

Navsari is located at : 20°57'N 72°56'E / 20.95°N 72.93°E / 20.95; 72.93.

Average elevation of 9m above sea level.

Matwad is located in southern Gujarat and is situated near the **Purna River**.

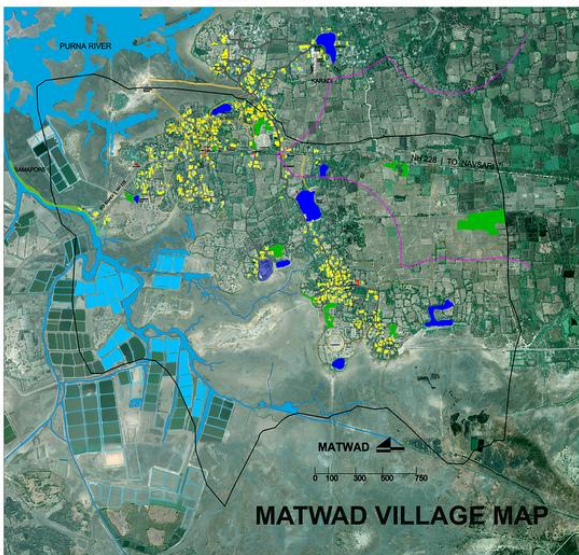
Weather in Matwad is sunny from September to May, rainy from June to August. The average maximum and minimum temperatures are **40 °C (104 °F)** and **18 °C (64 °F)** respectively. The average annual rainfall is 122 cm (48 in). The soil of the region is black.

DEMOGRAPHIC DATA OF MATWAD

VILLAGE NAME	Area of Village (in hectares)	Number of Households	Total population - Persons	Total population- Males	Total population- Females	Sex Ratio
Dandi	3304.7	229	926	445	481	1081
Samapar	790.13	634	2717	1376	1341	975
Matwad	724.68	687	2776	1394	1382	991
Onjal	926.96	1538	7285	3657	3628	992
Total	5431.4	3088	13704	6872	6832	994

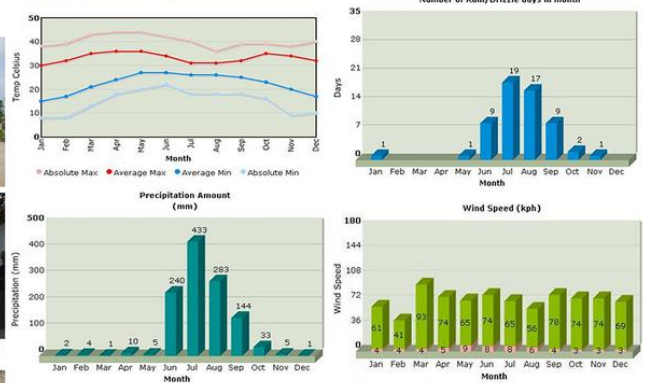
Parameters	Matwad	Samapar	Dandi	Onjal
Census 1991	756.29	432.15	3152.95	1087.00
Census 2001	756.29	432.15	3152.95	1087.00
Area of Village (Ha)	756.29	432.15	3152.95	1087.00
Population	3058.00	2776.00	2491.00	2717.00
No. of H.H	679.00	687.00	487.00	634.00
Unirrigated Land	191.38	123.30	144.42	-
Cultivable Land	30.51	30.00	21.17	-
Area available for Cultivation	534.40	534.00	266.56	-

	Gujarat	Navsari District	Jalalpor Taluka	Project Area (Avg of all village)	Dandi	Matwad	Samapar	Onjal
House hold size	5.2	4.8	4.6	4.25	4	4	4.3	4.7
Proportion of Urban Population	37.4	27.4	36.3	0	0	0	0	0
Sex Ratio	920	955	927	1009.75	1081	991	975	992
Sex Ratio (0-6 years)	883	915	887	906.75	1111	821	667	1028
Sex Ratio (SC)	925	985	970	873.33	1019	706	0	895
Sex Ratio (ST)	974	990	964	886.5	923	925	789	909
Proportion of SC	7.1	3.2	4.2	3.275	11.6	1	0	0.5
Proportion of ST	14.8	48.1	19	1.775	2.7	2.8	1.3	0.3
Literacy Rate	69.1	75.8	82.1	92.55	92.2	93	93.4	91.6
Illiteracy Rate	48.3	38	32	18	19.3	15	15.6	22.1
Work Participation Rate	41.9	44.3	36.2	28.075	25.4	34.1	26.6	26.2
% of Main workers	33.6	37.2	33.3	23.725	21.8	27.6	21.8	23.7
% of Marginal workers	8.3	7.2	2.9	4.35	3.6	6.5	4.8	2.5
% of Non Workers	58.1	55.7	63.8	71.925	74.6	65.9	73.4	73.8
Proportion of CL (%)	27.3	23.6	7.4	1.45	0	2.5	0.8	2.5
Proportion of AL (%)	24.3	33.1	29.6	18.25	33.2	24.5	14	1.3
Proportion of HHI (%)	2	1.7	1.7	1.025	0	1.4	1.2	1.5
Proportion of OW (%)	46.4	41.6	61.3	79.25	66.8	71.6	83.9	94.7



MATWAD VILLAGE MAP

CLIMATE FACTORS



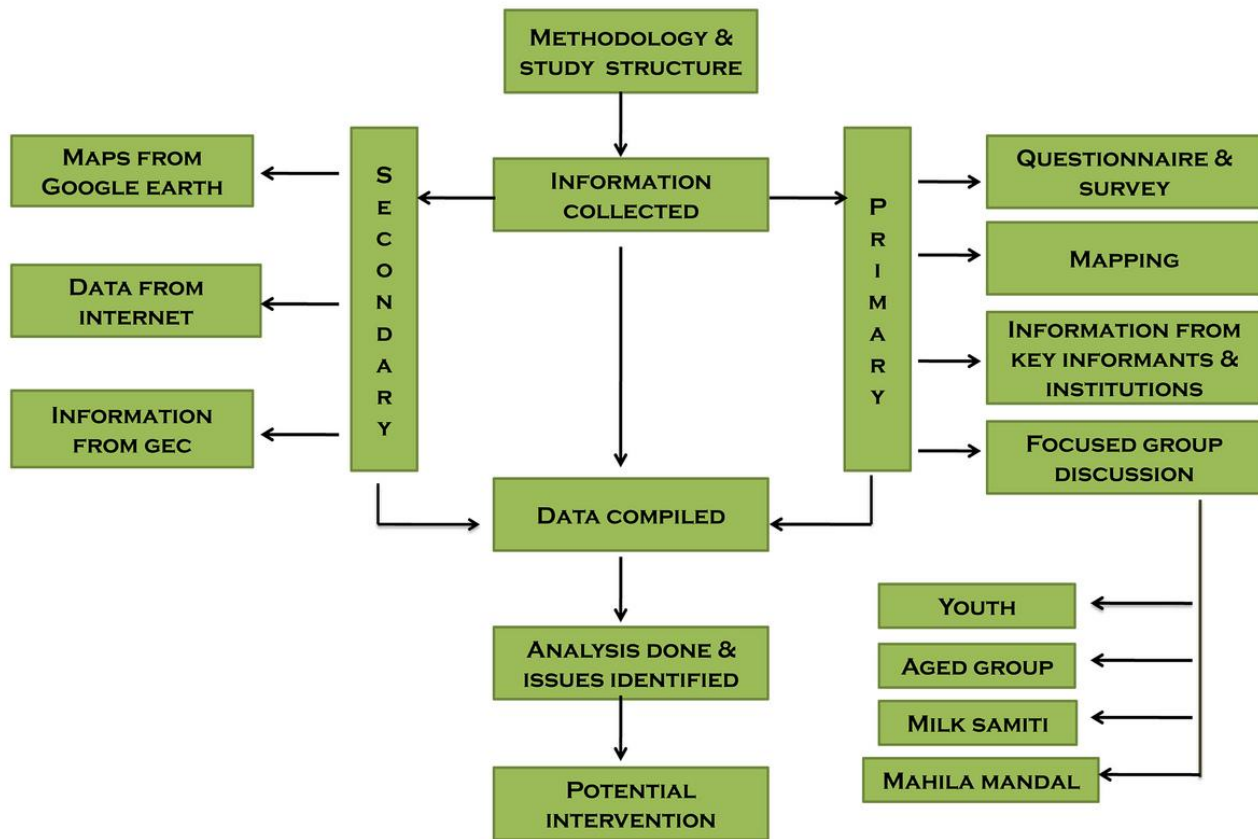
Matwad is 12 km from Navsari. The humidity is recorded to be around 65%, while the temperature varies between 18.0 C in winter to 40.0 C in summer. This area receives 2000-2500 mm rainfall annually (IMD). The lowest of 984 mm was recorded in the year 1999.

Matwad played an important role during the freedom movement of India. Matwad is carrying an historical importance in Indian history. Matwad was one of the villages of Dandi march, or salt satyagrah which was one of the main event of India's freedom struggle.



ANKIT SHARMA 0210
NEERAJ MODI 1110
PRACHI ASWANI 1210
RUCHI SNEHA 1410
SUNIL KRALETI 1810

Introduction
MATWAD VILLAGE
G.A.N.D.H.I.



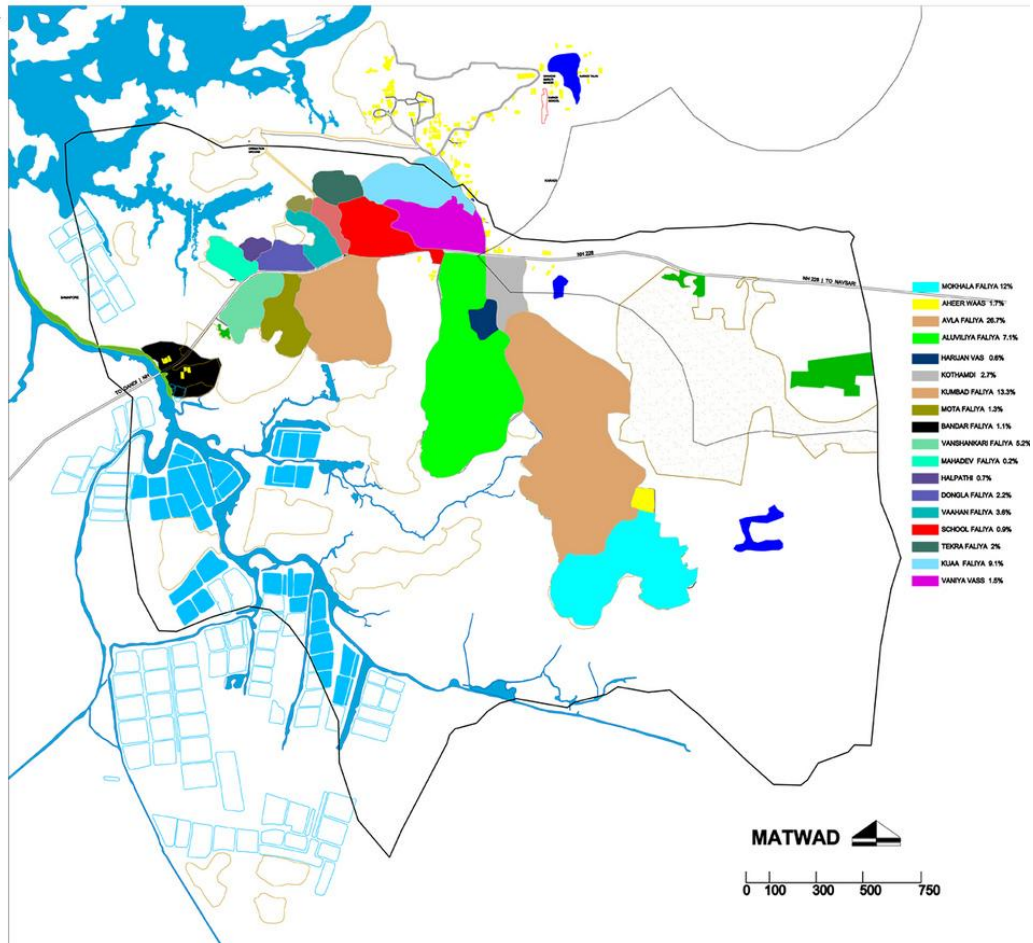
TIME LINE

BEFORE 1954 - MATWAD AND SAMAPOR WERE TOGETHER
 MAIN SOURCE OF INCOME & OCCUPATION - AGRICULTURE
 WATER AVAILABILITY 80% OF GROUND WATER, 20% RAIN WATER

IN 1954 - MAJOR INFLOW OF WATER FROM PURNA RIVER IN THE VILLAGE, CREEK WAS FORMED
 MATWAD AND SAMAPOR WERE SEPARATED INTO 2 VILLAGES,
 MAJOR AREA OF FERTILE LAND WAS REPLACED BY KHAR LAND
 THIS INCREASED IN SALINITY LEVELS OF LAND AND AGRICULTURE DECLINE
 VILLAGERS TOOK EFFORTS TO IMPROVE THE CONDITIONS OF SALINE LAND TO BE USED FOR AGRICULTURE
 SMALL MUD BANDHS WERE MADE BY THE VILLAGERS TO STOP THE SEA WATER FROM COMING INSIDE

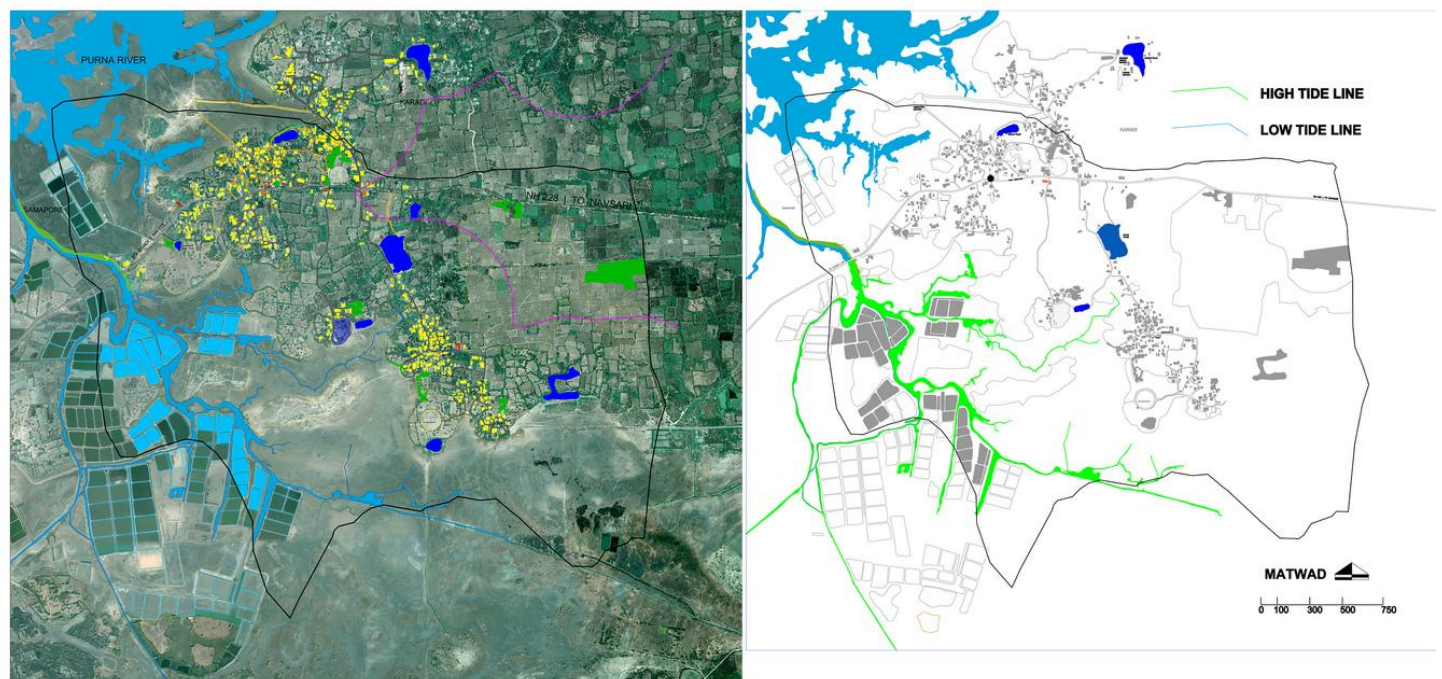
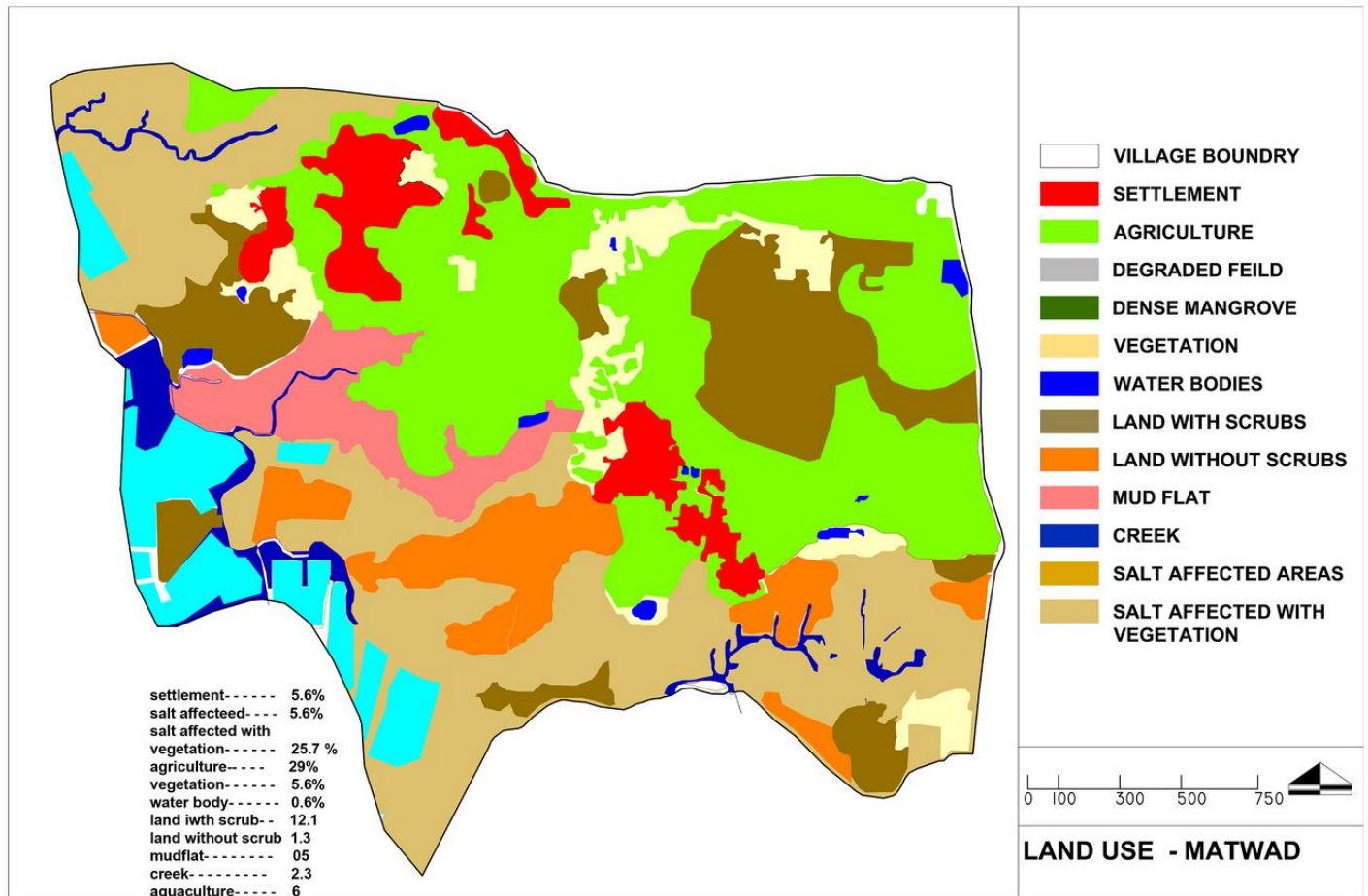
IN 1984 - CERTAIN AREA OF AGRICULTURAL LAND WAS DECLARED NON-CULTIVABLE LAND DUE TO HIGH SALINITY
 LEVEL, AND GIVEN TO PEOPLE FOR AQUACULTURE
 MAJOR SHIFT IN OCCUPATION FROM FARMING TO AQUACULTURE
 FURTHER DECLINE IN LAND QUALITY, THUS GOVT. BANNED AQUACULTURE LATER

FROM 1980'S - DEVELOPMENT STARTED IN NAVSARI
 THUS INCREASING WATER REQUIREMENT OF THE DISTRICT
 THUS AFFECTING THE AMOUNT OF WATER REACHING MATWAD
 MAJOR DECREASE IN AGRICULTURE AND OUT-MIGRATION STARTED



ANKIT SHARMA 0210
 NIRAJ MODI 1110
 PRACHI ASWANI 1210
 RUCHI SNEHA 1410
 SUNIL KRALETI 1810

METHODOLOGY & FALIYA
MATWAD VILLAG
G.A.N.D.H.I.



scrub land



water bodies



creek

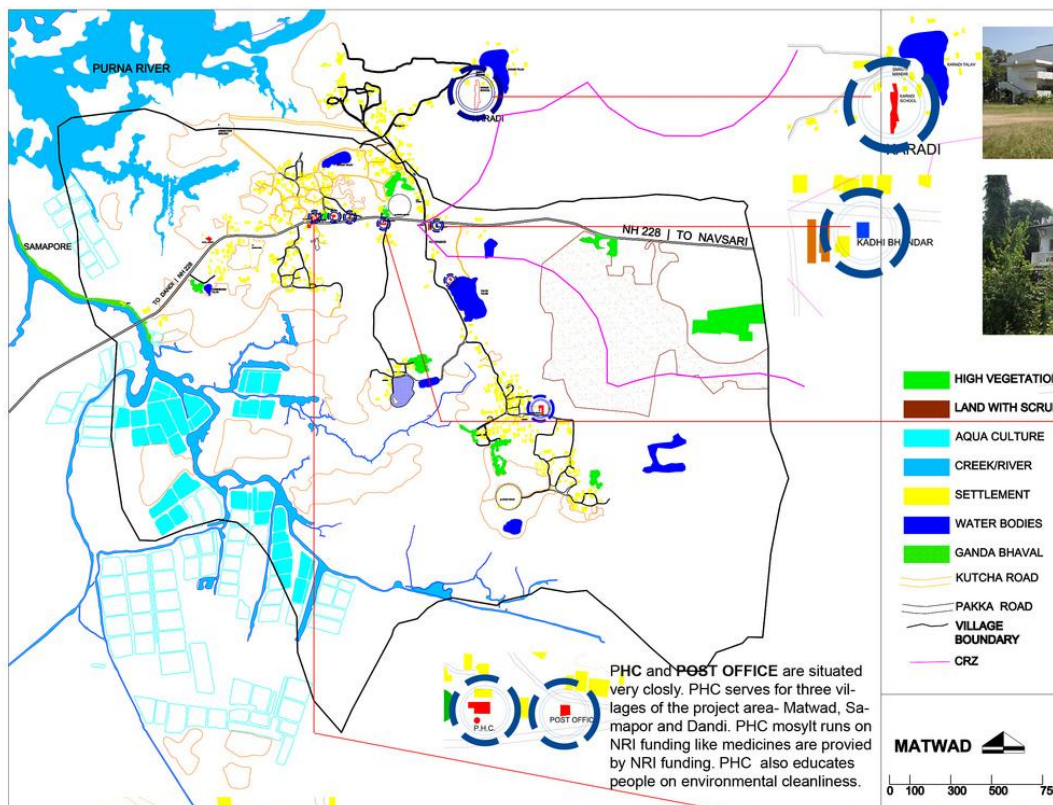


agriculture



ANKIT SHARMA 0210
NIRAJ MODI 1110
PRACHI ASWANI 1210
RUCHI SNEHA 1410
SUNIL KRALETI 1810

Land use & Tide line
MATWAD VILLAGE
G.A.N.D.H.I.



GANDHI SMRITHI MANDIR of Karadi. Karadi does not come in to the project area but as it being on the banks of the boudry and carrying a huge historic value Karadi makes an impact to the project. Gandhi has stayed 22 days at thr very own place after salt satyagrah.



KADHI BHANDAR is the first landmark when we enter in to Matwad. its also a heritage structure.



PRIMARY SCHOOL acts as the second land mark of the village
Total strength – 91; 50 boys, 41 girls; 15 in each class
Classes upto 7th standard
Mid-day meal provided by govt
Special subjects on environmental training are taken up
Vocational training given for future benefits
No. of students are reducing, no. of dropouts are substantially increasing
People are preferring private schools
15 computers, uniforms and english classes are being funded by NRI FUNDING
there is a cricket ground just front of school where culturall events are held reglary

MATWAD

0 100 300 500 750



Panchyat: Panchyat is the main governing institution of the village. Panchyat constitutes of

- 1 talati for 1 taluka
- 1 serpanch
- 2 vice- serpanch
- 2 office staff (1 male, 1 female)

WORK OF VILLAGE PANCHAYAT

IT MAINTAINS PEACE & ORDER IN THE VILLAGE.
IT HELPS THE POLICE IN THE PREVENTION OF CRIMES AND IN THE ARREST OF CRIMINAL
IT MAKES SANITARY ARRANGEMENT IN THE VIL-LAGE.
IT MAKES ARRANGEMENTS FOR PURE DRINKING WATER AND OF POURING MEDICINE IN THE WELLS, TANKS ETC.
IT MAKES ARRANGEMENTS FOR STREET & ROAD LIGHTS



SOURCES OF INCOME FOR PANCHAYAT SAMITI :

CONTRIBUTIONS AND GRANTS RECEIVED FROM THE STATE GOVERNMENT, ZILLA PARISHAD AND OTHER LOCAL AUTHORITIES;
LOANS GRANTED BY THE GOVERNMENT OR COLLECTED BY THE PANCHAYAT SAMITI;
ALL RECEIPTS IN RESPECT OF SCHOOLS, HOSPITALS, BUILDINGS, INSTITUTIONS ETC;
MONEY RECEIVED AS GIFT OR CONTRIBUTIONS
INCOME FROM TRUST OR ENDOWMENT,
LEVY OF TOLLS AND FEES ON PERSONS, VEHICLES OR ANIMALS;
LEVY OF TOLLS IN RESPECT OF ANY FERRY;
LEVY OF FEES AND RATES ON REGISTRATION OF VEHICLES;
FEES PROVIDING SANITARY ARRANGEMENTS AT SUCH PLACES OF WORSHIP, FAIRS.
WATER AND LIGHTING RATES FOR ARRANGING SUPPLY OF DRINKING WATER AND LIGHTING OF THE PUBLIC STREETS.

PHYSICAL INFRASTRUCTURE

Roads

National highway 228
Internal roads connecting the faliyas are tar roads some are kutchha roads

Electricity

Provided by GSEB, 24hrs electricity supply

Water supply

Tap water - Centralized water supply – water drawn from valva lake
Well water (currently not in use)
Hand pump (currently not in use)

POST OFFICE



INTERNAL ROADS



WATER COMMITTEE:

WATER COMMITTEE
SARPANCH
TREASURER
MAINTANENCE WORKER

WATER SUPPLIED FROM VALVA LAKE
DRAWN BY BORE WELLS & SUPPLIED TO OHT & UNDER-GROUND TANK.
SUPPLIED TO HOUSE HOLD FOR 45 MIN. EVERYDAY
109 RS. PER HOUSE PER YEAR FOR MAINTANENCE TO WATER SAMITI
CAPACITY OF TANK – 25000 LIT

WATER SUPPLIED TO SAMAPUR AND DANDI ALSO
8 – 16 HRS. OF PUMPING TO FILL THE TANK AS PER REQUIREMENT
3 PUMPS INSTALLED
MAINTANENCE DONE BY WORKERS FROM MATWAD AND NAVSARI

ISSUES

NON PERENNIAL SOURCE OF WATER
ALTERNATE SOURCE – BORE WELLS, NAVSARI CANAL



PRIMARY SCHOOL



N.H 228



VALVA TALAB

Physical Infrastructure
MATWAD VILLAGE
G.A.N.D.H.I.



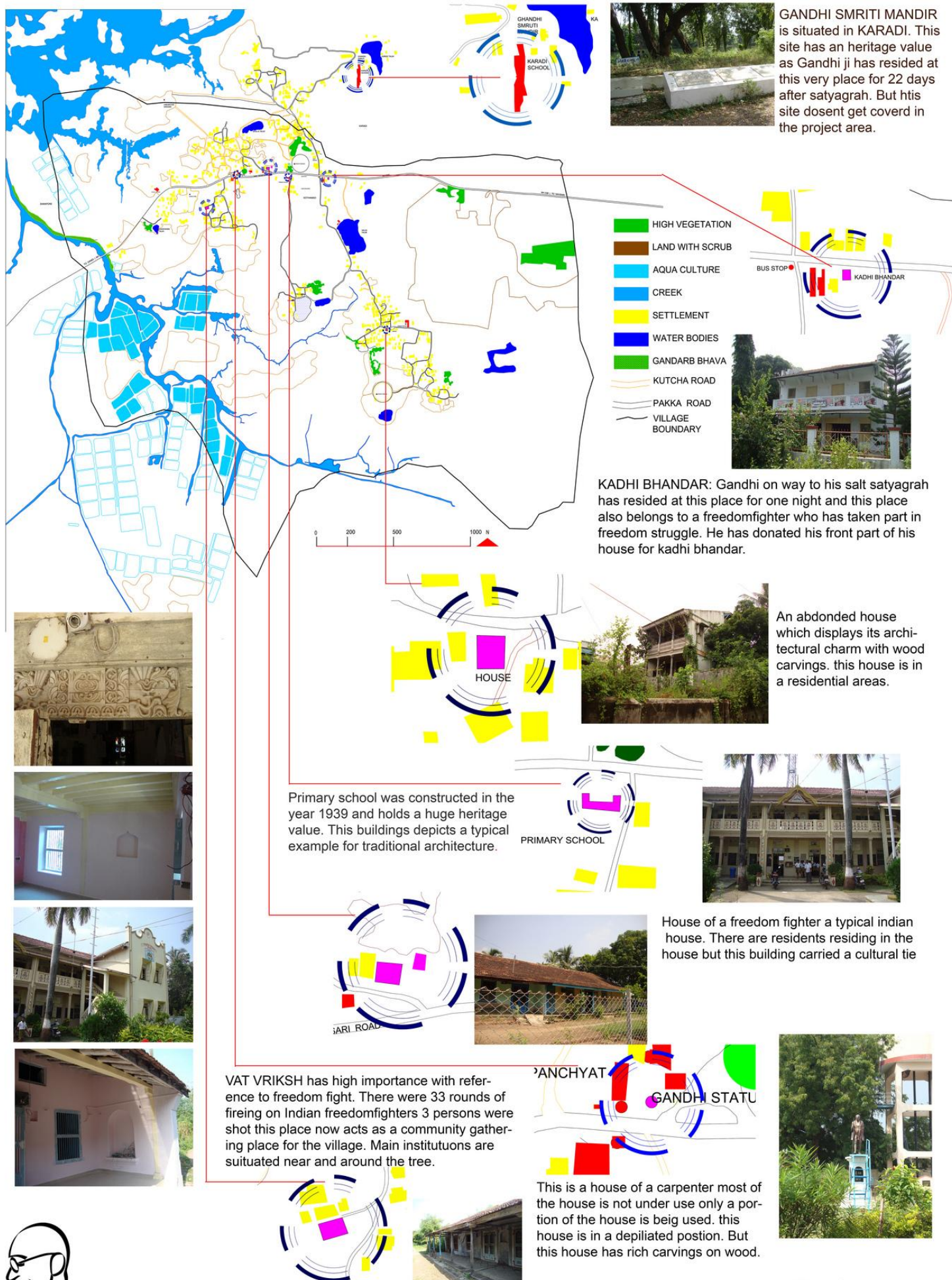
ANKIT SHARMA 1210

NIRAJ MODI 1110

PRACHI ASWANI 1210

RUCHI SNEHA 1410

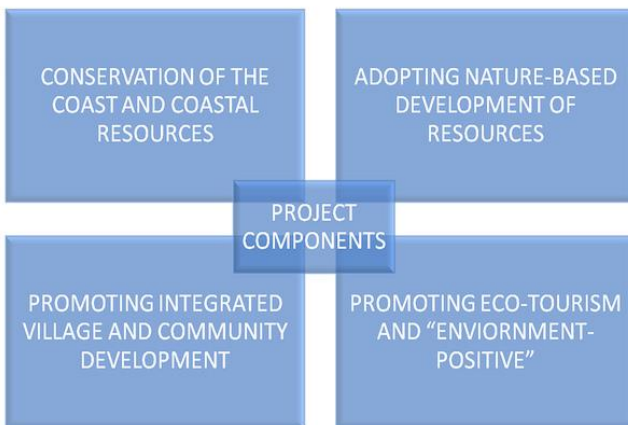
SUNIL KRALETI 1810



ANKIT SHRAMA 0210
NIRAJ MODI 1110
PRACHI ASWANI 1210
Mitesh Bhuvra 1710
SUNIL KRALETI 1810

Heritage
MATWAD VILLAGE
G.A.N.D.H.I.

1. Develop a baseline information for the proposed project area, with maps for existing and anticipated effluent discharge points.
2. Select and finalise sites for Mangrove Afforestation and Bio-Shield creation based on expert advice.
3. Mangrove Afforestation and Bio-shield creation for the protection of shoreline in project area.
4. Development of mechanism for beach management and nourishment
5. Development of community and grazing land within project area
6. Introduction of CBOs
7. Measures for Conservation of Wetlands
8. Conservation measures for Sandunes, beach and mudflats
1. Promoting Non-conventional Energy sources
2. Development of Rain water harvesting Structure
3. Restoration and redevelopment of water bodies within project area
4. Improving Water supply system and establishment of nature based desalination plant.
5. Waste management (Solid and sewerage) within the project area



1. Form or expand CBOs for conservation of coastal natural resources in project villages with social and gender equity.
2. Strengthen management capabilities of the CBOs
3. Socio-economic upliftment of Community:
4. Development of Learning Centre on "Mahatma Gandhi and his thoughts on Environment conservation"
5. Development of Cyclone shelter within project area

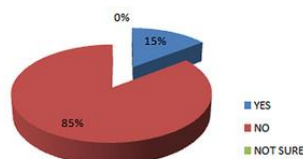
1. Development of Nature trail
2. Landscaping of the Dandi destination
3. To initiate and sustain Home-stay Programme in identified villages of Dandi through capacity building initiatives for the local communities.
4. Communication And Documentation
5. Conservation of site and buildings related to the Dandi March:

Issues & analysis from Questionnaire

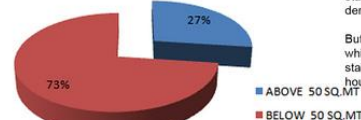
Activity 1 : Conservation of Coast & Coastal Resources -Matwad						
Issue	Cause		Impact	Adaptation / Coping	Knowledge /Awareness	Potential Intervention
	Natural	Anthropogenic				
depleting mangroves along the creek	irregular availability of water due to high and low tide	chemicals washed away with the creek water from aqua culture	erosion along the creek path; reduction in no. of crabs; insufficient sources for grazing	looking for alternative grazing lands; shifting to other activities than crab farming	residents don't feel the importance	Mangrove afforestation; reduction in aqua culture; adopting organic methods of aqua culture
unexplored potential of mudflats		lack of knowledge and interference of human activities	land going waste	no adaptation yet	no knowledge	Mangrove afforestation; job opportunities for its afforestation

Activity 2 : Adopting Nature-based Development of Resources						
Issue	Cause		Impact	Adaptation / Coping	Knowledge /Awareness	Potential Intervention
	Natural	Anthropogenic				
Restrictions in installing solar panels		lack of fund; lack of area at individual household for decentralised system	increased dependency on exhaustive sources of energy	nothin is being done	pessimistic	decentralisation of energy generation
improper exploitation of rain water run off		ignorance	water scarcity; water scarcity for irrigation in agriculture	use of underground water	less knowledge	imparting knowledge and installing rain water harvesting at house hold level
increased water salinity	proximity to sea	draining of chemicals from aquaculture farming	decrease in agriculture and grazing land; increased in ground water; increase in saline land (waste land)	desalination at household level; rain water harvesting; increased dependency on rain water	yes	controlled usage chemicals in aqua culture farming; efficient rain water harvesting; establishing desalination plant; treating patches of land for desalination for cultivation
improper waste disposal		ignorance of the villagers	open waste disposal; creation of dump sites in village; triggering diseases	nothin is being done	no knowledge	using waste to produce bio fuels; installing village/ community level biogas plants
Lack of awareness among the villagers		Ignorance of the govt.; inert mind set of the villagers	Unaware of sustainable methods; non acceptability	nothin is being done	no	interactive & interesting methods of creating awareness among villagers & local govt.; proving funds for the same; NGO's & CBO's

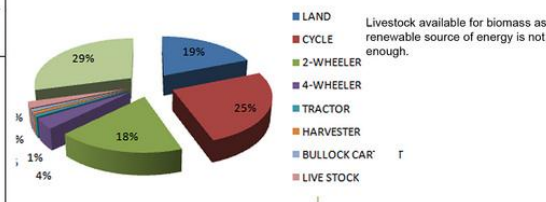
Knowledge about MANGROVES



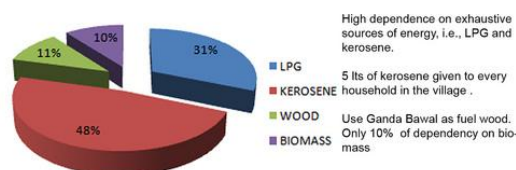
PLOT SIZE FOR EACH



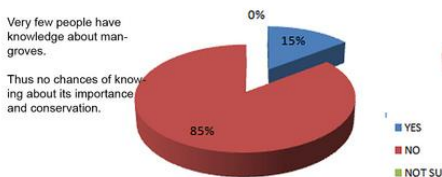
ASSET DETAILS



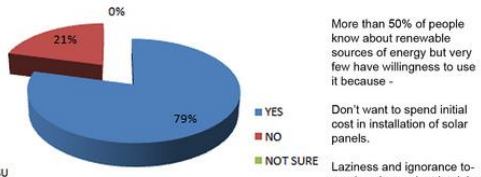
COOKING FUEL



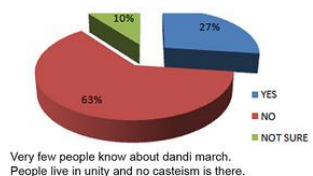
Knowledge about MANGROVES



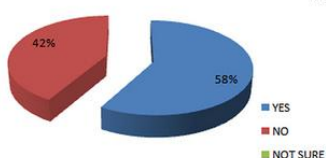
Knowledge about CLIMATE CHANGE



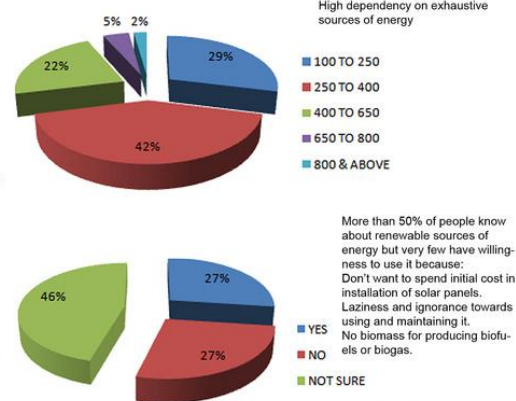
Knowledge about EFFECT OF DANDI MARCH



Knowledge about RENEWABLE RESOURCES



ELECTRICITY – money spent per month

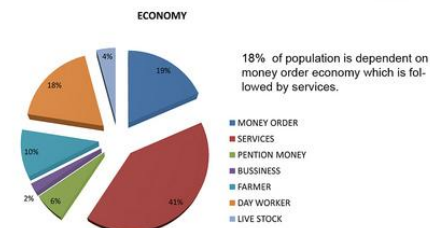


ANKIT SHARMA 0210
NIRAJ MODI 1110
PRACHI ASWANI 1210
RUCHI SNEHA 1410
SUNIL KRALETI 1810

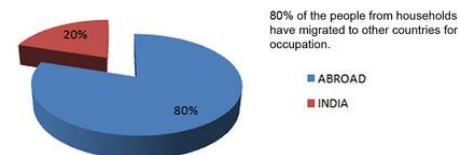
ANALYSIS
MATWAD VILLAG
G.A.N.D.H.I.

Activity 3 : Promoting integrated village and Community Development						
Issue	Cause		Impact	Adaptation / Coping	Knowledge /Awareness	Potential Intervention
	Natural	Anthropogenic				
less job opportunities within the village	salinity of land; scarcity of irrigation facility	triggering the salinity due to aquaculture farming	unavailability of agricultural land & fodder; high migration level	shedding off the cattle; using mangroves as fodder; going abroad & to other cities for job	yes but pessimistic about taking efforts	organic methods of desalination; mangrove afforestation to produce fodder for cattle; proper rain water harvesting for irrigation; CBO's for job & development
alcoholism among youngsters	none	easy availability of liquor; sufficient money to spend	health problems; social disorder	none	yes but indifferent	social awareness; keeping a check; penalising it
flesh trade	none	lack of social awareness	spread of disease like AIDS; social disorder	none	yes but indifferent	social awareness; keeping a check; penalising it
money order economy; high migration level	lack of job opportunities due to natural interventions	lack of interest; triggering the salinity due to aquaculture farming; lesser pay scale than from abroad	mental disbalance due to lack of job; high sex ratio; set mentality of going abroad	none	yes but indifferent	CBO's; introducing job opportunities
untreated waste		carelessness & indifferent attitude	unpleasant surroundings; triggering of diseases	none	yes but indifferent	
downfall of milk samiti	scarcity of grazing land	shedding of cattle; less money returns	decrease in production of total amount of milk	better production by per cattle & increase in milk quality	yes	increasing fodder sources & grazing land

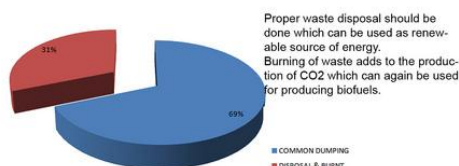
Activity 4 : Promoting Eco-tourism and ‘Environment-Positive’ Branding of Destination Matwad						
Issue	Cause		Impact	Adaptation / Coping	Knowledge /Awareness	Potential Intervention
	Natural	Anthropogenic				
underexploited economic value from heritage spots		insufficient government funds; lack of understanding of heritage value	loss of importance of heritage spots; physical degradation; non-maintenance; loss of a good source of income	none	ignorant	government funding for its development; social awareness; CBO’s for maintenance of heritage spots



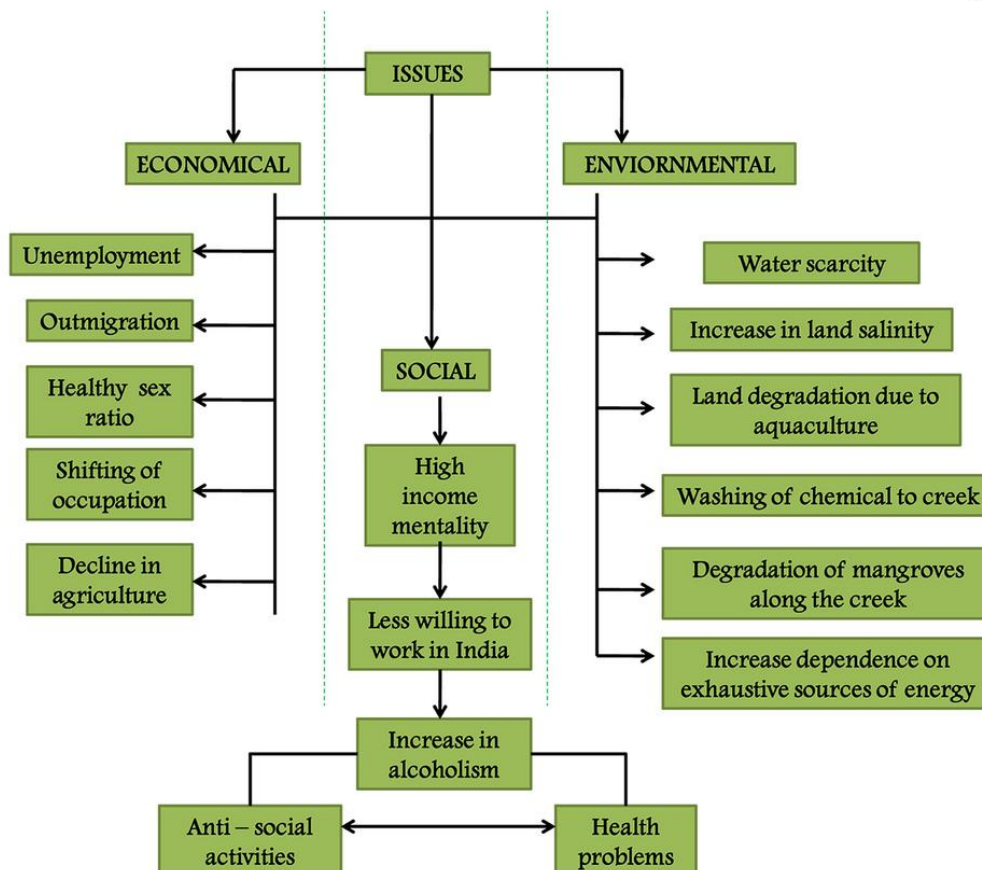
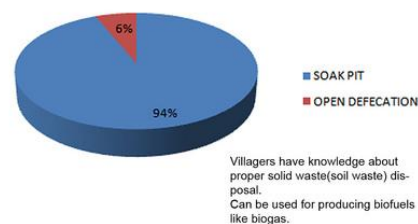
MIGRATION (OUTGOING) – from the households interviewed



SOLID WASTE – from kitchen & other wastes except soil waste



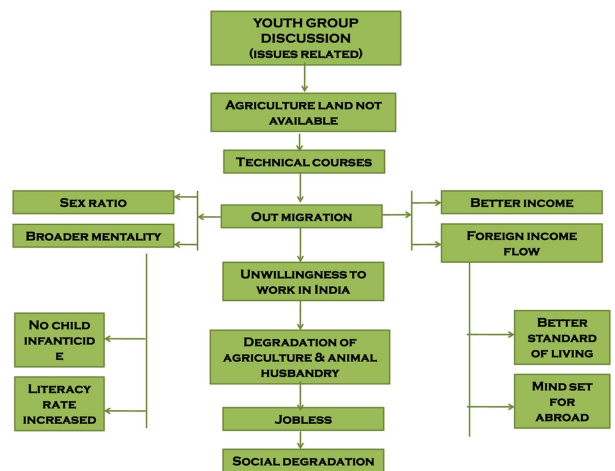
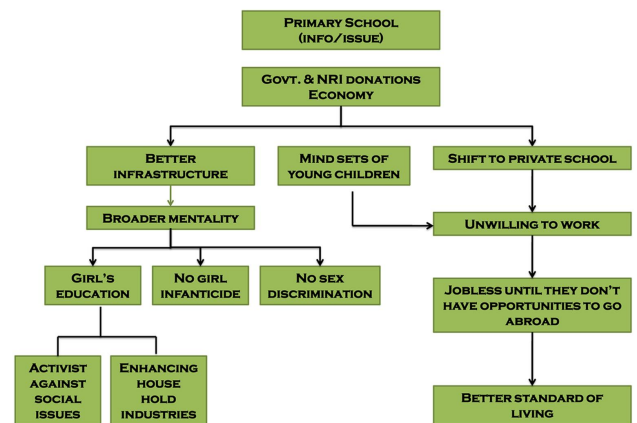
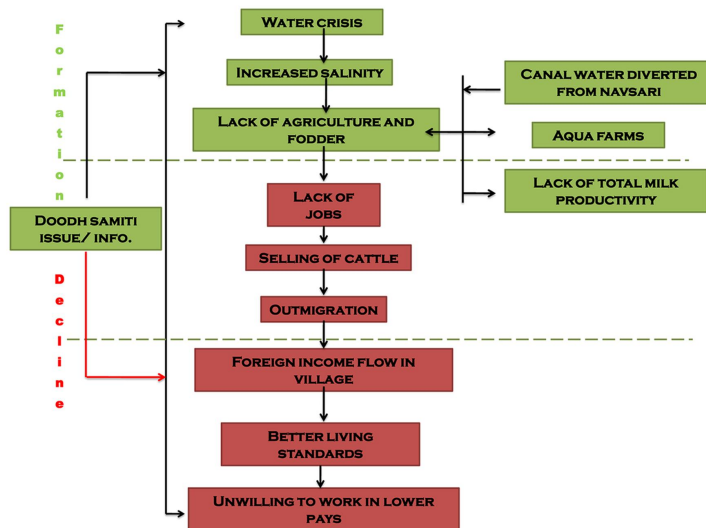
SANITATION



Focused Group Discussion

S.no	Target groups	Current Scenario	Issues	Impact
1	Doodh Samiti	Water canal closed, Water crises occurred, which further accelerated in increase of salinity due to popularity gained by aqua farms hence forth ruining the agricultural land and reducing productivity	Lack of fodder, lack of proper yield of milk, hence forth selling of cattels	Reduced production of milk and job opportunities, hence causing outmigration which further demotivated people to work cause of their better standard of living through foreign income flow in village
2	School Teachers	Students shifting to private schools, More number of drop outs, Better standard of living, Better infrastructure	Unwilling to work on lower pays, Jobless, Social disorders created	Mindsets of young children oriented towards goin abroad, Broader mentality of people, girls are better educated than men, No girl infanticide, No sex discrimination.
3	Youth	Agricultural land is not available, increasing salinity, School dropouts and I.T.I education preferred	Dropouts from school, Outmigration, Unwilling to work in India, Degradation of agriculture and animal husbandary, Social disorders, Mindset of people to go abroad	Better income, Foreign income flow, Better standard of living, Healthy sex ratio, Broader mentality, No child infanticide, Better literacy rate.
4	Aged people	Lesser pays in Gujarat, Agricultural decline, Increased salinity	Outmigration, Lack of labor, Lack of jobs	Water canal deviated, Barren lands, No agricultural production, no fodder for cattle
5	Women	Broader mentality of people, More number of girls in the school, Women more educated than of the village, Better standard of living	Healthy sex ratio, Lack of government funds, Social issues, Unwillingness to work	Girl education, No girl infanticide, Women impart basic knowledge, Imparts environmental and social values, Actively participates against social issues prevailing in the village, Enhancing economy by home based industries

Correlation of issues



Potential Intervention

CBO - Women empowerment - Matwad has Black cotton soil which is suitable for growing cotton. Thus it can be used for manufacturing handmade/machine made khadi cloth. This will give employment to women like in tailoring and selling them in the same Khadi bhandar.

Interactive classes - Training classes for the women involved in CBO for producing cotton.

Installation of desalination plants - It can be either centralised or decentralised - depending on the feasibility.

Solar panel installation on wastelands.

Awareness through media communication - like posters, movie or theatre.

Solid waste management - Waste can be used to produce energy and compost.

Improving cooking standards - like change from Chulhas to biogas or LPG.

Steps to **reduce land salinity** through natural techniques.

To grow plant species which can survive on saline lands to increase the green cover - can be used as biomass, for fodder or grazing land.

Storm water drainage and rain water harvesting pits at household or community level.

Resilient structures to withstand harsh climate at community level.

Proper planning of the villages on bank of Purna river which may be a threat in the changing climate scenario.

Framework extracted from the study

