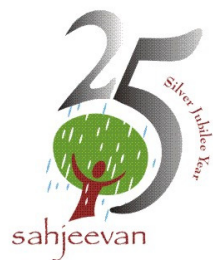
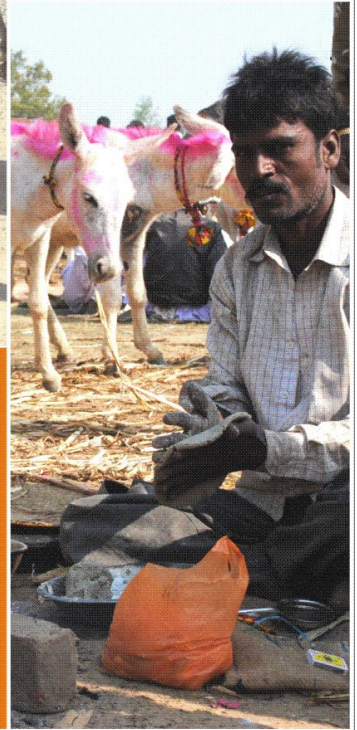
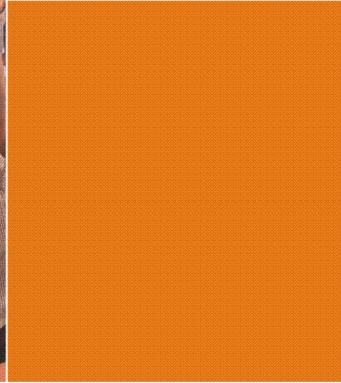
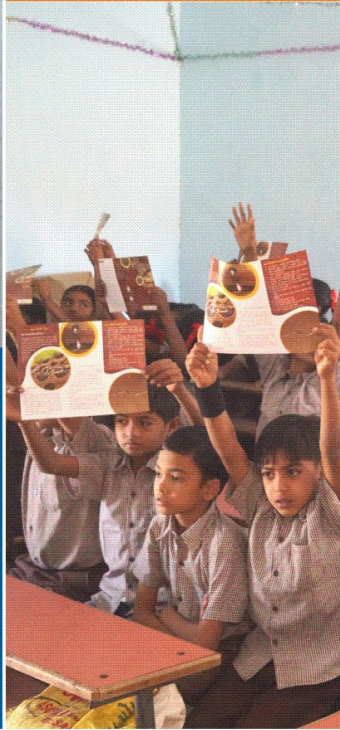
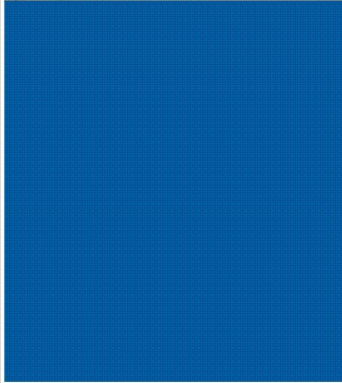
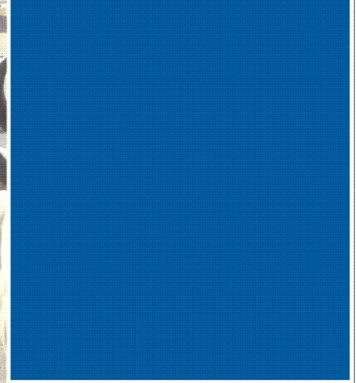
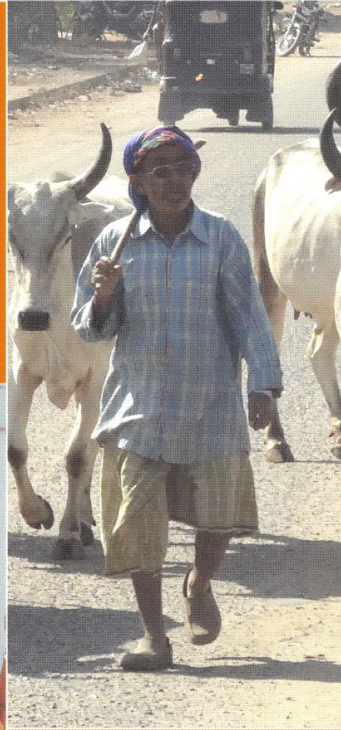
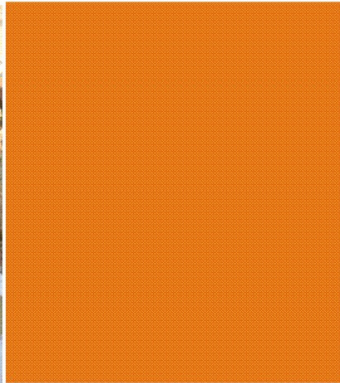


# Annual Report 2015-2016



## ***Index.....***

Chapter 1 : About initiation of Sahjeevan.....	3-6
Chapter 2 : Center for Pastoralism Unit.....	7-17
Chapter 3 : Biodiversity and Conservation Unit.....	18-31
Chapter 4 : Water Resources Unit.....	32-48
Chapter 5 : Urban Environment Initiative Unit (Urban Unit).....	49-63

### JOURNEY OF SAHJEEVAN

Sahjeevan came into being in 1991 as an institution that aimed to empower the disadvantaged - primarily women, through development and management of Natural Resources. With time, the organization's course had minor changes, constantly responding to evolving socio-economic and ecological complexities of Gujarat, especially Kutch. In the face of these constant changes; a belief in harmonious co-existence has held strong and been the soul of all its endeavors. This idea of harmonious co-existence extends beyond mere avoidance of conflict, it is a dream of an ecosystem in which all its elements flourish in unison, like instruments in an orchestra, to produce a symphony that is beyond the reach of individual efforts and it is reflected in its name (Sah – Jeevan). Today this core idea has taken the seat of a philosophical vision which helps Sahjeevan conceptualize projects, develop action plans and steer its day to day activities.

Kutch has witnessed pervasive industrialization and agricultural encroachments; these changes have been the primary drivers of rapid degradation of commons in the last decade. These changes have led to loss of traditional commons based livelihoods and marginalization of some specific communities. This has nudged the organization to focus on conservation and management of commons through governance; and revival of commons based livelihood systems. Sahjeevan works in partnership with other like-minded organizations and local communities. It has identified four thematic areas that need attention; namely Pastoralism, Water, Bio- diversity and Urban issues; and has established specialized units to work on them. Today Sahjeevan works across the state of Gujarat and has earned itself the recognition of being one of the foremost civic society institutions in the country. Sahjeevan expertise is widely recognized and it also provides knowledge and technical support to organizations across India.

### CENTER FOR PASTORALISM

Kachchh belongs to the arid areas of India. These areas are marked by sparse vegetation which regenerates slowly and this makes it unsuitable for man to harness land resources through farming. Frequently mobile livestock that helps man produce food of the land is a characteristic trait of arid areas, places where average rainfall is less than around 300 mm per annum. Interestingly these mobile livestock systems are able to ensure high productivity form while having low economic costs and low ecological costs. Such a way of production is called pastoralism.

It is not surprising that Pastoralism has been one of the most popular occupations in Kutch over the centuries. The pastoral people in Kutch are well known for their proficiency in breeding their traditional ecological knowledge of grasslands, and their intimate relationship with animals. Unfortunately this rich culture has increasingly come under threat due to inconsiderate policies, loss of access to traditional grazing lands, and changes in the macro-economic scenarios. Over the past years Sahjeevan has continuously worked to support these pastoral systems and engage the outside world on the necessity of conserving this culture.

During these years Sahjeevan has been instrumental in registering several indigenous breeds including celebrated ones such as Banni Buffalo and Kharai Camel. Sahjeevan has also worked closely with the community and been vital to the formation of several community based organizations, KUUMS, BPUMS and Association of the breeders of sheep and goats chief among them. Today Sahjeevan is recognized as one of the leading organizations working on breed conservation. It is working on conservation and registration of seven breeds with in Gujarat and extending expert support for multiple organizations outside the state to help register local indigenous breeds.

The CP group of Sahjeevan is moving towards development of a new model of conservation of ecosystems centered to on the distinct breeds of livestock. The Model of Indigenous Breed Conservation is a comprehensive package based on breed and its habitat conservation. The model starts with identification of the distinct indigenous breeds for conservation along with the breeder communities and their practices. The ecological characteristics of the habitat where the breed has originated is also studied with focus on threats to its conservation . Along with the characterisation and registration of the breeds, the breeders are organised as Breeder’s Associations and their capacities are improved for the conservation of the habitat and also to improve the livelihood / incentives generated from the breeds. Changes in the wider macro-economic world has led to a breakdown of traditional economic ties within communities, and increasingly pastoral communities find their livelihood sources limited in number, size and scope. Sahjeevan is working to revive traditional livelihood systems as well as develop new sources livelihood options. Currently Sahjeevan is involved in marketing camel milk as a food product, developing camel wool products and reviving sheep wool based crafts.

Today Sahjeevan is counted among the leading organizations working on pastoral livelihood and culture in the country and it collaborates with multiple national and international organizations/networks to advocate change that supports pastoral systems across the world.

## **WATER RESOURCES DEVELOPMENT UNIT**

---

Water is central to all forms of live. It plays a vital role in sustaining the food chain and there by providing energy for each and every living organism; and this has led to an increase in demand of water. Matters are direr in arid regions, scarcity leads to a constant tug of war and conflicts among at both collective and individual levels. In rural landscapes, water is even more essential since it is related to earning a livelihood. The presence or absence of water determines whether the locals get a full meal, whether the kids go to school, and at times to forces the people to migrate. Traditionally water has been treated as a precious by communities in arid regions and in Kachchh, it is common to find water resources being worshipped as a form of the divine. This culture of respect and communal ownership has been vital to the conservation of water and to the survival of desert communities. Unfortunately, with changing socio-economic circumstances, these traditional systems have come under severeand commons have been depleted by way of both use and misuse. In Kachchh, it is common to hear accounts of increasing salinity levels and gradual lowering of ground water tables.

Sahjeevan realizes the need the significance of educating local communities and building capacities and empowering them to manage their local water resources to the locals. This participatory approach combined with a focus on decentralizing water resources have borne rich fruits.Sahjeevan has been able to employ it inregions across the district to ensure water security over multiple consecutive years of drought through redefining and strengthening means of Water Governance in Kachchh. The unit has demonstrated its capabilities for Improving the quality and access to drinking water and ensuring its judicious governance especially through Community organizations and Panchayati Raj Institutions. The unit also working on ensuring ‘Water for All’ elements of Nature including human being and livestock. It is also concentrating on expansion and productivity improvement of dry land agriculture through water centered interventions like critical irrigation, soil moisture conservation and other water conservation measures.

## **BIODIVERSITY UNIT**

---

Kutch is well known for its varied ecosystems that shelter a rich assortment of endangered flora and fauna.It is probably apt that a region of such beautiful crafts and proud people be awarded with such rich biodiversity.The farmers of Kutch have bred crops which are resilient to the dry

weather and produce grains even when there was little rain. Traditionally the communities have sustainably utilised these rich biodiversity resources for their livelihood.

During the present era of Biodiversity loss due to anthropogenic reason, rather than human depending on Biodiversity, both human and Biodiversity have developed a symbiotic. Sahjeevan set up the BD unit in 2012 to address the challenges of conserving bio-diversity of Kachchh.

This unit has works by focussing on strengthening local Biodiversity Governance and capacity building of communities especially the women and youths and conducting. A major focus of the unit is to serve as a catalyst to support and strengthen conservation efforts both of government agencies and non-government institutions.

The Bio Diversity Act(2002) has given power to local communities for conservation and management of the local biodiversity resources. Sahjeevan has formed and registered 35 BMCs in the region with support from the Gujarat Biodiversity Board. After the formation of these BMCs, preparing their Biodiversity Registers and Conservation Action Plans, Sahjeevan has entered in CSR partnerships to create a fund to support the conservation activities of BMCs. The untied fund – Environment Action Plan Fund (EAPF) is initially being supported by Costal Gujarat Power Ltd. The unit also collaborates with Research institutions, educational institutions and the communities to collect information about local biodiversity.

The unit also works on participatory conservation of rare and endangered species. These efforts have been successful in conserving Mitha Guggul and securing of wildlife habitats and movement corridors. Sahjeevan is also actively working to educate the young generation and has developed educational modules for schools and supported BMCs in organizing nature camps.

## **URBAN CELL**

Sahjeevan's urban cell works in Kachchh to harness the power of responsible citizenship to respond to issues around management of commons. Bhuj has grown rapidly, both in terms of size and population, during the last 15 years. There has been significant displacement of residents, with new housing colonies being set-up, and an influx of people from other regions of Gujarat and the country. Bhuj, like many other urban areas in the country, has faced degradation of commons and encroachments at a rate much faster than rural commons.

The city demands a multi-level collaboration between local community groups, civic society actors and government administration to move towards effective and sustainable governance of natural resources. For such collaborations to be effective, it is important that different social sects acknowledge each other's importance and share a platform that allows negotiations on an equal footing.

Sahjeevan's urban unit works on developing a system of responsible and accountable citizenship, which works on the pillars of governance, conservation and livelihood towards protection of the urban commons. Currently the focus is on establishing a participatory, environmental friendly and sustainable Solid Waste Management systems and to conserve public places and common lands. This is done by creating awareness, enforcing environmental regulations, participatory planning and improving the socio-economic status of marginalized communities of Maldharis (Pastorals) and waste pickers. The marginalized are supported to form their own institutions that engage in both policy advocacy and enhance incomes and livelihood options for their own communities.

Sahjeevan's solid waste management program was developed on the idea that a clean city is central to developing a sense of pride and ownership among citizens, and hence the need of an effective waste management program

The urban unit's other major initiative is to work with Maldharis in Urban areas to protect traditional grazing lands and form CBOs that can communicate their importance to fellow citizens and work to protect their rights to common resources.

### Introduction

Kachchh belongs to the arid areas of India. These areas are marked by sparse vegetation which regenerates slowly and this makes it unsuitable for man to harness land resources through farming. Frequently mobile livestock that helps man produce food of the land is a characteristic trait of arid areas, places where average rainfall is less than around 300 mm per annum. Interestingly these mobile livestock systems are able to ensure high productivity while having low economic costs and low ecological costs. Such a way of production is called pastoralism.

It is not surprising that Pastoralism has been one of the most popular occupations in Kutch over the centuries. The pastoral people in Kutch are well known for their proficiency in breeding their traditional ecological intelligence of grasslands, and their intimate relationship with animals. Unfortunately this rich heritage culture has increasingly come under threat due to clumsy and methodical policies, loss of access to traditional grazing lands, and changes in the macro-economic scenarios. Over the last few years Sahjeevan has constantly strives to support these pastoral systems and tried hard to involve the other development actors to sustain and conserving this culture

#### **1. Activities during the year 2015-16:**

During the year 2015-16, some crucial and significant changes took place and results were achieved accordingly. The state level mega event successfully drawn state and national attention on the status of camels and need for their conservation. During this period, whilst small scale camel milk shop was launched, which is a step forward in taking the agenda of marketing of camel milk ahead by initiating small local experiments, the process of establishing CFR in Banni garnered support from the state government with the Hon'ble chief Minister taking leadership of the process. This has been a huge leap towards conversion of revenue villages in Banni and establishing people's rights on land.

Breed registration process progressed with some finality, with 5 well identified lesser known breeds. In this period few important projects have been complete, which is an opportunity for the organization to explore new funding partnerships.

#### **2. Project wise Activities**

##### **2.1. Camel Project**

##### **2.1.1. Institution Building Process**

##### **(a) Registration and renewal of membership of the Camel Breeders Association**

The executive committee of the Camel Breeders Association, with the hand holding of the Centre for Pastoralism team, carried out registration of new members to the association and renewed the current membership as well.

Membership of total 172 members has been renewed. Two and half centuries ago Many camel pastoralist who had migrated from Lakhpat to coast of southern Gujarat, from Rajkot to Bharuch (near Gulf of Khambhat) migrated with their herd in search of mangroves. These pastoralist need to be connected with the Camel Association for organizing them with the other camel breeders for their overall development. In this context, members of KUUMS and team of Shajeevan made several visits to the pockets of Costal Gujarat, wherever pastoralists have been moving with their camel herds. Around 55 new members from this migrated group of pastoralists have been registered as regular members of KUUMS.

### **(b) Annual General Meeting of Camel Breeders Association**

5th Annual general body meeting was held on 22nd June 2015. Member of parliament, Presedent of Jilla Panchyat, District Development Officer and other officials were present in this meeting. Checks for Incentives to Kharai Camel breeders (1000/camel) were distributed to 15 Kharai Camel breeders to the total sum of Rs. 114000/ Bio cultural community protocol translated in Gujarati language and published in 5th AGB by honorable gests and delegates.



### **(c) Identity Card distributed to Member of Camel Breeders association:**

As many as 200 Membership Identity Cards were distributed to members. Association had develop common ID card for members. The total number of members holding ID card now is 311. The ID card is useful for many purposes, especially when the pastoralist migrate with entire family to places outside kachchh. The card serves as an ID proof for the pastoralists as it says that they are regular members of Breeders Association.

### **(d) Annual General Meeting of Camel Cooperatives**



Three Camel Cooperatives have been formed and registered. The cooperatives work to negotiate and initiate dialogue with various government bodies for improving the accessibility of the basic needs of camels such as grazing area development, milk marketing and health services. In this period annual general meeting was organized with all three cooperatives. In the meeting, the members of the camel cooperatives presented the resource conservation proposals that they

developed based on the resource mapping exercise.



### **(e). Meetings of the Executive Committee**

During the year, seven Executive committee meetings were organized by KUUMS in which total 109 members participated. Several important decisions have been taken in these meetings.

### **(f) Base line survey of Camel Breeders**

To understand the socio economic status of Camel pastoralist Sahjeevan conducted a detailed baseline survey earlier in 2013. To find out changes in the status of camel population overtime, a baseline survey was conducted again. The survey was done using GPS assisted android application to map the locations where Kharai camels are found as this would be the base for devising strategies for their conservation and development.

The survey covered 276 camel rearing households, of which 238 households were from Kachch. These were the communities of Fakirani Jats who graze Kharai camels and rest were camel breeders from Ahmedabad, Bharuch, Bhavnagar and Jamnagar. Following are the main findings of the report:

- ✚ The study revealed the existing population of Kachchi and Kharai camels in the districts studied. As per the study, there are 7333 Kachchi camels and 1261 Kharai camels are found in Kachch.
- ✚ There are 3657 Kharai camels found in Kachch.
- ✚ The camel population across Gujarat is 10992 and the camel population belonging to kachch is 8596. In the baseline study, we studied the camels belonging only to the Kachch camel pastoralists spread across Gujarat.
- ✚ The survey revealed the changes in the livelihood, including camel population, grazing patterns, availability of grazing land etc.
- ✚ Number of camels has declined over a period of time.
- ✚ Through awareness events and strategic steps for promotion of camel milk in local market, 86 camel breeders have started selling 1950 litres milk/day to local venders, tea stall and households.
- ✚ Camel population has stabilized, as compared to the drastic declination before the implementation of this project.
- ✚ Generally camel milk is primarily used by herders for their own consumption or for the baby camels.
- ✚ Of 276 herders, only 84 sell their milk. Price received for milk ranges between Rs.10-25/litre, with one herder reporting a received price of Rs. 30/litre.
- ✚ Many herders keep milk enough for their own consumption only, so the full potential yield is largely untapped.
- ✚ According to the estimates of the 79 herders who would be willing to supply a dairy, they could supply 2174 litres per day. However, the actual potential is likely to be much higher.

### **2.1.2. Initiatives for Establishing Market linkages**

#### **a. Stake Holder Meetings**

##### **→ Meeting with animal Husbandry Department**

A Stake holder meeting was held in Gandhinagar that was chaired by Ms. Mona Khandhar (Secretary, Animal Husbandry department, GOG). Amul, Sharhad Dairy, GCMMF, Department of Animal Husbandry, KUUMS and Sahjeevan attended the meeting. Several Important decisions were taken in the meeting and a road map was also discussed. Following are some of the decisions taken and outcomes of the meeting:

- ♣ State Government approved additional grant of Rs. 3.5 crore to established camel milk dairy In Kachchh, whose first installment of Rs. 1.00 crore was released during the mega event.

##### **→ Meeting with FSSAI**

Meeting with FSSAI was held to follow up on the process undergo for including camel milk as food item. After the meeting, FSSAI issued a public notice to set the standard of Camel milk.

#### **(b) Small Scale Initiatives for Creating Market and Demand**

For promoting small scale initiatives on camel milk marketing, a milk parlor was opened in Bhuj city, where people can avail camel milk regularly. A small scale camel milk shop has also been opened. This milk parlor sells products of camel milk like tea, coffee, masala milk and loose milk. Many people have become a regular customers of the shop. Daily average 40-50 liter milk is sold by the shop.



### **2.1.3. Outcomes**

- ♣ Membership of total 172 members has been renewed.
- ♣ Around 55 new members from migrated group of pastoralists have been registered as regular members of KUUMS.
- ♣ State Government approved additional grant of Rs. 3.5 crore to established camel milk dairy In Kachchh, whose first installment of Rs. 1.00 crore was released during the mega event.
- ♣ After the meeting, FSSAI issued a public notice to set the standard of Camel milk.

Many people have become regular customers of the shop. Daily average 40-50 liter milk is sold by the shop.

#### **Develop Products on Camel Wool :**

At present the main source of income for camel pastoralists is sale of camels. The other potential sources of income for them are milk and wool products. However, production and sale

of wool and wool products has not been explored as possible source of earning for the pastoralists. Sahjeevan has tied up with Khameer, an organization supporting local handicrafts of Kachch, to promote production and sale of camel wool and its products. Under this collaboration, some wool products have been developed for showcasing the potential of products of camel wool. An SHG group of Rabari women has been involved in this work for last two years. The wool has to be sent to Himachal Pradesh for washing because the wool spun in Kachch by the SHG is not smooth enough to make it into wearable products.

Sr. No.	Year	No of Pastoralists	Wool in (Kg.)
1	2014	10	12
2	2015	16	41
	<b>Total</b>	<b>26</b>	<b>46</b>

#### 2.1.4. Habitat Improvement and Grazing rights

##### a. Implementing the Proposals of Camel Cooperatives

Water conservation work planned by the cooperatives was implemented. The works has been done in two new sites and the sites have been developed accordingly. Water harvesting structure (water tank) was renovated in *Kanmer* village and a water tank (*Avado*) construction was done. Grazing land improvement work has been completed in *Chhadura* village, which covers 80 hector of *gauchar*/grazing land.



#### 2.1.5. Camel Health and Breed Conservation

##### a. Health Camps

Department of Animal Husbandry, District *Panchyat-Bhuj* collectively organized 8 health camps at various locations in kutch in which total 3599 camel were treated to prevent occurrence of diseases.

## 2.1.6. Advocacy

### a. Camel Mega Show

Sahjeevan had been advocating with the State Government to develop different policies and schemes for the camel pastoralists and breeders and develop awareness and understanding of



the policy makers, civil society and the community of the criticality of the issue of conservation of different camel breeds as well as the ecosystem services necessary for it. As a result of the constant dialogues with state in this regard, the state Government agreed to organize a “Camel Mega Show” under the “Krishi Ravi Mahotsav”, which is a programme of the Agriculture department. It was a state level event and was organized at *Vekariya* wetland of *Banni*. Various types of Camel competitions were organized in the event. Cultural programmes and exhibitions were also a part of the event.

- Hon’ble Chief Minister Smt. Anandiben Patel inaugurated Camel decoration competition, she also presented registration certificate of khari camel to camel breeders.
- State level workshop on conservation of camels and livelihood improvement of camel pastoralist was organized along with camel mega event. Vashundhara, AH Department, Marag organization were attended this workshop. Pastoralist from Kachh as well costal Gujarat were participated this worksop.

### ♣ State Level Workshop on Conservation of Camels and Livelihood Development of Camel Pastoralists:



As a part of efforts to advocate with the State Government to take measures for sustainable improvement in the livelihood of camel pastoralists leading to improvement in their economic status and standard of living, Sahjeevan, KUUMS and Animal Husbandry Department organized a “State Level Workshop on Conservation of Camels and Livelihood Development of Camel Pastoralists” on 30/12/2015. The workshop provided a platform to various stakeholders for discussions and deliberations on different issues critical for sustaining

the livelihood of camel pastoralists. Mr. Tushar Das from Vasundhara organization emphasized how the Forest Rights Act is a tool for asserting the rights of Maldharis as well. The Act enables Maldharis claim their rights, and articulates how gram sabha can manage its common resources and govern natural resources. The act relies on community resources and their governance. The Act empowers the pastoralists to demand their rights and claim them through gram sabha. He discussed many other issues like recognition to Floating Gram Sabha, due to the floating nature of the pastoralists which were relevant to the pastoral communities in Kachch as well, a guideline issued to ensure the constitution and management of the committee. By virtue of the provisions of the Act like floating Gram Sabha for the nomadic communities, the Act implies that a sangathan, like KUUMS, can also demand these rights. His session also talked about the structure at district level that takes and acts on the requests for claims and informed that a document called Adhikar Patra is given to the community when the claim is settled. The forest areas that the community claims as its own will be established as "Common Forest Resources", to be managed and governed by people or a committee nominated by people. It specifies that action plan will be the plan that community makes and that plan will be given to government to provide them with required support. Some examples where communities have been able to claim their rights on land were discussed. For e.g. In Orrissa, 2 Lac hectare of land has been claimed by 20,000 people in Orrissa through this Act.

#### **2.1.7. Strengthening Banni Breeders Association**

##### **a. Meetings organized by the association**

- ♣ Breeders association had organized several executive committee meetings over this period. Main agendas discussed in the meeting were as follows:
  - CFR claims under FRA-2006,
  - Organizing 9<sup>th</sup> Banni Pashumela,
  - Research aspects in banni grassland

Breeders association is constantly doing follow up on CFR process, held a meeting with Hon'ble CM Smt. Anandiben Patel two times during this period.

#### **Glimpses of 9<sup>th</sup> Banni Pashumela Held at Hodaka Banni on 31<sup>st</sup> October and 1<sup>st</sup> November-2015**

- ↪ The much famous Banni Pashumela has made difference with a variety of shows and events demonstrating the life and culture of pastoral communities in Banni Grassland. This is the first time that the donkey cart race was included as an event in this animal fair. This means a lot to donkey pastoralists as their breed is awaiting recognition. Unlike other animal fairs in the state the *Banni Pashu Mela* showcases all breed of livestock like buffalos, cows, donkeys, camels and horses.



- Donkey cart race and Horse show was the main attractions of this year. More than 150 horses have participated in various animal events. Kachchhi horse show have stolen



attraction on the very first day. It is one of the peculiar horse breeds that seen only in Kachchh, which is yet to be recognized as a distinct animal breeds. Sahjeevan has been working among livestock and environmental issues and Ram Rahim horse cooperative for helping the Maldharis to get breed registration.

- Other than the donkey cart race, Tug-of-war and speech competition for children also added to the competitions of the event this year. Other events like milking competition, health completion, horse race, camel race drawn attention of large crowd came from different parts of



Gujarat. This year, Maulana Azad Shaikshnik Sangh organized completion for children. Banni Pashu Mela is also famous for animal trading. This year, on the first day itself one buffalo was sold out for Rs. 1,51,000. Pastoralists from different parts of the state like Jamnagar, Junagadh, Rajkot, Surendra Nagar, Mahesana, Ahmedabad also participated in this animal fair. *"It is the first time that I am attending Banni Pashumela, and I am really happy to see all animals here. It is very much appreciated that the community itself is organizing the whole programme"*



## **2.2. Characterization and Registration of lesser known breed of Gujarat**

### **2.2.1. Identifying and Characterizing New Breeds**

#### **a. Process of Identifying Breeds**

Under this project sahjeevan suggested 20 various types of lesser known populations, out of these 20 population, finally 06 populations have been identified as potential populations to be registered as distinct breed by ICAR. Physical characterization and molecular characterization work of Dumba Sheep and Kachchhi Horse has been completed. Based on the physical measurements and characterization, data analysis has been done and draft breed descriptor of Dumba sheep and Kachchhi horse have been prepared. Total 308 blood samples of different breeds were collected from 276 different herds.

Physical characterization work with Kahami goat, Halari donkey, Kachchhi donkey is under progress. Incentives to 15 dumba sheep breeders worth Rs. 120,000/- have been distributed.

Director Animal Husbandry suggested to have third party evaluation of this project through government approved agency such as Gujarat Vidyapith. Accordingly sahjeevan appointed to Gujarat vidyapith for third party evaluation. A team of three senior veterinary genetic scientist carried out this evaluation, they submitted their positive recommendations and they suggested/guide us for some area of improvements. The report submitted to Department of AH.

#### **b. Meetings with breeders**

During the year, three meetings with dumba breeders, three meetings with Kachchhi donkey breeders and two meetings with Kahami goat breeders were held at various locations with an objective to form breeders association to further conservation and development of breeds. Dumba sheep breeders have decided to form a breeders Association with name of "*Panchal Dumba Gheta Uccherak Maldhari Sangathan*". A huge meeting was held at AKRSP (I) Sayla office, they selected executive committee members.

#### **c. Coordination with Animal Husbandry department**

A list of 20 potential breeds was submitted to the Animal Husbandry department by Sahjeevan. The work is done in constant coordination with the department. Director, department of AH, suggested third party evaluation of this project. Gujarat Vidyapith has been nominated for this work.

### **2.2.2. Outcomes**

Following are the main outcomes of the project during the reporting period:

- ♣ Physical characterization and molecular characterization work of Dumba Sheep and Kachchhi Horse has completed, analysis and writing of breed descriptor is under progress.
- ♣ Incentives to 15 dumba sheep breeders worth Rs. 120,000/- have been distributed.

### **2.3. Breeding Piloting with RLN and RRA**

#### **a. Piloting with RRA- Network**

Sahjeevan has developed a partnership with RRA Network under livestock node. Under this node two sites (Telangana and Orrisa) have been selected by node. Thurrupu/Nallamalla cattle breed found in Mahebnagar district of telangana state. CONARE, a organization which is working in Nallamala forest, a community known as Lambadi who rearing a cattle breed locally known as Thurrupu cattle, which has been selected for registration process as



breed, while a goat breed known as Malkangiri goat found in Malkangiri district of Orrisa state. Three field visits had been made, training with field staff, on physical measurements and characterization process has been initiated at both the locations.

#### **b. Piloting with RLN Network**

Under this project *Jawari* Buffalo located at Bhagalkot district of Karnataka, has been selected for registration process. Under this project Green Future organization has formed SHG to undertake field level mobilization with farmers, they registered this SHGs for that women's are taking care of all the field recordings and data collections.

#### **2.3.1. Outcomes**

- ♣ New partnership has been evolved with RRA Network under livestock node and with that the work could be extended to Telangana and Orrisa.
- ♣ Saahjeevan could find Thurrupu/Nallamalla cattle breed in Telangana state. Moreover, Lambadi community that rears a cattle breed locally known as Thurrupu cattle, has been selected to move further for registration process as distinct breed. Similarly, a goat breed known as Malkangiri goat found in Malkangiri district of Orrisa state has been selected for characterization and registration.

### **2.4. Strengthening the sheep and goat breeders institutions in Kutch.**

#### **a. Meetings with sheep and goat breeders**

During this period, several meetings were held with sheep-goat breeders of Lakhpat and Abadasa taluka. Initially this activity focused only on lakhpat block but after that it further expanded to Abadasa block under RRA piloting. 65 members from the Abdasa block have been registered as members in kachchh sheep goat breeders association.

During this period, Sahjeevan has been the instrumental institution in registering several indigenous breeds including distinguished ones such as Banni Buffalo and Kharai Camel. Sahjeevan



has also been working closely with the community and it has been vital to the formation of several community based organizations, KUUMS, BPUMS and Association of the breeders of sheep and goats chief among them. Today Sahjeevan is recognized as one of the leading organizations working on breed conservation. It is working on conservation and registration of seven breeds with in Gujarat and extending expert support for multiple organizations outside the state to help register local indigenous breeds.

The CP group of Sahjeevan is moving towards development of a new model of conservation of ecosystems centered to on the distinct breeds of livestock. The Model of Indigenous Breed Conservation is a comprehensive package based on breed and its habitat conservation. The model starts with identification of the distinct indigenous breeds for conservation along with the breeder communities and their practices. The ecological characteristics of the habitat where the breed has originated is also studied with focus on threats to its conservation . Along with the characterisation and registration of the breeds, the breeders are organised as Breeder's Associations and their capacities are improved for the conservation of the habitat and also to improve the livelihood / incentives generated from the breeds. Changes in the wider macro-economic world has led to a breakdown of traditional economic ties within communities, and increasingly pastoral communities find their livelihood sources limited in number, size and scope. Sahjeevan is working to revive traditional livelihood systems as well as develop new sources livelihood options. Currently Sahjeevan is involved in marketing camel milk as a food product, developing camel wool products and reviving sheep wool based crafts.

Today Sahjeevan is counted among the leading organizations working on pastoral livelihood and culture in the country and it collaborates with multiple national and international organizations/networks to advocate change that supports pastoral systems across the world.

## Chapter 2 : Biodiversity and Conservation Unit

Kutch is well known for its varied ecosystems that shelter a rich assortment of endangered flora and fauna. It is probably apt that a region of such beautiful crafts and proud people be awarded with such rich biodiversity. The farmers of Kutch have bred crops which are resilient to the dry weather and produce grains even when there was little rain. Traditionally the communities have sustainably utilized these rich biodiversity resources for their livelihood.

During the present era of Biodiversity loss due to anthropogenic reason, rather than human depending on Biodiversity, both human and Biodiversity have developed a symbiotic. Sahjeevan set up the BD unit in 2012 to address the challenges of conserving bio-diversity of Kachchh.

### **Activities during the year 2015-16:**

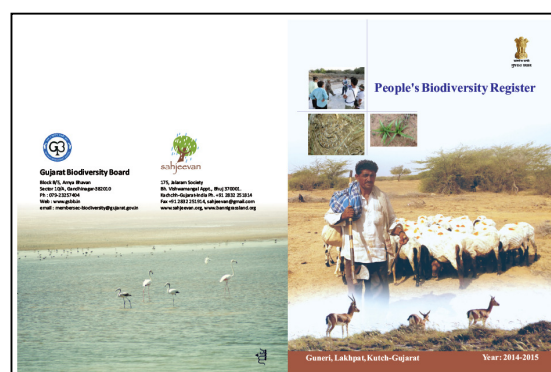
This unit has works by focusing on strengthening local Biodiversity Governance and capacity building of communities especially the women and youths and conducting. A major focus of the unit is to serve as a catalyst to support and strengthen conservation efforts both of government agencies and non-government institutions.

The unit also works on participatory conservation of rare and endangered species. These efforts have been successful in conserving *Mitha Guggul* and securing of wildlife habitats and movement corridors. Sahjeevan is also actively working to educate the young generation and has developed educational modules for schools and supported BMCs in organizing nature camps.

As discussed in our meeting with advisory committee of Biodiversity and Conservation unit, we are working on six main thematic areas in Kachchh i.e. strengthening people's legislation, Research and information gathering, Conservation action demonstration, Activism to conserve wild habitats and threatened biodiversity, Education, awareness and communication and Organize youth or cadre towards conservation of biodiversity.

### **1. Strengthening people's legislation**

1.1. The Biological Diversity Act (BDA), 2002 and subsequent rules provides rights and power to the local communities to manage and conserve their local biodiversity; and further to document indigenous knowledge through constitution of Biodiversity Management Committees (BMCs). While, The Forest Rights Act (FRA), 2006 also provides rights and power to the local communities to manage and conserve their forest ecosystems with responsibilities.



1.2. Under BDA and with support of Gujarat Biodiversity Board (GBB), Gandhinagar, we prepared a total of 35 PBRs since last two years and during reporting period, 25 PBRs prepared and submitted to GBB and the same is also approved and signed by GBB. With help of local BMCs, we

have also been prepared various biodiversity conservation action plans and submitted to various Govt. line departments i.e. Forest, Animal Husbandry, *Gauchar Gauseva Aayog*, GBB etc.

- 1.3. We also initiated a discussion with various stakeholders to conserve rare and endangered biodiversity recorded each by BMC with effective and result oriented participatory approach. In addition, we also shared our approach to GBB during state level consultation with various NGOs and part of process documentation of PBR programme in the state; GBB recognized our process and also approached to submit a proposal to develop a guideline on PBR process.
- 1.4. Follow-up with GBB for next phase planning, account, documentation etc. and also approached for proper hand holding process with BMCs. With help of Natural Justice team, prepared a brief note on Interpretation of provisions relating to powers and functions of BMCs with exploring powers of BMCs through the Gujarat Panchayats Act, 1993. In addition, several visits and meetings also been conducted with Guneri and Navinal BMCs on proposed Biodiversity Heritage Site (BHS) with role and responsibilities of BMCs to protect proposed sites.
- 1.5. Various activities and implementation of that was discussed with KUUMS and selected BMCs of Lakhpat taluka as part of habitat improvement and watershed development programme under TATA-CGPL and other potential funding agency like GMDC.
- 1.6. As part of our biodiversity agendas in Bhuj Urban, we shared our approaches and experienced with GBB to CEO of Bhuj Nagar Palika and started our process to prepare a PBR at Bhuj Nagarpalika level. Same also shared with HIC partners.  
As discussed with CEO and other HIC partners in Bhuj city, a proposal submitted to GBB through Bhuj Nagarpalika on BMC and PBR for Bhuj Urban Area.

- 1.7. Under Section 37 of BDA, 2002 the State Government in consultation with local bodies may notify in the official gazette, areas of biodiversity importance as Biodiversity Heritage Sites (BHS). Under this, we mobilize two BMCs i.e. Guneri in Lakhpat taluka and Navinal in Mundra taluka, to propose their important biodiversity areas as a BHS. Both the



- Both the BMCs approached to GBB and collected their information on proposed BHS. Navinal areas visited with our ED and Guneri areas visited with GBB team and made interaction with stakeholders on our approaches with GBB and other legal partners on BHS proposal.
- 1.8. After two consultations with Chairman and three meetings with MS of GBB, we presented our approaches with more than 200 BMCs in Kachchh and shared our ideas to implement our proposed action plans on biodiversity conservation.
- 1.9. In addition, all approved PBRs also been submitted to respective BMCs and after transfer of seed money from GBB to BMC, we have plan to conduct a meeting with all secretaries of 35 BMCs at Bhuj to prepare common guideline on biodiversity governance agendas of each panchayat.

**1.10.** A piloting programme on biodiversity governance and participatory conservation had been sanctioned with selected BMCs and several meetings also have been conducted with officials of CGPL to share our approach and modalities of proposed various proposals prepared by BMCs for next one year. All the proposals and broader activities also been shared with Chief Conservator of Forests and Deputy Conservator of Forests, West Division and they are also agreed to support BMCs to implement their conservation plans.



**1.11.** Mr. Anil and Mr. Dikshant, interns from Delhi University also surveyed our BMCs areas and collected information on threatened biodiversity in details for long-term monitoring and preparation of site specific and species specific action plans.



**1.12.** As part of our participatory research agendas with BPUMS and RAMBLE in Banni, we organized a meeting (13<sup>th</sup> Feb.'15 at Khamir) with Forest Department and shared our outcomes of research fellowship in Banni and also presented broad research approaches with local stakeholders. FD also presented their approach on grassland restoration in Banni and agreed to works with common agendas on grassland ecosystems of Kachchh. Sh. R.V. Ansari, Rtd. IFS and Director GUIDE and Sh. Deveshbhai Gadhavi, Director KERC also participated and shared their views on participatory approaches on grassland restoration and conservation.



**1.13.** Conducted a meeting with pastoralists of Gandhinagari areas and forest department to discuss on grazing areas and issue with each-other. FD agreed to work on participatory approach for resolving this at the earliest.

## **2. Research and information gathering**

**2.1.** Working Plan, Collected data on vegetation profile, density and diversity of trees, shrubs, grasses have been compiled, analyzed and completed three chapters and same also shared with CCF office and DCF office, West Division, Kachchh. All the hard copies of data with proper filing and coding also had been submitted to above offices.

**2.2.** Under two programme i.e. RAMBLE (in Banni) and PBR (in four talukas: Abdasa, Lakhpat, Nakhtrana and Bhachau-with SETU), we had collected information on biodiversity, biomass, status of woody vegetation, soil characteristic, carbon dating, socio and political ecology etc. with help of several researchers.



**2.3.** Long-term monitoring plots in Banni landscape also been surveyed by researchers of RAMBLE and completed the post monsoon data collection. Same also shared with research team of BPUMS.



**2.4.** Post monsoon data on woody vegetation, biomass composition, ground layer, soil sample etc. collected and shared with RAMBLE TEAM. In addition, regular progress in fellowship and other research agendas also shared with team in several SKYPE meetings.

**2.5.** 2.5 For identification of grass species and rare species, we invited the MSU faculties with their researchers to Banni and BMCs areas and also initiated and proposed a long-term conservation programme with BMCs and RAMBLE.



**2.6.** A presentation on biodiversity of Banni landscape been shared with the Chief Conservator of Forests (CCF), Kachchh Circle by RAMBLE researchers. They also reported few interesting and uncommon species from this landscape like Houbara Bustard, Cream colored courser, Sociable Lapwings, Eurasian Griffon Vulture, Caracle etc.



**2.7.** With help of MSU team, we also submitted an article on 'Rediscovery of *Olax nana* Wall. ex Benth (Olacaceae) from Gujarat, India, after a Century' to Current Science. For conservation of this newly recorded plant species from our BMC

areas, we also initiated a survey in similar microhabitat with the help of several researchers from MSU University.

2.8. Data on socio-ecological perception from selected BMCs have been collected and analysis of same is also under process. In addition, we are also signed a ToR with Sh.Nimesh Ved for support our team to implement various action plans developed by BMCs.

2.9. Three faculties with team from MS University, Baroda visited our BMCs and RAMBLE research station and interacted with our team and researchers and shared their programme details and approaches. With the help of them, we are also trying to develop nursery of two threatened plant species for BMCs as part of their conservation plans.



### 3. Conservation Action Demonstration



3.1. After

complication of several PBRs with respective participatory biodiversity conservation plan, we also demonstrated several piloting programme with BMCs like Guggal conservation with *Meghapar* and BMCs of *Lakhpata* Taluka, conservation of corridors of wildlife movement with BMCs of *Abdasa* taluka, protection of wildlife and bird's habitat with BMCs of *Nakhtrana* taluka.



3.2. All the following resolutions/proposals had been submitted to various Govt. line departments and same also informed to GBB for convergence and implementation of proposed biodiversity conservation plan with each BMC.

Subject	Proposed Action Plan	Panchayat/s	Convergence	Remarks
<b>BIODIVERSITY (WILD LIFE &amp; PLANTS) CONSERVATION AND RESEARCH</b>				
	<b>BIRDS</b>			
	1. Species conservation-Great Indian Bustard	Prajau, Bhachunda, Lathedi, Chhadura-Nalia	FD, Revenue	Removal of <i>Prosopis</i> from micro habitat; Youth and farmers mobilization to protect wilderness area/habitat
	2. Species conservation-Pied Tit	Kandhay-Abdasa	FD, Revenue	Youth and farmers mobilization to protect wilderness area/habitat
	3. Species conservation-Stoliczka's Bushchat	Rapar Gadh-Abdasa	FD	Removal of <i>Prosopis</i> and maintenance of open scrub micro habitat
	<b>MAMMALS</b>			
	4. Species conservation-Porcupines	Balapar-Budadhro, Guneri, Lathedi, Bitiyari, Chhadura, Nani Virani, Kharadia, Bihar	FD, Revenue	Habitat conservation through resolution to not develop any water structure on riverine of micro habitat
	5. Species conservation- Ratel	Kandhay, Bihar, Bhachunda, Nani vamoti, Sudodhro nani	FD	Habitat conservation through resolution to not develop any water structure on riverine of micro habitat
	6. Species conservation-Chinkara	Guneri, Singhodi moti, Balapar-Budadhro, Lathedi	FD, Revenue	Removal of <i>Prosopis</i> and maintenance of open scrub micro habitat
	7. Species conservation- Wolf	Bihar, Kharadiya, Morjar, Nani vamoti, Bitiyari	FD, Revenue	Youth and pastoralist (small ruminants rearing) mobilization to protect wilderness area/habitat and species
	8. Species conservation-Leopard	Nani Aral, Devisar, Kharadiya, Bihar, Morjar, Guneri	FD, Revenue	Removal of <i>Prosopis</i> and maintenance of wilderness habitat
	9. Species conservation- Long-eared Hedgehog	Prajau, Bhachunda	FD, Revenue	Youth and farmers mobilization to protect wilderness area/habitat
	<b>REPTILES</b>			
	10. Species conservation-	Most of the Panchayats	FD, Revenue and Koli	Youth and farmers mobilization to protect

	Spiny tailed lizard		communities	wilderness area/micro habitat
	11. Species conservation- Star tortoise	Lathedi, Sayara, Paliwad, Meghpar	FD, Revenue	Youth and pastoralist (small ruminants rearing) mobilization to protect wilderness area/habitat and species
	12. Species conservation- Short tailed Indian agama	Chhadura	FD, Revenue	Youth and farmers mobilization to protect wilderness area/micro habitat
	13. Species conservation- Indian Fringe toed lizard	Rapar Gadh	FD, Revenue	Youth and farmers mobilization to protect wilderness area/micro habitat
	<b>PLANTS</b>			
	14. Species conservation- <i>Helichrysum cutchicum</i>	Guneri, Nani Virani, Megpar, Seyot, Dhareshi, Chhadura, Lathedi, Prajau, Sudadhro Moti, Lala Budiya, Ananpar Yax , Nani Aral,Ugedi, Haripar Bitiyari, Bhachunda	FD, Revenue	Youth and pastoralist mobilization to protect wilderness area/habitat and species
	15. Species conservation- <i>Ephedra foliata</i>	Nani Virani, Devisar, Vyar, Haripar, Shiyot	FD, Revenue, MSU	Youth, pastoralist and farmers mobilization to protect wilderness area/micro habitat
	16. Species conservation- <i>Commiphora stocksiana</i>	Guneri, Shiyot, Dhareshi, Meghpar	FD, MSU	Farmers mobilize to develop more saplings for GBB, Universities and FD.
	17. Species conservation- <i>Tribulus rajasthanensis</i>	Dhareshi, SudadhroMoti, Prajau, Lala Budiya, Lathedi, Vyar	FD, Revenue	Youth, pastoralist and farmers mobilization to protect wilderness area/micro habitat
	18. Species conservation- <i>Olox nana</i>	Lathedi	FD, MSU	Youth, pastoralist and others mobilization to protect wilderness area/micro habitat



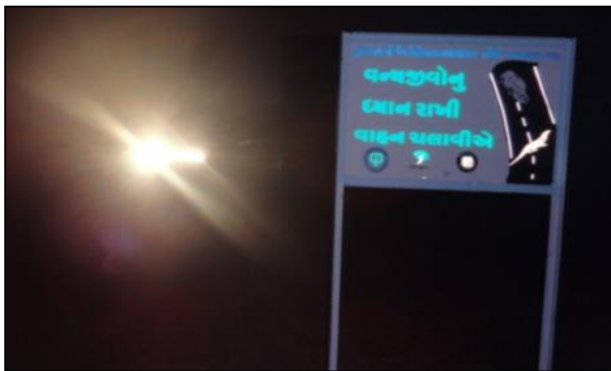
	19. Species conservation- <i>Corallocarpus conocarpus</i>	Prajau	FD	Youth, pastoralist and farmers mobilization to protect wilderness area/micro habitat
	20. Species conservation- <i>Dactiliandra welwitchii</i>	Guneri, Nani Virani, Shiyot, Dhareshi, Megpar	FD	Youth, pastoralist and farmers mobilization to protect wilderness area/micro habitat
	21. Species conservation- <i>Dipcady erythraeum</i>	Dhareshi, Lathedi, Ananpar Yax	FD	Youth, pastoralist and farmers mobilization to protect wilderness area/micro habitat
	22. Species conservation- <i>Ipomia kotschyana</i>	Guneri, Nani Virani, Seyot, Dhareshi, Lathedi, Sudadhro Moti, Chhadura, Prajau, Lala Budiya, Ananpar Yax, Ugedi, Haripar, Bitiyari, Bhachunda	FD	Youth, pastoralist and farmers mobilization to protect wilderness area/micro habitat

#### HABITAT IMPROVEMENT AND CONSERVATION OF CORRIDOR

<b>TOTAL 15 PANCH AYATS SUBMITTED</b>	Development of grazing area	Balapar Budadhro	Gauchar Gauseva Ayog National Livestock Mission	<ul style="list-style-type: none"> <li>•Survey Nos 296, 295, 290, 269, 237 (127 Ha.)</li> <li>•Proposed Plan Removal of <i>Prosopis</i> with PLATATION OF native trees to improve wildlife habitat. SMC work and development of Van Talav</li> </ul>
	Development of grazing area	Vamoti Nani	Gauchar Gauseva Ayog National Livestock Mission	<ul style="list-style-type: none"> <li>•Survey Nos 554 (259.63 Ha)</li> <li>•Proposed Plan Removal of <i>Prosopis</i> with PLATATION OF native trees to improve wildlife habitat. SMC work and development of Van Talav</li> </ul>
<b>TOTAL 7 +</b>	Live fencing	Guneri, Shiyot, Nani Virani,	Forest Department	Selected native fruits trees and shrubs species to

<b>PANCH AYATS SUBMITTED</b>		Prajau, Chhadura, Vyar and others		improve habitat for birds and mammals and to control bluebull problem
<b>TOTAL 5 + PANCH AYATS SUBMITTED</b>	Sign board	Chhadura, Singhodi Nani & Moti, Shiyot, Nani Virani and others	Forest Department	Mainly to aware local people and control on road accidents of wildlife
<b>TOTAL 15 + PANCH AYATS SUBMITTED</b>	VAN talav	Most of the Panchayats	FD, Revenue, Gauchar Gauseva Ayog and National Livestock Mission AND Jal Mandir-Mahajan	Balapar Budadharo: Kaiyar sim (S.No.308), Bhachunda: Rajnai sim (346, 393 & 420) Lathedi: FD areas (141, 164, 510) Fulay: Chhapparior Talav, Kuth, Khatlo, Kakrasar, Gangu fakir etc. Meghapar: Dadi morai
<b>PROPOSAL TO DECLARE BHS</b>				
<b>BHS</b>	BHS	GUNERI	GBB, CSR-GMDC	<ul style="list-style-type: none"> <li>• Removal of <i>Prosopis juliflora</i></li> <li>• Plantation/greenbelt development in wild and along the agriculture</li> <li>• SMC and water conservation</li> <li>• Youth training</li> <li>• Env.Edu programme in schools</li> </ul>
<b>BHS</b>	BHS	NAVINAL	GBB, CSR-ADANI/TATA...	<ul style="list-style-type: none"> <li>• Removal of <i>Prosopis juliflora</i></li> <li>• Seed conservation of <i>Ephedra</i></li> <li>• Nursery development of <i>Ephedra</i></li> <li>• Plantation/greenbelt/grassland development-Host plants of <i>Ephedra</i></li> <li>• SMC and water conservation</li> <li>• Youth training</li> </ul>

				<ul style="list-style-type: none"> <li>• Env.Edu programme in schools</li> </ul>
<b>NATIVE/DESHI SEEDS CONSERVATION-IMPROVEMENT OF AGRO BIODIVERSITY</b>				
	Native seeds conservation	ALL PANCHAYATS	Satvik, GBB	<ul style="list-style-type: none"> <li>• 20-25 ha. of each BMC proposed to plant native seeds in next year</li> <li>• 10-15 farmers are agreed from each BMC</li> </ul>
<b>MEDICINAL PLANTS GARDEN</b>				
<b>10 Panchayats</b>	Livelihood and ITK revitalization	Abdasa, Lakhpat and Nakhtrana	GMPB, GBB, FD	<ul style="list-style-type: none"> <li>• Revitalization of ITK of each BMC based on PBR exercise</li> <li>• Proposed a nursery for selected MPs of each BMC</li> </ul>



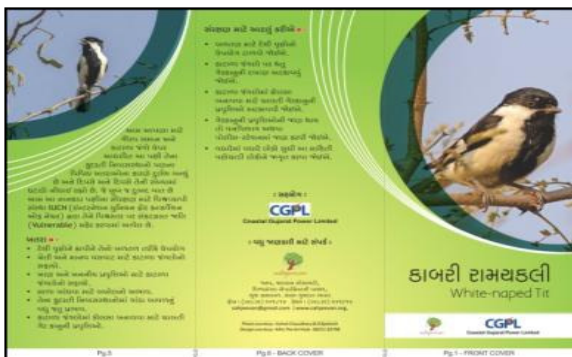
### 3.3. With CGPL and 15 BMCs on BD Governance:

More than 15 proposals have been developed with the participation of BMCs on species and habitat based conservation. Along with Sahjeevan, BMCs approached to CGPL-TATA Power to support their action plans and seeking a long-term association and partnership to conserve their significance flora and fauna with habitats. In this connection CGPL-TATA Power also sanctioned seed money to respective BMC and started implementation of proposed plans with technical help by Sahjeevan team. Sahjeevan also propose to create an Environment Action Plan Fund (EAPF), with CSR support from CGPL-TATA Power, later this will attain convergence of different government programs and gain support from other funding sources. This will be an untied fund, intended exclusively for the implementation of the conservation action plans prepared by the BMCs.

A management committee also formed for the release of grant from EAPF to the BMCs for implementing their conservation action plan, constituting the representatives of Sahjeevan (Dr. Jayahari KM – Executive Director and Mr. Sandeep Virmani – Board Member) and CGPL-TATA Power (Dr. Amit Tyagi). Every project submitted by the BMCs are carefully scrutinized based on the relevance, significance and environment and livelihood impacts for sanctioning during workshop with BMCs at Bhuj on 18th August '15.

The following 14 BMCs presented and developed their action plans with Sahjeevan and also initiated to implement proposed activities to conserve and protect significance flora and fauna with habitat improvement. In which a total of four plant species, three bird species, several mammal species and two reptile species are proposed to conserve by BMCs along with their wilderness habitats.

Sr.No.	BMCs	Taluka	Proposed Action Plan under EAPF
1	Kandhay	Abadasa	Participatory conservation of 'White Naped Tit' and other significant biodiversity
2	Lathedi	Abadasa	Protection of habitats of ' <i>Olax nana</i> ' plant species
3	Chhadura	Abdasa	Restoration of wild population of ' <i>Leptadenia reticulata</i> ' plant species
4	Kharadiya	Nakhatrana	Participatory conservation of 'Gyps Vulture' and 'Marsh Crocodile'
5	Fulay	Nakhatrana	Participatory conservation of 'Grey Hypocolius' with protection of micro habitats
6	Devisar	Nakhatrana	Participatory conservation of 'Spiny-tailed Lizard' with awareness campaign among local
7	Morjar	Nakhatrana	Participatory conservation of 'Marsh Crocodile' and 'Spiny-tailed Lizard'
8	Vang	Nakhatrana	Participatory conservation of natural habitats of ' <i>Ephedra foliata</i> ' plant species and awareness on illegal poaching of 'Spiny-tailed Lizard'
9	Sayara	Nakhatrana	Participatory conservation of 'White Naped Tit', 'Indian Peafowl' and 'Spiny-tailed Lizard'
10	Haripar	Nakhatrana	Participatory conservation of flora and fauna with awareness on illegal poaching of selected wildlife
11	Siyot	Lakhpat	Participatory conservation of 'Saw-scaled Viper' and other snakes
12	Guneri	Lakhpat	Participatory conservation of Inland Mangroves with protection of biodiversity in and around the landscape
13	Dharsi	Lakhpat	Participatory conservation of natural habitats of selected wildlife in and around the Sadar Bhit areas
14	Meghpar	Lakhpat	Restoration of wild population of ' <i>Commiphora stocksiana</i> ' plant species



All

the BMCs passed the resolution on their proposed programme and same also sent to Forest Department and Gujarat Biodiversity Board, Gandhinagar. In addition, technical team of Sahjeevan

also completed baseline data collection on various components of biodiversity i.e. plant species (trees, shrubs, climbers, herbs and grass), mammals, reptiles, birds (aquatic and terrestrial species) etc. In addition, for nocturnal wildlife, we also used night vision camera traps to understand movement of various species in our landscape.

**Lathedi BMC**, initiated plantation activities (piloting base) of *Commiphora wightii* in and around the *Olax nana* habitat to make awareness to villagers and grazers on important of this landscape. Sign board also going to install at this site to declare this habitat for conservation of *Olax nana*. Saplings and sign board are provided by forest department to Lathedi BMC.

**Sayra BMC**, initiated to monitor the population of wildlife and other faunal species in White Naped Tit habitat along with technical team of Sahjeevan. BMC also to installed a sign board at site and several posters of this threatened bird species will be displayed at several locations in village such as near panchayat house, near school building, common places etc. for general awareness about their programme.

**Guneri BMC**, initiated discussion with GMDC and forest department for providing saplings of native tree species for their site. In addition, they are going to install a sign board near project site for general awareness and on important of site with rules and regulation.

**Vang BMC** and sahjeevan, initiated discussion with GUIDE and Navinal BMC for providing the saplings of *Ephedra foliata* to restore wild population of this threatened plant species. Field survey also completed to identify microhabitat of this plant and same also share with selected farmers before introducing this species on their live fencing of agriculture field. For this purpose, BMC also written a letter to Navinal BMC for help them to collect mature seeds of this plant species from their areas.

### 3.4. Chhadura, Nani Virani and ICCO Support:

As part of habitat improvement, removal of *Prosopis juliflora* from grazing and forest areas and grow nutritive grasses, plantation and live fencing of these areas recommended by BMC in their proposed action plans in PBR (People's Biodiversity Register).

This proposed habitat is also home for several significance biodiversity like Plants: *Commiphora wightii* (Guggar), *Helichrysum cutchicum* (Safed Fuladu), *Dipcadi erythrium* (Jangali Dungari), *Leptadenia reticulata* (Dodi) etc., and other wildlife species like Spiny-tailed Lizard (Sandho), Porcupine (Sahudi, Shedhari), Chinkara and Black Francoline (Karo Tetar) etc.



With above understanding and requirement of fodder resources by this village and adjoin villages, we developed a grass plots for each BMC with minimum amendmets and according to

the terrain condition, land quality and targeting the available species composition of livestock. We also completed site specific intervention to reduce erosion and increase soil moisture with contour base site specific intervention. After removal of *Prosopis juliflora*, seeds of native species including grass, tree and shrub also have been broadcasted to increase biomass and green cover for domestic and wildlife species.

### **3.5. With Citizens of Bhuj and Bhujio mountain - Habitat improvement and awareness**

Three meetings with partners organized and 15<sup>th</sup> Aug. celebrated with schools, citizens and NGOs at Bhujio, Bhuj. In addition, seeds of native tree and shrub species also collected and broadcasted to increase vegetation layer and overall biodiversity of landscape.

## **4. Activism to conserve wilderness habitats and threatened biodiversity**

- 4.1.** We started discussion with local people on illegal encroachment in grassland and start learning their views towards sustainable utilization of natural resources.
- 4.2.** With help of FD and KSKV Kachchh University, we also completed a piloting project at Abdasa block and with our selected BMCs on promoting cultivation of native seeds to conserve Great Indian Bustard and other wildlife species.
- 4.3.** After several consultations with various elders and naturalists of Kachchh, we are also thinking to



start actively activism to learn actual illegal encroachment in grazing/grass land and gauchar land at ground level. Once we have these data, we have planning to discuss with several panchayats and individuals of each community on seriousness on this issue.

### **4.4. Navinal (BHS and FRA)**

Three visits at Navinal landscape with Natural Justice team, and sent a advocacy letter to GBB, NBA and CCF.



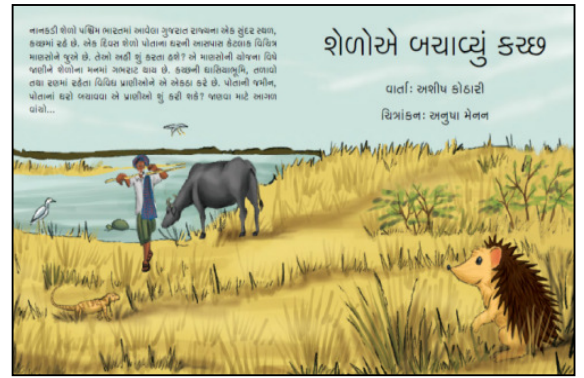
### **4.5. Kathada (BMC and Youth)**

Two visits at Kathada landscape with Natural Justice team, and prepared a draft report on legal aspect related to development proposed on this landscape. Natural Resource Mapping exercises with selected group are under progress.

## 5. Education, Awareness and Communication

- 5.1. First and second modules on introduction of Ecosystems and Biodiversity published by sahjeevan with support from Kalpvriksha, Khamir, Reach to Teach and SETU-Abhiyan. Same also shared with FD, DIET, DEO, NGOs, Naturalists etc.
- 5.2. Our both the published modules also shared with GBB, and Dr. A.P. Singh, MS suggested to publish these for entire state and approached us for printing cost.
- 5.3. Several Nature Education Camps with FD had been organized at BMCs and shared our PBRs and action plan on conservation of biodiversity. We also went to forest areas with children and members of BMCs to aware them important of existing biodiversity of their village/s.

The Bio Diversity Act(2002) has given power to local communities for conservation and management of the local biodiversity resources. Sahjeevan has formed and registered 35 BMCs in the region with support from the Gujarat Biodiversity Board. After the formation of these BMCs, preparing their Biodiversity Registers and Conservation Action Plans, Sahjeevan has entered in CSR partnerships to create fund to support the conservation activities of BMCs. The untied fund – Environment Action Plan Fund (EAPF) is initially being supported by Costal Gujarat Power Ltd. The unit also collaborates with Research institutions, educational institutions and the communities to collect information about local biodiversity.



### ***Introduction :***

Water is the most essential natural resource for all forms of living objects because it directly related to existence of any living element including human beings. It plays a vital role in sustaining the food chain and thereby providing energy for each and every living organism; and this has led to an increase in demand of water. The situation becomes direr in arid regions where scarcity of water leads to a constant tug of war and conflicts among at both collective and individual levels. In rural landscapes, water is even more essential element since it is related to sustain people's livelihood. The presence or absence of water determines whether the locals get a full meal, whether the kids go to school, and at times to forces the people to migrate. Traditionally water has been treated as a precious thing by communities in arid regions and in Kachchh, it is common to find water resources being worshipped as a form of the divine. This culture of respect and communal ownership has been vital to the conservation of water and to the survival of desert communities. Unfortunately, with changing socio-economic circumstances, these traditional systems have come under severe and commons have been depleted by way of both use and misuse. In Kachchh, it is common to hear accounts of increasing salinity levels and gradual lowering of ground water tables.

Sahjeevan realizes the need the significance of awareness and education of local communities and building capacities and empowering them to manage their local water resources to the locals. This participatory approach combined with a focus on decentralizing water resources has borne rich fruits. Sahjeevan has been able to employ it in regions across the district to ensure water security over multiple consecutive years of drought through redefining and strengthening means of Water Governance in Kachchh.

### ***Activities during the year 2015-16***

Sahjeevan is implanting the "Water for all Programme" in a completely participatory manner ensuring the ownership of the project by the community and the Panchayat. The planning and implementation is carried out with the involvement of both these stakeholders. Kutch is a water scarce area where the rain fed agriculture is completely depending on the soil moisture. Along with agriculture, the animal husbandry is also a livelihood option for the communities in this area. The project has been implemented in a scenario where the increasing water scarcity is affecting both these livelihood measures.

The participatory planning is orienting the community to see water as a natural resource rather than independently owned resource like land. At micro-level, the community are oriented in their thinking process towards how this resource can be conserved and shared among them through collective planning. At macro level, the involvement and support of the local Panchayats in planning of water conservation and governance is steadily increasing throughout the implementation of the program. The *Panchayats and their committe* are playing active role in regulation and management of water resources. The overall process have mobilized the Panchayats to channellise more resources towards water conservation activities. Local Panchayats have initiated regulating the use of water resources by allocating the water from different water bodies



for specific purpose. During reporting period water resource unit implemented two major project 1) Jalprabandh at Anjar block and 2) Samnvaya at Mundra block.

### ***Project Coverage Area:***

Our project area is located in a semi-arid region of the country, a region where water is so scarce that it considered divine and worshipped by the local community. Notably, our project area is also dependent on occupation of agriculture and animal husbandry. Water, that is so scarce in the area, closely linked to augmenting incomes and livelihood options for the people of the region. In such conditions, it was pertinent that we worked to address the issue of water scarcity.

Our initial studies revealed that the increasing pressures on water resources coupled with industrialization had weakened traditional norms of usage and this was in turn damaging the water resources. What we needed to do was not just to work on water structures, but also to address the core stakeholders i.e. the locals in the area. This led to design various initiatives, which had on single constant - a people's institution, has to take ownership, contribute and conduct the operations. In this case, we prefer to work with the already established and accepted grassroots organization in the villages, namely village Panchayats.

### **Democratize water management and involvement of community in policy formation and decision making process:**

We have been working very closely through the Panchayats since longer duration. These Panchayats already have a mandate to form one *Pani Samiti* for each Panchayat, which has to work for governance of drinking water resources in the village and its democratic use. We also formed *Jalprabandh* committees under each panchayat, 4 in all, in these villages which would look beyond issues of drinking water. These *Japrabandh* committees have equal representation from all sections of the society. In all these committees have a combined membership of 41 (16 females and 25 males) and has farmers, livestock keepers and villagers engaged in other occupations. In this project, we have worked with these four *Pani Samitis* and the *Jalprabandh* committees as well as formed a cluster committee involving all the Panchayats to supervise and monitor project execution. Our inclusion has been to play the role of a facilitator who informs the community and hand holds them to take a final decision. The meetings we have organized to communicate to the community has seen enthusiastic participation and involvement in the decision making process. We have also ensured that the community understands and pledges to the change wholeheartedly; all of the villages had to contribute 10% of the project cost. This contributory form of implementation has ensured that intervention has been done only when the community wanted the change.

We have conducted regular workshops and trainings on soil and water testing (farmers specifically), water resource planning and governance (public village level training), farm bonding and farm ponds (specifically farmers, exposure visit conducted). These trainings and workshops conducted helped the community understand the issues and to take an informed decision accordingly. As we move forward, we plan to work on the same model, keep involving the community and put the onus on them to take decisions that are to be the best of their interests.

### **Community involvement and ownership in Project initiative**

All our interventions are contributory which means that the beneficiaries have to contribute in some form or the other towards the project costs. Secondly, in all our activities we have trained the stakeholders and encouraged them to execute the projects themselves. Even the activities such as farm bunding, farm pond digging, composting etc. which were to be conducted at an individual level, we have discussed the changes among all community members so that they are aware of the changed actions and knowledge of these initiatives build and stay within the committee. We have also ensured that we acknowledge the resourcefulness and the dedication of the community at every step of our project.

### **Transformational Potential:**

Currently PRIs in the villages are supposed to work on issues related to drinking water only. Drinking water in an agricultural setting is a small fraction of the essential water resources. In villages we have formed *Jalprabandh* Committees to work on the broader issues of water resource management, but the authorities of such committees are not formalized. In the absence of formal authority, the sustainability of such measures is questionable. It calls for long term advocacy with the state and central Government to ensure power and authority is provided at a local level and decentralized water management systems can run smoothly. The success of our work can be used as a case story in example for such advocacy campaigns.

### **Empower Women and marginal sections of Community:**

We have worked with SHG of women through it we are working to train women and disseminate knowledge on agricultural activities and animal husbandry. As a part of supporting the farming community, we distribute new seed varieties and teach sustainable farming methods. We also publicize knowledge of the importance of animal vaccination and the sources of vaccination to the women.

On an individual level, we aimed to develop a cadre of leadership among the women at the community level. To do so we first needed to draw out a face of the women leadership, and the first person we decided to work with was *Lakshmiben Velji Humbal*. While she was the Sarpanch of *Bhimasar* village and apparently already a leader, in reality she was working just as a paper stamp while her husband retained all the power. We decided to drag her to public life and when it was time to inaugurate a public pond, we presented herself as the chief guest and the pond was inaugurated by her. *Lakshmiben* responded to our efforts too and dedicated the pond to the villagers by naming it "*Bhimasari*" pond.

### **Value of objectives at local level:**

The initiatives undertaken during our project has started leading to economic benefits in terms of increase in income among the target community. We also believe that the interventions and the training will help the community see how conservation of water for commons and livelihood go hand in hand. As an example we helped a farmer build an *ogan* (inlet to a farm pond that he had already dug). Without the inlet the pond would have silted in a few years and the



farmer would have lost out on Rabi crop. Thanks to the technical intervention, the farmer will be able to use the pond for years which will repay the cost in a few years. (Case of the farmer named Madhabhai)

Last but not the least, women in the community have been an equal partner in the project and we believe in our work with the women will help them to make stronger implementer.

“This is the first time that we will work with an NGO on local issues. Involving the PRIs is fundamental to both short term success and long term sustainability of the water resource management and achievement of water security in the region.”- Naranbhai Chaiya, Dy. Sarpanch, Ajapar Gram Panchayat.

### **Value of objectives at systemic level:**

As we have mentioned earlier in the previous sections, our project works in partnership with local institutions. We have found that even though the PRIs are enthusiastic about working for the community, they lack knowledge and capability of technical know-how to effectively manage and leverage commons resources. Our training, exposure visits and workshops have had a constant focus on community ownership and understanding of issue. This has been driven by our belief that long term sustainability can be ensured only when the stakeholders at a local level are able to appreciate the complexities and responded accordingly.



Secondly, along with focusing on community conservation and repair of water resources, we have also worked on decentralizing access to water by constructing farm ponds etc. Decentralization not just reduces reliance on commons, it also makes the common resources available to people at the margins or outside the community. In other words, we have found that encouragement to the rich to



develop assets has freed-up resources for the underprivileged. Our project focused not just on decentralizing access to water, the governance model was also decentralized in which the local Panchayat were given the responsibility and the power to manage the financial resources of the project.

## Change make by Farmers

In the context of our project people, largely, are aware of the changes that are necessary. While the same was not true a year back, our training, demonstrations, exposure visits and our work with a section of the community has led to a fair amount of adoption of the knowledge in the community and a belief that the changes that are beneficial to them.



While the adoption of some of the changes require little effort or investment, some others are more expensive.

As an example, the adoption of solar fencing was convenient; the farmers who already had a fence could just started using the machine at lower cost. For them, it was a low risk change since it did not have a direct impact on yield, did not need much effort and/or money to install and it was simple to operate and form a imaginary model of how it worked.

On the other hand, some of the changes needed much more resources in the form of money, time, effort, and land. A case in example is farm ponds – a farmer who never had a farm pond of any kind in the past had to earmark some land for the pond, spend time and effort in selecting a spot and invest monetary resources. This was a far less convenient change as compared to say solar fencing.

In all these cases, we have tried to get trained and make inform the community members and individuals first, and then support them to take a logical decision. To elaborate with the help of an example, there was uncertainty when we initially spoken about composting. Composting has never been a traditional way, and not many were convinced to start with this process. However, our constant efforts and demonstrations on farm sites helped the farmers to understand our concern. We also helped them in making composting pits and assured help (which was later followed up with) in monitoring the composting processes, all these activities helped overcome the resistance to change. Shankar Samad Dangar, a farmer in Tappar, like all other farmers in the region was reluctant, and considered composting not very useful while being very time consuming. We made multiple visits to his place and convinced him to hold an on-site demo where we helped him dig the pit and fill it with farming waste, organic manure et al. The demonstration helped to remove the myth that composting is time consuming and needs lots of efforts and Sankarbhai now looks forward to using the compost on this field.



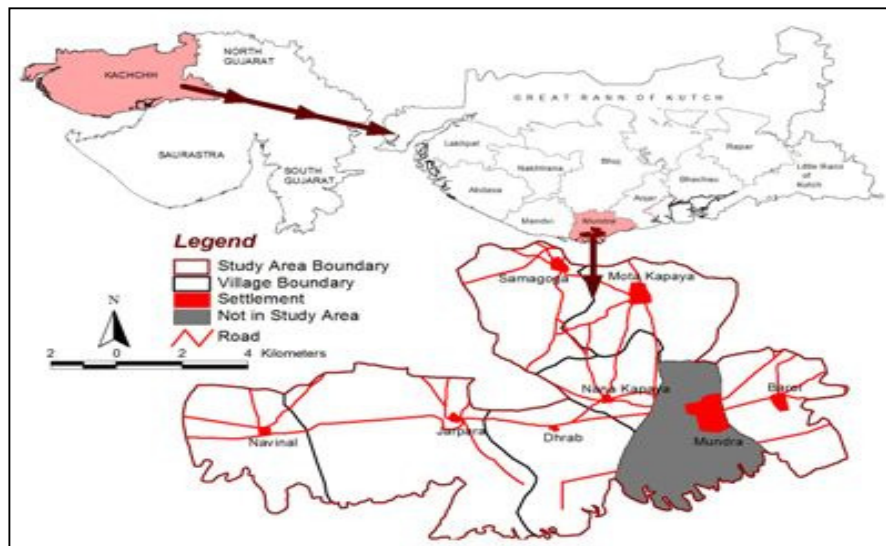
## Making changes through Panchayats:

Our interventions entered at two levels: Individual and collective. Interventions at the individual level were easier, since there was one primary stakeholder and we were working to address her/his individual incentives. At an individual level, we often found reluctance in adopting new measures, and we addressed them by demonstrations, assurance of end-to-end technical support and exposure visits. We also felt that the smaller farmers in the community were, expectedly, generally a lot more risk averse than the ones with bigger farms. We hope that the success of our first year will help them open up to the engaging with us.



At a collective level, we found a sense of respect for public policy and at the same time they were (thankfully not very sharp) divided along with race and religion. As an example, while everybody would participate in community discussions, the attendees in various religious celebrations will belong to the same caste and/or religion. We realized that it is important that the leaders of the community accept the changes first, and it would be crucial to a wider acceptance of the changes we were proposing.

Our first task was to engage with the Panchayat, and make them convened and compatible with our programs, its details and benefits. Luckily for us the Panchayats were appreciative and willing to join hands. We once again held discussion, presented case studies and conducted exposure trips, which



communicated the absolute criticality of community ownership of commons, and the horrors of community non-involvement. Though one year is not much time, we believe this did help add to the sense of ownership in the community. We also leveraged the ingrained respect for community decision-making, and there are many of our observations include examples of farmers not drawing water from Raban common pond at *Ajapar* and *Bhimsari* Pond at *Bhimasar* village water bodies once the Panchayat decided to earmark it for animal consumption. Last but not the least we have formed cluster committees, which are constituted by members from all the villages; and these cluster committees were entrusted with auditing, supporting and monitoring work. Acceptance of these roles by the cluster committee has again helped us develop a sense of community responsibility.

## Benefits to Community

The economic benefits of adopting the changes will accrue at two levels, the individual and the community. Some of the individual benefits will be apparent in increased farm incomes, greater productivity of domesticated animals, better soil health and greater food security.



At the community level, we can see greater confidence and openness to adopting new techniques or

governance mechanisms. Our exposure trips, trainings and workshops have led to generation of knowledge in the community and this knowledge has been leveraged to support and enhance incomes. We believe the community has realized that knowledge, conservation and livelihood forms a positive feedback loop; and all three can be made to boost one other. At a community level this has also played out to employment generation; this is because availability of water is related to increased demand for agriculture labour and ensures round the year employment to agriculture labour.

Last but not the least these interventions have also led to generations of social capital. There are instances of villagers letting animal herders from neighboring villages let bring their herd to drink water from the village ponds. This has been possible only because of development of a feeling of water security and has led to raised prestige of the village and in turn the villagers.

## Once People have made a change

Sahjeevan and its partners had conducted a baseline study before the initiation of the project. This baseline study helped us understand the social, political and economic dynamics of the villages we were going to work in. While designing our program and action plan we came back repeatedly to the drawing board, to check if our plans are aligned to the village level dynamics. One of the chief goals was to design activities that were self-perpetuating. We realized that economic incentives are hard to ignore and so, livelihood should be a core component of the changes that we propose.

Some of our partners had been working in the area, and their knowledge was vital to the design of effective programs. PRIs are representative and accepted in the villages we have been working, and in our first year of operation, we have worked with the Panchayats. At an individual level we have prefer to work with some of the more influential farmers - this is because it is these farmers who adopt new techniques first and then the community decides to copy them.

All of the changes at an individual level have led to or have the potential of increasing incomes. After a year of operation, the individuals we have worked with continue to work on the changes we had introduced. As an example *Madhabhai*, a farmer in Village *Bhimasar*, invested Rs. 76,000 in his farm pond project, while financial support from the project was Rs. 18,000/-. *Madhabhai* has sown crops in the summer season thanks to his farm pond. The last time we spoke to him, he was

planning to increase the size of investment so that he can sow a larger area in the coming season. Similarly, *Karamsibhai* of village *Pashuda* spent Rs. 79,000/- on a farm pond while the project could support him worth Rs. 37,500/- only.

At a collective level, there is recognition of the fact that conservation of water resources can lead to generation of both social and economic capital. Our activities have been participatory and we have taken pains to explain our actions, its pros and cons before we start any activity on ground. We have also ensured that the beneficiaries contribute to the smallest of the changes, and this would happen only when they are ensure about the changes and accept them wholeheartedly. Our trainings, workshops, demonstrations and exposure trips have played a crucial role in ensuring acceptance of changes. Notably, we plan to keep conducting workshops and trainings that are open for everyone and these activities will be the mechanism of reminding the community of continuing with the change actions.

Our approach to resolving the pros and cons of all changes we are making is by being transparent in all our communication with the community. We believe that the community understands the dynamics best and they should have to take the final decision in all matters related to commons. In the second year of our operations, we aim to register all water assets in the village and support the management committee to allocate water resources for specific usage. We anticipate some conflicts during this process; and to resolve this we have already started conditioning the community to the principle that the community's interest is larger than the individual interests. Our constant work has been proven effective in gaining acceptance at a community and individual level on this objective. Secondly, we have been working on building a stronger community; a strong community is effective in ensuring that an environment of fairness is developed and the conflict, if any, arising out of these pros and cons are resolved effectively.

#### **Promote sustainable agriculture:**



Along with management of demand (farm bund) and supply of water (rain water harvesting), we have worked to introduce other sustainable farming practices such as composting, mulching and more efficient methods of irrigation. We have also conducted exposure trips Bhatiya village to introduce the concept of farm bund and building farm ponds. Along with these exposure trips, we have also given technical assistance to farmers in building composting pits, held on farm

demonstrations of mulching. All these measures have led decrease in the use of chemicals for farming, and it is expected to reduce further with time. Some of the farmers are already reaping the benefits of organic farming; they speak about higher rates and about the same yields of organic farming. In our first year of operation, we have found it slightly harder to work with smaller farmers than with farmers with bigger farm sizes. Our project has been contributory, and at times, the small/marginal farmers have found it hard to raise resources to finance a part of the project. Yet another issue being their ability to take risks - the smaller of the farmers hardly ever have the reserve to withstand a financial or agricultural failure; and hence they are a lot more risk averse

compared to the bigger of the farmers. Kutch being an arid region allows for just one crop unless there is availability of water storage and this further diminishes the ability of smaller farmers to take risks. We initiated work with one such small farmer, *Sambhubhai Chaiya* of *Ajapar* village. We visited his farm and developed survey estimate for farm-bund, but once the estimates were chalked out he pulled out since he felt that the expenses were too high. Traditionally, the smaller farmers have accepted changes that have already been 'tested' by the bigger farmers. In the first year of our project, we have worked with 7 small and 16 marginal farmers. We expect more small and marginal farmers to work with us in the second year, even more so that the project contribution norms have changed in favor of the small and marginal farmers.

One of the marginal famers, named *Sambhubhai Hethwadia* (inset: *Sambhubhai* when the work on his Farm Pond started in presence of CSPC officials), in *Ajapar* village agreed to work with us. We helped him to construct a farm pond; the water from the farm pond percolated to an adjacent well. *Sambhubhai* then used the water in the well to irrigate his *Kharif* crop and this led to an increase of production of 3 tons of Sorghum fodder. This amounted to an increase of about 15% in yield. *Sambhubhai* was elated that he could irrigate his lands after so many years since the well was lying damaged and unused for many years.

We have also starting addressing an extremely wasteful practice of irrigation by flooding fields. Many farmers in the region draw water from water bodies by diesel pumps and flood their fields. We are planning to conduct a pilot project with a group of 4-5 farmers who agree to contribute to drip irrigation system.

#### **Animal husbandry:**

Animal husbandry along with agriculture is the primary source of income for the people in the project area. We have formed women SHGs and through these SHGs, we have trained them in the areas of animal husbandry. It is common for farm animals to fall prey to diseases that affect their productivity and longevity; and many of these can be avoided by knowledge of animal health care procedures. We have also collaborated with other organizations in arranging for Brucellosis vaccination for cattle in the area. About 1750 animals have been vaccinated till date in such camps.

#### **Climate-food and community:**

As we have mentioned earlier in this document the area of operation of this project is semi-arid and at the same time the primary occupations are agriculture and animal husbandry- both mostly rely on availability of water. To make things worse the underground water is saline at the most and so, not suitable for irrigation purpose. Besides, since the climate is extremely dry, the proportion of evapo-transpiration is very high. It became things more complicated when increase in population puts traditional means on earning a livelihood under increasing strain.



Keeping all these in mind, it was essential for us to design such systems that reduced or even eliminated dependence on ground water. We adopted a three-pronged approach to the problem:



- a) Decentralization of water resources
- b) Retention of water on farmland
- c) Using scientific methods of improving soil health

Decentralization of water resources was done through establishing farm ponds, which the issue of evapotranspiration was dealt with by introducing farm bund. In addition, we have also introduced composting, mulching and soil testing. Composting helps in enriching nutritive value of the soil and retaining moisture. Soil testing has helped us identify specific deficiencies in the soil, and we have addressed them by introducing specific nutrients to be added to the soil. As a part of the project, we have conducted soil testing for 66 farmers. *Kayan Rata Dungaria, Bhimasar* was one of the farmers to whom we had helped in testing his farm soil. He was startled by the results, which indicated the poor quality of the soil on his fields. Based on the soil test results he started composting (since the organic content was lower) and added specific micronutrients to his farm soil.

All this has helped farmers enhancing the availability of water (supply) and reduce the demand at the same time. This has led to some of the farmers growing three crops in a year, which goes a long way in ensuring their food and economic security. We also believe that the other farmers will start taking these examples and will adopt these practices on their farms.

***The project has had both quantitative and qualitative impact on the community.***

While the qualitative changes are just about emerging and will be elucidated with time goes, the major quantitative changes has been the following:

- a) We have worked with 71 farmers. Out of them, 38 farmers have seen an increase 46.44-ton additional production. The cumulative increase in income to the farming community as a whole has been amounted to Rs. 4.78 lakh.
- b) Our work has let to water storage potential create of 0.498 billion liters and Actual water harvesting during this year 0.5 billion liters. This has been through generating new water assets as well as rejuvenating existing ones, and with proper maintenance, these assets will keep on serving the community for the years to come.
- c) We have worked with 238 livestock keepers. While the increase income is not apparent, we projected major benefits will accrue in the coming years.

***Way Forward:***

We are focusing on three major areas in the next year:

- a) **Strengthening water governance institutions:** we plan to work with the PRIs to conduct water resource asset demarcation of that will map all resources and document details about the water asset. Once this is done, we will plan to work with community and the institutions to allocate water resources to various community stakeholders.
- b) **Enhancing livelihoods:** In the second year we will have also started working with farmers to grow crops that will specifically produce good quality seeds. Such seeds will again be procured by Upaj which will serve to preserve the local varieties of seeds, make seeds

available at fair prices and open an alternate source of income for the farmers engaged in growing the seeds.

- c) **Demand side management:** As we have mentioned above, we believe demand side management is integral to water security in the area we have been working. In the next year of operations we will leverage the knowledge that we have gained in the first year and devise strategies to ensure that water wastage is reduced and water is directed to its best possible use.

**Name of Project:** *“Strengthening Local Governance for creating drinking water security and improved sanitation in Mundra Taluka of Kutch District”*

#### **Key activities carried out during the reporting period**

Sahjeevan has entered into an agreement with MICT for undertaking selected components of the SAMNVAY project in seven villages belonging to seven different Panchayats. The work includes, carrying out baseline study on drinking water scenarios prevailing in these villages to prepare a baseline report and strategic planning and also to design and implement some entry point activity in selected villages based on the initial survey. The details of the progress on different activities committed under the project - :“Strengthening Local Governance for creating drinking water security and improved sanitation in Mundra Taluka of Kutch District” are described below.

#### **Hydro-geological study of the area/mapping of water Resources/baseline study on current source of drinking water/problems arises due to contaminated water**

We conducted a geo-hydrology study of the area in association with GSS. The study methodology involved multiple processes that are noted and briefly described below:

- a) **Data Collection:** Secondary as well as primary data has been collected according to the nature of the study.
- Secondary data include demographic information, land use data, rainfall data, existing maps and reports etc.
  - Primary data collection includes survey of existing surface water structure, study of existing wells and bore wells.
- b) **Study and Research:** This includes investigation of geo-hydrological parameters such as groundwater level, groundwater flow, groundwater quality, aquifer properties.
- c) **Mapping:** Based on survey, data collected and geo-hydrological research, thematic maps generated such as groundwater level contour maps, quality maps, geology map, geomorphology map etc.



#### **Characteristics of the Study area**

The study area is located in southern part of Mundra Taluka of Kachchh district. Total 7 villages viz. *Dhrub, Zharpara, Navinal, Nana Kapaya, Mota Kapaya, Samaghogha* and *Baroi* are covered for this study (Fig.

1.1). All the villages have its separate Gram Panchayat.

Geographically, the study area spreads over about 102.4 km<sup>2</sup> of area. Further the study villages are located within 5 to 10 km distance from Taluka headquarters while about 45 to 60 km far from district head quarter. Total human population of the area is 48,337 while total households are 11,706 according to district census records of year 2011. Out of total population, only 11.3 % population belongs to scheduled caste and 1.3 % population belongs to scheduled tribe.

***Based on the study the following recommendations were made:***

### **Groundwater Recharge and Management**

Various techniques have been suggested for groundwater recharge augmentation and management. The suggested techniques are surface recharge, artificial recharge through bore-well, recharge pit and channel spread method.

#### **a) Surface Recharge**

Surface recharge can be done through check dams and ponds. Building Check dams is an often used method to recharge groundwater.

#### **b) Artificial Recharge**

The basic objectivity behind adopting artificial recharge methods in the study area is to address the problem of groundwater depletion; to improve groundwater quality; and to match groundwater demand. Artificial recharge has been suggested to carry out in the study area through bore-well recharge in river, bore-well in existing surface structures and bore-wells not in use.

#### **c) Channel Spreading Method**




This is the most widely practiced method where water is allowed to spread in a natural stream/channel by checking water flow. The principle of this method is to increase the time and area over which water is recharged to a wide naturally loosing stream (Todd & Mays, 2005).

#### **d) Recharge Pit**

This is a low cost technique to recharge shallow depth aquifer by excavated shallow depth pits and fill water to infiltrate in aquifer. The method is very effective in coastal part where rivers flow in sheet flow.

### ***Demand Side Management***

Along with supply side management it is important that the demand side is also taken care of. Development of demand side management norms need detailed investigation and sufficient long term observation. At this stage the following activities have been proposed to look after for demand side management of groundwater.

-  Establish monitoring network to understand fluctuation in water level and quality of Groundwater
-  To establish groundwater recharge estimation method among community for various type of rainfall condition
-  Immediately introduce water saving technology at least in moderate zone and some banning on groundwater extraction in saline zone

- ✚ Engage institution like KVK to develop or spread awareness about low water consumption crop or crop varieties in the study area
- ✚ Develop use level protocol by community / user group

**Baseline study of Project covered villages:**

**Methodology of baseline study:**

Data was collected by using both primary and secondary sources. Primary data was collected by Focus Group Discussions (FGDs) with various groups in the village; Participatory Rural Appraisal (PRA) for social and resource mapping; field survey and transect; meetings with Panchayat body; schools and associations; interactions with community; and village survey forms. The study team also collected primary data related to water resources. Field transects and well & bore-well inventory processes were conducted with farmers and key persons related to the subject to get information about geo-hydrology and ground water table. Water samples of drinking water and water used for irrigation were collected from wells and bore-wells in and around the village which were sent to the GWSSB Laboratory for chemical and bacteriological analysis.

The team had approached various government departments for secondary data collection. Information relating to the Demographic details of village, Census 2011 and primary school of the village was referred. Climate and Rainfall pattern information was gathered from the Meteorological Department. Revenue Maps were obtained from the District Inspector of land Records (DILR). Information on the regional Water Supply Scheme was understood from the Gujarat Water Supply and Sewage Board. Under Total Sanitation Campaign in Gujarat, Sanitation facility status of the village was understood.

**Secondary data collection**

The study team has collected secondary data from below various Government Departments.

Sr. No.	Information	Source
1	Demographic details of village	Census 2011 and primary school
2	Climate & Rainfall pattern	Metrological Department
3	Revenue Maps	District Inspector of land Records (DILR)
4	Regional Water Supply Scheme	Gujarat Water Supply & Sewage Board (GWSSB)
5	Sanitation facilities	Total Sanitation Scheme, Gujarat

Secondary data has been collected from Gujarat Water Supply and Sewage Board (GWSSB) which is the present major source of source of drinking water to the target villages. The data regarding the sources (nature and number of the source) of drinking water supplied through the GWSSB schemes and community perception about the quality of the water has been collected. Water quality analysis has been carried out in the target villages. A total of fourteen samples were collected during the post monsoon season which was analyzed in the Government laboratories. Altogether the quality has been assessed in terms of seven physical characters (color, odor, Turbidity and Total Dissolved Solid) and nine chemical characters. The results of the analysis were shared with Seven Panchayats. Out of the fourteen samples submitted for the analysis, seven (Six sample TDS is very high and one sample Fluorides is high) sample have found as non-potable water for drinking

purpose. Out of seven villages, five villages have non potable water. Detailed consultations have been carried out to develop understanding on existing local governance system of seven villages. The village water governance has been assessed based on eight indicators. The data is being analyzed for generating a detailed status report. The existing water distribution system including the sewage water disposal network has been studied in detail in seven villages. The study includes the mapping of the distribution and disposal systems and documenting the condition of the infrastructure facilities. A detailed report on this aspect is ready.

**Major issues regarding water Trust Area of MICT covered all villages**

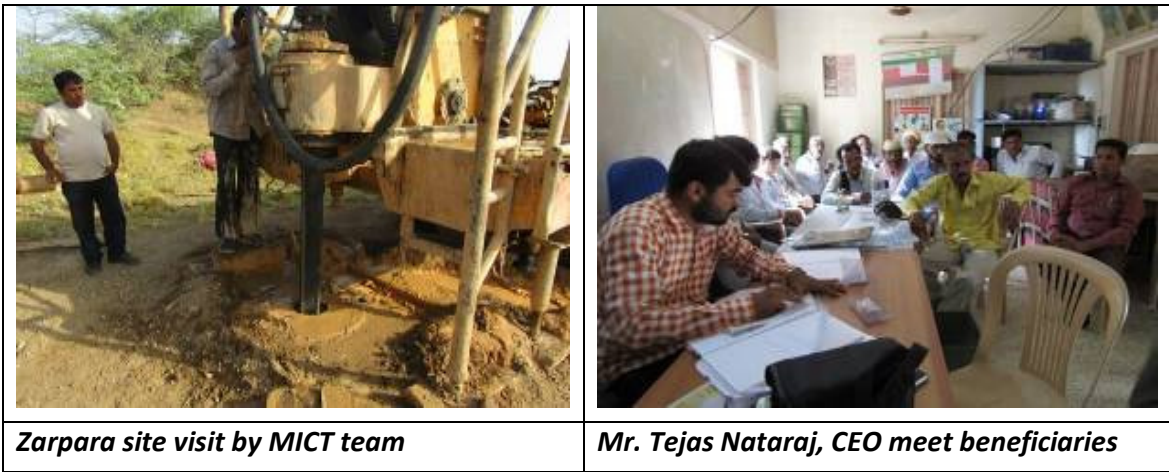
- All drinking water source is unsafe for drinking purpose (TDS, Nitrate and fluoride is very High)
- Depth of bore well goes to 400 feet
- Catchment areas have been under threat, many of them have been encroached
- Natural water drainage flows have been diverted because of development
- Altered Land-use purpose
- Need for Strengthening of Ponds
- Drinking water distribution network is good because of WASMO and others CSR groups working on past.
- Water Usage is very high
- Unauthorized labor colonies have been setup and they have started crossing village boundaries

**Improving existing water resources/ creating new water**

THREE VILLAGES WERE TARGETED UNDER THIS ACTIVITY NAMELY BAROI, ZHARPARA, AND NAVINAL. A BRIEF OF THE ACTIVITIES IN EACH VILLAGE IS MENTIONED BELOW:

Water resource strengthening -Zharpara:

	
<p><b>Catchment Improvement - Zarpara</b></p>	<p><b>Pond development - Zarpara</b></p>



We had conducted a baseline study in the village during the initial period of our project. Our study showed very high TDS levels (1982-2481) and it was evident that the water sources needed proper attention. We initiated our work by forming a *Pani Sanrakshan Samiti* in the village. The Panchayat was also roped in as a partner and 10% of the total project costs were borne by the Panchayat. The *Pani Sanrakshan Samiti* was responsible for monitoring, supervision as well as assisting the team as and when needed.

A pond in the village was selected based on a) our discussion with Gram Sabha and b) that the pond was serving water for human use, for cattle as well as for irrigation. This specific pond was getting eroded and to prevent erosion we constructed a sloping bund all around the pond. Also the flow of water into the pond was diverted through pipes to prevent erosion. The catchment area of the pond was improved by clearing prosopis juliflora on its path and by constructing a bridge to let water flow underground without any obstruction. Our work in the village has directly benefitted to 100 families. The increase in availability of water provides sufficient water supply for human use, for 1500 cattle owned by these families and for irrigation of 150 acres of land.

***Ground water recharge through artificial bore-well - Navinal:***

We had tested the water quality in the village of *Navinal* as a part of the baseline study. *Navinal* is a coastal village, and when excessive ground water is drawn, sea water seeps into aquifer raising the salinity levels of the ground water. Our test results showed that the water currently being used for drinking had TDS levels of around 2100 which made the water un-potable. Alarmingly 60% of the village households were using this water for drinking purpose.

Currently the villagers are supplied water from a nearby village called *Bhujpur*. The supply of water is erratic since it is susceptible to disruptions in electricity supply and malfunctioning of the pipeline system. The state govt. has recently dug a bore-well which is close to check dam in the village. We tested the water quality of this new bore-well too, and the quality turned out to be as poor as the existing supply. It was obvious to us that the quality of water needed to be improved.

We started by discussing with the PRIs and forming a partnership with them. The Panchayat also agreed to contribute 10% of the project costs.

It executes the operations (starting from tendering the work, choosing the contractors based on the bidding and making the final payments to respective contractors as per government approved rates). As per plans an artificial bore-well was dug next to the check dam to ensure quick recharge of the ground water during monsoons. The bore-well was designed such that it started filling up only after the check dam filled to the brim and would let water overflow only when the bore-well was completely recharged. The work on the bore-well has been completed and this is expected to lead to considerable improvement to the quality of water.

#### ***Ground water recharge through artificial well - Baroi:***

Our baseline study revealed that the existence of 3 bore-wells in the village that were serving water to 940 Households (4700 people) in the village. All these 3 bore-wells were built by the state govt. as per the IWSS scheme and have depths ranging from 200 to 270 feet and are situated on a stream.

As in Baroi, our initial study had found that the TDS levels of different sources of water were very high (around 2000) in Baroi. This once again, told us the water was found unpotable. In Baroi we worked to construct a check wall on the stream and water from the check wall was diverted through cement pipelines into two unused wells (35 feet depth) to recharge underground water. Additionally a filter was attached to the check dam wall to ensure cleanliness of the water flowing into the wells. The wells were especially useful since they had large diameter and so they have the capacity of holding huge amounts of water. Using the wells made it was easy and cost effective for us to divert significant amounts of water into the wells. Recharging using these wells is expected to improve the water quality of 2 of the three bore-wells. The project execution and operation was similar to that In Navinal; the PRIs were engaged and they were responsible to conduct the day to day activities to ensure completion of the work. Once again, the Panchayat contributed 10% of the total project cost.

#### ***Major Outcomes:***

- } Strengthening water security in terms of quality and quantity of 5440 Household, 4930 Animal and 150 acre rain fed agriculture
- } Execute Ground water Development model though artificial recharge in 2 project covered villages (*Navinal* and *Baroi*)
- } Creating water security of Cattle, human and rain fed agriculture for 100 families of *Zarpara* village.
- } Prepare 7 villages Baseline report on existing status of drinking water quality.
- } Prepared geo hydrology report of 7 project covered villages.
- } Understood socio-economic scenario of all 7 project covered villages.
- } Building rapport with the 7 Gram Sabha and Panchayats and community with a special preference to women folk
- } Design campaigns to generate awareness session to use clean drinking water

The unit has demonstrated its capabilities for Improving the quality and access to drinking water and ensuring its judicious governance especially through Community organizations and Panchayati Raj Institutions. It is also concentrating on expansion and productivity improvement of dry land agriculture through water centered interventions like critical irrigation, soil moisture conservation and other water conservation measures.



Sahjeevan's urban cell works in Kachchh to harness the power of responsible citizenship to respond to issues around management of commons. Bhuj has grown rapidly, both in terms of size and population, during the last 15 years. There has been significant displacement of residents, with new housing colonies being set-up, and an influx of people from other regions of Gujarat and the country. Bhuj, like many other urban areas in the country, has faced degradation of commons and encroachments at a rate much faster than rural commons.

The Urban Unit is functioning with the vision to achieve Sustainable Urban Governance & Conservation of urban common properties and to address urban shared issues in a participatory way through involvement of responsible citizenship with the response as well.

The unit is working with team approach involving 7 full time members having sufficient experience and exposure on diverse urban community issues. The programme coordinators have long association with Sahjeevan, hence they are well familiar with the working environment of organisation.

In addition to its head office, the unit is geographically dispersed in two municipalities (Bhuj and Rapar) and 12 villages of two blocks Mundra and Mandavi on issues related to waste management and animal husbandry. Prominently, solid waste management is the core area which leads to several other corresponding urban issues. In the years to come, the urban unit will be putting its efforts for spreading its geographical and thematic area further.

During the reporting year, 2015-16, the funding partners such as MISEREOR, GEF SGP, TATA, DPWorld and Rapar Nagar Palika are the main source of funding for execution of activities. MISEREOR and GEF SGP have been jointly contributing into waste management and empowerment of waste pickers. Apart from local CSR, unit has also made efforts to bond the partnership with national and international agencies not only as a donor agency but also as institution development co-executors.

### ***Projects implemented during the year 2015-16:***

1. Promote a more Sustainable Community led Approach towards a Zero Waste City by GEF (UNDP & MoEF&CC):

The project draws a holistic approach towards the issue of waste management from environment perspective. The sole purpose of the project is to *Support Bhuj Municipality to review and rationalize sanitation tax and ban on less than 40 micron plastic bags in people's participation and creation of service providers for responsible waste management.*

The project is working on three dimensions i.e. Community Development (Rag-Pickers), Citizen's Participation and Strengthening Bhuj Municipality for effective and sustainable

waste management. During the year the activities conducted under the project are as under:

- 1.1. Visit of Mr. Prabhjot Sodhi, Country Programme Manager, GEF Small Grants Program:** The purpose of his three day's visit was to evaluate the project progress from UNDP perspective and to provide fruitful inputs for future course of action. On March 03, 2015 he made his first visit to Bhuj and review the activities accomplished by Sahjeevan during the last two years. During his three days visit, he met with Municipal Officials, Citizens Advocacy Group Members, Rag-pickers and residents of door to door beneficiaries. He was impressed by the activities undertaken and the rapport building with other stakeholders.

He furnished his valuable inputs on door to door garbage collection activities, methods of empowering and improving the status of rag-pickers, increasing the penetration of decentralized waste management and incorporating different stakeholders in the activities, which also includes marketing of recyclable material.



***Qualitative Changes:***

- ♣ GEF SGP came to know the ground realities of Bhuj City, i.e. the people's attitude, administration and authorities barriers and issues context addressing under the project in comparisons with other part of country.
- ♣ Visits have been able to translate into extension of project and reallocation of balanced financial resources to meet the extension cost.
- ♣ Gain innovative ideas and suggestions, which will be helpful in short and long term plan for the project as well as for organisation.
- ♣ Have been able to align the waste management work with the national context.

**1.2. Decentralized Waste Recycling Centre at Educational Institutions:**

Sahjeevan has been able to market 20% of the recyclable items and 70% of manure converted from waste produced by Lalan College. Prior to establishing segregation centre at Lalan College over 750 Kgs of monthly wastes were producing CO<sub>2</sub> by burning process. The segregation centre has also gained financial profit to waste pickers as well as to the institution.

The first successful setting up a waste segregation centre at Lalan College was a crucial initiative in initial stage. Sahjeevan has established a waste segregation centre at Lalan College in Bhuj. Service Centre for door to door waste collection has been set up the college premises by involving waste pickers. The door to door waste collectors visit Staff quarters every day and collect waste. Solid wastes are also

There are two persons engaged in the work of sweeping in the Waste Segregation Centre at Lalan College and one person is engaged in the work of door to door collection at the Campus. Monthly earnings from the sweeping work are Rs. 12000/- and monthly earnings from the Door to Door Waste Collection at the campus is Rs. Rs. 750/-. Total waste collected in one month is 428 Kg. Total recycled organic waste for composting is 396 Kg, which has a market price of Rs. 1500/-. Total monthly segregated dry recyclable waste amounts to 32 Kg. Total monthly earnings from dry recyclables is Rs. 450/-.

the  
in

collected from the girl's hostel and the college canteen and it is ensured that the waste is segregated properly separating with wet and dry waste. The waste of the entire campus is brought to the segregation center and a waste picker has been deployed there to manage and dispose this waste.

During the month of December 2015 a circular from state government has been issued to terminate the partnership between Sahjeevan and Bhuj Municipality. According to that circular, from January 2016 onwards agency nominated by state government will take care assignments relation to solid waste management in government institutions.



of

In the new scenario, on March 11, 2016 Sahjeevan by the help o principal of Lalan College Dr. P.N. Raval organised a meeting with designated officials of prominent educational institutions at his office. The purpose of this meeting was to establish decentralized segregation centres and waste management at other institutions of Bhuj, which will help to create better environment in the city. The officials from Shri J.B. Thakkar Commerce College, D. L. Law College, Sanskar College, Sahjanand College and Swaminarayan Colleges were attended the meeting. The outcome of the meeting was fruitful and result oriented and all participants were agreed to be part of the noble cause of solid waste management.

The J. B. Thakkar Commerce College, D. L. Law College and Sanskar College have agreed to take further actions with the approval from their respective board members. Several follow-ups have been made to break the iceberg but not succeed to cope with the delay.

### **Qualitative Changes:**

- ↪ Lalan college have become an remarkable example for other institutions. Hence, masses from different sections of societies have made visits to the institution which can result into operationalising of segregation centres at other societies.

Some of the Colleges have gained significant earnings from the compost prepared by the solid waste.

- ↪ It helped to create livelihood opportunities to some persons. These people belong to rag-picking community and now they are working as service provider. Thus, motivates other people to enhance their level of employment capacity.

### **Major Barriers faced during the execution of Project:**

- ✚ Unnecessary procedural delay in accepting and decision making for proposed establishment de-motivates team efforts.
- ✚ People from waste pickers/service provider community do not easily involve because of financial inclusion and time constraints.
- ✚ Expectations from other institutions are beyond the expected outcomes on such proposed activities.

### **1.3. Formation of Waste Picker's Association:**

In the process of decentralised door to door collection, Sahjeevan has been engaging with the waste pickers, holding dialogues with them for forming an association of waste pickers. To understand the economics of recycling, Sahjeevan's team has also visited recyclers outside Kutch. Sahjeevan has convened several meetings with stakeholders and initiated other procedures in this direction.



Apart from some area level meetings during the year several city level meetings have also been conducted at various strategic locations with minimum and maximum participation ranging 3 to 80. In June 2015 a meeting was held with representation of overall waster picker's family members with the purpose of forming a standing committee of the association of waste pickers. At the end of the meeting, a standing committee of waste pickers was formed. The committee members were selected among the people from their respective wards and the members were finalized with consensus among the waste pickers from different areas. Further, it was decided to involve some other waste pickers of Bhuj so

that gross representation would be ensured. The decision halted the rhythmic progress of active interaction with waste pickers because of unknown reason.

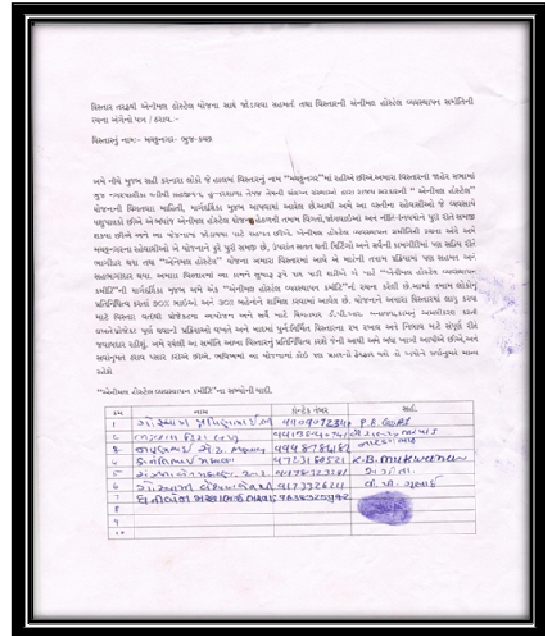
Further, intensive efforts have been made to reunite the waste pickers from different pockets of Bhuj city. In order to re-build the rapport a medical camp was organised at Vasfoda, during March 2016 which was inaugurated by Shri Prabhjot Sodhi, Country Programme Manager, GEF. It was also planned to implement various alternative livelihood activities along with group exposure visits for waste pickers.

#### 1.4. Urban Animal Husbandry

##### a. Process for animal hostel

##### → Preparing structural design of animal hostel

- ♣ Structural design of animal hostel was prepared in collaboration with Hunnarshala. Based on the experience of the cattle breeders in Machchunagar, they suggested some changes in the structural design of the animal hostel in a meeting especially organized between Hunnarshala and the cattle breeders of Machchunagar. The structural design was finalized after incorporated the suggestions made in the meeting.



- ♣ The team of Hunnarshala and Sahjeevan visited Akodra Animal Hostel. The design for the animal hostel in Bhuj was planned after necessary changes in the design.
- Proposal for animal hostel was prepared and sent to Animal Husbandry Department and Gauchar Gauseva Board. Animal Husbandry Department issued a guidelines for preparing proposals. Action Plan has been prepared in accordance with the guideline and then the revised proposal was prepared in consultation with the animal owner of Machchunagar animal hostel management committee.
- Individual resolutions was passed showing that the residents were willing to establish an animal hostel and the cattle breeders of Machchunagar will manage the animal hostel. An MOU between both the sides has been signed.
- After individual resolutions, a committee has been formed for the management of the hostel, in which 7 people of Machchunagar are involved as members including 3 women and 4 men. The Chief officer of Municipality and Pashudhan Nirikshak are the permanent members of the committee.
- As per the guideline, the team met insurance agents to understand the entire procedures of animal insurance.
- **Exposure visit to Akodra, Himmatnagar**



An exposure visit of the management committee of Machchunagar was organized to Akodra in Himatnagar. It was an opportunity for them to see the first rural animal hostel. The main purpose of this visit was to understand the design of the hostel and understand how the committee works and managing the hostel, the challenges they faced in establishing and running the hostel and how the animal keepers benefitted from the hostel.

**b. Advocacy for Urban Animal Husbandry:**

Sahjeevan started an enabling process wherein the cattle breeders of Bhuj city discussed the matter with the concerned authorities about the need to remove encroachments on the cultivable and grazing land. As a part of this process, 12 Maldharis of Gandhinagar and Kodki road organized a meeting with the officials in encroachment cell in District Panchayat office. In the meeting, the activities undertaken by Sahjeevan so far to remove encroachment has been shared and strategy to undertake these activities further was also decided.

**c. Study to understand milk Market in Bhuj:**

A small study has been undertaken to understand the milk market system of Bhuj city. Information was collected from four different stake holders. This included information on Whole sale traders of milk, traders having chilling plants of milk, traders of sweets, and door to door milk vendors. The study revealed that the demand of milk is around 100000 liters per day for city, of which demand of around 18000 liters of milk is satisfied with the milk supplied by 335 Maldharis of Bhuj.

The surrounding villages of Bhuj provided the milk, while around 15000 litres of milk is supplied by Amul and Mahi dairies. The study mapped the sources of milk to Bhuj city and how much milk each of the point is bringing into the city.

The study team felt that the respondents of milk centres or big traders were sometimes not giving authentic information about the quantity / capacity of milk, which was considered to be a limitation of the study.

**d. Study on the pattern of cattle feed given by the urban cattle breeders:**

A study has also been undertaken to understand the pattern of cattle feed given by the urban cattle breeders. The study was conducted with 35 cattle breeders out of the 335 in the four identified clusters. It focused on the components like marketing, health, cattle feed etc.

It also aimed at identifying the sources on which the Bhuj city depends on for its dry and wet fodder. Understanding these components was also seen as contributing to devising a long term strategy/plan for sustainable animal husbandry in the urban areas of Bhuj.

**e. Participation in the Auction organized by the Animal Husbandry:**

Animal Husbandry department organized an auction of the cattle it keeps. Auction was organised this year as well and the team of Urban animal husbandry participated in the event to understand the process as well as support the efforts of the department.



**f. Assessment of the Cattle Breeders Situation in Monsoon:**

Visited the cluster, to assess the situation of the animal keepers at Gandhinagri during monsoon; what are the problems they face and how they deal with them. In addition, it was assessed - whether it is possible to work for them under the housing for all programme.



**g. Formation of Maldhari's Association:**

During the course of visiting and assessing the entire situation of cattle and its owners, formation of association to address the issues of *Maldhari* emerged as prominent issues. Association formation will not only unite them but also makes empowering them to collectively raise their concerns to the urban authorities. Hence, parallel discussion and debate for formation of association became part of urban husbandry.

During the year, area wise meetings were organized at different locations of city. But the desired results are yet to be achieved because participation was poor to some extent. After discussion with the *Maladhari*s, need for city level meeting came out the only solution. Up to March 2016 over 36 meetings were organized to mobilise the maldhari community.

**1.5. Implementation of Bhuj Waste Management Detailed Project Report (DPR):**

**1.5.1. Awareness programme**

**- Pre-Election Voter's awareness Campaign**

Elections of Municipality were held in October 2015. Sahjeevan started an awareness campaign before the elections with following objectives:

- ♣ Generate awareness among citizens to help them to set the parameters of a sound candidate and select the proper candidate for their respective wards.
- ♣ Influence the Municipality for enforcing a strict plastic ban.
- ♣ To create awareness amongst citizens for importance and citizen action on zero plastic city.
- ♣ To sensitize people and get them aware about the concept of door-to-door waste collection.

The advocacy group held interactions with people in the Ganesha festival, as it provided them outreach to the masses. They held interactions with the people on the following three questions:

- ♣ Are you ready to regularize door-to-door waste collection in city?
- ♣ Do you agree to elect active and approachable person as counselor in the upcoming election?
- ♣ Do you agree to put ban on use of plastic bags?

Over 300 people were interviewed and 298 responded positively on the three questions. The event was held in *Sanskarnagar, Pramukhswaminagar* and Tin city ground in Bhuj.

### **1.5.2. Media Campaign**

The popular newspaper Divya Bhasker organized *RUBARU* programme with an aim of discussing the ward issues. Discussions were held in each of the wards of city. Along with citizens the invitees including Mayor, ward councilors and ruling party leaders. Open dialogue and discussions were held on the issue of making the city clean, which includes policy as well and enforcement level actions from people, administration and elected representatives. Sahjeevan played a consultative role in the event and helped the newspaper design and implement the entire event.

### **1.5.3. Creating and Strengthening Citizen's Pressure Group**

#### **a. Meetings with the Advocacy Group**

Under the reporting period, 11 meetings of Advocacy Groups were held in participation with eminent citizens of Bhuj city. Advocacy group, with the support of Sahjeevan, have conducted the meeting and action oriented discussion happened are as following:

<b>Advocacy Group Meeting 2015-16</b>			
<b>Date</b>	<b>Agenda</b>	<b>Outcome</b>	<b>Participants</b>
<b>1/4/2015</b>	Attend waste picker meeting	They discuss about their issue of education for their children, the group is help to them to sort out the same	10
<b>5/5/2015</b>	Environment Day planning	Members discussed for celebration of 5th June, the World Environment Day	6
<b>14/5/2015</b>	Environment Day planning	Planned for 3 days celebration for 5th June	9



<b>4-6/6/2015</b>	Environment Day planning	Exhibition/drawing/essay writing competition, Cycle Yatra on plastic ban etc.	15
<b>4/7/2015</b>	Attend waste picker meeting	Discuss on <i>Swachchata</i> exposure.	17
<b>8/8/2015</b>	Cleanliness campaign	<i>Hamirsar</i> Lake clean drive	13
<b>14/9/2015</b>	Awareness drive on door to door	Ganesh festival, creates awareness, fill up forms from citizens on door to door collection and elect new councilor of ward.	12
<b>19/11/2015</b>	Snehmilan	Diwali celebration	35
<b>6/1/2016</b>	Meeting	Discuss about DPR followup with municipality and cleanliness status of Bhuj	7
<b>13/1/2016</b>	Meeting	Discuss Rapar 26th Janurary 2016 function	13
<b>28/2/2016</b>	Meeting	Planning on celebration of International Womens Day,	11

Apart from regular meetings, Advocacy group members have been helped in conducting Bio-Diversity activities and meetings at different locations. They helped in conducted the aforesaid subject study.

- **Meeting with DMO Gandhi Nagar:** On February 02, 2016 Sahjeevan team, BNP team senior elected representatives along with CEO and MLA meet with DMO, *Shri Rakesh Shankar* at his office and handed over the DPR prepared by Sahjeevan. A detailed discussion was held in the office and he accepted the DPR submitted by Sahjeevan. During the meeting, the MLA has pointed out that door-to-door garbage collection service in Bhuj city will be managed by Sahjeevan and the present BNP members owned it. Whereas the DMO suggested to Sahjeevan people to conduct a fresh study on waste disposal for producing energy from Waste.



- **Advocacy with Authorities:** Meeting with MLA of Bhuj convened on March 17, 2016 for initiating door-to-door garbage collection service. MLA accepted the proposal positively and assured to discuss this matter with



the concerned departments. The elected councilors of Bhuj Municipality participated in the meeting. MLA proclaimed the female councilors to actively involve with Sahjeevan in creating awareness on minimizing use of plastic and segregation of waste at each household. Further, project team also meet with *Bhuj Nagar Palika* (BNP) for granting approval to establish the centre for door to door garbage collection services. The matter of approval is pending with BNP. Therefore, team is planning to approach the Member of Parliament to get the approval from the concerned authority.

On March 28, 2016 Executive Director again meet with MLA for further discussion on the matter of door-to-door issues along with a request for financial assistance through MLA fund. Members of Sahjeevan also met the BNP authority to get the consensus on this crucial issue, which remain unattended as they have outsourced this assignment to other private company. After reviewing the progress of company, BNP will sign the letter of exchange. Hence, project team have started creating awareness in consultation with councilors and residence to raise demand for door to door collection.

- 1.6. Solid Waste Management in Rural Areas:** In rural area with the support of CSR funding Sahjeevan is working in 12 villages of *Mundra* and *Mandavi* block of Kutch for waste management. The funding companies are Coastal Gujarat Power Ltd (CGPL) and *Mundra* International Container Terminal Pvt. Ltd. (MICT). The objectives behind the activities are as under:

The solid waste management programme; strives for maximum waste recovery through sustainable use of biodegradable waste, recycling of non-biodegradable waste and aims at minimum waste disposal onto dump yards and landfills

**A. The long term objective of the program is:**

To reduce the environmental degradation caused by solid waste by using different methods to manage biodegradable and non-biodegradable waste in order to minimize waste that needs to be disposed in centralized landfills

**B. The specific objective of the project will be:**

- i. To establish waste management as collective developmental agenda of PRI;
- ii. To create livelihood opportunities from the waste
- iii. To institutionalize Informal Waste Recycling Activities
- iv. To build a strong movement at the grassroots level by making equipped them through intensive training, capacity building and orientation programmes

The detailed activities in accordance with respective CSR are following:

- 1.6.1. Mundra International Container Terminal Pvt. Ltd. (MICT):** The inception of partnership begun on April 2016 with the target to implement project in 7 villages of *Mundra* block. At four villages developing waste management system was required whereas at remaining three villages awareness activity was to be undertaken. The activities conducted are as follows:

- **Study on present status and practices:** Purpose of the study was to understand the current status and practices of collection and disposal of the waste in projected villages, which will pave the way for future course of actions. Under the study, different sections of society and service providers were contacted through one-to-one contact and FGDs. Broadly speaking, five parameters were set to study the scenario i.e. Facilities Available, Categories of Waste, Financial Profile, Disposal of Waste, and Outcome. These parameters provide the overview of the village in context with Waste Management. The major findings of the study reveal “Waste Management is not a Developmental Agenda, hence it is not on priority of rural institutions or public”.
- **Formation and strengthening of committees in project covered villages:** To make the implementation process smoother, ensuring participation of people and sustain the activities after completion of project, Sahjeevan has formed/revitalized the committees at the project-implemented villages. The committees constitutes of members from Panchayat, Local NGOs/Group and Active Villager. These committees’ members were involved in conducting baseline study, identification of garbage disposal sites, regularizing door to door collection services, and keeping track of waste in their respective villages.

- **Raised Awareness and Changing Perceptions:** In order to make long term, sustainable changes, people at grassroots level must feel ownership and commitment to the project interventions. An important aspect in order to change norms, attitudinal and behavioral pattern is to raise the public awareness about the importance of managing the waste. Thus, 3 school level activities along with 7 street plays were conducted during the project period. At school level activity over 350 children actively attended the camps, whereas in street play over 150 people were present. Along with people interaction, poster in local language were developed, which were distributed and pasted at public places.



- **Demonstration unit for sustainable waste management** - Sahjeevan initiate to develop model of sustainable waste management in three villages Panchayat for preparing and drafting detail project report. Team processed for setting up model with these panchayats.

- At Samaghoga village 46 dustbins were provided at the request of Panchayat.
- Navinal: along with modification of cycle, rickshaw total 40 dustbins were placed in Navinal village. Shri Tejas Natarajan, Chief Executive Officer did inauguration of segregation center constructed under the project on March 14, 2016 in



presence of Panchayat Members, Village level groups, NGOs and Sahjeevan team. During inauguration sapling was planted by MICT, at the centre. iii) Nana kapaya: On April 06, 2016 inauguration of centre was done by Ms. Nandini Dharwarkar, Assistant Manager, Mundra International Container Terminal Pvt. Ltd. in presence of Panchayat members and Sahjeevan team. iv) Baroi: Panchayat were facing the problem from waste water because of ineffective drainage system. Panchayat came up with the demand to repair the damaged drainage system on priority, which was done by adding more pipelines.

- **Staff capacity Building on Waste management:** Project team visited village Punsari, Banaskatha district. The village was awarded best clean village of Gujarat by Government of Gujarat. Team meet the panchayat members and understand the working environment.
- **Engaging appropriate institution for Waste management:** To recycle the plastic and metallic waste, Sahjeevan has approached the scrap merchants for possibility to link it with the segregation centres. Few of the scrap merchants have agreed to be part of the system after looking at the quantum and category of waste.

**1.6.2. Partnership with CGPL (Samanvay Project):** During October 2015, project partnership begun for establishing waste management in 5 villages. Following activities were conducted during the six months:

- **Situation Analysis & Develop Action Plan:** On inception of project Sahjeevan, team has gone through various rounds of discussion with and civic agencies. The team has attended the Gram Sabha meetings periodically to convince for granting permission to work in the village. Sahjeevan team organized meeting with Gram panchayats and discuss on solid waste management system of project covered five villages. Simultaneously, team meet with line departments and village level groups and women's groups.

- **Formation and strengthening of committees in project covered villages:** Sahjeevan formed village committees with representation of people from different aspect of society. The committees constitutes of members from Panchayat, Local NGOs/Group and Active Villager.



Awareness:

1. Street Play: In nutshell the street play information is as under:

Sr. No.	Date 2016	Village	Venue	Participant's No. (Observation)
1.	March 21	Kandagara	Primary School	200
		Kandagara	Ram Mandir	40
2.	March 22	Nana Bhadia	Primary School	150
		Tragadi	Rajput Samajwadi	100
3.	March 25	Nana Bhadia	Wadi Vistar	200
		Tunda	Panchayat Bhavan	200
4.	March 26	Kandagara	Community Hall	175
		Kandagara	Muslim wash	200

Outcome of the awareness programme emerged into debate and discussion among the people. Actualization towards outcomes of the project implementation was one of the much-debated issue among common people.

2. School Level Awareness: Secondary school at Nanabhadi gone through awareness activities on occasion of January 26, 2016. Three categories of activities was conducted in the school one was essay competition, second was drawing competition, and third was slogan writing. More than 130 children of different classes actively participated in the event and presented their perception on waste management. Children showed their in-depth knowledge of the problems emerged from the waste and the available solutions to mitigate the waste issue. Refreshment and prizes were distributed to the winner children.



3. Community Awareness: During project inception Sahjeevan team met with different groups of community with special attention towards women empowerment. In the meeting, they were told about the harmful effect of plastics on health and environment. Team suggested maximizing the uses of cloth bags during marketing and avoiding purchasing of items in plastic carry bag, which are have enough plastic covers. Purpose of the meeting was to motivate them

for segregation of waste at their house level, which will not only ease the job of cleaner but also be helping in developing healthy environment.

4. Volunteering Week: Government School, Sahjeevan along with TATA team commemorated the volunteering week on October 1st, 2015 at Kandagra village. Cleanliness drive were undertaken for the mark the day. Over 100 people participated in the cleanliness drive, which covered the market place and residential locality. Vendors and local active citizens also showed their active participation in the drive.

1.7. **Waste Management with Rapar Nagar Palika:** The contract between Sahjeevan and Rapar Nagar Palika could run only for 6 months, after which it had to be closed. There were various reasons leading to closure, including strong political motives between some of the leaders of the community. The authorities were made to believe by these stakes that waste management, especially City Street cleaning was not working as desired and making their area polluted. Though, during the six months of time, Sahjeevan was able to implement the following activity:

→ **Street Cleaning Planning:** Sahjeevan team prepared the route plan for street cleaning, which were strictly enforced and monitored. During the entire duration against the claim of 47 with 30 sweepers city street cleaning were done. Team visited various localities and met with various residents to make them aware of segregation process that can make their locality clean.

→ **School Level Competition:** On January 26, 2016, Sahjeevan conducted a school level competition at Rapar. Total 30 schools actively participated by presenting their views on cleanliness drive. Core attention of the event was debate, drama and drawing competition performed by the students of different schools. These activities clearly highlighted the message of cleanliness to the present persons which includes the entire Municipality Representatives, Education Department, NGOs/CSO and the common people.

During the event, recognition awards were given to the ward councilors along with active residents for their effort in keeping the locality clean. This led to a discussion among the people for making their locality clean.

Sahjeevan's urban unit works on developing a system of responsible and accountable citizenship, which works on the pillars of governance, conservation and livelihood towards protection of the urban commons. Currently the focus is on establishing participatory environmental friendly and sustainable Solid Waste Management systems and to conserve public places and common lands. This is done by creating awareness, enforcing environmental regulations, participatory planning and improving the socio-economic status of marginalized communities of Maldharis (Pastorals) and waste pickers. The marginalized are supported to form their own institutions that engage in both policy advocacy and enhance incomes and livelihood options for their own communities.

Sahjeevan's solid waste management program was developed on the idea that a clean city is central to developing a sense of pride and ownership among citizens, and hence the need of an effective waste management program

The urban unit's other major initiative is to work with Maldharis in Urban areas to protect traditional grazing lands and form CBOs that can communicate their importance to fellow citizens and work to protect their rights to common resources.

Contact us :



Room No. A to D, 1<sup>st</sup> Floor, Sunrise Tower, Opp. Revenue Colony, Nr. PGVCL,

Bhuj 370001 Kachchh, Gujarat, INDIA,

Ph. +91 2832 251814, Fax: +91 2832 251914,

Emali: [sahjeevan@gmail.com](mailto:sahjeevan@gmail.com), Website: [www.sahjeevan.org](http://www.sahjeevan.org)