

# Towards A Sustainable Future

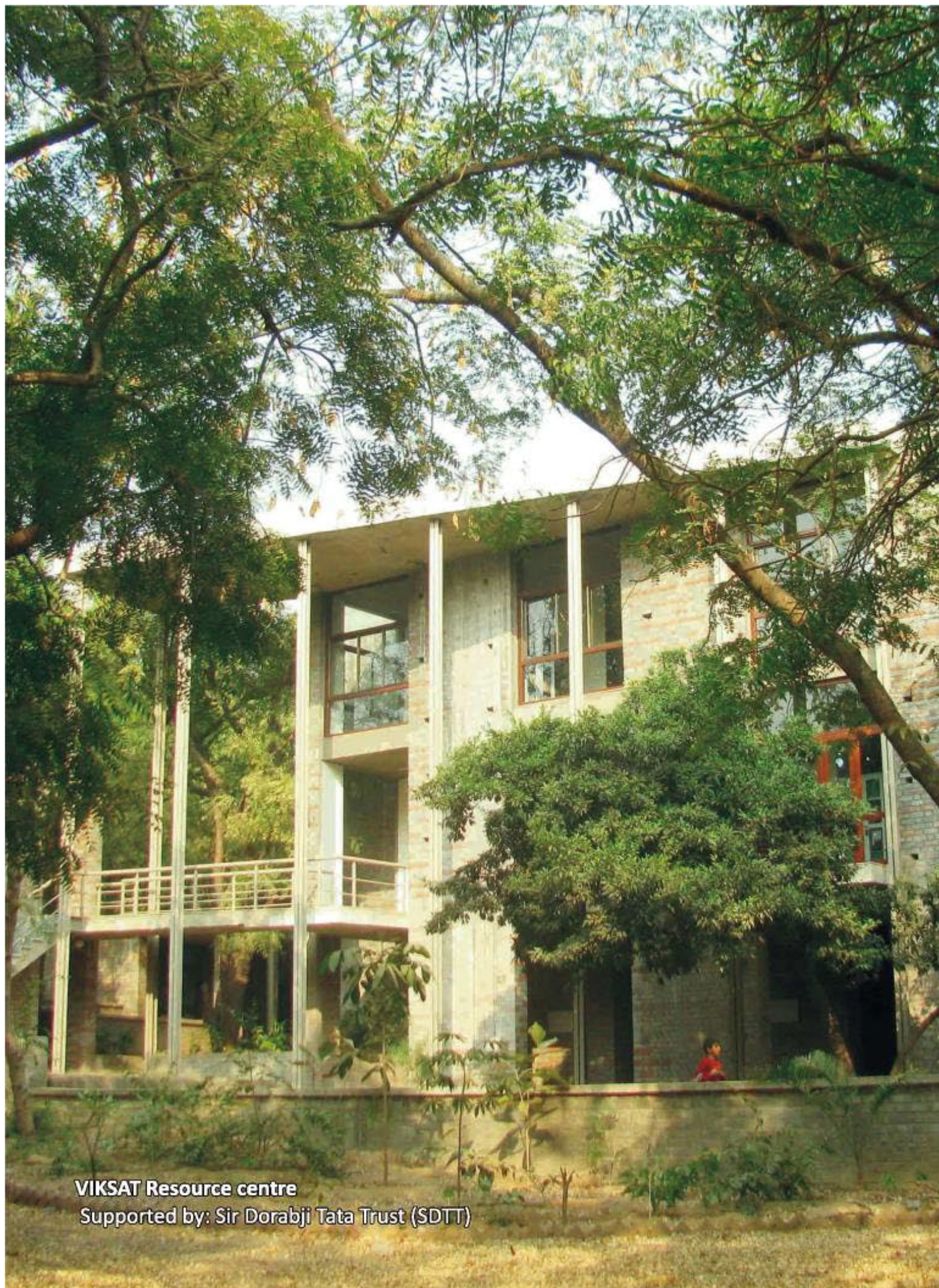
Annual Report 2011-12



**VIKSAT**

Vikram Sarabhai Centre for Development Interaction





**VIKSAT Resource centre**

Supported by: Sir Dorabji Tata Trust (SDTT)



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**Annual Report 2011-12**

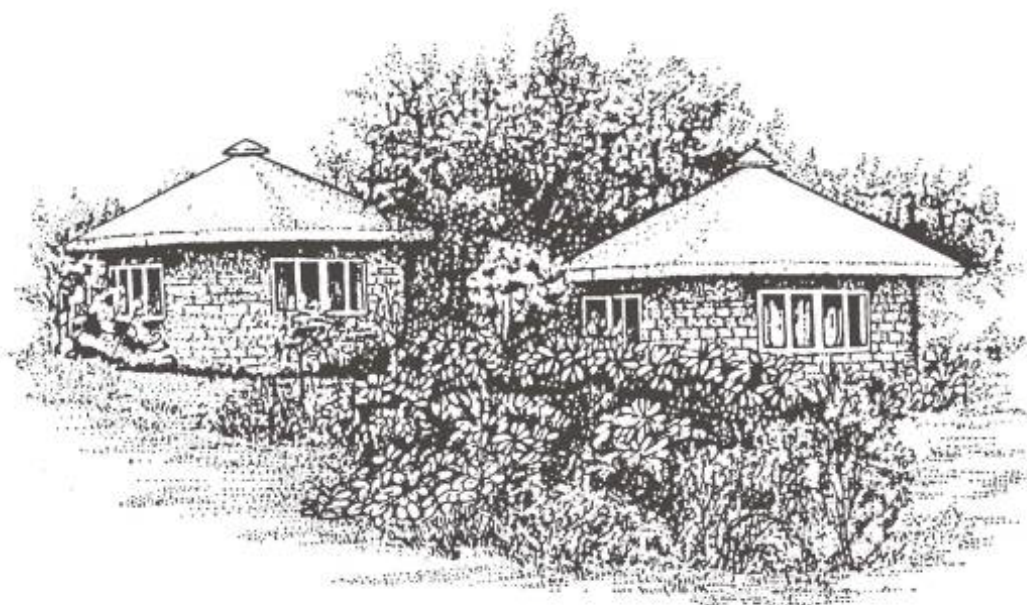
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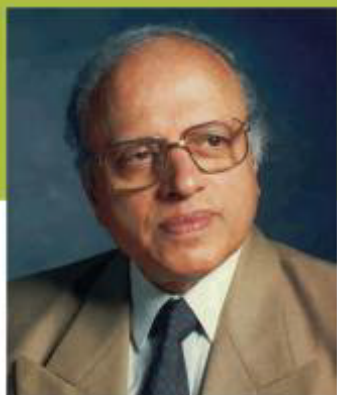


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## Chairperson's Message

The 12<sup>th</sup> Five Year Plan calls for accelerated economic growth coupled with social inclusiveness. India, unfortunately still suffers from the extensive prevalence of illiteracy, ill health, malnutrition and poverty. We need a human centered pathway of development which will help to impart a pro-nature, pro-poor and pro-women orientation to technology development and dissemination. Jawaharlal Nehru used to say that we are a poor people inhabiting a rich country. How can we convert our natural resources into jobs and income in an environmentally sustainable and socially equitable manner? This is the challenge VIKSAT has taken upon for making its own contribution to a happy India.

VIKSAT is now concentrating on the sustainable management of our natural resources with particular reference to water. Watershed development programmes of VIKSAT aim to both augment supplies and manage demand in an effective manner. The installation of micro-irrigation systems has helped to promote the concept of more crop per drop of water. Another area where VIKSAT is now concentrating is in the development and demonstration of sustainable farming systems. Farming systems which can generate both on-farm and non-farm employment and income are promoted.

I am glad that VIKSAT is looking ahead with reference to challenges such as those emerging from climate change. Under this programme, considerable work is being done on achieving energy security without contributing to the greenhouse gas emission burden. Renewable energy technologies are receiving particular attention. Thus, both water and energy security are high priorities on VIKSATs research, education and extension agenda.

I am glad that VIKSAT is now able to implement some of its projects through the UPNRM loan based programme. This will help to pay particular attention to the needs of the disadvantaged sections of our population.

I congratulate the Members of the Council, the Director and the VIKSAT staff on the achievements made by the organization during this year. I am confident that the impact of VIKSATs work will grow from year to year, thereby fulfilling the vision of Vikram Sarabhai who wanted the best in science to be brought to the service of the underprivileged sections of our country. My special gratitude goes to Dr Dilip Surkar for his dedicated leadership and farsighted vision.

A handwritten signature in black ink, appearing to read 'M. S. Swaminathan'.

M S Swaminathan  
Chairperson  
VIKSAT Council of Management





## From the Director's Desk

We are happy to bring you this Annual Report, on behalf of the people who have led the programmes undertaken by VIKSAT. Institutional arrangements, participatory nature of governance, inter-linking with the Government and Non-Government partners and strengthening of the relationship with and within the village level institutions, continue to make VIKSAT a unique organization.

Needless to say, the path traversed while working with the diverse stakeholders, responding to the changing contexts and the crises, making best use of the opportunities available, is not without challenges. From building and sustaining a cadre of professional, technical and grassroots' level personnel to learning to open doors to new opportunities, aligning with the upcoming issues, strengthening the people's institutions, resource mobilization, maintaining accountability....the experience has been vastly enriching.

The year 2011-12 has seen VIKSAT focusing strongly on issues of mitigation and adaptation measures as one of the key areas of work in promoting sustainable management of the natural resources. To harmonize the use of soil, water and vegetation and conserve the resources, maximize their productivity and minimize land degradation, the watershed development programmes have been progressively instrumental. The village watershed committees, primarily responsible for implementation with VIKSAT's facilitation, are being gradually and steadily empowered to fulfill their responsibilities. The "Watershed Plus" project has proved to be a crucial link to ensure that the benefits reaped due to successful interventions in watershed project areas are capitalized upon to improve the socio economic conditions of the people inhabiting the area.

VIKSAT is proud to be the Regional Resource Agency (RRA) for the National Environment Awareness Campaign (NEAC) of Ministry of Environment & Forests, GoI, for Gujarat, Daman and Diu. This year, the number of participating organizations has grown to 569, as a strong NEAC network across the state.

We continue to focus on linking people with the means and options of sustainable livelihoods helping poor families to increase household income, enabling them to invest adequately, increase crop production and break away from the debt cycle. During the year, we addressed the issue of sustainable energy and energy efficiency. It was a novel experience to connect with rural and urban energy consumers, the regulating bodies and government agencies promoting renewable energy, understand the consumers' needs, the potential and relevance of this sector and in partnering with other CBOs in the state.

VIKSAT's activities this year have been supported by a variety of agencies including MoEF, GoI, ICAR, NABARD, CInI, SRTT, SDTT, John Deere Foundation, John Deere Water, and several other institutions. We appreciate and highly value the constant support of all our collaborating agencies.

I thank our Chairperson, Prof. M. S. Swaminathan and all the members of the Council of Management for their guidance and encouragement. I extend my appreciation to all my colleagues at VIKSAT, without whose commitment and dedication, it would not have been possible to achieve our objectives. Together we can....together we will.

Dilip Surkar  
Director, VIKSAT



VIKSAT is the second activity of the Nehru Foundation for Development (NFD) established in mid 60s by Dr. Vikram A. Sarabhai, the visionary, legendary educationalist and founder of various premiere institutions like NFD and Vikram A Sarabhai Community Science Center (VASCSC). Today, the NFD has a cluster of institutions working in the areas of natural resource management, health, nutrition and so on.

Over the years, VIKSAT has carved its own niche in forestry and water sectors through innovations in water harvesting and bio diversity conservation, joint forest management and community development.

It is interesting to note that the Thaltej Tekra, which houses NFD, VIKSAT and CEE, was formed around 7000 years ago due to the shifting of sand dunes along the slopes of rivers of Sabarmati and Mahi.

#### Genesis and evolution of the campus

Dr. Vikram A. Sarabhai and Dr. (Mrs.) Mrinalini Sarabhai initiated the greening of the campus during late sixties and early seventies by planting big trees like Peepal (*Ficus Religiosa*), Banyan (*Ficus benghalensis*) and Amaltas (*Cassia fistula*). Thus, from being an over grazed barren piece of land, with a single shrub species of Ber (*Zizyphus*) in mid sixties, the campus is now well represented by flora and fauna elements.

The 14 acre campus shelters around 1600 trees, attracts more than 100 bird species over the year and is viewed as one of the best - wooded areas of Ahmedabad and Gandhinagar belt. While Neem (*Azadirachta indica*) and Subabul (*Leucaena leucocephala*), often known as the Giant Ipil Ipil dominate the campus, diverse and beautiful species of palms, bamboos and climbers are the most attractive features of the floral diversity.

#### Emergence of a specific role

Over the years, with increasing experience of working at grass roots level with communities, VIKSAT has worked towards

Enabling people to work effectively as they plan, implement and experience change

Increasing people's ability to manage future change

#### Objectives

- promote and strengthen People's Institutions (PIs) for natural resource management (NRM)
- evolve innovative participatory NRM strategies for dissemination and scaling up
- work towards decisive participation of the communities, especially women, and community organizations in policy forums
- strive for developing appropriate and enabling legal and policy frameworks





- facilitate technology and information access and transfer in NRM
- network with Government Organizations, Non Governmental Organisations (NGOs) and PIs and other technical institutions for the above

### Historical areas of contribution

- Implementation of Joint Forest Management in the state
- Wasteland development and forest regeneration programme initiated in the state
- Increased access to productive resources, especially land and water
- Capacity building of key stakeholders (civil society, government and other development agencies) in NRM
- Consolidated and scaled up the “people to people” learning processes by creating federations of the People's Institutions viz. Sangathan Kshamata Manch (SAKSHAM)
- Drought proofing by promoting ground water recharging, surface & rainwater harvesting initiatives at community level.
- Enhanced access to drinking water in both rural and urban areas by promoting rain water harvesting (RWH) and artificial recharge.
- Promoted ecological restoration through grassland development along with addressing drinking water and livelihood issues in the arid zone of Kachchh district
- Ensured sustainable agricultural production by promoting appropriate agricultural practices and strengthening agriculture extension services



### Volume of operation

At present, VIKSAT has five field offices in four districts of Gujarat, namely, Bhiloda, Kheroj in Sabarkantha district; Satlasana in Mehsana district; Kukam, in Kachchh district; and Radhanpur in Patan district with the head office located in Ahmedabad, Gujarat.

### Recognition

- National Award Indira Priyadarshini Vrikshamitra Puraskar in 1997 from Ministry of Environment & Forests, New Delhi in recognition of exceptional contributions in the field of afforestation and wastelands development
- National Award Indira Priyadarshini Vrikshamitra Puraskar in 2002 from Ministry of Environment & Forests, New Delhi in the Village Level Institutions categories
- Gram Sangathan Paritoshik 2005 from Development Support Centre, Ahmedabad
- Invited to participate in World Summit on Sustainable Development 2002 in Johannesburg, South Africa.

VIKSAT's Council of Management is currently chaired by Dr. M.S. Swaminathan, the father of green revolution in the country.

To enhance meaningful participation in Natural Resources Management, VIKSAT has been working towards imparting community skills related to group organization, institution building, training and other resource support.

VIKSAT has associated with government departments not only as an implementing partner but also a responsible collaborator to carry forward the development processes in the region. For example, VIKSAT has been actively working with the Forest Department for the promotion of wasteland development and Joint Forest Management (JFM), Water and Sanitation (WATSAN) programme with WASMO and Sector Reforms projects of the Government of Gujarat. VIKSAT is also a nodal agency for Gujarat, Diu and Daman for National Environment Awareness Campaign (NEAC) since 1986, supported by the Ministry of Environment and Forests, New Delhi.



The issue of climate change has refocused the attention on the receding forest landscape and the stake of the communities whose lives, livelihoods and well being is intertwined with the existence and protection of this valuable resource.

VIKSAT has time and again recognized the need to aware the communities by capacitating the taluka level federations, namely The Bhiloda Lok Van Kalyankari Sangh and Gadhwadha Jal Jameen Sanrakshak Sangh through providing information about the Forest Rights Act 2006. Information has been shared with these federations at Bhiloda (Sabarkantha) and Satlasana (Mehsana) about the provisions under the Act, the procedures to be followed for claiming the community and individual rights and filling the formats prescribed for the same.

### Joint Forest Management Programme

With the intervention of the Bhiloda Field office, the work of regeneration is being done through Tree Growers Cooperative Societies (TGCS) of Bhiloda Taluka of Sabarkantha district. As many as 77 TGCS were formulated. 56 TGCs were registered under the cooperative society act. Around 15000 hectare area of Forest Land is protected by collective efforts. On regeneration of the degraded forest people are getting Non Timber Forest Produce like the fodder, fuel, Timru leaves etc.

### Gujarat Forestry Development Programme

During this reporting period commissioned by GIZ, (the German Development Cooperation Agency), VIKSAT continued to provide the human resource as the Site Manager who works as an interface between the Forest department and the staff of the resource organization, responsible for implementation of the activities. The Site Manager provides mentoring support to the team members of the resource organization in proper planning and implementation of the various interventions viz -, capacity building training of the front line staff of the forest

department and training of the POs. The site manager also helps in preparation of assuring due diligence in the various processes to be followed during the preparation of the micro plans, facilitating the department in the monitoring of the field level activities etc.

### National Environment Awareness Campaign

Since 1986, VIKSAT, the Regional Resource Agency (RRA) for Gujarat, Diu & Daman, has been executing the National Environment Awareness Campaign (NEAC) sponsored by the Ministry of Environment & Forests (MoEF), New Delhi.

The aim is to involve multifarious sections of the society, like the Non-Governmental organizations, Schools, Colleges, Nature Clubs, Education and Training Institutions and similar institutions to forward the cause of environment education through use of multi media.



Out of the 875 requests for proposals received, 569 applications were sanctioned by MoEF for implementation in 2011-12. An amount of above Rs. 52 lacs was disbursed to the partner organizations in Gujarat, Diu and Daman.

The National Theme this year was "Forests for Sustainable Livelihood" which included Sub themes like Afforestation, Forest Conservation, Forest and Climate Amelioration, Forest for Water, Joint Forest Management, Agro/Social Forestry, Forestry in Urban & Peri Urban Area, Renewable Energy and Green India Mission.



### State Level Workshop

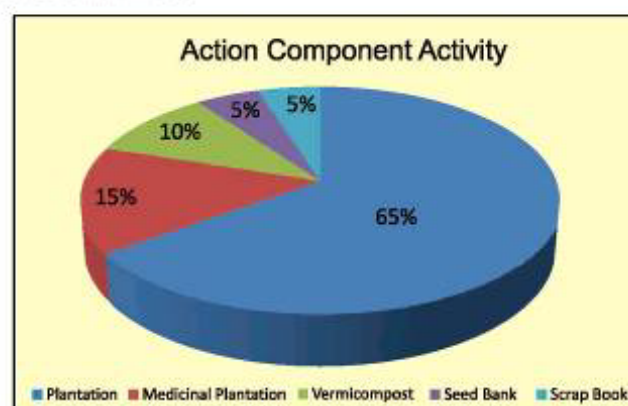
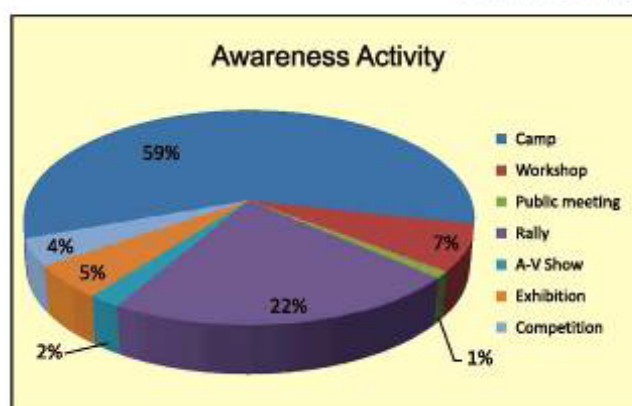
A State Level Orientation Workshops were organized as a prelude to implementation of the project by VIKSAT. The objective of the workshop was to spread awareness about the theme among the various partner organizations which would take forward the message to the individuals and society in their respective regions. About 515 participants participated in the workshops. The larger group was divided into three sub groups and three workshops were

undertaken to make them more interactive and effective.

All the workshops ended with disbursing funds to the various participating organizations for the implementation of the NEAC programme.

The total amount sanctioned by MoEF for Awareness and Action component under NEAC is Rs. 52, 90, 000/- in 2011-12.

### Activities implemented in NEAC



### Trainings to promote forest based livelihoods

To increase productivity of crops and explore other options of income generation, several capacity building trainings and workshops were undertaken, details of which are as follows:

#### Bee Keeping Training

An exposure cum training programme was organized during March 1<sup>st</sup> - 5<sup>th</sup>, 2012 with the financial assistance from NABARD for five days under Capacity Building for Adoption of Technology for the Small and Marginal Farmers of Mehsana district at Fanaswada and Navsari Agriculture University. 25 representatives of the farmers club of Mehsana district participated in the event.

#### Improved agri-practices

In order to increase the production of the crops, various trainings were organized on crops like Cotton, Fennel, Potato and Wheat wherein the farmers from two villages of Saltasana taluka were given the information of the improved agriculture practices. Training on Contract Farming for Potato was organized wherein the

PEPSICO. Ltd. company provided inputs to the farmers for the better production of the potato. Out of the 50 farmers who participated in the training, 3 have adopted contract farming in their farmlands.





## National Agriculture Innovation Project

Since 2008, VIKSAT has been addressing the issue of sustainable agriculture through application of agricultural innovations to support poverty alleviation and income generation. The strategy is mainly collaborative development and application of agricultural innovations by the public organizations in the partnership with the farmers group, the private sector and other stakeholders.



In collaboration with the World Bank and Government of India, Indian Council of Agriculture Research (ICAR) supported two projects a) *Integrated Project for Research on Development Process and Sustainability of Livelihood in selected disadvantage district of Gujarat State* b) *Value chain in major seed spices for domestic and export promotion* under the National Agriculture Innovation Programme. Both the projects are implemented with the joint efforts of VIKSAT and Sardar Krushinagar Dantiwada Agriculture University (SDAU).

## NAIP Component - II

The objective of the component II is a Production to Consumption System (PCS) ("a value chain" system in popular parlance) involving the entire set of actors, materials, activities, technologies, services, and institutions involved from the stage of supply of inputs to harvesting of a particular commodity and transforming it into a usable product, and storing / marketing of the final product. It also aims at quality maintenance and confirmation to the standards with respect to ASTA, ESA, and ISO.

Over the years, the project is being implemented in the Gonchad village of Sami taluka of Patan district for Cumin crop and in the Piludra village in Mehsana for fennel crop. The main activities are seed multiplication and distribution for large scale cultivation and capacity building programmes under extension activities such as farmer's workshop, trainings, demonstrations on farmer's field and formation of SHG's. During the year, 10 SHGs and 3 Farmers' clubs were formed in Sanali Cluster of Daanta Taluka of Banaskantha district.



Sr. No.	Name of Seed Production Programme	Total Farmer's Covered	Showing Area (ha)
1	Breeder to Foundation	04	6.47
2	Foundation to Certified	05	9.31
3	Other Seed Production Company (Certified Programme) Foundation to Certified	65	101.17
	<b>Total</b>	<b>74</b>	<b>116.95</b>



#### Seed Production of G. Cumin-4

The Cumin GC-4 variety was distributed in Gochnad village and around 74 farmers of Shri Mahashakti Farmer Club participated in the activity to cultivate 116.95 Ha. of land.

About 47,160 kgs of cumin was produced, yielding an income of about Rs. 72, 70, 800/- generated from selling the production as the seed.

Due to this programme, the farmers earned 20% more profit. Additionally, while in earlier days, GC-4 was available only in Beej Nigam, due to the seed village concept the seeds were locally available for improved production.



**Seed Multiplication and distribution for large scale cultivation:** Under seed multiplication and distribution activity, seed demonstration of GC-4, GF-2 & 11 was undertaken. A notable increase in the production of the seeds was observed in all the three villages.

Sr. No.	Village	Demonstration	Year 2010-11	Total No. of farmers	Increase in Production (%)
1	Piludara	GF - 2	10	04	6.47
2	Piludara	GF - 11	06	05	9.31
3	Gochnad	GC- 4	07	65	101.17
Total			23	74	116.95

#### Extension Activities

- VIKSAT carried out several capacity building activities like farmers' day, workshops, trainings

and demonstration on farmer's field in association with Centre for Research on Seed Spices, Jagudan and National Institute of Cooperative Management, Gandhinagar Research Centre in the project areas.

To equip the farmers with technical knowledge about farming of fennel and cumin, as many as nine training programmes were organized. Updated information about the newly introduced varieties of each crop type, agronomical practices, pest and disease control and other post harvest technologies related to Fennel and cumin crop were provided to the participants. To facilitate better market linkages, market rate, online marketing system, group marketing, brand name and similar topics on market intelligence was imparted to the fennel growers.



Sr. No.	Training Subject	Villages	No. of Farmers
1	Good Agricultural Practice of Fennel (GAP)	Piludara	38
		Samrapur, Himmatpura	24
		Anandbhakhari, Nanibhalu	27
2	Training on Record keeping of SHGs group	Gochnad	25
3	Good Agricultural Practice of Cumin (GAP)	Kharchadia , Mandvi	38
		Manpura , Sadpura	38
4	Training on Market Intelligence for Fennel growers	Samrapur , Bedsma	30
		Vasada , Nanibhalu	30
5	Farmers day	Nanibhalu	205
Total			455



**NAIP Component - III - Integrated Project for Research on Development Process and Sustainability of Livelihood in Selected Disadvantage Districts of Gujarat State.'**

This component focuses on technology led innovation systems encompassing the wider process of social and economic change covering all stakeholders. The component was undertaken in Sanali Cluster Villages Sanali, Hathi Pagla & Chota Bamodra Ta: Danta Dist : Banaskantha.

The activities mainly comprised of improved farming techniques like propagation of vermin compost technology, MIS –Drip irrigation, micro sprinkler, improvement of water harvesting and conservation structure.

The activities carried during the reporting the periods are as follows:

**Seed Village Concept**

To demonstrate increase in production and facilitate availability of good quality seeds at the local level, improved G.T 101 variety seeds of Pigeon pea (Area main crop) and G.W-322 and G.W-273 variety seeds of wheat were distributed to farmers.

The profit earned by the programme participants was 35% more in case of Pigeon pea and 50% more in wheat.

Other than replacing the local variety of seeds with improved variety leading to an increase in productivity, the programme also aimed towards crop diversification activity wherein the farmers were introduced others crops like wheat, pigeon pea and castor.

Sr. No.	Village	No. of Farmers	Variety	Total showing area (Ha)
1	Chhotabamodara	136	G.W-322	14.70
2	Hathipagla	66	G.W-273	13.20
3	Sanali	132	G.W-273	13.20
	Total	334		41.10



**Crop Diversification (Vegetable Farming)**

Information related to crops and its suitability in the water scarce conditions was provided to the farmers. Hybrid variety seeds of vegetable growing plants (area suitable crop) like brinjal, okra, chilli, guwar, corainder, cluster bean and fenugreek were distributed to 220 farmers cultivating 20.50 acres of land. Due to this intervention farmers earned 50% more income.

**Promotion of MIS**

To improve the productivity of irrigated land conserve scarce resources such as water and electricity, extend the benefits of irrigated agriculture to more people and facilitate better crop management, VIKSAT promoted water conservation technology. Sprinklers were installed in 12.54 ha of Chhota Bamodara village.

**Promotion of Horticultural Crops**

1200 saplings of mangoes & chikooos were distributed to 240 farmers of three villages.





### Animal Husbandry

To improve the health conditions of the cattle and generate awareness about primary health care for animals, 6 cattle camps were organized in Sanali, Chota Bamodara and Hathipagla village of Danta taluka of Banaskantha district.

### Training and Exposure visit

To impart information about the new and improved agriculture technology, trainings and exposure visits were organized wherein 371 farmers (298 male and 73 females) had participated. Topics such as agro forestry system for sustainable agricultural, cotton seed production, crop treatment of rabi crop, bio-gas and animal husbandry were deliberated upon. An exposure visit to the Krushi Mela was also undertaken.

### Ravine Land Development

With the objective of checking the further spread of ravines, prevent damage to the valuable tablelands and to work towards the stabilization of highly degraded and ravenous lands, a project "Enhancing Livelihood Options of Small and Marginal Farmers through Development and Management of Ravine Lands", was initiated by VIKSAT with assistance from Global Environment Facility (GEF)-United Nations Development Programme (UNDP), Small Grants Programme (SGP) in 2009.



The project encompassed three villages namely Kubda, Vansda and Nana Kothasana villages of Satlasana Taluka, Mehsana district, thereby bringing a total 67 ha. of degraded land, associated village communities and local institutions under its ambit.

Intervention during the project period was primarily aimed towards restoration and stabilization of ravines through appropriate soil and water conservation measures and improved vegetative cover.

With the intention of improving the governance of natural resources and ensuring the stabilization of the ravine lands, the tenure arrangements and village institutions in the form of Tree Growers Cooperatives Societies were strengthened.

The major focus areas of the project are:

1. Institution & Capacity Building
2. SMC & Other Interventions

During the reporting period the activities undertaken in this project were:

**1. Capacity Building** activity was carried in each village during the reporting period as follows:

Sr. No.	Topic	Participants		
		Male	Female	Total
1	Importance of Earthen Bund	35	25	60
2	Planning & Evaluation of	21	12	33
3	Project Activities	23	15	39
4		25	12	37

**2. Waste land development** activities were undertaken as follows:

Sr. No.	Activity	Area Covered (Ha)	Man days	Total Work
1	Earthen Bund	17.46	1058 cmt.	464
2	Plantation	17.46	10020 sapling	225
3	Nursery raising	-	3800 sapling	25
4	Watering & Maintenance	17.46	7613 sapling weeding	75



### Watershed Development Programme

For sustainable environment and better quality of human life, there needs to be a balance between the ecosystem and human system. In rural areas, livelihood and natural resources such as land, water, vegetation and livestock are inter-linked. However, in particular, the water resources are at risk due to the emerging threats of climate change. Rising temperatures and changing precipitation patterns have already reduced river flows, warmed surface waters and dried out wetlands. These impacts will likely continue, and other threats to environmental and public health is expected to materialize, including increased flooding and diminished quantity and quality of drinking water. Restoring ecological balance and increasing productivity in such regions necessitate undertaking all developmental activities on a watershed basis.

VIKSAT implements four watershed projects in Khedbrahma Taluka of Sabarkantha district. During the reporting year 2011-2012, in all, 553.29 ha were treated under this programme. Cumulatively, about 1270.95 ha of the land have been treated. 20 small water harvesting structures like checkdam, Nala plug, Gabions etc were constructed during the year 2011-12.

A journey through the watershed projects is as under....

#### Sembaliya watershed project

VIKSAT initiated watershed based interventions since February 2005 in 7 tribal dominated villages in the *Poshina* belt of Khedbrahma block of Sabarkantha district, Gujarat and in *Kotada* block of Rajasthan with support from NABARD under its Watershed Development Fund (WDF) programme. The patient and consistent efforts have resulted into completion of the several phases. The reporting year is the third year of the 'Full Implementation Phase (FIP)' spread over four years covering watershed area of 1240 Hectares. So far, treatment measures have been

undertaken in 852.85 ha. of land of which 215.51 Ha. was covered in the current year where in 'shramdaan' (contribution of voluntary labour) worth Rs. 4,12,852/- has been done.



#### Navamota Watershed Project

The Navamota watershed project intervention started from the year 2008 in seven tribal dominated villages in Khedbrahma block of Sabarkantha district, Gujarat with support from NABARD under its Indo German Watershed Development Programme (IGWDP) and financial supported by KFW, Germany.

The reporting year, is the second year of the 'Full Implementation Phase (FIP)' spread over four years covering watershed area of 898.92 Ha. So far, treatment measures have been undertaken in 332.95 ha. of land of which 252.63 Ha. was covered in the current year where in 'shramdaan' (contribution of voluntary labour) worth Rs. 1,01,765/- has been done.





## Income galore

A case study

A story from Ratanpur Watershed Project Area

A leap of 5.67 times in income....! Parmar Devabhai Nathabhai and his three brothers from village Navamota had all reasons to be happy and vibrant. They can now plan to invest their additional income to deepen and strengthen the well and install micro irrigation system for efficient water management. VIKSAT is facilitating Ratanpur Watershed Project supported by Indo German Watershed Development Programme (IGWDP), NABARD since April 2011. Devabhai's field was included for area treatment under Capacity Building Phase. Earthen bunds, stone bunds and gully plug in the 0.8 Ha. of undulating land was constructed.

Sr. No.	Treatment	Quantity	Unit	Amount Rs.
1	Earthen Bunds	87	Cubic Meter	3170
2	Stone Bunds	48.80	Cubic Meter	13043
3	Stone Outlets	3	Nos.	912
4	Gully Plugs	3.60	Running Meter	1503
Total Earnings Rs.				18628

This led to improvement of water & soil conservation in their field. Under CBP, an amount of Rs 18628/- was received. It was collectively decided that the money would be spent for well deepening, particularly towards cost of blasting, while the rest is labour work, would be carried out without any cash outflow. They took the risk



of investing all this hard-earned money and their labour to remove stones and earth during the process of deepening by 3 meters. The cropping pattern was also altered to maximize the benefit of water available for irrigation. In half of the land, that is 0.4 Ha, they went for producing cottonseed which fetched them net income of Rs 164000/-. For food security, they also cultivated Maize, Pigeon-pea as Kharif crops and Wheat and Green Gram as Rabi crops. The total net income is estimated to be around Rs 1, 93,800 during the year 2011-12 as against their net earning of Rs 34, 200/- during the preceding year.

Needless to add, the drinking water accessibility has also increased. Earlier, they had to walk a distance of 500 meters to access the drinking water. And now it is at their door step! In addition, they also supplied water for irrigation in the surrounding five hectares land where the farmers have sown wheat. In return, Devabhai and his brothers got 25 percent of wheat production in this five-hectare land. They got 20 quintals of wheat worth Rs. 24,000/- from sale of water to neighboring farmers.

### Ratanpur Watershed Project

The Ratanpur watershed project intervention started from the year 2010 in five tribal dominated in Khedbrahma block of Sabarkantha district, Gujarat with support from NABARD under its Indo German Watershed Development Programme (IGWDP) and financial supported by KFW, Germany. The Ratanpur watershed project is having total geographical area of 1576.99 ha and covering 1233 families with a population of 7667. The delineated watershed area is 1073.26 Ha.

During the reporting year, CBP work in 95.9 ha was selected on the basis of ridge to valley approach. This area is on upper reach of watershed. While planning for CBP, consent of

community and technicality of the area was kept in mind. To convey the message across the watershed area and to create enthusiasm among the community, Gramsabha was organized for starting the CBP area work in which around 300 persons including women had participated.





### Matarwada Watershed Project

The Matarwada project intervention started from the year 2011 with support from NABARD under its Indo German Watershed Development Programme (IGWDP) and financially supported by KFW, Germany. The Matarwada Watershed Project is located in Khedbrahma taluka of



Sabarkantha District, Gujarat. The Matarwada watershed project is having total geographical area of 2436.40 ha and covering 1219 families with a population 7235. The delineated watershed area is 1164.63 Ha. The project area is spread over four villages.

The Matarwada projects have qualified and awaiting approval for the next phase of

capacity building. During the reporting year 2011-12, in Chhochhar and Ganer villages, 190 families participated in Shramdan and contributed 616 person days worth Rs 49,544/- .

The activities undertaken included de-silting of the check dam in Chhochhar village and farm pond constructed in Ganer village. In the Matarwada watershed project, 381 families participated in shramdaan and 1368 days worth Rs. 1,20,466/- was contributed.

After the completion of shramdaan, the area of 100.89 ha was selected for CBP on the basis of ridge to valley approach. A gramsabha was organized to convey the message across the watershed area and create enthusiasm among the community for starting the CBP work. In the Gramsabha, 250 persons including women were participated.

During the reporting year, 18.08 (17%) CBP work is completed and rest of work will be completed in next year (CBP sanctioned in May 2011). The shramdaan worth Rs. 8,038/- was done.

The details of the work done under the FIP in Sembaliya and Navamota and the CBP in Ratanpur and Matarwada watershed project is shown in the table below.

### Physical achievement in watershed development programme in 2011-12

Sr. No.	Activities	Unit	Sembaliya	Navamota	Matarwada	Ratanpur	Total
	Stage of Project		FIP	FIP	CBP	CBP	
	Crop Cultivation (CC)						
1	Farm Bund (FB)	Cu.mt.	12690.41	8855.56	733.42	1710.19	23989.58
2	Stone Outlets (SO)	No.	66.00	276.00	3.00	51.00	396.00
3	Stone Bund (SB)	Cu.mt.	559.38	1356.07	86.43	827.79	2829.67
4	Plantation on bunds	No.		4600.00	1585.00	0.00	6185.00
5	Stone Gully Plugs (SGP)	R.mt.	273.15	70.66	0.00	164.90	508.71
6	Water Absorption Trench (WAT)	Cu.mt.	88.19	0.00	0.00	0.00	88.19
7	Agava Plantation	No.	5000.00	5000.00	0.00	800.00	10800.00
8	Gliricidiya & Other Plantation	No.	6000.00	0.00	1000.00	1000.00	8000.00
9	Grass seeding	Ha.	3.53	24.38	0.00	12.90	40.81
10	Strengthening of SHRAMDAN bunds	No.		0.00	1.00	0.00	1.00



### Lessons learnt

1. Since most of the farmers participating in the programme are small and marginal, they do not prefer earthen bund as it occupies more space due to more bottom width of bund. They prefer stone bunding which occupies less land and offers long term benefit. The earthen bund might collapse in monsoon due to sandy soil, higher slope and high intensity of rain fall.
2. NGO facilitation being a new experience for

the community, the people are at times skeptical about the motives of the field team members but through continuous interaction and transparency in the processes, the peoples' participation is improving.

3. Integration of agriculture, animal husbandry and livelihood activities would be taken in FIP of watershed project In all the watershed projects, the village watershed committees that are primarily responsible for implementation of project measures, are formed.

### Forest Area Development

During the reporting year, 50 ha. of forest area in Navamota watershed development project with support by IGWDP - NABARD and cumulative 317.24 ha forest area was treated in Sembaliya and Navamota watershed development programme

### Physical achievement in Forest area

Sr. No.	Activities	Unit	Sembaliya	Navamota	Total
1	Continuous Contour Trenches (CCT)	Cu.mt.	88.19	115.04	203.23
2	Earthen Gully Plugs (EGP)	Cu.mt.	0.00	9.60	9.60
3	Stone Gully Plugs (SGP)	R.mt.	0.00	24.30	24.30
4	Stone Bund (SB)	Cu.mt.	267.68	145.55	413.23
5	Grass seeding	Ha.	15.60	0.00	15.60

### Community processes for watershed development

#### Participation, capacity building and transparency

In watershed development programme, it is essential that not only the Private Property Resources but also the Common Property Resources are developed, managed and maintained with active involvement of the local community. For this to happen, it is highly important that every stakeholder in the watershed accepts and implements the recommended management plan and is involved in the planning, implementation and maintenance phases of the project.

To increase participation, several groups like village watershed committee, user groups, self help groups, farmers club, Women federations etc. are formed with due representation of all castes. Activities are planned and implemented with the help of these groups to take care

of the maintenance and sustainability of the activities. In watershed development programme, we have formed several groups to increase the participation and involvement of each stakeholder. In watershed projects, 14 Village Development Committee (VDC) covering 164 members, 34 Self Help Group (SHGs) covering 404 women members, 11 Farmers club (FC) covering 230 members and 3 women federations covering 40 SHGs have been formed. To increase credibility, ensure accountability and transparency of the system, the payments are made directly to the people in presence of community members and leaders.

Around 36 meetings were held, including organizing Gramsabha and awareness generation meetings to generate popular opinion and examine watershed project activities in relation to the peoples' development



priorities. In these meetings, 1,301 people, including 1,021 males and 280 females of 18 villages had participated. The Village Watershed Committee conduct meetings every month.

### Eye check up camp

An eye check up camp was organized at Delvada village group gram panchayat building on 18 Feb 2012. Atmavallabh Eye Hospital from Idar, run by the trust, provided medical support. Around 234 patients participated in this camp.



### Exposure visits

Three exposure visits of farmers of watershed development project were organized to get oriented to other watershed programmes.

The farmers of Ratanpur and Matarwada visited to Panchwada Watershed in Jasdan Taluka in Rajkot District. The farmers interacted with the VWC members and visited some of the water harvesting structures (check dams) constructed on Bhadar River. They also visited the Social forestry developed on common land, Gaushala, the dairy development programme at Virnagar village and interacted with SHG members. They visited the WADI (horticulture) programme at Jambur village at Talala district of Junagadh and Mpkarsar village in Chotila of Surendranagar district. The participants contributed 70% of the cost of exposure visit.

The village watershed committee members and farmers of Navamota watershed project visited Lachakadi in Gujarat and Ralegaon Siddhi, HiveryBazar and WOTR organization in Maharashtra. The participants were inspired to



see the dynamic leadership amongst the VWCs, the social processes combined with technical interventions and the fruits of success contributing to the overall development of the project areas. The participants contributed the 77% cost of total exposure visit.

### Agriculture Development under watershed

Agriculture requires a lot of investment in adopting new technologies especially in the low rainfall regions where water plays an important role in production. Farmers facing poor economic conditions find it difficult to adopt such technologies. High initial investment, improper technical support, inaccessibility to these input sources and its knowledge hinders the implementation of these technologies.



VIKSAT has promoted the agriculture development with support of IGWDP through providing the horticulture plant (2550) like mango and sapota, compost pit (17), vermi compost (32), ber grafting (810), crop demonstration (40) on cotton and maize and Lucerne fodder demonstration (30).



## Crop Demonstration

VIKSAT carried out maize and cotton demonstrations in three watershed development projects under IGWDP. Five demonstrations of half acre on Maize and Cotton were taken in each of the watershed projects. These demonstrations helped in proving useful for promoting sustainable agriculture production. Across the

three watershed areas, the average net income has been significantly higher demonstration plots for all both the crop types. displays the results of crop demonstrations. Across all the three watershed project areas, there has been significant rise in income due to improved seed variety and PoP.

Name of Project			Navamota		Ratanpur		Matarwada	
Sr. No.	Details		Maize	Cotton	Maize	Cotton	Maize	Cotton
1	No. of Plots		5	5	5	5	5	5
2	Total Plot Size (Ha)		0.20	0.20	0.20	0.20	0.20	0.20
3	Total Production of all plot(Kg)	Main	2005	2080	2045	2060	2600	2480
		By product	2870	1550	2920	1520	3400	1720
4	Average Production (Kg/Plot)	Main	401	416	409	412	520	496
		By product	574	310	584	304	680	344
5	Average Cost Rs./plot		3600	9000	3600	9000	4500	9200
6	Average Income [Rs/plot]		6200	18200	6320	18025	7250	20000
7	Average Net Income Over inputs[Rs/Plot]		2600	9200	2720	9025	2750	10800
8	Average per Ha		2005	2080	2045	2060	2600	2480
9	Cost Benefit Ratio		1:1.72	1:2.02	1:1.76	1:2.00	1:1.61	1:2.17

## Livelihood, Drudgery reduction and other activities

30 chaff cutters given to farmers to reduce the wastage of fodder and 125 transparent sheets on



roof were provided for improved light conditions in the kitchen and better environment. The common bath rooms with soak pit were constructed particularly for women as an essential facility for the personal hygiene. This will promote personal hygienic and care.

## Impacts (Sembaliya watershed programme)

### Water security

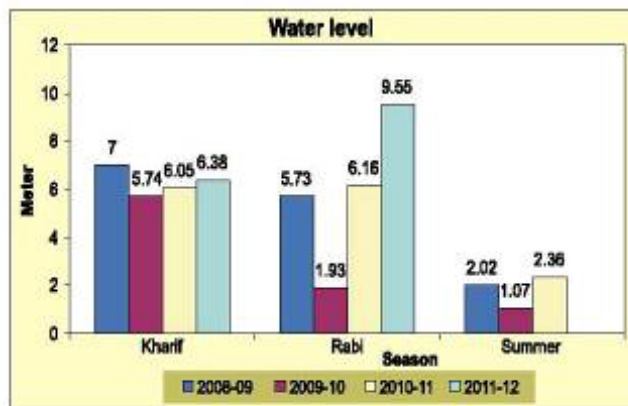
There has been an increase in the source of irrigation facilities (15.7%), drinking water sources (9.20%) and irrigation implements (39%). 20 small water harvesting structures have been added in the area. Three farmer groups comprising of ten farmers each, have adopted the 'state-of-the-art' micro irrigation systems (MIS).

The area has recorded an increase in duration of water availability in the water bodies (as much as 5.3% days/yr). The number of days per year for potable water availability has also increased from 240 to 280 (16.6%days/yr.).

### Rise in ground water table

The SWC measures helped rainwater to infiltrate into the soil thereby gradually increasing the groundwater. The water level shows significant change due to the rainfall received coupled with the SWC measures.



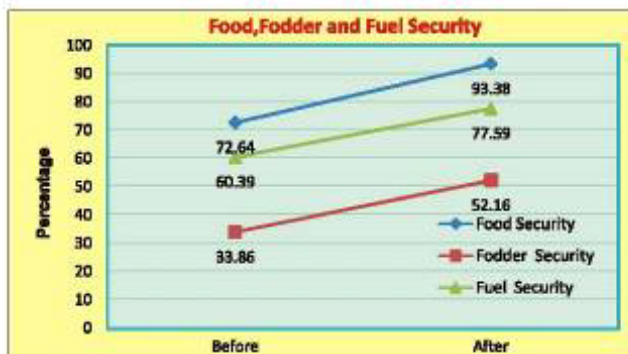


### Decrease in Soil Erosion

In the year 2007-08, meager 8.34% of private land was erosion free whereas now, 71.63% land has become erosion free due to watershed development. In case of common land, it has risen from 0 per cent to 75.2%.

### Economic Benefits

The various measures implemented through watershed program have improved food, fodder and fuel security over a period time. In 2007-08, per capita food secured was only 72.64% against



requirement, while the food security increased significantly to 93.38 % in 2011-12. The fodder security increased from 33.86% in 2007-08, to 52.16% in 2011-12. The fuel security increased from 60.39% in 2007-08 to 77.59% in 2011-12. The increase is mainly due to increase in cotton and cottonseed cultivation and recently introduced castor crop in the area.

### Agriculture economics

There was net increase in production and income per hectare. The increase was noted in gross (152%) as well as net income (82%) of production and resultant income per hector of land. The productivity has increased by 18%. In cropping

pattern, pulse crop has decreased by 28.8% while cereal crop has increased by 5.4%. Cultivation of cotton as a cash crop has reduced by 20%, but oilseed (castor) production has significantly increased in the area.

### Environment

There is a notable improvement in the land use pattern as seen in the following table. With the increase in the water availability for irrigation in wells as well as Sabarmati River due to above normal rainfall during 2011 monsoon, there is an increase of cultivated area during Rabi and summer season leading to increase in vegetative area and thus reflecting on better environment. There is a decrease in area under single crop by 23.2%. The area under two crops (Kharif and Rabi season), long duration crop and three crops (Kharif, Rabi and summer season) has increased by 19.9%, 144.2% and 11.78% respectively, thereby increasing the vegetation cover by increasing the cropping intensity from 174.1% to 187.9%, in private landholdings.

### Watershed Plus

Watershed Plus is a visionary project that acts as a crucial link to ensure that the benefits reaped due to successful watershed interventions in Sembaliya project area are capitalized upon to improve the socio economic conditions of the people inhabiting the area. Under Collectives for Integrated Livelihood Initiatives (CINI), efforts are undertaken to enhance the resilience of the tribal community in Khedbrahma block, Sabarkantha district, with the support of Sir Ratan Tata Trust (SRTT), Mumbai.

With CINI's interventions, VIKSAT has developed partnership with John Deere Foundation (JDF) for MIS Promotion in all the four watershed projects in Khedbrahma Block for the year 2011-12. The project is technically supported by John Deere Water (JDW) and is monitored by United Way of Mumbai (UWM). The programme has been initiated in the Sembaliya Watershed project area in 2009-10. Guided by the progress and outcome, the project was extended to the surrounding villages.



The MISSAL project will support 300 beneficiaries and will cover 110 ha area under MIS within next five years. On pilot basis, 7 MIS were installed in 6.05 ha of land and 20 farmers were benefitted from the same.

### **MISSAL... a novel beginning**

The project inauguration programme was organized at VIKSAT, Ahmedabad on 25<sup>th</sup> August 2011 and chaired by Dr. M. S Swaminathan, the father of Green Revolution in India. He inaugurated the MIS promotion project named as MISSAL - Micro Irrigation System for Sustainable Agriculture and Livelihood and released the brochure. Mr. Ashwin Ramani - Regional Director - India John Deere Water, Mr. Arun Pandey -Assistant General Manager - John Deere India Pvt Ltd, Secretary, MoEF, New Delhi, VIKSAT Council of Members of Management Committee and staff members were present for the inauguration.

It is interesting to note that most of the farmers selected for the intervention, cultivated vegetables for commercial selling which is a new experience for the farmers of the area.

### **Project launching workshop**

On 13<sup>th</sup> March 2012, a project launching workshop was organized which saw a participation of as many as 1500 farmers from 18 project villages and a few more surrounding villages. The Joint Managing Director - G.G.R.C, Director presided as Chief Guest. MISSAL was launched by inaugurating one MIS installed under the pilot phase. The Director, District Rural Development Agency, Sabarkantha, participated



as the Guest of Honour and launched MARCH project. Representatives from NABARD, Reserve Bank of India (RBI), national and local banks and from agencies like JDF, JDW, UWM were also present to interact with the masses. Experts from Krishi Vigyan Kendra (KVK) also provided technical inputs to the farmers.

### **MARCH... marching towards glory**

A Resource Centre, named as MARCH - Multipurpose Agriculture Resource centre for Holistic development has been started to increase the accessibility of the farmers to agriculture related knowledge in the surrounding villages. It will also invest into capital equipments available to be hired by the farmers to reduce their drudgery and improve crop productivity. To ensure that the farmers receive good quality equipments and other inputs on time and at reasonable price, the centre intends to purchase low cost equipments, seeds, fertilizers etc on large scale. The centre will provide trainings and facilitate farmers' interactions with Agriculture and Animal Husbandry scientists and work as a crucial link between government and the people so that tribal community can take best advantage of the government schemes promoted for their development and welfare. The centre will have its own governing body. The Village Watershed Committees will elect office bearers of the governing body thus empowering People's institutions. However, VIKSAT will continue to play an important role in the development and management of the centre.

### **Capacity Building on MIS**

A two days' exposure cum training programme on Micro Irrigation System was organized at Amabaji, Banaskantha district in which 40 beneficiaries had participated. The major outcome of this training programme are:

- 30 farmers have shown interest to adopt MIS
- Increased awareness on MIS
- Farmers became aware on best practices for vegetable farming
- Three farmers expressed their interest for vegetable cultivation



### **Vegetable cultivation for marketing on a commercial scale**

This was the first occasion in the area that seven farmers, all of the beneficiaries of currently installed MIS, cultivated vegetables on a commercial scale. This has been possible only due to installation of MIS in their fields. The farmers have sown Okra, Cluster beans, Brinjal and Chilly on commercial basis in 0.8 ha land. It is expected that this initiative would increase their income on a significant scale. Mostly in summer, most farmers in this area are not able to cultivate any crop due to inadequate availability of flood irrigation water. The farmers are happy and looking forward to reap handsome reward of their investment in MIS during the next quarter by the way of income generation from the sale of vegetables.



### **Community Capacity Building**

One of the corner stone of the success of the watershed programmes in North Gujarat may be attributed to intense dialogues with and mobilization and capacity building of the community. The frequent meetings, trainings & exposure visits have helped in building the outlook of the community members who have become pro learning and receptive of the happenings in the world beyond their tribal belt area. About 18 meetings in the watershed project (supported by NABARD) and 8 meetings in watershed Plus project (supported by SRTT) was organized.

### **Awareness and village level meetings**

To discuss about the progress of activities undertaken in the watershed and watershed plus

project supported by SRTT, incorporate suggestions from the participants, facilitate selection of beneficiaries for several activities under the projects, formation of user groups, collection of beneficiaries' contribution, sharing of demonstration results and success stories etc., several awareness programmes and village level meetings were held under Watershed Plus and Watershed Project.

### **Skill building trainings**

About 669 participants benefitted from the field day of cotton crop under watershed plus project, silage preparation and urea treatment training and adult literacy classes.

### **Cotton Field day Celebration**

In the Kharif- 2011 season, to improve the cotton crop productivity, six demonstrations using Bt cotton variety (MRC-7301) were conducted in five villages on 0.5 acre plot each. Inputs and scientific guidance was provided to all the six farmers. Out of these six farmers' plots, one plot was selected for Field Day Celebration as the crop growth of Cotton was impressive with higher number of side branches and higher number of balls per plant as compared to other demonstration plots.

During the field day, Farmers observed that the cotton crop had bigger and fully developed balls having range of 55 to 85 balls per plant as compared to local cultivar having range of 30 to 44 balls per plant. Some of the plants were having 100 plus balls. The color of the cotton was whiter as compared to the local cultivars. The farmers expected an increase in production by 5-6 qt. per half acre in the demonstration plot as compared to 3-4 qt from the other local varieties in the surrounding fields. In the first two pickings, the farmer got 4.2 qt production from demonstration plot.

### **Silage preparation and urea treatment**

Silage is very palatable to livestock to feed at any time and it has long shelf-life without getting deteriorated. Similarly, when green grass / fodder are scarce, urea treated straw is a good



alternative during the dry season from May to July. It increases milk production with a range of 0.5-1 litres per animal and improves fat percentage too. Other advantages such as decrease in wastage of fodder, improvement in breeding efficiency, healthy shining coat of the animals, decrease in cost of milk production etc. also cumulate the net profits.

### Adult literacy training

The initiative of starting adult literacy grew out of the difficulty faced by some of the newly formed SHGs when they approached the local bank to



open savings account. The office bearers of these groups were illiterate and were unable to write or sign the papers. Within a period of six weeks of attending classes, twenty-two women out of forty five participants, became literate and could read and write simple texts. They took pride to be able to open and operate their bank accounts replacing the use of thumb impression by signing.

### Improved Agriculture and Allied Activities

With the support of SRTT, a multifarious improved



agriculture and allied activities were carried out. Crop demonstrations (cotton, castor, pigeon pea & green gram) & distribution of seed kits (cotton, castor & wheat) were organized.

### Cotton demonstrations

Seed Variety: - MRC-7301 BOL-II In the project area, cotton and cotton seed cultivation is getting more & more popular being a cash crop, giving attractive returns in comparison to the traditional crops such as maize & pigeon pea. Each farmer carried out demonstration on 0.5-acre land area. The yield data revealed that the average production of cotton was 10.88 quintals per acre or 27.23 qtls per hectare. The average net earning worked out to be Rs 29765 / acre or Rs 74415/Ha. In addition, fuel wood production was 2.17 qntls / acre or 5.43 qntls / ha.



### Castor demonstrations

Seed Variety: - GCH-7 Castor is another cash crop where replication rate is impressive. VIKSAT introduced this crop during 2009-10 through a few demonstration plots. The sudden jump in the income of these beneficiaries drew attention





of many farmers. In this year, around 100 farmers cultivated castor. Five demonstration plots were undertaken on 0.5-acre area each. The average yield worked out at 28.40 qnts / ha and net income Rs 57330 / ha.

#### Pigeon pea demonstrations

Seed Variety - GT-100 Pigeon pea is cultivated in the area, generally as a mix crop with Maize, usually for domestic consumption as a part of food security. Six farmers participated in the demonstration, five from Dantiya and one from Sembaliya. Each farmer carried out demonstration on 0.5-acre land area.

The average yield worked out at 16 qnts / ha and net income Rs 28918 / ha.

#### Green gram demonstrations

Eight farmers from five villages undertook demonstrations on 0.5-acre land area each. The crop was harvested during the current year and the results have revealed that the average yield is 9.02 Quintals per Hectare against average yield of 8.59. The net average income of these eight farmers is Rs 26,145/-.

In spite of the crop being partially affected at flowering stage, by yellowing of leaf and jassids / thrips, the yield was higher.

Sr. No.	Details	Name of Crop			
		Green Gram	Castor	Cotton	Pigeon pea
1	Variety	Gujarat Green Gram 4	GCH-7	MRCH - 7301 Bol II	GT-100
2	Total number of Farmer	8	5	4	6
3	Total No of Village	5	2	4	2
4	Plot Size (Acre)	0.5	0.5	0.5	0.5
5	Total Area(Acre)under Demonstration	4	2.5	2	3
6	Average Grain Production qtl/ plot	1.82	5.68	10.88	3.20
7	Average fodder/Fuel Production qtl/plot	0.725	1.26	2.18	1.42
8	Total Cost Rs./plot (only Inputs)	2821	8894	18352	6763
9	Total Income [ Rs/plot]	8102	20360	48118	12547
10	Net Income Over inputs[ Rs/Plot]	5281	11466	29766	5784
11	Cost Benefit Ratio	1: 2.9	1: 2.3	1: 2.6	1:1.85

#### Distribution of crop seed kits

Seed kits of cotton, castor, green gram and wheat were distributed to 82 farmers to compare the performance of the popular conventional varieties against the newly introduced high yielding varieties along with information about the improved PoPs like use of bio-fertilisers, weedicide, nutrient management, timely irrigation schedule and so on.

Sr. No.	Name of Crop	Variety	Germination Percentage	Total number of Farmer	Total No of Village	Plot Size (Acre)	Average Grain Production qtl/ plot	Average Grain Production qtl/ Ha
1	Green Gram	Gujarat Green Gram 4	93.26	30	4	0.50	1.70	8.50
2	Castor	GCH-7	92.00	15	5	0.50	3.77	18.85
3	Cotton	MRCH- 7301 Bol II	92.66	15	4	0.50	4.2	21.00
4	Wheat	GW- 366	94.42	22	5	0.50	7.32	36.59



### Replication of various crops in Sembaliya Watershed Programme

In 2011-12, similar crop demonstrations and seed distribution were undertaken. As an indicator of the success of the programme, 183 farmers undertook replication of crop in 94 acre of land. A summary of the same is as follows:

Sr. No.	Name of Crop	Variety	No. of Demo./ Seed Kit in Year 09-10	Replication in Year 10-11		No. of Demo./ Seed Kit in Year 10-11	Replication in Year 11-12	
				No. of Farmers	Area cover (acre)		No. of Farmers	Area cover (acre)
1	Cotton	MRCH 7301	5	59	28	6	67	34
2	Castor	GCH- 5 & 7	5	16	9	4	28	15
3	Wheat	GW- 366	23	74	42	50	88	45
	<b>Total</b>		<b>33</b>	<b>149</b>	<b>79</b>	<b>60</b>	<b>183</b>	<b>94</b>

### Soil and Water Conservation

#### Well deepening and well strengthening

During the reporting year, three wells from Sembaliya, Umbarva and Delwada villages respectively, were deepened. One of the wells,



that remained mostly dry prior to deepening, recorded an average 2' water table. After the successful monsoon in 2011, a good amount of water has been observed in the well. Two wells were strengthened during the year to prevent them from crumbling during heavy rains. This also reduces the cost of cleaning the debris of the wells.

#### Kharif Maize Stabilization

It is important to note that Gujarat government is promoting hybrid seeds in the area, which gives higher production only under favorable conditions such as adequate irrigation and fertilizers. Since, in this area, maize cultivation is mainly rain fed farming, under KMS programme, composite variety of Maize seeds are promoted

which also gives comparable production under favorable conditions and the production is not



drastically affected by the unfavorable conditions such as lack of irrigation during dry spell in the frequency of rainy days. Further, the farmers become self reliant for their seed requirement as they normally preserve fully grown maize grains as seeds for further use during the next sowing season which is not possible for hybrid variety. In addition, the farmers become dependent upon private seed marketing companies for their seed requirement for the next sowing season.

CINI is working towards stabilizing the production levels of maize through promotion of improved cultivation practices, adoption of quality seeds and promoting village institutions for long term management of the resources. In 2008, CINI launched a programme on Kharif Maize Stabilization, to ensure year round food sufficiency for tribal households living in the Central Indian region.



### Training Programmes under KMS Project

During the reporting year, 4 Village level trainings were organized to inform the farmers about the standard package of practices for maize cultivation under KMS programme. These included knowledge about appropriate plough time, use of proper decomposed farm yard manure and best application practice, seed variety and rate per acre, fertilizer application, seed treatment, soil testing, use of nutrients, optimum plant population, application of pesticide and fungicide, life saving irrigation at critical stage, intercropping with pigeon pea, cotton etc



### Field Schools for Maize under KMS Project

Three rounds of Field school were organized as per the requirements of land. The first round focused on land preparation, application of micro nutrients (Zinc Sulphate, Boron), chemical fertilizers (DAP UREA), seed treatment, seed rate and sowing methods. The second round provided information about the inputs and actions required by the farmers during the rest of the period until harvesting, for e.g, pest and disease management. The final round focused

on the requirements of the harvesting time, like harvesting methods, storage of food and seeds and intercropping.

### Exposure visit

An exposure visit was organized during 4-6 October 2011 at maize Research Center (MRC), Godhra and Sadguru Foundation, Dahod with the objectives to impart knowledge on maize seed cultivation and to motivate farmers for cultivation of maize seed. The training and exposure programmes befitted 586 participants from the project areas.

### Maize demonstrations

Under the 'Kharif Maize Stabilization (KMS) project supported by CINI - SRTT, demonstrations in maize varieties were undertaken.

Seed Variety - GM - 2 and GM - 6: In the project area, people generally prefer yellow color grains whereas the tribals of Dahod, Panchmahal etc. prefer white grains. The seed variety GM-2 was used for 120 demonstration plots of yellow grains and GM-6 for white grains (17 demonstration plots). In all, 137 farmers participated in the Maize demonstrations. All the demonstrations were under the rain-fed farming condition. Since people prefer mix crop, the demonstrations offered flexibility for farmers to opt for single crop or mix crop. The cost benefit ratio revealed that the farmers got 30 to 40 % more production as compared to the local cultivar. Further, in terms of income earning, it is escalated by 28 to 37 percent.

Variety	Production of Demo. Kg/Ha	Prod Local check Kg/Ha	Cost of Inputs Demo Rs	Cost of Inputs in Local check (FP)	Gross Income Demo. (Rs)	Gross Income Local check (Rs)	Net Income Demo. (Rs)	Net Income Local check (Rs)	C:B Ratio
GM-2 Single	2823	2025	1405	750	28232	20250	26827	19500	1:1.37
GM-6 Single	2664		1465		26640		25174		1:1.29
GM-2 mix	1428	1075	1405	750	14287	10750	12882	10000	1:1.28
GM-6 mix	1442		1465		14422		12957		1:1.29

### Learning

The programme was well received by the community. Making a few more trials of this programme during the successive years will help the whole community to learn & practice scientific method for maize cultivation. This will also help to adopt scientific cultivation practices for other crops as well.



### Umbrella Project for Natural Resource Management UPNRM

UPNRM is a loan based project that provides customized, easy and cheaper loan to the community members through the SHGs and Farmers' Clubs (FCs) to promote and sustain livelihoods based on management of the natural resources. The peoples' institutions play an important role in identification of activities to be promoted, selection of beneficiaries and grass roots management of the activity. In 2011-12, 125 SHGs and 29 FCs benefitted from the project. The project has provided financial assistance of around 2.26 crore to 811 people of these institutions. Majority of the programme participants are women farmers (43%). Women being mainly associated with animal husbandry, the

Peoples' institutions	Number	Loan disbursed	Loan Outstanding	Loan Repaid	No. of Members benefited
Number of SHGs availed loan	125	17786000	7180615	10605385	657
Number of FCs availed loan	29	4855000	3355000	1500000	154
<b>Total</b>	<b>154</b>	<b>22641000</b>	<b>10535615</b>	<b>12105385</b>	<b>811</b>

trend shows that majority of the loans were taken for milch animal (46%). Apart from animal husbandry, loans are also accessed for cultivation of cash crops like castor, cumin, fennel, groundnut, cotton etc. Cash crop cultivation in the villages is mainly dependent on traders and input-sellers. The input sellers and agents controls the informal credit market that provide credit in high interest rate and also purchase produces in pre-conditioned prices, which indicates towards high rate of distress selling of produces.

The following table provides the details of activities supported under the project.

Activities	No. of borrowers	Male	Female	Amount disbursed
Milch Animal	372	43	329	9293500
Cash crop	277	168	109	8325000
Cereal crop	12	8	4	128500
Irrigation system	75	21	54	2501000
Land Development	25	1	24	869000
NRM Based Enterprise	3		3	925000
Food security	30		30	291000
Fodder Development	9		9	90000
Miscellaneous	8	1	7	218000
<b>Total</b>	<b>811</b>	<b>242</b>	<b>569</b>	<b>22641000</b>



### Asset creation

The project helped in creating a large numbers of productive assets in the villages and has contributed towards increase in the number of families owning buffalos.

The dairy is an established source of livelihood in Gujarat providing regular and secured income to families; but due to lack of credit availability, the poor households were unable to purchase the animal. The increase in milch animal substantially contributed towards increase in total milk production in the villages. While this increased the income, this also improved the nutritional status of the children and women in the poor households.





The project is economically empowering the women by helping her to create assets and establishing ownership on income earned from it. Animals are the assets owned by women and now women have an increased control over the income earned from the milch animal.

Asset developed	No.	Loan amount	Borrower's contribution	Total worth
Buffalo	255	7300000	2585200	9885200
Cow	86	2150000	1947700	4097700
Goats	10	30000	11000	41000
Lambs	20	60000	15000	75000
Bullock	1	20000	15000	35000
Diesel engine	18	810000	415900	1225900
Dug well	19	546000	988400	1534400
Pipe line	34	1530000	565500	2095500
Flour mill	3	100000	25000	125000
Camel cart	2	25000	22600	47600
Bullock cart	3	40000	25750	65750

### Insurance

All the borrowers were covered with life insurance and all insurable assets. Inclusion of insurance in

the project also sensitized community about financial security and risk mitigation strategies in livelihood.

Insurance	Project contribution	Borrower's contribution	Total insurance
Life insured	31850	75166	107016
Asset insured	0	230675	230675

### Community capacity building

The activities have helped in generating awareness, preparing community for loan based development programme, for best utilization of loan amount, learning from others' experience to understand the best practices on livelihood activities.

Different activities are carried out for capacity building of the SHGs and its members. In every month at least one meeting is organized in each village and the SHGs are provided required assistance in operating the group. Apart from this, additional capacity building activities are carried out for generating awareness, building specific skills and for educational and motivational purpose.

In the year, 45 awareness meetings, 32 training programmes and 17 exposure visits were organized. Through these activities cumulatively 3890 people were inducted with the purpose, objective and benefits of the project.

Throughout the year, out of the 94 different activities/events undertaken in the four districts, the field offices of Bhiloda (26) and Satlasana (25) were leading the rest followed by Khedbrahma (17), Radhanpur (14) and Bhuj (12).

Activities	Bhiloda	Bhuj	Khedbrahma	Radhanpur	Satlasana	Total	No. of SHG benefited	No. of members benefited
Awareness Meeting	15	5	8	5	12	45	185	2200
Training	8	5	5	6	8	32	125	960
Exposure visits	3	2	4	3	5	17	102	730
<b>Total</b>	<b>26</b>	<b>12</b>	<b>17</b>	<b>14</b>	<b>25</b>	<b>94</b>	<b>412</b>	<b>3890</b>



## **Project Impact**

### **Women empowerment**

The frequent meetings and other capacity building activities helped in empowering women in creating space for family decision making. Even though work participation of women in agriculture is more than 50%, they hardly were involved in decision making in production, harvesting, selling produces and financial transaction involved in it. The project have given opportunity to the women to get the land details, calculating input costs, selling price, profitability etc. As women started getting crop loans she has been given importance in families and has found a space within the household to present her view in family affairs.

### **Increase in productivity**

The project has substantially contributed in the increasing milk production in the villages. The



households that were unable to keep milch animal due to lack of capital could buy animal from loan. The families that were already having one or two animals could increase their assets. Similarly, due to adequacy in fund, farmers could provide timely inputs of superior quality for e.g. for improved variety of seeds which helped in increasing the productivity. The cumin farmers who availed loan had reported up to 35% increase in production since sowing and other inputs were provide on time and in adequate quantity.

### **Increase in income**

The project helped in increasing family income in multiple ways. The easy and cheap loans enabled

many poor families to acquire productive assets for providing a secure source of income. The vicious cycle of high input cost, high interest rate and distress selling of agriculture produces was interfered with in many villages and people earned more income. In many villages, collective purchase of inputs helped them in getting discounted rate and ensuring good quality and optimum quantity of inputs.



### **Promotion of good practices**

Apart from providing access to loans, the project has been unique in supporting people with information so that they can take informed decisions about livelihood generation. For e.g., by promoting the use of pipeline, there has been a decrease in the rate of wastage of water occurring during flood irrigation. Construction of dug well has restricted the use and wastage of ground water. Farmers are open to adopt technologies such as drip irrigation, soil amendment etc. Many farmers are also showing interest towards organic farming to cater to the market demand.

### **Opening up new opportunities**

The project has opened up opportunities for creating new NRM based enterprises at the village level. With the substantial increase in the number of milch animal, the FCs and SHGs are showing interest for undertaking group based enterprise on cattle feed marketing and some of them already started it. Similarly Farmers Clubs are showing interest on establishing Agro-service centers at village level since they have benefitted from collective purchasing of agri-inputs.



About a decade ago, when VIKSAT joined hands with Kutch Nav Nirman Abhiyan (KNNA) and implemented the Drought Proofing Programme (DPP) in 14 villages of Bhuj taluka through a network of 12 partner organizations, little was it known to secure roots for a community owned enterprise to promote animal husbandry and dairy activities.

In Banni area, animal husbandry is the principal source of livelihood for the people belonging to Maldhari community. But in absence of markets, open grazing system, depletion of grass lands, growing imbalance in the ecosystem and harsh climatic conditions, distress migration was not uncommon. The collective efforts and advocacy helped in establishment of a centre for milk collection - Bulk Milk collection Centre (BMC) in 2009 at Bhirandiar village of Bhuj taluka with the support of National Dairy Development Board (NDDB), SKDP (Saurashtra Kutch Dairy Development Project) and Sarhad Dairy.

The BMC receives milk from all the villages of that particular cluster and makes payment in every 10 days. This not only resulted in higher market price, but also broke the cartel formed by the local businessmen. The development of a marketing network and remunerative price support to the producers worked as great incentives for higher animal productivity and all types of livestock products.

To ensure fodder security, grass cultivation was done in the available forestland of the area in co-ordination with the forest department and GUIDE. With the help of local cattle owners, a cattle service centre was also established in Nani Dadhar village from October 2010 to provide cattle feed oil cake and wheat husk to the cattle owners. This reduced the woes of buying cattle feed from Bhuj that was situated 100 kms. away from the village. The traders at Bhuj provided high priced feed which was poor in quantity and quality.

The foundation of a community based enterprise took its roots. A membership based unregistered organisation by the name of Pashu Palak Mitra was formed as a producers institution. Around 135 animal herders from nearby 4 villages are members of this group. They pay a nominal amount of Rs. 25/- per household as entry fees and pay a refundable deposit amount of Rs. 100/- per animal owned by the household.

There is a management committee made of 11 members of the organization. Administration of the center and activities like maintaining the book of records, facilitation of the transactions, procuring and selling of the cattle feed, maintaining data of the cattle head count of each member etc. is undertaken by a salaried person employed by the organization and is paid @ Rs. 3000/- per month from the profits earned from the enterprise.

The business plan is not akin to the commercially oriented buying and selling since it caters only to the members and the selling is done on the basis of number of cattle owned, so as to rule out any possibility of forced stock hoarding. The objective is primarily to improve the care and inputs for the milch animals owned by the members, increase milk productivity, improve and sustain the income source.

Till 31<sup>st</sup> March 2012, VIKSAT has given a loan of Rs. 11.19 lacs in three instalments to initiate and sustain the business. The center has a turnover of Rs. 1,25,00,000/-.

### Cattle Feed Centre - Purchase & Sell of Cattle feed (Year 2011-12)

Cattle Feed Centres	Started	Loan Amount	Cattle feed purchased by centres & sell (INR)	Loan repaid	No. of Villages benefitted	No of Members
Nani Dadhar (Bhuj-Kutch)	Oct-10	700000.00	7105354.00	350000.00	3	135
Radhanpur (Patan)	Oct-11	150000.00	848800.00	50000.00	5	300
Satlasana (Mehsana)	Jan-12	-	142200.00	-	2	45
Total		8500000	8096354	400000	10	480



## Project for Income Augmentation in Semi Arid Area

Santalpur and Sami taluka of Patan districts face the problem of salinity of soil and desertification. The land comprises of soft rocks and is under alluvial formation with inherent salinity that gets marshy during monsoon. The backwardness of the area further contributes to the challenge as the crop yield is minimized and so is the income generated. The capital value of land, vegetation and water also decline over time. Due to varying volume of precipitation and unpredictable rainfall, agriculture is dwindling and the farmers are not left with viable solutions. Not even two crops are grown each year. Lesser the crops, lesser is the yield, which further affects the fodder production, thereby having an adverse the overall sustenance of the community.

To ensure a sustainable source of income from farm activities, It is Important to bring about change in the cropping pattern i.e; diversification from agricultural to horticultural (fruit) crops. Considering the resistance and survival rate of pomegranate crop in saline soil, semi-arid soil and dry climate, VIKSAT has implemented pomegranate plantation Project for Income Augmentation in Semi Arid Area (PIASA), during the Kharif 2011 in 72 acres in the villages of these

talukas. The activity was supported by the Zilla Ayojan Bhavan (District Planning Office), Patan under '30 Vikas-sheel Taluka Scheme' under the monitoring of the Department of Horticulture, Patan.

### Implementation Approach

In villages, Farmer clubs are formed and during the meetings, the eligible beneficiaries are selected. After the selection of beneficiary, the selected plots were visited and training was provided to the farmers on scientific cultivation of pomegranate - Importance of pomegranate cultivation, spacing, lay out, pit digging, pit filling, plant varieties, planting, ring basin, earthen up, staking, weeding, watering and insect pest management and so on.



### I. Pomegranate Planation: [with Barbed Wire Fencing] - Santalpur and Sami Taluka

Variety : Sinduri ( Bhagva )

Acre : 1

Spacing : 5mt x 5mt

No. of Plants : 160+20 (gap filling)

Sr. No.	Name of Santalpur villages	No. of Farmers covered	Demonstration Acre	Sr. No.	Name of Santalpur villages	No. of Farmers covered	Demonstration Acre
1	Zekda	07	07	1	Mandvi	12	12
2	Hamirpura	12	12	2	Varana	10	10
3	Varnosari	03	03	3	Gujarvada	02	02
4	Gokhantar	03	03	4	Gochnad	03	03
5	Limgamda	03	03	5	Kharchariya	01	01
6	Naliya	03	03	6	Vaval	01	01
7	Sadpura	02	02	7	Zivana	02	02
8	Manpura	01	01	8	Daudpura	05	05
9	Zazansar	01	01	9	Total	36	36
10	Total	35	35				

The cost of providing Input material per acre is Rs. 42, 232/-.



### Challenges faced

No intervention, no matter how technical, is not possible without social processes to legitimize and increase acceptability and thereby ensuring sustainability of the activities. And, the social processes are never without challenges which again increase the scope of learning.

Some of the roadblocks faced in implementing the horticulture promotion activity are:

### Selection of the beneficiaries

The main criteria for selection of eligible farmers to participate in the programme were that the farmer should be willing to adopt the new cropping pattern, should be tilling a minimum of 1 acre land and the land should have irrigation facilities. It was difficult to identify plots with these particular attributes. There were a huge number of farmers who had shown interest but the selection was a participatory and transparent process, undertaken by the Farmers' club, a peoples' institution established to ensure optimum participation of the people in management of natural resources.

### Trust building

Initially, people doubted the programme outcome. Nonetheless, a lot of interest generated amongst the community and acceptability of the project increased owing to the nature of inputs provided in the form of fencing facilities along with provision of the saplings and fertilizers. But, the crop requires a particular type of soil and plot, free of water logging. Disappointment was writ large on the faces of those who were not found eligible to participate in the project. There were occasions of rift amongst different groups demanding for

participation in the project. However, through dialogues amongst the people by the farmers' groups, the issues were settled amicably.

### Maintenance of the crop

The proper maintenance and care, irrigation and protection of the Pomegranate crop from animals needs to be ensured to get a good crop. Educating the farmers, close follow up and monitoring, on-farm demonstrations and hand-holding were undertaken so as to ensure compliance to the instructions.

### Capacity Building

Capacity building of the field staff to undertake site visits and provide necessary inputs to the farmers was a necessity. However, lack of expertise and experience in horticulture farming was a shortcoming amongst the farmers. Thus hand holding support on case-to-case basis and technical support to the farmers through day-to-day follow up was crucial.

### Revolving Fund

Sir Dorabji Tata Trust, Mumbai had given a grant of Rs. 50 lakhs to VIKSAT to meet various financial needs of village level institutions and taluka level federations of Satlasana and Bhiloda taluka. A Revolving Fund Management Committee(RFMC) was formed for efficient utilization and management of the money. The meeting of the Committee is held every quarter to track the disbursement, recovery and utilization.

During this reporting period Rs. 27 lacs were disbursed. Cumulatively, the loan amount is Rs.101.72 lacs disbursed since 2004 among four federations of Bhiloda and Satlasana talukas.

The repayment scenario is explained in the table below: (As on 31-3-2012)

Sr. No.	Name of Sangh	Loan Amount (Rs)	Actual Recovery (2011-12)	Variation (Rs)
1	Gadhvada Sangh	240000	133330	66671
2	Mahila Sangh	433882	19000	414882
3	Narsanga Veer Mahila SHG	50000	44448	5552
4	Bhiloda Sangh	2486089	1852049	634040



### Peoples Institutions

The core strategy in the sustainable development and management of natural resources is people's participation. Cross cutting all the thematic areas of interventions, nurturing and capacitating the people's institutions is the fulcrum around which the programme planning, monitoring, strategizing and implementation of activities occur. The local communities are empowered to manage their natural resources.

VIKSAT has touched the lives of 24,609 people directly by forming over 600 PIs at village level including TGCSs, SHGs and Pani Samitis in Bhiloda and Khedbrahma (Sabarkantha district), Satlasana (Mehsana District), Santalpur (Patan district) and Bhuj (Kutch district) regions of the Gujarat State.

Over a period, these institutions have gained knowledge about and capabilities for handling the issues of natural resource management at a larger scale and formed into four taluka level federations, thereby extending the reach of local TGCSs and SHGs.

A state level institution namely Sangathan Kshamata Manch (SAKSHAM) and taluka level institution, namely, Bhiloda Taluka Lok Van Kalyan Sahakari Sangh have been formed for Joint Forest Management Committees.



VIKSAT has formed women SHG groups in the project area villages. Time and again it has been proved that the SHGs act as reliable, accountable and responsible institutions for undertaking the village development activities. Clearly, while the entry point and basis of group formation is savings and access to internal loans, the SHGs, if nurtured over time in undertaking the routine administrative activities, prove to be a vehicle to initiate and sustain change.

Field office	Number of SHGs	Membership		
		Male	Female	Total
Bhiloda	71	11	776	787
Bhuj	76	23	817	840
Kheroj	34	0	404	404
Radhanpur	30	70	295	365
Satlasana	244	1540	3210	4750
<b>Total</b>	<b>455</b>	<b>1644</b>	<b>5502</b>	<b>7146</b>

### Nurturing, building capacity and managing self help groups

As an integral part of developmental strategies, the Self Help Groups act as vehicles of mobilizing village communities for economic activities viz. saving, credit and income generation activities. Currently, there are 455 SHGs across five field offices through which 7,146 members are participating in the savings and credit programme.

### Savings and Income

All the SHGs do regular savings and credit activities, wherein saving gets inculcated as a regular habit and offers a scope for financial security. The access to credits helps the women to develop their confidence in dealing with situations and opportunities.

One of the sources of earning of the group is from the interest earned from the loan given out to the members adding on to the saving amount of the individual members.



The table below provides details of total saving mobilized and income earned by the groups:

Field office	Savings mobilized in the 2011-12	Income earned from interest and penalties till date	Savings till last year	Total Savings
Bhiloda	373200	4800	368550	746550
Kheroj	192055	22540	406181	620776
Satlasana	652452	43550	3535770	4331772
Bhuj	159900	8511	528860	688760
Radhanpur	203320	68142	431680	703142
<b>Total</b>	<b>1580927</b>	<b>147543</b>	<b>5271041</b>	<b>7091000</b>

In this year, an amount of Rs. 15.80 lacs was mobilized through savings of the individual members. The SHGs earned a sum of Rs.1, 47, 543 /- as interest and penalty income which has contributed towards corpus of the SHGs.

#### Internal lending

The group further provides loan from the savings to the members to meet the small credit needs of the members.

Field office	Number of SHGs availed loan	Lending turnover	Internal loan outstanding	Internal loan repaid	Interest Income
Bhiloda	42	882000	252000	630000	67200
Kheroj	26	212370	354112	176958	22540
Bhuj	28	475976	222716	253260	28580
Satlasana	90	3150000	1572000	1578000	426472
Radhanpur	22	725000	322000	403000	68142
<b>Total</b>	<b>208</b>	<b>5445346</b>	<b>2722828</b>	<b>3041218</b>	<b>612934</b>

In 2010-11, the total internal lending turnover was 5.44 lacs while Rs. 3.04 lacs were received as repayment of internal loans

#### External Loans

Field office	SHGs availed external loans	Bank loan	Revolving Fund of VIKSAT	UPNRM project loan	Total loan turnover	Loan repaid	Loan outstanding
Bhiloda	24	-	-	19.17	19.17	08.50	10.67
Kheroj	26	1.3		8.55	9.85	9.36	0.4
Bhuj	35			36.38	36.38	25.67	10.71
Satlasana	40	2	0.65	51.38	54.03	43.55	10.48
Radhanpur	25		0.4	15.12	15.52	13.4	2.12
<b>Total</b>	<b>150</b>	<b>3.3</b>	<b>1.5</b>	<b>130</b>	<b>135</b>	<b>100</b>	<b>34.2</b>

More than a third of the SHGs availed external loans. The SHGs at Kheroj and Satlasana availed 3.30 crore loan from the bank in this year. About 1.35 crore was availed as loans across the project areas, including the bank loan, revolving fund of VIKSAT and UPNRM project loan.

Collective decision making on the conduct of meetings, thrift, credit decisions and the participatory processes makes the SHGs a

responsible borrower. Need based and timely financial services at the doorstep, high repayment, presence of peer support and peer pressure, low transaction costs, gradual preparation of the group towards micro-entrepreneurship are the unique features of the programme making it a potent and enabling tool for human development. Peer pressure, low transaction costs, gradual preparation of the group towards micro-entrepreneurship are the



unique features of the programme making it a potent & enabling tool for human development.

Field offices	No. of FC	Membership		Total
		Male	Female	
Kheroj	11	143	87	230
Bhiloda	15	705	150	855
Radhanpur	14	544	44	588
Satlasna	35	344	70	414
<b>Total</b>	<b>75</b>	<b>1736</b>	<b>351</b>	<b>2087</b>

### Farmer Clubs

Factors like increasing costs and improper supply of inputs, lack of information amongst the farmers about improved agricultural techniques, lack of adequate market linkages and infrastructure, limited access to formal financial services by small and marginal farmers are responsible for the steady decline in the productivity.

#### Activities undertaken by the F.Cs,

- Monthly/quarterly meeting.
- Training of farmers at Krishi Vigyan Kendra and exposure visit to research station as well as progressive farmers.
- Involvement in planning and implementation of projects.
- Adoption of new technology

To sustain the growth in agriculture there is need to improve productivity and curtail costs by improving efficiency. To establish better relationship with banks, help them adopt the latest post-harvest handling technology, value addition, etc. and enjoy the benefits of collective bargaining power both for procuring inputs and selecting their produce, the Farmers' Club Programme was started with the help from NABARD since 2009.

As on 31<sup>st</sup> March 2012, as many as 75 FCs have been established across the four districts of the state, the highest being in Satlasana (35) while the programme is yet to start in Bhuj. 11 new F.Cs were formed under the Kheroj F.O. during 2011-12.

### Formation of peoples' institutions

VIKSAT has facilitated formation and nurturing of federations at the taluka level at Satlasana and

Bhiloda taluka. A federation of 12 talukas covering 407 TGCS, Sangathan KSHAmata Manch spanning over 9 out of 11 forest districts of Gujarat offers a platform for furthering peoples' voices and concerns.

In Patan district, Maha Shakti Farmer Club -Gochnad village is engaged in seed production of Cumin. This club is producing G.Cumin-4 certified seeds and selling it to farmers of nearby villages at affordable rates. During the year 2011-12, 116.95 seed production was conducted in 116.95 Ha and the production of about 58000kg is under certification process. In the previous year, this FC produced 45600kg G.Cumin-4 seeds and earned about Rs.64 lacs. Amounting to 25% more income as compared to normal cultivation

### Kisan Credit Card (KCC) Camp

To spread and popularize the Kisan Credit Card (KCC) in Khedbrahma region, two camps were held with the support of NABARD – IGWDP wherein more than 395 farmers participated from the four watershed areas. Officials like the District Lead Bank Manager (Dena Bank), District Development Manager (DDM) - NABARD, and Bank Officers - Dena Bank and Bank of India attended the camp. 237 farmers applied for the KCC and 122 new accounts were opened.

The Kisan Credit Card is a pioneering credit delivery innovation for providing adequate and timely credit to farmers under single window, with flexible and simplified procedure, adopting whole farm approach, including the short-term credit, medium term and long term credit needs of the borrowers for agriculture and allied activities and a reasonable component for consumption needs





### **Training Programme on Agriculture development**

Since the majority of the farmers depend upon rain fed farming due to water scarcity and lack of irrigation sources, they naturally select crops suitable for dry farming. The dry farming crops being grown in the project area mainly include maize and cotton. The major objective of these training programmes was to make them aware about the recommended package of practices (PoP) and enhance their overall knowledge about the crops.

Three training programmes were conducted for the IGWDP watershed programme beneficiaries at Krishi Vigyan Kendra (KVK), Khedbrahma wherein 96 farmers participated to learn about improved variety of seeds, care required in the farming for each variety of the crop discussed, protection of crop from pest and insects attack, use of vermi compost etc.

### **Training on SHG Operation & its benefits**

Three training programme were conducted for orientation of the new SHG women members of watershed programmes of IGWDP wherein 99 women member had participated to learn about the benefits of the formation of Self Help Groups, benefits of saving, process of conducting meetings, banking and inter lending. They further learned about the benefits of watershed development through people's participation and their role and responsibility in maintaining watershed structures.

### **Training on Basic Watershed Management**

Three training programmes were conducted for VWC members and volunteers to orient them about watershed development programme of IGWDP wherein 91 VWC members and volunteers had participated. Training on Record keeping at village level One training programme was conducted for the president and secretary of VWC, volunteer of watershed and SHG for imparting training to the 17 participants on basic management; routine monitoring and administration of activities, record keeping and book of accounts.



### **Staff and leadership development trainings**

Several training programmes were organized by NABARD-IGWDP for staff and VWC members of watershed programmes of IGWDP at various premier institutes. Two progressive Farmers/VWC members were participated in Five days training programme on 'Integrated Farming System' was organized at Directorate for Farming System Research (ICAR) Modipuram, Meerut during 6<sup>th</sup> - 10<sup>th</sup> February 2012.

An "Experience Sharing Workshop" was organized by NABARD at Jain Hill, Jalgaon (Maharashtra) during 8<sup>th</sup> - 10<sup>th</sup> September 2011 wherein VIKSAT officials shared their experiences, challenges and lessons learnt in managing watershed programmes.

Six youths from the project areas had participated in training for the para agriculture workers was organized at Tribal Research cum Training Centre Devgad Baria, District - Dahod (Mahila Khedut Talim Kendra) during 12<sup>th</sup> - 17<sup>th</sup> December, 2011.

Four youths from the project area had participated in training on para engineering workers at N M Sadguru Water and Development Foundation, Dahod. These para workers will help in project implementation at the village level. In the same venue, two trainings on financial literacy and record keeping were also held in which staff from the field and the Secretary and Supervisors from three VWCs had participated respectively.



### DREC Project

A Diagnostic Study to Build the Capacity and Awareness among CSO's to demand for Demand Side Management & Renewable Energy in India DREC Project, GUJARAT :



Side Management (DSM) and promoting non conventional sources of energy, Renewable Energy (RE) remain as under-utilized strategies to address the demand supply gap in the energy sector. These strategies not only help in addressing the problems related to the ever increasing demand for energy but are also aligned with the ethical issues of environment vis-à-vis power production using traditional resources.

However a key aspect which still needs further intervention and effort is the awareness among the mass and the policy makers about the ever increasing gap between the availability conventional energy and the demand and the scope of renewable energy. Hence the two major aspects that need further look is Demand Side Management (DSM) and scope of Renewable Energy (RE). It is important that the consumer groups are made aware about the implications of DSM so that they take informed decisions to improve end use efficiency & adopt clean energy.

To address this, a diagnostic study to build the capacity/awareness among CSOs to demand for demand side management (DSM) & renewable

energy (RE) in India" (DREC Project) has been launched by CUTS International, Jaipur in collaboration with VIKSAT with support from Shakti Sustainable Energy Foundation (SSEF) based in New Delhi, India.

### Stakeholder Assessments and Identification

VIKSAT is implementing the project in four districts of Gujarat, namely Kutchh, Ahmedabad, Patan and Mehesana. The districts were chosen after several considerations. In each of these districts the situation pertaining to energy needs and issues were diverse. Mehesana and Patan are two major industrial districts where energy demand is high. In Patan, the population is predominantly rural and agrarian. Kutch, declared as a SEZ, is an emerging hub of industries and multifarious economic activities. Ahmedabad is catered by a private power company, Torrent power, while all other three districts come under the service area of Uttar Gujarat Vij Nigam Ltd, UGVCL, a company formed after dismantling the Gujarat Electricity Board (GEB).

As an important step to implementation of the project, finalization and selection of the partners was an imperative. Two consecutive meetings were held with the NGOs of four districts, Mehsana, Patan, Bhuj and Patan. Discussions were facilitated on issues regarding the interest of the SH groups, their expectations, or resource commitments. 8 partners were selected from 4 districts.

### Project Launch Workshop

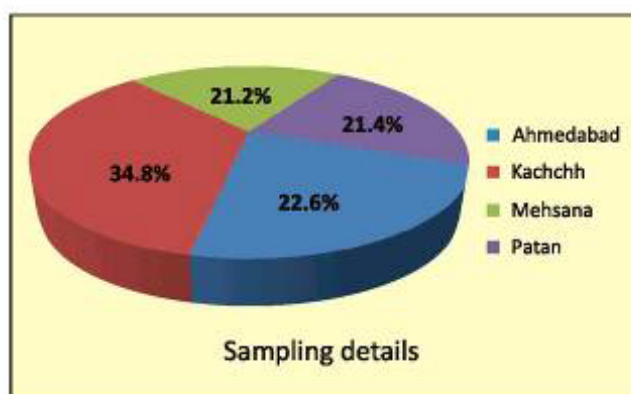
On 6th of August, 2011, the DREC project was officially launched in Gujarat by VIKSAT, Ahmedabad. The workshop was attended by almost 60 people who comprised of policy makers, regulatory bodies, utilities, scientists, research institutions, practioners, entrepreneurs, media, students and most importantly CSOs. The workshop had two panel discussions focusing on "Nature and Scope of CSO intervention in the context of RE and DSM" and



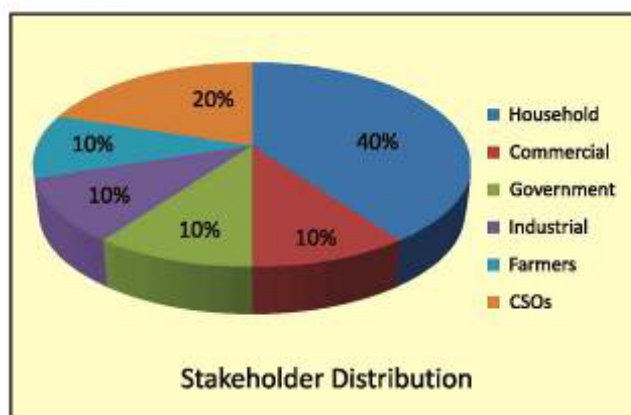
“Successful interventions by stakeholders in the Energy Sector in India”. In both the panel discussion eminent speakers shared their experience and research outcomes.

### Perception Survey

The survey started from 5<sup>th</sup> October in 4 districts. FGDs and key informants' interviews were undertaken. A sample of 500 was covered in the survey by the 8 partner organizations across four districts.



The survey started from 5<sup>th</sup> October in 4 districts. FGDs and key informants' interviews were undertaken. A sample of 500 was covered in the survey by the 8 partner organizations across four districts.



The survey pointed at the significant gap between the awareness level amongst the consumers and actual practice change. Lack of adequate push factors like adequate information, after sales services and financial linkages and incentives were cited as the deterrents in promotion of Energy Efficient (EE) products and Renewable Energy Technology (RET).

### State Reference Group

A panel of experts drawn from diverse academics, NGOs, state regulatory and implementation agencies and media was formed to further guide the project team in technical aspects and share information, guide for planning and take part in state and national level workshops and to facilitate wider sharing of outcomes of the project for policy linkages.



On 24<sup>th</sup> January 2012, a state level RGC meeting was held for dissemination and sharing of the findings of the survey and to articulate issues that can be taken up for advocacy with the policy and decision makers. Amongst the panel members were Dr. Ketan Shukla, Secretary, GERC, Dr. Omkar Jani, GERMI, Dr. Chander Mohan, Dept. of Science and Technology and representatives from GEDA and SPRERI and NGOs. Issues like CSO representation in regulatory process, scope for RE, barriers like high initial capital costs and poor after sales services, capacity building and steps for increasing awareness of energy efficiency amongst the consumers were debated.

### Exposure cum planning meeting

On 18<sup>th</sup> Feb 2012, to provide orientation about renewable energy technology and understand the use of solar pumps by the salt pan workers, an exposure visit was organised by VIKSAT for the eight partner organizations. The participants were provided information about RE sources like wind, solar and bio-mass in the campus of Center for Environment Education (CEE), Halvad, Surendranagar that was set up as a demonstration





of application of different RET for pumping water, lighting, cooking and so on. A site visit was organized to the salt pan situated in Little Rann of Kutchh, 25 kms. away from Halvad. The benefits of using solar pumps in the form of cutting of diesel costs, increase in income by increasing the profit margins leading to reduced dependency on money lenders, benefits for the environment and health and so on were discussed.

#### **Key Outcome**

- Capacity building of partner organizations  
Participation in project activities and continuous hand holding by VIKSAT has led to a fair level of understanding about the issue amongst the partners. After field exposure, the partner organizations have organized meetings with farmer groups and facilitated interaction with vendors/service providers.

- Recognition of CSOs role and stake in the issue by government institutions

All the efforts/initiatives in the sector of EE and RE have pre-dominantly comprised of the 'push' factors, i.e., one sided intervention by government through its designated institutions. This project, being the first of its kind, has brought together the government institutions and CSOs (as a stakeholder as well as consumer representatives) to a common platform. The government institutions have recognized the role of CSOs and shown interest to help the new initiative emerging out of the project intervention. Institutions like GERC, GEDA and GERMI are persistently cooperating and providing resource persons, resource materials

and guidance as and when sought for. After the training workshop one or two partner organizations have approached the GEDA and received positive response. Earlier either the CSOs were not aware about the administrative mechanisms, or their requests were not receiving good response from these institutions or the initiatives were lost in administrative red tapeism.

#### **Sharing of information**

The Reference Group, formed of government institutions and other experts, was made aware of the findings of the consumer perception survey. This has helped to place the consumer perception in an organized and empirical manner before the key stakeholders engaged with regulation, policy making or implementation of EE and RE programme in the state as state designated agency. Further, the project interventions, findings of consumer survey and training workshop were disseminated to the larger society through adequate media coverage.

The activities completed and to be carried out are expected to bring the following policy change and practice changes

#### **Policy Change**

- GERC and GEDA will take necessary actions to incorporate consumer interest and get consumer participation in their programmes wherever possible.

- Government will effectively coordinate with the institutions working on energy issues. The project will able to provide for inclusion of the consumers' perspective into the state energy policy.

#### **Practice Change**

A strong network of CSOs will emerge at the end of the project which will be concerned about energy issues and penetrate the same into community. A few stakeholders like CSOs will take up projects on renewable energy leading to larger practice change, while sensitized industries will go for energy audit and use of energy efficient appliances.



VIKSAT extends its thanks to all the institutions and individuals who have contributed to and worked with us in development action. We are grateful to the government departments, funding agencies, donors, our NGO and CBO partners for having stayed with us and supporting our efforts. We acknowledge their significant support during the year 2011-12 and hope for their continued cooperation in the coming years. Some of the partners, with whom we have been working, are as follows:

#### Major Funding Partners

- National Bank for Agriculture and Rural Development - (NABARD)
- Ford Foundation
- Collectives for Integrated Livelihood Initiatives (CINI)
- Sir Ratan Tata Trust (SRTT)
- Sir Dorabji Tata Trust (SDTT)
- Ministry of Environment and Forests (MoEF)
- Government of Gujarat (GoG)
- District Planning Office (DPO), Patan
- John Deere Foundation (JDF)
- John Deere Water (JDW)
- United Way of Mumbai (UWM)
- United National Development Program (UNDP)
- Indian Council of Agricultural Research (ICAR)
- Sardarkrushinagar Dantiwada Agricultural University (SDAU)
- Kutch Nav Nirman Abhiyan (KNNA)
- Gujarat Institute of Desert Ecology (GUIDE)
- Gujarat Forest Department (GFD)
- Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ)
- Consumer Unity & Trust Society, Jaipur (CUTS)
- KFW- IGWDP (Indo German Watershed Development Programme)

#### Project Partners

- DRDA, Banaskantha
- DRDA, Mehsana
- DRDA, Sabarkantha
- DRDA, Kachchh
- Global Environment Facility -Small Grant Programmes (GEF-SGP)
- Center for Environment Education (CEE)
- Vikram A. Sarabhai Community Science Centre (VASCSC)
- Kachchh Heritage, Art, Music, Information and Resources (KHAMIR)
- Society for Promotion of Wastelands Development (SPWD)
- Water and Sanitation Management Organisation (WASMO)
- Paryavaran Edutech
- KVK, Khedbrahma

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#### Our Bankers

- State Bank of India
- Dena Bank
- Indian Overseas Bank
- Bank of India

#### VIKSAT Resource Centre

VIKSAT is equipped with a spacious resource center supported by Sir Dorabji Tata Trust (SDTT) designed for lecture-style instruction, training and roundtable discussions and teleconferences. The Library, flaunting a rich collection of over 3,500 books and audio-visuals, along with a computerised database, is within easy access to offer quiet reading space. The office space located adjacent to the training center has adequate e-facilities offering to quick access to the outside world.



## Abridged Balance Sheet

(Rs. In Lakhs)

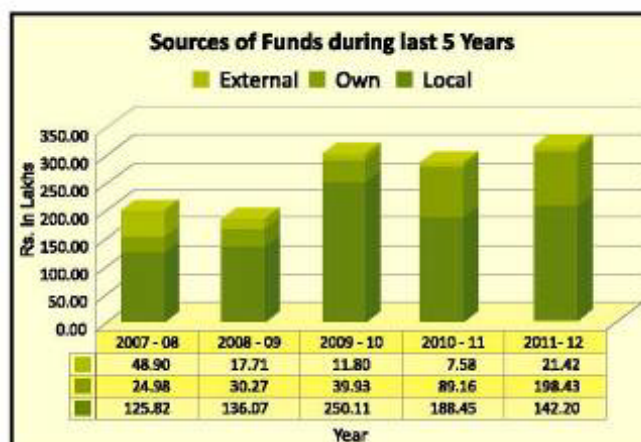
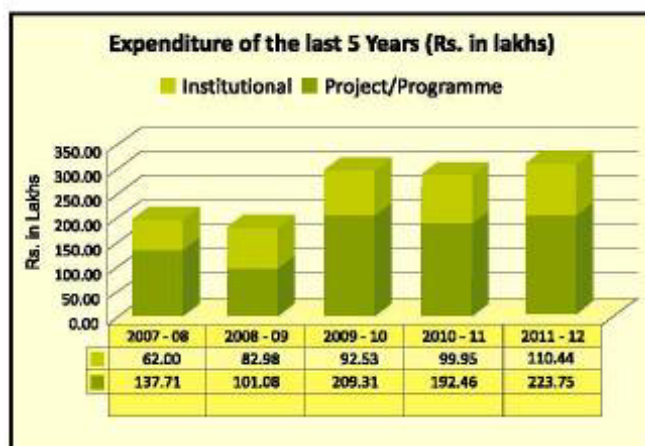
Funds & Liabilities	31 March 2011	31 March 2012
Endowment Fund Account	90.00	80.00
Reserves & Other Earmarked Funds	529.29	602.92
(Inclusive of accumulated Surplus/deficit)		
Balance of Project Grants	48.31	77.60
Sundries & Suppliers	40.94	44.89
<b>Total</b>	<b>708.54</b>	<b>805.41</b>

Assets	31 March 2011	31 March 2012
Immovable and Movable Properties	181.91	194.90
Investments in Approved Securities	56.00	269.00
Bank Account and Cash/Fdrs etc.	310.06	121.32
Advances and Other	160.57	220.19
<b>Total</b>	<b>708.54</b>	<b>805.41</b>

## Abridged Income and Expenditure Account

Income	31 March 2011	31 March 2012
Projects and Programmes Income	195.74	223.75
Income from Other Sources	89.45	110.44
<b>Total</b>	<b>285.19</b>	<b>334.19</b>

Expenditure	31 March 2011	31 March 2012
Projects and Programmes Expenditure	192.46	226.10
Staff Salaries	81.14	103.61
Establishment and Administrative Expenditure	16.00	17.17
Amount transferred to Other Earmarked Fund	2.80	2.59
<b>Total</b>	<b>292.40</b>	<b>349.47</b>
Surplus/(Deficit)	-7.21	-15.28
<b>Total</b>	<b>285.19</b>	<b>334.19</b>





# VIKSAT Council of Management

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Chairman, M S Swaminathan Research Foundation  
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