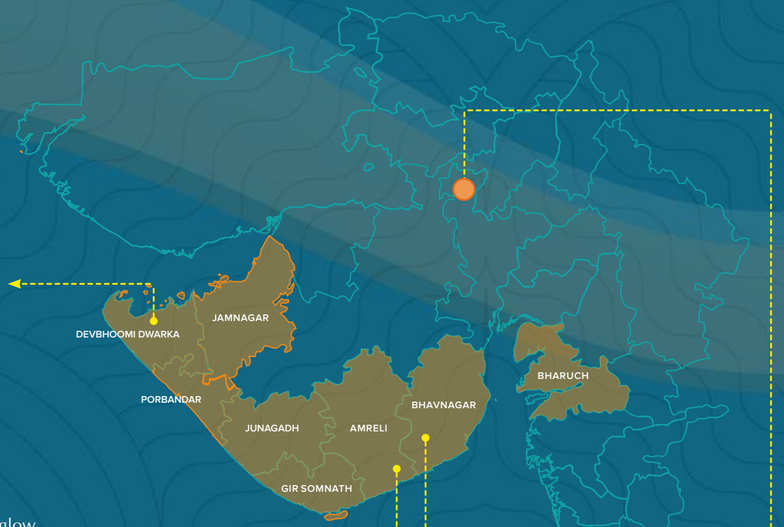


Dwarka
Coastal Salinity Prevention Cell
HostelComplex
Behind Okhai Handicraft
Mithapur-361345
Devboomi Dwarka- Gujarat

Rajula
Surya Niwas Bunglow
Opposite Gyan Jyot Shaikshanik Sankul
Chhatadiya Road, Rajula-365560
District Amreli-Gujarat

Talaja
Coastal Salinity Prevention Cell
Gopalbhai Fafdiya's House
Opp. Baraiya Street, Nr. Gayatri Mandir
Talaja- 364140, District- Bhavnagar

CSPC
Coastal Salinity Prevention Cell
AN INITIATIVE OF TATA TRUSTS, AKRSP(I) AND ACF

www.cspc.org.in

CSPC-Coastal-Salinity-Prevention-Cell

Coastal Salinity Prevention Cell Gujarat

@CSPC_Guj

CSPC_Guj

Head Office

Coastal Salinity Prevention Cell
3, Sanidhya Bungalow, Opp. Landmark Hotel,
Nr Ashok Vatika BRTS Stand, Amli-Bopal Road,
Off. S. G. Road, Ahmedabad- 380058
Ph No:- 079- 26936406 | Email : info@cspc.org.in

CSPC
Coastal Salinity Prevention Cell
AN INITIATIVE OF TATA TRUSTS, AKRSP(I) AND ACF

HDFC BANK PARIVARTAN
A step towards sustainable progress

Flowing Together

Water, Community and Change

HDFC - Holistic Rural Development Project (HRDP)

Flowing Together

Water, Community and Change

FOREWORD

*The **HDFC Parivartan Project** has been a transformative journey in the **Rajula** block of Saurashtra's **Amreli** district, tackling some of the most pressing challenges faced by coastal communities dependent on natural resources. Through this three-year project, implemented in **15 villages**, we have strived to create resilient, sustainable livelihoods by addressing the complex issues of water scarcity, soil degradation, and economic vulnerability. With a dedicated focus on marginalized communities, particularly Scheduled Castes (SC) and Other Backward Classes (OBC), this project aimed to fortify local agricultural practices, introduce adaptive strategies for climate resilience, and improve water management in an area where resources are often scarce and fragile. As we close this chapter, it is inspiring to see the positive impacts reflected in enhanced soil health, improved water efficiency, and strengthened local value chains—outcomes that together build a more sustainable future for the region.*

This coffee table book is a testament to the collective efforts of each stakeholder involved, capturing the strides made, the resilience displayed, and the knowledge shared throughout the project's lifecycle. It is a celebration of a partnership built on shared values and an unwavering commitment to sustainable development.

ACKNOWLEDGEMENT

*The success of the **HDFC Parivartan Project** owes much to the collaborative spirit and tireless efforts of countless individuals and organizations. We extend our heartfelt thanks to the **Coastal Salinity Prevention Cell** (CSPC) team for their ground-level work and dedication, without which this project would not have achieved its objectives. Our deepest gratitude goes to the community members of Rajula block, whose openness to change and perseverance made this journey possible. We are also grateful to the Farmer Producer Organizations (FPO), whose participation in value chain management has strengthened local markets and increased income potential for farmers.*

Our sincere appreciation goes to HDFC for their visionary support, guidance, and investment in building sustainable livelihoods for marginalized communities. Lastly, we thank all stakeholders, for their invaluable insights and partnership throughout this journey. This book is a tribute to everyone involved and serves as a reminder of the power of collective action in achieving sustainable, long-term development.

FROM THE LEADER'S DESK

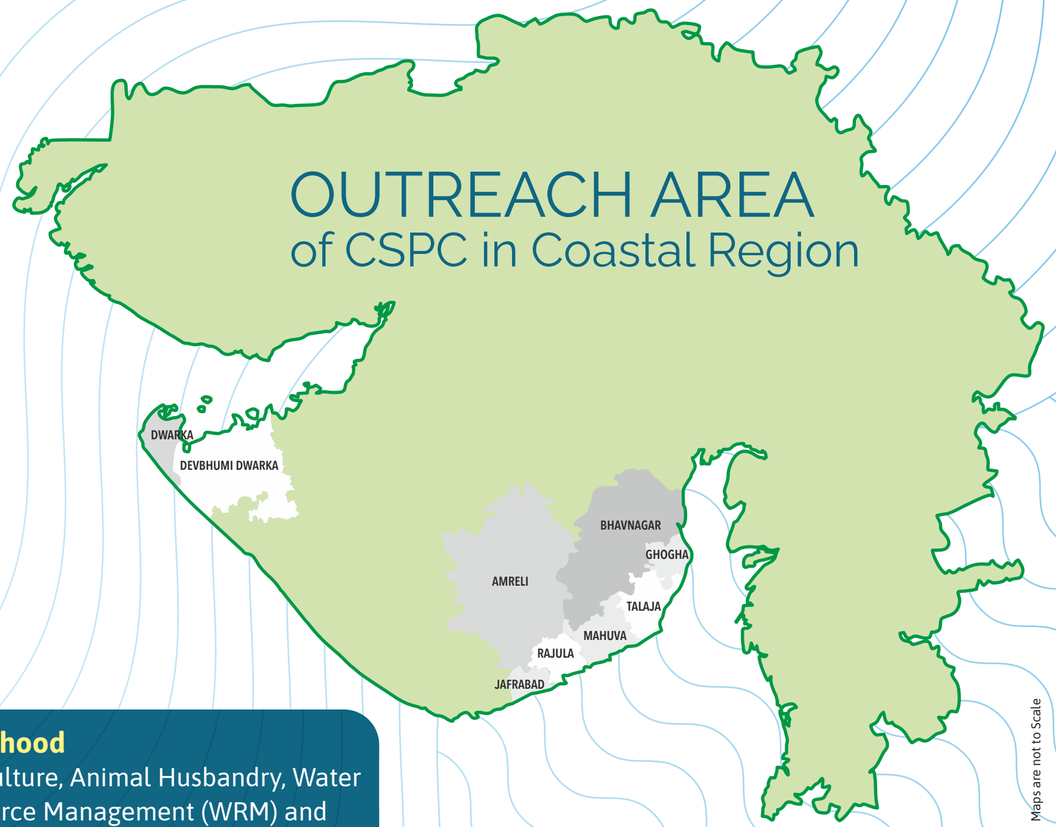
Coastal Gujarat faces increasing challenges from salinity ingression, driven by climate change impacts such as rising sea levels, frequent cyclones, and over-reliance on groundwater. This saltwater intrusion has strained agricultural productivity, reduced potable water availability, and raised health concerns among local populations. However, an integrated water management approach is helping these communities build resilience and adapt to their evolving environment.

Through the HDFC Parivartan partnership, CSPC implemented sustainable water management interventions across 15 villages in Rajula block, Amreli district, engaging over 3,000 households. By maximizing rainwater harvesting, improving groundwater quality, and fostering sustainable practices, the project has yielded a rainwater runoff harvest potential of over 19.48 Mcft. Activities included the construction of new check dams, renovation of existing structures, desilting, borewell and well recharge, and promoting water-efficient technologies like drip, sprinkler, and laser irrigation.

Community participation has been central, with village-level Water User Groups taking on asset maintenance and encouraging broader adoption of these practices. This collective effort has increased water awareness and efficiency, setting the path for sustainable water resource management. We extend our heartfelt thanks to HDFC Parivartan for their financial support and commitment to sustainable development for these coastal communities.

Sujit Kumar Gopinathan
Chief Executive Officer

OUTREACH AREA
of CSPC in Coastal Region



Maps are not to Scale

Livelihood
Agriculture, Animal Husbandry, Water Resource Management (WRM) and Soil Health Management, FPO

Water Sanitation & Hygiene
MHM, Jal Jeevan Mission, Wash in School

Education
Early Childhood Education

District - Taluka	Area Of Interventions
Bhavnagar - Gogha	WASH [MHM]
Bhavnagar – Talaja	Livelihood, WASH [JJM & MHM]
Bhavnagar – Mahuva	WASH [JJM & MHM]
Amreli – Rajula	Livelihood, WASH [JJM]
Amreli – Jafrabad	Livelihood, WASH [JJM & MHM]
Dev. Dwarka – Okhamandal	Education [ECE and Primary]

CSPC
Coastal Salinity Prevention Cell
AN INITIATIVE OF TATA TRUSTS, AKRSP(I) AND ACF

CSPC @ A GLANCE

Coastal Salinity Prevention Cell (CSPC) *is dedicated to creating lasting change through targeted programmatic interventions that address the unique challenges faced by communities in Gujarat's coastal regions. Our work is anchored in three core areas:* ***Water Sustainability and Resource Management for Improved Livelihoods, Water, Sanitation, and Hygiene (WaSH), and Education****. Each of these programs is meticulously designed to not only address immediate needs but also to encourage long-term resilience and sustainable development. Through a combination of community engagement, innovative practices, and strategic partnerships, CSPC's interventions aim to improve the quality of life, promote environmental administration, and empower communities to take charge of their futures. In the following sections, we detail the interventions carried out under the programmatic area, showcasing how CSPC is making a tangible difference on the ground.*

Vision

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

Philosophy

To enable greater interaction and cross- learning between practitioners, researchers and policy makers to ensure that the unique and emerging problem of salinity is adequately understood allowing for design as well as implementation of effective programmes and policies to address the problems being faced by coastal communities.

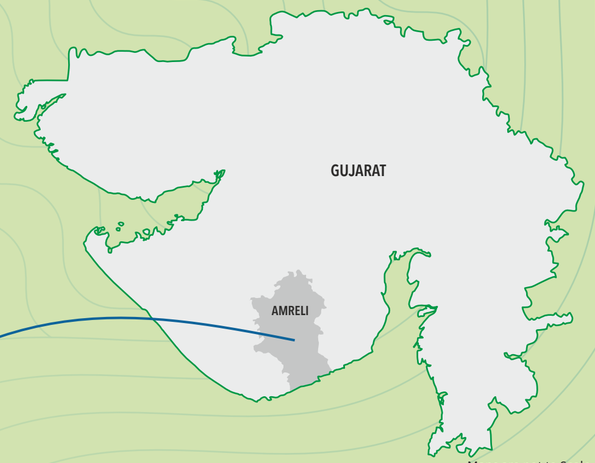
Approach

CSPC has a multi-pronged approach to evolve sustainable solutions to effectively deal with multifaceted challenges of salinity ingress. The salient pillars of our approach to work include knowledge creation on issues of salinity ingress, design of context-specific solutions through evidence-based research, effective inground implementation of programs, strengthening community institutions to sustain the interventions and liaison with government for policy advocacy on issues related to salinity mitigation.

PROJECT LOCATION & PROFILE

State	Gujarat
District	Amreli
Block	Rajula
Total Villages	15
Total Households	3105
Farmers Group	100
Farmer Producer Company	1

Majority are Small and Marginal Farmers



Maps are not to Scale

Charodiya	Zanzarda	Dhareshwar	Nani Kherali	Barbatana
Kundaliyala	Rajparda	Dipadiya	Khari	Chapari
Untiya	Mota Ringaniyala	Vavera	Moti Kherali	Doliya

HDFC BANK PARIVARTAN
A step towards sustainable progress

*This **HDFC Parivartan project**, implementation took place in 15 villages of Rajula block in Amreli district, Saurashtra, aimed to create sustainable livelihoods by addressing critical challenges around water scarcity, soil health, and economic stability. Home to marginalized communities, including Scheduled Castes (SC) and Other Backward Classes (OBC), the region's economy relies primarily on natural resource-based livelihoods like farming, dairying, and fishing. With a coastal landscape, limited rainfall, and high dependence on groundwater, these communities face declining water levels and increased salinity, further impacting traditional agriculture and animal husbandry, two pillars of local livelihoods.*

Key Interventions

***Soil Health Management**: The project promoted organic practices like green manuring, mulching, and intercropping, enhancing soil moisture and reducing chemical input by 5% while increasing productivity by 30%. These practices fostered sustainable agriculture and contributed to carbon sequestration, mitigating climate impact.*

***Water Efficiency**: Adoption of micro-irrigation techniques and water-efficient practices significantly reduced water and energy use. Measures such as alternate furrow irrigation and moisture meters saved millions of liters of water per acre, helping alleviate the effects of erratic rainfall and salinity.*

***Improved Cultivation Practices**: The introduction of climate-adaptive crops and resilient cultivation methods, including integrated pest management and intercropping, helped counteract salinity and improve yields. This shift allowed farmers to reduce chemical usage, enhancing soil health and economic sustainability.*

***Value Chain Management**: By partnering with farmer producer companies, the project tackled market inefficiencies through improved logistics, storage facilities, and demand-oriented production, aiming to reduce waste, enhance quality, and maximize income for local farmers.*

***Managed Aquifer Recharge**: Recognizing the monsoon concentration, the project focused on managed aquifer recharge to capture rainwater runoff, reduce salinity, and increase groundwater availability for drinking and irrigation.*

PROJECT INTERVENTIONS

Water Resource Management
- Community owned structures
  - Desilting
  - Repairing Structures
  - New Structures

Animal Husbandry
- Animal Health Camps
- Sorted Semen
- Normal Semen
- Improved Cattles (Goats)
- COFS and Chaff Cutter

Saline Area Innovation Fund
Value Addition Activities:
- Mini oil mill and Cattle Feed Unit
- Custom Hiring Support

Agriculture
- Drip Irrigation
- Laser Irrigation
- Soil Testing
- Gypsum
- Castor Cake
- Vermicomposting
- Soyabean Demonstration
- Horticulture Cultivation
- Solar Light Trap
- Sustainable Input Kit
- Manuring Drum
- Solar Fencing

Capacity Building and Field Trips
- Multi Thematic Trainings

We support the United Nations' **Sustainable Development Goals (SDGs)** and share the UN's vision for peace and prosperity for people and the planet.

PROJECT HIGHLIGHTS

CONSTRUCTION WORK [Supply Side Management]

Desilting

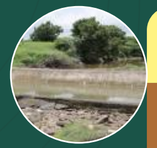
54 sites enhancing water storage capacity to **2,27,044 cmts**

Desilting plays key role in increasing water storage capacity translating into availability of water for longer time. It also makes available fertile soil for the farmer community.

9

Existing water harvesting structures repaired and renovated

Renovation and repair of water harvesting structures keeps the water storage capacity for a longer time and makes available water for various purposes.

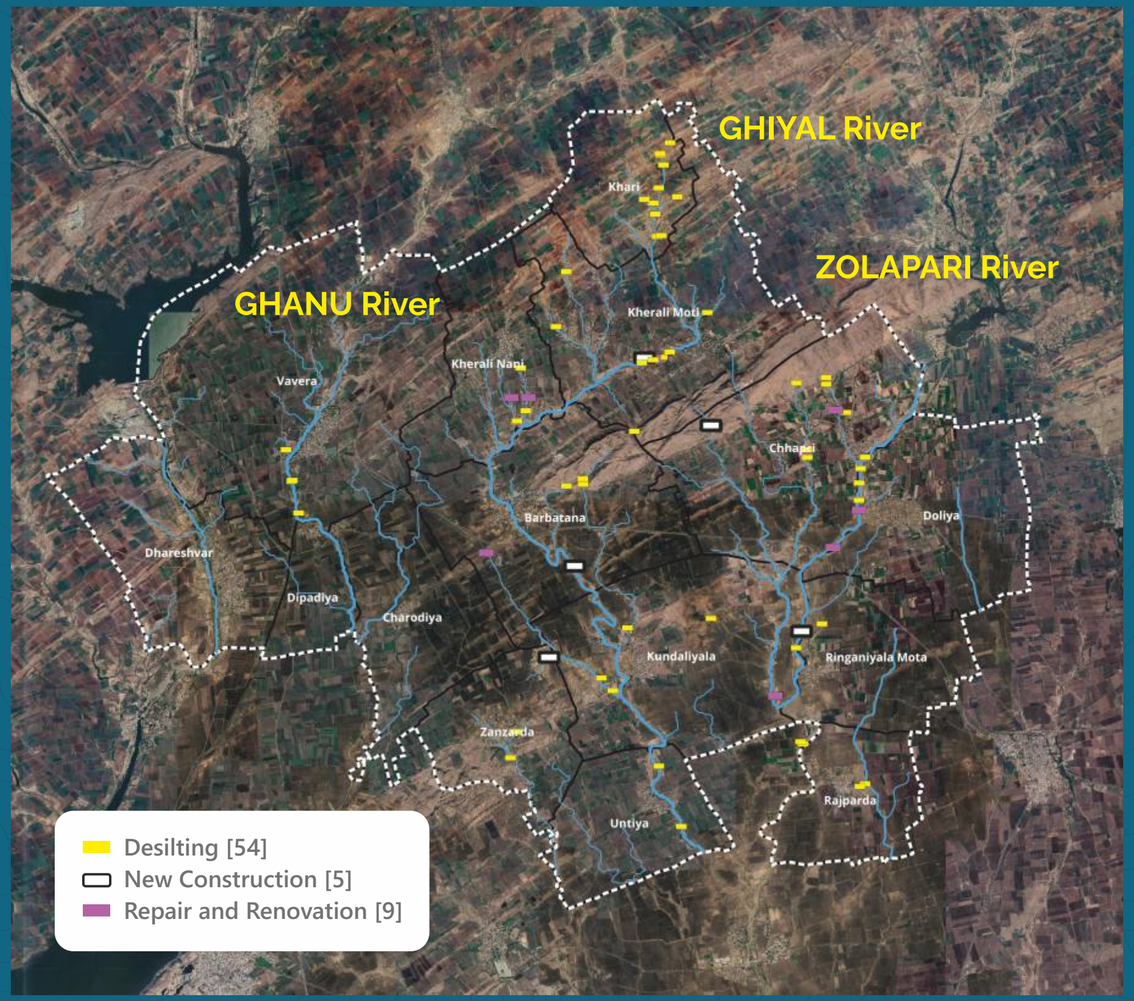


5

Structures constructed of **new check walls/nullah bundh**

Construction of new check walls and nullah bundh helps to guide the flowing rain water and leads to proper storage structures in the area.

PROJECT HIGHLIGHTS



Moti Kherali series of Check Dam

1168
Farmers Benefited

19.48
Mcft of Water Conserved
(55.16 Cr Litre Annually)

4804.23
Acre of land benefited
in immediate
Catchment area

PROJECT HIGHLIGHTS

ADOPTION [Demand Side Management]

200

Farmers adopted **Soil moisture** indicators

Soil Moisture is very important in the growth of crops. The soil moisture indicator helps farmers to decide irrigation scheduling.

71.54

Acre of Farmer land adopted **drip irrigation**

Drip irrigation serve the purpose of providing water to the crops without any wastage. Today drip irrigation facility also helps in other agricultural interventions like providing various nutrients to plant.

292

Acre of Farmer land adopted **laser irrigation**

Laser irrigation technique helps to provide water to the crop in a methodological way, hence reducing the wastage of water.

TRAINING and CAPACITY BUILDING

20

Water security trainings conducted

Trainings build knowledge and also provide information for managing water resources resulting into its security. This helps to maintain provision of water for longer period.

790

Farmers were reached through group trainings

Group trainings disseminate information in a uniform way for all the beneficiaries. It also helps in building a collective effort to address issues in agriculture.

405

Demonstrations were conducted for improved agricultural practices

New knowledge helps in improving the existing standards of practice. Demonstrations help in cultivating logical evidence of knowledge.

75

Field days organized

Field days give exposure and creates knowledge based on practice and also demonstrates the feasibility of the practice.

PROJECT HIGHLIGHTS

TRAINING and CAPACITY BUILDING

13

Exposure visit of farmers conducted

Exposure visits are key instrument in generating practice based knowledge which may include any innovative activity undertaken for overcoming problem.

300

Group training sessions conducted on Livestock Rearing

Group trainings disseminate information pertaining to livestock in a uniform way for the rearers. Group training also helps in reaching out to larger masses in less time.

85

Health camps conducted

Animal health camps play a crucial role in maintaining the health of livestock. It also addresses the health issues timely and maintains productivity.

13

Cluster level workshops conducted

Workshops provide a platform for discussion and interaction on various key subject in a participatory way. It also plays a crucial role in developing insights among the community members.

ADOPTION of CLIMATE SMART AGRI & LIVESTOCK PRACTICES

545

Soil and water testing adopted

Soil and water testers help to maintain the soil health of a farmland translating into better crop production. It also helps to address issue of salinity.

1650

Farmers adopted **Gypsum and Castor Cake** for Soil reclamation

Gypsum and Castor cakes are important elements that help in reviving and maintaining soil health.

3000

Farmers adopted **sustainable agricultural practices** and **input**

Sustainable agricultural practices help in reducing the cultivation cost and generate profitable production leading into financial gains.

220

Farmers adopted **improved vegetable cultivation**

Promotion of improved vegetable cultivation has been possible due to improved seed and methods of cultivation. This has generated qualitative production in the farmlands.

PROJECT HIGHLIGHTS

370

Farmers adopted **solar fencing** to protect the farm lands from animals

Solar fencing is a new methodology to protect the standing crops in the field. It keeps away the stray animals which destroys the crops.

3

Farmer entrepreneurs promoted agriculture mechanization for **Vermicomposting and Onion Storage Unit**

Use of technology helps in reducing the burden of labour resulting into more productivity. Mechanization in agriculture in various aspects have reduced the human labour hours and reduces loss in any form.

3

Value chain units developed for **Mini mill and Cattle feed unit**

A proper value chain helps in positioning of the product in market converting into a fair price dealings. Value chain leads to product standardization and formation of quality parameters.

9

Units developed under **Saline Area Innovation Fund** by establishing CHC (Custom Hiring Support)

Saline area innovation fund has helped to established custom hiring support units which has enabled to overcome the local demand.

ADOPTION of CLIMATE SMART AGRI & LIVESTOCK PRACTICES

1000

Farmers adopted **improved feeding practices**

Improved feeding practices help to maintain health of animal and also address in medical issue. This has also enabled to maintain and enhance the milk production.

198

Animals were provided with **improved breeding practices**

Improved breeding practices have maintain the blood line of crucial breeds. This has enabled to generate healthy population of various breeds.

30

Animal rearers were given benefit of **90 Sirohi Goats**

This breed of goats are well suited to the local environment and provides livelihood to the marginalized animal rearers

SALINE AREA INNOVATION FUND

Catalyzing Sustainable Agriculture

As part of the project, the Saline Area Innovation Fund was established to foster and implement innovative solutions tailored to address the unique challenges of saline-prone regions. This fund served as a catalyst for testing and deploying pilot projects with the potential to improve the livelihoods of coastal farmers by enhancing agricultural resilience and reducing environmental stress. The fund facilitated the initiation of three key innovations, each designed to target a specific farming need in the saline context:

Cotton Stalk Shredder

Farmers in saline-prone areas often face the dual challenge of managing crop residue and preserving soil quality. Traditionally, cotton stalks were either left to degrade slowly or burned, both of which resulted in nutrient loss and environmental degradation. The Saline Area Innovation Fund introduced the cotton stalk shredder as a solution, empowering farmers to process crop residue sustainably. This tractor-mounted tool chops and shreds cotton stalks directly in the field, converting them into organic mulch that enriches the soil, conserves moisture, and mitigates pest risks. This technology has proven transformative, reducing labor costs and adding vital organic matter back into the soil. By working in tandem with local Farmer Producer Organizations (FPOs), farmers have access to this tool on a shared basis, making it affordable and accessible for all.

Onion Storage Structure

Recognizing that post-harvest losses are a significant issue in coastal farming, the Saline Area Innovation Fund supported the construction of specialized onion storage structures. These storage units are engineered to accommodate coastal climate conditions, preventing rot and preserving onion quality over extended periods. The design includes ventilation features that help maintain temperature and humidity, critical factors in reducing storage losses. Managed by FPOs, these storage units have provided farmers with an effective way to reduce waste, store their produce longer, and gain access to better market prices, maximizing their income and ensuring food security.

Custom Hiring Center (CHC)

Mechanization is often out of reach for smallholders due to high costs and limited access. Through the innovation fund, the Custom Hiring Center was established to facilitate access to essential farming equipment on a rental basis. CHC offers tools for crucial operations like sowing, harvesting, and crop residue management, ensuring that even smallholders can complete their agricultural tasks efficiently. Managed by FPOs, this model has made high-quality equipment affordable and has improved the timeliness of agricultural activities, helping farmers secure higher market prices for early crops and reduce labor dependency.

Each of these initiatives is run and maintained through local FPOs, which act as the operational backbone, ensuring continuity, training, and upkeep. The Saline Area Innovation Fund has demonstrated that strategic investment in context-sensitive, community-driven solutions can drive sustainable change in challenging environments. Together, these innovations have not only addressed pressing needs but have also empowered coastal communities to transform adversity into opportunity, contributing to a resilient and sustainable agricultural ecosystem.

COMMUNITY HEROES

IMPACT STORIES

These initiatives have played a vital role in reducing the presence of salinity in soil, water and other also natural resources prevailing in the project area. The positive impact in the lives of people are clearly visible and in this book some instances are being presented in form of case studies.

THE LIVESTOCK
that Transformed Lives

A Case Study of Livelihood Improvement through Climate-Resilient Goats in Jhanjharda Village

*In the small, marginalized community of Jhanjharda village in Rajula block, the daily struggle for survival is a reality for many families. Livelihood opportunities are scarce, and the harsh environmental conditions of the region make traditional farming challenging. In this setting, a transformative initiative was introduced to empower the local community by providing them with a sustainable source of income — **climate-resilient Sirohi goats**. This case study explores how one family's life was changed through this intervention, highlighting the broader impact on the village and providing insights into the development approach that made this success possible.*

The Context

Jhanjharda village, like many others in the Rajula taluka in Amreli district faces the challenges of arid and semi-arid conditions. The lack of reliable water sources, coupled with poor soil quality, limits agricultural productivity. The community, largely dependent on subsistence farming, has been grappling with poverty for generations. In such an environment, innovative livelihood solutions that are resilient to climate variability are crucial for survival and prosperity.

Recognizing the need for sustainable and adaptive livelihood strategies, the Coastal Salinity Prevention Cell (CSPC), in partnership with local stakeholders, initiated a project aimed at improving the income-generating capacity of marginalized families by providing them with Sirohi goats. This breed was chosen for its climate adaptability, rapid reproduction rate, and ability to thrive on minimal resources.

The Beneficiary: Chandrikaben Laxmanbhai Parmar's Journey

Among the beneficiaries was Chandrikaben Laxmanbhai Parmar, a resident of Jhanjharda village. Chandrikaben's family, like many others in the village, struggled to make ends meet. Farming was difficult due to erratic rainfall and the poor fertility of the land. With limited options for income, the family's situation was dire.

In 2023, the family was provided with three Sirohi goats—two females and one male—as part of the CSPC's initiative. The provision of these goats marked the beginning of a remarkable transformation for Chandrikaben and her family.

A New Beginning

The Sirohi goats, known for their hardiness and ability to adapt to the harsh climate of the region, quickly became an invaluable asset to the family. Within a short period, the goats reproduced, resulting in seven offspring. Among these, the family decided to sell one of the kids for INR 15,000, a significant sum that was reinvested into the family's needs.

The remaining goats continued to thrive, providing the family with a steady supply of milk. This not only improved the nutritional intake of the family but also allowed them to sell excess milk in the local market, further boosting their income. The goats, requiring minimal maintenance and no special fodder, proved to be a low-cost, high-reward investment.

Sustainability and Growth

What sets this initiative apart is the sustainability of the livelihood it provides. The Sirohi goats are not just a temporary solution; they are a long-term asset that continues to provide value to the family. The goats are known for their ability to conceive and reproduce twice a year, ensuring a continuous source of income through the sale of offspring.

The project's design is also noteworthy for its focus on scalability and community-wide impact. Chandrikaben's family is one of 30 beneficiaries in the village who have received Sirohi goats. Each of these families now has the potential to improve their livelihoods in a similar manner. By focusing on a breed that is well-suited to the local environment, the project ensures that the goats can be easily maintained, even by those with limited resources.

The Broader Impact

The success of the project extends beyond individual families. As more households in the village adopt goat rearing, the collective economic stability of the community is strengthened. The increased availability of goat milk and meat contributes to better nutrition within the village, while the income from goat sales allows families to invest in other areas, such as education, healthcare, and home improvements.

Furthermore, the project has fostered a sense of pride and empowerment among the beneficiaries.

> **Chandrikaben Parmar** *speaks of the goats as a blessing, noting how they have improved the quality of life for her family. "The goats have been a blessing to the family and the kids," she says. "It has improved the way we live. The milk the goat produces is sufficient for the family, and since they are healthy and provide healthy offspring, we get good returns in selling them also."*

Conclusion

The provision of Sirohi goats to the marginalized families of Jhanjharda village is a prime example of how targeted interventions can lead to sustainable development. By focusing on climate-adaptive livestock and providing the necessary support for their upkeep, the CSPC has enabled these families to break free from the cycle of poverty.

The case of Chandrikaben Laxmanbhai Parmar and her family highlights the impact that such initiatives can have on improving livelihoods and nurturing resilience in vulnerable communities. As this project continues to expand, it holds the promise of transforming not just individual lives, but the entire community, paving the way for a more secure and prosperous future.

Revolutionizing DAIRY FARMING in Rajula

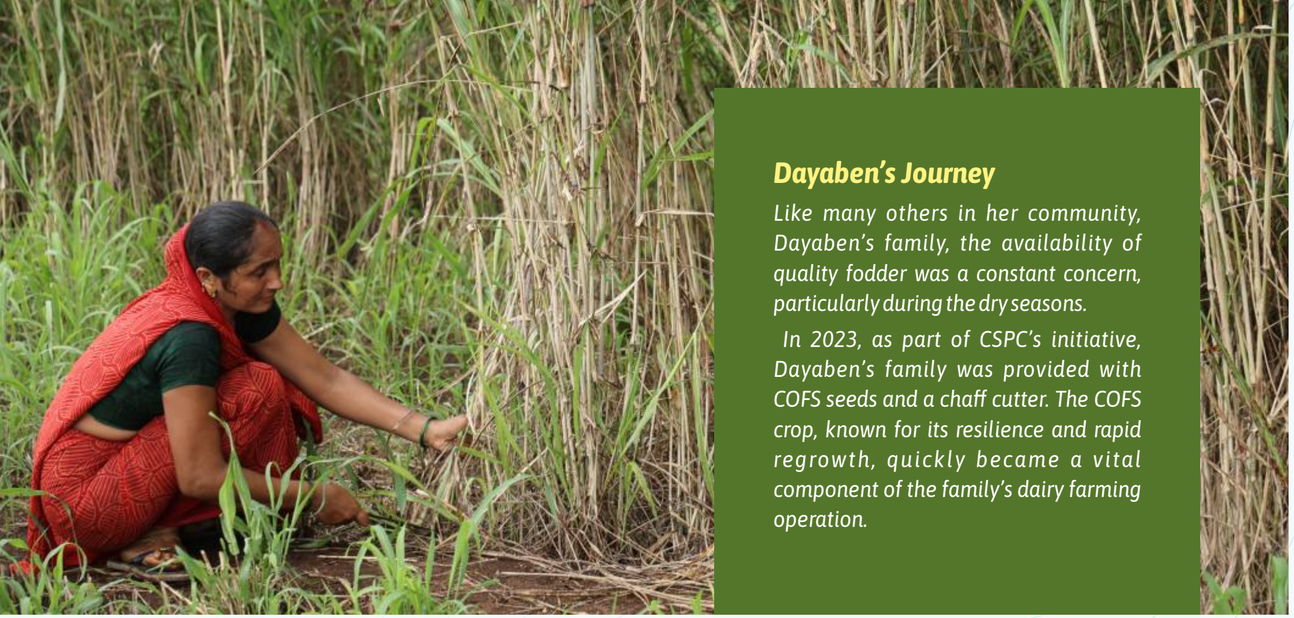
The Impact of Multicut Fodder Sorghum on Sustainable Livelihoods

In the heart of Rajula block lies Brabatana village, families like Dayaben's have relied on traditional farming practices to sustain their livelihoods.

The Context

Rajula block is characterized by its semi-arid climate, with erratic rainfall patterns and limited water resources. These conditions have historically made farming a precarious endeavor, particularly for those involved in dairy farming, where the availability of quality fodder is crucial for maintaining livestock health and milk production. Traditional fodder crops, while essential, often require significant resources and are susceptible to environmental stressors. This has led to reduced productivity and increased costs for farmers, many of whom struggle to make ends meet.

Recognizing the need for a sustainable fodder solution, CSPC introduced Multicut Fodder Sorghum (COFS) to the farming community. COFS is a fast-growing, low-maintenance fodder crop that can be harvested multiple times a year, providing a consistent and reliable source of nutrition for livestock. This initiative was further supported by the provision of chaff cutters, which help farmers maximize the utility of the fodder by minimizing waste and making it easier for animals to consume.



Dayaben's Journey

Like many others in her community, Dayaben's family, the availability of quality fodder was a constant concern, particularly during the dry seasons.

In 2023, as part of CSPC's initiative, Dayaben's family was provided with COFS seeds and a chaff cutter. The COFS crop, known for its resilience and rapid regrowth, quickly became a vital component of the family's dairy farming operation.

"**Dayaben** says, It Switching to COFS-29 grass has greatly improved my fodder supply. I can now cut and harvest three times from single sowing, reducing my costs and ensuring fodder for my livestock which keeps them healthy. This program has truly changed our lives for the better."

The Impact of Multicut Fodder Sorghum

One of the most notable features of COFS is its ability to be harvested multiple times throughout the year. The first cut of the fodder is typically ready within 60 days of planting, with subsequent cuts possible every 30 days. By the time Dayaben's family had taken their 15th cut, the fodder was still robust and healthy, providing ample nutrition for their dairy cattle.

The chaff cutter allowed Dayaben's family to cut the fodder into small, manageable portions, ensuring that none of it went to waste. The smaller fodder pieces were easier for the animals to consume, leading to better digestion and improved milk production.

Sustainability and Community Impact

As more farmers in Brabatana and neighbouring villages adopted COFS, the collective impact on the community became apparent. The consistent availability of high-quality fodder contributed to better livestock health across the region, leading to increased milk production and higher incomes for dairy farmers.

The introduction of COFS also had a positive environmental impact. Traditional fodder crops often require significant amounts of water and fertilizer, placing a strain on local resources. In contrast, COFS is reducing the need for external inputs, COFS helps farmers lower their environmental footprint while maintaining high levels of productivity.

Moreover, the success of the COFS initiative has fostered a sense of community pride and empowerment.

As CSPC continues to expand this initiative, it holds the promise of transforming the lives of many more families in the region, paving the way for a more sustainable and prosperous future.

> ***Bharatbhai*** *says, As a farmer from Charodia, the moisture meter has helped me to manage irrigation in my field. It helps me use water more efficiently, leading to healthier crops and lower electricity bills. This technology has inspired others in our village to improve their practices as well.*

Utilizing the Power of MOISTURE METER

A Path to Sustainable Farming

Bharatbhai Dhakda, a progressive farmer from Charodia, Rajula, has been using a moisture meter for the past two years to optimize irrigation for his crops. The moisture meter allows Bharat Bhai to accurately measure soil moisture levels, addressing the crucial question of how much water is needed for optimal crop growth.

Through capacity-building training and workshops organized by CSPC, Bharatbhai learned to interpret moisture readings and adjust his irrigation schedule accordingly. This not only improved crop yields but also reduced water consumption, conserving a valuable resource in the water-scarce region. Additionally, the careful monitoring of soil moisture led to enhanced soil health, preventing overwatering and soil degradation.

Beyond his own success, Bharatbhai became an advocate for this technology, helping fellow farmers adopt the moisture meter, creating a ripple effect of sustainable agricultural practices.

Bharatbhai's journey highlights the potential of simple tools like moisture meters to transform farming practices, ensuring better yields, resource management, and a shared path to prosperity for farmers in Gujarat.

Precision in Progress

Enhancing IRRIGATION for Sustainable Farming

In the village of Barbatana, traditional irrigation practices were leading to inefficient water usage, uneven crop growth, and increased labor costs. Rameshbhai Hadiya, a local farmer, faced challenges in managing water distribution for his onion crops. The inconsistent water supply was not only affecting his yield but also depleting a precious resource.

Recognizing the need for innovation, Coastal Salinity Prevention Cell (CSPC) introduced laser irrigation technology. This advanced system uses precise measurements to control water delivery, ensuring crops receive the optimal amount needed for healthy growth. The initiative aimed to save water, reduce labor, and boost crop productivity, ultimately promoting sustainable farming practices in the region.

Rameshbhai received training on the system's operation and benefits. After implementing the laser irrigation system, he observed a significant reduction in water usage and healthier, more robust crops. His onion yields improved, leading to increased income and greater resilience against water scarcity.

This intervention not only revolutionized Rameshbhai's farm but also set a new standard for sustainable water management in the community. The success of this initiative highlights the importance of adopting modern technologies for sustainable development and improving farmers' livelihoods.

> ***Rameshbhai*** *says, Switching to laser irrigation has been a game changer for my farm. I've seen a remarkable reduction in water usage and healthier onion crops, which has boosted my income. This technology not only helps me manage resources better but also promotes sustainable farming in our community. I'm grateful for the support from CSPC!*

BREEDING
Success
Manubhai's Journey with Artificial Insemination

> ***Manubhai*** *says, I used to worry about the health and productivity of my cows. The AI program has been a game-changer. The Livestock Inspector has guided me every step of taking the health care of my cows, and now my cows are stronger, healthier, and producing more milk. This extra income has helped me support my family and improve our lives.*

Manubhai Budhela, a livestock farmer from Khari village in Rajula, witnessed a significant transformation in his cattle farming after adopting the Artificial Insemination (AI) program introduced by CSPC. This initiative was designed to enhance cattle breeds and promote female progeny, with a 90% chance of producing female offspring—much higher than the 50-50 chances of natural breeding.

The AI process, performed by trained Livestock Inspectors, used high-quality genetic material to improve both the breed quality and overall productivity of the cattle. For Manubhai, the results were clear. His cows began producing more milk, directly increasing his income from dairy sales. This shift in productivity, driven by AI interventions, not only improved Manubhai's livelihood but also inspired other farmers in the region to adopt the practice.

The program's consistent follow-ups, health checks, and nutritional guidance ensured the ongoing well-being of the livestock. Manubhai's success story showcases the potential of AI to elevate cattle farming practices and improve the livelihoods of farmers in coastal interventions of CSPC.

Turning Residue Into Resources

NITINBHAI'S JOURNEY WITH COTTON STALK SHREDDING

Location

Village: Kundaliyala
Taluka: Rajula
District: Amreli
State: Gujarat

***Nitinbhai Dhanjibhai Baraiya**, a 34-year-old small-scale farmer from Kundaliyala village in Rajula block, Amreli District, Gujarat, lives with his family of five. Educated up to graduation, Nitinbhai owns 10 bighas of farmland where he primarily grows cotton as a Kharif crop. For years, he grappled with post-harvest management issues of cotton stalks, traditionally handled by burning—a method labor-intensive, time-consuming, and harmful to soil health and the environment. Moreover, recurring attacks by pink bollworms have been a persistent threat to his cotton yield, reducing both quality and quantity.*

> *I am extremely pleased with the cotton stalk shredder technology. This method not only adds organic matter to the soil but also reduces erosion and preps the land quickly for the next crop cycle. It has even helped minimize pink bollworm infestations. I hope more farmers adopt this efficient, eco-friendly solution soon,* says ***Nitinbhai***

Challenges

In Kundaliyala, cotton serves as a crucial cash crop for many farmers, but managing the cotton stalk residue after harvest remains a significant challenge. Traditionally, farmers resort to burning this residue, a process that releases greenhouse gases and depletes the soil of essential nutrients while also endangering beneficial soil organisms. Additionally, the prevalence of pink bollworm infestations poses a severe risk to cotton productivity each year. Nitinbhai faced these twin challenges annually, seeking a sustainable solution to improve soil health, reduce environmental impact, and mitigate pest issues.

Solution: Adoption of Cotton Stalk Shredder

Recognizing the need for an effective post-harvest solution, Coastal Salinity Prevention Cell (CSPC) introduced Nitinbhai to the cotton stalk shredder through their post-harvest management training sessions supported by the HRDP project from HDFC. The shredder, a tractor-mounted tool, chops and shreds cotton stalks directly on the field, transforming the residue into nutrient-rich organic matter that can decompose and enrich the soil. This method not only improves soil quality but also prevents the survival of pink bollworm larvae, providing a natural pest deterrent for the next planting season.

Benefits and Success

Nitinbhai quickly saw the benefits of using the cotton stalk shredder. With less labor required, costs dropped significantly from ₹4,375 per hectare (manual cutting and burning) to around ₹2,500 per hectare when using the shredder. The shredded material now acts as a mulch and natural fertilizer, enhancing soil structure and nutrient content. With the added advantages of time saved and reduced labor costs, Nitinbhai observed improved soil fertility, protection from erosion, and greater resilience against pests.

Outcomes

- *Farmers are increasingly focused on soil health and sustainable practices.*
- *The traditional practice of burning cotton residue is being replaced by shredding.*
- *There is growing awareness about the benefits of cotton stalk shredders among farmers.*
- *Farmers are beginning to see the value of converting crop residue into organic compost.*

Impact

- *Enhanced soil fertility and nutrient composition.*
- *A shift in farmers' perspectives on cotton residue, from waste to resource.*
- *A tangible reduction in pollution from field burning, promoting a cleaner environment.*
- *Through the adoption of cotton stalk shredding, farmers like Nitinbhai are setting an example in sustainable farming, transforming agricultural waste into a resource for the betterment of soil health, productivity, and environmental care.*

CAPTURING THE PROGRESS