HEALTH AWARENESS CAMPAIGN, BANASKANTHA DISTRICT, GUJARAT

santalpur regional water supply scheme

progress report

November 1990 to May 1991

CHETNA

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PROGRESS REPORT OF CHETNA's INVOLVEMENT IN THE HEALTH AWARENESS CAMPAIGN, BANASKANTHA DISTRICT, GUJARAT

While CHETNA began its active involvement since the beginning of 1991, the idea behind its participation in a long-term sustainable project on areas focusing on health and diseases, related mainly to water, bordering largely on women and development issues, was conceptualized much earlier.

The Santalpur Regional Water Supply Scheme (SRWSS) envisaged supply of drinking water to 72 identified "no source" villages, in 1978. By the end of this scheme, an extension scheme was introduced to cater to 48 additional "no source" villages identified over the years since the implementation of SRWSS. Later, an Augmentation scheme was introduced to include 21 more villages, thus totaling upto 141 in all.

It has been felt during the past 10 years that while supply of drinking water is of paramount importance to all the identified villages, falling under the 3 talukas of Santalpur, Radhanpur and Kankerej of Banaskantha district, parallel awareness creation towards use & practices pertaining to drinking water is essential for the project to have any sort of impact on the development of the area. While one can envisage such an intervention before the actual commissioning of the project, there is nothing that prevents one from joining the system, late be it in the life of the project, than never.

So while around 97 villages have already been supplied water, the rest of them (around 45) are still yet to be supplied. Hence awareness generation amongst the villages, would make use of slightly different methodologies in those already receiving water, from those yet to do so.

Awareness generation, would be a broad generic name used for methodologies that basically focus on educating people. Since the area of operation is vast (97 villages in 3 talukas), as a team CHETNA has felt that it would not be able to concentrate on each and every village individually, as it, not only, would be, not feasible given the time span of 3 years, but would also poster a sense of dependence amongst the beneficiaries, such that withdrawal would pose a layer problem.

Hence one basic strategy is to avoid building local level structures parallel to those already in existence, and to deploy these locally available infrastructure and resources to the best extent possible.

Examples of such local level resources are ICDS units (Anganwadi centers) and its staff, PHCs and medical staff, local voluntary agencies, village bodies like Panchayat, Pani Panchayat, schools, mandals, etc.

These resource and infrastructure are permanent components in villages and sustain ability of the project can be ensured by promoting their effective deployment.

The various tools to be used in propagating awareness amongst people towards drinking water, its benefits and proper usage, include melas - mahila melas, bal melas, zumbesh, meetings, video shows, cluster camps, etc. While it has been decided to hold these, in and around village, it was felt that each of the above can be held at one village so that the neighboring say 5 villages can also attend them. Night halts at villages to learn and demonstrate certain hygiene and sanitation practices from and to, the villagers will form part of CHETNA's plans in the three years.

Educating the intermediary level of people (ANMs, AWWs, Pani Panchayat members, Mandal members, etc.) will also involve use of posters, flip charts, games and slide shows. We have decided that every school will serve as an ideal resource center for each village, hence posters and pictorial representation of messages pertaining to water and water borne diseases will be displayed in the classrooms.

Children, who are the most vulnerable section to diseases and lack of hygiene, seem most responsive to external influence. Not only are they very enthusiastic about such interventions, but also express sincerity about it. As a result of our acquaintance and interaction in a few villages, we have felt that children will be a source for imparting health slogans and messages. However, all such messages are to be localized; in the sense that these children/villagers will actively be involved in the phrasing and designing of messages. The use of popular folklore and folk-art forms will be encouraged and promoted. "garba" dance, mythological stories, character personification, will be a few such tools.

As a precursor to our plans and involvement, a brief KAP study was done in around 18 villages of the 3 talukas. This was done with the intention of getting to know more about existing knowledge, attitudes and practices towards water. This would serve as a qualitative database, aiding us regarding the direction in which we may have to proceed on the basis of their knowledge/practices.

Simultaneously water samples were collected from a few villages - from standposts, pots inside houses, pots left at standpost. A presumptive test for checking E .coli bacteriological content in water was done. From this, the household water of 4 villages showed presence of bacteriological micro-organism although we did not complete the next test to confirm the presence of E.coli bacteria.

The next independent activity that was initiated was a Mahila mela for women members of the Pani panchayat of around 30 villages in the environs of the Varahi HW site of the GWSSB. The purpose behind this Mela, being formal introduction of CHETNA to the women, and information dissemination in the villages regarding CHETNA's proposed activities for the next few years. Also, we desired to know what they, as women members of Pani panchayat, were doing in light of the drinking water sources; how problems in breakdowns of the SPs were solved, how frequently did such problems arise. While the focus of this mela was mere rapport building, providing a forum for free discussion of each villages problems, opinions expressed and suggestions made, there was also a tiny element of focus on health issues. This was made by linking bad water and its properties to diseases. A microscopic slide view of dirty water revealed the presence of live microorganisms that caused ailments like diarrhoea. The women at times found difficult to believe that the tap water they drink would also contain such harmful elements if improperly stored and handled.

Suggestions from the women regarding such a mela revealed that instead of holding it in a place outside their village (which was the case this time), participation would be more and interest sustained to a greater extent if such melas were held inside one village, for more than one day, so that neighboring villages could attend it, go back for the night and return the next day morning.

Also timing of such melas would have to coincide with the convenience of the villagers - not to hold them during times of rain and successive harvest. Most of the women tend to their cattle and dinner is one time when the whole family meets for the day. Hence should also be considered while making future plans.

With this consideration, there is a plan to hold shortly another such mahila mela for villages in the environs of Radhanpur with a few changes from the earlier one, so as to be able to gauge the interest of these women also. While the major objective would remain the same, there is a need to expose the women to the main source of water - namely, the Shihori water works, so that they get an idea, as to the distance from which water is brought to their village.

WORKSHOP ON HEALTH AWARENESS CAMPAIGN OF SRWSS PROJECT

Proceedings

SUMMARY REPORT ON A 3-DAY WORKSHOP ON THE HEALTH AWARENESS PROJECT OF BANASKANTHA OF THE SRWSS SCHEME

DATE	:	7th to 9th JANUARY, 1991
VENUE	:	CHETNA, AHMEDABAD
PARTICIPANTS	:	PALLAVI/HARINI/VARSHA MAHESHWARI
RESOURCE PERSONS	:	ILA VAKHARIA/SANJAY JOSHI/ DR. TRIVEDI/MAYANK JOSHI

OBJECTIVE

To initiate discussions and sharing information available on the above project to serve as an introduction to the members working on it.

SUMMARY

Starting with a broader perspective of water and its use in India, efforts of CHETNA in facilitating water awareness in earlier programmes, knowledge, attitudes and practices of rural people towards water, the discussions verged towards issues on sanitation and hygiene, which are implicitly linked with water.

With inputs from Ila on topics like CHETNA's role in guineaworm control, efforts of the Govt. machinery in promoting the NDWM and the role of CAPART in providing drinking water to "no source" villages, the workshop gathered more information from Sanjay on the UP Rural Sanitation Project which also is funded like the above Water Awareness Project, by the Govt. of Netherlands.

Dr. Trivedi made his invaluable contributions in terms of imparting information about various water-borne and water-related diseases like diarrhoea, typhoid, cholera, jaundice, malaria, etc. He stressed the importance of hygiene and sanitation as part of both preventive and curative medicine.

The last phase of the workshop spoke of the specific project -the technical aspects of supplying drinking water under the SRWSS scheme by the GWSSB, the physical targets achieved, lacunae in the system, how best CHETNA could intervene to start the spread of awareness of water, and its effective usage.

A short-term plan was devised whereby the background/base work could be initiated immediately by the dissemination of information regarding CHETNA's entry into the project, to all the concerned local authorities (Govt. and non-Govt.).

The background papers used as reference material for the above workshop are enclosed herewith.

WATER AND ITS PROPERTIES

a background paper based on the paper "Drinking Water Standards" by Dr. Ram Gopal, Defence Laboratory, Jodhpur

Distribution of water in the hydrosphere is as:

A.	Oceans	97.1%
B.	Surface Water	2.26%
	a. Lakes (Fresh water + saline water)	.071%
	b. Streams	.0001%
	c. Polar ice caps + glaciers	2.24%
C.	Ground water	0.61%

Definition of Safe Water - Drinking Water

Water free from pathogenic micro-organisms, poisonous substance, excess amounts of minerals and organic matter, which would produce undesirable physiological effects - should be free from color, turbidity, taste and odour, of moderate temperature and aerated. "In developing countries (like India) 3/5th have no access to safe drinking water and only 1/4th have access to sanitation facilities" according to WHO report, 1981. It is stated that 15 million children die every year because of water borne diseases.

Drinking Water Standards

A. Physical
B. Chemical
C. Bacteriological

A. Physical

Turbidity/Color, Taste/odour

B. Chemical

	Properties	WHO guidelines 1984	ICMR (1975) Desirable	ICMR (1975) permissable
1.	PH (alkanity)	6.5-8.5	7.0-8.5	6.5-9.2
2.	TDS(total dissolved salts)mg/l	1000	500	1500
3.	Chloride (Cl)mg/l	250	200	1000
4.	Fluoride (f)mg/l	1.5	1	1.5
5.	Sulphate(SO_4)mg/l	400	200	400
6.	Nitrate(NO_3)mg/l	10	20	100
7.	Hardness($CaCO_3$)mg/l	500	300	600
8.	Calcium (Ca) Mg/l	-	75	200
9.	Magnesium (Mg) mg/l	-	50	100
10.	Iron (Fe) mg/l	.3	-	-

C. Bacteriological

	Properties			
1.	Coliform mpn/100 ml	3	10	-
2.	E.Coli mpn/100 ml	Nil	Nil	-

Natural waters contain chlorides, sulphates, carbonates, bicarbonates of sodium, potassium, calcium and magnesium. Taste and aesthetic acceptability of drinking water is mainly due to presence of these ions alongwith dissolved oxygen. In the human body 70% of weight is made up by water. Out of 30 elements in human body, 17 are metals. Of these 17, the metals required in quantities more than 1 mg/day are Sodium, Calcium, Magnesium, Potassium and Iron. Others are in minute amounts and called trace elements (although they are very important components).

Let us have a look at the toxic elements that water might contain

	Toxic materials	Max permissible limit
1.	Arsenic mg/l	.05
2.	Cadmium mg/l	.01
3.	Chromium mg/l	.05
4.	Cyanides mg/l	.05
5.	Lead mg/l	.1
6.	Selenium	.01
7.	Mercury mg/l	.001
8.	Polynuclear Aromatic Hydrocarbon mg/l	.2

Now let us discuss what effects (good or bad) the presence of all the elements in water, in more than the maximum permissible limit causes.

1. **PH** (alkanity level) - causes scales in pipes and encrustation - affects mucous membranes.

2. **TDS** (Measure of conductivity of water) - causes gastrointestinal problems - TDS in snow melted water at high altitudes is about 100 mg/l.

3. **Chloride** (measure of salinity of water) - Corrosive effect on tissues as well as other components of water) - ground containing harmful ions;

4. **Fluoride** - good in small amounts for preventing tooth decay and strengthening teeth; but excess results in disfiguration of teeth, bones/joints (irreversible change); ground water of arid regions high in fluorine ions;

5. **Sulphate** - high concentration is cathartic (purgative)

6. **Nitrate** - high concentration (more than 45 mg/1) causes methemoglobinemia (blue babies); overgrowth of algae and other organisms that foul the water - ground water of arid regions high in nitrate ions (Rajasthan/500 mg/l) - cyanosis in infants; Cancer and tumor of organs by forming nitrosoamines in digestive system.

7. **Hardness** (Ca Co3) - encrustation of pipes and excess requirement of soap.

8. **Calcium** - gastric acid secretion, renal stones formation.

9. **Magnesium** - renal failure

10. **Iron** - stains and objectionable taste - North Eastern states have high iron content - recommended level upto 1 mg/l - causes diarrhoea.

11. **Arsenic** - growth of cancer

12. **Cadmium** - renal problems

13. **Chromium** - large quantities cause cancer

14. **Cyanide** - Killer agent

15. **Lead** - accumulates in tissues and causes lead poisoning

16. **Selenium** - causes dental carries

17. **Mercury** - Accumulates in brain and attacks central nervous system and causes partial deafness, damage liver.

18. **Coliform and E.Coli**

Diseases through water are cholera, typhoid, dysentry (ie all intestinal diseases) - Causative agent is excreted in faeces of infected people; Bacteria of coliform organisms present in intestinal tract of man are easy to detect, pollute water. Sample of water having these organisms indicate possibility of intestinal pathogens. If not found in water, it means pathogenic organisms of water-borne diseases are absent.

ICMR stds

#1. Throughout any month, in 90% of samples of water tested, coliform bacteria must be absent in 100ml of sample; and

#2. No sample to contain E.coli in 100ml; and

#3. No sample to contain more than 10 coliform organisms per 100ml.

However WHO guidelines say that

1. Throughout any year, in 50% of samples of water tested, coliform bacteria must be absent in 100 ml of sample; and

2. No Samples to have E.coli in 100 ml ; and

3. Sample to have 0 coliform organisms per 100 ml.

If coliform organisms are found , resampling to be done. Repeated findings of 1 to 10 coliform organisms in 100 ml must necessitate investigation and removal of source of pollution.

Although WHO has guidelines, national standards are expected to vary much from it. And until now, national and international standards of drinking water are based on incomplete physicological and pharmacological basis(esp. with respect to setting standards on chemical qualities).

ACCESS TO AND CONSUMPTION OF DRINKING WATER
(background paper based on
Dr. Nilanjana Mukherjee's Article)

Today the figures quoted in different articles and reports regarding the coverage of safe drinking water (SDW) mainly focus on the physical coverage. However there is no data available regarding the consumption of water from the available drinking water sources.

Looking at the physical targets set up by Government, we can say that morbidity and mortality of the water borne diseases would almost become nil as the major goal of drinking water is to reduce these diseases. However we do not have reliable evidence to show the decline in morbidity and mortality rate in diarrhoeal diseases. Millions of people are still loosing their person days of productive work due to gastro-intestinal diseases.

Looking at this scenario, it indicates that the community is not consuming the safe water. Therefore there is a great need to understand community's behavior towards drinking water and factors affecting the same.

Factors Affecting Consumption of Safe Drinking Water

1. Today in our country, women are responsible for collecting and managing drinking water in about 86% households. And therefore their views knowledge and preferences determine the kind of water the family consume.

The popular definition of **safe drinking water (SDW)** is the water which is **clear to look at, sweet to taste and cooks foods quickly.** It is a fact that highly contaminated water from open wells, rivers and streams often fulfill these criteria. Whereas pathologically safe, chlorinated water has a metallic taste which fails to meet the popular criteria of drinking water, such water is defined as a unfit for drinking by the community.

2. Usually the water from deepwell or handpump being hard in nature takes long for grains to cook and therefore consumes more fuel.

Therefore women have a reason to use polluted sweet water which cook grain faster and consume less fuel.

3. The statistical data says that 40% of people in villages prefer dugwell water as their primary source of water. Nearly 25% of all those who use handpumps never drink the water and 32% never cook with it. Some of the interesting findings from West

Godawari district says that people walk long distances to collect drinking water from the river, fully aware that it carries germs, mainly because its tastes good, although handpumps are available in the village.

4. Many times handpump water is not consumed because of the location of the handpump. Usually the man of the community is involved in deciding the site of the handpump which is convenient to him and remains unused by the women. It is noticed that 2/3rd of implementors believe that women should be consulted for site selection; however in reality it is surely done.

5. As the reports say, the maintenance of handpumps is poor as it is not considered as a property of the community. About 67% of public handpump users consider them to be Government's property and only 24% believe maintenance to be the user's responsibility.

Poor maintenance result in broken platforms, stagnant dirty water near deepwell or handpump, deposits of human waste and animal dung which contaminate the ground water.

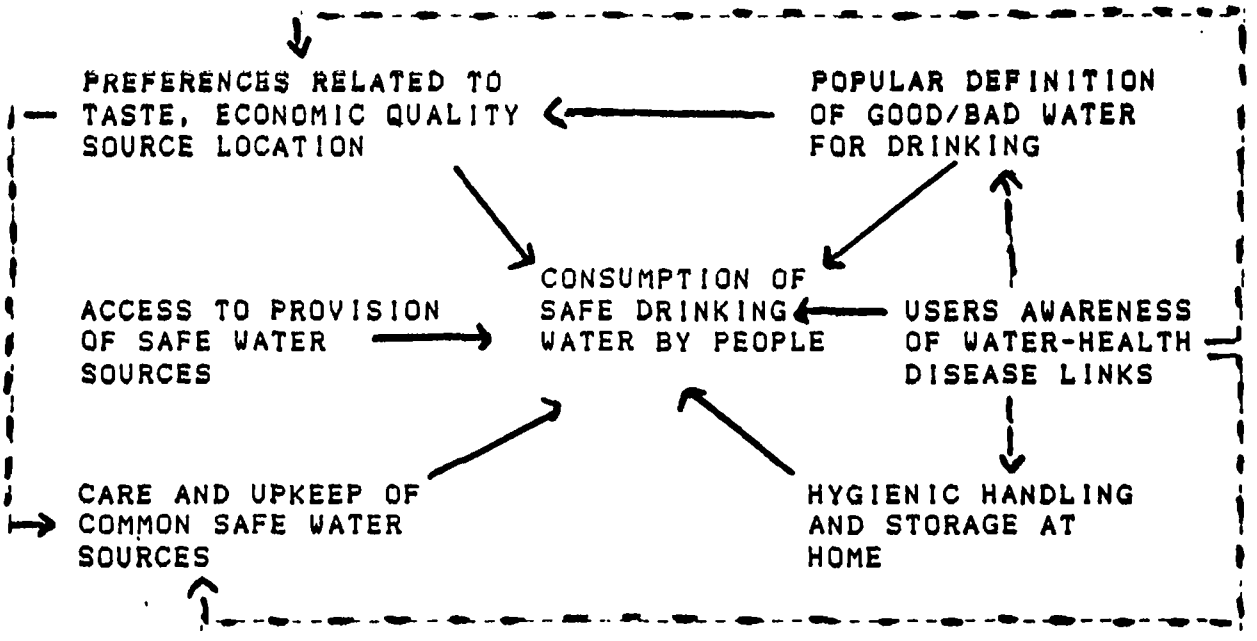
Also when the pump breakdown women have to fall back upon traditional and usually unsafe water source.

6. The awareness between water and health is inadequate and with lot of misconception. The result of research said that only 10 - 18% people across different states are aware of link between diarrhoeal diseases and unsafe drinking water whereas the majority of them believe that unsafe drinking water causes fever, cough, cold and malaria.

7. Also popular practices of handling water, causes water to contaminate before it gets consumed. e.g. in Uttar Pradesh drinking water is collected in buckets and also stored in it. About 41% keep it uncovered. In one of the sample study carried out in the village near Delhi says that there was 300 - 1000 percent increase in bacterial contamination in water collected from deepwell within 24 hours of storage at home.

There is a great need to look at these issues along with the physical coverage of drinking water supply to get fruitful results in reducing of diarrhoeal diseases. <u>It has been estimated that about 15 lakh Indian children below the age of 5 years are killed every year due to diarrhoeal diseases</u>.

INTERPLAY OF FACTORS AFFECTING SAFE DRINKING WATER CONSUMPTION BY THE COMMUNITY



Why Water and Sanitation Programme?

Water and sanitation provides the following benefits.

* Prevents the causes of diarrhoea
* Controls many other water and sanitation related diseases
* Improves the delivery of primary health care
* Improves nutrition status
* Releases women from time consuming burden of carrying water from distant sources
* Provides water for household gardens and animals
* Promotes commercial activities
* Supports activities like housing and industry
* Improves qualities of life in the community:

However since last 5 years comparison has been made between Water and Sanitation, and ORT, which is misleading as they have different objectives and benefits. ORT has diverted the attention of the community from the importance of Water and Sanitation; while ORT programme is important, it cannot replace of Water & Sanitation programme.

Water

Activity of Water:

More than 1500 million people - 30% of the world's population still does not have access to safe water since 1960s extensive efforts have been made to correct this problem. The emphasis increased since the inauguration in 1981 of United Nation's International Drinking Water Supply and Sanitation Decade.

In developing countries significant efforts were made and the 80% of rural population without access to safe water was reduced to 60%. India has made remarkable progress during the Water Decade. Between 1980 to 1983 the percentage of rural population reported to have access to protected water supply increased from 31% to 47%.

By analyzing the situation of availability of water in our country it has been felt strongly that maintenance of hand pumps and pipe water is very poor. The Indian Govt. has estimated that lack of attention given to maintenance is cutting the useful life of water supply system in rural areas by 50% to 75%. The major cause of maintenance is the policies that have been pursued for financing rural water supplies. In rural areas there are no charges for water nor are there any funds for water service recovered from the population. The Planning Commission has strongly felt that the operation of the small rural water supply system can only be ensured with the participation of the village community. The Government also claims that wherever maintenance arrangements have been adequate the beneficiaries are not unwilling to pay nominal charges for the water supplied to them. The efforts should be in all cases to recover at least the operating cost. (World Bank Report).

Efforts to make water available in rural areas

National Drinking Water Mission, CAPART and NGOs are actively involved in making water reach upto rural India.

National Drinking Water Mission

National Drinking Water Mission (NDWM) has covered about 1.54 lakhs problem villages (PV) (roughly 85% of the population) in Seventh Plan (1985-1990) About 8349 villages are still facing difficulties which is about 2% of the population. However NDWM is confident of covering them in the next two years.

Objectives of National Drinking Water Mission

1. **To cover all Problem Villages (PV) by 1990** (i.e. 1,61,722 PV existing at start of 7th Plan - i.e. on 1-4-1985)

2. Focus on water quality and set up a network of water testing laboratories.

3. **Have 4 Sub Mission to remove bacteriological and chemical contamination**

   a. Guinea worm Eradication
   b. Removal of Salinity
   c. Removal of Excess Fluorine
   d. Removal of Excess Iron

4. Promote rain water harvesting and water conservation structures and move towards approach that sees problem of Drinking Water in the context of overall water management.

Strategy

To cover not only all PVs by 1990, but all those villages with per capita water supply less than 40 lts. per day. To set up 55 Mini Mission Dts.

Partnership Organizations

Nodal Agency : Department of Rural Development; Collaborating Agencies : CSIR, DST, Department of Environment and Forests, Department of Defence R & D, Ministry of Water Resource, Ministry of Human Resources, Ministry of Health and Family Welfare, etc.

Technology Advisory Groups (TAG)

TAG 1: To provide S & T inputs to the mission

TAG 2: Traditional sources (identify and develop, develop water collection structures, Appropriate Tech for catchment and storage).

TAG 3: QC (salinity, brackishness, fluoride, iron, chemical and bacteriological contamination - cost effective solutions)

TAG 4: Material and Design (improvement of existing conventional systems through distribution of cheaper material - corrosion resistant ones reduce dependence on conventional power)

Achievements

A. Physical Targets

* To cover 1,61,722 PV as of 1.4.1985
* To cover 20,866 PV as of 1.4.1989
* Coverage 1,40,856 PV between 1.4.1985 and 1.4.1989
* Of this 1,16,289 PV covered between early 1986 and 1.4.1989 (around 25,000 PVs covered before launch of NDWM) (as of 1.4.1987, coverage was 62976 and to cover 98746 by March 1990) Hence between 1.4.1987 and 1.4.1989 77880 PVs covered)

B. Water Quality

- sanctioned 100 water testing laboratories in January 1989 to be commissioned by December 1989.

C. Sub Missions

1. Guineaworm - Cases decreased from 12,000 in 1984 to 3111 in 1988.
2. Salinity - 130 desalination plants are in process of being set up in 7 states.
3. Fluorosis - 130 defluoridation plants being set up in affected states
4. Excess Iron - 5000 iron removal plants being set up in 15 states, UT of country, especially in Eastern belt.
5. Integrated plan for Drinking Water and Water Management - Implementation in 55 Mini Mission Districts in progress

D. Water Harvesting

- special strategy for solving problem of water supply in hill areas developed at Nainital. National document on water harvesting structures finalized in December, 1988; etc.

As of 1.4.1989, 20866 PVs were to be covered before 1.4.1990. But only 16,671 were to covered in that period. And 4195 villages to spill over to 8th Plan 1990-95) - mostly in hilly and remote areas of HP, Haryana, J & K, Meghalaya, Punjab - where problem of access, resources, working season exist.

NDWM & NGOs

NDWM has established a link with NGOs. NGOs have contributed a lot in 15 Mini Missions where they have installed the hand pumps. Also efforts have been made by NGOs to strengthen the educational component in the four different Sub Missions.

Note on CAPART

CAPART was established in 1986. It is an autonomous organization of the Department of Rural Development with a clearly defined, role to motivate NGOs to implement projects related to water supply. CAPART has visualized that Non Governmental Organizations (NGOs) are vehicles through which ordinary men and women are changing the world in which they live. Also NGOs have a flexibility and capacity to initiate and experiment with new programmes, stimulate the interest of the community and also have sensitivity to meet difficult programmes in ways that the state cannot adopt.

Provision of safe drinking water and sanitation facilities are one of the major rural development programmes of the Government, which are being implemented with CAPART assistance. It has been noticed that since the last few years people's expectation from Government regarding different issues of development is increasing leading to a burden on the Government, helped by NGOs efforts in implementing water and sanitation related programme.

CAPART has given importance to health education and along with the NGOs, has organized numerous water awareness camps in rural areas. In these camps, information regarding how to demand for drinking water sources maintain them was explained. Also the linkages between water and health were explained.

NGOs Efforts

At present NGOs are contributing in the area of water and sanitation mainly with the assistance and cooperation of CAPART and NDWM.

There is a great need for NGOs to start taking initiatives in alternative sources of drinking water like identification development and improvement of traditional sources, water harvesting structures through the use of appropriate technology and materials, rain water collection and water shade development.

NGOs are also involved in health educational activities and income generating activities in numerous areas where water has been made available through foreign external funds (funding agencies, foreign governments).

KNOWLEDGE, ATTITUDES AND PRACTICES (KAP)
(background paper based on IMRB's KAP Study)

1.1 Introduction

International Drinking Water Supply and Sanitation Decade(IDWSS) 1981-1990

Why was there an imperative to focus on drinking water and sanitation during these 10 years ?
Because the social costs of poor water and sanitation facilities are high as it causes disease of poor health ; which in turn mean productivity is affected and so is quality of life.
But provision of Safe Water(SW) and Sanitation System(SS) alone does not mean a positive change in environmental hygiene nor the use of facilities provided, as the needs,priorities benefits perceived by beneficiaries are quite different from that visualized by the city bred planner.

To bridge the gap, it's important to understand the K,A,P beneficiaries(rural population here) with respect to drinking water,environmental and personal hygiene and sanitation. Also KAP of people who influence the beneficiaries(influencers) and of those who implement the programme working directly with the villagers(implementors), are the extent that it affects the beneficiaries, need to be assessed.

The IMRB study on KAP of Beneficiaries involve 8 states in the country(Tamilnadu,Andhra Pradesh,Rajasthan,Madhya Pradesh, Manipur,West Bengal,Uttar Pradesh).

The three areas of studying the KAP were : Water,Hygiene and Sanitation.

1.2 Issues Covered

A. Water
   a. Types of water; criteria for evaluating good water
   b. Practice with respect to water collection, storage and use.
   c. Perceptions and problems with respect to availability, quality,collection and storage of water.
   d. Linkages between water and health,understanding of safe drinking water, practices with reference to water purification.
   e. Attitudes towards non-traditional water sources, problems , benefits, etc.

B. Hygiene
a. Understanding and focus on cleanliness
b. Definition and practices with reference to personal hygiene.
c. Understanding need for hygiene, effects of bad hygiene
d. Level of satisfaction with current hygiene related practices.

C. Sanitation
a. Current practices with respect to disposal of waste water, garbage, animal excreta.
b. Perceptions, problems and satisfaction with current practices of disposal.
c. Human excreta disposal - how, where, cleaning with what, attitude towards current practice.
d. Linkage between faeces and diseases
e. Awareness, use and attitudes to current practices
f. Barriers/ motivators to latrines

1.3 Methodology

- Focus group discussions only.
- 7-9 persons of about equal age, same sex, with similar socio-cultural backgrounds with one moderator
- group structure :
  men group: Age 25-40; Education: Ratio of literate to illiterate in accordance to that ratio in village ; Occupation : farmer, laborer, tradesmen/service laborer ; Earning Status Main earner or second main earner in HH; Women group : Age 25-40 Education: Illiterate mostly; Working Status Chief worker of HH, mother of at least one child.
- Sampling pattern
  Thompson Rural Marker index(TRMI) used to classify districts into 3 categories
  A and B = 40-100 ; C and D = 20 -39.99; E =up to 20
  To select villages with varied socio-cultural backgrounds :

  A. In each state three districts to be chosen as follows :
  1. Beneficiary of Technology Mission as of January , 1988
  2. District belonging to upper end of TRMI categorization.
  3. District belonging t lower end of TRMI.

  B. To choose 2 villages in each district.
  1. They have to be geographically distanced over dt.
  2. One to be good village = to have potable water, public amenities like school, medical facilities.
  3. Other to be poor village= without any such facilities.

1.4 Findings

1.4.1. WATER

1. Classification : basis of source, quality, taste, appearance, use

2. Quality of water

	Good	Bad
Before drinking/use	clean, clear, cool fresh, odorless	turbid, smell stale, dirty
On drinking/use	Sweet, light, soft food cooks fast, stays good	hard, thick, tastes bitter/sour, food cooks slow, does not stay good
After drinking/use	easy digestion	problem of digestion

3. Safe Drinking Water(SDW)
Difference between SDW and good water was not clear. They say good water is safe and criteria of distinguishing Safe Water to taste, visual cleanliness, smell.

4. Cleaning practices
Good knowledge of(a) filtration, (b) chemical purification(c) alum usage/sedimentation (d) boiling
But practice is poor

5. Water and Health
They do not see direct link-between water and health. They feel getting sufficient water is better than getting SDW as this SDW is a higher order need to be sought only when basic requirements(like water) are met.

Three ailments from water are
- related to stomach (diarrhoea, stomach, upsets, vomit, dysentry all related to impure water) and skin infection(guineaworm)
- serious water borne diseases like typhoid , cholers, jaundice
- colds, cough, fevers.

6. Use , Collection and Storage

A. Use by Source of water

Uses	HP-TW	Lake/Tank/ pond/dam	River/ stream	Tap	Deep well
Drinking	✓	✓	✓	✓	✓
Cooking	✓			✓	✓
Irrigation					✓
Washing Clothes	✓	✓	✓	✓	✓
Animals drinking		✓	✓		✓
Washing vessels					✓
Bathing	✓				✓

B. Perception of sources

	Positive	Negative
Well/Pond/Tank/Reservoir	Quality Ok, traditional water	Open, dries up, rots and smells bad if stagnant
River/Canal	Flowing and sweet	germs, dirty in monsoons
Taps/pipes	Convenient	irregular supply breakdown, water quality poor
Hand pumps/Tube wells	Safe, available in summer, clean	Water quality poor, frequent break downs, inadequate numbers, long distance from house

C. Collection Pattern

1. Who collects ? In all 8 states, women only. But only in Andhra Pradesh alone, men also take part in collection as distances are long (carrying 2 pots across a stick)
2. Collected water is mainly for cooking, of lesser extent for other HH uses
3. Water is collected twice a day (depending on distance and requirement)

4. Collected in earthern and metal pots; Bronze, steel, copper vessels, more in use among the affluent sections. In some states, water collected in smaller points and transferred to larger storage pots.
5. Waiting time and distance are main problems in collection. Other are physical strain, backache, work remains unattended at home, etc.

D. Storage Facilities

1. Filtration - Specific cloth for this purpose only, which is washed and and dried - knowledge is there, but practice limited
2. Drinking water kept inside kitchen/inside house at a specific place (platform above ground made of wood/stone or niche in wall)
3. Covering the pot of water by plate/vessel/cloth, is mentioned but do they practice it? Rarely
4. Water taken out by ladle - special spoon for this purpose only so that they do not touch water ('doya' - Gujarati)

E. Handpumps Issues

a. Perception of Water from HP

Positive	Negative
Safe, available in summer, clean	Long to cook, food doesn't stay good for long, rice turns brown, smells of iron gets rusty, red tinge, only water (unfit for drinking)

b. Problems with HP

-breakdown(frequent) - because of overload, rough handling, children playing with it

-quality of water (discussed above)

-difficult to use (effort too much for women, water flow is weak and lot of pumping required)

-Scarcity of HPs(crowds, fights, especially during summer where there is no other source of water ; load on HP becomes heavy)

c. Installation and Maintenance of HPs

-generally people not unhappy with site of HP (Passive resignation) although they have not participated in the selection or site
-Repair and Maintenance :
Repair Procedure - Problem taking to Panchayat who repairs it through private mechanic, if problem is not major ; if it is a major problem then Panchayat applies to Block Development Office. This is a long and futile process.
Maintenance Procedure responsibility is with the Government, it is felt as they installed it; and whenever repair is there, so much protocol is involved that villagers do not want to take responsibility; hence whenever repair is there, it is left in that state; also reporting to Panchayat and BDO is the man's job; hence women are helpless without their help and cooperation.
Willingness to pay Rs. 2/- to Rs.20/- on regular basis depending on their affluence and need for handpump water (true only in some states) others feel it is Government property and no-one owns it, so why bother to pay ?

1.4.2 HYGIENE AND SANITATION

There is correlation between resources and hygiene(i.e. more money and time,then personal hygiene increases,HH hygiene increases,Environmental hygiene increases)

I. Understanding of cleanliness

From within a person(thoughts,behavior),it appears on physical self, reaches the home and environment. But in villages, least importance is given to environmental hygiene, more to personal and HH hygiene. Awareness of cleanliness is high but time and money are constraints.

Personal Hygiene

1. Bathing - awareness and practice in all 7 states. In Rajasthan, most places(especially very dry areas) have no practice of daily bathing.
2. Bathing place - main water source(well,river,stream, lake,pond)- bath cubicles only in affluent villages.
3. Bathing ingredients - mainly water,sometimes ash, mud, shikkai and soapnut ; soap considered ideal cleanser, but used preciously for rare occasions- although not specifically voiced,

the villages did feel that soap is a luxury item- not to be used daily, to be preserved very well in a box, not to be left near the open water sources. Even for other washing purposes - hands, only mud/ash will be used- (soap not to be used as too much of use of soap would be criticized by others as a "luxurious habit")

4. Washing and changing clothes Washing clothes with soap (where Surf has now become a generic name) is better cleaning; but conditions impose constraints such that washing with water itself becomes impossible; since farmers/laborers work in mud, changing clothes is futile, they say, as it will get dirty once again

5. Cleaning teeth - Everyday habit, they say; but many admit doing it irregularly, as and when they have time ; they use neem stick, twigs, powder, charcoal, ash, salt(Colgate becomes generic name for paste); their need to clean teeth is to control bad breath

6. Footwear- need for it is not clearly established; they are not convinced off its necessity; low and infrequent usage- they say, they need to wear to (a) protect feet from pain and injury (snakes, scorpions, thorns and stones)(b) from slush and dirt- awareness of germs in faces is limited two practices that are followed well-washing feet before entering house, removing slippers before entering house.

7. Footwear considered a sign of urbanization. And a woman wearing footwear is criticized; major constraints of footwear wearing are money and habit. It is considered a luxury and its usages is just as it is for soap.

8. Hand washing - before and after meals; also after work, handling dung, cooking when dirty; usually only water -very rarely with soap.

Awareness of personal hygiene is there ,but only in theory-practice is difficult because of time; money and lack of conviction

HH Hygiene

1. Cleaning house-woman are very bothered about it, especially more about their kitchen; then, about their sleeping area; Regular sweeping and swabbing required to keep house dust//insect-free; plastering floor and wall with mud and dung periodically followed everywhere; decorating is very important to the woman -growing flowers, "Kolam"(rangoli), white washing, cowdung plastering, applying "gara" - affluent HHs could have phenyl, glycerine, plastering with lime, airing mattresses to get rid of bugs.

2. Cooking area- to be kept very clean, as it is a place where food is cooked, water stored and the woman spends the whole day in it

Pooja area- also very clean as it is a place of sanctity. Plastering kitchen floor with mud/red soil sand is a practice as this area is to be wiped every day after every meal.

3. Food and Water - Awareness is there, but negligence is present also. Need to wash food and give children pure food is known. need to cover food, prevent flies and other insects especially water pots people aware, but practice is rare.

4. Cleaning vessels - normal practice; within or near house; using ash , mud, soap (Vim generic is a name for cleaning powder).

Attitude to HH Cleanliness - Hindus relate it to "Laxmi" wealth goddess, who will come only inside clean house - Gujaratis say this happens particularly during Diwali time; south Indians say she comes in everyday; HH cleanliness is responsibility of woman -she is judged by extent to which she maintains her home clean- if not, she is called lazy and disapproved of.

Environment Hygiene

Factors differentiating clean village from dirty village.

1. good roads(pucca without pits)
2. clean water
3. absence of stagnant water
4. absence of mosquitoes and flies

Presence of latrines, plants, electricity and others expected in clean village.

II. Health and Hygiene

1. Definition of health Physical appearance used for judging health of any individual.

Belief Economic well-being determines physical well being. Women care more for mental peace, harmony within family, happiness, than men who think education facilities, medical care are very important for health.

2. Health Problems
   - fever, cold, cough
   - diarrhoea
   - water borne ailments(worms, cholera, jaundice)
   - Malaria, brainfever
   - chicken-pox, measles

3. Causes

- Water mentioned as cause or illness- stagnant and impure water leads to ill health was stated by both rich and poor people(but probing was required)
-Stale, rotten,unsuitable food seen to be cause of ill health the ailments of stomach were results of this Reasons Lack of time and negligent attitude.
- Mosquitoes/flies seen as a cause of ill health(This was more associated with cleanliness than health) as between mosquitoes/flies and health more in richer villages.
- Financial constraints lead to lack of food and cleanliness.

4. Causes of Ill Health

Hygiene Related	General
a. Lack of cleanliness -personal -environmental	Financial hardship
b. Dirty,contaminated water	Mosquitoes and flies
c. Unclean stale food	Unsuitable diet -irregukar habits -overwork -contamination due to pesticides
d. Lack of sanitation,pollution	

5. Disposal of water,dung and garbage

A. Water Disposal

a. Vessels Water
Mostly vessels washed in courtyard, then this water drains into outside drain; otherwise vessels washed outside house near roadside drain; sometimes at water source itself.

b. House water
-Water water from HH cleaning thrown out on road or in compound or swept into a corner to be absorbed /becomes a stagnant pool; sometimes water collected in a pit/vessel and then thrown off all together.

c. Clothes Water
mostly washed at source - waste water flows back into source (river,lakes,tanks)

d. Bathing animals water
mostly at source- if at house, water left as it is.

e. Bathing-self water
mostly at source; At home (behind),courtyard, wherever water absorbed;bathing cubicles mentioned by affluent.

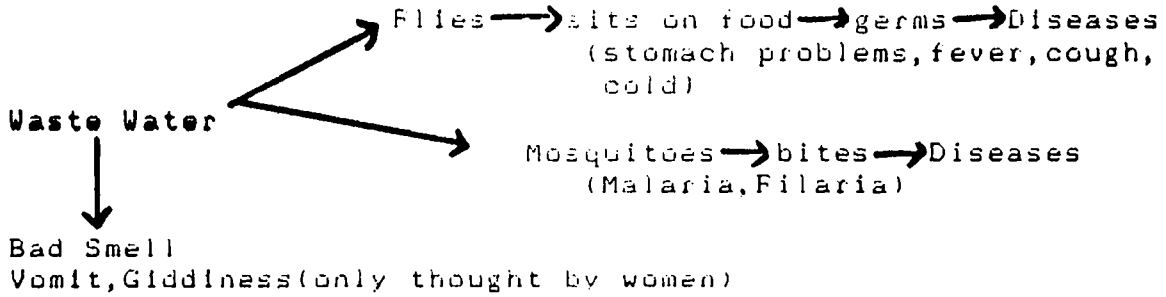
f. Urination

Adults- in open space, drains, behind house, bushes; children upto 6 -inside/outside house, corner of courtyard; women - sometimes enclosed area where water is poured if it stinks; In Madhya Pradesh, sprinkling the area with cow-dung water cleans it.

Responsibility

Within boundaries of house, it is that of women to maintain sanitary conditions. At most she cleans area just outside her house, since waste water accumulation not desirable. But environmental sanitation is thought unanimously to be responsibility of Gram Panchayat, Block Development Officer, Gram Sewaks (and this was a useless effort as its a long and futile process they claimed) but overall attitude to waste water disposal is one of indifference.

Waste Water and Diseases



Awareness at theoretical level only. They dislike slush, dirt, etc. more because it is repulsive and inconvenient rather than because of possible harm to health.

B. Dung Disposal

(a) Cowdung - kills germs, it is an antiseptic, holy, prevents mosquitoes and flies, plastering, economic value (fuel and manure), hygienic odorifier; but it stinks, if kept long, rots in dampness, worms and insects, breeds mosquitoes and flies.

(b) Animal dung - generally non harmful (only if open at close vicinity and starts rotting, it is harmful). But same negative factors as cow-dung. Depending on the state, the type of dung considered harmful, is different (e.g. horse dung in Gujarat; pig dung in Uttar Pradesh, Andhra Pradesh, West Bengal); in some states some dung (hens, pigs, dogs) are specially never collected because they are harmful; most of animal dung is used as manure, rarely for plastering and making mud pots.

Responsibility

Main responsibility of owners, majority women; collected from own cowshed - especially for plastering and making cakes, fresh dung is required; those without assets have to pick from outside; after collection it is stored with care; dung to be used for manure is kept in compost pit (by rich HH), garbage dump or corner of house; fresh dung is used normally for cakes and plastering.

Everyone very satisfied with system of dung disposal

C. Garbage Disposal

Three ways of disposal are follows :

(a) to throw it directly into dumps (if close to house)
(b) to collect it temporarily in a bin and later throw it in dump
(c) throw it outside house where animals can eat it.

- Ill effect on health from garbage more clearly perceived by villages.
- No system of disposing garbage from within village to distant places
- Presence of garbage dumps in streets, very common

D. Defecation

Criteria for site

- distance from village
- privacy
- water availability
- unused place
- not to be a field with crops

Cleaning area of defecation

-human excreta outside house never to be touched, cleared or covered.
-if children defecate within house, it is done on straw, paper, leaf and thrown into garbage dump; place washed well with dung/water.

Self Cleaning

-with water at source; taking a lota of water with them; in Madhya Pradesh with stone/leaf.
- For women, practice is first to defecate and take bath after it (Continuous activities)
For men, defecate while going to field, then have bath in field (different activities)

-Most people wash hands after cleaning (atleast with water sometimes mud/ash/sand/clay)

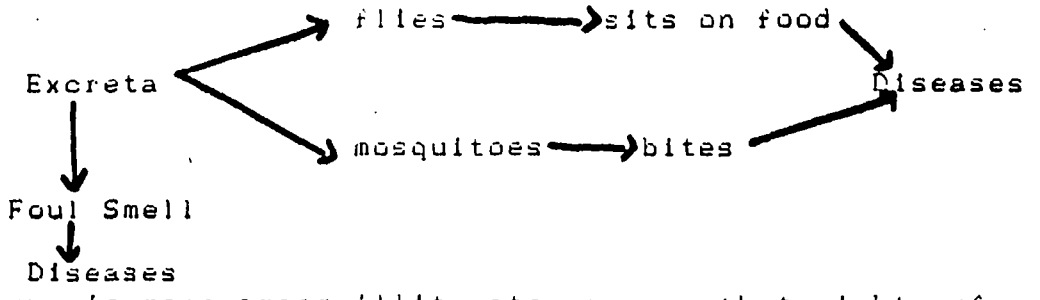
Attitude to current practice of Defecation

Positive	Negative
-Fresh air	- during monsoons
-absence of smell	- during illness/diarrhoea
-no requirement of maintenance	- at night
	- old people (lack of privacy, lack of cleanliness at popular sites)

The above positive points become the negative points for Latrine usage (absence of fresh air, presence of starch/smell/gas, need to clean, plus visible/accumulated excreta - people not used to a place as there lots of it in the open. The thought of defecating in a place having excreta is repulsive.

Excreta and Diseases

While excreta is repulsive, there is no spontaneous linking it to health/diseases - more linkage with pollution/dirt rather than ill-health. In fact they say that excreta gets dried up /eaten by animal, and therefore not like to cause any diseases.



(this views is more among illiterate women - that sight of excreta makes one sick). Also there is belief that is cattle eat excreta, their milk becomes unfit for consumption).

Latrines - (Awareness and Understanding)

Type 1 - Dry latrines - referred by most people

Type 2 - Water-pour-flush

Construction/physical aspects of latrines unknown to people- not aware of what happens to excreta after it passes through pipe into pit - confusion regarding (1) how frequently the pit has to be cleared (2) condition of excreta in that pit.

(1) Some feel that it has to be cleaned once a week, others once in 10 - 12 years.
(2) Condition - slushy, liquid, stinking mess (partly due to their observation in few cases). They cannot think of decomposition of excreta into harmful, odorless, manure.

These are all barriers to latrine

Attitudes towards Latrines

Positive	Negative
-Convenience	- stink
-cleanliness	- dirty
-absence of filth/fewer	- lack of habit
-health problems	- likely ill effect on health
-few files/mosquitoes	- barriers to 'piled up' excreta
-saving time (walking to distances)	- additional maintenance
	- water requirement more (final burden on women)

Need for Latrines

-me'too' syndrome (psychological)
-improves status of owner in eyes of peers (psychological)
-monsoons)
-night)
-sick people)---> (Difficulty of outdoor defecation)
-women)
-old people)
-guests)

Barriers to latrines

1. affordability
2. unwillingness to spend
3. high construction costs (belief)
4. lack of space
5. lack of water
6. unwillingness to maintain

Need for Latrines is not A Salient Need

Community Latrines

Exists only in few villages - although awareness is quite high, experiences has rarely been positive; in those villages where present, they are in states of dysfunction/repair; others not used at all since there is no water/drainage facilities; attitude towards Community Latrines very unfavorable; poor maintenance because of lack of responsibility (as it is public property); paid sweeper required but is of no use, if no water is available.

Motivators/Barriers to Community Latrines

MOTIVATORS (CONDITIONS THAT WILL INDUCE)	BARRIERS (CONDITIONS THAT WILL PREVENT
- separate for men and women	- not affordable to have paid sweeper
- separate by caste a Community Latrine for few houses	- preference for private latrines
- sufficient water supply	- negative attitude for defecating where whole village has
- paid cleaner	- long queues/crowds

Government Subsidy

- non-awareness of this; even if aware, did not know exact details
- economic advantage of subsidy is attractive
- copy from other benefited villages raised need for Community Latrines.

Santalpur Rural Water Supply Scheme (SRWSS)
background paper based on ORG's Baseline Report 1989)

- Started in Gujarat in 1978 with technical design of Santalpur Scheme (close to Rann of Kutch)
- target population in 1978 was 72 villages (approved). During implementation several "no source" villages added on, so that end coverage became 102 villages.

3 talukas of Banaskantha district to be covered under this scheme were :

1. Kankerej (Taluka Headquarters - Shihori)
2. Radhanpur (Taluka Headquarters- Radhanpur)
3. Santalpur (Taluka Headquarters- Varahi)

SRWSS Source - 6 tubewells (each to yield 55000lph), on right bank of Banas River in Shihori U.G. sump of 200 m lt. Water from 6 tubewells pumped into this sump and carried from here through pipelines to 2 reservoirs (ESR at 6.5 lakh lts and GLR of 1.05 lakh lts capacities).

All tubewells working at rated capacity, this SRWSS scheme is completed (physically and post implementation stage is on now.)

A radial well of 5m diameter, 17.5 m ht. constructed in Banas River at Shihori to increase source yield. But performance is poor and likely to yield 5.75 ml/day and lesser. This is the SERWSS (Santalpur Extension Rural Water Supply Scheme) and it is still under progress.

Proposal to install 5 more deep tubewells along Banas River (upstream of current radial well site). This is the SEARWSS (Santalpur Augmentation Rural Water Supply scheme).

	Villages	
	Stage I	Stage II
SRWSS	72	72
SERWSS(under progress)	48	48
SEARWSS(Proposed)	-	21
	120	141

Kankerej 13
Radhanpur 57
Santalpur 71

Demand Estimation

	stage I	stage II
SRWSS (present Demand 1988)	9.28 MLD	10.50 MLD
SERWSS (Immediate Demand 2003)	13.05 MLD	14.70 MLD
SEARWSS (Ultimate Demand 2018)	17.00 MLD	19.00 MLD

1. Availability of water = 9 MLD from 6 tubewells . To meet final DD of 19 MLD, 10 MLD more required.

2. But present DD = 10.5 MLD and proposed new drawing of water (@ 75000 lph x 6 tubewells x 16 hrs/day) = 7.2 MLD.

Thus, Additional present requirement = 3.3 MLD

3. Final DD = 19 MLD; present proposal drawing = 7.2 MLD
Thus, Additional sources to meet 11.8 MLD requirement at final stage

Thus, around 10 new TW required (5 in stage I and 5 in Stage II)

SRWSS

Prior to inclusion of 28 village (72 to 102), tailend taluka Santalpur accounted for 79% of demand. This reduced to 52 % by including these additional villages. Also total demand increased by 60%.

But with supply remaining constant and distribution network remaining same, downstream villages will have lesser share water supply and it will decrease in future.

Water Consumption (demand Estimation)

* 30 lpcd - humans
15 lpcd - cattle
10 lpcd - conveyance loss

55 lpcd = Total

* But this 30 lpcd does not take into account non-domestic, use of water - gallas, shops, hotels etc.

Hence to improve availability for human consumption at tail end option is to cut down cattle consumption of water by using traditional sources for it - tanks, ponds etc.
i.e. delink cattle troughs from system in headend talukas of Radhanpur and Kankerej.

Water demand estimation
for villages = per capita demand x projected population x peak factor.

This formula is not valid when (a) more villages are added and (b) per capita demand deviates largely.

Distribution system and storage

450 mm - 400 mm- 350 mm diameter- Asbestos cement(AC) pipes from Shihori HW to tailend , passing through 3 talukas. Branch lines offtake from mainline through PVC pipes (maximum of 60 mm diameter). Mainline duplicated between Shihori and Radhanpur towns in Kankerej and Radhanpur talukas.

- The U.G. sump at Shihori is of 1.5 million lts capacity.
- The ESR at Varahi of .65 m lt cap
- The GLR at Dhokavada of .105 m lt cap

(A) Total storage capacity is 2.255 m lt(i.e. 1 /3 rd of ultimate daily demand of 6 mld)
- Additional storage of 1.5 m lt constructed Shihori HW, supported by .71 ml on branches because of water demand from additional 48 villages mainly in K & R talukas in the SERWSS programm. .
(B) Total capacity is thus 2.255+ 2.21 = 4.4465 m lts(i.e. 28.75% of ultimate water demand of 15.53 mld) i.e. 6.6 mld (SRWSS) + 8.93 mld (SERWSS)

- At village level storage is in the form of cisterns which hold upto 50% of daily water demand of a village.
- Location of magnitude of storages created at different levels of distribution network follows no rationale.

Distribution : Central trunkline of 100 kms from Shihori and Rozu(tailend); duplication between Shihori and Radhanpur for 43 kms. Since 48 more village are added to system (Extension programme) triplicating this stretch of mainline is under progress.

Hydraulic Pressure monitored at 8 different points on mainline and result in different hourly pressure at the 3 locations (Varahi, Radhanpur, Santalpur) in 3 different seasons (Rainy, Winter, Summer). Also great variations during day (especially in Santalpur). And hydraulic pressure is an important parameter related to level of water supply. Significant changes in pressure at any point and deviation in pressure from standard values implies need for recomputation of hydraulic pressure along trunk and branch lines. And need for reassessing loss due to conveyance and leakage in various sections of line (pressure gauges are now to be located - one for say a cluster 10 villages(some rationale); examine feasibility of providing single pipeline, instead of 3 parallel ones - suggestion by ORG)

Village level facilities

G.L. cisterns (12 hrs capacity), standpost (one tap for 100 people) and cattle troughs. People generally satisfied with location and size of facilities (except in 2 villages of Radhanpur). Chlorine level at stand posts checked and found to be negligible (because storing water in cisterns and then distributing to standposts dilutes chlorine content). But there is a need to clean cisterns periodically so that bacteria load is minimized.

But cleanliness and dryness required; proper drainage absent in many places ; taps not protected ; use of drainage water for vegetables garden to be encouraged.

Financial Aspects

Project cost estimated at 73.95 million, but actual expenses incurred 96.80 millions (till March 1989) Escalation of 30%.
Estimated sum to be expended in 5 years starting 1979-80. Actual implementation of project has been extended upto 1986-87, resulting in time lag of 60-80%.
Cost overruns of different components of project - some components indicate large cost escalation and larger share of total cost. But overall increases of30% is not much compared to the time frame of 5 years. Also those components that have escalated most, all amount to only 6% of project cost and add about only 3% to total escalation. The main component is Distribution System (81% of project cost) and its increases to 88% of project cost has resulted in direct 27% out of 30% total cost escalation. This means better control over implementation schedules of distribution system is required.

Implementation Schedule

Began in 1979 and expected to be over in 1984- but completion delayed by 3 years (although time overruns are different for different components)- here delays are usually due not to initiation of implementation but due to completion . This means there are financial or technical bottlenecks.

Institutional Aspects

Organization of Management

Implementation and operation by GWSSB; separate division created at Radhanpur for implementation of project. The division office falls under supervisions of circle office of Palanpur. There are 5 subdivisions in the project management.
Manpower status is deficit by 30% (of this 1/3rd are related to technical support staff).

Field level organizations

Branchline committees, Pani Panchayat, Linemen (temporary workers, daily wages job is to inspect pipelines).
Branchline Committees to solve problem related to maintenance, repairs and timely water availability made up of Deputy Exec. Engineer (Chairman), Technical officers like Asst. Engineer, Add. Asst Engineer , etc. (secretary), village sarpanch (member).

Pani Panchayat to see that village people and cattle get constant and proper quantity of water, attend to problems of local people on proper use of standposts made up of village Sarpanch (chairman), Linesman (members), 2 Males of villages (members), 2 females of village (members).

Health and Socio Cultured Aspects

Survey in 15 villages distributed among 3 talukas. More emphasis on tailend taluka villages of Santalpur and location w.r.t. main pipeline.

25-30 HH in every village selected for survey.
7 aspects dealt in structured questionnaire.

(A) Household information
(B) Water Supply Information - use of different on water, fetching water, water use level, adequacy of water supply through standposts
(C) Health status
(D) Hygiene conditions of HH storage of water, frequency of use, drainage facility.
(E) HH Problems
(F) Status of women
(G)Comments on GWSSB, NGOs, water tariffs , suggestions for better use of facilities.

Data from PHC through another Questionnaire

(A) Location
(B) Facilities Available
(C) Records/History of PHC activities over last 4/5 years
(D) Different diseases dealt with by PHC since 1982.

Results

Majority of respondents were< 10,000 p.a income.
Few are 10000 - 20000 p.a. income because semi arid area and population depends on agriculture for livelihood.
(1) 84% of Households in Kankerej expressed satisfaction with project water supply. Only 55% in Radhanpur, and 37% in Santalpur.
(2) 70% of HH in Kankerej and Santalpur expressed satisfaction over location of standposts but in Radhanpur only 56%.
(3) But all surveyed villages use other source of water also for home use inspite of project i.e. they have not abandoned traditional sources for home use.

But degree of traditional water use varies from village to village (drinking, cooking, bathing, washing vessels, clothes).

Those who expressed satisfaction over project water supply use it fully; while those dissatisfied over location of standpost use it for drinking and cooking only. This implies, project water has not replaced traditional sources, but supplemented them.
Use level : human consumption 3 to 5 lpcd
cooking 1 to 2 lpcd
and additional standposts have not changed these levels.

But bathing water levels vary from village to village - 11 to 30 lpcd in satisfactory village to
1 to 10 lpcd in dissatisfactory villages.
This means total use of water increased due to project, but not much change in use for human consumption. Similar trend evident in frequency of use (bathing daily, washing clothes daily)

Impact of Women - Role and Position

(A) Pre occupation of women in different activities.
(B) Opinion of women, regarding benefits due to project
(C) Reasons for dissatisfaction
(D) Their opinion regarding any supplementation schemes that is required.

Majority of women 15-45 years;3/4 of them are married with children.

Inside House Activities

6 different activities
time spent on each consistent from village to village
- Main Activities is cooking 1 to 3 hrs/day
- Others e.g. Home cleaning , washing clothes each account for less than 1 hr./day
- Vessel washing 1 to 3 hrs/day in 25% of HH.
- Leisure less than 1 hr./day in most HH.

Outside House Activities

7 different activities - here too consistency
Main activity - fetching fuel, fodder , water and accounting for2-3 hrs each, per day.
Working on their own field or on others account for 3 hrs per day (only in 40% of households).
Cattle grazing and shopping account for less than 1 hr. time and is not a daily routine.

Impression regarding SRWSS project water

Except villages where water (project) is not reliable or adequate all the rest said that it is a benefit -reduces burden.
Those who said not adequate gave list of negative points of which irregularity is most important.
Given a choice of facilities (school, bus sanitation programs, dispensaries) they could have in addition to project water, they all want better health facilities like health centers or dispensary in villages.

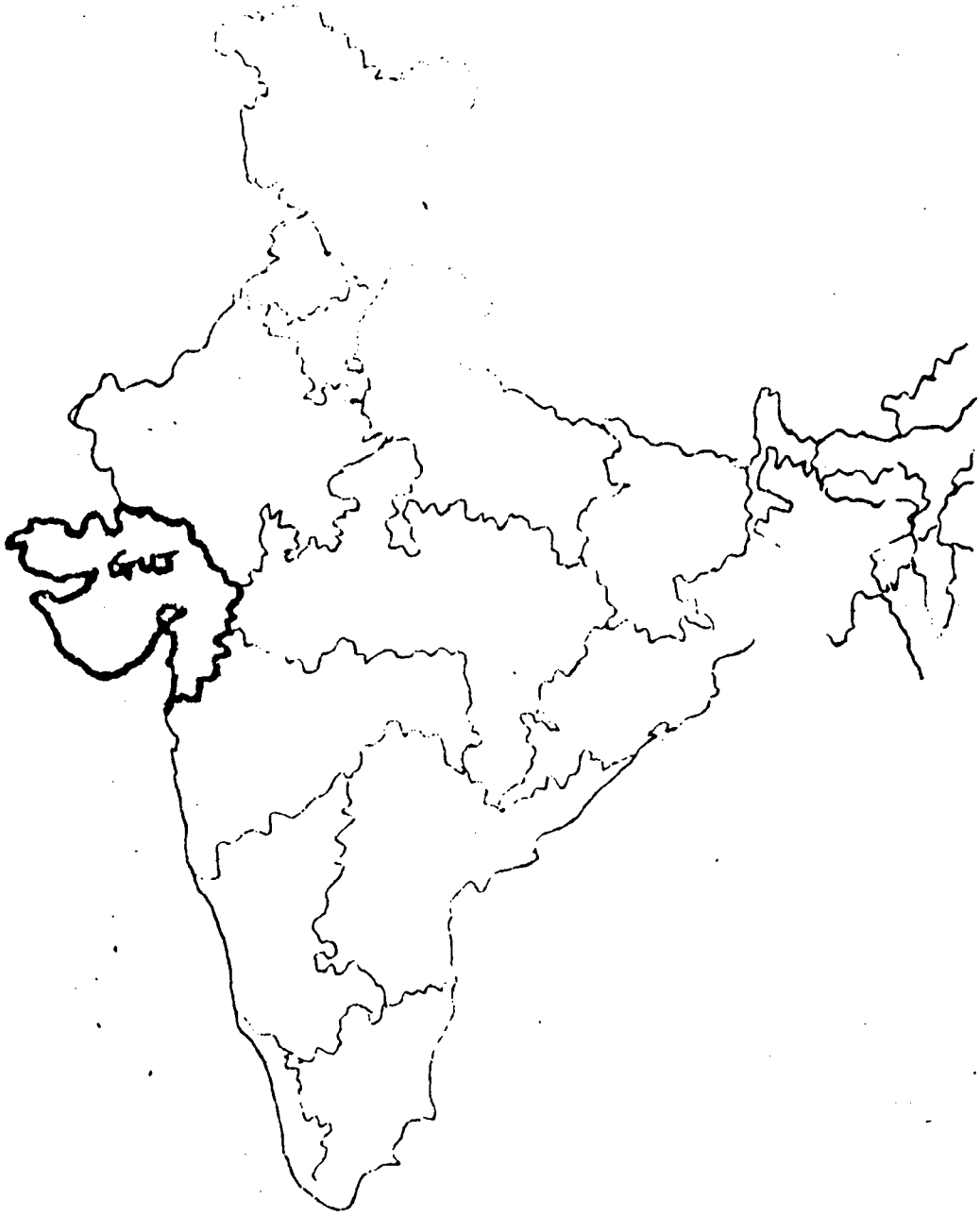
Attitude and Awareness of people

Most of them are unaware of branchline committees, Pani Panchayat (quite natural as this is a new concept), but of NGOs like Bhansali trust, they are aware.

So far none of the household pay tariffs for water.Why? Most say that lack of arrangements for collection of charges !!

But with respect to payment of Panchayat dues, electricity charges -
(1) Panchayat dues, yes, most of them were paying ;
(2) Electricity charges, depending on reliability and volume of supply, beneficiaries paying charges varies from village to village.

Attitude of willingness to pay for water should be tapped in the water project.



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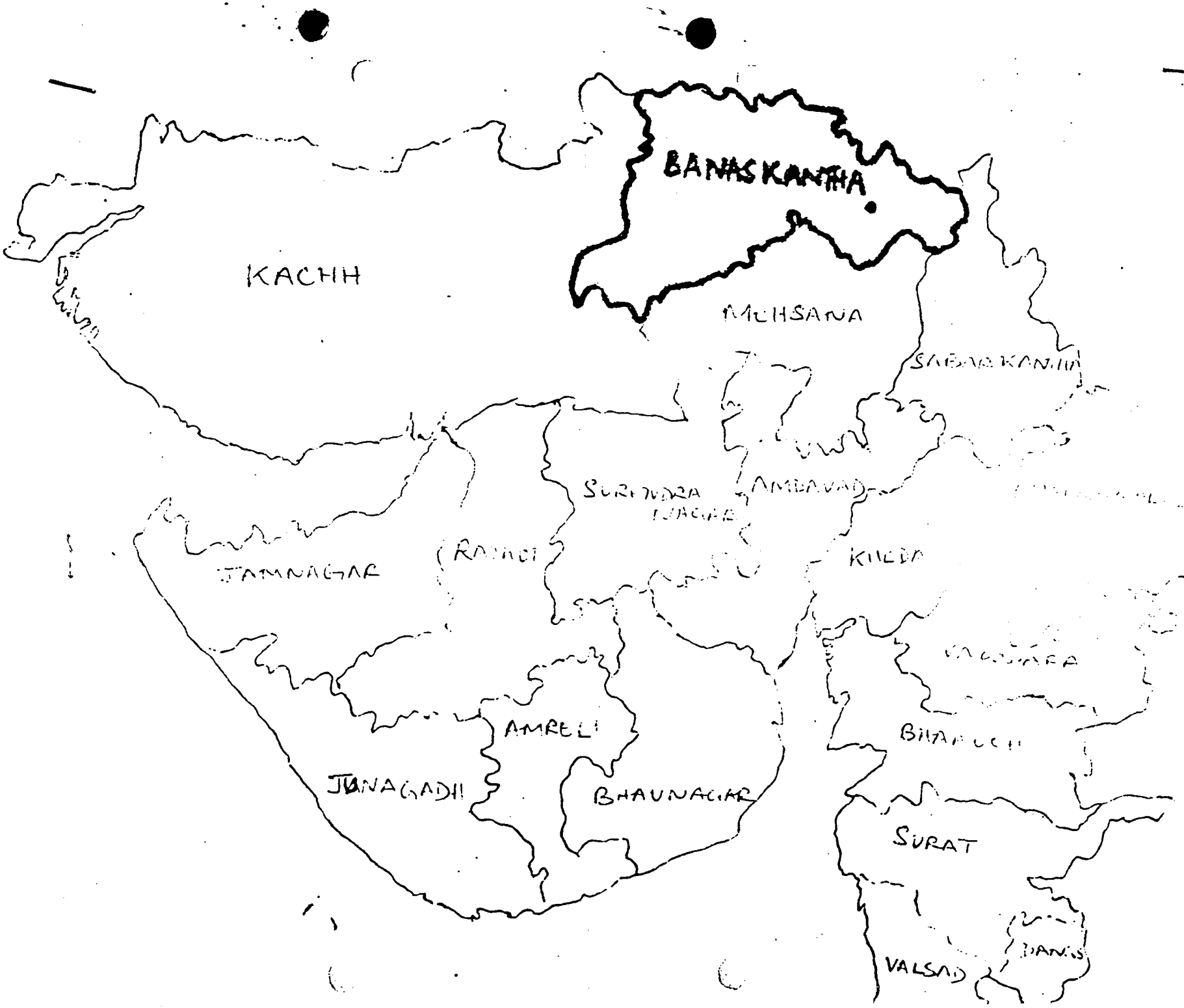
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SURAT
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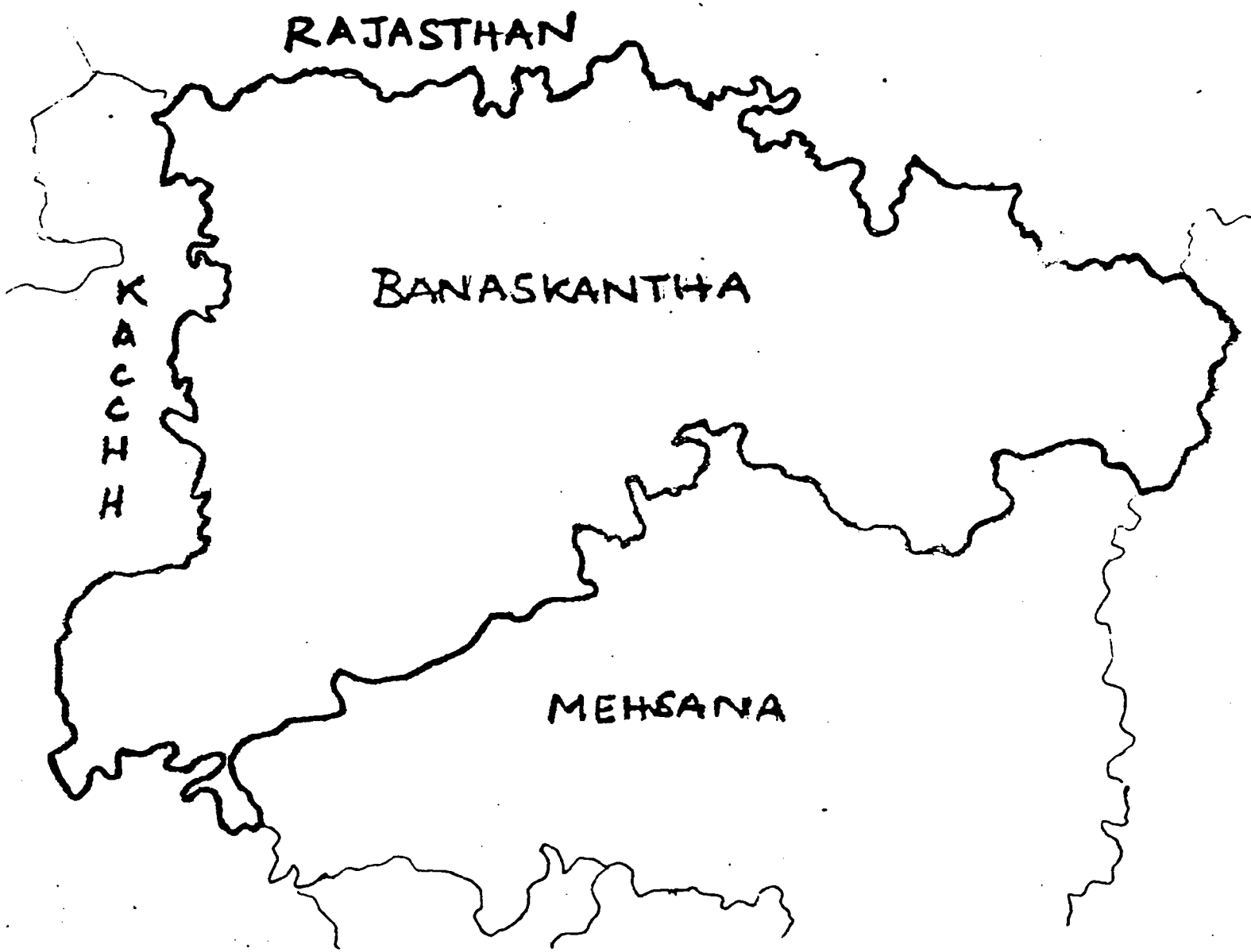
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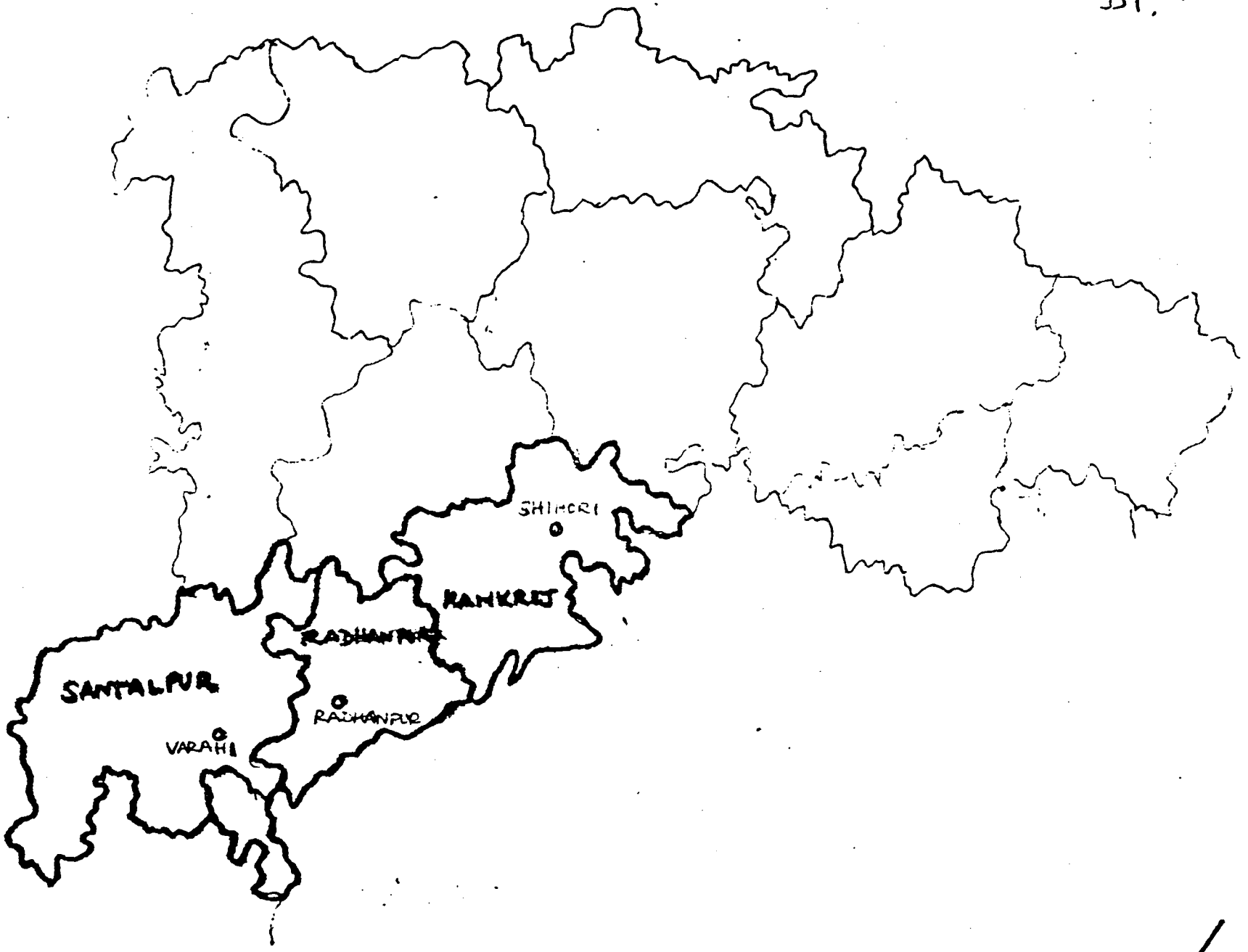

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PROJECT AREA - WORKS
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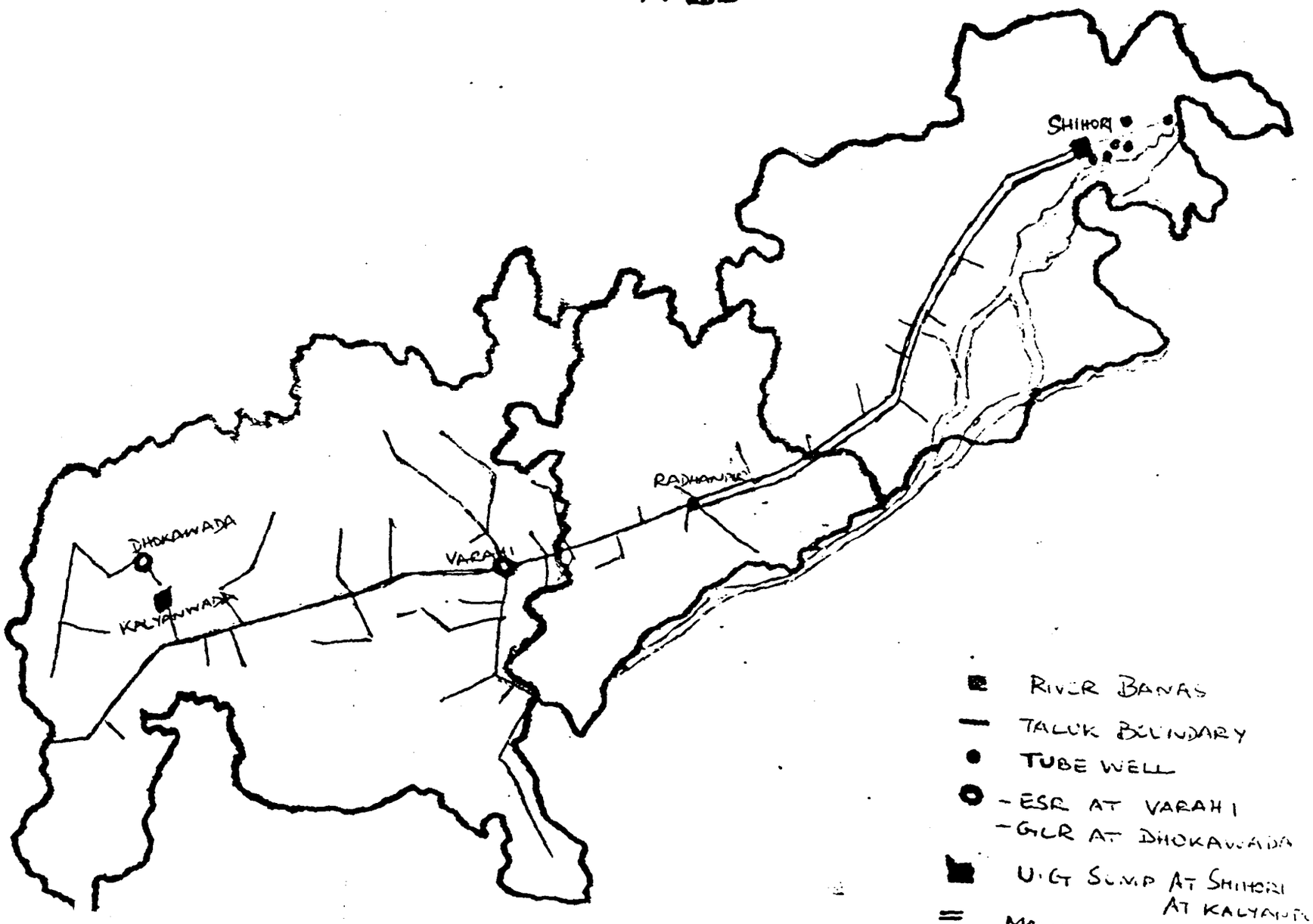


KAP STUDY OF AREA OF SRWSS PROJECT

Proceedings and findings

Preliminary Visit to Radhanpur, Banaskantha, Gujarat

Date : 3rd to 5th February, 1991

Team member: Pallavi/S. Harini/Varsha/ Maheshwari

Objectives of the Visit

The main objective of this visit was to:

* Introduce CHETNA team to different voluntary agencies and Government functionaries in Radhanpur taluka of Banaskantha district to elicit their support for CHETNA's health Awareness Campaigns at Radhanpur, Santalpur and Kankerej talukas of Banaskantha District.

* Obtain necessary information for ensuring the smooth coordination of the project at Radhanpur in future.

* To field test the questionnaire of KAP study designed by our team.

Introduction

As a team we have decided that prior to staring any activity in the Health Awareness Programme in this area a Knowledge, Attitudes, Practices (KAP) study would be conducted by CHETNA. The activities would be planned only after the analysis of the KAP study. Meanwhile CHETNA would continuously remain in touch with the ICDS functionaries and PHC staff during their monthly meetings. During these meetings health messages would be imparted which would be spread in the villages during their routine activities.

Meeting with Bhansali Trust

The following points were discussed with Mahasukhbhai at Bhansali Trust:

1. They will give us support during the KAP survey. The Anganwadi Workers (AWW) of the village would introduce CHETNA team in the village to obtain information. If she is free from the Anganwadi activities she would accompany the team during the survey; or she may introduce CHETNA team to other women of the village who would remain with CHETNA team.

2. Bhansali team would provide the necessary logical and physical facilities of rest house and their canteen whenever possible.

3. In future, in case of any decision involving financial expenditure, the discussion would take place between CHETNA team

and the trustees of the Trust.

4. CHETNA would provide training facilities to the functionaries of the Bhansali trust whenever possible (Bhansali Trust is co-coordinating an AWW ICDS training center).

Meeting with Shri C.C. Shah, Executive Engineer, GWSSB

The following points were discussed:

1. It would be useful if the tap and home water analysis is done to know the bacterial count. CHETNA would use its water kit or take help of the Government laboratories for the purpose.

2. Shri C.C. Shah suggested following villages to be included in the survey for their special/social cultural practices.

a. Par : This village is mainly of Rajput community where the water is fetched by the men of the community.
b. Sherganj : is the village where a high E.coli was found in the water pots, three years back and this is how the health awareness concept emerged.
c. Some of the villages where the scheme has not yet been implemented can be selected as control villages for the survey. The names are : Aluvas
Charanka
d. The villages at the Border of Kutch can be included in the survey they may be : Amtra
Jakotara
Barara

e. Savpura village of Kankerej taluka and Kalyanpura of Santalpur taluka have been selected for 100% coverage in sanitation programme. One of them can be selected for the survey.

3. The line man's activities can be observed because they actually clean the tank. Improper cleaning tank way lead to the pollution of the water.

Field testing of the questionnaires

Field testing of both the questionnaires was done at Sardarpura village of Radhanpur taluka. The questionnaire No.2 was field tested in the houses of two fatias. It was felt that during the actual survey it would be better if the information is collected in focus group discussions.

Changes in questionnaire

* Information regarding their festival would be collected
* Question regarding what needs to be done to solve the difficulties of water needs to be omitted.

1. At a first step CHETNA intends to select a few women Anganwadi workers, Pani Panchayat members and school teachers to teach them to organize and co-ordinate awareness camps and to oversee active community participation by adopting this methodology.

2. On special occasions (like World Health Day) camps or melas would be conducted to initiate the process of health awareness

3. Local level leaders including both; (men and women) would be included in the training. Particularly the line men.

4. Health messages suggested by the community themselves would be field tested in a form of posters or chart, to receive innovative methods for the introduction of education material.

5. A consecutive 3 day camp (melas) would be organized to enable the people of the surrounding villages to attend. Here special emphasis would be given to Bal Melas (Children camps), as it has been found during the survey that children are very enthusiastic and eager to participate in such programmes.

6. After the completion of 5 camps a review survey would b undertaken to get the feedback from the community so as to mak the future camps more effective.

7. To disseminate periodic information to women; papers, briefs and journals highlighting their diseases would be distributed.

8. All these would be done with the help and co-operation of other organizations like the GWSSB, SEWA, Foundation of Public Interest, Bhansali Trust, ICDS infrastructure, etc. so that the effort does not become parallel and repetitive.

Selection of villages for the KAP Study

The 17 villages mentioned in Annexure I were selected on the basis of the following rationale.

The belonged to different schemes of the project; some had yet got their supply of water but were under the plan, they represented the 3 talukas proportionately; geographically they covered the area to give an insight into the regional/climatic cultural diversities; plus they included specific villages like Par (Rajput dominated - where water is collected by men) and Sherganj (where earlier, water was found to have bacteriological contaminants).

One more village was added on in the process of the survey, as some of its villagers realizing, that we were associated with GWSSB, wished to express their distress regarding non availability of pipe-line water.

Hence, the total number of villages came upto 18. The analysis of the KAP study is enclosed.

Recommendations/Conclusions

On the basis of this study, CHETNA would be able to design training programmes, camps and workshops at the village level as well with the interacting organizations, in such a way that the needs of the community could be directly dealt with.

CHETNA's plan of action would not involve working in 97 villages simultaneously, but first, starting to work in a group villages and then allowing this work to be replicated to other project areas.

Annexure - I

List of Villages of RAP Study

Radhanpur Taluka - 5

1. Sherganj
2. Sardarpura
3. Mehamdavad
4. Sultanpura
5. Vadnagar

Santalpur Taluka - 10

1. Kalyanpura
2. Par
3. Amarapura
4. Jakhotra
5. Barara
6. Charanka
7. Aluvas
8. Boruda
9. Varnosari
10. Garamdi (added at the end)

Kankerej Taluka - 3

1. Manpura
2. Savpura
3. Hareshavas

ANALYSIS OF THE KAP STUDY

The following analysis gives an idea of the various responses of the villagers to each question posed and the reasons behind such answers. It does not attempt at a quantitative analysis of the responses and thereby has not involved much nitrigrity with numbers. While the total number of discussions were 30 for all the villages put together, some villages had just one discussion most of them had two, a few had three, depending on the facilitator's assessment of the village dynamics (population, life style, resources etc.).

DRINKING WATER INFORMATION

Different sources of water available and the the merits/demerits of each

Tap Water :

It was sweet and clean, near their house, clear, digestible, fresh, good for drinking, easy for cooking and easily available. However people said it was also far away, leakages and breakages were very common resulting in non-availability for 2 - 3 days until repairing was complete, and a few said that it was impure.

The concept of sweet and clean went together almost always and was the most dominant answer. But the reply of tap water being impure could be attributed (a) to psychological factor, that people have a block against it (b) they actually saw impurities in water.

One village - Sultanpura, had private connections for a large number of households - at least one tap (at a low level from the ground) for 2 - 3 houses, in some of the falias. Upon further enquiry as to how this became possible, we learnt that water pressure was low and villages could not get sufficient drinking water from the SP. This became a source of quarrels, fights, queues and crowds, and to eliminate all these problems, the villagers themselves have contributed money and got private

connections (through PVC pipe lines) at their doorstep. These are unauthorized connections, and later we also learnt that Sultanpura, gets pipe line water, not from SRWSS, but from the World Bank funded project of the next taluka. In fact, this had caused us some confusion in the beginning when we were under the impression, that Sultanpura has not yet received SRWSS water, although it fall under the extension scheme; and yet when we arrived there, we saw plenty of water available!

The people of Sultanpura, getting private connection water have to rely on electricity and hence if there is no power, water availability becomes a problem.

Well water

It is sweet and pure/clean, potable acts as a good source when tap water is not available. However lifting it is a big problem, it is open and dirty, saline, sour and unpotable, it may not have water at all. Here people have implicitly given well water lesser preference over tap water, as they use the former only if the latter fails.

Pond Water

It is good for cattle, washing clothes, available for around 4 months in a year, sweet, potable, covers all uses, and, when there is no tap water pond water is the only good source.

But there is not much water, also availability for just a quarter of the year, and highly dependent on rain; pond water is dirty, unclean, unpotable, contaminated, yellow, full of insects, saline and causes diseases.

People do rely on pond water much for meeting requirements of cattle, washing clothes. They use it for drinking if tap water is not yet available in the village; they are fully aware that this water is dirty, but the strong demerits of this water was also its state of contamination, unpotability and being full of insects.
While salinity was not an overstressed negative point for this question, it became a very vital element in determining whether water is good or bad.

Use of Water according to Source

For Drinking

Tap water was the almost unanimous reply amongst all people using it. Even those who did not have tap water, could not think of any good in drinking water, although there may not have been any other source. The good factors about drinking tap water were it was near, sweet and pure/clean, cold and potable, besides being the only drinking source. The only factor to complain was that it was far.

People drinking pond water claimed that it was far away and tiring, while those opting for kuccha wells said that the wells were dry.

For Irrigation

This was entirely rainfed, with a few instances of tube well irrigation; the nature of climate is such that the weather is very dry, with scarce and short monsoons and agriculture per se is very difficult. Most of the people are subsistence farmers, they grow cotton which is the only major cash crop; some are involved in salt production (being close to the Rann of Kutch). Otherwise they go out as laborers for stone breaking in quarries - stones used as gravel for roads.

For Household Use

Tap water, wherever available; pond water otherwise; even if tap water is available, some villages use pond water for bathing and washing. One village Boruda uses the Kuccha well (which is inside pond) water for these purposes.

For Any other Use

This essentially is for cattle - they use pond water and if pond becomes dry, they open up 'havada' (cattle through) and fill it up with tap water; if there is no tap water, they use the same option as their drinking water going to next village or nearby source.

Cattle Population

Is large - inspite of water problems; and camel population is also large - camel carts severe as transport and camel skin is used for footwear. Goat population is also large in a few villages in Kankerej taluka.

PROPERTIES OF

GOOD WATER	BAD WATER
Pure/clean	Saline
Sweet	Dirty/Unclean
Drinking	Insect full
Fresh	Muddy
Cold	Contaminated
Digestible	Smelly
Tasty	Yellow
Insect free	Bad taste
	Moss
	Open

Here too, **clean and sweet** were the topmost positive attributes for good water, and, **salinity** was that for bad water. Rather ironic that salinity which did not appear as a very important negative factor in identifying sources and their merits, became the most important factor for determining bad water.

Also drinking water was confused with good water - i.e. it was thought to be good. Not much distinction was made between dirty and unclean; contaminated meant presence of micro-organism or germs.

Almost 80% of the respondents claimed that water that is sweet and clean is good water and almost all respondents claimed that saline water is bad water. Much emphasis is placed on taste (sweet, salty), as water in this region of Banaskantha, is very salty (both ground water and surface water). Hence any water that is sweet is a welcome change for them; this water from taps appears clean without shine, dust, insects, color and that become an important factor.

Diseases from Drinking Bad Water

Diarrhoea, fever, vomiting were the major replies in around 50% of the respondents, while skin and eye ailments, typhoid, malaria, cholera appeared in common for around 25% - 30% of respondents. Other replies ranged from cough, headache, gas and stomachache, guineaworm, to rare mention of TB, asthma, appendicitis and cancer. However around 10% of women claimed that there was no illness caused from drinking bad water.

Water Collection, Storage, Purification and Handling

All women said water was collected in brass and mud pots, a few also added copper, and a few others, steal. Some claimed to bring water in brass pots and pour it into mud pots, because, the latter break easily, and are very large in size and hence difficult to carry.

Women collect water in almost all villages and communities, except in the Darbar (Rajput) village/falias e.g. Par village in Santalpur taluka, where only men collect water. This is because women are cloistered (in purdahs) and cannot be allowed to go out of their homes.

Water is collected mostly twice or sometimes, thrice a day, depending on the need. Each time the water collector, fetches around 3 - 4 'bedas' (a set of pots of different sizes, with the larger one at the bottom, the total volume of water in 1 beda equivalent to around 20 lts); each 'time', does not imply just one trip; it usually is more.

Water that is collected may or may not be filtered. By filtration, they mean using a piece of cloth for this purpose alone, tying the mouth of a pot before collecting/storing water inside it, to remove dust and insects and other particles.

Around 65% of respondents claimed to do this filtration, especially if they were using pond water for drinking to remove dust and insects (filtering applied only to drinking water) The remaining respondents did not stress this practice - the reply was "some of us do, some don't". The reason behind this being, if it was tap water, it was clean and did not require filtration; there was no time; cannot afford to waste any bit of water that might get lost in the process.

Filtering was done in two ways - either at the source itself (where water is being collected) or at home from one pot to another.

The awareness towards filtering and its benefits was undoubtedly there, but how far the practice exists was questionable. Well, even if it did, was the practice the right one from the point of view of hygiene?

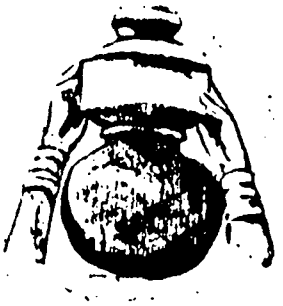
Hence we tried observing this practice. We found in a few villages, where water was filtered at source, the cloth was not wound over the mouth of the pot, but over the mouth of the tap - although the net result would be the same, with the latter being much more easier particularly since each woman is filling up more than one pot in each trip. The condition of the cloth, or what remained of it, was rather pathetic. What was once a piece of cloth, was now so much in tatters that it was only serving like a string. Then we realized that this "cloth" tied over the mouth of the tap was done to keep the tap in an open position (by tying the tap, which is an "up-down" valve mechanism, to the pipe) so that they need not stand with their hand always holding the tap in the open ("up") position. Hence filtering the water, in such a manner was only a cross benefit arising out of such a practice.

In other places, we observed, the cloth used at home, for filtering, was also very dirty and unwashed.

Another practice or habit of the people, is that when they bring unfiltered water in pots, in most cases they use these pots itself for storing - hence transfer from one to another, is just a cumbersome, extra effort required.

The last point to be noted with regard to purification is that, women carry one pot over another on their head with the support of a "indhoni" (circular ring made of straw and strings).

The place near the stand post is almost always, quite naturally wet with a lot of wet mud on the floor and on the rectangular stands. The big pot is filled first upto the brim, the smaller ones successively. The smaller one, while the big one is filled, is placed on the floor or nearby. It has naturally sand on its bottom side. Also when it is filled, it collects more wet sand from the rectangular block (stand) under the tap. Then this pot is placed on the top of the bigger pot, usually with the help of another person, all their hands dipping into the water. The smaller pot's mud bottom is cleaned by the water of the bigger pot when placed over it. Hence all the sand gets into the water, and whatever filtering was done at source falls to no use now.



The question of cleaning the pots, led to answers like everyday to avoid bad smell and throw out old-smelling water; once in 2 - 3 days, once in 15 days, when extra water is available for this purpose, whenever time permits. If they do it, it is to essentially avoid bad smell (they have not mentioned any other negative element that requires cleaning of pots). If they don't, its because of no water, and water being too precious for this activity; plus the fact that this is considered an unnecessary chore in their everyday work (particularly since tap water is considered clean).

On the issue of storage of drinking water at home, it was done on a stand or "paniyara" made of wood placed near the kitchen (Verandah), sometimes on the floor inside kitchen, on the floor inside house or on the floor of the Verandah . The reason for keeping on stands (for whose could afford them) was to prevent dogs and children dirtying the water; if inside house or kitchen, they could prevent dogs from dirtying it. However those keeping it on Verandah on the floor, said they had no choice - they would shoo the dogs and scold the children, only if they saw them do it, but otherwise they were not in any position to know. But the only advantage of keeping water on the floor, they said, was that children could reach it, if the parents are not at home.

On the question of how they drink the water, how they take the water out from the pot, almost all respondents said glass or lota (made of stainless steel); only one respondent said any utensil was used. This glass or lota was kept near the pots; they were dipped into them, hands touching the water, the bottom side of the vessel also touching the water. Nowhere was a doya" (small glass with a long handle) being used, although most of them knew what it was.

Difficulties of Drinking Water

With regard to tap water, the standpost was far away, crowds and queues because of only one SP, leakage/breakage in pipeline resulting in absence of water till repairing gets completed, this repairing takes time, and this fault is very frequent (at least once a month), fights and quarrels at the crowded SP, height of village or location such that water pressure is very low - hence slow force and less supply, water available is not enough (hours of supply is too short), irregular supply; around 20% of respondents claimed that there was no difficulty at all.

With regard to pond water, it was far away lot of time spent on water collection. trouble during summer because of shortage, very tiresome fetching pond water, high dependence on rain, no water for more than 4 months in a year, skin problems. With regard to well water, it was running dry for most part of the year.

Other Water - For HH use and Cattle

This water is stored in the front position of the house (open space where vessels are usually washed; stored in same place as drinking water; stored in same place but differently if this water is pond water; stored near kitchen; no need for storing as they go to pond to wash vessels, clothes and bathe.

Bathing is done everyday, once in 2 - 3 days, 4 days, 7 days, 10 days, 15 days, once a month, once in 2, 3, or 4 months, depending on time, water availability and need for bathing. When asked this question almost at once, women claimed to bathe everyday, but upon further interrogation in a light vein, the older women in every group, admitted that it was not possible to bathe everyday and hence the group was obliged to answer more accurately. Also none of the children seemed to have bathed regularly and the women confessed that this was true; it required enormous quantities of water if she was to bring water for all her children to bathe everyday. Hence children were given the last priority for bathing, and they themselves (children), when none are around, play with the water of the SP.

Bathing takes place at the banks of the pond, behind house, open space in front of house, (Where vessels are washed), in enclosures made for this purpose (Kuccha or pucca) in front of house or behind it. Some people bathe at home, to avoid spoiling pond water; home these people carry bathing water to the house.

Washing clothes is an activity mostly synchronous with bathing; sometimes it is done less frequently than bathing (Once in 10 days, 60 days during monsoons). The reasons behind it are lack of time and water.

The place of washing clothes is usually the place of bathing - bank of ponds, at bathplace in the house, at the open space in the house; Darbar (Rajput) women always bathe at home.

Washing vessels was done in the open space in front of the house if it was tap water; even if it were pond water, it was done at the house, to avoid spoiling of pond water; some washed vessels at the banks of the pond to avoid fetching water. However, all those having SPs did not wash it at the SP.

Washing vessels was done with mud and water; with mud alone if water was a problem, ash at times (for brass and copper vessels). Cleaning with water (after cleaning it with mud/ash) was prevalent only if water was available (e.g. Boruda had only pond water and well water - well in the midst of the pond; water was scarce and only mud was being used).

Defecation Practices

The place of defecation was that children usually use their "okardo" (rubbish heap of each house), while men and women go outside the village or go to their farms; sometimes children also go out like the parents; at times they use any place, the faeces collected and thrown on the okardo. When men and women go out, they use different places because they are embarrassed and women normally use a place that can't be seen easily by others. The reasons behind not defecating inside or close to the house/village, is to avoid making it dirty.

Ablution after defecation is with a lota of water; only rarely people said that they don't wash themselves at all; while once it was said, they used mud for this purpose.

Washing hands and legs after defecation, was done to avoid bad smell, was done if water was available, to avoid dirtiness also, but never with ash (as ash is a religiously pure substance.

Diseases as a result of defecating place

Commonly quoted illness were diarrhoea and vomiting other illness were fever, cholera, skin diseases, stomach and headache and head pain, typhoid, malaria and eye problems. Only one respondent said threadworm is one of the illness. Many people said that there were no diseases because of their current practice of using open fields/space. They felt that open space was good, with plenty of fresh air, absence of smell, all faeces dries up. They enjoy open land, it is a right method they claim. In fact some said latrines cause illness, without the afore-mentioned advantage.

Dirty Water Disposal

Water left over from cleaning vessels, clothes, house, bathing, was thrown in the open space in front of the house, or thrown outside house; in both cases, it dries up very fast. In fact only in the time of rains and monsoons will there be a problem of water to dry. Some do not do any washing at home (it is done at pond itself); hence there is no question of disposing this water - it may run back into the pond and dirty it.

Diseases from dirty water disposal

Since it dries up, there is no question of diseases at all; however the diseases likely to be caused if this water stagnates are cholera, fever, malaria, vomiting, diarrhoea, skin and eye problems, cough and typhoid; these will occur only in monsoons, since water stagnates. Some clearly said that even if water stagnates, no diseases are likely. The respondents do not see the link between diseases and dirty water. The diseases quoted by them, even if they have suffered from them, are not seen as a result of existence of stagnant water.

Rubbish heaps and diseases

Okardos are the place where rubbish is thrown. This is full of cattle rubbish like straw, dung, and any household rubbish. This is collected in a huge heap (usually one for each house) for several months to be used as manure in their farms. This okardo is near the house (beside it), behind the house, or far away from house. This is the place when children's faeces are also thrown.

Some did not see any diseases resulting from okardos; some said fever, vomit, malaria, diarrhoea, cholera, skin diseases, typhoid and headache occur when the okardo becomes wet during rains; bad smell was another strong complaint; it was far away from house, hence no problem; a few did not know of any linkages between disease and okardos.

General illnesses and their treatment

While so far all the illnesses suffered by them have been mentioned in their replies to various questions, the treatment for such ailments is done locally through a Bhuva (witch doctor) or Bhagat (local healer); people go to the PHC/Dispensary at Radhanpur and Varahi; they use household remedy of herbs; a few villages have Bhansali Trust's Rural Health Worker attending to provide medicines; the Bhansali Trust Office at Radhanpur; Medical Officer visits village, ANM visits village; Talati in one village had medicines with him; there are 2 private dispensaries in Subapura were neighboring villages may go to.

Water Availability for Different Uses

Whenever tap water is available, it is adequate for drinking; shortages occur in summer; long queues.

If pond water is only available, it is not enough and acute shortage in summer, for drinking. In one village water tanker has been provided by GWSSB, to provide water, but here the fights and crowds results in the water being monopolized by the rich and mightier people.

For household, tap water is adequate in a few villages; is not adequate in others. If it is pond water, there is shortage during summer. There is dependent on rains.

Irrigation is only rainfed, and is the biggest problem as rains are scarce. Cattle depend on pond water and this is dependent on rains. If ponds dry up, the "Havada" (cattle trough) has to be filled with tap water. However this amount of tap water becomes lesser for their other purposes.

Average water use and requirement per capita per day

The use amount was calculated for each group/village by asking the women how much water she brings everyday for the full family. This was divided by number of heads (with children taken as 1/2 a full head).

The requirement amount was asked as separate question, regarding all water uses for a person.

On going through the figures, we find that per capita per day average use follows the pattern of :

* 1 - 2 beds in 63% (74%) of groups
* below 1 beds in 15% of groups
* 2-4 bedas in 22% (26%) of groups

(Requirement figures are in brackets)

However the gap between use and requirement was more than 1-5 bedas in only 15-20% of the groups.

But for those villages, where more than 1 group discussion was done, if aggregation is done to arrive at a single village average, then the gap is just around 1 beda between use and requirement for all relevant villages of the study.

If one can compute an overall aggregate (which may not reflect the extreme skewnesses), we arrive at :

average per capita use per day = 1.6 bedas.
average per capita requirement per day = 1.8 bedas

Hence we note that there is not much of a gap. Can we now say that water is sufficient for these people ? Knowing that the hardships they face, we can say that a lot of this has been reduced by the introduction of pipeline water(it certainly is easier carrying water @ 1.6 bedas per capita from the SP than carrying the same from a pond!). One wonders if their use of water is not as much if tap water is not present. But, by comparing villages, having tap water to those not having it, one might conclude upon examining these figures that the average use has not increased because of pipeline water. In fact in those 5 villages not having tap water, average use is 2.2 bedas while that in remaining 13 villages is 1.4 bedas ! (This may be because people have started becoming more careful using water, and once getting used to tap water do not mind using even lesser of it).

The requirement for these two sets of villages has increased from 1.7 bedas to 1.8 bedas.

A Profile of the villages

These 18 villages with populations ranging from 150 (Aluvas) to 3000 (Mehamdavad) belonging to the 3 talukas of Kankerej, Radhanpur and Santalpur. The respondents in all these villages were mostly the Sarpanch or an Agyavan (important person) of the village. This person was a Panchayat member, school teacher, dominant caste leader. All the villages had a pond (some had more than two) ; in some villages, the pond was dry currently.

Tap water was available in 13 villages although 17 villages have structures . Here, one village Sultanpura was getting pipe-line water, not from the SRWSS project but from a World Bank funded project (Refer the KAP Analysis report Page 1) . Amongst the remaining 12 villages, the number of SPs ranged from 1 to 5. The rationale behind allocating a specific number of SPs to a village, may be one based on population and level of other water resources available in the village. There are villages in which all the taps of the SPs are in working condition (Kalyanpura, Barara, Manpura, Karechavas, Savpura, Sherganj and Sardarpura);some villages have non-working(broken) taps in addition to working ones (Mehamdavad, Varnosari, Vadnagar, Par, Jakhotra); while the remaining have taps but the SPs have not been given connection so far.

Those not yet getting the tap water rely on wells (kuccha,pucca) and pond. Wells are reported to contain saline water, some don't have any water, they are used if pond water dries up. Some villages reported to have upto 60 wells-private(Karechavas and Sherganj, but in the latter, all of them were dry). Salinity has made water unpotable and useful for irrigation alone. Also, it must be noted that as long as pond of well water are constantly in use, its potability is assured; while once they are not used for a long period of time for drinking (ignoring the extra care required to maintain it clean and pure when used for drinking) the water becomes unsuitable for drinking purposes. Hence while these traditional sources of water are not being ignored totally, they are not maintained as well as before, because drinking water is available in taps. However, if the taps fail, people are forced to drink this unpotable pond/well water.

Other sources of water include river (Banas), handpump, private tubewells (for irrigation), and "Verdas"(troughs made near or inside a source so that water recharge is more and it is filtered; this Verdas water is sweet even if the pond in which it was dug is saline).

The question of responsibility of tap water maintenance(and operation) was the linemen and he himself would repair any fault if not major. If the fault was a major one, he would report to the nearest a GWSSB office (Varahi, Radhanpur, Thara). The linemen belonged to the village or to neighboring one (one linemen for villages within distance of 15 sq.k.m.). He is is paid by the GWSSB. The supply of water in the villages ranged from 2-4 hours in the morning to 2-4 hours in the evening. Some villages reported getting water the entire day (Jakhotra, Mehamdavad). Every village getting tap water (or having a SP structure had a "havada"(cattle trough)(even two). The water to be filled in the trough had to be released by opening one valve, closing the one leading to the SP, from the cistern(tank). However the havada was being used only when the pond ran dry (In Karechavas havada was filled everyday !) In such cases, it was required to fill the havada, even twice or thrice a day !

The average number of falias (mohallas or communes) was 6, and some of the various communities were Harijan, Bharwad, Suthar, Patel, Darbar, Rabari, Thakur, Fakir, Mallik, Brahmin, Vaniya, Garwal, Gadvi, Kolli, Ayyar, Agichania, Bhangi, Raval, Prajapati.

Regarding latrines, none had school latrines , nor public ones, and only 3 villages(Mehamdavad, Shergan) and Amarapura) had private latrines (maximum or 3 at Mehamdavad) in the houses of Sarpanch and/or agyavan).

Almost every village had a school with the 7th std. being the highest class. All children (or all classes) sat usually in one room and different exercises were given to them, depending on their class. There were one or more (maximum of 4) teachers in the school usually belonging to the same or neighboring villages/towns. One of the teachers was the Head master of the school. School timings were usually 8-11 a.m.

The different festivals celebrated by villages were Diwali, Holi, Navratri, Shivaratri, Janmashtami, Ramanavmi, Ramzan, Id, Uttrayan, Raksha Bandhan, Independence Day and Republic Day, the last two were school functions while all the rest were celebrated by the whole village collectively. In the sense, there were organizers for functions who would take up the responsibility of all arrangements. In all villages people danced and sang"garba'(local Gujarati folk art) and in some villages women did not dance in front of the men. They sang "Bhajans" (holy songs), went to the temple, shared the "Prasad" (holy offerings). The men drank "Bhaang" (local narcotic) on the night of Shivratri, while children wore new clothes on Diwali day.

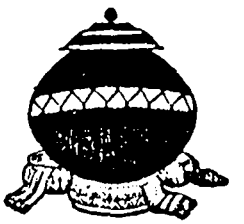
Regarding the various associations or "Mandals" in villages, some had a Navratri mandal (for looking into all the celebrations of Navratri), Bhajan mandals, Yogeshwar mandal. All these were religious activities-oriented associations. Others include - credit society, salt producer's mandal agricultural cooperatives, dairy cooperative societies, mahila mandals, looking into income generating activities. Besides these, SEWA's activities are also taking place simultaneously to promote Banaskantha craft work.

Under the ICDS (Integrated Child Development Services) scheme, there were Anganwadis (Day-care centers) in most villages. These were either under the jurisdiction of the Bhansali Trust or the Taluka Panchayat. The attendance averaged around 20-40 children. The timings were between 11.00 a.m. and 2.00 p.m. The AW was run by an AWW (Anganwadi worker) she belonged to village and was usually a married women. There were some villages were AWs were closed down due to space problem - they could not afford the rent. Villagers seemed eager to see it functioning and were wiling to arrange for accommodating the AW center.

Those villages with a large cattle population and not having a dairy cooperative society, seemed desirous of starting one, as the Rabari Community (herdsmen), in some of the village, went to the nearest one to deposit their milk.

Every village did have a Pani Panchayat although villagers did not know about it. This Pani Panchayat , did not seem to be doing much work in terms of water management and maintenance and only the chief of this body, the sarpanch besides the lineman, took any responsibility regarding water problems. The Pani Panchayat was made up of the Sarpanch, lineman, two males and two females of the village.

The general condition of the place surrounding the stand post was wet, with puddles of water and dirty (except Sardarpura, Karechavas) . People had to step into this muddy puddles before collecting water and this was a vicious cycle. Being dry and hot, these puddles did not pose a problem currently, but during monsoons, there would be stagnation. This was because there was no proper drainage system by which excess water would flow away easily (if there were trenches dug in the ground, these had been worn away and none had bothered to maintain it). In one village water drained out into a huge depression that it looked exactly like a pond (but for the green, mossy and stagnant appearance).



REPORT ON THE WOMEN'S MELA

REPORT ON THE MELA OF WOMEN PANI PANCHAYAT MEMBERS

DATE	:	7th April, 1991
VENUE	:	Varahi HW sites
PARTICIPANTS	:	(a) Mahila Members of Pani Panchayat (b) Youth representatives
RESOURCE PERSONS	:	Shri R.G. Patel and GWSSB staff
CONDUCTED BY	:	CHETNA CHETNA Team Members - Ms. Varsha Bhatt Ms. Maheshwari Vyas Ms. S. Harini Mr. Dayabhai Mr. Popatbhai
METHODOLOGY	:	Group discussion, Microscope viewing, posters, Games, Slide show, songs

OBJECTIVES:

* To highlight the importance of Drinking Water from the point of view of its management by the Pani Panchayat members of each village.
* To share information of each village in terms difficulties in drinking water
* To examine ways in which the above difficulties can be reduced by better co-ordination efforts.
* To educate the Pani Panchayat members on the importance of community participation in the management of standposts.
* To highlight the importance of drinking clean water.

INTRODUCTION

The Gujarat Water Supply and Sanitation Board (GWSSB) has been involved in supplying drinking water to around 97 villages under the SRWSS project in three talukas - Kankerej, Radhanpur, Santalpur of Banaskantha district funded by the Government of Netherlands. As part of CHETNA's activities in the above project in facilitating water and health awareness in these villages, mahila mela was planned for women members of the Pani Panchayats of around 30 villages in the environs of the Varahi HW site, keeping in mind the above objectives on on 7th and 8th April, 1991.

The idea of keeping the venue as the Varahi HW site, came from the GWSSB, as it had best access to transport routes and it was well known by most villagers, besides having accommodation facility.

Strategy

CHETNA team members, went to around 28* (See Annexure - I) villages to personally invite the participants, although the GWSSB had very systematically informed each of the linemen of concerned villages, via circulars about the programme.

We realized that these women had not traveled much out of the villages and were very wary about the thought of a few of them (2 members of Pani Panchayat plus any others who wished to accompany them) going to a new place and that too staying overnight.
We assured them that there was no need to fear and that, they could be escorted by one male member of the village, if they felt uneasy.

By the time we left each village after inviting them, we were given reassurances, by the villagers that they would arrive at the venue around 10.00 a.m. on 7th April, 1991.

7th April, 1991

08.00 to 09.30 a.m.

There was a festive mood in the air; tape recorded music of local Gujarati songs; health posters on wall, colorful garlands being strung on doorways, two pieces of bright rangoli designs being done at the entrance, a banner at the main gate unfolded, a big brass lamp with oil and wicks ready to be alit.

In the midst of this was the most beautiful element - that of arrival of the women. A few of them had already started coming and were helping us out with our work of decorating the place. They got time to talk to one another freely, started singing songs and discussing the pictures displayed on posters. In fact, one women looking at the picture of a healthy baby, wanted to know whether her baby is healthy or not.

09.30 to 11.30 a.m.

Women started arriving in larger groups more and more rapidly. Firstly, they were all registered with names and addresses, and then inviting a small girl we inaugurated the mela by asking her to light the lamp. This was a time of solemnity with a large crowd surrounding the lamp.

Shri R.G. Patel, Dy. Executive Engineer, GWSSB, who was helping us throughout during the past three days, regarding all arrangements, upon our request, spoke to the women on the issues of water facing them.

He highlighted the importance of Pani Panchayat members in the drinking water supply system and urged them to inform him whenever they have any problems in their village with regard to the above - in terms of problems with linemen, water pipes break down or any community level problem, as it was the duty of the Board to look into all these matters.

Then, CHETNA added to Shri Patel's request, by telling the people that while good drinking water supply is the duty of the board, its cleanliness and portability are the responsibility of the community in terms of safe practices in hygiene and sanitation.

11.45 to 01.30 p.m.

"Vaathaladi Varasire--------" This was local humming and chanting with which we started the programme. All the women (46 plus 9 men) felt so happy listening to this as it related very closely to them - rain, water, difficulties.

Then each women was asked to introduce herself and speak of any problem she or her villages was facing due to drinking water. This was a forum wherein each woman got to know others' problems, the situations in other villages and gain from it.

The following were some of the main points raised :

- At Moti Pipli, the Pani Panchayat issued a warning, that anyone found wasting water will be fined Rs.100/- Out of fear of this fine, most people have become very careful in using water.

- In Vavdi, Dehgam, Undi, Jarusa, problems like slow flow of water (reduced pressure), overcrowding at SPs (due to less number of taps), non-working taps (say only 3 out of 6 taps work), irregular supply of water, breakdown in the tap/pipes (say 4 times in 6 months) and therefore 2 - 4 days without drinking water in the village, were the general scenario.

- Moti Pipli, Varnosari, Naliya, Vandhia, Sherpura, Nava Kamalpur, Abiyana, Zanzansar, Gokhantar, Fulpura, Vaghpura, Korda, had no problems in Drinking water; even if breakdowns occurred, quick repairing (at most 1 day) was done.

- Gotarka has no water from the SRWSS, but gets borewell water which is very salty. These people came to the Mela - 8 women and one male, with the hope of getting pipeline water of SRWSS scheme in their village : Their expressed anxiety over their situation and desired to know why other villages very close to theirs, got water from the SRWSS scheme. They felt that CHETNA could put-forth their grievances to the GWSSB.

However, this village, although not getting the SRWSS water now falls under the 3rd phase of the project (Augmentation Scheme) and would be included in future.

01.30 - 02.30 p.m.

L U N C H B R E A K

During this time of informal interaction, we learnt from the women that none of them were willing to spend the night with us at Varahi, but had to go back home, as their housework like tending to cattle, cooking dinner for their menfolk could not be avoided. Since this request came from most of them, we did not wish to hold them against their desire. Hence we scheduled as many activities as we could for that afternoon itself.

02.30 - 03.00 p.m.

Microscope Examination : A slide of dirty water was demonstrated to the participants. Each one of them viewed tiny micro-organisms moving in water and were told that these were harmful elements to the health system, resulting in various illnesses. The women were surprised and shocked to find such organisms in something as 'clear' as plain water. They also were told about the importance of filtering water, using doyas instead of dipping their hands into the water pots.

3.00 - 3.30 p.m.

Structured Exercise on coordination aspects of the drinking water system of the SRWSS project was demonstrated playing the 'Broken Squares' game. This is a jigsaw puzzle with broken pieces of a square cardboard. Each piece depicted the symbol of an organization working in that area - GWSSB, SEWA, PHCs, CHETNA. All the teams who worked on solving the puzzle were debriefed on the joint efforts of these organizations for the development of their villages. Likewise, it was also emphasized that with regard to drinking water, the linemen, pani panchayat members, local bodies, community and the Water Board would have to jointly coordinate with one another to render successful operation of the system.

3.30 - 4.00 p.m.

A creative session of depicting pictorially different aspects of drinking water was undertaken with sincerity and effort. It was quite amazing that all these illiterate women were able to produce fairly artistic pictures of standposts, taps, pots, etc.

4.00 - 4.30 p.m.

A slide show on "Water for Life" was scheduled. Here, with explanations from the trainer, the women were able to very easily grasp the water problems shown on the screen and identify/relate them to their situations. They were also given messages on the do's and don'ts of practices of various uses of water.

4.30 - 5.00 p.m.

"gaam mhysa garne aare dhol vaghe che....."
These were the ending notes with which the mahila mela drew to a close with requests from us that these women present today should propagate safe practices of use of water in their own villages and bring about more and more awareness amongst people. The women were full of assurances, bid us farewell and expressed

their happiness being with us for one full day.

OBSERVATIONS/SUGGESTIONS

While we were interacting with the participants during the mela, we tried finding out what their opinion on the programme was. Most of them said that the pressures of housework prevented them from halting over-night. Very interestingly, they themselves suggested that we conduct such melas at their village where they could participate for longer hours and all women of the village could participate. This suggestion being valid, we have decided to explore into the possibility at the earliest.

Another positive outcome of this mela was that these shy women who normally hesitate to talk, found the mela a forum for exchange, without any fear, their feelings, problems, opinions. At the end of it, they were convinced that as leaders of local bodies (i.e. Pani panchayats), they had a lot of decision making responsibilities to further the cause of water management in their villages.

ANNEXURE -1
LIST OF VILLAGES VISITED

ABIYANA
UNDI
FULPURA
JARUSA
SHERPURA
SADPURA
KORDA
KOLIVADA
ZANZANSAR
ZEKDA
GADDA
LIMGAMDA
UNDARGADDA
MOTI PIPLI
GOTARKA
DEHGAM
NALIYA
DHABI
UNAROT
BAMROLI
VAGHPURA
DHOLAKDA
NAVAGAM
VANDHIA
HAMIRPURA
VAVDI
VARNOSARI
LAKHAPURA

ANNEXURE - II
LIST OF VILLAGES REPRESENTED

ABIYANA
UNDI
FULPURA
JARUSA
SHERPURA
KORDA
ZANZANSAR
MOTI PIPLI
GOTARKA
DEHGAM
NALIYA
VAGHPURA
VANDHIA
VAVDI
VARNOSARI
JARUSA GAMDI
GOKHANTAR
NAVA KAMALPURA
ZAZAM VAVDI
VARAHI

Other information collected

1. Map showing details of water line
2. List of 97 villages were pipeline water was provided
3. List of AW centers and names of AWWs in Radhanpur/Santalpur falling under Bhansali Trust
4. From Dr. Naulakha, Incharge, Radhanpur Referral Hospital (CHC), information on patterns of diseases of these areas.

Selection of Villages for Conducting KAP Study

The rationale behind selection of villages for conducting a KAP study (Knowledge, Attitude, Practices) amongst the 97 villages that are the beneficiaries of the SRWSS, assisted financially by the Netherlands Government, implemented by the GWSSB, was as follows:

It was felt that this KAP study will not be a survey, but a qualitative study to assess the people's way of life, with respect to drinking water. With this mind, two questionnaires were developed one for getting logistical data on sources of water at the village level, the other for gathering household level information. When these were field tested, it was found that with reference to the latter, there was no need to gather information from individual households as most practices were uniform across households and even "falias". So the decision to use "focus-group" discussions evolved. These focus-groups would involve mainly women and few men (if required) and every village will have 2 such groups for discussion (combining, say 2-3 falias in each focus group).

Out of 97 villages, where CHETNA will be working, the number of villages chosen for this KAP study were 17 (about 1/6th or 17%)*, keeping in mind the availability of time and resources, plus the adequate size/distribution of sampling.

According to published reports, it was seen that the distribution of these 97 villages where the SRWSS has been implemented is as follows:

Santalpur taluka	56	(58%)
Radhanpur taluka	28	(29%)
Kankerej taluka	13	(13%)
	97	

With this in mind, the distribution of sample villages for KAP study became :

Santalpur taluka	- 10
Radhanpur taluka	- 4
Kankerej taluka	- 3
	17

A small rearrangement was made so that the above distribution became 9,5,3 (to include one more specific village Sardarpura in Radhanpur taluka).

Santalpur - 9 villages

Name of village	Reasons for Selection
Jakhotra	Kutch side-served
Barara	Kutch side-served
Charanka	Not served but planned
Aluvas	Not served but planned
Kalyanpura	100% sanitation coverage-served
Par	Rajput dominated-served
Boruda	Served village in Extension scheme towards North
Varnosari	Served village in Augmentation scheme
Amarapura	Southern most village served

Radhanpur - 5 villages

Sherganj	Served village in Augmentation scheme with E.coli presence detected earlier
Sardarpura	Served village in Augmentation scheme - already field tested
Mehamdavad	Not served but planned village in Western side of taluka
Sultanpura	Not served but planned in North-Eastern side
Vadnagar	Served in Extension scheme, close to Kankerej taluka

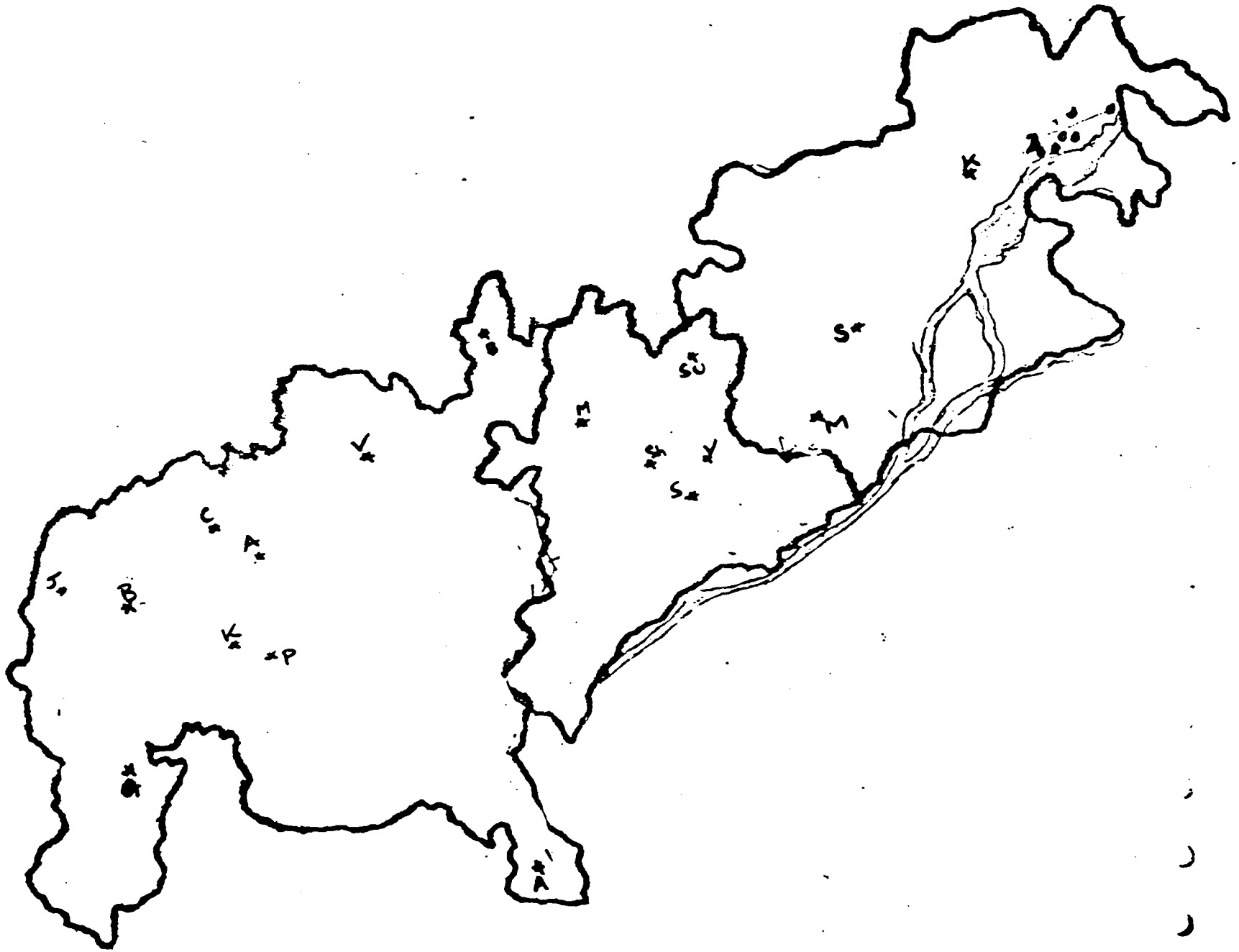
Kankerej - 3 villages

Savpura	100% sanitation coverage-served
Karechavas	Top most village (Head end) served
Manpura	Close to Radhanpur-served from Extension scheme

*

- Later during the process of the KAP study, one more village in Santalpur taluka was added (Garamdi), making the total to 18.

MAP OF KAP AREA



CHETNA

RADHANPUR KAP STUDY QUESTIONNAIRE

QUESTIONNAIRE - 1

Information regarding water in village

Person Designation :

Address :

Village : District :

Survey Date : Time :

Surveyor's Name :

(One form for one village) to be filled from Sarpanch or Mukhya of Village).

Information on Village :

(1) *Sources of Drinking Water in Village* :

(a) *How many sources and where are they?*

Sources	How many		Working	Not working
	Private	Govt.		
- Tap				
- Kachha well				
- Pucca well				
- River				
- Pond/ Lake				
- Hand pump				
- Verda				
- Any other				

(b) *Stand post/Tap is available, how many hours is water available?*

Time	From time	to what time
Morning		
Afternoon		
Evening		

(c) *Who is responsible for water availability in village?*

(d) *If hand pump/Tap breaksdown, who repairs it?*

2. Visit to sources of Water :

(a) How many falias/mollahs in village?
(b) In every falia how many are the sources of water?
(c) Observe the condition of these sources at every falia
(d) Is there a provision for cattle through in village?

3. Is there a latrine in village? Yes/No
If Yes, to visit latrine)

(a) In school - How many
(b) Public - How many
(d) Private - How many

4. Is there difficulty for drinking water in village? Why?

5. What are the festivals in village? How do you celebrate them. Who takes part in them.

6. Are there any associations/materials in the village.? What are the activities?

7. Map of village showing all falias.

CHETNA

RADHANPUR KAP STUDY QUESTIONNAIRE

QUESTIONNAIRE - II

Drinking water information from Households :

Address

Name of Village District

Surveyor's Name

Date Time

Drinking water information from villagers

Name of Village

Falia Name

No	Name of Respondent	How many adults	How many Children	How much of water do you need/day

CHETNA

1. Sources of Water :

Water are the different sources of water in your village?

What are the merits and demerits of these sources?

Water	Merits	Demerits
* Tap		
* Well		
* River		
* Pond		
* Handpump		
* Any other		

2. From where do you fetch water?

	Place	Why	How far from home
* For drinking water			
* For irrigation			
* For house use			
* Other use			

3. How many times a day do you get water?

Who brings it?	How much?	For what use?

Drinking Water Information :

4. a. According to you, how should drinking water be?

b. According to you, what water should not be drink?

c. If you drink this water, what are the diseases you will get? Why?

5. How do you fetch the water (container) - (Observation)

6. a. Do you purify drinking water? How and why? (Observation)

b. How do you clean the water pots? How frequently and why?

7. Where do you store drinking water at home? (Observation) Why?

8. How do you take out the water from the pot (observation) Why?

9. What are the difficulties of fetching drinking water?

Information on Household uses of water (Observation)

10. Where do you store water for other use? Why?

11. According to you, how much water does one person need for one day (Totally?).

12. a. Where do you bathe, how frequently and why?

b. How frequently do you wash clothes? Why?

c. Where do you wash clothes? Why?

d. Where do you wash vessels? Why?

e. How do you wash vessels (with what?) Why?

13. Where do you for defecation? And why to this place?

a. Children
b. Female
c. Male

14. After defecation how do you clean yourself?

15. Do you wash your hands after defecation?

16. Do you think, spread of diseases is associated with open? Yes/No? If yes, what diseases?

17. Do you brush your teeth everyday? Yes/No

With what do you clean your teeth? Why?
(Observation of flurosis traces on teeth)

18. How do you dispose dirty water after use? Why?

19. If water stagrates, will there be diseases? What diseases?

20. Where do you dispose rubbish/Do you collect it and throw it? Why? (House)

(Cow-Buffalo dung)

21. Is there diseases because of rubbish heaps? Yes/No.
What diseases?

22. If there is illness, what do you do?

23. Is water for villagers enough for all their needs?

* Drinking
* Other Household use
* Irrigation
* Cattle

INTERIM REPORT OF KNOWLEDGE, ATTITUDE, PRACTICES (KAP) STUDY FOR HEALTH AWARENESS PROJECT, BANASKANTHA DISTRICT, GUJARAT

SUMMARY

From 17th to 28th February, 1991, CHETNA team members undertook a a brief KAP (Knowledge, Attitude, Practice) study to know the opinion of the villagers' in regards to drinking water in the three talukas of Banaskantha (Kankerej, Radhanpur and Santalpur) as part of the initiative to be taken for creating Health Awareness in these areas. The study covered a sample of 18 out of 97 villages from the total project area, where drinking water is serviced from the Santalpur RWSS project, funded by the Government of Netherlands and implemented by the Gujarat Water Supply and Sanitation Board. This KAP study is to act as a board guideline for a series of subsequent events that include camps, melas, workshops and training programmes to be evolved with the aid of educational material.

The KAP study comprised of two group discussions in every village and a village level data form. Focus groups were mainly women, in the age group of 20 to 65 years. Most of the women in a group normally belonged to the same caste/community, while the village level data was obtained from either the Sarpanch or any important person of the village.

INTRODUCTION

The Government of Netherlands has been involved in the funding of the Santalpur Regional Water Supply Scheme (SRWSS) in Banaskantha district of Gujarat since the inception of this scheme around 1978. The implementing agency, involved in the construction of the entire infrastructure for this SRWSS project is the Gujarat Water Supply and Sanitation Board (GWSSB). The Board, responsible for the supply of drinking water in about 97 villages in the 3 adjacent talukas of Banaskantha, has its activities spread over a distance of 100 kms, from the head end Shihori, to the tail end at Madhutra.

This scheme initially intended to cover around 72 no source villages (where there is no source for drinking water), but by the time of its completion, several other villages were also identified for this requirement. Hence an extension scheme called Santalpur Extension Regional Water Supply Scheme (SERWSS) was introduced in 1984, which included another 48 villages.

An additional 21 villages were included in a third scheme called the Santalpur Augmentation Scheme; thus making the total number 141 villages.
The Dutch Government, while overseeing the project periodically, since the past two years, felt it necessary to involve voluntary agencies as well to undertake the socio-economic aspects of the project. So organizations like SEWA (Self Employed Women's Association) and CHETNA (Center for Health Education Training, and Nutrition Awareness) became part of this project.

Since two years SEWA has been involved in the income-generating activities for women of this area, like handwork, leather work, dairy co-operative societies, etc. CHETNA has recently entered the scenario by undertaking the responsibility of education and organizing water related health awareness programme for a period of three years.

Objective of CHETNA's Involvement

1. To make community aware of the importance of safe drinking water.
2. To impart knowledge regarding hygiene (conditions and practices) so as to reduce and finally eliminate major risks of water borne diseases.
3. To create awareness pertaining to general nutrition, health (esp water related diseases) and child care practices.
4. To give more information about existing available services/facilities and to motivate the community for availing of it.

By considering all the existing facilities available with regards to water, hygiene and sanitation, CHETNA would prepare education materials to implement this programme in an effective way .

The overall objective of CHETNA in this project would be to devise a comprehensive health awareness module that can be replicated in other areas.

Methodology

- At the first stage, visit to project villages (18) has been recently completed to conduct a KAP study of the area with regard to water. This is a brief yet qualitative study taken up by CHETNA to get acquainted with the existing norms and practices of the villages. Though not much emphasis was given to quantitative analysis, the survey team was able to draw out a picture of the area, represented by 18 villages.