces the surface tension of water and accelerates water's ability to hydrate plant and animal tissues. The same principle to reduce surface tension of water is employed in water structuring devise. A water structure device is made up of pebbles/marbles and water flows through pipes and over these pebbles/marbles to acquire a hexagonal shape. CSPC has piloted a number of water structure devices in the field and farmers have realized very good results in both agriculture output and animal husbandry. This innovation has also been published by NABARD in its annual report of 2018-19.



### Best Practices Recommended

Water Structure Device (\*Featured as success story in NABARD Annual Report 2018-19)



Innovation - Water Structure Devise



### Highlights

- i. Successfully complete water quality analysis for 450 project villages in the coastal area.
- ii. Implementation of Water Filter Plant in Kutch in order to remove iron content from the drinking water.

## Water Harvesting Structure

Groundwater recharge and other NRM interventions are to enhance the quality of assets of the farmers. In the coastal area, the groundwater recharge is useful for improving the water table and water quality.

Water harvesting structures is a group-based activity consisting of more than five beneficiaries.

Water harvesting structures are big size storage units that have the water storage capacity that varies from 0.50 to 10 Mcft. The storage capacity is based on demand, needs of the beneficiaries, catchment area, and availability of water yield from the upper catchment area.

It has proved to be the most beneficial structure, as it can recharge up to 20 to 40 existing wells/ borewells.

It is constructed on the revenue land with permission granted from the concerned authority.

Additionally, it acts as a barrier for salinity ingress and prevents the salt water from entering the groundwater aquifers.

HLC I & II committee has also recommended the construction of recharging structures/tidal regulators and check dams as well as different water harvesting structures in the coastal areas to prevent salinity intrusion.



# Drinking water & sanitation



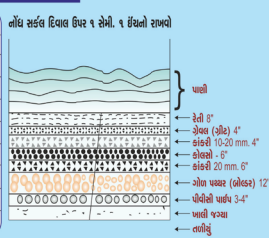
The community faces severe hardships concerning the consumption of saline water for their basic sanitation and hygiene requirements. Our initiatives empower the community for access to potable water and to manage their resources efficiently to lead a healthy, sustainable life along the coast.

## Innovations on the Field

### Water Filter Chamber

A filter chamber helps to remove unwanted iron content found in the groundwater of Bheraiya village. The chamber consists of layers of pure sand, gravel, pebbles, metal, and boulder, which forms a natural filtering technique. The filter chamber reduces water turbidity and iron contamination.

ફિલ્ટર મટીરીયલ ચાર્ટ		
ક્રમ	સામગ્રી	જડાઈ સામગ્રીના સો.ર.
(૧)	ખુલ્લી જગ્યા (Open Space)	8"
(૨)	પી.વી.સી. પાઈપ (PVC Pipe 4 8 6)	3"થી 6"
(૩)	ગોળ પથ્થર (Boulder)	12"
(૪)	કાંકરી 20 mm. જડાઈ (Big Size Grit)	6"
(૫)	કોસલો (Charcoal / 10 20 mm.)	6"
(૬)	કાંકરી 10 થી 20 mm. (Grit small size 10 to 20 mm.)	4"
(૭)	ગ્રેસ (ગ્રીટ) (River Grit)	4"
(૮)	રેતી યોગી નદીની (River Sand)	8"
(૯)	પાણી (Water)	ટાંકીની ઉંચાઈ મુજબ



### Water Metering

Innovative, technological, and economically sustainable solutions are being explored to support these village institutions to establish usage (volumetric) based tariff collection mechanism. The automated water metering system is one of the alternatives identified and which has been piloted in Thordi village of Sutrapada Taluka.

### Our focus is primarily aimed at:

- ➔ Securing access to safe drinking water for the rural communities
- ➔ Enabling sustainable sanitation practices
- ➔ Promoting Healthy Practices (BCC-Toilet usage)
- ➔ MHM
- ➔ WaSH in School

## 5 Star Toilet Campaign

This study of the 5 Star Toilet Campaign is a cluster randomised trial of an innovative, theory-based intervention that aims to improve toilet use in select clusters of Bhavnagar. The trial tested an intervention based on



behaviour centred design (BCD) to address determinants of toilet use in three blocks (Talaja, Mahuva and Palitana) of Bhavnagar district in rural Gujarat. The intervention aimed to address the complex determinants of low toilet use in rural Gujarat and improve use among all members of households with government contractor-built toilets in selected villages of Bhavnagar, Gujarat.



**Highlights**

- i. 2400 groups of women and adolescent girls were formed reaching out to 40,000 members.
- ii. 10,000 women and adolescent girls were reached out through Menstrual Hygiene Management Training.

## Menstrual Hygiene Management Program

### Background

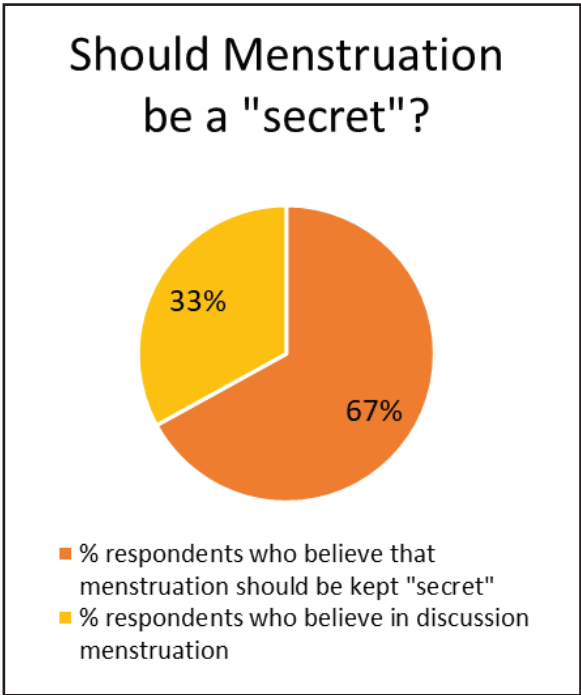
Out of the total population of women, in India, about 52% are of reproductive age and menstruate every month. In our recent survey with 600 women and adolescent girls in 5 districts of Gujarat, it was found that a majority of women lack a sound understanding of menstruation, and continue to follow myths and beliefs. It is a known fact that menstruation is believed as ‘unclean’ or ‘dirty’ among many communities. This results in low self-esteem among adolescent girls, affecting their ability to make decisions, communicate and negotiate for their needs, thus perpetuating the idea of gender inequality at a very young age. As per the World Health Organization (WHO), improvements in water quality and quantity, sanitation, and hygiene practices have the potential to prevent at least 9% of the global disease burden.

### Project Objectives:

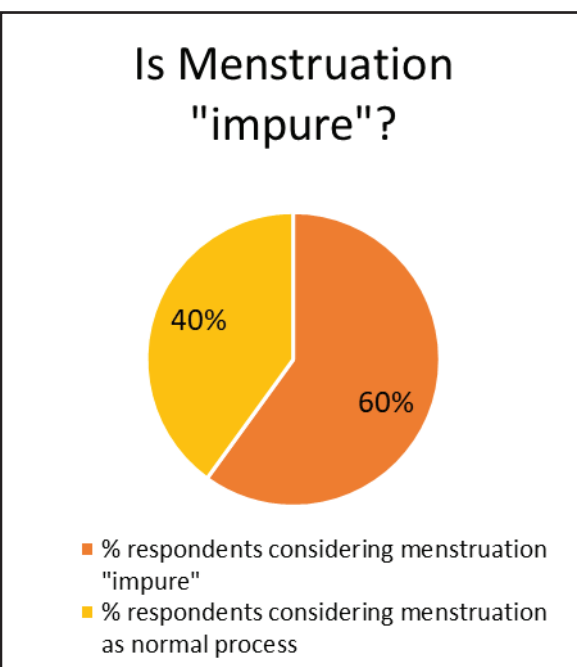
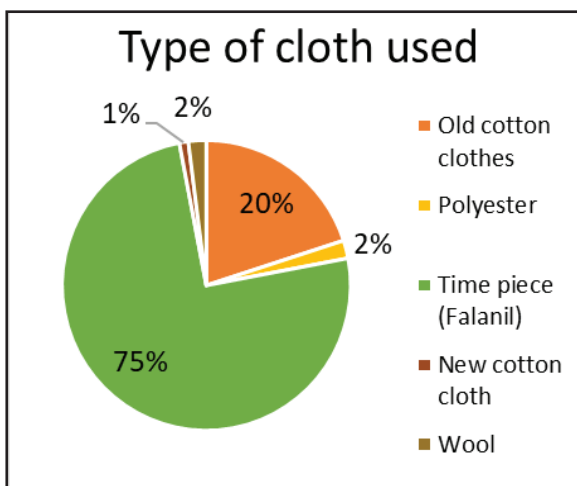
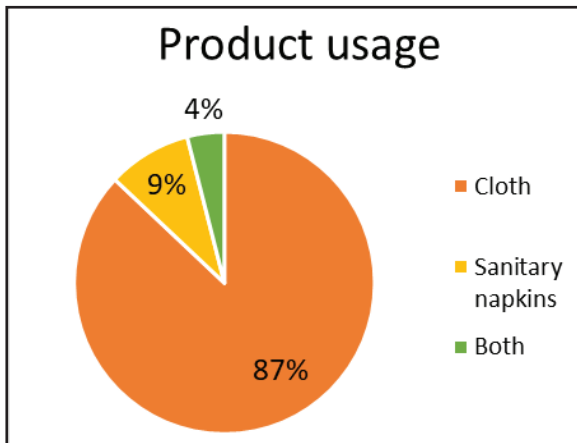
The MHM project aims to create a friendly environment for adolescent girls and women, to help them manage menstrual hygiene. The interventions were done 200 coastal villages from 5 districts, namely Kutch, Amreli, Bhavnagar, Junagadh, and Gir Somnath.

### The Program aims at:

1. Adolescent girls and women retain and adopt the basic concepts about menstrual hygiene through the multi-points intervention program.
2. Adolescent girls and women become comfortable initiating dialogue and holding discussions around the topic of menstruation among peers, family members, and others;
3. Increase in the use of appropriate sanitary products by the menstruating women/girls



## Baseline Findings at a Glance



## Approach:

The Programmatic approach is to cover adolescent girls and women through 4 training modules-

### School Module

- Target of adolescent girls of 6th to 12th standard;
- In case of primary schools, the adolescent girls of 6th to 8th standard and in case of High schools the adolescent girls of 8th to 12th standards have been covered under the project;

### Community Module

- Aim was of reaching 100 % population of the menstruating women of the village;
- Where the SHGs presence is not so prominent we have informal groups there. But in case of strong presence of SHGs, the formal groups of the SHGs have been considered for the training. The field team maintains the records of the group members like- Name, Age and Contact numbers.

### The four Modules are:

- Puberty and Menstruation
- Pre- Menstrual Syndromes and Products
- Myths and Taboos
- Games

### Progress Updates:

#### School Component

- No. of Groups Formed: **491**
- No. of Trainings Conducted: **1012**
- Outreach of the School Girls: **10882**

#### Community Component

- No. of Groups Formed: **1773**
- No. of Trainings Conducted: **2653**
- Outreach of the Women: **9754**



### WaSH in School Program

As a part of its initiative to work in the areas of child care, education and health to improve the lives of the vulnerable members of communities, Tata Trusts has provided financial resources to the ongoing CSPC projects in the sphere of Water, Sanitation, and Hygiene (WaSH) to improve the conditions of WaSH facilities in the school. The initiative will positively impact the lives of children in the long term.

One of the main elements of the program was to provide WaSH related infrastructure in government schools.

#### Program Elements:

1. **Provide Water, Sanitation, and Hygiene (WASH) infrastructure to the government Primary Schools;**
2. **Construction, repairs, operation, and maintenance of drinking water and sanitation infrastructure in schools;**
3. **The practice of good hygiene in all schools.**

#### Project Area:

Under WaSH in School Program in Gujarat, the project area was as under:

Sr. No.	District	Block	No. of Primary Schools covered
1.	Amreli	Rajula	19
2.	Bhavnagar	Talaja	24
3.	Kutch	Mandvi	25
4.	Devbhoomi Dwarka	Mithapur/Okha Mandal	17
<b>TOTAL</b>			<b>85</b>

### Water, Sanitation, and Hygiene (WaSH) infrastructure provided to 85 Government

## Achievements

**85 Government Primary Schools**  
provided with improved Wash facilities;

**340 Behavior Change Communication (BCC)**  
events conducted with the school children

**More than 20,000 School children were reached**  
through WASH in School Program



# Education



A study was undertaken to improve education levels in three blocks of three districts of the Saurashtra region of Gujarat, namely Junagadh, Jamnagar, and Amreli. In 2013-14 Okhamandal block was identified with distinctly lower literacy rates than the state average. Further, the study also highlighted that the education of the students in the region was adversely affected on account of migration for economic reasons. Based on these findings the intervention on education in Okhamandal block of the Devbhoomi Dwarka district was initiated in 2015-16.

As part of the project, teachers in the government schools were trained on library components, and efforts were initiated to set up a resource center at DIET, Jamnagar. As the outcome of the initiative, the attendance level of students across the centres surpassed 70% average. The average attendance for last year was 67% average. The fact that children were coming to the centres- at the attendance

## Interventions

- Learning enhancements in primary and upper primary grades for Mathematics and Language
- Enabling Mathematics Resource Centres at DIET, Jamnagar
- Integrating technology with education to stimulate learning
- Continuing to scale-up education interventions in coastal Gujarat

level greater than 60-65% can be attributed to the constant follow-ups that the learning assistants carry out and meet the parents regularly.

## Highlights

- More than 300 Behaviour Change Communication (BCC) events in the primary schools in order to inculcate the safe hygienic practices.





# Key Achievements



1. Development of foundational skills of literacy and numeracy in 20 schools (approx. 900 students)
  - ➔ In literacy, approx. 86% achieved the level of appropriate learning.
  - ➔ Approx. 75% of students attained skills in the number system.
2. Activity-based learning in Science and mathematics (Approx. 800 students in 20 schools)
  - ➔ Approximately 80% of students' level appropriate learnings in numeracy and literacy.
  - ➔ Approximately 60% of students good at fraction and area and perimeter at their level appropriate.
  - ➔ Approx. 58% of Students achieved skills in fraction and area and perimeter
  - ➔ Approx. 63% of students achieved skills in Geometry
  - ➔ Apart from Maths and Science Team performed ITE sessions and students accomplished their projects in maths and science.
3. Early Childhood Education centres initiated across 50 Anganwadi centres
  - ➔ Certain Anganwadi showed remarkable progress, wherein the AWWs were highly motivated and provided a wholesome environment for children to learn and flourish.
  - ➔ The AWWs also had a thorough grasp of the concepts of child development and activity-based preschool learning.
  - ➔ It was reported by parents that their children insist on going to the AWC daily and have become more sociable, exhibiting better use of language and performing higher-level cognitive tasks.
  - ➔ A lot of community involvement and strengthened AMCs were also witnessed in these centres. With the participation of parents and adolescent girls, better learning outcomes and children's interest in attending the AWC regular
  - ➔ 38 % had received training in maintaining mini-libraries, storytelling, as well as conducting outdoor sports activities for children





# Dairy Development



## Backend Dairy Services

Animal husbandry for milk production has emerged as one of the most important contributors to household income in coastal families. Almost 70% of the small and marginal families in coastal villages are involved in milch animal rearing for regular income from the sale of milk.

The last two decades have seen a rapid expansion of area under cotton farming in the coastal areas, which is popularizing the use of cotton seeds cake as animal feed. The excessive feeding of cotton seeds cake containing "Gossipol" a chemical aldehyde negatively affects animal's reproductive capacities due to the deposition of detrimental muscle in the reproductive organ. About 30% of the milch animals in the region suffer from the problem of infertility leading to a decrease in milk production, which impacts the income of the milch animal owners.

The increasing salinity coupled with the rain-fed nature of agriculture is shrinking the availability of green fodder. The lack of balanced feeding (proportion of green and dry fodder) of animals is leading to wide seasonal fluctuations in milk production.

Due to inadequate access to services, the majority of farmers are not aware and do not opt for best practices such as regular vaccination, ration balance feeding, maintain proper calving interval, and calf rearing practices, resulting in higher expenditure on inputs and make the animal rearing not as profitable.

About 30% of the milch animals in the region suffer from the problem of infertility leading to a decrease in milk production, which impacts the income of the milch animal owners.

## Interventions

The intervention focusses on establishing milch animal rearing as a viable economic activity among the small and marginal families through

1. Awareness generation about animal care and feeding practices through village-level training on vaccination, inter-calving interval, balanced feed, and animal nutrition. A group of 15 to 20 dairy farmers goes through the four modules of training. The training modules cover topics such as animal health care, infertility and calving interval, animal nutrition, and animal feeding. To date, 1700 farmers have been covered through 45 training sessions. Posters and pamphlets for awareness on vaccination, artificial insemination, and calving interval. The use of cattle feed has increased in the project villages of Talaja. Sales of 4750 bags till October against 1917 bags during the year 18-19 in 40 villages.

2. Providing access to timely and affordable veterinary services for infertility and other treatment through conducting animal health camps and arranging for the on-call vet. The follow up of treated animals is conducted and a proper feeding and breeding cycle is ensured. A total of 12 camps for infertility treatment and 232 animals have been attended by doctor on-calls. During the last year, 26 buffaloes recovered from infertility, conceived and given birth to calves, and 1500 plus animals have received various treatments at the doorsteps.
3. Provision of alternatives for balanced feed through the promotion of green fodder access multi-cultivation fodder crop, Azolla, and silage production. To date, 40 silage feeding demonstrations, 327 Azolla ponds, and 138 multi-cut fodder plots have been implemented by the farmers in Talaja. 327 milch animal owners have successfully adopted Azolla pond in Talaja. Improvement in milk quantity and Fat measured after 10 days of Azolla feeding. The average increase in milk production of 800 ml per day, and an increase in fat content by 1.3%. There has been an increase of INR 55 to INR 70 per animal per day due to Azolla feeding.
4. Milk Pooling Points (MPPs) were established to promote milk marketing in the villages without institutional milk marketing facilities. 85 MPPs with 1972 members have been established across the coastal blocks. The average milk poured is 10,650 KG/day. Additionally, 650 milk pourers have been linked with MAAHI milk marketing. A total of 1676 in 40 project villages.
5. To tackle the infertility concerns, calf-rearing has been initiated in the villages of the Talaja block. The 30-month long program focuses on addressing calf feeding and proper care practices, ensuring timely calving.



# Institution Building



## Our Belief

CSPC believes in the capabilities of the community and believes that rural people are fully capable of bringing the change they want. CSPC facilitates the promotion of Community Institutions to ensure the sustainability of development interventions.

## What we do

- Formation and strengthening of community institutions in the form of Learning Groups, Gram Abhiyan Groups, Water User Groups, FPC
- Capacity Building of Community Leaders
- Creating a platform for learning better practices
- Income enhancement and cost reduction through improving collective bargaining capacity

## Highlights

- As a National Level Key Resource Centre, CSPC in coordination with Rural Development Department completed 81 sessions of training for Nigrani committees in 70 talukas of 11 districts covering 5665 committee members.

## How we do

01

**Learning Groups:** constitutes of Group of farmers who follow the BCI progressive standards of cotton cultivation. CSPC works intensively to train the farmers to adopt better practices, reduce pesticide use and safety measures, etc.

02

**Gram Abhiyan Groups:** consists of progressive farmers who are early adopters. Farmers who have a keen interest to learn improved agricultural practice. They take a lead in adopting and demonstrating new practices in agriculture, horticulture, animal husbandry and water uses (Micro Irrigation system)

03

**FPC:** Farmer Producer companies are registered entities under the Companies' Registration Act. Farmers are the owners of the companies, which are governed by the Board of Directors (BODs) elected by the farmers



04

**Lift Irrigation Cooperatives:** These are Community-led institutions for management and maintenance of lift irrigation systems. It is managed by a management committee elected by the villagers

05

**Village Watershed Committee:** Village Watershed Committees are the primary project implementing entity in the watershed area. This body actually "owns" the project and is responsible for the planning, implementation, monitoring, and maintenance of the project.

06

**Pani Samiti:** These sub committees of gram panchayat help to help to mobilize villagers and enlist participation and contribution of time and other resources for solving water supply and sanitation-related problems of the village.

07

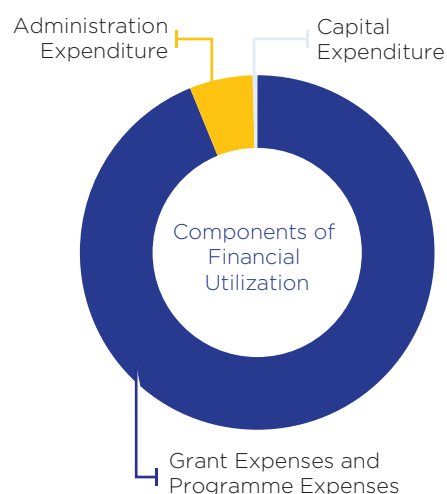
**Nigrani Samiti:** Community-Led Institutions to monitor the open defecation within the villages and educate the villagers about the ill effects of open defecation and benefits to using toilets.



# Financial Statement for 2018-19

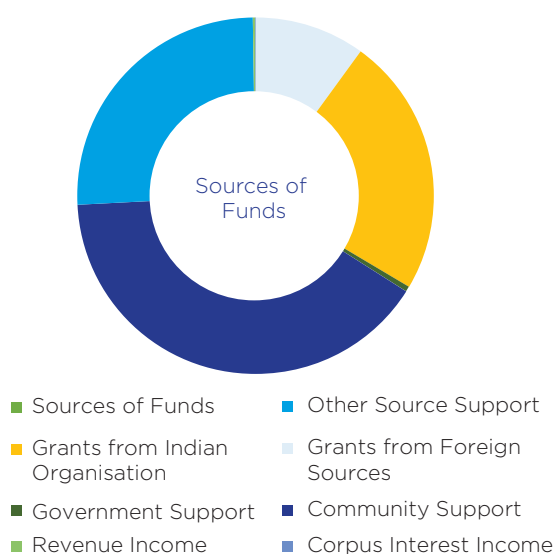
## Components of Financial Utilization

Utilization Head	Expense (in Lakhs)	Expense (in %)
Grant Expenses and Programme Expenses	2,634.56	93.83%
Administration Expenditure	161.52	5.75%
Capital Expenditure	11.59	0.41%
<b>Total</b>	<b>2,807.67</b>	<b>100%</b>



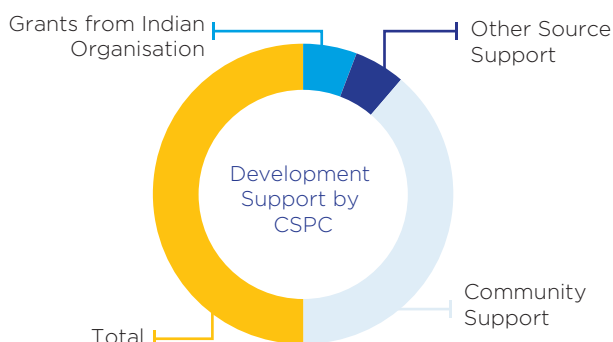
## Sources of Funds

Sources of Funds	Sources (in Lakhs)	Sources (in %)
Grants from Foreign Sources	281.90	10.02%
Grants from Indian Organisation	661.79	23.51%
Government Support	13.31	0.47%
Community Support	1,130.95	40.18%
Other Source Support	719.65	25.57%
Revenue Income	5.39	0.19%
Corpus Interest Income	1.48	0.05%
<b>Total</b>	<b>2,814.48</b>	<b>100%</b>



## Development Support by CSPC

Development Support by CSPC	CSPC support (in Lakhs)	CSPC support (in %)
Grants from Indian Organisation	158.51	11.58%
Other Source Support	150.01	10.96%
Community Support	1,060.26	77.46%
<b>Total</b>	<b>1,368.79</b>	<b>100%</b>



**Coastal Salinity Prevention Cell**  
**Balance Sheet as at 31 March, 2019**

Particulars		Note No.	As at 31 March, 2019 (Rs.)	As at 31 March, 2018 (Rs.)
<b>I EQUITY AND LIABILITIES</b>				
<b>1 Shareholders Funds</b>				
(a) Share Capital	3		6,00,000	6,00,000
(b) Reserves and Surplus	4		26,94,375	20,13,802
			<b>32,94,375</b>	<b>26,13,802</b>
<b>2 Non Current Liabilities</b>				
(a) Other Non Current Liability	5		28,82,241	31,11,480
<b>3 Current liabilities</b>				
(a) Trade Payables (Includes total outstanding dues of Micro and Small Enterprises Rs. Nil (31 March, 2018: Rs. Nil)			14,94,890	17,06,886
(b) Other current liabilities	6		1,07,31,083	2,60,37,642
			<b>1,22,25,973</b>	<b>2,77,44,528</b>
<b>TOTAL</b>			<b>1,84,02,589</b>	<b>3,34,69,810</b>
<b>II ASSETS</b>				
<b>1 Non Current Assets</b>				
(a) Fixed assets				
(i) Tangible assets	7		28,84,492	31,13,809
(b) Non-current Investments	8		10,06,374	7,88,000
(c) Long Term Loans and Advances	9		17,89,207	14,09,204
			<b>56,80,073</b>	<b>53,11,013</b>
<b>2 Current Assets</b>				
(a) Short Term Loans and advances	10		7,30,567	50,165
(b) Cash and Cash Equivalents	11		1,18,51,197	2,73,89,513
(c) Other Current Assets	12		1,40,752	7,19,119
			<b>1,27,22,516</b>	<b>2,81,58,797</b>
<b>TOTAL</b>			<b>1,84,02,589</b>	<b>3,34,69,810</b>

See accompanying notes forming part of the financial statements

1-23

In terms of our report attached.

**For Deloitte Haskins & Sells LLP**


Chartered Accountants

  
**Joe Pretto**  
 Partner



**For and on behalf of the Board of Directors**

  
**Apoorva Oza**  
 Chairman

  
**Chandrakant Kumbhani**  
 Director



  
**Harshvardhan**  
 Chief Executive Officer

Mumbai, 29 August, 2019

Mumbai, 29 August, 2019



Coastal Salinity Prevention Cell

Income and Expenditure Account for the year ended 31 March, 2019

Particulars	Note No.	For the year ended 31 March, 2019 (Rs.)	For the year ended 31 March, 2018 (Rs.)
<b>I INCOME</b>			
(a) Grant income and Donations	13	9,57,00,499	8,08,43,354
(b) Other income	14	6,86,950	7,24,013
<b>Total income</b>		<b>9,63,87,449</b>	<b>8,15,67,367</b>
<b>II EXPENSES</b>			
(a) Grant Expenses and Programme Expenses	15	7,95,54,507	6,77,91,359
(b) Employee Benefit Expenses	16	1,01,52,526	75,75,709
(c) Other Expenses	17	59,99,764	56,36,344
(d) Depreciation	7	79	511
<b>Total expenses</b>		<b>9,57,06,876</b>	<b>8,10,03,923</b>
<b>III Excess of Income over Expenditure before tax</b>		<b>6,80,573</b>	<b>5,63,444</b>
<b>Tax expense</b>		-	-
<b>Excess of Income over Expenditure for the year</b>		<b>6,80,573</b>	<b>5,63,444</b>

See accompanying notes forming part of the financial statements

1-23

In terms of our report attached.

For Deloitte Haskins & Sells LLP

Chartered Accountants

Joe Pretto  
Partner



Mumbai, 29 August, 2019

For and on behalf of the Board of Directors

Apoorva Oza  
Chairman

Chandrakant Kumbhani  
Director

Harshvardhan  
Chief Executive Officer

Mumbai, 29 August, 2019

# Team



- 1 **Achyut Pandya** - Chief Finance Officer
- 2 **Arshi Nandaniya** - Project Officer - WaSH
- 3 **Arvind Parmar** - Program Manager - WaSH
- 4 **Abhinaba Dey** - Program Officer - Monitoring and Evaluation
- 5 **Anay Mishra** - Cluster Manager - Rajula
- 6 **Ashwin Singhad** - Project Officer - Institution Building
- 7 **Bharti Ahir** - Cluster Manager - Mandvi
- 8 **Bhavu Makwana** - Cluster Anchor (MHM) - Talaja
- 9 **Bhikhala Gajera** - Project Associate- Institution Building
- 10 **BhupendraKumar Jani** - Sr Program Manager - Natural Resource Management
- 11 **Chhagan Vaghela** - Cluster Manager - Mithapur
- 12 **Dhruv Joshi** - Cluster Manager - Talaja
- 13 **Dhaval Shah** - Finance Manager
- 14 **Dilip N. Zala** - Program Officer - Agriculture
- 15 **Gautam Solanki** - Agriculture Officer
- 16 **Harshvardhan** - Chief Executive Officer
- 17 **Harsh Pandya** - Agriculture Officer
- 18 **Harish Parmar** - Program officer (Education)
- 19 **Jayesh Madu** - Project Officer- Livelihood
- 20 **Kamalendu Bhakat** - Senior Program Officer - Livelihood
- 21 **Kamlesh Solanki** - Program Manager - WaSH
- 22 **Ketan Hingu** - program Manager - BCC
- 23 **Manoj Mori** - Project Officer - WaSH
- 24 **Meghal Soni** - Sr Program Officer - Agriculture
- 25 **Omkar Pethkar** - Program officer - Documentation and Communication
- 26 **Dr. Pawan Verma** - Veterinary Officer
- 27 **Rafik Bilakhiya** - Community Mobilizer
- 28 **Rupal Samnani** - Cluster Anchor (MHM)
- 29 **Rina D'souza** - Program Manager (Education)
- 30 **Riddhi Modi** - Admin and Account Assistant
- 31 **Rahula Tiwari** - Program Officer
- 32 **Ravi Gevariya** - Program Officer Agriculture
- 33 **Shailesh Ramani** - Program Officer - Natural Resource Management
- 34 **Ujjwal Banerjee** - Thematic Lead - Education
- 35 **Uday Gaikwad** - Sr. Program Manager (Dairy)
- 36 **Vikas Sharma** - Program Associate - Maths & Science
- 37 **Vimal Nagu** - Program Associate - WaSH
- 38 **Yogesh Dodiya** Project Associate- WASH







## CSPC OFFICES / CONTACT DETAILS

### HEAD OFFICE

#### Coastal Salinity Prevention Cell

3, Sanidhya Bungalows,  
Opp. Land mark Hotel,  
Nr. Ashok Vatika BRTS Stand,  
Amli-Bopal Road, Off. S.G. Road  
Ahmedabad - 380058

Phone No:- 079- 26936406 | Website: [www.cspc.org.in](http://www.cspc.org.in) | Email at [info@cspc.org.in](mailto:info@cspc.org.in)

### CLUSTER OFFICES

#### Mithapur

Tata Chemicals Hostel, Near Okhai Handicrafts  
Mithapur

#### Rajula

CSPC, Nr. Huva College, Dharnath Society -2  
Rajula, Amreli

#### Talaja

CSPC, above Maharana Medical Store  
Nr. Dr Vaghela's Clinic, Rampara Road Talaja, Bhavnagar

#### Mandvi

CSPC, H. No. 86, Nilkanth nagar,  
Mandvi, Kacchh



CSPC Coastal Salinity  
Prevention Cell



CSPC\_Guj



@CSPC\_Guj



Coastal Salinity  
Prevention Cell Gujaarat

## Development Partners

### Funding Partners



**TATA TRUSTS**

TATA EDUCATION &  
DEVELOPMENT TRUST  
(TEDT)



### Implementing Partners



ARID COMMUNITIES  
&  
TECHNOLOGIES



SALINITY INGRESS  
PREVENTION CIRCLE  
(SIPC)



### Knowledge Partners





### **Coastal Salinity Prevention Cell**

3, Sanidhya Bungalow, Opp. Landmark Hotel,  
Nr Ashok Vatika BRTS Stand, Amli-Bopal Road, Off. S. G. Road  
Ahmedabad- 380058

☎ 079- 26936406 ✉ [info@cspc.org.in](mailto:info@cspc.org.in)

**[www.cspc.org.in](http://www.cspc.org.in)**