

# TATA TRUSTS

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Lifting Global Trade

## APM TERMINALS

“Enhancing Water Resource Management through Piloting Micro Irrigation System (MIS) based Lift Irrigation Project in Kotadi Cluster of Rajula Taluka of Amreli District of Gujarat”

## Kharash Vistarotthan Yojana

Co-funded by

**Tata Trusts and Gujarat Pipavav Port Limited**

### Project Management Unit



COASTAL SALINITY PREVENTION CELL  
Kharash Vistarotthan Yojana

Coastal Salinity Prevention Cell  
Ahmedabad

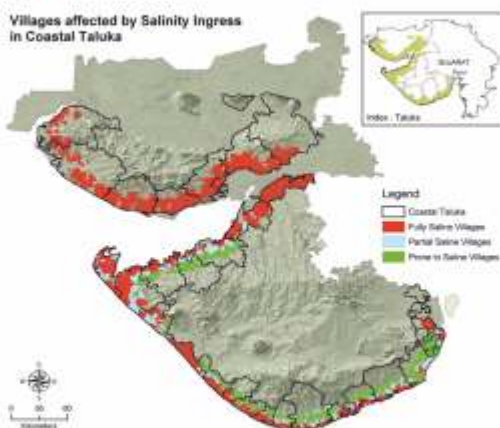
### Implementing Support Agency



Vivekanand Research and Training Institute  
Bhavnagar

## Background

Villages affected by Salinity Ingress  
in Coastal Taluka



## About The Project

The project is aimed towards scaling up of the interventions in 32 salinity affected villages of Rajula block of Amreli district of Gujarat. The project aims to improve socio-economic conditions of the farmers through various interventions under agriculture and natural resource management (NRM) in the salinity affected villages and to build a community based institutions for long term sustainability of the interventions.

The project is designed to operationalize Participatory Irrigation Management (PIM) through enhancing Water Resource Management with the adoption of Micro-irrigation System (MIS) as a Lift Irrigation Scheme. The project will be a pilot project for Kotdi Cluster of Rajula Taluka of Amreli District of Gujarat. The village has 4,000 hectares of land, out of which 1,500 hectares has irrigation facility, 1,500 hectares is non-irrigated land and 1,000 hectares is fallow land under Gauchar. The village Kotdi is on the banks of Dhatarvadi River. The river has one check dam at upstream near Dhareshwar named as Dhatarvadi – 1 for irrigation and drinking water needs of surrounding area. The river has second check dam at downstream near village Khakbai named as Dhatarvadi – 2 for irrigation. The village Kotdi and two other villages Japondar and Mandardi are in command area of Dhatarvadi – 2. Irrigation dam Dhatarvadi – 2 has water holding capacity of 10.19 Mm<sup>3</sup>, which is sufficient for about 2,700 hectares of land. At present only 50 farmers are using this facility for about 70 hectares. One of the key objectives of the project is to cover as many farmers as possible under irrigation by forming a cooperative irrigation society. This proposed project will also broadly cover following objectives, and all other related issues of soil and water related salinity management techniques.

Salinity is a global phenomenon affecting the environment as well as livelihoods of the populace dependent on nature; thus, assuming complex proportions. The problem is massive, tough to comprehend and tougher to restrict. The total global area of salt-affected soils, including saline and sodic soils, was 831 million hectares (Rengasamy, 2006). Gujarat has the longest coastline in India, measuring 1,666 kilometers, covering about 1,500 villages and affecting more than 1.8 Million individuals. Inherent salinity of land and its rapid ingress from the seaward side due to human abuse of natural resources, especially groundwater, along the coast of Gujarat, has been a well-accepted phenomenon now. Prolonged use of saline water for irrigation has resulted into a decline in agricultural productivity and has decreased soil fertility further.

The problem of salinity is complex in nature and approaches to mitigate the problems need to be more systematic and demand driven. In 2002, in an effort to facilitate a solution to the environmental problems caused by salinity ingress in the coastal belt of Gujarat, the Trusts, along with its partner organizations, launched the "Kharash Vistarotthan Yojana" (KVV), earlier known as the "Gujarat Coastal Salinity Prevention & Mitigation Initiative". KVV initiative has tried to look at interventions that will help communities to cope with the problems and also initiate set of activities that will help to mitigate the problems related to salinity due to sea water ingress that is manifested in various forms like in-adequate access to quality drinking water, reducing agricultural productivity, reduction in the quality of the land holdings and reducing livelihood opportunities to the local communities.

## The key objectives of the project are as follows :

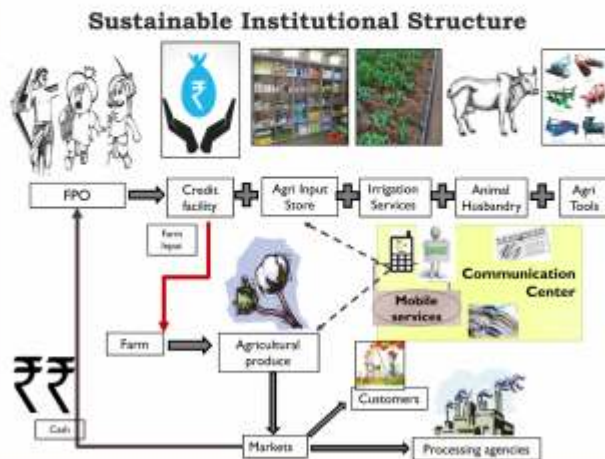
- Promotion of Natural Resource Management based interventions for salinity mitigation and water source augmentation;
- Promotion of sustainable agriculture practices through adoption of improved package of practices (PoP), technological interventions and crop diversification;
- Promote alternate livelihood options for landless population and support non-farm livelihoods;
- Create and promote long term sustainable community institutions for self-reliance;
- Establish linkages with stakeholders for scaling up of interventions.

## Key activities of the project

The project activities will focus on implementation and operationalisation of lift irrigation scheme in Kotdi and adjacent villages benefitting more than 111 farmers with irrigation facility in 205 ha of land. Apart from this, it would revolve around construction, as well as enhancement of the capacities of water harvesting structures, promotion of efficient irrigation techniques – drip and sprinklers - for judicious use of water, promotion of improved agricultural practices through crop diversification, land reclamation, improving the farming practices, vegetable cultivation through improved practices like green houses, trellis etc., horticulture promotion, promotion of alternate non-farm livelihood opportunities such as animal husbandry and also enhancing the market linkages through development of farmer producer company. It is envisaged that project will focus on ensuring sustainability in on-going livelihood practices in the region through strong local institutional and capacity building which can take forward the works of salinity mitigation, value addition, market linkages and scale up promising practices in agriculture, horticulture, animal husbandry and other livelihood options. Clusterisation approach and institutionalization will be fundamental for the project.

Overall, the broad objective for the project is to make a self-sustainable model to be run by community itself. Hence, the community based institutions (CBO), formed under the project would be the fulcrum for all interventions and the participation of CBO in implementation of the activities will be enhanced.

The implementation would be with an approach to saturate the project villages with all relevant and appropriate interventions in an integrated manner. In this regard, the interventions related to drinking water and sanitation would also be focused in these villages. The key objective under Drinking water and Sanitation through Coastal Area Development Programme funded by the Tata Trusts is to develop cost-effective and sustainable water supply facilities either by improvising existing facilities or by setting up new facilities through



a process of community participation, collective action and technical facilitation. In this regard, the focus would be on (1) Enhancing community based decentralized water storage & supply systems; (2) Identification of local intervention to enhance alternate ground water sources in the villages; (3) Special attention for drinking water supply & sanitation coverage to villages including schools and Anganwadi centres; (4) Improved sanitation measures – individual household as well as village level environmental sanitation; (5) Provide scope and potential for piloting innovative activities related to improved sanitation - institutional mechanisms at the village level, provision of revolving funds, designing incentives for the masons for promotion of individual sanitation, provision of inputs package for promotion of individual sanitation units

## Coverage

It aims to reach to 3,200 households of 32 villages of Rajula block through NRM and agriculture based interventions along with benefitting 5,000 households with drinking water and sanitation facility in the same block of Amreli district under the Drinking water and sanitation project.

## CSPC

Recognizing the complexity and multi-faceted nature of the problems lying within KVV's purview, joint efforts of both, government and civil society organizations, seemed more pertinent in order to work towards effective and realistic solutions. To address the issues, Coastal Salinity Prevention Cell (CSPC) was seeded by the Trusts in partnership with partner organisations in 2008. It was envisaged that CSPC would play three critical roles which are: (a) acting as a knowledge and resource bank on coastal salinity; (ii) piloting innovative ideas for salinity mitigation; (iii) networking and forming linkages with stakeholders such as Government and non-government organizations; and (iv) act as a nodal agency of KVV. The key focus thematic interventions have been; (a) natural resource management; (b) promotion of sustainable agriculture in saline conditions; (c) drinking water and sanitation; (d) non-farm based livelihoods; and now (e) education and skill building. For more details, please visit [www.cspc.org.in](http://www.cspc.org.in)

CSPC has been recognised by the Tata Trusts as Project Management Unit (PMU) for the project, will monitor the overall progress of the project based on the set objectives and facilitate and provide technical backstopping support to the implementing team to ensure quality work in time.

## VRTI

VRTI, Bhavnagar registered as a society under Society Registration Act, 1860 and Bombay Public Charitable Trust Act, 1950; has been working in Kutch, Bhavnagar and Amreli districts of Gujarat. Initially, VRTI has started its work under guidance and management control of VRTI, Mandvi, which was established in 1975 and works on addressing the water scarcity in the Kutch. VRTI, Bhavnagar was separated out from VRTI, Mandvi, as a formally registered society in the year 2005. VRTI, Bhavnagar has been working on water harvesting and recharging interventions, soil and water conservation activities, agriculture interventions, drinking water, animal husbandry, livelihood generation activities, training and capacity building of farmers, education, sanitation and elimination of child labor. The organisation has facilitated formation of Lift Irrigation Cooperative for more than 10 villages nearby to Dhatarwadi Dam in Rajula block of Amreli District having more than 111 farmer members. The organisation is also one of the active partners in Coastal Area Development Programme (CADP) with CSPC. For more details, please visit [www.vrti.org](http://www.vrti.org)



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