

**Saving a Mangrove Forest:
Camel pastoralists' fight to save the Kachchh Mangroves**

A Sahjeevan Publication



This report has been compiled by Pankaj Joshi and Mahendra Bhanani, with inputs from Varsha Ganguly and Bhikabhai Rabari.

Acknowledgements

We would like to acknowledge the contributions of the following people and organisations:

KUUMS Executive and its members for their unstinted support; Sahjeevan programme team for networking and liaising with the Government; NGOs and citizens who supported the campaigns; local, regional, state, and national media for their coverage which helped amplify the issue; and the ELDF team for legal documentation, advice, and consultancy support.

We would like to acknowledge the contributions of Camel herding community members, especially Hamir Jat, Adham Jat, and Bhikha bhai Rabari, who played a key role in this struggle.

Published by

Sahjeevan, 175- Jalaram Society, Vijay Nagar, Bhuj- Kachchh, Gujarat: 370001 (India)

E-mail: sahjeevan@gmail.com; Web site: <http://sahjeevan.org/>

Phone: 02832 251814; 90999 74383

July 2021

Preface

This is the story of how a group of determined pastoralists took on the state to save their traditional foraging grounds in the mangrove forests of the Gulf of Kachchh. This unique tribe of Fakirani Jats and Rabari pastoralists have bred a Camel called the Kharai that lives along the coast swimming in the creek waters and feeding on the mangrove leaves and pods. They have done this for more than four hundred years, nourishing their animals and the mangrove ecosystem simultaneously.

In the early sixties the Kandla Port Authority (Now called Deen Dayal Port Trust) was entrusted with the responsibility of protecting and managing the mangrove forests in its vicinity. Over the years there has been growing pressure by salt works to remove mangrove forests to make salt pans. Mangrove forests have shrunk dramatically and with it the Kharai camel too has diminished.

The 300 odd remaining families have organised themselves into a successful organisation called KUUMS (Kachchh Unth Uchherak Maldhari Sangathan). With the help of Sahjeevan, a local civil society organisation, they have been able to get their camel recognised as a distinct breed with the NBAGR (National Bureau of Animal Genetic Resources) who went on to allocate considerable funds and effort to conserve this unique breed. They were able to convince the famous Amul brand to develop the technology to market camel milk as a therapeutic drink in the country.

Emboldened by their changing fortunes, when excavators began rolling in to remove the remaining mangroves to make salt pans, KUUMS decided to take on the perpetrators. Sahjeevan helped them get legal advice, the pastoralists raised an awareness campaign holding rallies, doing dharnas, drawing the attention of government bodies, universities and environmental groups and getting national media attention. This helped stop the excavators but not before 5000 hectares (five square kilometres) of the forest had been levelled.

The National Green Tribunal (NGT) accepted the pastoralists plea citing that mangroves are a national protected resource. KUUMS in their prayer to the court held Deen Dayal Port Trust responsible for the lapse, as they are entrusted with the protection of the forest. The pastoralists carried out a fund raiser and added the profits they had earned from the sale of camel milk to fight the case.

The court directed the Collector of Kachchh, as Chair of the Coastal Zone Management Committee, to submit a report. Ms Remya Mohan responded quickly, positively sealing the fate of the case. The court has ordered that the forest be demarcated, the perpetrators be booked and the destroyed mangroves and creeks be restored.

This case is important as it demonstrates many facets of our society and democracy -

1. It shows that traditional pastoralists have a sustainable relationship with our forests, that they care about ecosystems and are the sentinels protecting our natural heritage deep into the forests;
2. That in spite of powerful forces colluding -- including government establishments and politicians who tried to set up illegal salt pans -- marginalised pastoralists can seek and get justice in our courts;
3. That when the good get together across disciplines they can make a difference - bureaucrats, as demonstrated by the Chair of the Coastal Zone Management Committee, members of the task force including a forest officer, a government university department, the local media, the local pastoralists who declined bribes and braved threats, a law firm that reduced their fee and competently represented the pastoralists, and a civil society organisation that saw it as their duty to facilitate the good samaritans.

Sandeep Virmani, President, Sahjeevan



Camels, Camel Herders and Mangroves of Kachchh

The camel is an important livestock species in arid and semi-arid regions like Kachchh, home to two different camel breeds – *Kachchhi* and *Kharai*. The Kachchhi camel is spread across Kachchh. The Kharai on the other hand, is found primarily in coastal areas (Mundra, Abdasa, Lakhpata and Bhachau talukas) of Kachchh, where it feeds on mangroves categorized as the Indus deltaic mangroves or the western mangroves (GEC and BISAG, n.d.).

The interdependence of *Kharai* camels and mangroves is well-known among the pastoral communities but finds little acceptance among various departments of the state government. While the latter suggest that camel overgrazing is responsible for degrading the mangroves, there is research that suggests that camels contribute substantially to maintaining the mangrove ecosystems in Kachchh. Based on interviews with camel pastoralists, Srivastava and Mehta (2017) suggest that camel hooves press mangrove seeds into the mud, helping them germinate.

According to the Livestock Censuses of 2003 and 2007, the population of camels in Kachchh district was 10,477 and 8,575, respectively, a decline of approximately 20%. With the population numbers falling below 10,000, the Government declared the camel as an endangered domestic breed (Shastri, 2015). In 2013, Sahjeevan developed a *Biocultural Community Protocol* of camel pastoralists of Kachchh, which listed the major reasons for the decline in numbers, making reference to both reduced availability of forage and to reducing opportunities to earn a livelihood from camel pastoralism. These included:

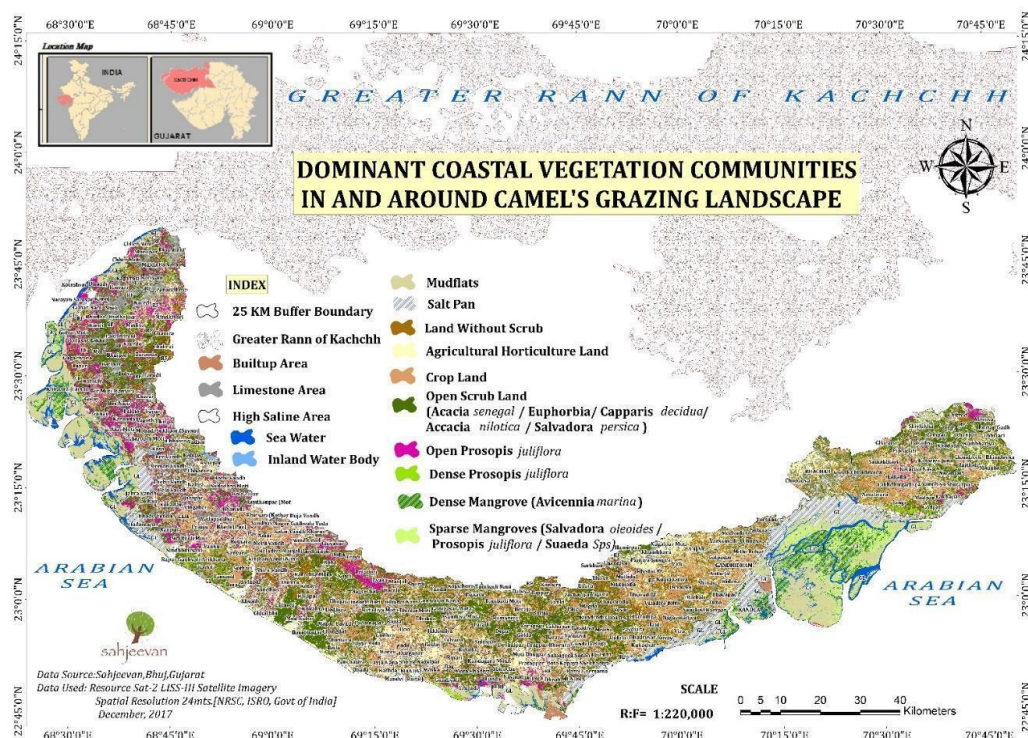
- the rapid industrialization in Kachchh, particularly post the earthquake, seen as the primary factor leading to the shrinking of grazing resources, particularly via depletion of mangroves in Mundra and Abdasa talukas;
- camels not being allowed to graze in protected areas¹,
- the lack of market linkages for camel milk and wool,
- the absence of health services for animals, and

¹ These camels used to get their feed from natural grazing areas from different parts of Kachchh – Narayan Sarovar Wildlife Sanctuary (western Kachchh) declared in 1981, Banni Grassland (northern Kachchh), *Nanu Rann* (Small Desert – eastern Kachchh) {Kachchh Desert Wildlife Sanctuary declared in the year 1968} and Chhari Dhand Wetland Conservation Area (central Kachchh) declared in the year 2008 (<https://forests.gujarat.gov.in/wildlife-sanctuaries.htm>). The movement of camels in these areas has been restricted following their conversion to protected areas under the Indian Forest Act, 1927.

- the decrease of draft requirement due to mechanization

In Kachchh, about 350 families of the Rabari, Jat and Sama communities rear camels. Many decades ago, about 50 Jat herder households migrated to Aliyabet in Bharuch district (southern Gujarat) and to different parts of the Saurashtra region (western Gujarat) in search of grazing resources. For the most part, camels feed on different trees, shrubs and climbers, on village pastures and common lands.





Map 1: Coastal vegetation of Kachchh, traditionally grazed by *Kharai* Camels

Mangroves: Lifeline of Coastal Communities and ecosystems

Mangroves are remarkable systems that serve a range of functions. From a biological standpoint, these tend to be diverse ecosystems, with remarkable species richness. In addition to the vegetation listed above, there are rich faunal communities, including domestic animals such as buffaloes and Kharai camels. Mangroves are important breeding grounds for several marine species and the only habitats with root systems that support young fish as they mature. Mangroves also play a major role in protecting the coastline they are a part of. The dense network of roots binds the soil and traps the sediment and suspended particulate matter in deltaic settings, reducing soil erosion, and serving as a natural wall against erosion of the coastal landscape. They serve as a natural filter and decomposing pathway for polluted run-off from the mainland. The mangrove forests also play an important role in providing coastal protection against recurrent storms and other natural hazards like tsunamis and cyclones. And finally, mangroves are known to be the most carbon rich forests of all ecosystems (Jusoff, 2013; Das et al, 2019 a).

The mangrove vegetation of Kachchh is dominated by the standalone single species stands of *Avicennia marina* (locally called *Cheriya*) which is known for its extreme environmental tolerance. However, sporadic occurrences of *Rhizophora mucronata*, *Ceriops tagal* and *Aegiceras corniculatum* have also been recorded. Some of them have been planted by the

Forest Department along the banks of major seasonal rivers. Besides these original mangrove species, several other associates of mangroves, namely *Salvadora persica* (Khari Jhar), *Salicornia brachiata* (Khariyo), *Suaeda fruticosa* (Lano) and *Suaeda nudiflora* (Unt Morad) have been recorded on the Kachchh coast (Das and Kamboj, 2019 b). All these plant species are part of the primary diet of Kharai camels, which is supplemented by other saline tolerant vegetation.

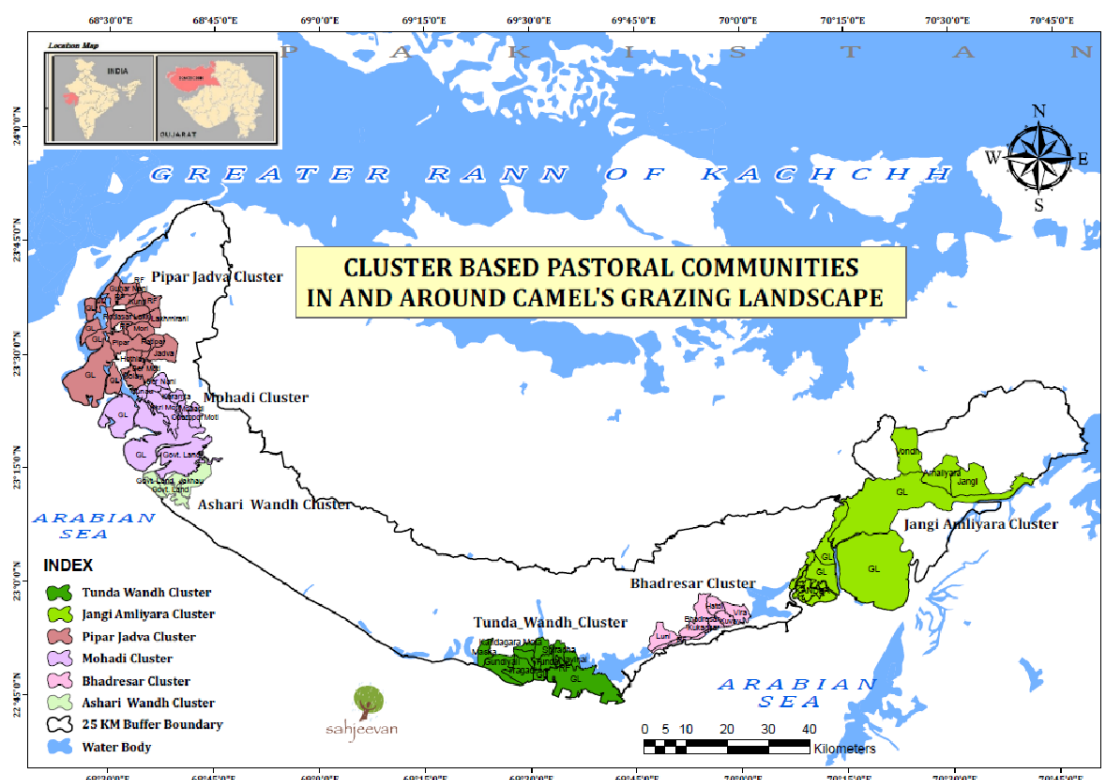
The *Kharai* camel is probably the only domesticated breed that lives in a dual ecosystem – terrestrial and mangroves. It is perhaps the only one of its kind that can swim through seawater. These camels reach *bets* (islands within the mangroves) in the Gulf of Kachchh. These camels can swim for more than 3 kms in order to access the vegetation they are in search of. They live on *bets* for 2 to 3 months during the monsoon, drinking rainwater collected in natural pits. In the drier season, when rainwater may be scarce, the camels return after 2 to 3 days of grazing to access drinking water on the mainland. During this time, camels move in a radius of 10-15 km, grazing in and around the herder villages. Such movement is aimed at ensuring a form of rotational grazing in order to avoid any form of overgrazing. Ponds, wells and village cattle troughs are the main sources of water in the dry season. (KUUMS, 2013, p.27).



Photo : The *Kharai* camel swims across creeks to graze in the mangrove forests

A survey has shown that a total of 104 camel breeding families, mainly from the Jat and Rabari communities from 21 villages in 11 talukas of the state raise more than 4,000 *Kharai* camels by maintaining their customary feeding habits (Annexure 1 provides details about pastoral families). These families live in four clusters – (i) Jangi-Amaliyara, Bhachau taluka;

(ii) Tunda Vandh, Mundra taluka (also Ashari Vandh and Bhadreswar², Mundra taluka); (iii) Mohadi, Abdasa taluka; and (iv) Piper Jadva, Lakhpat taluka. While the Rabari community moves within the talukas of Bhachau and Mundra (both in Kachchh - see Map 2); the Jats have spread across Lakhpat and Abdasa talukas in Kachchh and other coastal districts in Gujarat with mangroves – Bharuch, Vadodara, Anand, Ahmedabad and Bhavnagar (KUUMS, 2019).



Map 2: Distribution of Camel herding communities along the Kachchh Coast

Most breeders have been engaged in camel rearing for generations. The main source of income of the *Kharai* camel breeders was traditionally based on the sale of camels. Milk was generally reserved for camel calves and consumed within the breeders' family or the community. Camel wool is mostly used to prepare a *cheko/vano* (to cover the camel's udders) to prevent overfeeding by calves. Unfortunately, for reasons articulated above, there is reduced income generated by camel sales. Perhaps unsurprisingly, there is a growing tendency among herder youth to move away from camel pastoralism, in search of both an

² Bhadreswar cluster comprises pastoral families who have migrated from Tunda Wandh of Mundra Taluka.

easier lifestyle and higher and/or more regular incomes. A few camel breeding families (less than 50 in numbers) are engaged in dry-land agriculture to supplement their incomes.

Camel herders come together: Formation of KUUMS

In 2002, the Government of India announced a centrally sponsored scheme called 'Conservation of Threatened Breeds.' The scheme empowered Sahjeevan to initiate work with camel breeders in Kachchh in 2009 with the support of the Department of Animal Husbandry, Government of Gujarat. Under this project, Sahjeevan carried out a socio-economic survey of the camel breeders which revealed that around 89% of camel breeder households do not possess agricultural land; 11% possess land and use it for rainfed farming. The survey also made clear the degree to which camel-related livelihoods are under threat: 96% of camel breeders' families reported a monthly income less than Rs. 8,000 (14% up to Rs. 2,000/-, 43% up to Rs. 5,000/- and 39% up to Rs. 8,000/-). Several camel herding families of the Rabari community had started rearing goats, sheep and buffalo since income from camel rearing had fallen significantly. Due to low incomes and lower purchasing capacity, the women of these communities were found to be anaemic and malnourished.



Photo: Governing Board members of KUUMS

With Sahjeevan's help, the *Kachchh Unt Uchherak Maldhari Sangathan* (KUUMS, also called Camel's Breeders' Association) was formed in 2011 and registered under the Society and Trust Act. This organization was formed with the intent of generating greater awareness relating to camel herder problems and to negotiate with state agencies for greater support. A total of 350 camel breeders became members of KUUMS. The Executive Committee consists of male and female representatives from each taluka and elections to this Committee are held every three years. The main objectives of KUUMS are to: (i) conserve, protect and restore grazing areas traditionally used by camel breeders; (ii) work towards the conservation and improvement of camel breeds; (iii) establish market linkages for the regular collection and marketing of camel milk and other camel products; (iv) ensure health care facilities for camels in Kachchh, Saurashtra and other parts of the state; and (v) showcase their pastoral lifestyle and unique culture through organising annual animal fairs and exhibitions.

In collaboration with KUUMS, Sahjeevan helped map the various grazing routes³ and habitats, used by camel pastoralists, alongside a documentation of the seasonal status of the available biomass. In addition, the team also collected biodiversity data in and around the grazing routes towards understanding issues relating to the conservation and sustainable use of natural resources. This exercise helped KUUMS identify potential conservation sites where biodiverse and ecologically sensitive areas faced various threats. A sustainable site-specific (cluster-based) participatory conservation plan for natural resources was developed to initiate pilot interventions in the year 2013-14. KUUMS prepared a Development Plan for each cluster covering a variety of aspects, including the plantation of fodder trees, linking the community with different departments, the restoration of habitats (mainly removal of *Prosopis Juliflora* and the plantation of native tree saplings and seeds) and development of waterscapes in and around traditional grazing routes. The expectation was that the implementation of action plans would support the overall ecological integrity of the landscape.

In an attempt to revitalise camel herder livelihoods based on the sale of camel milk, there was a need to first obtain FSSAI (Food Safety and Standards Authority of India) Certification of camel milk as safe food. KUUMS partnered with Sahjeevan in conducting research and lobbying for such certification. These efforts bore fruit in December 2016

³ The grazing routes were mapped using GIS, GOOGLE images, and data collected during the course of several focused group discussions with the community. These cluster level maps included seasonal dependency, terrain and slope, natural resources etc. along the grazing routes.

when FSSAI () recognized camel milk as an edible food item. Certification was, however, only one part of the problem. There remained the problem of (i) establishing a cold chain that could procure and process camel milk; and (ii) the logistical problem of transporting milk from camel herder camps, often in remote areas, to milk collection centres.



Photo: A Camel milk collection and chilling facility in Kutch

The first problem was resolved via investments in Bulk Milk Chillers undertaken first by Aadvik Foods Pvt. Ltd. and then by Sarhad Dairy (linked to Amul), investments made possible because of sustained advocacy by KUUMS and Sahjeevan. The locations of these chillers have been decided based on the mapping of grazing routes described above and shared with Sarhad Dairy.

Sarhad Dairy, Kachchh, GCMF-Amul and Aadvik Food Pvt. Ltd. are currently procuring camel milk at Rs. 51/litre, and have started the collection of camel milk in Kachchh on an extensive scale. Both Aadvik and Amul now market a variety of camel milk products. KUUMS and Sahjeevan continue to work together to ensure the quality of milk is maintained by the herding community. Although at a much lower scale, KUUMS has

also collaborated with craft organisations to produce camel hair-based products such as carpets, stoles and fabric.

As a result of these various efforts, there is a gradual revitalization of camel-based livelihoods, with growing demand for camels and increasing camel prices. So much so that a number of youth have returned to camel herding and have begun to rebuild family herds. This has led to increased demand for camels and higher prices of camel livestock.

Mangroves destroyed, livelihoods at risk

In January 2018, representatives from KUUMS noticed large-scale destruction of coastal mangroves at Bhachau taluka by heavy machinery used in making salt pans. They found that these plots were allotted by the Deen Dayal Port Trust (DPT), Kandla-Gandhidham. KUUMS members approached the DPT authority and informed them about the destruction of mangroves, some of which were on the camel herder migratory routes. DPT personnel visited the sites and confirmed that more than 4 square kilometres of pristine mangrove forests had been destroyed by the blocking of creeks via the construction of bunds in the area. Large parts of the land had been levelled for the construction of salt pans.

The mangrove ecosystem has suffered extensively from the establishment of salt industries on the coast. To make salt pans, earthen *bunds* are built using heavy earthworks machinery. These bunds block small and large creeks with the result that the existing mangroves are no longer supplied with saline water and thus cannot survive. And as the mangroves die out, so do the breeding and feeding grounds for several species of fish, crabs, crustaceans, planktons, shrimp, molluscs and other marine microorganisms. A lost mangrove ecosystem will take 30 years or more to regenerate.

A representative from KUUMS pointed out that this large-scale destruction of mangroves threatens the livelihoods of nearly 30 pastoral families and the lives of 900 camels. The herders said “If mangroves are destroyed by the salt pans, we will lose our grazing routes forever, and this will affect the fodder security of the *Kharai* camels. It will also bring irreversible changes to the mangrove ecosystem which will adversely impact marine ecology. Only mangroves can save us from cyclones and natural calamities that occur from the proximity to the sea.” Similar views and experiences were shared with media persons too.

KUUMS fights back

KUUMS raised an alarm over the destruction of the mangroves, bringing the issue to the attention of various authorities– the District Collector (DC), the relevant authorities of DPT, the Chairperson of the District Coastal Zone Management Committee (CZMC), revenue officials, officials of the Gujarat Pollution Control Board (GPCB) and Gujarat Ecology Commission, Gandhinagar (GEC). KUUMS requested the Collector to visit the site to assess the damage.

Other than government agencies, KUUMS also contacted local newspapers and television channels, many of whom ended up making site visits to see the damage. Eventually, regional, state, national and international media were contacted and briefed on the need to protect and conserve the mangroves. This engagement with the media was undertaken in order to create pressure on the government/concerned authorities to take proactive action for the protection of mangroves.

A series of dialogues with a Member of Parliament (MP), members of the State Legislative Assembly (MLAs) and elected panchayat representatives took place, which led to their active involvement in the issue. The MP and MLA wrote letters to the District Collector, the concerned authorities of DPT, and the Conservator of Forests, Kachchh District for necessary action to protect mangroves and provide support to KUUMS for the conservation of the *Kharai* camel as a breed.



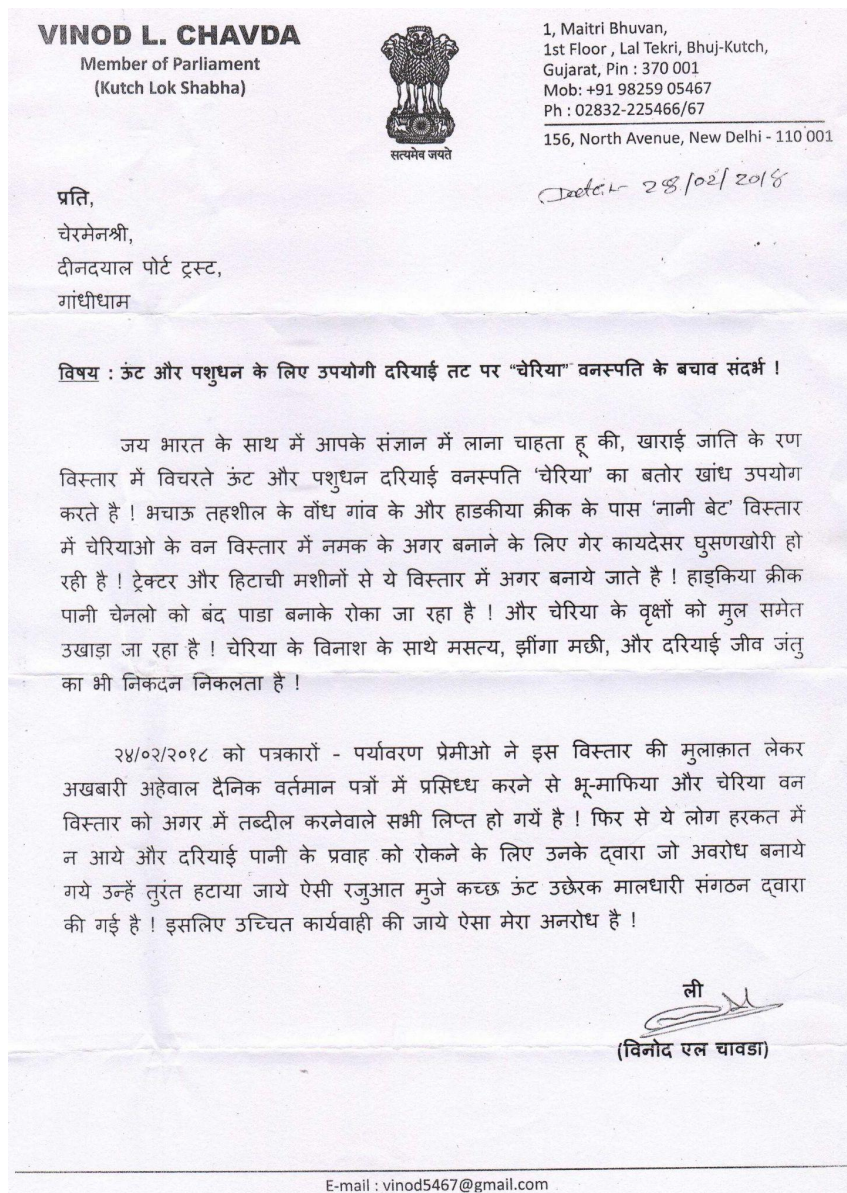


Photo: Letter from Local MP Shri Vinod Chavda to the DPT authorities

With the support of Sahjeevan, a dialogue with many civil society organisations (CSOs) active in Kachchh was initiated to seek their support for the cause. A number of environmentalists in Kachchh working on ecological issues and the livelihoods of communities were approached for support in documenting the process and to reach out to a wide network of ecologists and nature lovers. Educational institutions were also approached. A letter was sent to the Department of Botany, Maharaja Sayaji Rao University, Baroda (MSU). Consequently, a professor of the Botany Department, MSU also wrote letters to the GEC. The Directorate of the GEC immediately wrote to the Principal Chief Conservator of Forests (PCCF), Gandhinagar to provide protection to the

mangroves and to find remedies for the restoration of those destroyed at Bhachau taluka in Kachchh.

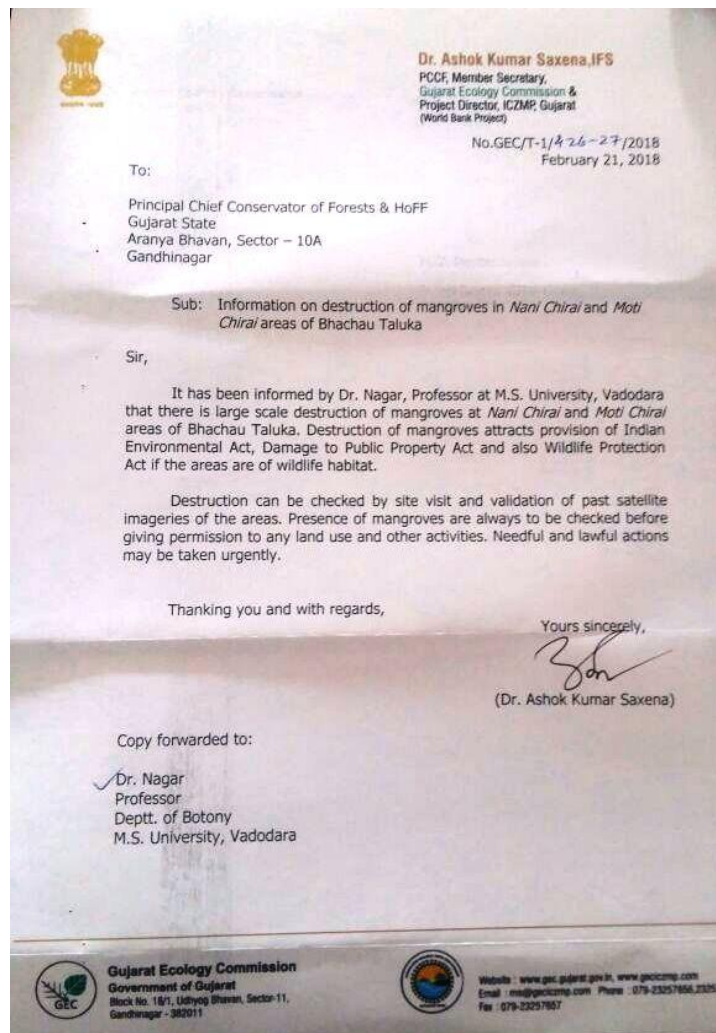


Photo: Letter from the Directorate of GEC to the Principal Chief Conservator of Forests (PCCF)

In March 2018 a decision was taken to initiate litigation against DPT at the National Green Tribunal (NGT). Mobilisation through mass media and CSOs resulted in a crowd funding process. About 100 individuals supported KUUMS with online donations to support its legal expenses associated with the litigation against DPT and the restoration of mangroves destroyed by salt making industries.

Strategic Actions

Under the Coastal Regulation Zone Notification (CRZ Notification), 2011, by the Government of India (GoI), the state Coastal Zone Management Authority (CZMA) is

mandated to develop a Coastal Zone Management Plan (CZMP) and constitute a District Level CRZ Committee (DLC) under the chairmanship of the District Collector. The plan was to be prepared within 24 months of the issue of the notification. It was to be based on inputs from reputed and experienced scientific institution(s) or agencies including the National Centre for Sustainable Coastal Management (NCSCM) and in consultation with the concerned stakeholders.

The draft CZMPs were to be prepared using a 1:25,000 scale map identifying and classifying the CRZ areas within the respective territories in accordance with the guidelines given in Annexure-I of the notification. The draft CZMP of Gujarat State was shared publicly and comments invited by relevant stakeholders. KUUMS provided inputs, but the bulk of these were not included in the final plan. Subsequently, at a District Level CRZ Committee (DLC) meeting on 8th March 2018, the District Collector constituted a sub-committee for a site visit on 14th March 2018 to submit a report, to be led by the Deputy Conservator of Forests, East Division, Kachchh. A member of DLC and a member secretary of GPCB would also be a part of this sub-committee. The sub-committee was delegated to visit the site and prepare a report. KUUMS also invited Sahjeevan and other CSOs working on environment issues, to interact with members of the sub-committee and present their views.

The sub-committee visited the site and wrote a brief note based on primary observations of the mangrove destruction. Two subject experts, members of the committee, attempted to dilute the process of CRZ categorization by trying to impose their views. This could have scuttled the ongoing attempts to classify mangroves in the area as an endangered ecosystem in need of protection. The move was thankfully neutralised after discussions among members in the committee. The minutes of the meeting captured the discussion and the experts' clarification that mangroves continue to be an endangered ecosystem in need of protection in coastal areas across the country.

Following the site visit, the committee suggested a list of remedial actions to be taken. Based on its report, the DC and the Chairman, District Level CRZ Committee, issued an Advisory Note to DPT and submitted the report and the note to the Gujarat Coastal Zone Management Authority (GCZMA), Gandhinagar. The note/sub-committee report mentioned the following important points for the protection of mangroves:

- a) To stop all prohibited activities immediately in the CRZ area and restore the pre-conditions by removing bunds and obstructions made to stop the free flow of water;
- b) To stop carrying out any activity in and around the intertidal areas which are adversely affecting the mangroves, blocking the creeks, or disturbing the natural flow of tidal waters; also to stop all activities that were commenced without obtaining prior clearance from the competent authority and were in violation of the provisions of the CRZ notification;
- c) To cancel all such leases⁴ with immediate effect that fell under CRZ category 1-A area (which is classified as an ecologically sensitive area as per CRZ notification, 2011)
- d) To stop any activity in CRZ-1 (A) area, which is classified as an ecologically sensitive area as per CRZ notification, 2011.
- e) To prepare a restoration plan for the impacted mangroves, such that the free flow of water in creeks is restored on a priority basis.

Struggles continue on the ground

KUUMS continued to struggle at the ground level, including developing stakeholder specific strategies and interacted with various government agencies and authorities (forest, revenue, the collectorate office, Bhuj, the mamlatdar office, the Bhachau, the *prant* office, Bhachau, the PSI police station, Bhachau, the Fisheries Department, Bhuj). It is worth noting that KUUMS' experience of engaging with government agencies during the establishment of a milk dairy came handy during this time.

KUUMS developed protest material and continued to organize protests. These protests were covered by various media agencies. (Annexure 3). Media reports covered diverse issues including the importance of the mangrove ecosystem for marine ecology; how the salt industry's invasion was disastrous for the environment as well as for the camels; the importance of breed conservation, etc.; the pollution from salt industries and threat to the ecology of Kachchh, the status of land records and engagement of various regulating agencies.

⁴ M/s Shree Jyoti Salt Industries and Shree Ram Salt Supply are allocated lease for salt making

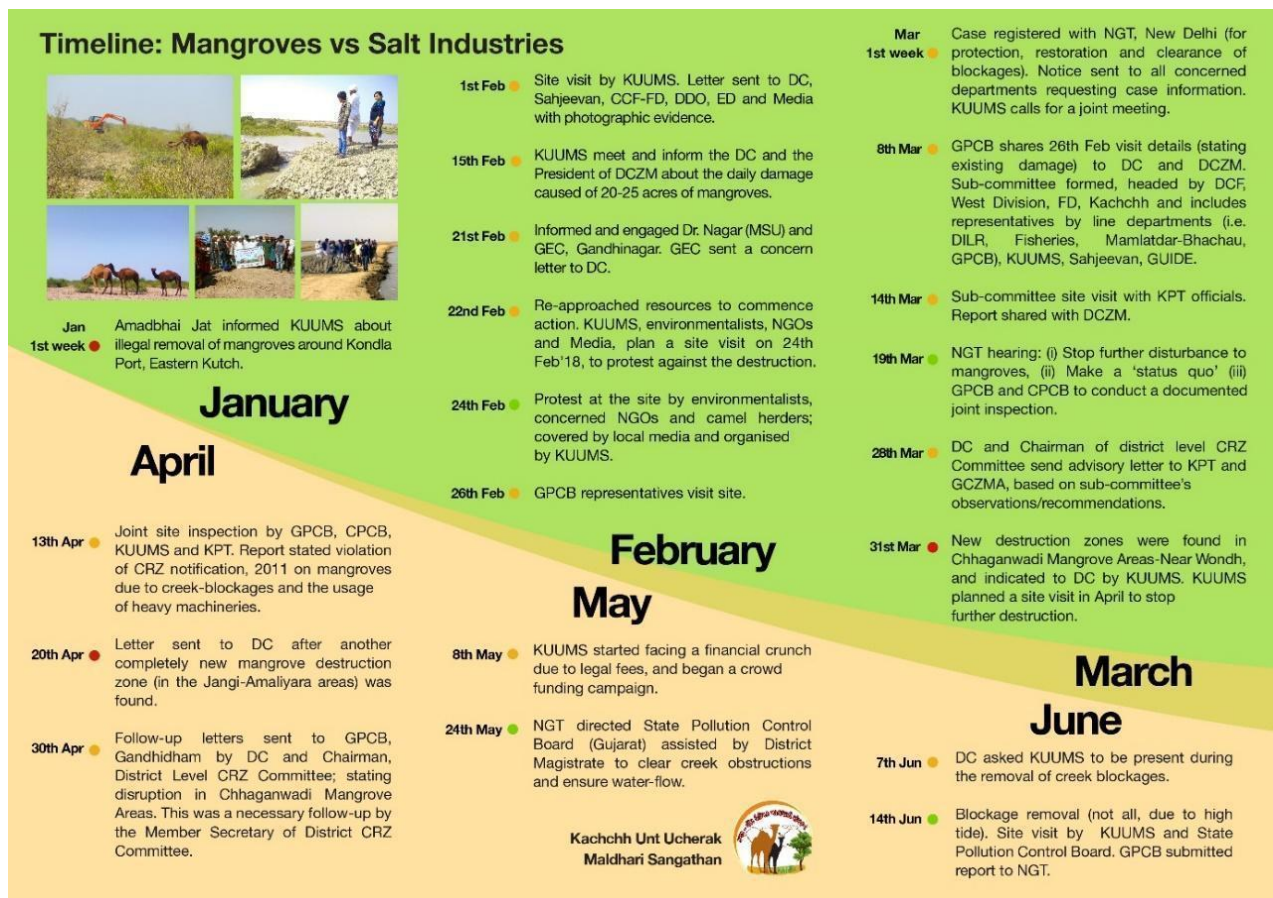


Photo: Timeline of the first six months of fight for Mangroves January - June 2018



Photo: Map created by members of KUUMS as photographic evidence of destruction of Mangroves



Photo 13: The first protest by KUUMS and Citizens against the destruction of Mangroves

Legal Processes Initiated

Shortly after the protests were started and the visit by the sub-committee, the construction of salt pans stopped, only to restart soon thereafter. And with no response received from the DPT or any other concerned authorities on the destroyed mangroves, KUUMS members felt compelled to go a step further. KUUMS started thinking about initiating legal proceedings to stop the continued uprooting of mangroves close to the site where the sub-committee of the DLC had paid a visit.

KUUMS approached a local lawyer to understand whether the matter could be legally challenged. Following the lawyer's advice KUUMS decided to approach the National Green Tribunal, the judicial entity that attends to matters related to environment conservation, and also sought Sahjeevan's support for the case. Sahjeevan approached The Environment Law and Development Foundation⁵ New Delhi (ELDF) Delhi-based law firm, and suggested crowdfunding to finance its involvement. An online appeal was launched based on which KUUMS was able to collect close to INR 1,50,000.

⁵ ELDF is a charitable organization set up under the aegis of the Enviro-Legal Defense Firm based in New Delhi.

ELDF was engaged by KUUMS to take up this case before the NGT. KUUMS collected data, photos, GPS coordinates showing specific damaged sites and evidence of heavy machinery used to destroy mangroves and the construction of bunds. The case was filed before the NGT. ELDF was also made a party to the petition. KUUMS had to face many challenges in the process. It was difficult to meet officials, or to have detailed discussions on the issue. Nor was KUUMS provided assistance with legal documentation.

Hampered by limited funds to initiate legal action, KUUMS requested ELDF to consider a reduction in its fees. ELDF agreed to this, eventually charging one-third of its regular fees.

NGT takes cognisance – hearings, Interim Order/s & Verdict

This section provides details on proceedings at the NGT (see Annexures 2 for further details). On 7th March 2018, on behalf of KUUMS, ELDF filed a case before the National Green Tribunal in the matter of the destruction of mangroves by the blocking of the major and minor creeks via the construction of earthen bunds that impede the flow of seawater. The appeal made a case for immediate action against these activities. The appeal was admitted after the first hearing by the NGT. Notices went out to the District Collector, PCCF office- Gandhinagar, DPT office, and the salt producing units.

In view of the evidence presented by KUUMS, NGT had on 19 March, 2018 directed that the *status quo* be maintained till further orders from the court. The tribunal had also ordered a joint inspection of the site and sought a report of it be filed by the Gujarat State Pollution Control Board (GPCB) and the Central Pollution Control Board (CPCB). Accordingly, a committee visited the sites along with officials from Kachchh and KUUMS and submitted a detailed field report to NGT.

The joint inspection of the site was conducted on 13 April, 2018 by a team of officials of the GPCB and CPCB⁶ and the report was filed on 27 April, 2018. Highlights from the report include the following:

- It was observed that earthen bunds have been created stage wise to create pans for salt farming and land levelled at several places which resulted in the blocking of minor creeks i.e., obstruction of flow of sea water and destruction of the mangroves.

⁶ Shri Pratik Bharne, Scientist D, CPCB, Regional Directorate (West), Vadodara; Shri Kedarnath Dash, Scientist C, CPCB, Head Office, Delhi; Shri K.B. Chaudhary, Regional Officer, GPCB, Kachchh East, Gandhidham; Shri Manish G. Barad, Deputy Environment Engineer, GPCB, Gandhinagar; Shri Rikesh Virda, Assistant Environment Engineer, RO, GPCB, Kachchh East, Gandhidham.

- It was also observed that the mangroves had dried up due to the blocking of the free flow of water in minor creeks due to the creation of bunds. Due to land levelling and the creation of bunds with the help of heavy machinery, mangroves were uprooted or buried. These activities might have affected the survival of the mangroves in a vast area and its associated biodiversity. It was also noticed that there was construction of earthen bunds in a large area beyond the above said plots in areas towards the creek (Little Gulf of Kachchh).



Photo: Site visit by members of committee appointed by NGT

જંગી કાંઠે ચેરિયા નિકંદન મામલે નીરક્ષણ કરવાનું હતું પણ
ડીપીટી અને વન તંત્રે જાણી જોઈને હોડીની વ્યવસ્થા ન ગોઠવી

NGTના આદેશથી આવેલી તપાસ ટીમ બેટ પર પહોંચે જ નહિ તેવો કારસો

ભરૂચ જિલ્લો | સમીક્ષા

કચ્છના કાંઠાના પટાના કેટલાક વિસ્તારમાં મીઠું પકવવા માટે ઊંટના ચારિયાણ માટે ઉપયોગી એવા ચેરિયાનું નિકંદન થતું હોવાની ફરિયાદના પગલે કચ્છ આવી પહોંચેલી ઉચ્ચસ્તરીય ટીમ બીજા દિવસે બુધવારે જંગીના છાવાળા વિસ્તારમાં નીરક્ષણ કરવા જવાની હતી પણ તેમના માટે હોડીની વ્યવસ્થા કરવામાં ન આવતાં હેતુ બર આવ્યો ન હતો. દરમિયાન આ મામલે લડત ચલાવતા કચ્છ ઊંટ ઉછેરક માલધારી સંગઠને દીન દયાળ પોર્ટ ટ્રસ્ટ અને વન વિભાગે જાણી જોઈને આ સાજીશ રચી હોવાનો આક્ષેપ કર્યો હતો.

નેશનલ ઓન ટ્રીબ્યુનલે કરેલા આદેશના પગલે ગાંધીનગરથી આવેલી ટુકડીની સાથે વન વિભાગ, પ્રદુષણ નિયંત્રણ બોર્ડ, ડીઆઈએલઆરના અધિકારીઓ તેમજ ઊંટ ઉછેરક સંગઠનના સભ્યો જંગીના દરિયા કિનારે પહોંચી આવ્યા હતા. અહિંથી જ્યાં ચેરિયાનું નિકંદન થવાની સાથે મીઠું પકવવા માટે મોટા પાણા બનાવાયાની ફરિયાદ છે એવા છાવાળા બેટ પર પહોંચવા માટે હોડીની આવશ્યકતા રહે છે પણ આગોતરું આયોજન ન કરતાં હોડી ન હોવાથી ઉચ્ચસ્તરીય ટીમ નિયત સ્થળે પહોંચી શકી ન હતી અને જંગીના દરિયા કિનારે ચેરિયા નિકંદનના અગાઉના કોટાનું નીરક્ષણ કરીને સંતોષ માની લીધો હતો.

સુત્રોના કહેવા મુજબ આ મુલાકાત પૂર્વે થોડા સમય પહેલાં ડીપીટી અને વન વિભાગની ટીમ ...અનુસંધાન પાનાર્ન. 8



તપાસ ટીમને ગેરમાર્ગે દોરાયાનો આક્ષેપ

જે વિસ્તારમાં તપાસ કરવાની હતી તે છાવાળા બેટ જંગીથી 13 નોટિકલ માઈલના અંતરે છે. ડીપીટી દ્વારા અગાઉ ત્રણવાર આ વિસ્તારની મુલાકાત લેવાઈ હતી. આ માટે હોડી અનિવાર્ય હોવા છતાં ટીમના સભ્યોને પૂછીને ગેરમાર્ગે દોરાયા હોવાનો આક્ષેપ ઊંટ ઉછેરક માલધારી સંગઠને કર્યો હતો. ટુકડીને દૂરથી આ વિસ્તાર દર્શાવીને ગુમરાહ કરાયા હોવાનું પણ સંસ્થા દ્વારા જણાવ્યું હતું.

હવે છાવાળા બેટનો સેટેલાઈટ સર્વે કરાશે

હોડીના અભાવે છાવાળા બેટ પર ન પહોંચી શકેલા તપાસ ટીમના સભ્યોએ જણાવ્યું હતું કે, હવે આ વિસ્તારનો સેટેલાઈટથી સર્વે કરાશે અને પાણા બાંધવામાં આવ્યા હશે તો તેને તોડવા અને ચેરિયાનું નિકંદન કમચું હશે તો કરી તેનું વાવેતર કરવાના આદેશ આપવામાં આવશે. જરૂર પડે પોલીસ ફરિયાદ કરવાની તૈયારી પણ આ સભ્યોએ દર્શાવી હતી.

સાંજે ભયાઉમાં પ્રાંત સાથે બેઠક યોજાઈ

ગાંધીનગરથી આવેલી ટીમે સાંજે ભયાઉમાં પ્રાંત અધિકારી સાથે બેઠક યોજી હતી જેમાં સમગ્ર મામલે 24 કલાકમાં જવાબ આપવા ડીપીટીને તાકીદ કરાઈ હતી. આ ઉપરાંત છાવાળા બેટની માલિકી વિશે બે દિવસમાં રિપોર્ટ સોંપવા ડીઆઈએલઆરને જણાવવાનું હતું તો વન વિભાગને પણ આટલીજ મહેતબ આપીને કેટલા પ્રમાણમાં ચેરિયાનું નિકંદન થયું છે તેનો અહેવાલ સોંપવાની સુચના આપવામાં આવી હતી.

હોડી માટે ટીમને પૂછાયું હતું: ડીપીટી

તપાસ કરવા આવેલી ટુકડીને એક દિવસ અગાઉ જ હોડીની આવશ્યકતા વિશે અવગત કરાયા હતા અને તેની વ્યવસ્થા માટે પૂછવામાં આવ્યું હતું પણ સભ્યોએ તેની જરૂર ન હોવાનું જણાવ્યું હતું તેમ દીન દયાળ ટ્રસ્ટના પ્રવક્તા ઓમપ્રકાશ દાદલાણીને જણાવ્યું હતું. તેમણે ઉમેર્યું હતું કે, તપાસ ટુકડીએ વિસ્તારને દૂરથી જોયો હતો તેમજ ડીપીટી દ્વારા જે તે સમયે પાડવામાં આવેલી છાવાળા બેટની તસવીરો પણ દર્શાવાઈ હતી જેને જોઈને ઉચ્ચસ્તરીય ટુકડીના સભ્યોએ સંતોષ વ્યક્ત કર્યો હતો.

Photo: A local news article about the site visit by members of committee appointed by NGT

On 28 April, 2018, the NGT was apprised of the status of the damaged mangroves based on the site visit reports of the two committees. The Gujarat State Pollution Control Board (GPCB) assisted by the District Magistrate was directed by the NGT to visit the spot and remove all obstructions from the creeks to ensure the flow of water to the area where mangroves existed. The GPCB was allowed ten days' time from 24 May, 2018 to ensure compliance of the orders.

The NGT gave the final order on 11 September 2019, directing the Forest Department, Government of Gujarat, GCZMA and Revenue Officials as follows (pp. 18-20):

- (i) There shall be no obstruction of any kind in the creeks and free and continuous flow of estuarine water in the creeks will be ensured;

- (ii) The Forest Department, Government of Gujarat, GCZMA and Revenue Officials will jointly inspect the area to identify the persons who were responsible for obstruction of the creeks and take action in accordance with the law including recovery of environmental damage and cost of restoration of mangroves damaged. This may be done within a period of one (1) month from today;
- (iii) If there has been any activity which is in violation of CRZ Notification, 2011, the GCZMA will immediately take action in accordance with law.
- (iv) If there has been any activity in the mangrove area which is in contravention of the Forest (Conservation) Act, 1980 or any other law, the Forest Department will immediately take action in accordance with the law;
- (v) There shall be no salt manufacturing activity in the CRZ1 area without following due procedures provided under law/ notification. If such activity is found the GCZMA will take action immediately to stop it forthwith and initiate appropriate proceedings;
- (vi) The quantum of damage caused to the mangroves shall be assessed by the GCZMA in accordance with laid down procedures and the same shall be recovered from the persons responsible for the same within a period of one month from the day of the order and
- (vii) The Forest Department, Government of Gujarat will take immediate action to restore the mangroves which are damaged within a period of six (6) months.

The battle continues

Following the final verdict of the NGT, a committee was constituted which visited the destroyed mangrove site. The committee members forgot to inform KUUMS about their site visit. However, the representatives of KUUMS met the DC and informed her about the visit of the NGT appointed committee and also informed the mass media about the visit. As a result, the committee asked KUUMS to remain present during their visit to the destroyed mangrove site. KUUMS representatives joined the committee members during their site visit and presented their views on the matter. This was an attempt to sensitize the members of the committee about traditional pastoralism, and the coexistence of mangroves and *Kharai* camel breeds.

Even a month after the site visit of the committee, KUUMS did not receive a report of the field visit or any intimation on the action taken by the committee as directed by the NGT in the final order. KUUMS followed up with the concerned authorities in Kachchh for necessary action to be taken as directed by the NGT in the final order. KUUMS has kept a track of the sites, updating details on any further damage done by any individual/company.

KUUMS keeps sharing information and updates of this with the mass media, Sahjeevan and the concerned government departments as and when required.

After the final order of the NGT in September 2019, pastoralists across the country engaged in rearing different breeds have lauded the movement for the conservation of grazing resources and the mangrove ecosystem. As a consequence of the positive results, many CBOs and NGOs have also contacted KUUMS for guidance and shared information. Government agencies like GPCB, Forest and *prant-mamlatdar* offices at Bhachau have recognised the work done by KUUMS and have extended support whenever required for the protection of mangroves.

However, none of the concerned parties – DPT or revenue department – provided KUUMS with an update about the status or progress on the committee's report. Hence KUUMS through ELDF decided to file a contempt of court petition against the concerned government agencies. The plea was filed before the National Green Tribunal on 27th May 2020. As of August 2020 the NGT was yet to admit the petition (Annexure 2).

The NGT is yet to announce a date for the hearing of the contempt of court plea. As a result, the matter is still considered to be in the court. KUUMS' future plan of action will depend on the directions given by the green tribunal (Annexure 2).

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Annexure 1: Village-wise details on number of *Kharai* camels and households with seasonal grazing areas (2018-19)

Clusters and sub-clusters	No. of villages	No. of families rearing <i>Kharai</i> camels	No. of <i>Kharai</i> camels	Seasonal grazing areas/routes		
				Summer	Winter	Monsoon
Jangi Amaliyara	3	26	913	Vondha, Ambaliyara, Samkhiyari, Adhoi, Bhachau	Banni, Bhachau, Vondh,	Jangi, Ambaliyara, Bhachau, Vondh,
Tunda Wand	1	8	268	Bhadreshar, Kukadsar, Jogninar, Nagavaladiya	Tunda Wand, Bhadreshar	Joginar, Kukadsar, Tunda
Mohadi	4	15	300	Chachara, Bharavandh, Naliya, Charopadi, Valavari, Bhangodi	Mohadi Driya Vistra- Coastal Belt- Mangroves, Valavari, Bhangodi, Medi	Mohadi Driya Vistra- Coastal Belt- Mangroves, Valavari, Bhangodi
Piper Jadva	4	10	168	Mori, Jadva, Gugariyana, Dhargavandha	Dhargavandha, Bhutau	Dhargavandha, Bhutau
Ashari Wandh	1	2	40	Ashariyavand, Jakhau, Naliya	Ashariyavandh, Jakhau, Naliya	Ashariyavandh, Jakhau, Naliya
Bhadreshar*	1	8	268	Bhadreshar, Kukadsar, Jogninar, Nagavaladiya	Tunda Wand, Bhadreshar	Joginar, Kukadsar, Tunda
TOTAL	14	69	1957-			

Annexure 2: Details about proceedings at the NGT

Date of proceedings at NGT	NGT's action – interim order	Brief Note on NGT's order
Case admitted	7 th March 2018	Issue notice to all concerned to remain present on 19 th March 2018 for further necessary action.
First Order	19 March 2018	<i>Status quo</i> be maintained till further orders in order to stop the destruction of mangroves. Joint Inspection to be conducted and a report in this regard to be filed by the Gujarat State Pollution Control Board (GPCB) and the Central Pollution Control Board (CPCB).
Central government committee's site visit	13 April 2018	Agreed on sub-committee visit constituted by collectorate and same also shared by NGTs in final decision on this matter.
Hearing	28 April, 2018	The Gujarat State Pollution Control Board (GPCB) assisted by the District Magistrate was directed forthwith to visit the spot and remove all obstructions from the creeks to ensure flow of water to the area where mangroves exist. The GPCB was asked to report compliance within ten (10) days from 24 May 2018.
Final verdict	11 September 2019	<p>(viii) There shall be no obstruction of any kind in the creeks and free and continuous flow of estuarine water in the creeks will be ensured.</p> <p>(ix) The Forest Department, Government of Gujarat, GCZMA and Revenue Officials will jointly inspect the area to find out the persons who were responsible for obstruction of the creeks and take action in accordance with the law including recovery of environmental damage and cost of restoration of mangroves damaged. This may be done within a period of one (1) month from today.</p>

		<p>(x) If there has been any activity which is in violation of CRZ Notification, 2011, the GCZMA will immediately take action in accordance with the law.</p> <p>(xi) If there has been any activity in the mangroves area which are in contravention of the Forest (Conservation) Act, 1980 or any other law, the Forest Department will immediately take action in accordance with the law.</p> <p>(xii) There shall be no salt manufacturing activity in CRZ1 areas without following the due procedures provided under law/notification. If such activity is found the GCZMA will take action immediately to stop it forthwith and initiate appropriate proceedings.</p> <p>(xiii) The quantum of damage caused to the mangroves shall be assessed by the GCZMA in accordance with laid down procedures and the same shall be recovered from the persons responsible for the damage within a period of one-month from day of order.</p> <p>(xiv) The Forest Department, Government of Gujarat will take immediate action to restore the mangroves which are damaged within a period of six (6) months from hence.</p>
ELDF put up 'contempt of court' notice	27 May 2020	<p>Issue notices to the respondents by registered post/acknowledgment due and <i>dasti</i> as well. Notice made returnable within two weeks.</p> <p>List the matter on 04th August, 2020.</p>

Annexure 3: Coverage and media attention on KUUMS-Mangroves

Name of Media/ Published Sources	Date	Main Coverage
STEPS Centre Pathways to Sustainability	29 th May 2020	How pastoralists in Kutch respond to social and environmental uncertainty https://steps-centre.org/blog/how-do-pastoralists-in-kutch-respond-to-social-and-environmental-uncertainty/
Kachchh Mitra Gujarat Samachar	23 rd May 2020	Once again started illegal mangroves destruction closed to old sites
Times of India Mongabay-India	19 th Sept. 2019	Trace culprits of mangrove destruction in Kachchh: NGT matter and details and analysis on Kharai grazing etc NGT comes to the aid of Kharai camels and mangroves in Kachchh https://india.mongabay.com/2019/09/ngt-comes-to-the-aid-of-kharai-camels-and-mangroves-in-kachchh/
Kachchh Mitra	26 th June 2019	GPCB started case file against illegal mangrove destruction against not-identified persons
Kachchh Mitra	12 th Feb. 2019	NGT issues notice to Govt. Depts. and they are not present at hearing
Mongabay-India	9 th Jan. 2019	Swimming camels, mangrove islands of Kutch face mounting challenges https://india.mongabay.com/2019/01/swimming-camels-mangrove-islands-of-kutch-face-mounting-challenges/
Kachchh Mitra	6 th Jan. 2019	KKUMS and Forest Department visit destroyed sites and start legal process
Gujarat Samachar	26 th Nov. 2018	Again started illegal mangroves destruction at Bhachau areas and NGT matter not concerned!
Down to Earth	6 th Sept. 2018	The Kharai is a unique breed of camel found only in Kutch, which feeds on mangroves. But salt-making industries operating in the area are threatening its food supply and existence https://www.downtoearth.org.in/blog/mangroves/save-the-se-camels-of-kutch-61548

Kachchh Mitra	21 st Sept. 2018	KUUMS approached district collectorate and informed on illegal mangroves destruction and shared NGT order
Civil Society SPOTLIGHT	27 th Aug.2018	Kharai camel is sinking as mangrove belt shrinks https://civilsocietyonline.com/spotlight/kharai-camel-is-sinking-as-mangrove-belt-shrinks/
Gujarat Samachar	1 st May 2018	KUUMS organised a rally against illegal mangrove destruction and meeting with KPT officials at Gandhidham
Times of India	7 th April 2018	NGT orders probe into allegation of mangrove destruction near Bhachau
Divya Bhaskar	2 nd Feb. 2018	KUUMS approached district collectorate on illegal mangroves destruction in Bhachau-Wondh area
Kachchh Mitra	3 rd Feb. 2018	KUUMS approached district collectorate on illegal mangrove destruction in Bhachau-Wondh area
Kachchh Mitra Divya Bhaskar	25 th Feb. 2018	KUUMS and pastoral families started <i>Dharna</i> at site against illegal mangrove destruction
Kachchh Mitra	29 th March 2018	All leases are cancelled and KPT should follow up on this ordered by district collectorate
Kachchh Mitra Divya Bhaskar	22 nd March 2018	Hadakia Creek closed through earthen bunds will destroy mangroves
Gujarat Samachar	2 nd Feb. 2018	Illegal mangrove destruction started in Bhachau-Wondh area without the knowledge of Govt. Depts.
Kachchh Mitra Gujarat Samachar	23 rd Feb. 2018	KUUMS passed a resolution for <i>Dharna</i> at sites which was shared with the district collectorate