

Annual Report 2015-16

Satvik : Promoting Ecological Farming

A 59, Changleshwar Society

Mundra Relocation Site

Bhuj – Kachchh (370001)

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About Satvik ...

Satvik : Promoting Ecological Farming (Satvik) has been promoted by group of motivated organic farmers who came together share their excitement and their practice at the turn of the century later formalized in 2007.

The relatively low and erratic rainfall of arid regions, like Kachchh have challenged the indigenous populations to develop some of the finest crop and animal biodiversities - which have not only reduced risks to adequately feed their human and animals populations, but will in the future, prove to be critical in providing genetic material to face the challenges of climate change. Complex web of loops has been established that feed into one another wherein byproduct becoming primary inputs and the value chain takes place within the eco region. This has created efficiencies, economies and dependencies that promote strong and sustainable communities.

Satvik is reinvesting efforts in scientifically documenting their benefits; promoting their further development; reinstate a confidence and dignity amongst its farmer practitioners - towards self contained societies and economies that are self dependant for their food security and only export their surplus.

Objective

To Promote, conceptualize, encourage, aid, organize, assist, support, facilitate, undertake various aspects of ecological farming techniques including distribution, promotion, marketing and trade of such produce, in its all forms, for strengthening of livelihood of marginal farming community and improvement in the health of the people irrespective of caste, class, gender, race and religion.

Governing Board

Sr.	Name	Designation
1	Prof. Sukhpal Singh	President
2	Sh. Shailesh Mohanlal Vyas	Secretary
3	Sh. Shailesh Dayaram Gor	Treasurer
4	Sh. Manoj Purshotam Solanki	Member
5	Dr. Yogendrasinh Jilubha Jadeja	Member
6	Sh. Kapilkumar Jagdishchandra Shah	Member
7	Sh. Sushma Iyengar	Member
8	Sh. Sandeep Indu Virmani	Member
9	Sh. Nanalal Hirji Satra	Member

Registration

- Society Registration Act, 1860
- Bombay Public Trusts Act, 1950
- Section 12 AA of Income Tax Act, 1961
- Section 80G of Income Tax Act, 1961
- Foreign Contribution Regulation Act, 1976

Staff Profile

Sr. No.	Name of the Staff	Designation	Education Qualification	Relevant Work Experience
1	Shailesh Vyas	Secretary	B. Sc. (Agriculture) PGD Ecology & Environment MA (Economics)	20 Yrs.
2	Ramesh Makavana	Co-ordinator	B. Sc. (Agriculture)	11 Yrs.
3	Suleman Khoja	Field Assistant	S. S. C.	9 Yrs.
4	Valimamad Theba	Field Assistant	8 th Pass	9 Yrs.

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1. Strengthening Sustainable Agriculture

1.1 Capacity Building

1.1.1 Training

Short Module on Organic Farming

Based on the need of short training module on organic farming for the farmers who want to get introduced to organic farming before its adoption, 3 days trainings were organized for such farmers at Chintan Farm. In this training use of audio visual was emphasized. Archive was surfed and relevant video clips and presentation was shortlisted.

Training detail is as below:

Days	Trainings	No. of Participants
3	22 nd May to 24 th May 2015	40
3	12 th Aug to 14 th Aug 2015	26
3	10 th Sep to 12 th Sep 2015	42
3	24 th Dec to 26 th Dec 2015	41
	Total	149

Training of Trainers

Government of Gujarat has been formed and implementing organic farming policy to promote organic farming in Gujarat. Shree Kapilbhai Shah (Satvik's Trustee) was the member in this policy making committee and advisor too. Based on his advice 5 days' trainings of trainers was organized at Bhaikaka Krishi Kendra, Ravipura in Anand District. This farm is belongs to Shree Sarvdamambhai Patel, he is eminent organic farmer and policy maker committee member too. 35 participants from all over Gujarat had participated. Satvik was engaged in this training as expert organization and trainee too.

1.2 Networking and Support

1.2.1 Working with Kutch Navnirman Abhiyan

Satvik is a COAPT member of Kutch Navnirman Abhiyan. As a member Sh. Shailesh Vyas has participated in AGM and Governing Board Meetings throughout the year.

1.2.2 Working with State Agriculture Department, GoG

State agriculture department was preparing action plan for implementation of organic farming policy. They were inviting and getting suggestions from experienced persons and organizations for better implementation of policy. Series of meetings were organized in Ahmedabad with state agriculture department and other experts. Satvik had participated in all meeting and provided inputs based on past experience. As an output of meetings was trainings modules and training content was finalized and implemented.

1.3 Participatory Ground Water Management (PGWM)

Arid Communities and Technologies (ACT) is an organization working on management of groundwater in Kachchh and other regions of Gujarat. Agriculture is a primary user of groundwater by any means. ACT was seeking partnership for developing protocols for groundwater management in agriculture sector. They approached to Satvik for working with for development of agricultural protocols. Satvik was agreed for this work and had signed MoU with ACT.

The main objective was to develop groundwater management protocol in irrigated agriculture through improved agricultural practices and institutional mechanisms.

This project was focusing in 4 blocks like Lakhpat, Abdasa, Mandavi and Mundra of Kachchh district. In each block 2 villages were selected. These 2 villages were from different geographical area means that 1 was coastal area and another was inland area. In each village 2 farmer groups has been formulated and 1 group has minimum 10 farmers. In total 320 farmers were targeted for develop a protocol. For this purpose detailed farmer survey of selected villages and selected farmers were carried out. Farmer data base has been created and analyzed for understand current situation.

1.3.1 Data compilation and report interpretation of Soil and water samples

Village wise sample collection and Data entry is carried out in MS Excel sheet. Summary of sample collection is as below;

Block	Villages	Irrigation Water Samples	Soil Samples
Anjar	Ambapar	7	7
	Rampar	23	18
Mundra	Bhadreshwar	7	6
	Manghara	12	12
Mandavi	Bhadiya	7	6
	Padampur	17	17
Abdasa	Gadhwada	6	6
	Nanawada	5	5
	Mokarshiwandh	5	5
Total		89	82

Village wise data analyses are as below;

Block	Villages	Water Quality			Soil Quality	
		<i>TSS (ppm)</i>	<i>EC (µmh/cm)</i>	<i>Na%</i>	<i>pH</i>	<i>EC</i>
Anjar	<i>Ambapar</i>	695-1542	1190-2470	44-67	7.68-8.14	0.82-1.06
	<i>Rampar</i>	656-5414	940-7600	47-90	7.87-8.65	0.29-3.46
Mundra	<i>Bhadreshwar</i>	3407-5746	4380-10000	65-82	8.15-8.61	0.65-1.07
	<i>Manghara</i>	756-1214	1010-1620	54-94	7.68-8.88	0.15-0.9
Mandavi	<i>Bhadiya</i>	2408-3873	3130-6320	74-91	7.84-9.22	0.6-2.1
	<i>Padampur</i>	2144-4978	1328-8580	56-87	7.76-8.55	0.53-6.52
Abdasa	<i>Gadhwada</i>	1823-3465	2400-5010	75-89	7.88-8.61	1.03-1.14
	<i>Nanawada</i>	1550-1981	1930-2630	86-91	8.56-8.88	1.01-1.24
	<i>Mokarshiwandh</i>	1758-4027	2620-6750	42-81	7.78-8.17	0.9-1.77

1.3.2 Farmers Training

Farmer training organized at village level on interpretation of analyses report. In this training majority group farmers had participated. Educate farmers about their irrigation water and soil quality. Deep discussion had happened with farmers about management of poor quality irrigation water.

Block	Villages	No. of Farmers Participated
Anjar	<i>Ambapar</i>	22
	<i>Rampar</i>	NA
Mundra	<i>Bhadreshwar</i>	33
	<i>Manghara</i>	NA
Mandavi	<i>Bhadiya</i>	NA
	<i>Padampur</i>	25
Abdasa	<i>Gadhwada</i>	6
	<i>Nanawada</i>	6
	<i>Mokarshiwandh</i>	7

1.3.3 Farmer Exposure Visit

Farmer exposure visit was organized in Abdasa block for creating awareness among farmers regarding best utilization practices of groundwater. In this event 2 to 5 farmers from all cluster villages had participated. Farmers had visited farms having water efficient irrigation methods, water conservation agricultural practices and village guideline for groundwater management.

1.3.4 Development of PGWM protocols related to agriculture

- Water & Soil Sample Analyses
 - Understanding Plant-Water-Soil Relationship
 - Cropping pattern
 - Crop selection based on water quality and soil type
 - Irrigation method
 - Plant nutrition
- Method of Irrigation
 - Motivate farmers to adopt drip irrigation
 - For fodder crops – Sprinkler irrigation
- Crop Selection
 - Less water demanding crops
 - Sunflower, Mustard, Chick pea
 - High value less water demanding crops
 - Cumin, Fennel, Isabgol
 - Salinity tolerance crops
 - Sunflower, Cotton, Sugar beat, Cluster Bean, Pearl Millet
- Crop Variety Selection
 - Early maturing varieties
 - Wheat : GW-11, GW-17
 - Less water demanding varieties
 - Wheat: GW-322, GW-273, GW-173, GW-11, Duram wheat, Amruta
 - Salinity tolerance varieties
 - Wheat: Raj- 1555
- Mulching
 - Mulching of crop residue
 - Crop residues of non-fodder crops like wheat straw
 - Mulching of weeds
 - After weeding weed plants are good source of mulching
 - Mulching through intercrop
 - Moth bean, Ground nut, Desi Moong
 - Mulching through mix crop
 - Mix cropping with pulses
- Compost
 - Application of compost (well decomposed FYM) 10 days before sowing @ 5 MT per acre
 - Increases soil water holding capacity
- Efficient Irrigation System
 - Irrigation schedule
 - Crop wise, soil type
 - After care of irrigation equipments
 - Pumps, pipes, valves, drip lines, irrigation channels
 - Water measurement
 - Water meter
- Critical Irrigation
 - Crop wise stages of critical irrigation
 - Irrigation at critical stages only
 - Reduced irrigation
 - Watering as per crop water demand

- Weather based agro advisory
 - When to irrigate and how much to irrigate

1.3.5 Implementation of agricultural protocols

Individual farmers had contacted for implementation of PGWM protocols related to agriculture. Many farmers were shown interest for adopt such practices. Based on farmer's interest, farmer training on compost preparation and application of compost was organized in Mokarshiwandh cluster.

1.3.6 Well inventory

Well monitoring of Bhadreswar and Manghara cluster carrying out. Till date well monitoring related data like water level, TDS, EC pH and GPS reading has been collected. Other information about village like total cultivable land, irrigated, rainfed, fallow cultivable land, source of irrigation and drinking water, livestock population etc. had been collected from this cluster villages. Weekly, Monthly and seasonal well inventory detail is as below;

No. of Village	Weekly (No. of Wells)	Monthly (No. of Wells)	Seasonal (No. of Wells)
8	16	--	--
10	--	19	--
43	--	--	144

1.4 Revitalizing Rainfed Agriculture Comprehensive Pilot (RRA CP)

This project was implemented with support of Arid Communities and Technologies under RRA CP project.

1.4.1 Fodder Security

The main objective was to ensure fodder security for at least 6 ACU of individual farmer through growing NB 21 grass in small scale on drip irrigation. Farmers of Abdasa block are seeking solution for source of dry and green fodder at cheaper rate. Almost all villages of Abdasa block are receiving water for home consumption and some villages having little irrigation facility. This model is ideal for scanty water availability and poor quality irrigation water as well as rainfed areas. It is low cost and high water use efficient model. This model can be replicated in other parts of Kachchh district.

This model was implemented in rainfed areas of Abdasa block. Water availability for irrigation was primary criteria for this model. This model was implemented on back yard or on farm site of the farmer. Those farmers whose were interested to implement this model was identified by direct farmer contact. First of all farmer should have minimum space for implement this model, either on house back yard or on their farm. Another important criterion was they should have water availability for irrigation, either by home consumption connection or from waadi. Third one was farmer should have water storage facility or direct water supply facility in to the drip system. Farmer having up to 6 ACU was selected for this model. Farmer training was organized on orientation about this model, functions, costs and farmers contribution. Survey of selected farmer's site was carried out and case by case drip installation design was prepared. Drip installation was carried out by an expert. Good quality planting materials of NB 21 grass was identified and supplied to farmers for planting. Training on agronomy of NB 21 was provided to farmers by an expert. In this model NB 21 plant was planted distance of 2x2 f on 20 inline i.e. 600 plants were planted on single plot. First year

expected green fodder harvest of single plant will be 10 kg every cutting. For 1 ACU, 2 plants need to be harvested every day. 50 days interval same plants will be turns to cutting.

This model was implemented with 3 farmers in drip system, each farmer having up to 6 ACU. This was implemented with individual 28 farmers on their waadi. Farmers are happy with success result of NB 21 grass. This model will provide sufficient green fodder up to 6 ACU of single farmer every day. It provides fodder security for up to 60 ACU annually. Milk production will be increased, animal health will be improved and dependency on purchase of dry fodder from market will be reduced. Farmer will get economic benefits. On surplus of green fodder farmer can make silage also.

1.4.2 Soil Health

Soils of this arid region have well drainage capability but low organic carbon, low nutrient and suffering from inherent salinity. Soil health can be improved by adding compost, organic manures, cakes and other organic inputs. Farm bunding is very important for soil moisture conservation and check soil erosion. All activities were carried out in 8 villages of Abdasa block.

On field and theoretical training on compost preparation was provided to farmers. Neem cake, microbe culture, rock phosphate etc. materials were supplied to farmers. Support for farm bund was mobilized from project. Detail is provided in below table:

Description/Items	Beneficiary Farmers (Nos.)
Compost Training	120
Compost Beds	16
Farm Bunds	6
Organic Inputs Kit	45
Total	187

2 Conservation of Traditional Seeds and Seed Security : Anmol

2.1 Organizing Farmers

This year Satvik in association with Arid Communities and Technologies organized farmers for traditional seed conservation and create seed security in rainfed as well as in irrigated farming under PGWM program.

Farmer meetings on seed have been organized in PGWM core villages. In this meeting farmers oriented to importance of seed in water conservation.

Training on selection of seeds, seed production and conservation of locally suited seed have been organized in these villages. In this trainings majority group farmers have participated. Detail is as below;

Sr.No.	Name of Village	No. of Farmer Participated
1	Padampar	12
2	Bhadreshwar	19
3	Ambapar	21
4	Mokarshiwandh	10
5	Gadhwada	11
6	Rampar	34
7	Manghra	10

In every core villages, seed savior committee has been formed. For promotion of locally suited seeds in surrounding villages, best performing locally suited seeds were procured and supplied to all core villages; this seeds were handed over to seed savior committee. Committee will decide distribution and seed production plan. After one year all core villages have their own seed system, will cater their seed needs. This activity carried out with conversance of RRA CP project.

Seed supplied detail is as below;

Sr.No.	Crop	Seed Supplied (kg)
1	Moth Bean	182
2	Sorghum	1000
3	Green Gram	211
4	Cluster Bean	500
5	Sesame (White)	31
6	Sesame (Black)	24
7	Pearl Millet	150
Total		2098

2.2 Seed Purity, Refreshment and Multiplication

Satvik had carried out seed purity enhancement work in traditional seeds Green Gram and Castor in Kharif 2015 at Kodki Farm. 6 types of Green Gram lines 2 row X 100 meter were sown for genetic purity enhancement and seed refreshment purpose. Roguing (removal of odd type plants) activity was carried out in all seed lines. Same way 1 traditional type of Castor line was sown and carried out all necessary farm operations. In Green Gram, all lines were harvested separately and threshed manually to avoid admixture. 1 kg to 1.5 kg pure seed of each line was produced. In Castor, best plants were identified and selected for further seed production. Maganbhai Ahir is a farmer who interestingly working on selection of seeds from desired plants in Castor, Ground Nut and Alfalfa. He was invited for plant selection and Ramesh Makvana from Satvik had joined him. A (First spike of best single plant), B (rest of spikes from best single plant) and C (rest of plant population in plot) categories were given and harvested separately.

In Rabi 2016, traditional Mustard was grown to further purity and seed production purpose in Kodki Farm. Small varietal experiment on Banshi Wheat was put to know performance under saline water.

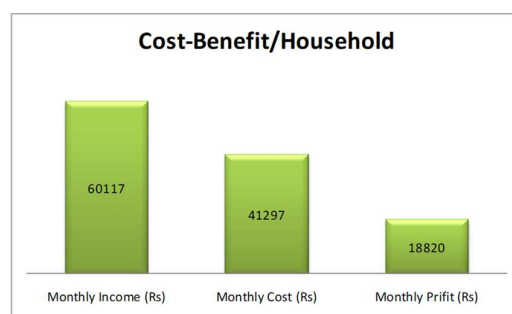
Traditional Green Gram seed was grown at Kodki Farm in summer 2016 for further seed multiplication. Only 5 kg seed was produced due to high saline water.

3 Homes In the City (HIC)

Homes In the City (HIC) project is running by association of 5 organizations in Bhuj city. Sahjeevan is secretariat of this project. The main objective is to make Bhuj clean, slum free and generate employment for rural poor. It is emphasis on improve life style of city livestock owners by increasing their income. This project is providing fellowship to organizations for carry out unique work in Bhuj city. Satvik had applied for fellowship to carry out socio economic study of city livestock owners. Valimamad Theba was the fellow and mentor was Ramesh Makavana. This fellowship was sanctioned and Satvik had carried out this study on sample survey basis.

This study was carried out in Gandhinagari and Machchhunagar colony of Bhuj city. Study had mainly covered basic information of livestock owners, facilities available for cattle, feeding practices, animal health, milk production and milk marketing and cost-benefit analyses of cattle based economy. Data was obtained by one to one interaction and Focus Group Discussion method. All data was compiled and analyzed. Basic data set is given below table and graph showing that cost-benefit of per household profit.

Location	Livestock Owners (Nos.)	Livestock (Nos.)	Monthly Milk Production (Ltr.)	Monthly Revenue (Lakh Rs.)
Gandhinagari	18	952	57480	16.81
Machchhunagar	35	1966	34860	11.25
Total	53	2918	92340	28.06



The major findings were as bellow:

- Needs to focus on hygienic milk production practice
- Needs improvement in basic facilities like shed, watering and animal health
- Needs to provide financial assistance for purchase of cattle feed and fodder on time
- Facilitate for milk marketing
- Educate them for breeding practice

Detail report has been prepared, printed in multiples and submitted to Sahjeevan.

4 Financial Reports

Balance Sheet

Satvik : Promoting Ecological Farming

Public Charitable Trust Reg. No. F-1541/Kachchh & Society Reg. No. Guj/1355/Kachchh

Balance Sheet as on 31.03.2016

Particular	Annexure	As on	As on
		31-Mar-16	31-Mar-15
Funds & Liabilities			
Trust and Corpus Funds	A	1,678,049	1,656,331
Other Funds	B	504,970	606,248
Unutilized Grant	C	-	38,911
Total		2,183,020	2,301,490
Assets & Properties			
Net Block of Fixed Assets	D	1,457,315	1,468,966
Investments	E	557,475	665,000
Net Current Assets	F	168,230	167,524
Total		2,183,020	2,301,490
Notes forming part of Accounts	O		

For Satvik: Promoting Ecological Farming

As per our report of even date
For H.Rustom & Co.
Chartered Accountants
Firm Reg. No. : 108908W

Shresh Vyas
Secretary



HRD Dalal
Proprietor
Membership No. 31368

Place : Bhuj

Dated : 16 SEP 2016

Place : Ahmedabad

Dated : 20 SEP 2016

Income Expenditure

Satvik : Promoting Ecological Farming

Public Charitable Trust Reg. No. F-1541/Kachchh & Society Reg. No. Guj/1355/Kachchh

Income & Expenditure Account for the Year Ending on 31.03.2016

Particulars	Annexure	31-Mar-16	31-Mar-15
Income			
Grants & Donations	G	38,911	1,167,434
Other Income	H	912,373	449,000
Interest Income	I	62,488	60,867
Profit on sale of Assets			8,320
Total		1,013,772	1,685,621
Expenditure			
Expenditure on objects of the trust	J	992,701	1,358,648
Contribution to Charity Commissioner	K	10,678	50,000
Establishment Cost	L	32,701	88,491
Remuneration to Trustee	M	-	96,292
Statutory Audit Fees	N	45,600	44,944
Depreciation	D	11,652	21,885
Transfer to Corpus Fund	A	21,718	7,514
Transfer to General Reserve Fund	B	-	-
Excess of Income over Expenditure	B	(101,278)	17,847
Total		1,013,772	1,685,621
Notes Forming Part of Accounts	O		

For Satvik: Promoting Ecological Farming

As per our report of even date

For H.Rustom & Co.

Chartered Accountants

Firm Reg. No. : 108908W

Shreshth Vyas
Secretary



HRD Dalal
Proprietor
Membership No. 31368

Place : Bhuj

Dated : 16 SEP 2016

Place : Ahmedabad

Dated : 20 SEP 2016





Satvik : Promoting Ecological Farming

A 59, Changleshwar Society

Mundra Relocation Site

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