Government of India
Ministry of Agriculture
Department of Rural Development

Government of Gujarat
Department of Health and Family Welfare

Gujarat Water Supply & Sewerage Board

Kingdom of the Netherlands
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India

Report on Mission 33 to Gujarat

Rural water supply and sanitation

Progress review
Regional water supply and sanitation schemes

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FIGURES

PHOTOGRAPHS

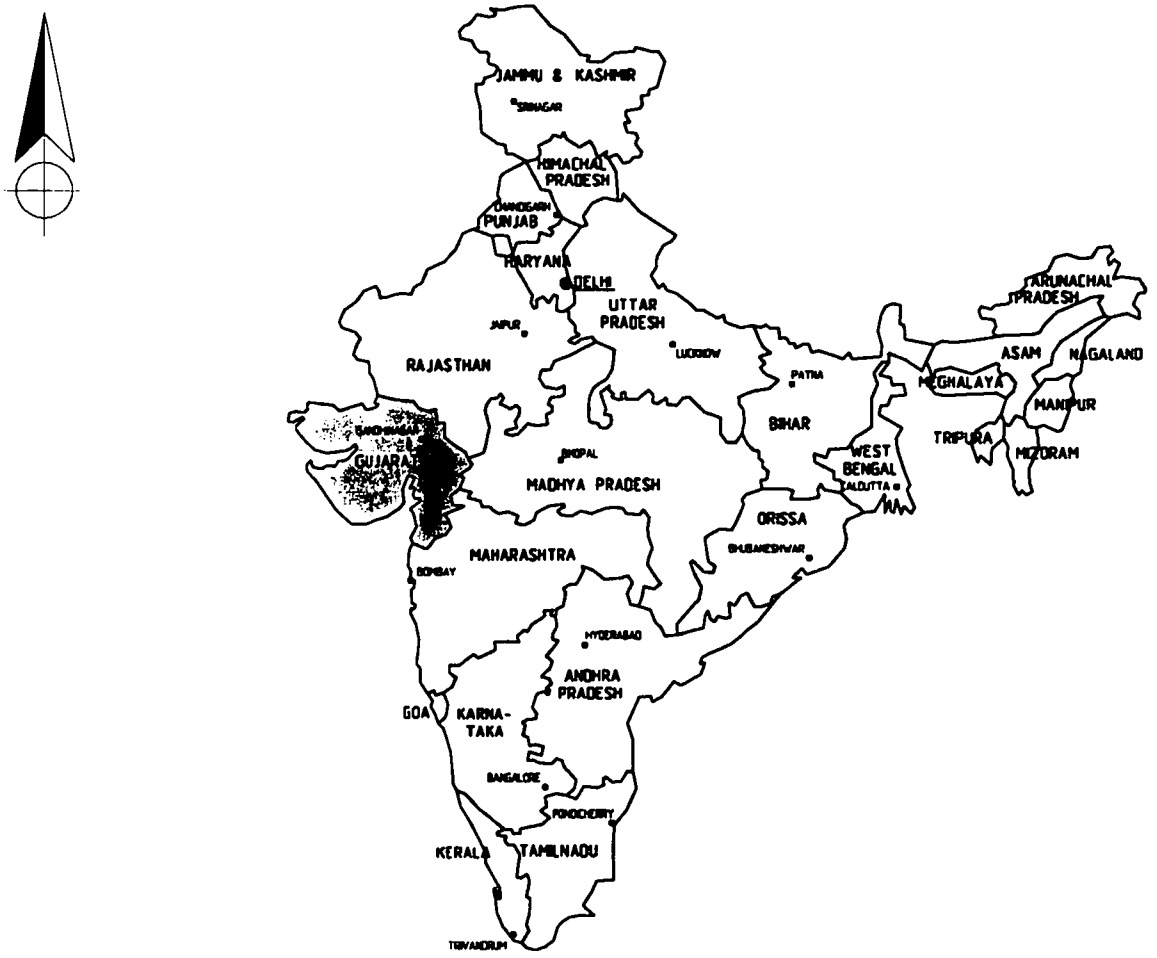
LIST OF ABBREVIATIONS

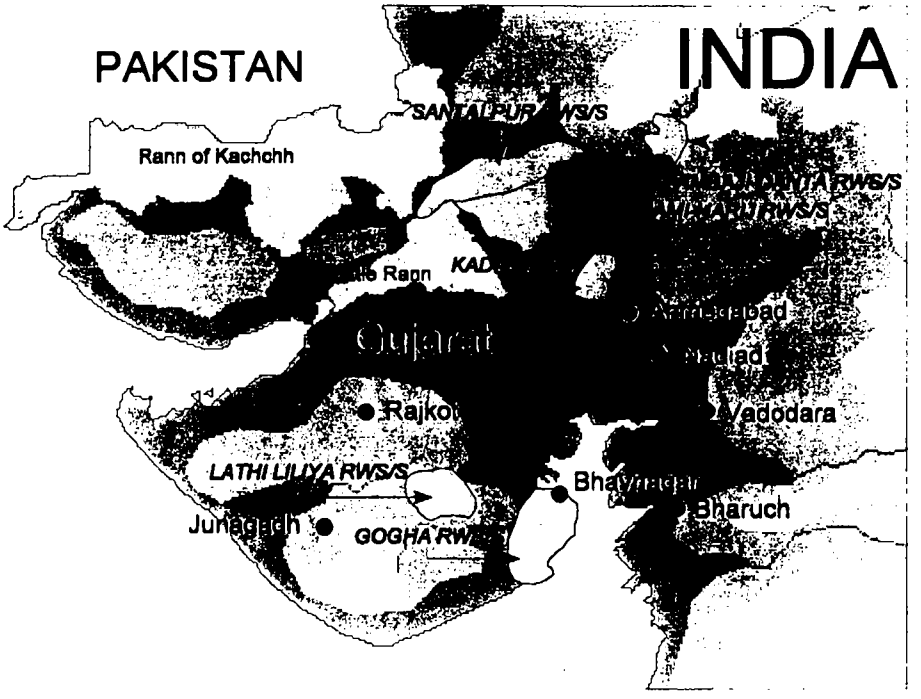
AC	Asbestos cement
AE	Assistant Engineer
AEE	Assistant Executive Engineer
BK	Banaskantha District
BLC	Branch Line Committee
BPT	Break Pressure Tank
CDHO	Chief District Health Officer
CE	Chief Engineer
CEE	Centre for Environmental Education
CGWB	Central Ground Water Board
CI	Cast Iron
CHETNA	Centre for Health, Education, Training and Nutrition Awareness
CRU	Community Relations Unit
CPHEEO	Central Public Health & Environmental Engineering Organization
CT	Cattle Trough
DAL-ZZ	India Country Desk of the Ministry of Development Cooperation
DEE	Deputy Executive Engineer
DC	District Collector
DDO	District Development Officer
DHO	District Health Officer
DG	Diesel Generator
DGIS	Ministry of Development Cooperation
DRD	Department of Rural Development
EE	Executive Engineer
ESI	Environmental Sanitation Institute Ahmedabad
ESR	Elevated Storage Reservoir
FC	Faecal Coli
FPI	Foundation for Public Interest
FSWD	First Secretary Women in Development
FSWS&S	First Secretary Water Supply & Sanitation
GEB	Gujarat Electricity Board
GJTI	Gujarat Jal Seva Training Institute
GL	Ground Level
GOI	Government of India
GOG	Government of Gujarat
GON	Government of The Netherlands
GU-XX	Mission no. XX to Gujarat
GWSSB	Gujarat Water Supply and Sewerage Board
HGLR	High Ground Level Reservoir
HW	Head Works

LIST OF ABBREVIATIONS (cont'd)

IBRD	International Bank for Reconstruction and Development
ICDS	Integrated Child Development Scheme
IGP	Income Generating Project
IHE	International Institute for Hydraulic and Environmental Engineering
IRC	International Reference Centre for Community Water Supply and Sanitation
KAP	Knowledge, Attitudes and Practices
lpcd	Litres per capita per day
MCM	Million Cubic Metres
MIS	Management Information System
MLD	Million Litres per Day
MOH	Ministry of Health and Family Welfare
MS	Member Secretary
NA	Netherlands Assisted
NGO	Non Governmental Organisation
O&M	Operation & Maintenance
OSD	Officer on Special Duty
PH	Public Health
PHC	Primary Health Care
PP	Paani Panchayat (Village water committee)
PRM	Progress Review Mission
PS	Pani Samiti
PSU	Project Support Unit
RCC	Reinforced Cement Concrete
RL	Reduced Level
RNE	Royal Netherlands Embassy
RSF	Rapid Sand Filtration
RSM	Review and Support Mission
RWS	Rural Water Supply
RWSS	Regional Water Supply Scheme
RWS/S	Rural Water Supply & Sanitation
SC	Sceduled Castes
SE	Superintending Engineer
SEU	Socio-Economic Unit
SEWA	Self Employed Women's Association
SOR	Schedule of Rates
SPI	Sardar Patel Institute
SSF	Slow Sand Filtration
ST	Sceduled Tribes
TAG	Technology Advisory Group
TDS	Total Dissolved Solids
TOR	Terms of Reference
UNDP	United Nations Development Programme
UNICEF	United Nations Children's Fund

MAPS AND PROJECT SUMMARY SHEETS



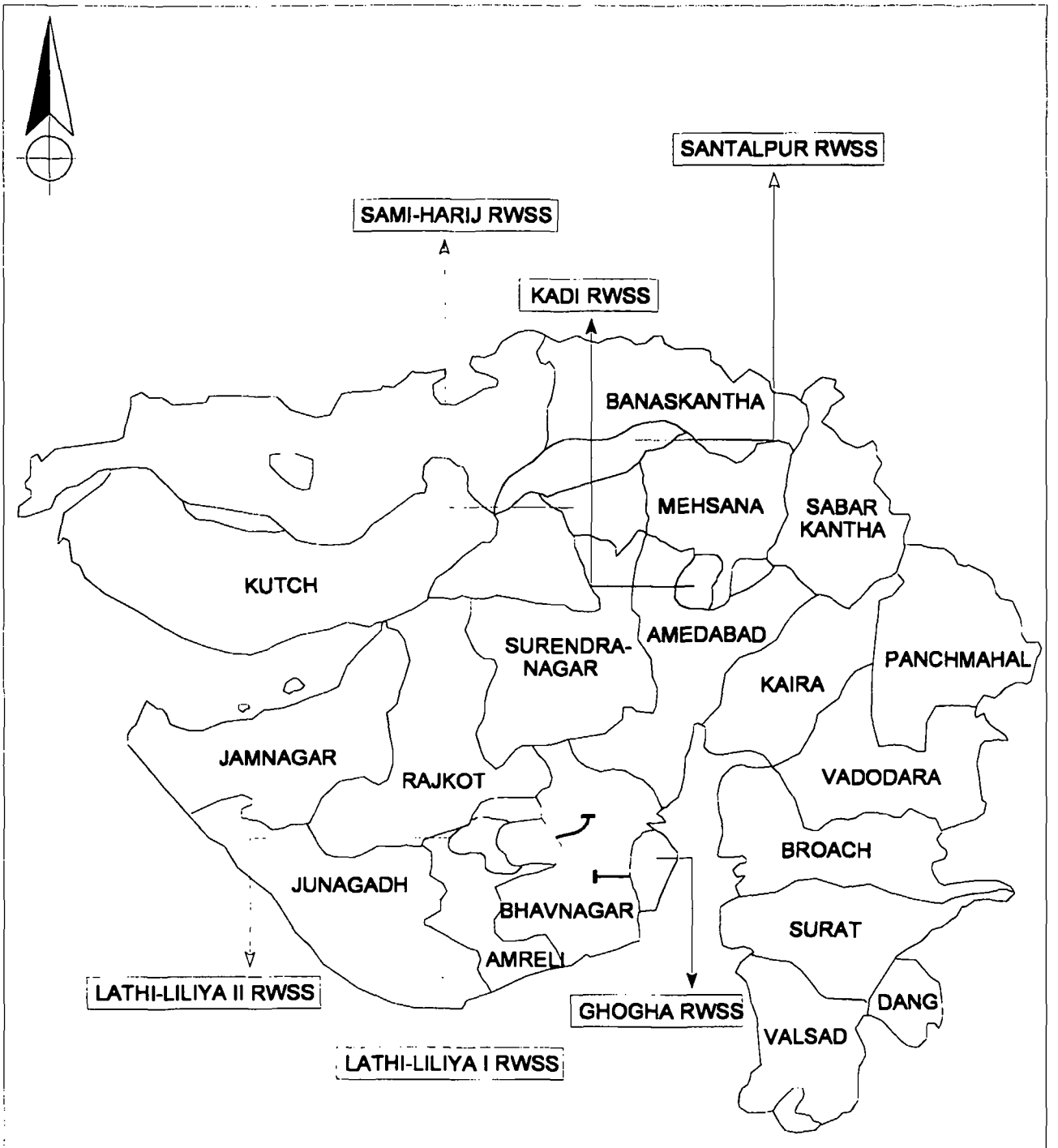


LEGEND :

= Rural Water Supply & Sanitation Scheme

GWSSB
GUJARAT STATE - INDIA

Figure 1
Map of India and Gujarat State



LEGEND :

= SANTALPUR RWSS

= LATHI-LILIYA I RWSS

= LATHI-LILIYA II RWSS

= SAMI-HARIJ RWSS

= GHOGHA RWSS

= KADI RWSS

GWSSB
GUJARAT STATE - INDIA

Figure 2
Map of Gujarat State indicating districts and location of schemes

PROJECT SUMMARY SHEET

Name : Santalpur II RWS/S Project
DGIS Code : IN/87/006
Project Budget : 1045 Lakhs of Rs

1. History

In December 1986 the Santalpur RWS/S scheme was completed, covering 72 villages. During the execution of the project many more villages were identified as problem villages. An extension scheme covering 48 additional villages was proposed (Santalpur II). The appraisal of the project was done by GU-13. In addition an augmentation scheme covering 21 villages in the same area was approved under the Desert Development Programme of the Government of India. The works for the Santalpur II scheme started in 1987 and consists of an extension of the capacity of the resources, reinforcement of the mains, extension of the storage capacity as well as village level facilities consisting of standposts, cattle troughs and cisterns. Recently further improvements in storage capacity have been made to improve the supply at the tail end. The social infrastructure is being developed with the help of NGOs through an income generating programme for women, health education and community development.

2. Status

At present 147 out of 151 villages are connected to piped water supply in the total Santalpur RWSS. This includes the villages of the completed Santalpur I scheme that is still monitored by the PRM. Also villages of the so-called 'Augmentation scheme" and 10 "Extra tapping" villages are included in this number. In order to set procedures for proper O&M, a manual has been developed. The programme of income generating activities carried out with the help of SEWA is continued and shows definite results. CHETNA has been executing together with the Bhansali Trust a health education programme with development of education materials. A pilot sanitation project has been executed and evaluated.
At district level an Advisory Committee Water Supply has been constituted that meets in principle on quarterly basis. At state level a Steering Committee Water Supply is established. In the GWSSB a Socio Economic Unit is operational to liaise with NGOs.

3. Constraints

The decline in the water table due to overpumping of the aquifer for irrigation is a serious threat to the resources of the scheme. The number of tubewells for irrigation increases continuously. The fluoride content of the water pumped, is relatively high but has reduced below the permissible limit through blending with water from the radial well. A contract for construction of checkdam across Banas River to improve recharge of the aquifer was finalised and the work was started by the Contractor. However, the Contractor has stopped the work during April 1996. The work is to be restarted by October 1996.

Water meters have been installed for better water distribution management and to study water use practices. These meters are out of order at present. There is not yet a clear picture on the exact quantity of water distributed. Proper Operation & Maintenance procedures will have to be established in order to reduce losses through leakage and spillage. The involvement of NGOs in the scheme needs to be linked better with the water supply activities.

4. Completion

The remaining 4 villages will be connected in October 1996. Completion of the scheme will be delayed to June 1997 for the construction of a checkdam. A total of 151 villages will ultimately be connected.

Table 1

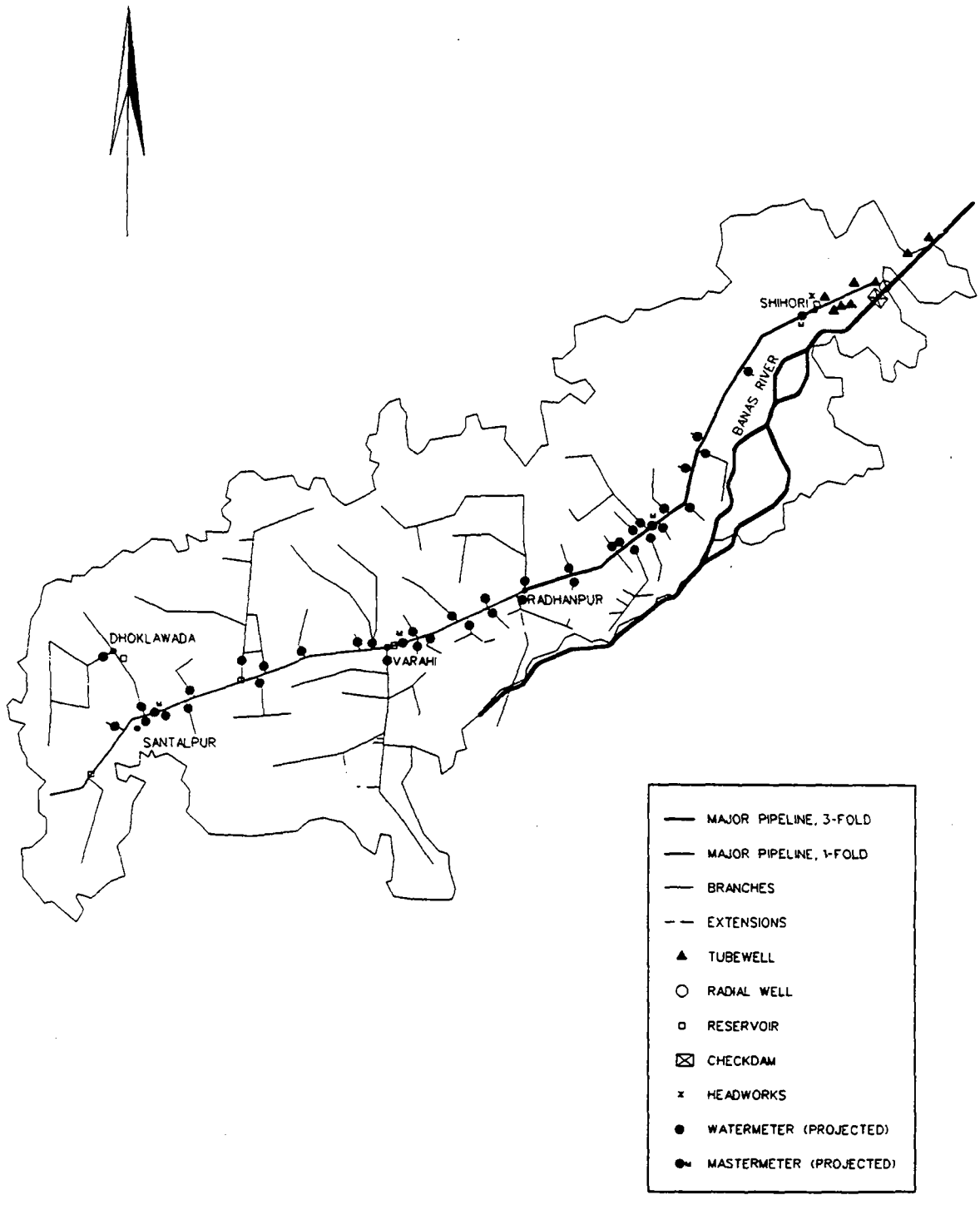
Name of Scheme: Santalpur II Progress of Physical Works			Date: 01/09/1996
No.	Component	Status	Progress since GU-32/ Observations
1.	Mains and distribution network:		
	- Rising main radial well to Shihori	Completed	-/-
	- Main Shihori Radhanpur	Completed	-/-
	- Distribution branches	Completed	-/-
	- Water metering	Completed	-/All meters are out of order
	- Replacement rings natural rubber	Continuous process	Continuous process
2.	Radial well:		
	- Construction	Completed	-/-
	- Approach road	Completed	-/-
3.	RCC Underground sump: 1.500 m^3 Shihori	Completed	-/-
4.	Ground Reservoirs:		
	- Sherganj (300 m^3)	Completed	-/-
	- Daldi (130 m^3)	Completed	-/-
	- Garamadi (150 m^3)	Completed	-/-
	- Santalpur (800 m^3)	In progress	To be completed by November 1996
5.	Elevated Reservoirs:		
	- Sherganj (140 m^3)	Completed	-/-
	- Daldi (60 m^3)	Completed	-/-
	- Garamadi (100 m^3)	Completed	-/-
6.	Village level facilities:		
	- Cistern (78)	76 Completed	
	- Standposts (130)	130 Completed	-/-
	- Cattle troughs (48)	48 Completed	-/-
			-/-
7.	Pumping machinery:		
	- Radial well	Installed	-/-
	- Sherganj	Installed	
	- Shidha (Daldi)	Installed	-/-
	- Garamadi	Installed	-/-
			-/-

Table 1 cont'd

Name of Scheme: Santalpur II Progress of Physical Works			Date: 01/09/1996
No.	*Component*	Status	Progress since GU-32 Observations
8.	Diesel Generators Sets:	Installed	-/-
9.	Power supply lines: - Radial well - Sherganj H.W. - Shidha H.W. - Garamadi H.W.	 Completed Completed Completed Completed	 -/- -/- -/- -/-
10.	Chlorination arrange-ment	Completed	-/-
11.	Rural sanitation project	Pilot completed	-/-
12.	Checkdam Banas River	Tender approved. Works were started, but the contractor has stopped works in 4/96. Works started	-/Work not processing due to dispute with agency

Table 2

Name of Scheme: Santalpur II STATUS REPORT		Date: 01/09/1996
ITEM	TARGET	COMPLETED
Tube Well + Radial Well	6 + 1	8 + 1
Main & Distribution network laid (km)	245	245
Ground Reservoirs	4	4
Elevated Reservoirs	3	3
Cisterns at village level	76	76
Taps	1.076	1.076
Cattle troughs	48	48
Volume of daily water supply (mld)	8.22	4.5
Villages covered	48	44
Population having access to pipe supplied water.	60.421 (1991)	49.146 (1994)



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MAP no. 3

MAP OF SANTALPUR SCHEME

DATUM	GET.	CORR.
SCHAAL		

PROJECT SUMMARY SHEET

Name : Sami-Harij RWS/S Project
DGIS Code : IN/87/050
Project Budget : 2481 Lakhs of Rs

1. History

The Sami-Harij RWS/S scheme was agreed by Side letter of 27/08/87. The project was administratively approved on 30/11/87 while overall technical sanction was given on 15/03/88. The appraisal of the project is based on the report of Mission GU-13.
The project covers 111 villages in the Sami and Harij Talukas. In addition, Harij town is included. The existing water sources in the area rely on groundwater and are affected by high TDS, and a continuous drop in water level. The resources of the new scheme are based on groundwater from an area with relatively low content of fluoride but surrounded by high levels of fluoride.
Works for this large scheme, comprising 485 km of pipeline, started in 1988.

2. Status

At present 97 + 5 villages + 1 town are connected, 14 villages refuse connection and rely on their own sources. The distribution system is partly under 24-hours pressure. Investigations for alternative sources are ongoing. Four reconnaissance drillings have been executed and one exploitation well in deep aquifers, containing low fluoride, has been constructed. GWSSB has proposed for such deeper drilling tube wells from its own funds. At district level an Advisory Committee Water Supply has been constituted that meets in principle on quarterly basis. At state level a Steering Committee Water Supply is established. In the GWSSB a Socio Economic Unit is operational to liaise with NGOs.

3. Constraints

Upstream of the Kamlivada wellfield a dam has been constructed for irrigation, reducing recharge for the wellfield. In addition there is an increasing number of tubewells surrounding the wellfield. There is a serious concern about the sustainability of the source. Alternatives through blending of water, exploration of deeper layers and the supply of water from distance are under consideration. The fluoride level of the blended water supplied is 2.19 mg/l at present. A problem is that the population is insufficiently motivated to take care of the facilities.

There is a need for supporting activities for awareness raising, health education and mobilisation of Pani Samitis.

4. Completion

Completion has been delayed by the above mentioned constraints. The total number of population having access to piped water supply will be approximately 180.000.

Table 3

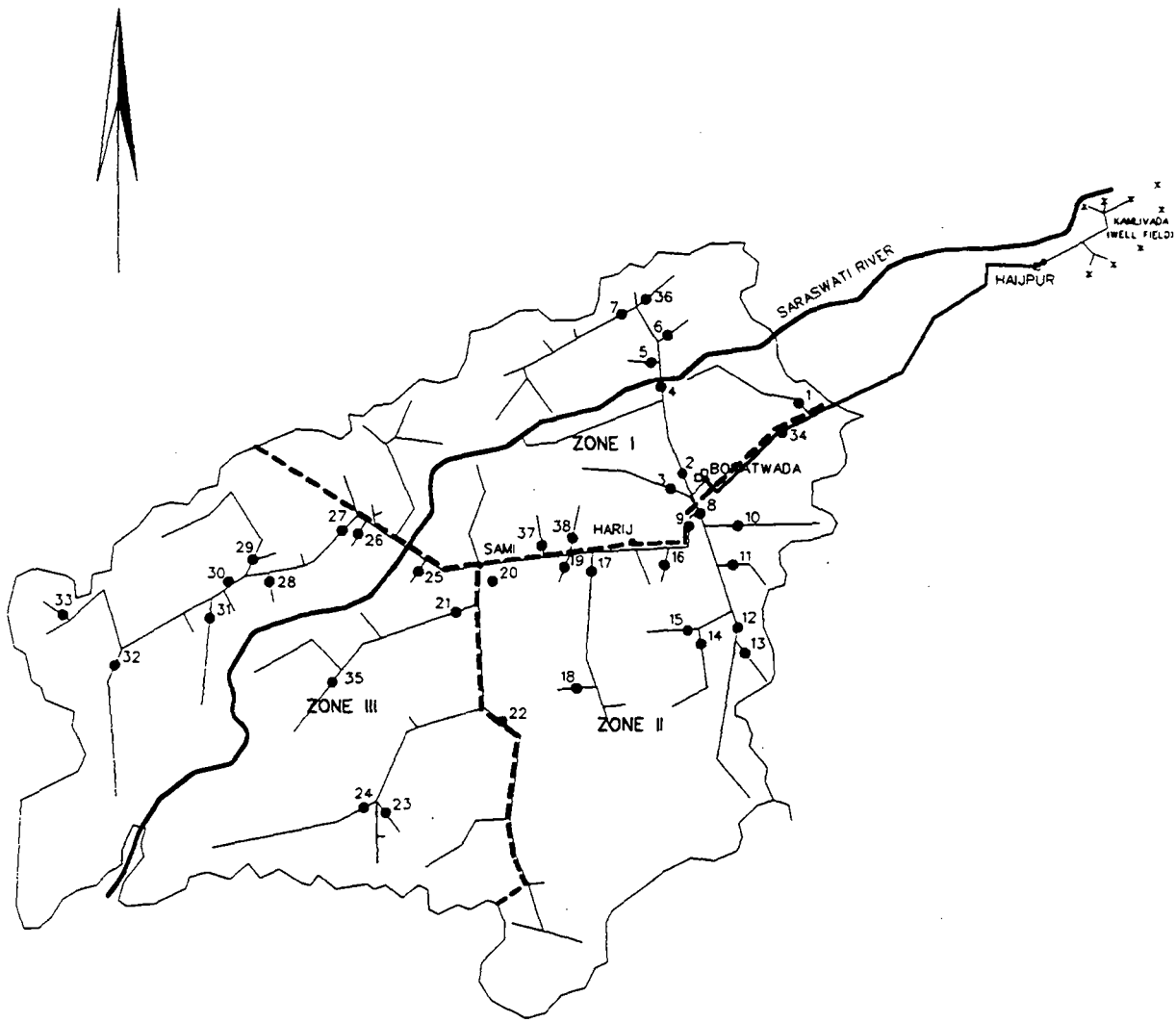
Name of Scheme: Sami-Harij Progress of Physical Works			Date: 01/09/1996
No.	Component	Status	Progress since GU-32/ Observations
1.	Wells		
	- Regeneration 5 wells	Completed	-/No 1 rejected
	- Execution 8 new tube wells	8 completed	-/High fluoride in tube-wells 5
	- Piezometers	11 completed	-/monitoring ongoing
2.	Construction 9 pump houses	Completed	-/-
3.	Pumping equipment	Installed	-/-
4.	Power line	Completed	-/Special feeder available. Electrification completed
5.	Rising Main:		
	- TW's - collection chambers	Completed	
	- Boratwada ESR	Completed	
			-/-
6.	Gravity mains and distribution network:		-/-
	- Collection chambers to Haijpur	Completed	
	- Haijpur to Boratwada HGLR	Completed	
			-/-
			-/testing completed
	- Boratwada to Kodadha	Completed	
	- all other branches	Completed	
			-/-
7.	Village level facilities:		-/-
	- 40 new cisterns	Completed	
	- Rehabilitation existing cisterns	Completed	
			-/-
	- 93 Standposts	Completed	-/-
	- 28 Cattle troughs	Completed	
			-/-
			-/-
8.	Collecting chambers:		
	- 250 m^3	Completed	
	- 100 m^3	Completed	
			-/-
9.	High ground level reservoir:		-/-
	- Haijpur (3.000 m^3)	Completed	
	- Boratwada (2*1.500 $m^{3)}$	Completed	
			-/-
			-/-

Table 3 cont'd

Name of Scheme: Sami-Harij Progress of Physical Works			Date: 01/09/1996
No.	Component	Status	Progress since GU-32/ Observations
10.	ESR at Boratwada (100 m^3):	Completed	-/-
11.	Staff quarters/office buildings:	In progress	-/completed
12.	Approach roads at various sites:	Estimate under approval	-/-
13.	Chlorination equipment	Completed	-/-
14.	Bulk water meters, pressure gauges contract sections:	Completed	-/non-functioning
15.	Electric logger & transport:	Partly procured	-/Jeeps & motorcycles procured

Table 4

Name of Scheme: Sami-Harij STATUS REPORT		Date: 01/09/1996
ITEM	TARGET	COMPLETED
Tube Wells	12	13
Main & Distribution network (km)	455	485
Under Ground Reservoirs	3	3
Elevated Reservoirs	1	1
Cisterns at village level	40	39
Treatment works (chlorination)	1	2
Stand posts (new)	820	800
Cattle troughs (new)	28	27
Volume of daily water supply (mld)	13.5	9.0
Villages/Towns covered	111/1	111/1
Population having access to water supplied	180.000 (1988)	167.200 (1996)



- MAJOR PIPELINE, 1-FOLD
- BRANCHES
- RESERVOIR
- PUMPHOUSE
- WATERMETER

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MAP no. 4

MAP OF SAMI-HARIJ SCHEME

DATUM	GET.	CORR.
SCHAAL		

PROJECT SUMMARY SHEET

Name : Lathi-Liliya RWS/S Project
DGIS Code : IN/87/049
Project Budget : 728 Lakhs of Rs

1. History

The side letter for the Lathi-Liliya RWS/S scheme was signed in August 1987. The project is based on the project appraisal report GU-13, November 1985. The scheme relies on surface water from the reservoir behind the Kalubhar dam since groundwater sources in the area are highly contaminated with fluoride. The project covers originally 36 villages of the Lathi and Liliya Talukas and the urban centre Damnagar of Lathi Taluka in the Amreli District. The Administrative Approval was obtained on the 30th of November 1987, the overall technical sanction on the 28th of December 1987. Works started in 1987. The town of Lathi has been included at a later stage for provision of a fixed amount of water, complementary to its own sources. The piped water supply facilities in the scheme are meant to be complementary to the existing sources and to be used for drinking and cooking purposes. A baseline survey has been carried out.

2. Status

At present the main works are completed, although not yet fully up to engineering standards. In total 41 villages are connected, including five "extra tapping" villages. Raw water is pumped from the Kalubhar dam to Damnagar where treatment takes place. From there it is pumped to the Rabhada branch and to Bhingrad for distribution to other branches.
The remaining works comprise upgrading of the performance of the mains and branches, fine tuning of operations, and rehabilitation of village level facilities. At district level an Advisory Committee Water Supply has been constituted that meets in principle on quarterly basis. At state level a Steering Committee Water Supply is established. In the GWSSB a Socio Economic Unit is operational to liaise with NGOs.

3. Constraints

A major constraint is that the reservoir behind the Kalubhar Dam is not sufficient to assure supply for more than one season and sometimes not even that. Alternative source(s) will be required.
The rising main from the toe of the dam to Damnagar (26 km) has been surveyed and many repairs were attended. There is still scope to reduce losses. A leakage repair campaign is continued.

4. Completion

Approximately 106.000 people have access to piped water supply with a low fluoride content as a complementary source. Upgrading and fine tuning of the operations remain.

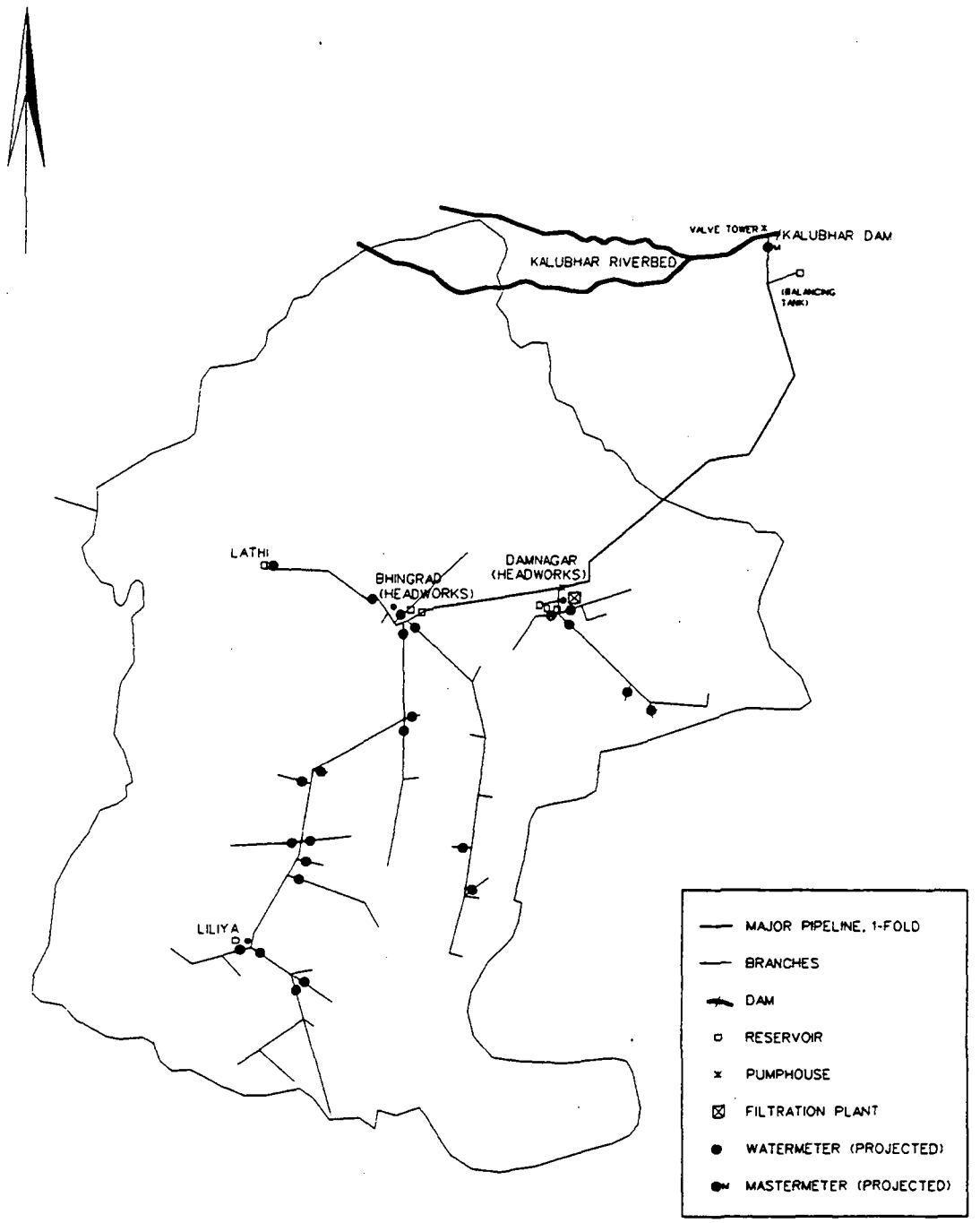
Table 5

Name of Scheme: Lathi-Liliya Progress of Physical Works			Date: 01/09/1996
No.	Component	Status	Progress since GU-32/ Observations
1.	Source:		
	- Intake tower	Completed	-/-
	- Approach bridge	Completed	-/-
	- Pumping machinery	Completed	-/-
	- Generator room	Completed	-/-
	- Installation generator	Installed	-/-
	- Extension special feeder line	Completed	-/-
2.	Rising main:		
	- Intake tower to dam	Completed	-/-
	- Dam to Damnagar	Completed	-/-
	- Link line (double)	90% Completed	-/To be dismantelled
	- Damnagar to Bhingrad	Completed	-/-
3.	Distribution network:	Completed	-/-
4.	Treatment at Damnagar:		
	- Filtration plant	Completed	-/-
	- Approach road	Completed	-/-
	- Sump	3 Completed	-/-
	- Pumphouse	Completed	-/-
5.	Elevated reservoirs:		
	- At point "B" (balancing tank)	Collapsed	-/To be removed
	- Bhingrad (no. 1)	Completed	-/-
	- Damnagar	Completed	-/-
	- Mota Liliya	Completed	-/-
6.	Staff quarters:	In progress	-/-
7.	Work for Lathi town:		
	- ESR (200 m^3) Bhingrad(no. 2)	Completed	-/-
	- Sump (150 m^3) Lathi	Completed	-/-
	- Main (8.5 km)	Completed	-/-
8.	Watermeters	Installed	-/Some are out of order

Table 6

Name of Scheme: Lathi-Liliya STATUS REPORT		Date: 01/09/1996
ITEM	TARGET	COMPLETED
Reservoir	Kalubhar dam	yes
Mains laid (km)	174	170
Ground Reservoir	4	4
Elevated Reservoirs	4	4
Cisterns at village level	36	36
Treatment works (filtration plant)	1	1
Stand posts	115	115
Taps	760	760
Cattle troughs	36	34
Volume of daily water supply (mld)	6.70 (ultimate)	4.45 (present)
Villages covered	37	41 (36 + 5)
Towns included	2 (ultimate)	1 (present)
Population having access to water supplied	70.000 (1988)	106,000* (1995)

* Includes five additional connected villages (9,918), Damnagar (14,783, not regular) and Lathi (17,552 summer season only).



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MAP no. 5

MAP OF LATHI-LILIYA SCHEME

DATUM	GET.	CORR.
SCHAAL		

PREFACE

Mission GU-33, the 33rd Mission in a sequence is a transitory Mission. The composition and Terms of Reference of this Mission are quite different from the foregoing Missions. There is a change from "Review and Support" towards "Progress Review" aspects whereas the Mission leader is now appointed by the Secretary (Water Supply) Department of Health and Family Welfare Government of Gujarat. At the same time the Terms of Reference of Mission GU-33 specify to discuss and to formulate the future composition and structure of these progress review Missions.

Consequently, the report of the Mission will change over time into a more concise and structured progress review report. The present report reflects the transitory status of the Mission in which elements of the past Review and Support tasks are combined with purely Progress Review aspects. It includes in addition a chapter on the future composition and structure of this Mission.

This report has been made under the supervision of the Mission leader, Mr. P.M. Modha.

SUMMARY OF CONCLUSIONS AND RECOMMENDATIONS

A. General

Mission GU-33 is the first of a new series of Missions in the present phase of the water programme, where the Department of Health and Family Welfare Government of Gujarat has fielded a Progress Review Mission (PRM) led by an Indian national team leader, Mr. P.M. Modha. Other Mission members were Mr. A.T. Vaishnav (Indian delegation member), Mrs. Dr. Poornima Vyasulu and Mr. R.T.J. Wijdemans (Netherlands delegation members).

Mission GU-33 was in Gujarat from 18 to 30 September 1996 and concluded as usual with the NGO - panel meeting and debriefing with the Secretary Water Supply and GWSSB. In addition this Mission discussed and drafted general Terms of Reference for future Progress Review Missions.

Unfortunately the 1996 monsoon was far below the average rainfall in most regions of Gujarat. Most of the reservoirs, including Dharoi, Dantiwada, Sipu, Kalubhar and Shretrunji are considerably below their crest level. During Mission GU-33, nearly one month after the monsoon, scarcity conditions were already announced in Kutch District.

With regard to the water resources of the NA schemes it is noted by the PRM that the overall situation of available water sources in Gujarat is worsening year by year without structural and effective remedial and preventive measures to reverse that serious development by the GOG. In comparison to the water demand for agriculture the demand for water supply is negligible; remedial action therefore should be directed to decrease the water use for agriculture in order to safeguard the supply of drinking water on a sustainable basis.

As the last RSM was in September 1995, it was noticed by the PRM that there is growing lack of coordination in the integrated project approach which has a negative impact on the technical and non-technical project outputs.

As noted earlier in this section, achievements in the technical and non-technical activities finally come together in providing sustainable water supply services and improving sanitation conditions at the village level. It is when the hardware and software components are integrated effectively that RWS/S goals can be achieved.

The future structure and functioning of the progress review mission has been discussed. The composition will be similar to the mission of GU-33 whereas a frequency of every six months is considered necessary.

B. Non-technical

It is also observed that the population of Gujarat basically lacks awareness and consciousness about the fact that water in the state is extremely scarce. An effective way to raise consciousness is to price the water for both irrigation, industrial use and drinking water according to realistic values.

There is a need to extend the activities to building awareness at the level of community, perhaps through mass campaign strategy. Only then will results be seen at the village level in improved sanitary conditions.

The social mobilisation inputs in the schemes will be needed for considerable time (even after the hard-ware/administrative completion of the project) in a sustained manner, until the Pani Samiti reach a level of sufficient maturity. In view of this, GWSSB should ensure the continued functioning of the SEU (either as SEU or as PSU); it has to enable its effective functioning through adequate staff, transport facilities and other resources.

GWSSB has responsibility to ensure that Pani Samitis are formed in all the villages of the three schemes and that they are reactivated and mobilised to play an effective role in managing village level facilities and in awareness building on health, cost recovery etc. GWSSB has to initiate steps for the involvement of NGOs to this extent in the three schemes.

Both Pani Samiti mobilisation and health education activities need to be extended to all the villages of the schemes, to bring the non-technical aspects of RWS/S at par with the technical aspects. The input of future NGO activities in all schemes should especially focus on the Pani Samiti mobilisation.

Implementing activities related to the non-technical aspects will require a diverse set of expertise and capabilities, which are unlikely to be available within GWSSB. These will, therefore require collaborating with suitable NGOs or departments of GOG. The activities will nevertheless be carried out in the context and framework of RWS/S goals; this will require a clear understanding of strategies, inputs and well defined outputs, arrived at between the GWSSB and the NGOs.

For the sustainability of RWS/S and for motivated involvement of Pani Samitis and community at large, NGOs' continued involvement will be needed - both in terms of inputs and comprehensive coverage of all schemes' villages.

The Board has to disseminate the Guidelines to all Pani Samitis as well as the concerned TDOs and Gram Panchayats. Copies of the guidelines are to be made available to the concerned NGOs of the schemes also.

GWSSB has to come to an agreement with suitable NGOs in each scheme for their continued involvement in RWS/S. The arrangement with the NGOs could be tripartite i.e RNE providing financial support and GWSSB having supervisory/client role.

It is also recommended that GWSSB provides co-ordination to the NGOs through SEU/PSU, ensuring that the NGOs come on a common platform and meet the needs of all the RWS/S.

There is a need for a body or cell within the GWSSB to take care of the 'soft-ware' aspects of RWS/S in the three schemes. Even with the field level activities being contracted out to NGOs, there is still the need for a co-ordinating function and to work with the TDOs in Pani Samiti formation and mobilisation in areas where the NGOs are not working. The PSU has to take up this role in future.

The SEU within the GWSSB which has a co-ordinating role for non-technical aspects of RWSS (either directly or through NGOs) should compile information on this and integrate it in the reports submitted by GWSSB.

The health education activities which are soft-ware compliment to water supply has been going on for quite some time. There are adequate, field tested, valuable training materials, manuals and well designed training modules developed. NGOs have been involved in these activities in collaboration with SEU. There is still much to be done for comprehensive coverage of all the villages of all the three schemes.

IGP activities were taken up as an entry point activity by SEWA in some villages of Santalpur, with the objective of mobilising women to play an active role in the management of water and also improving their economic conditions as well as ability to pay for water in RWSS. The IGPs have achieved the goals of empowerment of women and contributed to their better economic condition; and also a realisation that water is a valuable resource that needs to be managed and preserved. However, as far as RWS/S goals are concerned, this realisation has not resulted in improved cost recovery for drinking water services. SEWA should focus on this aspect too, along with their larger empowerment goals, thereby making IGPs as a means to realising RWSS goals.

As the District Level Advisory Committee meetings are an important instrument in the proper functioning of the RWS/S, it is strongly recommended to take up the quarterly frequency of these meetings again.

C. Technical

In view of the urgent and serious situation of the exploitation of the groundwater resources it is required to follow up the discussions initiated in the State Level Steering Committee.

In all schemes village level facilities were functioning but sometimes taps were stolen, drainage insufficient or requiring plastering. GWSSB is requested to execute once more a survey and to upgrade the village level facilities upto engineering standards where required.

Although chlorination is applied in all schemes, this is not based on measurements of residual chlorine in the tail end sections. Systematic measurement have to be carried out and the dose has to be adjusted in consultation with the chemist accordingly.

Most of the water meters in the schemes are out of order. External advise is required to investigate the cause for these breakdowns. GWSSB is suggested to request the manufacturer of the water meters to send an expert at GWSSB's cost for an extensive report.

The linesmen play an important role in distribution and on maintenance of village level facilities; in quality of service level. Their mobility needs to be improved. GWSSB is requested to reconsider the mobility of the linesman and if the cost-benefit analysis justifies this, provide them f.i. a bicycle.

In the Santalpur RWSS the contractor seems technically capable to execute the works for the checkdam at Umri. GWSSB has to settle the dispute with the contractor the soonest as the water table in the Banas is still very low. If the contractor does not start the works within one month, procedures are required to be started against the Contractor for the breach of contract and to reinvite the tenders. A maximum effort is required to construct the checkdam before the next monsoon.

The Mission was pleased to see that one of its former suggestions has been taken up, notably a blending well at Varahi. The water of this well has a relatively high level of TDS but this changes the quality of the supply water not remarkably when it is blended with the water from Shihori. The advantage is that it increases the quantity of water for the tail end sections. Depending on the present and future TDS level in wells along the main line there is still scope for more wells of this type.

In the tail end of the Santalpur scheme power supply is not reliable and DG sets are frequently used. A standby DG set is required in this area. Works for additional storage in the tail end section of the Santalpur scheme are in progress. The work will be completed by November 1996. After commissioning five villages will get more regular supply.

A postcard reply system should be reintroduced in the Santalpur scheme in order to improve the reliability of the scheme.

In the Sami-Harij scheme not all villages connected are taking the water. However, due to failure of their source they may wish to be connected in future. The Mission is strongly against connection of additional villages.

The two deep tube wells at Haijpur need to be completed and monitored on yield, water level and water quality. In the Sami-Harij scheme materials and spare parts are insufficiently available.

The leakages in the pipeline from dam to Damnagar need to be attended. The section Damnagar - Bhingrad needs further study with the hydraulic consultant and remedial measures to improve the performance.

Since water available in Kalubhar reservoir is just sufficient to meet the water demand of the villages of Lathi-Liliya scheme as per depletion statement prepared by EE, the water level of the reservoir needs to be closely monitored.

The service level in the Lathi-Liliya scheme is too low. A new DG set at Damnagar is required.

In the Lathi-Liliya scheme villages have requested low cost sanitation facilities. As the sanitation proposal has not yet been approved, no facility can be given. At present, GWSSB is implementing a latrine programme elsewhere. GWSSB is requested to extend this programme to the project area in coordination with CEE.

The preparation of the Lathi-Liliya II document took considerably longer that than originally estimated. Also, this document does not yet include the non-technical and environmental components of the project. GWSSB needs consequently to request RNE to field a reformulation Mission.

D. Identified short term actions

GWSSB

a. Division level

To complete testing of the pipelines for the four remaining villages in the Santalpur scheme.

To investigate whether more tubewells along the main line in the tail end section of the Santalpur RWSS, containing relatively high TDS, could increase the production of water with blending.

To monitor quantity and quality of the well constructed in the compound of the Varahi headworks.

To provide a standby DG set for the tail end section Santalpur scheme.

To complete the works for additional storage at Santalpur by November 1996.

To check regularly that the records of water supply maintained by the linesman are filled out properly and correctly.

To ensure daily surveys of the field staff in the tail end villages in the Santalpur scheme in order to improve the supply.

To reintroduce the postcard system for reporting of complaints.

To complete the two pilot exploitation tubewells at Haijpur and to start monitoring yield, water level and water quality.

To repair leakages in Sami-Harij scheme, especially in the line Boratwada - Harij.

To streamline the procedures for procurement of petty materials in the Sami-Harij scheme.

To attend the leakages in pipeline between Kalubhar & Damnagar. Also Damnagar-Bhangrad section should be studied with hydraulic consultant for remedial measures.

To procure a DG set for Damnagar Headworks.

To monitor closely the water level of the kalubhar reservoir.

To repaint the approach bridge, doors and windows of the valve tower, Kalubhar reservoir.

To upgrade the village level facilities in all schemes up to engineering standards.

To adjust in all schemes the dose of chlorine in consultation with the chemist and after establishment of a monitoring system on residual chlorine.

To contact CEE, to make an inventory of the present village level facilities and to correct if the GOI criteria are not met (Lathi-Liliya RWSS).

To continue the preparations for the Gogha RWSS.

To conduct quarterly District Level Advisory Committee meetings.

b. Executive level

To conduct regular State Level Steering Committee meetings.

To request the manufacturer of the water meters to send an expert at GWSSB's cost for an extensive report.

To settle the dispute with the contractor for the checkdam at Umri the soonest. If the contractor does not start the works within one month, procedures are required to be started against the contractor for the breach of contract and to reinvite the tender.

To resist connection of additional villages to the schemes.

To extend the existing programme of latrine construction to the project area of Lathi-Liliya.

To prepare a proposal for the return pro rata of the O&M charge to village level and request GOG to issue a Resolution.

To clarify and to distribute the Guidelines, and to formulate proper implementation of the mechanism per village assuring the acceptance of the responsibility for O&M by the village.

To seek the assistance of GOG and to pursue the sanitation proposal at the level
of GOI.

To convert the Project Division Bhavnagar into a Works Division, especially dedicated to the Gogha project.

To request RNE to field a reformulation Mission for the Lathi-Liliya II project.

To comment on the results of the project preparation studies in Ambaji-Danta RWS/S.

NGOs

Take into account observations of the PRM in the main report and formulate compliance in the next progress report.

To continue with the formulation of a new set of progress indicators and to request for assistance, if required (SEWA).

RNE

To agree processing of monitoring data to be included in the Mission report.

To field a reformulation mission for the Lathi-Liliya II project upon request of GWSSB.

To approve the implementation of the Gogha RWS/S project.

GOG

To process the proposal on Sanitation to GOI

To issue a Resolution on the Pani Samiti fund for operation and maintenance.

MAIN REPORT

1. INTRODUCTION

1.1 General

Mission GU-33 is the first of a new series of Missions in the present phase of the water programme, where the Department of Health and Family Welfare Government of Gujarat has fielded a Progress Review Mission (PRM) led by an Indian national team leader, Mr. P.M. Modha. Other Mission members were Mr. A.T. Vaishnav (Indian delegation member), Mrs. Dr. Poornima Vyasulu and Mr. R.T.J. Wijdemans (Netherlands delegation members).

Mission GU-33 was in Gujarat from 18 to 30 September 1996 and concluded as usual with the NGO - panel meeting and debriefing with the Secretary Water Supply and GWSSB. The report of this Mission also presents a summary of findings and recommendations on progress of technical and non-technical activities.

In addition this Mission discussed and drafted general Terms of Reference for future Progress Review Missions.

1.2 Acknowledgements

The PRM repeats its appreciation towards governmental and non-governmental organisations involved in the project for their contributions to this integrated project. The initiatives taken at different levels are encouraging. The assistance and availability of all during the field visits, discussions and consultations is highly appreciated. Special reference is made to the Head office, the SEU and Divisions of the GWSSB for organising logistic and continuing substantive support for the field visits covered by the Indo-Dutch RWS/S.

1.3 Overall observations

The 1995 monsoon remained below expectations. Unfortunately the 1996 monsoon was far below the average rainfall in all regions of Gujarat. Most of the reservoirs, including Dharoi, Dantiwada, Sipu, Kalubhar and Shretrunji are considerably below their crest level. During Mission GU-33, nearly one month after the monsoon, scarcity conditions were already announced in Kutch District.

With regard to the water resources of the NA schemes it is noted by the PRM that the overall situation of available water sources in Gujarat is worsening year by year without structural and effective remedial and preventive measures to reverse that serious development by the GOG. In comparison to the water demand for agriculture the demand for water supply is negligible; remedial action therefore should be directed to decrease the water use for agriculture in order to safeguard the supply of drinking water on a sustainable basis.

As the last RSM was in September 1995, it was noticed by the PRM that there is growing lack of coordination in the integrated project approach which has a negative impact on the technical and non-technical project outputs.

The second generation projects are complete in the sense that water is supplied to almost all villages covered by the schemes. The PRM again observes, however, that additional work has to be completed to improve the head-works, distribution network and village level facilities.

It is also observed that the population of Gujarat basically lacks awareness and consciousness about the fact that water in the state is extremely scarce. An effective way to raise consciousness is to price the water for both irrigation, industrial use and drinking water according to realistic values.

It is noted that the non-technical activities in the Sami-Harij RWSS, reinforcing the village management capacity in order to create Pani Samiti, still have to start.

2. COMPLIANCE GU-32

The Mission received a compliance report on the GU-32 Mission report of GWSSB head office level. This report is included in the Annex of report GU 33. Sofar, NGOs did not formalise their comments on the GU report. Consequently, the following issues concern the technical aspects only.

- Monitoring production Shihori (3)
  The compliance is satisfying but the Mission wants to repeat that, in view of the large differences in production and consumption, it is required to measure exactly at the source the produced quantities with water meters. This is of course also valid for the other schemes.

- Improvements reconnaissance wells at Haijpur (9)
  The Mission notes that the identification plate had not been placed and concrete foundation was not made.

- Chlorinator room improvement Damnagar (14)
  The chlorinator room in Damnagar does not have a proper separation wall to protect workers during the performance of their tasks. Serious health accidents may occur in handling chlorine. Other rooms that comply with any international standard have been constructed by GWSSB elsewhere too (Haijpur, Boratwada, Sherganj).

The PRM would like to pay more attention to the compliance reports in the future as GWSSB gives account of all observations and recommendations. It would be interesting if the Mission could receive compliance on the NGO concerned issues in their next progress report in future.

3. PROGRESS IN INDIVIDUAL WATER SUPPLY SCHEMES

3.1 Non-technical aspects

Activities coming under the non-technical aspects are - Pani Samiti formation and mobilisation, health education and awareness building and income generation activities. These have been discussed in greater detail in separate sections under those headings. Activities related to the non-technical aspects have been largely the responsibility of the NGOs.

Since there are separate agreements between RNE and NGOs for non-technical activities, without direct involvement of GWSSB, the progress report presented by GWSSB to the Mission did not provide any information on non-technical aspects in detail, such as the number of Pani Samitis formed, date of formation, number of meetings held, discussions and decisions taken in these meetings, details of training for Pani Samiti members and so on. Also the details of health education activities like training, campaigns etc. are not provided in these reports.

Consequently, this section is based on information provided in NGOs' reports, the limited information available in the SEU reports and based on the impressions gained by the Mission during its field visit.

General observations on the three schemes

The Mission noted that each of three schemes have their own unique characteristics; the technical features do affect the non-technical aspects and vice-versa. For example - the Santalpur scheme having the longest pipeline and the largest number of villages, the problem of pond water turning saline and no alternative sources of drinking water, economic backwardness of the region, poses a different set of challenges. In this scheme, non-technical aspects like IGPs, women's empowerment and health education have been initiated, though not in all the villages.

Sami-Harij scheme located in Mehsana district which is economically better off, supplying to fewer villages and 2 towns has its own characteristics. Non-technical aspects have focused on health and hygiene education, again not in all the villages. The Pani Samiti formation activity has started only more recently.

In the Lathi-Liliya scheme, which covers fewer villages and 2 towns, the situation is somewhat different. Here, many villages have multiple sources of water - handpumps (seasonal and with fluoride), standposts built earlier by the panchayats and the Kalubar scheme. This region too is economically better off in comparison to Banaskantha. Non-technical activities have been mostly in health, hygiene and environmental education, covering almost all villages by the NGO, which has also been involved in Pani Samiti formation. No IGP activities have been taken up here.

The Pani Samitis

Based on the GOG Resolution Pani Samitis have formally been formed in most villages replacing Pani Panchyats that needed reactivation.

In all the three schemes in areas not covered by any NGO , the TDOs have been responsible for forming Pani Samitis in each village. From our discussions with the TDOs of Sami-Harij, we understand that they have not been personally involved in this process; their field functionaries at the panchayat level i.e Talatis have been involved.

Thus, Pani Samitis exist as a legal entity in some villages of the three schemes, but it is not clear whether all of them are functioning, playing an active role in the RWSS at the village level. During informal discussions with PS members, we were given to understand that PS members do not have a 'voice' in influencing the behaviour of village people at large - examples given were inability to get people to keep standpost area clean, contribute for payment towards cost-recovery, not waste water etc.

Our own impression is that they need more social-mobilisation inputs before they can play the role envisaged in the Guidelines.

The Health Awareness and Hygiene Education activities

On health education and awareness building activities, the Mission notes that limited coverage of the schemes' villages has been achieved in Santalpur and Sami-Harij.

Chetana, which was the NGO working in these two schemes, both directly and through their field partner organisation the Bhansali Trust provided a copy of their project completion report to the Mission. The Chetana report does not give details of training in terms of numbers, even though it provides excellent information on this activity, the strategy adopted and results achieved. Chetana also reports on the KAP study undertaken in 18 select villages of Santalpur, Radhanpur and Kankrej blocks, the results of which were used in planning for their health awareness work.

In the Lathi-Liliya scheme, the CEE had reported on progress of several training activities:

- 4 cluster level training drawing 90 participants from 18 villages,
- 13 village level training covering 772 participants(women and men),
- 1 training for functionaries of health department covering 33 participants at the GWSSB office in Liliya Mota,
- 3 training for Anganwadi workers drawn from 22 villages covering 77 participants,
- 28 villages covered under the 'A day in the Village' programme

A KAP study undertaken drawing response from 494 people of 18 villages.

In the CEE report covering period January - June 1996, more HEE activities in Lathi-Liliya scheme are listed:

- 1 training for Block level officers, covering 35 participants, at the Taluka panchayat office in Lathi,
- 1 training of Health workers of Lathi block, covering 18 participants,
- 2 Cluster level training , covering 53 women participants drawn from 7 villages
- Continuation of the 'A day in the Village' programme, covering 10 more villages

A Meeting for orientation of new Pani Samiti members of 6 villages and also a meeting for linemen, covering 17 participants.

Thus, health education activities appear to have been most extensive last year in the Lathi-liliya scheme. The CEE progress report is attached in the Annex.

Income Generation Activities

Income generating activities have been undertaken only in the Santalpur scheme by SEWA; this is discussed in detail in chapter 6 in this report.

The SEWA report presents achievements in other non-technical aspects as well, that are of relevance to RWSS - in establishing linkages with concerned government agencies on a wider set of issues related to water - water harvesting, water quality, more reliable supply to tail end villages in Santalpur, water as a regenerative input and so on.

SEWA also reports on a Water Survey report in Banaskantha district covering 39 villages, focusing on water scarcity/supply situation. Lined ponds have been constructed in 2 tail end villages of the santalpur scheme. The SEWA progress report is included in the Annex.

3.2 Technical aspects

3.2.1 Santalpur RWSS

Water resources

The works for extension of the well field continued. Tubewells no 7 to 10 are now completed and drilling for no 11 is in progress. Pump houses for no 7,8 and 9 have been completed. The connecting main between no 9 and 10 is in progress. It is expected to complete these works by November 1996. In the construction of the tubewells the relatively high fluoride layers have been omitted. As a result the fluoride content in the water from these wells is below the permissible limit.

However, due to consecutive second year of failing monsoon, the water level in the upper layers is low. The water level in the radial well tapping these layers is far below the level of the last years. The production of water from the radial well will decrease and probably stop during the next dry season. As this water is low in fluoride, the quality of the blended water will deteriorate and the

average fluoride level is likely to rise above the permissible limit in the coming season. Unfortunately the checkdam, recharging the upper layers, is not completed yet. A graph representing the fluoride level of the blended water is presented in figure 3.1

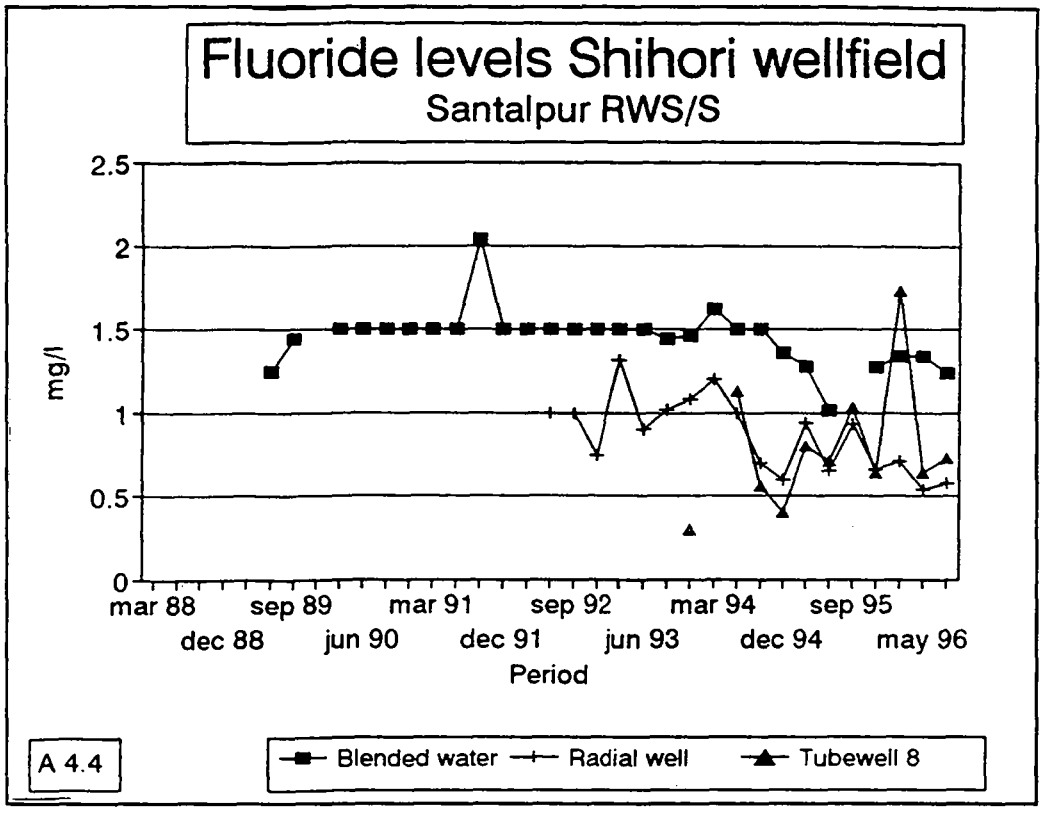


Figure 3.1 Fluoride level blended water Shihori wellfield

The works for the checkdam at Umri were started in February 1996. The agreed time limit with the contractor was three months. During inspection in the first half of April it appeared that the required depth was not obtained. In addition the tests of the film failed. Also, the claim for payment of the contractor was not granted. Thereafter the contractor has removed his machines from the site. There was no flow in the Banas river during the 1996 monsoon. The works could have been completed without problems of heavy dewatering.

The contractor seems technically capable to execute the works. GWSSB has to settle the dispute with the contractor the soonest as the water table in the Banas is still very low. If the contractor does not start the works within one month, procedures are required to be started against the contractor for breach of the contract and to reinvite the tenders. A maximum effort is required to construct the checkdam before the next monsoon.

Due to the non-availability of a compressor, water samples from the piezometers could not be taken. The Executive Engineer has been requested to arrange for a compressor.

The Mission was informed that the production from Sihori well field is about 14 to 16 MLD. Since water meters installed under the scheme are not working the production of the water from the Sihori well field has been assessed on the basis of pumping capacity and, daily hours of running the pumps. However, these figures are not accurate, reliable data will have to be obtained from newly installed water meters.

The Mission was pleased to see that one of its former suggestions has been taken up, notably a blending well at Varahi. The water of this well has a relatively high level of TDS but this changes the quality of the supply water not remarkably when it is blended with the water from Shihori. The advantage is that it increases the quantity of water for the tail end sections. Depending on the present and future TDS level in wells along the main line there is still scope for more wells of this type.

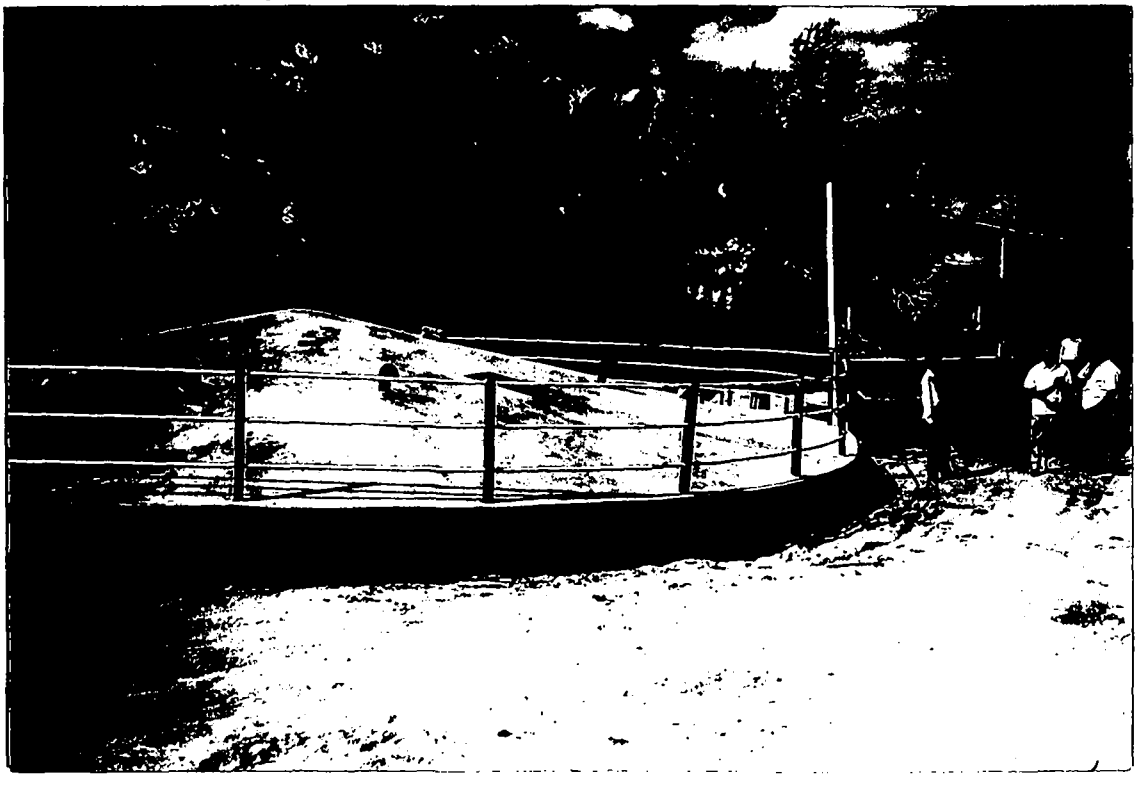
Progress of works

Most of the works of the scheme have been completed. Out of 48 villages in the scheme, 44 have been connected and water supply started. Connecting pipe lines have been laid for the remaining four villages, but testing of the lines is under progress. This will be completed by October 1996. Presently, 147 out of 151 villages included in different phases of the scheme, get water supply. The service level i.e. coverage of the villages is about 97%. However, the supply of water may be higher near the headworks whereas villages at the tail end may be getting less.

During the field visit at Sherganj sub-head works, the Mission noted that the chlorinator was working. The dose of chlorine should be adjusted after consultation of the chemist in order to obtain a level of residual chlorine of 0.2 ppm at the tail end villages.

Both Kalana and Zazam villages covered under Sidhada sub-pumping station now get water. The DG set installed at this station was in working order. One exploratory tube well has been drilled by CGWB in the compound of the Sidhada sub-pumping station. The water contains 14,000 ppm TDS and is not fit for potable use.

Work of additional storage of 6 lakh litres has been completed at Kalyanpura sub-pumping station and water supply started. The villages get water supply now; village Eval will be supplied within one week. The works for additional storage of 8 Lakh litre capacity at Santalpur has reached up to ring beam level. The remaining works will be completed by November 1996. Five villages connected to Garamdi sub-station will get regular water supply after commissioning of additional storage at Santalpur.



During the field visits of the Mission to the villages Vauva, Datrana, Madhutra and Par Gam it was observed that the village level facilities need improvement. Cocks of the standposts were damaged/stolen. The Mission stressed the need for monitoring the supply of water to the villages at the level of the Deputy Executive Engineer.

The Executive Engineers and Deputy Executive Engineers are requested to pay surprise visits to the villages especially tail end villages to ensure regular water supply even during the dry season.

Water meters have been installed on main and branch lines. They are out of order. The reasons attributed are tempering by people, mechanical defects, etc. For further details reference is made to the chapters on overall technical subjects.

The express pipe line laid between Shihori and Varahi has no connections and is working satisfactorily.

Operation and maintenance

It was discussed that the postcard system for reporting of complaints on the service of water supply should be reestablished in order to improve the service level. Pani Samiti may also be informed to report about the reliability of supply to the villages.

A meeting with the linemen of a branch should be held, during which the main tasks and different aspects of water supply should be discussed. Since the villages of the scheme have no alternative source of potable water supply, the linemen should be impressed upon the need of regular maintenance of water supply system and reliable feed back.

Power supply

Since power supply is available to the sub-pumping stations under Santalpur RWSS from a rural feeder, it is most irregular. The interruptions in the power supply affect the supply of water to the villages. A DG set has been installed at each sub-pumping station in order to continue water supply during power failure. The Mission noted with satisfaction that the DG sets presently installed were found in working order, except for Garamdi. However there are breakdowns in the DG sets also and they need repairs. Since the area of operation is remotely situated, the procurement of spare parts is difficult. Also repairs facility is not available in the area. Repairs of a DG set consumes considerable time thereby hampering water supply to the villages, particularly in the lower stretches of the scheme.

Both Superintending and Executive Engineer are of the opinion that if standby DG set is provided, regular water supply can be maintained to the villages covered by the sub-pumping stations. The Mission is of the opinion that water supply should be independent of the power supply. Since production of water has been increased due to development of additional well fields, sufficient water is available for distribution. A standby DG set may be provided to the sub-pumping stations.

3.2.2 Sami-Harij RWSS

Water resources

Since last Mission only a small progress has been achieved whereas the fluoride level in the groundwater is above the permissible limit and the water table continues to fall. Out of the deep drilling equipped with Johnson Well screens one was completed just before the arrival of the Mission, the second one will be drilled in the coming weeks. In addition these wells need to be completed with pumphouses. After taking one tubewell into production, monitoring of yield, water level and water quality has to be done for at least six months.

In the opinion of the Mission the procedures for procurement of the Johnson Well Screens took far too long. It is recalled that the results of the investigations of the deep layers are required before alternatives can be taken up.

The tube wells drilled for this project in Kamlivada area continue to give water of high fluoride which is a matter of serious concern. On the day the Mission visited the site, the fluoride level was 2.19 ppm. It is essential to monitor regularly the water level and the quality of water of the tube wells.

The Mission was informed that GWSSB has approved drilling of four new tubewells in the deep aquifers of the Kamlivada well field. The total production is given in figure 3.2.

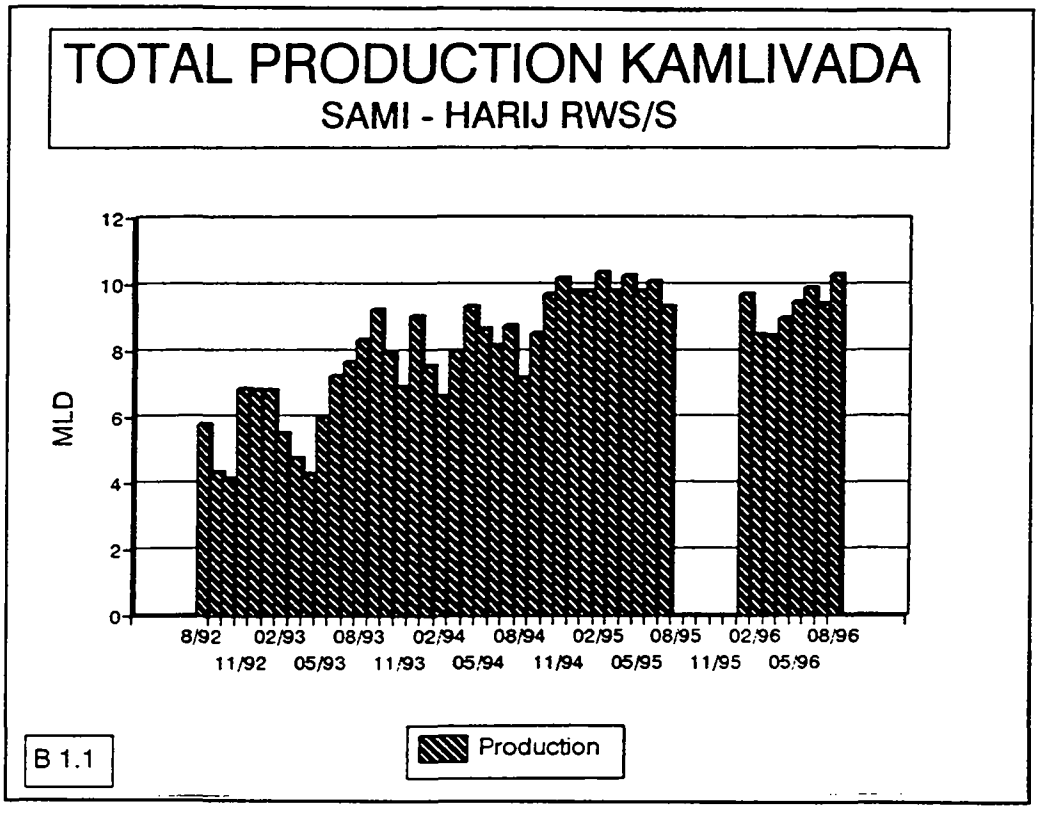


Figure 3.2 Total production Kamlivada

Progress of works

It was satisfying that most of the works are completed and water is supplied to all the 97 + 5 = 102 villages regularly. However, addition of another five villages in the scheme is a matter of great concern. The earlier GU-32 Mission has drawn the attention of GWSSB to resist the connection of new villages. This might hamper the service level of the project.

The problem of leakages along the Boratwada-Harij main pipeline persists. The field staff complained of unsuitable AC Couplers, which is the main reason of the leakages. The leakage in the pipeline has reduced due to replacement of some AC couplers with CID joints. The Deputy Executive Engineer would now require about 150 CID joints to set the pipeline right. The Mission agrees to this suggestion and requests GWSSB to arrange the supply of CID joints. As a longterm solution of the problem, it was suggested to replace the Boratwada-Harij main pipeline. This is a very costly and time consuming proposal. Since

the leakage has been reduced considerably due to replacement of some AC Couplers, the Mission is of the opinion that it would be possible to set right the pipeline, if the remaining leaking couplers are replaced.

Chlorine dosing is done at Haijpur and Boratwada headworks. The dosing is done on ad hoc basis. The residual chlorine should be measured at the tail end and dosing is to be defined as detailed in paragraph 3.7. The Headworks in Boratwada are maintained properly.

The Mission visited several villages at random to ascertain status of water supply. At Zilwana village, the Mission was informed that water was supplied in the morning. The valve of the inlet pipeline to the cistern was opened in the presence of the Mission and it was noted that water was flowing from the taps of one standpost. Since illegal connections were taken from pipeline leading to the second standpost, this standpost was disconnected. The people agreed to remove the illegal connections immediately. The GWSSB staff agreed to reconnect the second standpost as soon as the illegal connections are removed. The Mission was pleased to note that a garden has been developed in the school compound from the wastewater of one standpost.

Other villages visited by the Mission were Shergad, Najupura, Jawaharnagar and Memama. In the village of Memama the Mission was impressed by the motivation and level of organisation of the Pani Samiti.

Connection of additional villages

Out of 112 villages, including Harij town, included in the Sami-Harij scheme, water is supplied regularly to 97 villages and the town. Since water supply system based on the existing water source is available, 14 villages have declined supply of water from the water supply scheme. Although the number of villages, which have refused water supply is constant, the names of two villages from the previous list have changed. The water sources of two villages which declined water supply have failed, whereas the water sources of another two villages have been recharged.

During the discussions with the Executive Engineer, he informed that since spare capacity is available in the scheme, additional five villages, which were not included in the sanctioned scheme, have now been connected to the scheme. These villages have no potable source of water and therefore they faced an acute problem of drinking water. These villages have been connected after approval of GWSSB Head Office.

The Review and Support Mission GU-32 had strongly expressed opinion against connecting additional villages, since such proposals lead to uncontrolled distribution of water and the tail end villages will have irregular water supply.

Although, at present spare capacity is available in the Sami-Harij scheme due to refusal by some villages, these villages have not foregone their right of water supply from the scheme and may demand water at any time, when their existing sources fail due to reduction of quantity or quality problem. The Mission is of the firm opinion that additional villages should not be connected to the scheme.

Illegal connections

It was mentioned by the field staff that in two villages about ten house connections exist. The situation on house connections and the position of GWSSB towards these connections has been discussed in earlier Mission reports.

In order to be able to supply water in an adequate way to the whole scheme house connections can not be accepted. GWSSB Division staff is requested to disconnect house connections immediately and to approach for assistance from the authorities whenever required. Also, District Level Advisory Committee meetings may be used to discuss this matter.

3.2.3 Lathi-Liliya RWSS

Source

The Monsoon of 1995 was a nightmare. Kalubar reservoir dried out (see figure 3.3) and the villages of Lathi-Liliya scheme had to be supplied potable water by tankers during last summer. The Monsoon of 1996 was slightly better, bringing a sigh of relief to the consumers of Lathi-Liliya scheme. Kalubar reservoir though not sufficiently replenished, would be able to fulfil the drinking water requirement, of course by curtailing the demand of irrigation, of Lathi-Liliya scheme villages up to July 1997 as per the depletion statement furnished by Executive Engineer.

On account of the failure of 1995 monsoon, water from Kalubar reservoir could be supplied for only 7 to 13 days during April 1996 and absolutely no water was available during May and June 1996. The supply was restored from July 1996. The water level of Kalubar reservoir needs to be closely watched and drawl of water planned accordingly till the onset of next monsoon.

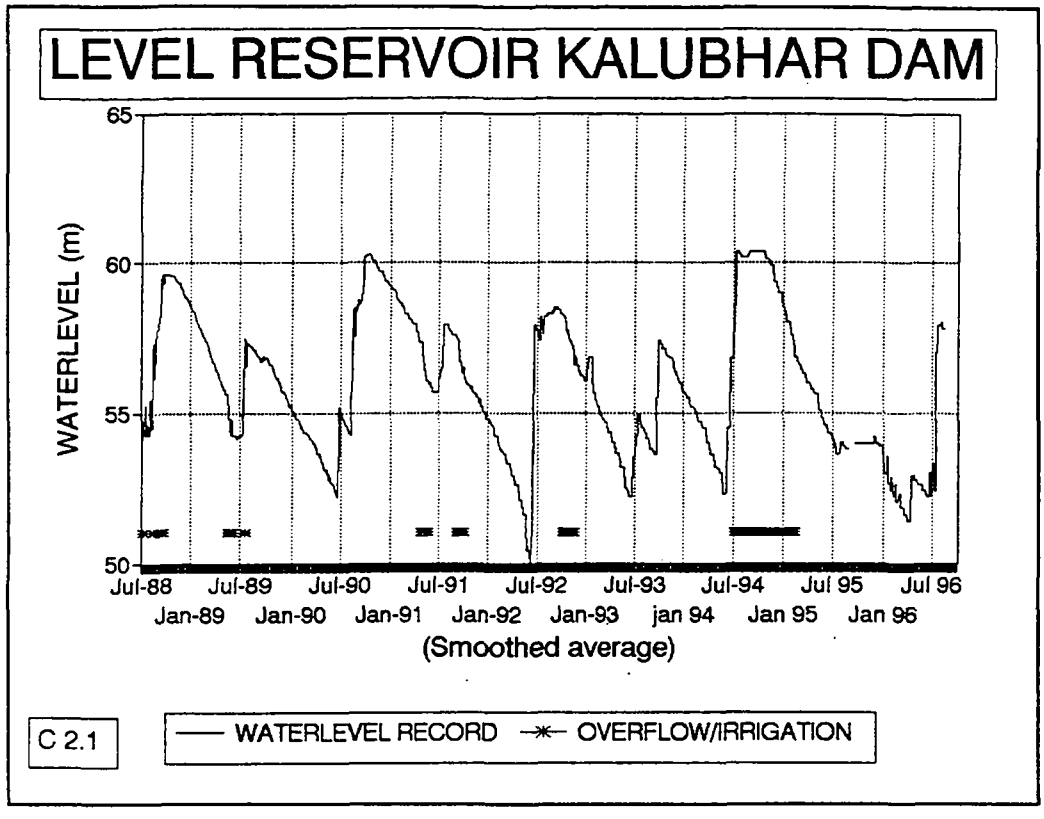


Figure 3.3 Level reservoir Kalubhar dam

Progress of works

The approach bridge to the valve tower has started rusting; the doors and the windows of valve tower are very rusty, glass panes are broken and the steel works need repainting.

Pumping main from the dam to Damnagar continues to be problematic. Of course, the leakages are reported to be reduced and there is some improvement. However, during travel along pipe alignment, some 15 to 18 leakage points were noticed, some of them were major.

Three zero velocity valves are installed on Damnagar rising main, to take care of water hammer. The field staff however, have reservations on the functioning of these valves. It is suggested that 'Sureseal' manufacturer of zero velocity valve should be consulted to set right leakages on line and leakages from appurtenances not allowed to continue for long.

The state of pumping main from Damnagar H.W to Bhingrad H.W is also a matter of concern. In GU-32, a suggestion was made to consult a hydraulic expert, which has not been taken up. SE and EE are advised to take up the matter in right earnest.

However, if all efforts fail to make the pumping main leak proof, GWSSB may, after full considerations, provide steel pipes in vulnerable sections of pumping mains.

The Mission was informed that the power supply at Head works is available for only 12 hours in a day, resulting in 'Zoning' of supply. The cisterns are filled up every alternate day. A DG set of 75 KVA has been installed at Damnagar as against the requirements of 160 KVA. EE informed the Mission that a proposal to purchase a DG set of 160 KVA is under process. After the receipt of a 160 KVA DG set, the existing 75 KVA DG set will be shifted to Bhingrad H.W.

The Mission was also informed that special electricity feeders line will be available in future from Damnagar sub-station. These special feeders could also fail during cyclone, heavy monsoon and other natural calamities. The Mission is of the opinion that the procurement of DG set should be expedited. Of course, the special electricity feeders are most welcome.

In short, the water supply should be independent of power supply. The Mission is hopeful that after the procurement of the DG set and special feeder line, water will flow round the clock in the cisterns.

The Mission made visits to the following villages Piplava, Nana Liliya, Havtad, Ingorola, Balvav, Eklara, Gondra, Haripur and Sajantimba. The Mission noted some cases of missing taps. Waste water disposal from standpost needs better planning; it could be diverted for gardening or to a nearby natural drain. On the whole, the village level facilities need to be improved. In general, no water quantity problem was expressed. However, complaints were raised regarding the supply hours.

Except at the H.W site, all water meters are out of order. Concerted efforts are required to keep the meters functional (reference is made to paragraph 3.7).

The Mission noted that the points discussed earlier on chlorination levels applies to the Damnagar H.W. also. There is only one chlorination plant in the scheme. The Mission would like to draw the attention of Senior Engineers of GWSSB, and to the recommendations made by the earlier Missions and ensure that they are followed.

Sanitation programme

The Mission was informed by the representative of CEE that people of some villages in the scheme have requested for the provision of low cost sanitary latrines to improve the environmental sanitary conditions. Since there is no provision for sanitation in the sanctioned scheme, the construction of latrines cannot be taken up. Reference is made to chapter 4 for the status of the sanitation proposal covering all three schemes.

At present GWSSB is implementing a programme on low cost latrines as a part of its annual development plan under Central and State sector through various NGOs. Necessary provision is being made in the State budget for this programme every year. As no NGO came forward sofar in this area, no activities were under-taken. GWSSB is requested to contact CEE in order to provide low cost latrines in the villages of the Lathi-Liliya scheme under the State programme.

Village level facilities

Through the assistance of the NGO in this scheme it appeared that villagers come forward to claim additional taps according to the standards set by GOI. The Mission is of the impression that in general the criteria for number of taps and walking distance to the standpost are met in the NA schemes. However, GWSSB Division Amreli is requested to contact CEE, to make an inventory of the present village level facilities and to correct if the GOI criteria are not met.

3.3 Gogha RWSS

The agreement on this project is being finalised at the level of GOI and GON. Thereafter a Project Support Unit will be established and project preparation can start. GWSSB has made already the topographical surveys and started detailed engineering for the main pipeline. Detailed engineering for the intake construction, booster, treatment plant and storage will be taken up in the near future.

The preparation of this project took long. Due to inflation and price escalation in the meantime the financial estimates might deviate significantly from the actual expenditures. Therefore a strong financial management will be required.

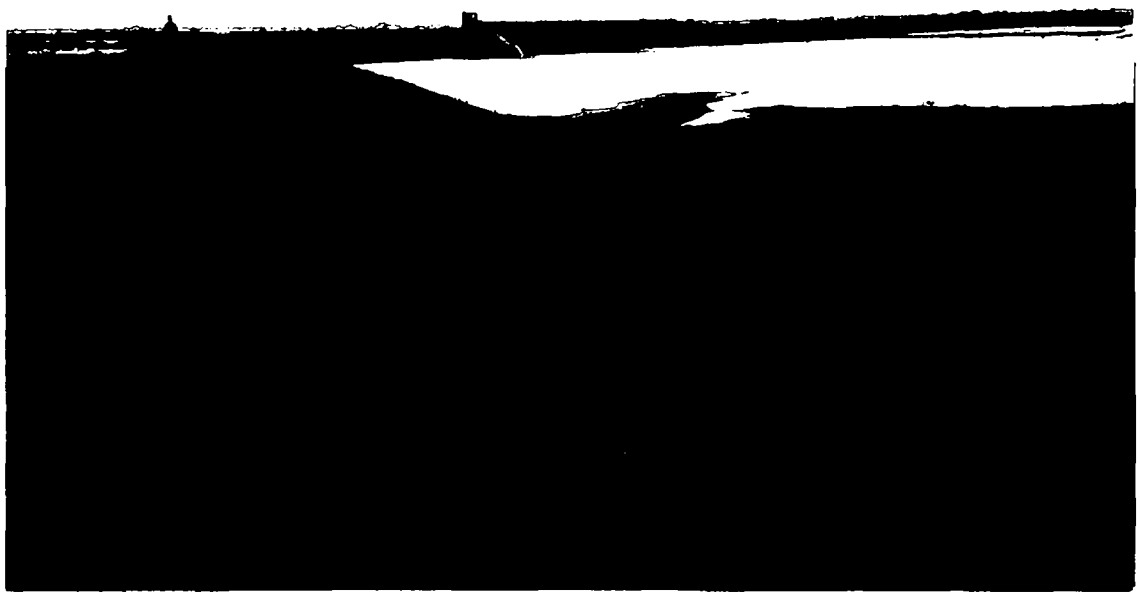
Additional activities or proposed changes from the original technical design can only be considered by taking into account the financial constraints.

3.4 Lathi-Liliya II RWSS

The water supply component of the Lathi-Liliya II project has been prepared by the Projects Division Bhavnagar, of which the Mission received a copy. The project is based on water supply from the Thebi dam (under construction) and the Vadi dam that still has to be constructed. A link facility of 5.0 MLD with the Lathi-Liliya I project is included. GWSSB has submitted the document to the GOG in August 1996 and is awaiting sanction.

The Mission observed that the preparation of this document took considerably longer than originally estimated. Also, this document does not yet include the non-technical and environmental components of the project. GWSSB needs consequently to request RNE to field a reformulation Mission.

A visit was made to the Thebi dam that has been closed and is in the final construction phase.



3.5 Ambaji-Danta RWSS

Project preparation with assistance of the Mission has been done from June 1995 to August 1996. The final report of the studies is expected in November 1996.

3.6 Monitoring indicators

3.6.1 Service level

During the meeting with the Member Secretary on 19th September, setting up the agenda for the Mission's work, one of the points that came up for discussion was the Management Information System and Village Information System.

It was reported that under a GOI scheme, the hardware for MIS for GWSSB had been developed, designed by the NIDC; this needed upgrading to meet the needs of RWSS. The MIS was to cover physical and financial aspects, so that it could be used for trouble shooting and problem solving.

An important element of the MIS for effective service is data on Service level. At present, GWSSB maintains data on the basis of daily records kept by linemen, countersigned by the village sarpanch. This data base is the most extensive covering all the villages of all the schemes. However, the veracity of this data could be limited - linemen may not be able to meet the sarpanch everyday, they report that they get signatures once in 3-4 days sometimes, the data is from the viewpoint of the 'provider of service' (and not the 'user of

service') who would want to present the most optimistic scenario, the sarpanch being a man in most cases, is not really directly involved in water collection and therefore not the best source of data on daily water supply.

There are other data available from NGOs - not as extensive, not comparable to GWSSB data, but nevertheless with their own advantageous points.

SEWA has in its Water Campaign focused on drinking water availability as a part of a larger inquiry on village level problems and has data on 37 villages of Santalpur. This data, though very valuable in planning for an integrated village development strategy, is of limited use to the RWSS for Drinking water issues.

Specifically on water supply, SEWA has sent to the Mission data from 6 villages on daily hours of supply in the month of September. The positive feature of this data is that it is collected by the village women, who are the direct/significant user group.

CEE has earlier reported data being collected by school children in some villages on days/hours of water supply, as well as on the condition of standposts/taps, leakage etc. Again this data does not cover all the villages of Lath-Liliya scheme.

SEU in collaboration with Chetana has introduced a checklist on health and sanitation, which has elements of water supply ie. condition of village level facilities, upkeep of standposts/taps which have a bearing on service level. But this does not cover data on days/hours of supply.

In conclusion, it appears that several parties are having pieces of the jigsaw puzzle that can be put together to assess the level of service. But as these are at different locations, in different formats, on different villages, collected using different tools, getting them together into a MIS form that can be used in 'trouble shooting and problem solving' will need a lot of concerted efforts.

The reliability statements of GWSSB provide information on the service level. The Mission was informed that in the Santalpur scheme out of 151 villages 147 are supplied on a regular basis. The service level reported is 97%. Sofar four villages could not be covered as testing of the pipeline for these village is under progress.

Erratic power supply at three sub-headworks has affected the tail end supply. The non functioning of the DG set at Garamdi sub-headworks has added to the problem.

In the Sami-Harij scheme, out of 111 villages and one town 14 villages have refused supply of water from the project. Presently 97 villages plus five additional villages and one town are supplied regularly. The service level is 95%.

At present water is supplied to 36 original and 5 additional villages in the Lathi-Liliya scheme. The project is based on water supply from the Kalubhar reservoir that was dry in 1996 summer. Due to this the supply had to be stopped in the first week of April and was resumed in the second week of July. The service

level during February to July 1996 was 80%. In earlier periods the service level varied from 89 to 91%. The present relatively low service level is due to leakages in the main line and erratic power supply at Damnagar and Bhingrad Headworks. The service level needs to be improved by repairing leakages and by providing DG sets of adequate capacity at Damnagar headworks.

A graph representing the service level in all three schemes is given as figure 3.4.

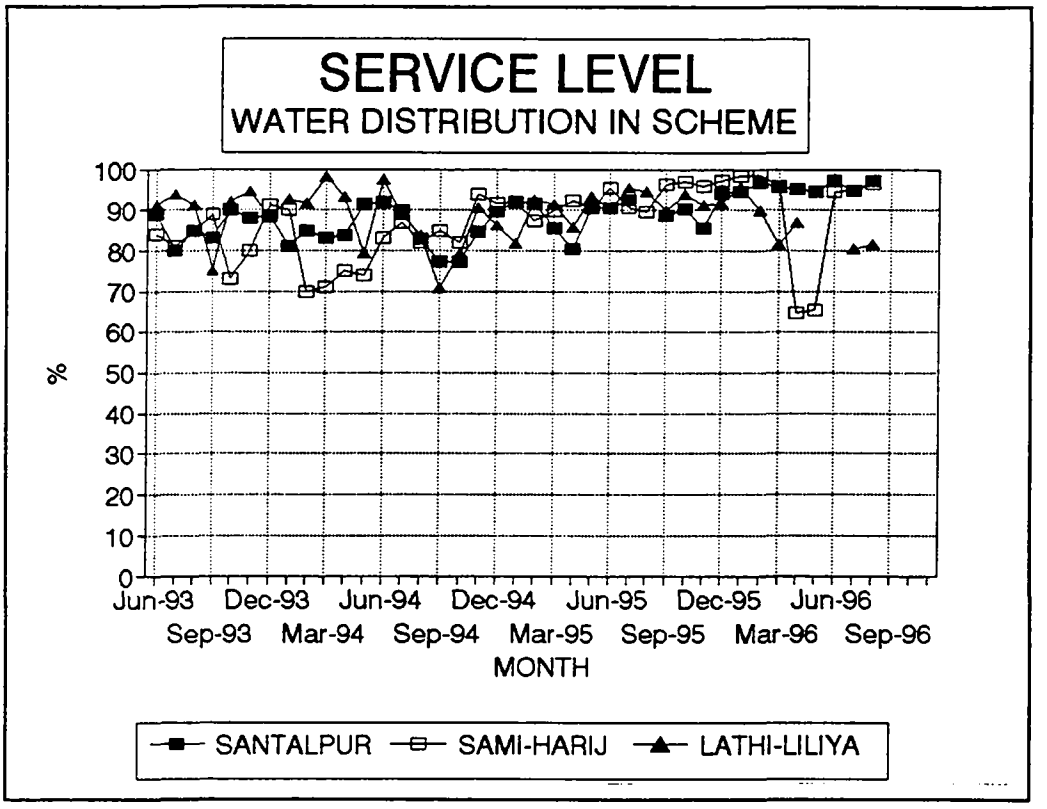


Figure 3.4 Service level water supply

The Mission noted at a few villages anomalies in the records of GWSSB. It was agreed that the staff would personally check the supply.

3.6.2 Monitoring report

Review and Support Missions processed and produced in a separate report after each Mission, graphs on monitoring data collected at District level. During this PRM a new set of data was received. The processed results have been included in the Annex of this report.

3.7 Overall technical aspects

Chlorination

The importance of proper chlorination in drinking water supply projects can never be overstressed. While reviewing the projects of Santalpur, Sami-Harij

and Lathi-Liliya, the Mission gained an impression that the monitoring of minimum residual chlorine (0.2 ppm) at tail end villages needs particular attention. It was noted with satisfaction that the chlorination plants at all projects are functioning satisfactorily. But, the present practice of applying adhoc doses of chlorine needs correction.

The proper dose of chlorine to be added has to be decided judiciously so that the minimum of 0.2 ppm chlorine contents at tail end villages is maintained. This needs an analytical and scientific approach. Thus it is recommended that the decision be entrusted to chemists. The chemists should:

1) Decide on the chlorine dose at all plants, so as to maintain a minimum of 0.2 ppm chlorine at tail end villages.
2) Monitor regularly, (say once in a month) chlorine contents level at several points to be decided judiciously.

For each project, the Mission suggests monitoring points as follows:

a) 15 points regular and 5 points by random selection for Santalpur scheme.
b) 15 points regular and 5 points by random selection for Sami-Harij scheme.
c) 10 points regular and 5 points by random selection for Lathi-Liliya scheme.

3) It is also recommended that bacteriological tests of water samples collected from above points be carried out every month.
4) It should be ensured that super chlorination does not become a cause for rejection of water by people.
5) New chlorine feeding points may be considered, if necessary with full justification.

A systematic record of analysis of chlorine contents and results of bacteriological analysis for each point shall be maintained at the main H.W. and at all chlorine feeding points. As a safeguard against accidents, the chlorine cylinders and chlorination plants should be separated out by a masonry/concrete wall.

Water Meters

For the purpose of assessing the quantity of water produced and delivered to consumers, several water meters have been installed at various points on distribution mains. Unfortunately, the meters are reported to be going out of order soon after installation at almost all places. This is a matter of serious concern to the Mission.

The Mission has been informed that all water meters installed in Santalpur and Sami-Harij projects are out of order, while in Lathi-Liliya project meters located within the H.W premises are stated to be functioning and at other places, they remain non-functional, either due to tampering or due to some unknown reason. Most water meters, installed in Santalpur and Sami-Harij RWSS are not working. In Lathi-Liliya RWSS, 16 meters are installed, but 13 are non-functional.

The Mission expresses its concern about the extent of problem of losses through pipes and appurtenances. To achieve the goals of safe and adequate water supply to beneficiaries, water losses need to be assessed and reduced to the minimum.

The Mission is of the view that the problem of non-functional meters need to be analyzed and diagnosed. The GWSSB may take up this issue with manufacturers of water meters for taking corrective measures on site to keep water meters functional. It is recommended that GWSSB invite the manufacturers at GWSSB cost. This would also help field staff learn about better upkeep of water meters.

Petty Materials for Maintenance and Repairs

The field staff of Sami-Harij scheme reported that there is some delay in attending to repairs of distribution system; the delay is attributed mainly to the shortage of petty materials required for undertaking repairs. It was reported that the shortages are due to non-finalisation of tenders floated for purchase of petty materials.

The Superintending Engineer may take up this issue at appropriate level and streamline the process for procurement of such material to avoid delay. It is suggested that adequate (**but not excessive**) stock of such petty materials should be maintained at sub-divisional level to attend the repairs quickly.

Such a problem was, however, not reported by the field staff of Santalpur and Lathi-Liliya projects.

Sanitation proposal

The sanitation proposal, consisting of a latrine programme covering all three existing schemes, has been sent back by GOI with comments. Clarification has been provided and the proposal has been submitted to GOG/GOI. Sanitation is considered to be an essential part of the NA water programme. Also, requests for assistance have been raised by villagers in the schemes.

The PRM is of the opinion that the administrative delays for this proposal took far too long and requests GOG/GWSSB to pursue this matter at the level of GOI.

Village level facilities

With the objective of supplying water to human population and cattle, village level facilities such as water cistern, standpost, cattle trough, waste water disposal system and soak pit have been constructed at all villages of the schemes. During its visit to a few villages, the Mission observed that though the facilities were generally in order, some cisterns need plastering in the portion below plinth, the platform of standpost needs repairs, the damaged/stolen cocks need replacement, leaking valves near cistern/standpost need repairs. Waste water from standpost/ cattle trough, in absence of proper disposal system creates pools of water, which create in-sanitary conditions and a breeding place for mosquitoes.

In order to maintain proper hygienic conditions, the village level facilities need to be upgraded according to proper sanitary engineering standards. Cow dung and garbage stored just near the elevated water cistern in one village should be removed immediately. If there is a school nearby, the waste water could be utilised for gardening in the school compound. If standpost and cattle trough are very near to each other, this will cause congestion and inconveniences for drawal of water by the people. In such cases, the standpost should be shifted. If damaged cocks are replaced and leaking valves near cistern/standposts are repaired, wastage of potable water will be reduced in these villages, where water is a scarce commodity.

The Mission is of the opinion that GWSSB should carry out a survey of the facilities at all the villages, plan out upgradation programme and carry out the repairs/replacement with a fixed target. GWSSB should continue to look after these facilities, till the Pani Samitis are formed in the villages and they have become functional.

Vegetation Roots in Pipes

The common problem of vegetation roots entering transmission mains and blocking the passage of water flow is causing concern to water supply engineers. The projects of Santalpur, Sami-Harij and Lathi-Liliya are no exception to this.

The field staff, faced with difficulties in the distribution of water, consider vegetation roots, as one possible cause. Since it is difficult to locate the blockage, the field staff try to locate it by trial and error. This is a tedious and time consuming process.

It appears, that there is no practical method to prevent roots from entering pipes. It is recalled that a type of equipment for the location of the blockage was introduced by the RSM in the Santalpur scheme in the past.

Since, root problem is one of the very serious problem affecting the efficiency of distribution system, the Mission suggests that GWSSB may take up this issue with NEERI or any other organisation to tackle the problem scientifically.

Upgrading traditional resources

The present status of the proposal from the District level is as under:

Santalpur RWSS	no potable resources available reported;
Sami-Harij RWSS	proposal received, needs modification;
Lathi-Liliya	proposal received, scope too wide.

The Mission concluded that the situation in Santalpur has to be reconsidered and requests GWSSB to come up with adequate proposals according to guidelines set by earlier Missions, for submission to GOG/GOI.

Linemen's Mobility

The linemen play a very critical role in RWSS; they are the linking pin between distribution works and village level facilities. At present, they are the ones who provide the basic data on service level of water supply(number of days of water supply at the village level) by maintaining a diary and getting the Sarpanch's signature.

The tasks of the linemen include:
- filling of cisterns, opening/closing valves;
- minor repairs of pipelines, leakages;
- filling cattle troughs;
- keeping village level facilities clean.

Usually, a lineman is in charge of 2-5 villages, which means that he has to move between these villages opening and closing valves that fill cisterns and get signatures of the sarpanchs regarding the water supply that day.

In a village of the Lathi-Liliya scheme, where this came up for discussion, it was reported that due to irregularity of hours of water supply because of power supply problems, the linemen have no method of knowing when they have to open valves for filling the cisterns. It was reported that the linemen often sleep at night on the cistern to be able to hear water flowing in and that they often have to move between villages at night covering the distance on foot.

In the recent CEE report, some of the problems faced by linemen as expressed during a meeting were noted - such as motives for breaking pipes, village politics interfering with the linemen's performance and logistics problems.

In this context, the Mission felt that the **mobility of linemen** is an issue to be looked into by GWSSB, as this has a bearing on the service level and reliability of water supply hours, and perhaps wastage of water through overflowing cisterns. The Mission feels that if linemen's mobility is indeed established as a constraint on their efficient functioning at the village level, then their mobility should be improved by providing them a bicycle.

4. GENDER ISSUES

It has to be mentioned that all Netherlands' assisted projects are to keep in mind the DAC/WID policy which is integral to the Dutch Development Cooperation framework. The four main criteria of the DAC/WID policy are :

- consulting women on project design;
- involving women in project implementation;
- identifying and removing obstacles to women's participation;
- utilising WID expertise throughout the project cycle,

The RWSS is a project that can be described as a 'Gender Integrated' project; the extent of integration of course is determined by several factors such as project design, staffing, project components and so on.

At the outset, it must be noted that the project is about 8 years old(started long before the DAC/WID policy was framed); the project was designed keeping in mind several technical considerations. Some of the non-technical components were taken into consideration only later on. Thus, understandably, WID issues have not been integrated into the project from the inception stage.

Nevertheless, with the social mobilisation activities being initiated now, it is still worth looking into the situation from DAC/WID criteria.

The Mission notes that:

1. At the Pani Samiti level, women's representation has been ensured - there are 2 women, the anganwadi teacher will often be a woman and so also the health worker. So, at least 4 women representatives are there in the Pani Samitis.

   On the other hand, all GWSSB staff, both at the state level and the field level are mainly men. Other departmental/field level functionaries are men - the linemen, the talatis, the TDOs and so on. In contrast, most of the NGO staff associated with the project are women - SEWA is almost entirely comprised of women staff, Chetana is headed and staffed by women, the field staff of CEE are women and so also the Bhansali Trust field staff.

2. The RWSS provides water to the rural population, men, women, children and cattle. Even though the project beneficiaries are the entire population, the services are of special benefit to women, who play the role of 'water managers' at both the house-hold and community level; water supply through standposts and provision of cattle troughs are of definite 'drudgery reduction' value.

3. The non-technical components have focused on women to a significant extent - SEWA's activities are directly in line with DAC/WID strategies(even if it is not so with RWSS goals so directly), Chetana and CEE have covered women representatives in their HEE activities.

Thus, the project activities benefit women clearly, meeting their 'practical gender needs'. Whether their 'strategic gender needs' can be met by the project in its current set-up is doubtful.

Some steps that can be taken up even at this stage of the project towards fulfilling the DAC/WID criteria are:

1. paying special attention to women's participation and empowerment in the Pani Samiti mobilisation process;
2. ensuring that WID expertise is available in the SEU or PSU, either in-house or as an external consultancy support;
3. bringing in women as data source on service level, either within the Pani Samitis or as a specific/ significant 'user' category;
4. ensuring gender de-segregated data is collected - on coverage in HEE, in IGPs, Pani Samiti mobilisation etc;
5. making specific clauses in the NGO agreements for social mobilisation inputs to work towards DAC/WID policy criteria;
6. initiating gender sensitization workshops for project staff at all levels;
7. including in the TOR of future Missions, points for assessing gender impact of the project.

The gender aspects need not be seen as an additional burden on the project; but rather as a means to reach for a higher level of project integration on the non-technical and gender issues.

5. INSTITUTIONAL ASPECTS

5.1 Socio-Economic Unit

Within the GWSSB, the Socio-Economic Unit is the body which is to provide co-ordination and support in the non-technical aspects of RWSS. Since the NGOs play an active role in community mobilisation activities, the SEU also provides a point of contact between GWSSB and the NGOs. In areas not covered by any NGO and also in general, the SEU is to provide linkages between the GWSSB and other relevant departments like Health, ICDS, Rural Development/Panchayats, etc.

The SEU submitted copies of two recent quarterly progress reports to the Mission. These two reports were rather sketchy, mostly relating to financial statements and to some Pani Samitis' training as well as training organised for project field functionaries by SEU.

Reviewing these and based on discussions with Dr. Mehta, the Mission notes the following progress:

1. The GOG Resolution on the formation of the Pani Samitis has been formally accepted, and steps taken in this direction in all the three schemes. In areas where NGOs are not involved, SEU has requested TDOs for forming Pani Samitis.

   In the last Mission report, there was a recommendation to take up a pilot project in 5 villages of Santalpur, by SEWA and SEU, to study the process of Pani Samiti mobilisation in depth. This pilot project proposal is yet to be processed.

2. The SEU actively pursued the preparation of 'Guiding Instructions' to Pani Samitis, in consultation with NGOs and staff of GWSSB. The guidelines have been accepted by the Board on 8.9.95. It has been sent for approval of Secretary[1] of GOG, before being disseminated to Pani Samitis, Panchayats, DDOs and EEs of the three schemes.

3. The SEU staff have been actively involved in NGO initiated activities like training, development of training materials and so on at all levels - at the state, district, taluka and village level.

4. SEU staff have also been involved in training and orientation of other departmental functionaries like health workers. The SEU collaborated with Chetana in developing a 'user-friendly' checklist on water, sanitation and hygiene aspects, to be used by health supervisors as a monitoring device.

[1] At the meeting with Mr. K.C. Kapoor, Secretary (WS), GOG, this matter was taken up for discussion. We were given to understand that the matter is under consideration of the State Government.

5. The proposed study on 'Impact of RWSS on forced migration in Santalpur project' to be undertaken by SEU in collaboration with SEWA has progressed to obtaining administrative approval. However, since the last Mission, there has been no further progress on this matter.

6. SEU has participated in the 2 Missions which were involved in formulating/processing the third generation project - The Gogha scheme.

7. In both the quarterly progress reports, SEU mentions the constraints of transport and field staff, as a limitation to undertake extensive field work. The earlier noted constraint of funds has been overcome to some extent, with the availability of RNE funds for some of the SEU activities. However, SEU continues to have no field staff.

8. The Mission noted that the SEU reports do not summarise all activities related to the non-technical aspects of the RWSS. Even though, SEU may not be directly involved in all the activities of the NGOs, since they provide the coordination point for non-technical aspects of RWSS, the Mission feels that future SEU reports should provide a summary of all the activities related to the non-technical aspects of RWSS(whether undertaken by SEU directly or by the NGOs in collaboration with SEU).

The Mission notes with concern that one of the two SEU staff, Mr. Kapadia has reverted to his parent department. Dr. Mehta's term also comes to an end by Dec. '96. By the end of the year SEU will have no staff. We were given to understand that the proposed setting up of PSU in the GWSSB will take care of SEU functions, but until that is realised, the coordination function for non-technical aspects needs to be provided for and continued.

5.2 Pani Samitis

Earlier in the schemes, there was a body known as the Pani Panchayats; the GU-31 noted that these bodies are to be reconstituted as Pani Samitis, needed to be mobilised and motivated to play the role of partners at the village level taking up responsibilities for effective O&M, up-keep of village level facilities, cost recovery/payment, education and motivation of users etc.[2]

Consequently, Pani Samitis are reported to have been formed in some villages by various agencies - by NGOs in areas where they worked and by the TDOs in others. The process of formation too has varied, depending on whether they were formed prior to the passing of the formal GOG Resolution or after it. In many cases, Pani Samitis are reconstituted bodies of the earlier pani panchayats, keeping in mind the resolution guidelines.

According to GWSSB, Pani Samitis exist in some villages; their efficacy, activity, role etc in reality is difficult to comment on. The limited field impressions of the Mission is that it is varied, depending on the amount of inputs(by NGO or others), and the nature of the village itself. On the whole it is

[2] see GOG resolution dated 21.4.95 and also the Guiding instructions given by GOG dated 8.9.95, formulated by SEU,GWSSB.

felt that the Pani Samitis, as they exist, are not in a position to take on all the responsibilities defined in the guidelines and that there needs to be considerable improvement in their capability to play an effective role.

The Guiding Instructions:

The Mission was provided with a translated version of the guiding instructions that has been prepared by the SEU, based on the Board Resolution No 12. Reviewing this, it was noted that:

Pani Samitis are to be formed as per the point No.6 of the Government Resolution dated 21 April 1995.

The Pani Samitis are responsible for:
a. Water supply and management
b. Sanitary conditions in the villages
c. Awareness building and motivation of the community on sanitation
d cost-recovery
e. interest in integrated development of the village.

In the document, the terms 'Pani Samiti', 'village panchayat' seem to be used interchangeably; this may lead to overlapping of roles.

Some of the responsibilities may require broader interventions, beyond the scope and resources of the Pani Samiti, for example 2.11 on ground water recharge, 2(3) on mobilising funds, 2(5) on procuring spare parts.

GWSSB has to look into what can be reasonably expected of the Pani Samiti, given its limited resources and how its capacity can be built up to play the envisaged role.

At the meeting with Mr. Kapoor, Secretary (WS), Government of Gujarat, on 30th September, we were given to understand that the matter of guiding instructions is under active consideration of the State Government. But pending this clearance, other points of the guidelines can be issued as a first step .

Formation and mobilisation of Pani Samitis

The Mission notes that there are two aspects to bringing in the Pani Samitis as village level partners:

1. formation of the PS as per guidelines in areas where the formation is yet to be done;
2. motivating them to play their role actively.

It is felt that perhaps the former can be done by the TDOs, but the latter will need NGO inputs.

From discussions with TDOs of Sami and Harij, it was felt that the TDOs have many other responsibilities to shoulder (developmental activities in health, primary education, land records and revenue and so on), they will not be in a position to provide sustained mobilisation inputs to the Pani Samitis. However, the TDOs expressed their ability and willingness to pursue cost recovery aspects of PS.

So far in the Santalpur/Radhanpur area, SEWA and Bhansali Trust have been involved, so also Chetana which had linked through BT. In the Sami-Harij scheme, it was BT which has worked, in some collaboration with the SEU. But, it is to be noted that by far not all villages of these two schemes have been covered in depth or in a uniform approach. In the Lathi-Liliya scheme, the Pani Samiti formation/mobilisation work has been done by CEE, again in collaboration with the SEU.

As noted earlier, the Mission feels that Pani Samiti formation and mobilisation is an important step in ensuring the sustainability of the schemes. It is also clear that the mobilisation and motivation of the PS needs NGO inputs. GWSSB is to consider which NGO is to provide this input and in what areas. And also look into issues such as: What will be the arrangements between GWSSB and the NGO - financial, organisational, reporting etc, Who within the GWSSB will provide the co-ordination with the NGOs, bring them all to one forum and so on.

In the opinion of the Mission the NGOs should focus their activities on the activation and mobilisation of Pani Samiti in all schemes.

5.3 NGOs and their role in the RWSS

The NGOs contracts with RNE are nearing completion; SEWA has submitted a new proposal to RNE for its continued involvement in the Sami-Harij area which is being reviewed to reorient towards Pani Samitis mobilisation in order to link better with the requirements of the water programme.
CEE's contract expires in December 1996, it has sought extension for 1 year to complete comprehensive coverage of Lathi-Liliya villages, which is under consideration.

The Mission notes that the role played by the NGOs in RWSS has been varied, depending on the NGOs own development strategy and its area of work. SEWA uses IGPs as thrust area or entry point; 'water as regenerative resource' leading to better quality of life and empowerment of women. They feel that this enhances women's status/participation in community bodies, and the capacity to pay for water.

Chetana's thrust area is health education - production of training materials and evolving training strategies, working as a support institution. In Sami-Harij, they have worked through Bhansali Trust as their field partner and in Lathi-Liliya with CEE as their collaborators. CEE's thrust area is environmental education, working with women, children, community members, Pani Samiti members, officials and field level functionaries of the Board.

The Mission notes that all the four NGOs, while working with their own organisational objectives, have made significant contributions to the goals of RWSS in their own unique ways. However, not all the social mobilisation needs of the three schemes are met comprehensively by the NGOs activities.

5.4 Coordination meetings

A second State Level Steering Committee meeting was conducted on 16 May 1996, chaired by the Secretary Water Supply. The agenda concerned: restriction of groundwater abstraction, cost recovery for O&M and illegal connections.

District Level Advisory Committee meetings were held as follows:

Banaskantha District	26 September 1995	Santalpur RWSS
Amreli District	20 December 1995	Lathi-Liliya RWSS
Mehsana District	04 September 1995	Sami-Harij RWSS

The Mission noted that in 1996 no further meetings were held, although due to the drought regular scarcity meetings were held. As these meetings are an important instrument in the proper functioning of the RWSS it is strongly recommended to take up the quarterly frequency of these meetings on regular basis.

A NGO panel meeting, chaired by the leader of the PRM, was conducted on 30 September 1996. Minutes of this meeting have been included in the Annex.

5.5 Staffing and training

The ban on recruitment of staff is persisting. As a consequence, a number of posts are vacant. It is learnt that the GOG has exempted some departments connected with essential services from the ban. Water supply is also on essential service. Therefore GWSSB is requested to take up this issue with the GOG for allowing them to fill up the bare minimum posts, so that tail end villages of the schemes are not deprived of the benefits of drinking water due to lack of manpower.

For the future Gogha RWSS it has been proposed to convert the Project Division Bhavnagar into a Works Division, especially dedicated to this project. GWSSB has received a proposal to this extent and is requested to act accordingly before the approval of the project is finalised.

A number of individual requests for training in the Netherlands were brought to the attention of the Mission. The Mission informs GWSSB that the possibilities to allow other staff for training in the Netherlands have been reduced by the fact that the obligation for posting in a NA scheme after the training, is often not met.

6. INCOME GENERATING ACTIVITIES

In the RWSS project, IGP activities were envisaged as an important women's empowerment strategy, as women play a key role in the water sector - as 'managers of water resource' in a wider perspective. This activity was undertaken extensively by SEWA in the Santalpur scheme; in fact, for SEWA, it is an entry point activity. Previous RSMs have reported on this in depth and SEWA has been reporting on progress in the suggested formats, both to the Missions and the RNE.

Due to constraints of time, IGP activities were not the focus of the present Mission during their field visit to Santalpur scheme; the Mission focused on progress review of Pani Samitis, village level facilities and hardware components of the scheme. Consequently, this section is based on progress reports provided by SEWA and on discussions with SEWA staff, both at their Radhanpur field office and Ahmedabad office.

The IGP activities in Santalpur are undertaken by the Banaskanta Women's Rural Development Project, under a direct project contract with RNE. The IGPs are in the following activities:

- the Artisan Support Programme - with 4000 women in 22 villages, organised into 27 groups, gaining an average income of Rs.700/month from the IGP. (See table 2 of SEWA report appended);

- the Eco-regeneration programme (Nursery and Plantation) - with 200 women in 11 villages, gaining Rs.13,625 per group from the IGP. (See table 3 and 3a of SEWA report);

- the Dairying and Fodder Security System - forming 10 women's dairy co-operatives, covering 190 women, gaining an overall income of Rs.2,597,323 from the IGP (See table 4 of SEWA report);

- the Salt workers Producer Programme - covering 132 women, organised into 32 groups, gaining an income of Rs.500 per month from the IGP (See table 6 of SEWA report);

- the Minor Forest Produce Collection (Gum collection) - with 554 women organised into 12 groups. SEWA reports that the income from this activity has dropped from Rs.25 per day due to the pricing policy of the forest department.

Looking at all these IGP activities in total, from Table 1 of the SEWA report covering period January 96 to June 96, it is noted that the average income from these IGP activities range from Rs.500 to Rs.1,000 per month.

The IGP activities are a part of a larger Women's development effort of SEWA; each of these are supported with inputs such as savings and credit, skill building, leadership training and so on. That the women have gained from these activities, both economically and in terms of a better social status is obvious from the way they present themselves.

What is of concern is that despite improved incomes in these villages, the cost recovery rates of the RWSS has not changed in any significant way (even in these villages). The savings' record of women, their significant contribution to the construction of lined ponds in 2 villages, the payment they made for purchasing water for the nursery/plantation, clearly indicate their willingness and capacity to pay for water. However, the Mission is not able to understand why this willingness has not resulted in better cost recovery for water supply.

IGPs as a means for organising, empowering and improving the social status of women seems to be well proven strategy. It is very much in line with the DAC/WID policy of Netherlands' Development assistance. But, the strategy has not resulted in the realisation of the intended goal of improved cost recovery in RWSS. It must be noted that as a strategy, this has been tried out only in a limited area of one scheme and by one NGO. Unless the efficacy of the strategy can be established on a wider scale, its applicability to other areas and schemes will be questionable.

It should also be borne in mind that undertaking IGP activities requires several inputs - identification of viable activities, skill training, providing adequate and timely inputs like working capital, tools, equipment, raw-materials, providing marketing linkages etc. These require capabilities that do not exist within the GWSSB at present and will need inputs from an NGO.

Also as a strategy, it has a long 'incubation' period before the tangible results can be achieved. So, integrating IGP activities within the narrower framework of RWSS is a difficult task, no matter how intrinsically valuable the IGP goals are in the overall empowerment approach.

Progress indicators

SEWA has ordered a study on the Management Capability of the Banaskantha DWCRA Mahila SEWA Association. This study focuses on staff for strategy planning and self learning of SEWA in these projects rather than on indicators for monitoring of progress.

In the past, support was given to SEWA to improve the reporting structure and to develop a set of progress indicators for the Banaskantha Women's Rural Development Project.
The indicators developed have led to a number of new tables. However, the new tables have certain inconveniences. It is therefor suggested to make a combination of the tables made in 1994 (with assistance of Mr. Timmer) and those made during 1995 (with assistance of Mrs. Brants). In the meantime the "old" set of progress indicators will be used. If further assistance will be required SEWA may contact RNE.

7. HEALTH EDUCATION ACTIVITIES

Health Education activities are an important element in a RWSS which is aimed at improving the quality of life and living conditions in rural areas.

At the present, in the three schemes there are no 'hardware' components being taken up for sanitation facilities like latrines, drains, soakpits etc[3]; sanitation works that are directly related to water supply such as maintenance of standpost surroundings, disposal of wastewater around these are provided for.

The main focus in the RWSS has been health education and awareness building; and the inputs have been provided through NGO involvement and also through departmental field functionaries.

HEE strategy has been two fold - training of Pani Samiti members as 'change agents' who will in turn educate the community at large, as well as direct training of some community members (teachers, children) and field functionaries.

The three main NGOs involved in this have been Chetana, its field partner Bhansali Trust and CEE. SEU has provided support to these NGOs in various capacities.

The most common methodology used by all the three NGOs is training; there have been other innovative methods used too like health awareness camps, exhibitions, field exposure visits. A good set of awareness building materials like posters, flip charts, training manuals have been prepared in Gujarati language, these are presented in the individual NGO reports.

The efforts have been aimed at different trainee groups too- Pani Samiti members, field level functionaries, children and women. Consequently, the training has been at different locations - at taluka level offices, at village clusters, in individual villages.

The focus of training has been varied - on safe collection, handling and storage of drinking water, on environmental sanitation, on the water-sanitation-health-hygiene linkages, on the role to be played by various functionaries and on larger environmental issues like value of water, water conservation etc.

On the whole, the Mission notes that the health education strategy can be described as working with 'change agents' at the village level and field functionary level, envisaging them to carry the message further to the community at large. There are a few examples of strategies that can be described as mass campaigns. The Mission also notes that there have been some concrete results achieved as reflected in use of 'Doya' or water ladle, clearance of garbage heaps, putting in place of soakpits. However, these are not comprehensive achievements in all the villages of all the schemes.

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[3] The proposal for this is under process in GOI/GOG and expected to be taken up in future.

8. FINANCIAL ASPECTS

On the basis of the Government Resolution on Pani Samiti GWSSB has prepared Guidelines for implementation. These Guidelines are not specific on the mechanism for the creation of a village fund for O&M. The mechanism to return part of the O&M charges to the Pani Samiti has been discussed. It was concluded that the creation of a fund at village level could start as soon as a village has shown serious willingness to pay and paid more than 25% of the amounts due. Arrears would not be taken into account. Furthermore, the return of the O&M charge would be pro rata the amounts paid.

In order to sanction this mechanism GWSSB will prepare a proposal and request GOG to issue a Resolution. Also, the Guidelines will need clarification whereas the implementation of the mechanism per village depends on the formal transfer of responsibility for O&M and the acceptance of this responsibility by the village.

8.1 Financial achievement

The informally revised estimates of total expenditures for all schemes are given in table 7. These estimates include the expenditures incurred and the likely expenditures to finalise the scheme.

Scheme	Present estimate of total expenditures (Lakhs of Rs) (1)	Total expenditures up to 6/94 (Lakhs of Rs) (2)	Financial Achievements			
			(GU-30)	(GU-31)	(GU-32)	GU-33
Santalpur	1092	928	(85%)	(87%)	(86%)	85%
Sami-Harij	2022	1965	(94%)	(94%)	(97%)	97%
Lathi-Liliya	828*)	779*)	(98%)	(99%)	(94%)	--
Total	3942	3672	(93%)	(93%)	(94%)	--

Table 7 Financial achievement per scheme

*) Figures upto 6/95

8.2 Review of project costs (Rs)

In table 8 the original estimated costs are compared with subsequent informally revised estimates.

Scheme	Original cost according side letter (85%) (Lakhs of Rs) (1)	Revised estimate project costs GU-30 (85%) (1/4/94) (Lakhs of Rs) (2)	Revised estimate project costs GU-31 (85%) (1/10/94) (Lakhs of Rs) (3)	Revised estimate project costs GU-32 (85%) (1/6/95) (Lakhs of Rs) (4)	Revised estimate project costs GU-32 (85%) (1/7/96) (Lakhs of Rs) (5)	Present Difference (1-5) (Lakhs of Rs) (6)
Santalpur	888	866	874	903	928	- 40
Sami-Harij	2109	1700	1722	1744	1719	+ 390
Lathi-Liliya	619	666	667	704	704*)	- 85*)
Total	3616	3232	3263	3351	3351	+ 265

Table 8 Project costs

1 *) Figures upto 6/95

There is slight estimated overspending in the Santalpur and Lathi-Liliya RWSS. The Sami-Harij RWSS are now estimated lower than during GU-32. For all three schemes together there is presently an expected underspending of Rs. 265 Lakhs.

In figure 8.1 the cumulative expenditures per scheme are presented. There are important savings in the Sami-Harij scheme.

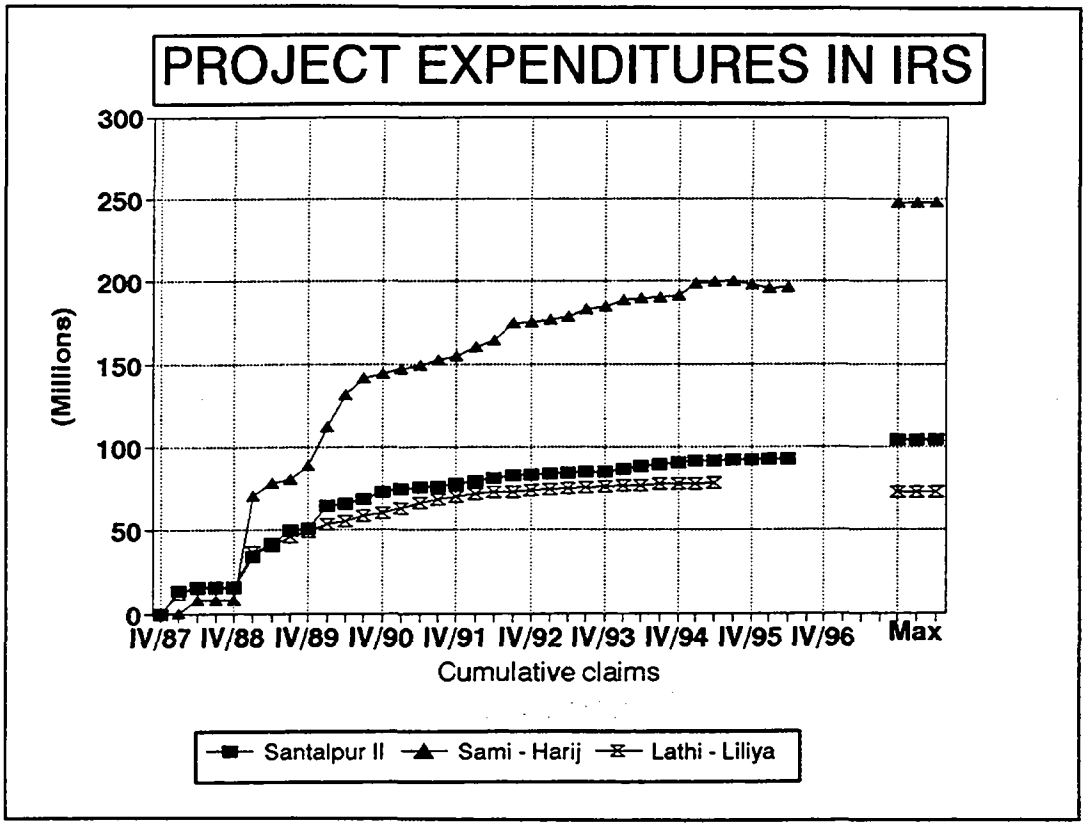


Figure 8.1 Cumulative project expenditures per scheme

8.3 Claims and reimbursements

Table 9 below gives details about the claims per scheme:

Scheme	Claim no.	Date of claim	Period	Amount of claim (Rs) (100%)	Eligible for payment
Santalpur II (IN/87/006)	1	10/06/88	I-88	13,420,000	21/06/88
	2	01/09/88	II-88	1,644,030	-
	3	31/07/89	I-89	18,923,920	-
	4	25/10/89	II-89	7,685,070	23/03/90
	5	09/03/90	III-89	7,521,780	23/03/90
	6	20/03/90	IV-89	1,856,410	23/03/90
	7	01/06/90	I-90	13,556,030	22/06/90
	8	24/09/90	II-90	1,073,380	26/09/91
	9	23/01/91	III-90	2,968,440	26/09/91
	10	15/03/91	IV-90	4,236,260	26/09/91
	11	24/06/91	I-91	1,200,910	26/09/91
	12	17/07/91	II-91	1,543,150	26/09/91
	13	09/03/92	III-91	742,400	not eligible/reconciling
	14	09/03/92	IV-91	1,045,480	not eligible/reconciling
	15	11/05/92	I-92	2,355,590	not eligible/reconciling
	16	26/08/92	II-92	1,574,970	not eligible/reconciling
	17	06/11/92	III-92	1,089,270	not eligible/reconciling
	18	01/02/93	IV-92	988,200	not eligible/reconciling
	19	05/05/93	I-93	277,900	not eligible/reconciling
	20	12/10/93	II-93	749,820	not eligible/reconciling
	21	-	III-93	443,190	not eligible/reconciling
	22	-	IV-93	292,380	not eligible/reconciling
	23	-	I-94	1,585,990	not eligible/reconciling
	24	-	II-94	1,330,150	
	25	-	III-94	1,572,160	
	26	-	IV-94	741,050	
	27	-	I-95	1,082,320	
	28	-	II-95	195,410	
	29	-	III-95	267,530	
	30	-	IV-95	125,330	
	31	-	I-96	750,390	
	32	-	II-96	203,440	

Scheme	Claim no.	Date of claim	Period	Amount of claim (Rs) (100%)	Eligible for payment
Sami-Harij	1	10/06/88	I-88	225,000	11/08/89
(IN/87/050)	2	10/09/88	II-88	7,996,000	11/08/89
	3	31/07/89	I-89	62,089,520	15/06/90
	4	25/10/89	II-89	8,049,610	15/06/90
	5	09/03/90	III-89	2,437,140	15/06/90
	6	20/03/90	IV-89	7,940,730	15/06/90
	7	30/05/90	I-90	23,478,080	01/07/91
	8	28/09/90	II-90	19,429,930	01/11/91
	9	23/01/91	III-90	9,550,560	01/11/91
	10	15/03/91	IV-90	3,269,550	not eligible/reconciling
	11	24/06/91	I-91	2,672,840	not eligible/reconciling
	12	17/07/91	II-91	1,872,630	not eligible/reconciling
	13	23/11/91	III-91	3,599,140	not eligible/reconciling
	14	24/02/92	IV-91	1,935,100	not eligible/reconciling
	15	29/04/92	I-92	5,736,940	not eligible/reconciling
	16	26/08/92	II-92	4,036,360	not eligible/reconciling
	17	06/11/92	III-92	10,073,820	not eligible/reconciling
	18	01/02/93	IV-92	1,039,420	not eligible/reconciling
	19	05/05/93	I-93	1,502,590	not eligible/reconciling
	20	12/10/93	II-93	1,728,860	not eligible/reconciling
	21	-	III-93	4,418,190	not eligible/reconciling
	22	-	IV-93	1,852,610	not eligible/reconciling
	23	-	I-94	3,851,320	not eligible/reconciling
	24	-	II-94	962,830	
	25	-	III-94	1,012,370	
	26	-	IV-94	621,070	
	27	-	I-95	7,450,480	
	28	-	II-95	558,610	
	29	-	III-95	460,780	
	30	-	IV-95	-1,534,000	
	31	-	I-96	2,625,690	
	32	-	II-96	772,120	
Lathi-Liliya	1	10/06/88	I-88	12,031,690	11/08/89
(IN/87/049)	2	01/09/88	II-88	3,709,720	11/08/89
	3	31/07/89	I-89	20,780,320	11/08/89
	4	25/10/89	II-89	4,080,810	31/03/90
	5	21/03/90	III-89	5,182,890	30/03/90
	6	22/03/90	IV-89	3,069,330	30/03/90
	7	31/05/90	I-90	4,492,760	26/09/91
	8	21/09/90	II-90	1,976,600	31/10/91
	9	21/02/91	III-90	2,963,560	31/10/91
	10	15/03/91	IV-90	2,303,690	31/10/91
	11	10/07/91	I-91	2,570,600	not eligible/reconciling
	12	17/09/91	II-91	2,755,730	not eligible/reconciling
	13	12/03/92	III-91	2,384,230	not eligible/reconciling
	14	12/03/92	IV-91	1,879,790	not eligible/reconciling
	15	11/05/92	I-92	1,489,700	not eligible/reconciling
	16	26/08/92	II-92	1,513,030	not eligible/reconciling
	17	06/11/92	III-92	54,730	not eligible/reconciling
	18	01/02/93	IV-92	686,820	not eligible/reconciling
	19	05/05/93	I-93	625,330	not eligible/reconciling
	20	12/10/93	II-93	427,830	not eligible/reconciling
	21	-	III-93	856,950	not eligible/reconciling
	22	-	IV-93	693,610	not eligible/reconciling

Table 9 Situation of claims Gujarat RWSS (September 1996)

The cumulative amounts of the claims up to the second quarter 1996 for each scheme are presented in table 10.

SCHEME	CUMULATIVE AMOUNT		PROJECT BUDGET (85%)	PERCENTAGE CLAIMED
	100%	85%		
Santalpur II	93,043,020	79,086,567	88,800,000	89%
Sami-Harij	196,463,220	166,993,737	210,900,000	79%
Lathi-Liliya	76,529,660*)	65,050,211*)	61,880,000	105%*)
Total	366,035,900	311,130,515	361,580,000	86%

Table 10 Cumulative amounts of claims

RNE has made available for the Mission details of the claims received and reimbursements made by RNE for each scheme. The information provided covers the period of December 1986 to March 1994 as far as the three schemes are concerned. More recent data have been provided in the foregoing paragraphs.

Furthermore four other activities are managed by RNE:

1. Banaskanta Women's Rural Development Project (SEWA);
2. Health Education (CHETNA);
3. Lathi-Liliya Water Related Health & Sanitation (CEE);
4. Socio-Economic Unit (SEU)

For these contracts the financial progress in June 1996 is given hereafter:

No.	Commitment		Balance		Assignee
	IRs	Dfl	IRs	Dfl	
1.	50,905,893	3,682,550	0	879,661	SEWA
2.	4,091,000	319,000	0	1,263	CHETNA
3.	5,057,900	311,060	2,373,428	167,548	CEE
4.	1,220,000	78,080	0	16,846	SEU

Table 11 Commitment and balance NGO (+SEU) contracts.

The CEE contract is ongoing. The other activities have all depleted their IRs budget. However, the Mission observed that for 1 and 4 there is still a leftover in the guilders budget that RNE might allocate after special request from the assignee.

9. FUTURE PROJECT REVIEW STRUCTURE

The Mission has discussed the possible modalities for progress review of the bilateral programme. It was felt that in future the PSU would be responsible for day to day monitoring and that progress review Missions would focus on long term review.

The tasks of the Mission would be to review progress of technical, institutional, social and financial aspects of the projects, including other participants like NGOs. The role of the Mission would be advisory. A number of four Mission members is appropriate considering the necessary field visits and in order to cover all different aspects. The composition should be two generalists with experience in water supply and sanitation, one social scientist and one engineer water supply and sanitation. Mission members should be able to visualise the total management of the projects. Continuity plays an important role. Therefore, Mission members should be committed to an involvement for a longer period, say three years. Maximum one member could change per Mission, according to specialist's requirement. The support function is excluded; this is the responsibility of the PSU. A frequency of two Missions per year is considered necessary.

The report is to be submitted to the Secretary Water Supply, GOG, with a copy to the Member Secretary of the GWSSB and the Secretary Water of RNE. Further distribution is the responsibility of the liaison engineer of GWSSB. The reporting format desired is Aide Memoire at the end of the Mission, main report thereafter. The content of the Aide Memoire as usual; the main report could be more concise, less descriptive and with more graphs and tables. The monitoring report is to be continued.

A first draft of general terms of reference for these Missions is attached in the Annex.

ANNEXES

ANNEX 1

TERMS OF REFERENCE INTERMEDIATE

PROGRESS REVIEW MISSION

NETHERLANDS ASSISTED RURAL WATER SUPPLY PROGRAMME GUJARAT

Terms of reference for Project Progress Review Mission

INTRODUCTION

Under the present Indo-dutch cooperation programme regular missions have been fielded with the task to review and support the implementation of the rws programme under Netherlands's assistance in Gujarat.

The forthcoming mission will be the first of a series of missions in the present phase of the programme, where the Dept. of Health and Family Welfare will field Progress Review Missions (PRM) led by an Indian national team leader.

The following terms of reference are based on the general terms of reference specifying objectives and tasks of the PRM and directing the activities of the teams of experts assigned to conduct the missions.

The issues which will require particular attention of the present mission are also based on the conclusions and recommendations of the last RSM (GU 32), Netherlands Embassy's letter rws/gu/alg dated 16/1/'96 and GWSSB's letter WBU/RNE/DS-52/72 dated 25/4/'96.

In view of the intentions to adjust the structure of the review tasks, the mission will also prepare general terms of reference for the future PRM missions, covered by an Aide Memoire.

Tasks of the Mission

A) On going construction projects

1. Review the status of project progress. GWSSB will provide the mission team with reports on the financial and physical progress in the following RWS schemes : Santalpur, Sami Harij and Lathi Liliya.

2. GWSSB will present reports indicating compliance with the recommendations and conclusions as agreed during the last review mission.

3. The mission will discuss progress and compliance reports with the responsible executive and managing staff of GWSSB in charge of implementation of the respective schemes.

B) Supplementary activities

1. The mission will make an assessment of the progress made by Netherlands (and GWSSB) contracted NGO's in Gujarat.

2. The mission will in collaboration with GWSSB-staff, conduct a NGO coordination meeting.

C) Future Project Progress Review Structure

1. The mission will discuss with representations of the Gujarat authorities involved in the Netherlands supported RWSS-programme, the possible modalities for progress review of the bilateral programme. Aspects to be discussed and preferably agreed upon, comprise :

   - mandate of the periodical review mission
   - composition of the mission, distribution of tasks between Indian and Dutch mission members and types of expertise involved (including whether mission composition should be fixed or changing depending on ad-hoc requirements)
   - authority to which reports shall be submitted, and routing of reports
   - frequency of missions
   - reporting format
   - modalities for operationalisation of technical support activities

2. Assuming that an understanding on the nature of programme review between the parties involved can be reached in principle, the mission shall prepare an Aide Memoir which lays down the understanding on the modalities as agreed in principle. The draft text of such Aide Memoir will be discussed with the relevant parties in Gujarat first, and subsequently with the First Secretary at the Royal Netherlands Embassy.

3. The mission will draft the general terms of reference for future Project Progress Review Missions.

D) Composition of the mission

The mission will be led by an independent senior expert of Indian Nationality to be appointed by the Dept. of Health and Family Welfare in Gujarat assisted by one RWSS-Specialist also of Indian Nationality, to be nominated by the GWSSB.

The Netherlands delegation to the mission will comprise of one hydrogeologist with ample knowledge of RWSS-schemes and one rural development specialist in particular familiar with community participation and gender issues.

The mission will be fielded from the 18th of Sept. till the 2nd of October 1996 for a period of 14 days.

The mission leader will at the end of the fieldwork submit a summary of findings and recommendations on the progress of ongoing construction projects and NGO activities.

The mission leader will present an Aide Memoire and terms of reference for future Project Progress Review Missions at the end of the mission to the Gujarat authorities and the Netherlands Embassy in New Delhi.

The mission leader will onwards travel to the Netherlands for a period of one week to finalize together with the Netherlands team member a full mission report which the mission leader upon return, will present to the Secretary Water Supply of the Dept. of Health and Family Welfare.

ANNEX 2

INTENERARY MISSION GU-33

ITINERARY MISSION GU-33

Members: Mr. P.M. Modha (mission leader)
Mr. A.T. Vaishnav
Mrs. Poornima Vyasulu
Mr. R.T.J. Wijdemans

Period: 17.09.96 - 02.10.96

Tuesday	17.09.96	Travel Mr. Wijdemans from Amsterdam to New Delhi.
Wednesday	18.09.96	Travel Mrs. Poornima Vyasulu from Bangalore to Delhi. Briefing of Mrs. Vyasulu and Mr. Wijdemans at the RNE in the presence of Mr. C.D.L. Brands and Mr. Avinash. Travel of mission members from Delhi to Ahmedabad.
Thursday	19.09.96	Meeting at GJTI with Mr. P.M. Modha, mission leader, and Mr. A.T. Vaishnav. Preparation of mission. Finalisation of programme and arrangements for fieldvisits. Meeting with Member Secretary and key staff of GWSSB. Briefing of the mission. Meeting with SEWA by Mrs. Vyasulu and Mr. Wijdemans. Diner hosted by GWSSB.
Friday	20.09.96	Departure for Santalpur RWSS. Splitting of parties at Radhanpur. Mrs. Vyasulu and Mrs. Mehta visit villages with SEWA. Other teammembers visits recently executed works in scheme and tailend villages.
Saturday	21.09.96	Mrs. Vyasulu and Mrs. Mehta continue with SEWA and Bhansali Trust in villages. Meeting by others at Shihori to discuss solutions of problems encountered. Visit to tubewell, radial collector well and site checkdam. All temmember reunite at Haijpur in Sami-Harij scheme. Visit to constructions Haijpur site.
Sunday	22.09.96	Meeting at Boratwada with Sami-Harij staff. Discussion at headworks with senior and field staff. Visit to selected villages. extensive visit and discussions in the village Memena. Return to Ahmedabad.
Monday	23.09.96	Meeting with SEWA. Working session of all mission members on the futur Pani Samiti structure and the reporting tasks. Meeting with CHETNA.

Tuesday	24.09.96	Travel to Bhavnagar. meeting with staff lathi-lililya scheme. Visit to kalubhar dam. Return to Damnagar via main line. return to Bhavnagar.
Wednesday	25.09.96	Meeting at Damnagar with CEE and GWSSB staff. Introduction CEE programme by Mr. Joshi. Site visit Damnagar plant. Visit to Pani Samiti meeting and villages by Mrs. Vyasulu and Mrs. Mehta with CEE. Meeting other staff members with GWSSB staff on progress. Visit to Thebi dam Amreli. Visit to villages with GWSSB staff. Visit to Shretrunji reservoir. Return to Bhavnagar.
Thursday	26.09.96	Meeting at the office of the Super intending engineer in Bhavnagar. Wrap up meeting with staff. Progress review of Gogha and lathi-Liliya II projects. Return to Ahmedabad.
Friday	27.09.96	Meeting with TDO's Sami and Harij Talukas. Mission meeting on contents aide memoire, NGO panal meeting and programme of the mission. Individual reporting.
Saturday	28.09.96	Meeting at GJTI Gandhinagar to discuss structure and functioning of future progress review missions. Informal debriefing of findings of the mission.
Sunday	29.09.96	Mission meeting for formulation of conclusions and recommendations. Reporting Aide Memoire.
Monday	30.09.96	Arrival and briefing Mr. Avinash from RNE. NGO-panel meeting at the Annexe of the Circuit House Ahmedabad. Meeting with the Secretary Water Supply at Gandhinagar. Farewel mission. Departure Mr. Avinash and Mr. Wijdemans to Delhi and Mumbai respectively.
Tuesday	01.10.96	Debriefing with GWSSB by Mr. Modha and Mr. Vaishnav. Departure Mrs. Vyasulu to Goa. Travel Mr. Wijdemans Mumbai - Amsterdam.

PS: Mr. Modha, mission leader, travelled in addition to the Netherlands from 11 to 18 November 1996 to finalise the mission report.

ANNEX 3

LIST OF AUTHORITIES AND PERSONS MET

LIST OF AUTHORITIES AND RESOURCE PERSONS MET DURING GU-33

	NAME	DESIGNATION
A.	Government of The Netherlands	
-	Mr. C.D.L. Brands	First Secretary Water Supply and Sanitation
-	Mr. Avinash Zutshi	Senior Programme officer, Water and Sanitation
-	Mr. H.J. Putker	Programme responsible Ministry of Foreign Affairs
B.	Government of Gujarat	
-	Mr. K.C. Kapoor	Secretary Water Supply
-	Mr. C.M. Christie	Chief Engineer (WS)
-	Mr. C.N. Thakore	Taluka Development Officer Sami-Harij
-	Mr. C.L. Patel	Taluka Development Officer Sami-Harij
C.	Gujarat Water Supply and Sewerage Board	
-	Mr. Lekhraj Bachani	Chairman
-	Mr. M.S. Patel	Member Secretary
-	Mr. B.D. Shah	Chief Engineer Zone II
-	Mr. H.D Nagrecha	Director, GJTI
-	Mr. C.J. Ruparelia	Chief Engineer Zone III, Rajkot
-	Mr. J.T. Jaradi	Superintending engineer Palanpur Circle Gandhinagar
-	Mr. D.C. Shah	Superintending Engineer P.H.W. Circle, Bhavnagar
-	Ms. Dr P.M. Mehta	Health education specialist, SEU, Gandhinagar
-	Mr. P.K. Shah	Superintending engineer, Project Circle, Gandhinager
-	Mr. S.P. Vyas	Chief Hydrogeologist
-	Mr. B.J. Vasavada	Superintending Engineer, Normada Cell, Gandhinagar
-	Mr. C.C. Shah	Superintending Engineer, World Bank Circle, Ahmedabad
-	Mr. I.M. Patel	Geohydrologist P.H. Mech. Circle, Ahmedabad
-	Mr. A.M. Barve	DEE, Narmada Cell

D. List of staff GWSSB met in Lathi-Liliya RWSS

- Mr. D.C. Shah	Superintending Engineer Bhavnagar
- Mr. N.N. Laheru	Executive Engineer, Division 2, Amreli
- Mr. A.C. Patel	Dy. Ex. Eng. - Amreli
- Mr. V.B. Nakum	Assistant Engineer - Division Office
- Mr. J.K. Vaghani	Additional Asst. Eng. Damnagar
- Mr. M.G. Bhatt	Division Officer
- Mr. R.B. Vaghela	Add Asst eng sub div Damnagar
- Mr. B.J. Shiyala	Add Asst eng sub div Damnagar
- Mr. B.A. Maru	Asst Engineer Liliya Sub. Division
- Mr. Y.G. Goswanni	Add Asst eng Liliya Sub. Division
- Mr. L.M. Sindhal	Dty Ex eng P.H. sub div Damnagar, i/c sub div Liliya

E. List of staff GWSSB met in Santalpur RWSS

- Mr. J.T. Jaradi	Superintending Engineer, Palanpur
- Mr. R.L. Sajani	Executive Engineer P.H.W. Division Radhanpur
- Mr. K.H. Patel	AEE Radhanpur
- Mr. J.A. Patel	AAE Radhanpur
- Mr. R.M. Vyas	AAE Radhanpur
- Mr. J.J. Acharya	AAE Radhanpur
- Mr. K.K. Bodar	AAE Shihori
- Mr. J.R. Patel	Dy. Ex. Engr. Santalpur
- Mr. R.J. Patel	Dy. Ex. Engr. Radhanpur
- Mr. R.K. Parmar	Dy. Ex. Engr. Shihori
- Mr. Papaiyawala	EE P.H.W. Division, Radhanpur
- Mr. A.S. Rathava	Dy. Ex. Engre. P.H.S. Sub. Division Palanpur
- Mr. Bharat Nai	AEE Radhanpur
- Mr. Motilal Shroff	AE Radhanpur
- Mr. Jitu Bhavgandas	AAE Thara
- Mr. Chandubhai Patel	AAE Thara
- Mr. H.L. Patel	AAE Shihori

F. List of staff GWSSB in Sami-Harij RWSS

- Mr. J.T. Jaradi	Superintending Engineer, Palanpur
- Mr. J.K. Patel	Executive Engineer, Sidhpur
- Mr. C.D. Bhavsar	Deputy Executive Engineer Patan -1
- Mr. K.D. Patel	Deputy Executive Engineer, Harij
- Mr. R.S. Solanki	A.A.E., Patan 2
- Mr. K.M. Patel	A.A.E., Patan 1
- Mr. S.R. Thakkar	A.A.E., Harij
- Mr. T.D. Patel	A.A.E., Harij

G. NGO's and other resource persons

- CEE	Mr. Mayank Joshi
	Mr. Sharadbhai
	Ms. Vandana Pandya
	Ms. Pallavi Joshi
	Ms. Nitin Sawaliwa
- CHETNA	Ms. Pallavi Patel
	Mr. Vijay Jani
	Ms. Alka Mehta
- ESI	Mr. Ishwarbhai Patel
	Mr. Viren Joshi
	Mr. Jayesh Patel
- SEWA	Ms. Reema Nanavaty
	Ms. Jigna Trivedi
	Ms. Bharti Bhavsar
	Ms. Mumtaz
	Ms. Saira
- Bhansali Trust	Ms. Neela Patel
	Mr. Manoharbhai

ANNEX 4

GUIDELINES BOARD RESOLUTION NO. 12

Original in Gujarati

Board Resolution No.12
Meeting No. 155 /8.9.95

Guiding instructions for care maintenance of drinking water supply at village level through pani samiti as prescribed under GOG, Panchayat and Rural Housing Department Resolution No. PRCH-1095-841-Ch dt. 21.4.95.

All the village panchayats shall have to adopt the following procedure as regards the functions and duties of the water committee mentioned at point No.6 of the Government resolution dated 21.4.95.

1. On formation of pani samiti as prescribed under the resolution dated 21.7.95 gram panchayat shall have to inform the concern taluka panchayat and the Executive Engineer of GWSSB.

2. On being informed by the village panchayat that pani samiti has been formed at the village level the water supply and sewerage Board shall issue following instructions to the Pani Samiti relating to the management of water supply.

2.1 The pani samiti will be required to undertake and perform the following functions and duties as mentioned in Government in Panchayats and Rural Housing Department Resolution dated 21.4.95.

Duties and Functions

2.2 Take steps to provide and sustain timely potable water to the village community and implement measures to prevewnt wastage water.

2.3 To repair and get repaired of pipelines/valves etc. connecting to the public stand posts.

2.3 Arrange disposal of waste water collected around the public stand and cattle trough and its proper use for plantation etc.

2.4 Prevent dirty water being collected around the source of potable drinking water.

2.5 Arrange regular cleaning of water storage cistern and undertake repairs of leaks in the pipeline.

2.6 Generate community awareness towards protection of human health environmental sanitation and civic responsibility to supply potable drinking water undertake intensive ~~and~~ concentrated, efforts should to motivate village people to pay their water charges regularly.

2.7

2.8 Generate social acceptability and community motivation for need and use of soakpits, latrines, disposal of waste water in close coordination with Government Departments and non Government agencies.

2.9 Create awareness and motivate the village people to take active interest and participating the integrated village development, health improvement and environmental improvement schemes.

2.10 To take effective steps to promote the need and importance of potable water and its economic use.

2.11 To encourage and promote active relating to ground water recharge and replemenishment of ground water.

2(2) The pani samiti shall meet atleast once in a month and the member secretary (Talati/Secretaries) shall record minutes thereof in the minute book.

2(3) The pani samiti is expected to undertake steps for health improvement and integrated village development environmental improvement programmes. It will seek financial support from the people by the way of gifts, donations and grants from various departmental schemes of the State Govt.

2(4) The responsibility to impart necessary training on behalf of Water supply and sewerage Board for operational and maintenance of water supply facilities at village level shall vaste upon the Gujarat Jalseva Training Institute, Gandhinagar.

2(5) The pani samiti shall have to procure requqires spare parts of good quality in accordnace with rules and procedures.

2(6) The concerned Talati shall collect water tax on behalf of pani samiti and the village panchayat shall issue separate receipts against payment of the tax.

2(7) Money accumulated through collection of water tax shall be kept in a separate account opened for the purpose in the nearby bank or post office. Necessary funds may be withdrawn from the bank / post office account for maintenance and repair works on the approval of committee.

2(8) The accounts of pani samiti shall be audited as per provision prescribed in the panchayat act. The Sarpanch shall send the copy of audit report to the concerned Executive Engineer, GWSSB.

3.0 Instructions for Regional w.s.scheme

3.1 Popular contribution payable by the gram panchayat at the rate of Rs. 14/- per person per annum at present, or at the

rate prescribed by the Government from time to time towards operatin and maintenance costs shall be collected by the Talati who shall acknowledge a separate receipt to the payee.

3.2 As per point No.3 and point No.4 of Government in Health and Family Welfare Department resolution No. VWS-1786-Ch-25/19/N dated 8.7.87 respectively the village panchayats shall be responsible for maintenance and repairs of individual village water supply schemes and village level facilities in case of regional schemes. Once the water is available at village cistern thereof water supply schemes at village level in project villages are over. Gram panchayats sometimes do not shoulder this responsibility properly with the objective of proper operation and maintenance of village level facilities and prevention of wastage of water. Panchayats shall be keep with itself Rs.5/- (Rs.five) out of Rs. 14/- collected per head by pani samiti at popular contribution (water tax) to meet with the expenditure for the said purposes functions and duties. The balance amount of water tax shall be deposited with officer of water supply and sewerage board through the local Ex.Engineer by the Talati on behalf of the village panchayat.

3.3 The village panchayat/Pani samiti shall gradualy take over the maintenance of hand pumps.

3(4) The present actual expenditure on supply of drinking water in regional schemes Rs. 50/- to Rs.60/- per head the pani samiti will have to create an atmosphere which may encourage people to pay enhenced water tax in future so that the pani samiti no longer has to depend on Gujarat water supply and Sewerage Board for maintenance and repairs thereby the scheme is made self supportive.

3(5) In case of any incidencies of wastage of water or anything that adversely affect the water supply schemes are noted by the Board. Severe actions including disconnection of supply shall be taken.

3(6) In the circumstances of confusion or hurdles adversely affecting the functioning of the pani samiti the same shall be resolved by pani samiti in consultation and coordination with Taluka Development Officer and Executive Engineers of the GWSSB.

4.0 In the circumstances of problems, confusion and hurdels the responsibility of maintenance and repairs for the individual water supply schemes rests with village panchayat and village panchayats are empowered to collect water tax in that regard. The pani samiti shall undertake and perform function and duties mentioned in para 3. Procedure prescribed in para 3 shall not apply to individual village scheme.

ANNEX 5

COMPLIANCE REPORT GWSSB GU-32

GUJARAT WATER SUPPLY & SEWERAGE BOARD

GANDHINAGAR

INDO-DUTCH CO-OPERATION PROGRAMME IN GUJARAT

REPORT
PRESENTED TO THE REVIEW
AND
SUPPORT MISSION
SEPTEMBER 1996

Superintending Engineer
Narmada Cell, GWSSB, Parnagar Yojna Bhavan,
IIIrd Floor, Sector-16, GANDHINAGAR 382 016
Phone (02712) 22556/23008

Sept. 96

INDO-DUTCH CO-OPERATION PROGRAMME IN GUJARAT

REPORT PRESENTED
TO
THE REVIEW AND SUPPORT MISSION
SEPTEMBER 1996

CONTENTS

GUJARAT WATER SUPPLY AND SEWERAGE BOARD

COMPLIANCE OF GU-32

REQUESTED SHORT TERM ACTIONS :

GWSSB

(A) Division Level

1) To disconnect illegal connections with assistance of the local authorities and to abort house connections in the RWSS.

GWSSB, both at the divisional level as well as the H.O. level taken actions to ensure that illegal connections are disconnected. The authority of the District Magistrate and District Police authority has also been invoked to help in this action. This function was personally monitored and supervised by the Chairman of the Board who incidentally belongs to Banaskantha District. During the period of 1.4.1995 to 31.3.1996, 21 Numbers of illegal connections have been removed.

2) To upgrade the reliability of water supply in the tail end of the Santalpur RWSS by additional storage at Santalpur.

A proposal of creating additional storage facility at Santalpur having a capacity of 14 lac litres has been approved on 13.02.1995. The work contract has been awarded on 01.11.1995 and 5/96. The work is nearly on completion.

3) To measure exactly the production from the wellfield Shihori in the Santalpur RWSS and to reduce pumping from tubewells no 1 to 6 when the new tube wells between Umri and Bukoli can be taken into operation.

The production of water from the well field is constantly monitored. The total present production stands at 16.72 MLD from the Shihori well field. Two new tubewells yielding water of 3 MLD have been commissioned. As a result pumping from tubewells No.1 to 6 has been reduced by 3 MLD.

4) To improve proper operation of the facilities at headworks and substations, according to proper sanitary engineering standards (Santalpur and Lathi-Liliya).

Operational facilities at headworks and sub-stations as well as its performance and upkeep have been considerably improved.

5) To continue, the installation of water meters and to replace defective meters with meters of higher quality (Capstan).

New water meters are installed and old meters are replaced in Santalpur RWSS. Five numbers of old meters in Sami-Harij RWSS have also been replaced.

6) To execute the monitoring programme for the quality of the water as discussed by the RSM.

Water samples are checked and analysed on a monthly basis so as to check the chemical and bacterial quality of water. One of the important observation in Sami Harij reveals that fluoride level ranges from 2.08 ppm to 2.55 ppm. This is a matter of concern requring augmentationand upgradation of sources. The facility of chlorination at Damnagar in Lathi Liliya needs some upgradation.

7) To check regularly at village level the state and functioning of the facilities, if possible together with the Pani Samiti (all schemes).

Village level facilities are adequately maintained. The average reliability in Sami-Harij ranges from 92 to 98%. The reliability of supply in case of Lathi-Liliya is 90%. This level for Santalpur stands at 94%.

8) To execute at low profile an inventory of villages eligible for connection to the Sami-Harij scheme.

Inventory of villages eligible for connection to Sami-Harij scheme has been proposed. There are ten villages, which are facing acute water problem need to be connected to the system. The total population of these villages works out to 12,000 requiring a total supply of 0.66 MLD. A concious decision is needed in this direction. The estimated expenditure on capital account would be Rs. 17.00 lacs. (Annex.I).

9) To provide the deep reconnaissance wells at Hajipur with a concrete foundation and an identification plate.

Necessary identification plate is provided at deep reconnaissance wells at Hajipur.

10) To follow up with the District Collector Mehsana concerning the construction of a storage facility at Harij.

A construction of U/g sump of 2 lac litres capacity storage at Harij is in progress. The work is being done by Nagar Panchayat.

11) To prepare for scarcity measures in the Lathi-Liliya scheme like mentioned in the report of GU-29, when the last of the monsoon fails.

There was practically no water in Kalubhar reservoir from 15.04.1996. All the villages had to be served through water tankers. This function was properly planned and implemented. Due to rains during this season, the storage in the dam has been replenished and supply is recommissioned to all the villages with effect from 01.07.1996.

12) To resist strongly to pressure to include additional villages to RWSS.

GWSSB has agreed in principle not to include additional villages and is resisting demands of new connections.

13) To recover debris and pipes, as far as possible, at point "B" in the Lathi-Liliya scheme.

Debris and pipes at point "B" have been removed.

14) To construct a separation wall for the chlorinator room and drying beds for sludge in Jamnagar.

Chlorinator room has been constructed as per I.S.

15) To present uniform cost recovery statements along the format presented.

Cost recovery statement is furnished under Annex-II. The present status is as under ;

Sr. No.	Name of Scheme	Cost recovery as billed.	Actual collection as on 31.3.96.	% collection.
1.	Sami-Harij	57.64	12.23	21.00
2.	Santalpur	114.85	3.13	2.72
3.	Lathi-Liliya	32.00	2.37	7.40

GWSSB

(B) Executive Level

16) To call meetings of the District Level Advisory Committees in Banaskantha and Amreli Districts.

Meetings were held as under ;

1.	*Banaskantha District*	*26.09.1995*	*Santalpur RRWSS.*
2.	*Amreli District*	*20.12.1995*	*Lathi-Liliya RRWSS.*
3.	*Mehsana District*	*04.09.1995*	*Sami-Harij RRWSS.*

Further meetings could not be held as the district administration and State authorities were hectically engaged in canbating drought situation. However, issues relating to schemes were discussed in weekly meetings convened by the Collector.

17) To put the issue of the proposal for protection of groundwater resources on the agenda of the meeting of the next State Level Steering Committee.

The matter was taken up on the Agenda of the 2nd State Lavel Steering Committee meeting held on 16.05.1996. The matter is still under examination with the Government.

18) To discuss and develop structural and effective preventive and remedial measures for the protection of groundwater resources directed to decrease the water use for agriculture in order to safeguard the supply of drinking water on a sustainable basis.

The matter was taken up on the Agenda of the 2nd State Lavel Steering Committee meeting held on 16.05.1996. The matter is still under examination with the Government.

19) To complete the checkdam at Umri before the next monsoon and to liaise with the department of irrigation and to pay special attention to supervision.

Contractor of the checkdam at Umri have left work half way, due to mansoon. The Superintending Engineer, P.H. Circle, Palanpur had called the contractor to give his work plan. The contractor has assured to restart the work after monsoon i.e. in October 1996. The work is likely to be completed by June 1997 i.e. before next monsoon.

20) To execute two exploitation wells in deep aquifers, tapping exclusively the "C" aquifer and the "D" aquifer and to monitor their performance.

Johnson screens for the deep acquifer tubewells have been procured. Drilling of one tubewell is already completed.

21) To inform the RSM regularly on progress with the deep drilling and the pilot project on fluoride treatment near Chanasma in Mehsana District.

The status of deep drilling is as given in para-20. As regards Chanasma Fluoride Project, Govt. of India has appointed National Industrial Development Corporation, New Delhi (NIDC) as consultants. Consultants had invited offers for pre-qualification of agencies for Defluoridation plant. Offers have been received and are under final stage of decision.

22) To request RNE to postpone the final date of reimbursement for the Sami-Harij scheme as an exceptional case for one year (31 December 1996).

RNE has sanctioned the proposal and have agreed for final date of reimbursement i.e. 31.12.1996.

23) To provide the SEU finally with adequate transport in order to allow it to perform the tasks related to the activation of the Pani Samiti.

This is done.

24) To start all administrative procedures for implementation of the Gogha RWS/S.

Working survey is completed for Ghogha RRWSS. A project document for project support unit has also been approved and tendered out by Government of the Netherlands

25) To execute a hydrogeological study for the Ambaji-danta project.

A hydrogeological study for Ambaji-Danta survey have been conducted by expartiate consultant. Two interim reports have been received. Final report is awaited.

26) To continue the preparation of the water supply component of the Lathi-Liliya II RWS/S project and to inform the RSM when the project report including estimates is ready.

The Lathi-Liliya Part-II project has been prepared. This will be made available to RSM.

27) To reformulate the proposals for upgrading of existing sources and to sent a copy for comments to the RSM ultimately 30 November, 1995.

Information is being proceesed. Cost estimates for Amreli, Lathi-Liliya are sent to Govt. of India.

GWSSB

(C) Socio-Economic Unit

28) To start in October with the activation of Pani Samiti.

Guidelines for activation for Pani Panchayat have been prepared and are under consideration with the Government. GWSSB has approved the guidelines.

GWSSB

(D) Gujarat Jalsewa Training Institute

29) To prepare a training programme for GWSSB field level staff along the lines of the proposals in the this Aide Memoire.

A training programme for filed level staff will be prepared.

NGO's

30) SEWA to start the Pani samiti pilot project, once the Pani Samiti Operational Guidelines are sanctioned by the Secretary Water Supply.

31) SEWA to make amendments to the tables of the progress report along the lines agreed with the RSM.

32) CEE to follow the reporting outline presented for SEWA in GU - 31, except for the tables.

33) CEE to work jointly with the SEU in the activation of Pani Samiti in the Lathi-Liliya RWSS.

30 to 33 pertains to NGO.

RNE

34) To approve the reallocation of the SEU budget, to create funds for motivation training in relation to the activation of Pani Samiti.

Pertains to RNE.

35) To exchange a side letter for the Gogha RWS/S project with GOI.

RNE has forwarded the side letter to the Department of Economic affairs, Govt. of India. Govt. of India had called for the observations of GWSSB which are sent to Ministry of Rural areas and Employment, New Delhi. Shri B.J. Vasavada, Superintending Engineer, had a meeting with Mr. D.K. Bhalla, Deputy Secretary (TM), at New Delhi on 11.09.1996. The matter is being followed up.

36) To process the reformulated project document for the Kadi RWS/S project.

This is kept pending.

RSM

37) To assist in a hydrogeological study for the Ambaji-Danta project.

RNE had already arranged for a Geohydrologist from Netherlands for the purpose.

GOG

38) To call a meeting of the State Level Steering Committee.

Meeting was conducted on 16.05.1996. Minutes of the meeting are contained in Annex.III.

39) To process and forward to the GOI the proposal Sami-Harij Health Education by SEWA.

Pertains to SEWA.

40) To sanction post- forma the Operational Guidelines of the Pani Samiti.

Govt. of Gujarat approval is awaited.

GOI

41) To exchange a side letter for the Gogha RWS/S project with RNE.

RNE has forwarded the side letter to the Department of Economic affairs, Govt. of India. Details as per para-35.

42) To process the proposal for environmental sanitation.

Government of India had raised certain querries. The modified and revised proposal is sent to Govt. of Gujarat on 02.09.1996.

GON

43) No direct actions identified.

ANNEXURE NO - 1

Ref : GU-32 Report received from RSM

Executive Summary
Page No. IX
Short term action.

INVENTORY OF VILLAGES ELIGIBLE TO CONNECT TO SAMI HARIJ RWSS..

SR. NO.	NAME OF VILLAGE	TALUKA	LOCATION CODE NO	1991 CENCUS POPULATION	WORK TO BE DONE	COST IN LACS	REMARKS
1	2	3	4	5	6	7	8
1.	RAVINDRA	HARJI	23	1747	PIPELINE STAND POST & CATTLE TROUGH	3.30	
2.	PALOLI	HARJI	39	322	PIPELINE G.L. CISTERN STANDPOST & C.T.	1.50	
3.	GANESHPURA (H.OF JAMANPUR)	HARJI	34	150	PIPELINE G.L. CISTERN STAND POST & C.T.	0.25	
4.	MANAVARPURA	SAMI	76	933	- DO -	1.30	
5.	SAMSHERPURA	SAMI	39	1278	- DO -	1.50	
6.	KATHI	SAMI	55	1042	- DO -	2.50	
7.	SHERPURA	SAMI	15	1029	PIPELINE S.P.	1.00	
8.	DADAR	SAMI	13	1439	PIPELINE S.P.	2.30	
9.	UMEDPURA	SAMI	19	539	PIPELINE G.L. GISTERN S.P. & C.T.	3.40	
10.	PANCHASAR	SAMI	93	3091	PIPELINE & STANDPOST	0.50	
	TEN VILLAGES	TOTAL		11590		17.55	

Statement showing recovery of Popular contribution towards M&R cost of Rural Reg..W.S.S.

(Rs. in lakh)

Sr. No.	Name of District	No.of Reg. W.S.S.	Villages included in the scheme Nos.	Villages included in the scheme Popul-ation	O&M charges to be recovered During 96-97	O&M charges to be recovered As on 30-6-96	Popular contri-bution received (4/96to 6/96)	O & M charges to be recov-ered as on 1-7-96	Remarks
1	2	3	4	5	6	7	8	9	10
Zone-I									
1.	Vadodara	14	73	0.67	3.83	47.69	5.79	50.73	
2.	Kheda	12	194	1.89	6.50	111.04	0.84	110.20	
3.	Panchmahal	06	18	0.42	1.24	11.00	-	11.00	
4.	Valsad	06	27	0.82	2.87	64.34	-	64.34	
5.	Ahwa Dang	06	37	0.174	-	6.61	-	6.61	
6.	Bharuch	11	264	4.47	-	154.49	0.76	153.73	
7.	Surat	06	100	2.13	16.21	84.50	1.03	83.47	
	Total	61	713	10.574	30.65	479.67	3.42	480.08	
Zone-II									
8.	Gandhinagar	02	04	0.025	0.35	1.62	0.10	1.52	
9.	Ahmedabad	13	185/ 1 town	3.44	32.00	215.28	1.85	213.43	
10	Sabarkantha	07	100	1.26	4.28	45.02	0.43	44.59	
11	Mehsana	17	166	2.20	3.19	62.14	19.16	60.58	
12	Banaskantha	31	457	4.68	41.89	288.86	4.67	326.08	
13	Surendranagar	27	225	3.51	27.40	179.09	0.30	178.80	
	Total:	87	1137/1	15.115	109.11	792.01	26.51	825.00	

ANNEXURE-II

1	2	3	4	5	6	7	8	9	10
Zone-III									
14	Rajkot	10	144	2.26	19.20	110.79	5.70	105.09	
15	Junagadh	21	160	3.06	31.15	170.38	0.47	169.91	
16	Jamnagar	16	92	1.70	19.74	76.02	2.32	73.70	
17	Bhavnagar	22	129	1.77	00.87	120.20	0.04	120.16	
18	Amreli	10	105	1.79	200288 14.20	108.98	00.84	108.14	
19	Kachh(Bhuj)	109	729	5.07	25.84	306.14	1.50	304.64	
	Total	188	1359	15.65	111.00	892.51	10.87	881.64	
Grand Total:		336	3209	41.339	250.76	2164.19	40.80	2186.72	

ANNEXURE - III

MINUTES OF MEETING

Meeting
Urgent

No.VWS-1093-1655-N,
Government of Gujarat,
Health & Family Welfare Department,
Sachivalaya, Gandhinagar.
Dated the

To,

1. Secretary (W.S.)
   Health & Family Welfare Department,
   Sachivalaya, Gandhinagar.

2. Secretary, Forest Department,
   Sachivalaya, Gandhinagar.

3. Development Commissioner, Gandhinagar.

4. Officer on Special Duty & Chief Engineer,
   Health & Family Welfare Department.

5. Member Secretary, Gujarat Water Supply &
   Sewerage Board, Gandhinagar.

6. Chief Engineer(WBZ), Gujarat Water Supply &S.B.Gandhinagar.

7. Chief Engineer, Zone-2, Jal Bhavan, Behind Town Hall,
   Ellisbridge, Ahmedabad.

8. Director, Gujarat Jalseva Training Institute, Gujarat Water
   Supply & Sewerage Board, G-Roawd, Sector-15, Gandhinagar.

9. Collector, Amreli/Mehsana/Banaskantha.

10. Socio Economist, Gujarat Water Supply & Sewerage Board,
    Zone-2, 5th Floor, Jal Bhavan, Behind Town Hall,
    Ellisbridge Ahmedabad.

11. Expert in Public Health, G.W.S.S.Board, Zone-2, 5th Floor,
    Jal Bhavan, Behind: Town Hall, Allisbridge, Ahmedabad.

12. District Health Officer, Amreli/Banaskantha/Mehsana

13. Dist.Superintendent of Police, Amreli/Banaskantha/Mehsana.

14. District Development Officer, Amreli/Banaskantha/Mehsana.

15. Director, D.C.D.Os, C/o.District Health Officer, Amreli/
    Banaskantha/Mehsana.

16. Co-Ordinator, Seva Reception Centre, Nr.Victoria Garden,
    Ahmedabad.

17. 'CHETNA' Lilavatiben Lalbhai's bungalow, Civil Camp Road,
    Thaltej Road, Ahmedabad-54.

18. Ishwarbhai Patel, Director, E.S.I. Environmental Sanitation
    Institute(ESI), Gandhi Ashram, Ahmedabad-27.

19. Mr.Kiran Desai/Mayank Joshi Centre for Environment Education
    (CEE) Thaltej Tekra, Ahmedabad-54.

OFFICE OF M.S.

20. Prof. Rohit Shukla, Sardar Patel Institute,
Thaltej Road, Ahmedabad-54.

21. Mr.Flik, Sector Specialist (W/S.)
Royal Netherland Embassy,
6/50 F, Shantipath, Chankya Puri,
New Delhi - 110 021

22. Director, I.C.D.S. C/o. District Officer Mehsana/
Sabarkantha/Amreli.

Sub:- Meeting of the State Advisory Committee for Water Supply Schemes under Dutch Assistance.

Sir,

Please find enclosed herewith a copy of minutes of the second meeting of the State Advisory Committee for Water Supply Scheme under Dutch Assistance held on 16-5-1996 in the Committee Room of Health and Family Welfare Department, Block No.7, 7th Floor, New Sachivalaya Complex, Gandhinagar under the Chairmanship of Secretary (W.S.) for information and necessary action.

Thanking you,

Yours faithfully,

(M.G. Parmar)
Deputy Secretary to Govt. (T)
Health & Family Welfare Deptt.

Encl:- As above.

Sub : Meeting of the State Level Steering Committee for Water Supply Schemes under Indo-Dutch Bilateral Assistance -- -- Minutes of the IInd meeting.

A second meeting of the State level Steering Committee for Water Supply Schemes under Indo-Dutch bilateral assistance was held on 16.5.1996 at 11.00 hrs. in the Committee Room of H&FWD, Block No.7, Sachivalaya, Gandhinagar.

A list of members and representatives of NGOs present in the meeting is annexed at Annexure -'A'. Secretary (WS) and Chairman of the Committee welcomed all the members.

Initiating the discussions, Chairman gave brief account on action taken on the issues discussed in the last meeting and was agreed upon by all.

The agenda of second meeting was discussed at length.

Agenda point No.1 : Restriction of ground water extraction .....

The Secretary (WS) informed that matter regarding restriction of ground water extraction in Kamlivada area of Mehsana district and Sihori area of Banaskantha district in the radius of two kms. is taken up with concerned department.

Agenda point No.2 : Recovery of popular contribution towards O&M of Rural Regional Water Supply Schmes.

Secretary (WS) informed that present position of recovery towards popular contribution is meagre and requires constant follow up action by district authority to have more recovery.

Members participated actively and suggested as under :

a) The beneficiaries should be involved at the preparation stage of the water supply schemes.

b) People are not clear/made aware about the payment of popular contribution even after commissioning of W/S scheme since so many years.

c) The financial position of Village Panchayat is not sound and hence it is not possible for Village Panchayat to pay popular contribution.

d) Water supply should be made regular.

e) Inclusion of additional villages in the water supply scheme should not be encouraged till all the villages included in the scheme gets required quantity of water regularly.

f) Popular contribution should be recovered directly from the grants payable to village panchayat.

g) Popular contribution should be recovered from the beneficiary indirectly just like land revenue or so.

h) Billing and collection procedure should be made simple.

i) If beneficiary do not pay towards O&M of W/S, action of stopping of water is not a solution because epidemic may take place and situation may become grave.

Summing up all the suggestions, Secretary(WS) informed that State Govt. has resolved to constitute a village level committee in Gram Panchayat to meet with the requirement at grass root level.

Agenda Item No.3 : Illegal connection.

Illegal connections in Santalpur W/S. have been removed. Members indicated that linemen are required to perform their duty properly. Careful operation of sluice valve near cistern/stand post is necessary to avoid wastage of water at standpost and preventing unhygienic conditions nearby. Moreover, no village should get excess water than the requirement. This will again help in supplying water to tail-end villages.

At last it was concluded that District Authorities as well as NGOs should not leave their efforts towards recovery of O&M charges by making people aware in creating sense of belongingness.

The meeting ended with vote of thanks.

Meeting of the State Advisory Committee for Water Supply Schemes under dutch Assistance. Dt. 16/5/95 @ 11.30 hrs. chaired by Secretary (W.S.)

Sr.No.	Name	Organisation	Signature
1.	2	3	4
1.	M.T. Vaidhar	C.E. Zone III GWSSB Divn.	
2.		Collector, Amreli	
3.	P.B.Solanki	DDO, Banaskantha.	
4.	Raj Gopal	Collector, Baroda	
5.		DSP, Amreli	
6.	J.D. Desai	R.D.C. Mehsana	
7.	J.P. Gupta	DDO, Amreli	
8.	Kiran Desai	CEE, Ahmedabad	
9.	Mayank Joshi	CEE, Ahmedabad	
10.	Dr. P.M. Mehta	Public Health Expert World Bank Unit GWSSB	
11.		CDHO, Mehsana	
12.	Dr. R.L.Patel	CDHO, Banaskantha	
13.	Dr. K.D.Vyas	CDHO, Amreli	
14.	P.K.Shah	S.E.D., World Bank Unit Zone-II, Ahmedabad.	
15.	B.D. Shah	C.E. Zone II GWSSB, Abad.	
16.	Arati Samajpati	CHETNA, Ahmedabad.	

ANNEX 6

CONCISE PROGRESS REPORTS GWSSB

- Santalpur RWSS
- Sami-Harij RWSS (missing)
- Lathi-Liliya RWSS

SANTALPUR REGIONAL WATER SUPPLY SCHEME.

P.H.WORKS DIVISION ;- RADHANPUR

CONCISE RECONCISE REPORT

GENERAL:-

All covered villages are connected with pipe line ranging from 90 mm to 500 mm dia. At present 44 Villages are served & for remaining 4 Villages testing of pipe line is under progress.

PROGRESS :-

Most of the components are completed except (1) Inspec -tion Bungalow (2) Check Dam (3) One day storage @ Santalpur H/W. (Under progress)

(4) Wireless arrangement (5) D.G. set at R C well.

RESOURCES :-

Work was started by agency for Check Dam but left the work now the work will be restarted after the monsoon & likely to be completed in June 1997.

For Inspection bunglow,work order issued,& to be started within couple of week.

VILLAGE LEVEL FACILITIES :-

In most of the villages of the project,the facilities are impro ved & the same is continued during the M & R process

OTHER COMMENTS :-

The district level advisory committee has given good support in removing illegal connections.The next meeting will be held in short.

The stand post for cattle at village Amaratnagar is well acquainted with by cattles who are residing near to cattle post. Regarding the popular contribution, villagers are motivated by, Department as well as through NGO. As such villagers realized about it and we have received the popular contribution on higher side against the last year.

CONSISE REPORTING PROGRESS REPORT

OR

LATHI-LILIYA REGIONAL WATER SUPPLY

SCHEME ENDING AUGUST-1996

LATHI-LILIYA REGIONAL WATER SUPPLY SCHEME.

TALUKA : LATHI-LILIYA. DIST. : AMRELI.

CONCISE REPORTING FORMAT PROGRESS REPORT.

.....

1. INTRODUCTIIN ::

This progress report is for the period of December-95 to June-96. This project is meant for 36 village and 2 urban centre i.e. Lathi & Damnagar. During the last visit of GU-32 total 41 villages and two urban centres were covered.

a. Major events :-

1) Total 36 villages are being supplied with water. Also 5 additional village are condected bringing total 41 village.

b. Change in Steff :-

Deputy Executive Engineer, Liliya (Mr.B.P.Sarvaiya) is transferred. Mr. B.A. Maru, A.E. Liliya has taken over as additional charge.

2: PROGRESS MADE ::

PHYSICAL PROGRESS ::

a. Total 41 villages were covered. This given 1,05,968 population (1995) means 151.38 % target.

b. Village level facility. ::

Ancillary work are completed in all villages.

c. Pany Panchayat ::

Pany panchayat has been established in 11 villages till GU-32 Now work is baing looked after by SEU.

....2...

d. Quality and Quantity of water distributed :-

Quality of water is good and potable sufficient (As per norms) Quantity is also maintained. Leekage repairs campaign was extended to the branch and distrbuiton line which improved the performance of the pipeline & one booster pump at Dhrufaniya has been elemainted & now ~~xxxxxxxxxxxx~~ water is being pumped diractly to Damnagar filter from Dam.

3 : CONSTRAIN ::

a. In coverage :-

As such all the villages are covered. All the works as per sanctioned scheme has allready completed except staff quarter which are under progress.

b. Maintainance ::

The performance of pipeline with respect to discharging capacity and the reliability of supply is considerably improved. Still there is a scope of improvement.But leakage repairs as well as contineous water supply for reliability is to be done simultaneously so the rate of improvement is slow as the power connection at Damnagar & Bhingrad is from Rural feeder, the law voltage problems are ~~serious~~ Serious. Also the agriculateral load has further effected the power supply which has adverse affected in pumping. The Gujarat Electricity Board authority has been persued for complaint in supply.

c. The communication arrangement are also faces the sever problems & as such Government of India has sanctioned the wireless sets.

d. Establishment of Pani Panchayt :-

Extensive afforts by staff of G.W.S. & S.Board including Executive Engineer has been made for establishment of pany panchayat during the discussion with the village prpoles, they accept the idea but no individual are comming forward to work for the people. The under signed is in opinion that it may be difficult to persuede the person for pani-panchayat as in the absence of any sort of incentive to pany - panchayat member. Incentive will not only boost the formation of pany-panchayat But also make them actively funtioning.

4. OTHER COMMENTS ::

a. Resources ::-

The capacity of Kalubhar dam at F.S.L. is 23.40m.cum. which seems very high against the need for drinking. However the same has 5.80mt. in depth wise at goarge portion, the losses due to avaporation seepage infiltration through sides & bottom readuces water level and everage 60mt. per month depending upon the top surface area of water inside dam. This makes source more dependent on rain. However due to failur of last monsoon, the replanint of water in reservoir was very less and reservoir was empty in end week of April-96 since than water is being supplied by tanker & local source to each villages. Now in current monsoon enough quantity of water is received in the reservoir and water supply is restored to all village with effect from : 1-7-96.

b. Maintainance ::

The performance of the Rising Main & Distribution Main considerably improved. As per GU-32 report (October-95) to improve the performaace of Rising main from Dam to Damnagar the hydraulic exprt has been consulted and according to his opinion the proposal for an intermediate pumping station has beдn submitted to higher office for approval.

Executive Engineer
P.H.Works Division No. 2
G.W.S. & S. Board.
Amreli.

ANNEX 7

PROGRESS REPORT SEU

Quarterly Progress Report of Socio Economic Unit, World Bank Unit, Zone-II, G.W.S.S.B., for the Quarter January, 1996 to March, 1996.

Name of Organisation	:	Socio Economic Unit, Gujarat Water Supply & Sewerage Board,
Address	:	Jal Bhavan, 5th Floor, Behind Town Hall, Ellisbridge, Ahmedabad - 380 006.
Telephone	:	6577361 Ext. 284, 285 & 286
Fax	:	(079) 65775719
Name of Director/ Co-ordinator	:	1) Dr. P.M. Mehta, Public Health Expert. 2) Shri S.J. Kapadia, Socio Economist.
Reporting Period	:	January, 1996 to March, 1996.

Main Task of SEU/ Planned activities.	Realised Activities
(1) Reviving & relicating Pani Samities in Project areas.	
1.1 Liason between GWSSB and other related government department.	1.1 In order to activise, Pani Samiti at village level government sanction of Rs.-5 from water tax collected had been taken up with government in Health & Family Welfare department by SEU follow up in Panchayat department also.
1.2 Liason with N.G.O's	1.2 SEU remained in constant touch with N.G.O's working in bilateral project and helped NGO's in carryout their normal function.
1.3 New Project of N.G.O's	1.3 Royal Netherlands Embassy has approve reallocation of funds already provide to SEU for training of Members of Pan Samities at village level, formal and informal leaders at taluka and distri level. Administrative procedures are taken up, in order to enter in to contract with local NGO's working in the project.

...2

	1.3.2	RNE has recommonded the study "Impact of RWSS on forced migration" in Santalpur project to be under taken through SEU by SEWA. Administrative procedures are taken up in order to contract with SEWA.
2.0 Involving of department of health for health and hygiene promotion as one of the tasks of Pani Samitie.	2.0	The meeting of health functionaries at Radhanpur, Santalpur & Kankarej talukas was called and attended by Public Health Expert. Where Role and responsibility of health workers were discussed and in order to monitor, their work check-lists for worker and supervisor were explaned distributed.
3.0 Royal Netherlands Mission.	3.0	A path finding mission was on Gujarat during 5th to 19the March for formation of P.P.M.S.D. for Ghogha Project. Members of SEU participated actively with the mission.
4.0 General	4.0	Members of SEU regularly remain in touch with N.G.O's working for bilateral project.
Coustraints		During the quarter field work could not be carried out in absense at transportation (Vehicle) facilities, hence, only office administrative work could be carriedout.

Quarterly Progress Report of Socio Economic Unit, World Bank Unit under Chief Engineer, Zone-II, GWSSB for the Quarter April-'96 to June-'96.

Name of Organisation	:	Socio Economic Unit Gujarat Water Supply & Sew. Board
Address	:	Jal Bhavan, 5th Floor, Behind Town Hall, Ellisbridge, Ahmedabad - 380 006.
Telephone No.	:	6577361 Ext. 284, 285, 286
Name of Director/ Co-Ordinator	:	1) Dr. P.M. Mehta, Public Health Expert 2) Shri S.J. Kapadia Socio Economist.
Reporting period	:	April-1996 to June-1996.

Main Task of SEU/ Planned activities	Realised Activities.
1. Reviving & replicating Pani Samities in Project area	
1.1 Liason between GWSSB & other related Govt. department.	1.1 In order to ~~active~~ achieve Pani Samiti at village level government sanction of Rs.5/- per capita to Pani samiti from water tax collected is pending with government in health and family welfare department.
1.2 Liason with NGO :	1.2 SEU is in constant touch with NGO's working in bilateral project and help them in their village level activities whenever required. A workshop of members of Pani samiti from Lathi-Liliya was jointly organised by CSE/SEU & GJTI 32 femal members attended the workshop.
1.3 New Project of NGO's :	1.3 For taluka level and village level training of members of Pani-samiti and farmal and informal leaders from reallocated funds administrative procedures are completed in order to enter into contract with local NGO's working in project area. Traning with start from July onwar
	1.3.2 "Impact of RWSS onforced migration in Santalpur project" A study tobe taken up by SEWA is approved by GWSSB in the general meeting No. 6/3 dated 20-6-1996. New GWSSB will enter into the contract with SEWA in July '96.

2.2 Involving of department of health for health and hygiene praxotion as one of the task at Pani samiti.		2.2 In Santalpur RWSS health functionaries have taken up the health awarness programme and primary health centres are sending the reports of check lists filled up by health workers and supervisors, regularly to SEU from April-96 onwards. Public Health Expert in monitoring the reports and sending feed back to respective P.H.Cs and C.P.H.O. Palanpur. In Lathi-Liliya health functionaries are giving full support to NGO that is C.E.E., Ahmedabad in its field level activities.
3.0 Royal Netherlands Mission	:	3.0 Mission for formulation of P.S.U. for Ghogha Scheme was in Gujarat from 10th June to 21st June. Members of SEU participated actively with the mission.
Constraints.	:	During the Quarter field visits could not be carried out in absence of transport facility.

ANNEX 8

PROGRESS REPORT SEWA

BANASKANTHA WOMEN'S RURAL DEVELOPMENT PROJECT

HALF - YEARLY REPORT
JANUARY 1996 TO JUNE 1996

Submitted to :

Royal Netherlands Embassy
6/50 F Shantipath Chanakyapuri
New Delhi - 110 021.

Sponsored by :

Mahila SEWA Trust
SEWA Reception Centre,
Opp. Lok Manya Tilak Baug, Bhadra
Ahmedabad - 380 001.

Phone No. : 91-79-5506477, 5506444
Fax No. : 91-79-5506446

LIST OF ABBREVIATIONS

BWRDP	-	Banaskantha Womens Rural Development Programme
BDMSA	-	Banaskantha DWCRA Mahila SEWA Association
BDMPU	-	Banaskantha District Milk Producers Union
CSMRI	-	Central Salt and Marine Research Institute
DMI	-	Disaster Mitigation Institute
DWCRA	-	Development of Women and Children in Rural Areas
FPI	-	Foundation for Public Interest
GSRDC	-	Gujarat State Rural Development Corporation
GSFDC	-	Gujarat State Forest Development Corporation
GWSSB	-	Gujarat Water Supply and Sewerage Board
IRMA	-	Institute of Rural Management (Anand)
MIS	-	Management Information System
NWDP	-	National Watershed Development Programme
O&M	-	Operation and Maintenance
PDS	-	Public Distribution System
RNE	-	Royal Netherland Embassy
SEWA	-	Self Employed Women's Association

BANASKANTHA WOMEN'S RURAL DEVELOPMENT PROJECT

PROGRESS REPORT

Name of the Organisation	:	Shree Mahila Sewa Trust
Address	:	SEWA Reception Center Opp. Lokmanya Tilak Baug Bhadra, Ahmedabad - 380 001.
Telephone	:	91-79-5506477, 5506444
Fax No.	:	91-79-5506446
Name of the Programme	:	Banaskantha Women's Rural Development Project.
Name of the Co-ordinator	:	Reema Nanavaty
Reporting Period	:	January 1996 to June 1996

1.0 Planned Activities :

1.1 This progress report continues the reporting on the 4th year of implementation of the Banaskantha Women's Rural Development Project, and the project completes second year of implementation by the local organisation Banaskantha DWCRA Mahila Sewa Association. As reported earlier, the project concentrated on consolidation and establishment of strong linkages with the concerned Government agencies for short term and long term solutions to have assured supply of potable water, augmenting water sources, repairs and rain water harvesting. Thus the main thrust of the Banaskantha DWCRA Mahila SEWA Association during the reporting period was on involving the local communities in water related activities brining local solutions to ease the pressure on the piped water supply by augmenting the alternative sources and rain water harvesting.

1.2 Based on the findings of the village-to-village survey in the project area, and data analysis of the Water Campaign led by the Banaskantha DWCRA Mahila SEWA Association (BDMSA), following specific water conservation and water harvesting activities were taken up :

(a) Third Water Advisory Body Meeting :

The Advisory body meeting on water and salinity was convened on 16th May 96, which was attended by the Executive Engineer, Gujarat Water Supply Sewerage Board; and the Additional Chief Secretary, Rural Development, Government of Gujarat.

- The non-availability of water in about 15 tailend villages, in summer, especially during the drought was discussed. The Executive Engineer, GWSSB, promised to supply water to these villages by tankers. The BDMSA co-ordinated and followed it up with the GWSSB.

- As a long term measure it was decided to hold a joint visit of GWSSB and SEWA to these tailend villages, identify the most feasible local water sources in consultation with the local villagers and prepare a proposal for augmenting these water sources.

1.3 As a follow-up to this meeting, SEWA circulated the findings of the Water Campaign to the Government of Gujarat, and submitted a memorandum to the Chief Minister of Gujarat, to launch a programme for augmenting traditional water sources during the current drought affected summer months. As a result, a meeting was convened on 22nd April 1996 by the Secretary, Water Supply, under the chairmanship of the Chief Secretary of Gujarat, to involve Non-Government Organisation (NGO's) in water harvesting and water recharging programmes. As a follow-up to the meeting SEWA, in collaboration with the GWSSB, worked out guidelines for involving NGO's in water harvesting and water recharging activities.

1.4 As an outcome of this meeting, the GWSSB was asked to constitute a consultative group for water harvesting, conservation and water recharging activities in the State.

This group will launch a campaign to take up, on massive scale, water recharging and water harvesting activities in the entire state. SEWA is a member of the group.

Thus the Banaskantha DWCRA Mahila SEWA Association at a local level and SEWA at the state level played a major role in initiating water related activities and campaign not only in Banaskantha but in the entire State.

1.5 To consolidate the Water Campaign activities and meet the needs of the local communities during drought, the BDMSA, with the support of SEWA and technical and training inputs from the Disaster Mitigation Institute (DMI), started implementing the National Watershed Development Programme (NWDP) in 10 villages of Santalpur taluka. The Government will provide financial support of Rs. 25 lakhs per village to the Banaskantha DWCRA Mahila SEWA Association. This programme is being implemented with new concept of local micro planning and decentralisation. Wherein each village has prepared the Action Plan of programme activities for their own villages. The programme funds will also be put at the disposable of village committee, which will execute and monitor the programmes. The BDMSA will take up following programme activities under the NWDP.

1. <u>Water Harvesting</u>

   (a) Deepening and lining of village ponds.

   (b) Water recharging

   (c) Deepening of village wells step wells and tanks.

   (d) Farm pond construction.

2. Water Conservation :

3. Land levelling and contouring.

4. Forestry plantation and soil conservation.

This will lead to environmental regeneration and employment generation by the local people themselves. Augmenting water harvesting and conservating assets will generate work for women.

1.6 SEWA, with the assistance of Royal Netherland Embassy (RNE) conducted the Management Capability Study of the Banaskantha DWCRA Mahila SEWA Association. The study was conducted by the following panel of external experts :

- Mr. Pradeep Kashyap - who focussed on functional skills of management;

- Mr. Tushar Shah - who focussed on competencies and capabilities in management; and

- Ms. Helzi Noponen - who studied the monitoring and evaluation system of the BDMSA.

The main aim of the study was to assess the existing management capability of the BDMSA and identify areas that still need to be developed to strengthen the management of BDMSA, so that it can sustain and strengthen the activities beyond project cycle, and to sustain the programme on its own.

The report of the study will be submitted by August end. Ths study will be discussed with a wider but selected group. SEWA will then focus its planning on strengthening the BDMSA, as per the recommendations of the study.

1.7 As reported in the previous progress report, the proposed study on the impact of migration could not be done due to delay in sanctioning the study by the GWSSB. However, if and when it is conducted, the results will be very useful to the project and RNE's water sector activities.

1.8 The Banaskantha DWCRA Mahila SEWA Association implemented the project activities as per the project plan. The brief description is stated herewith.

2.0 Concise description of project activities carried out :

2.1 Water as Regenerative Input :

1. The Banaskantha DWCRA Mahila SEWA Association and SEWA, with the guidance of Foundation for Public Interest (FPI), geared up to build up the operation and maintainence capabilities of the village water committees in the villages where the lined ponds have been constructed.

   The committee was trained in preparing the maintainence plan and design before monsoon, which included cleaning of pond bed, clearing of slope, creating vegetative barrier surrounding the pond by planting trees. The plan was prepared by the village water committee in consultation with the villagers in the Gram Sabha (village meeting). The implementation was done locally from the local contribution collected from the villagers towards the maintainence fund.

2. The Foundation For Public Interest, the consulting organisation for the BWRDP, helped the BDMSA, prepare plans and estimates for constructing farm ponds, village ponds in two villages for augmenting village water supply, for seeking support under the Government's Water Conservation and Recharging Group.

3. The Foundation for Public Interest also provided technical input to the Banaskantha DWCRA Mahila SEWA Association in preparing a detailed plan and cost estimates for recharging village wells for ground water recharging under the National Watershed Development Programme.

4. The Banaskantha DWCRA Mahila SEWA Association in collaboration with FPI, is preparing a manual and guidelines on different rainwater harvesting, recharging and conservation techniques, as a follow-up to the consolidation of Water Campaign. The method is participatory. The villages coming forward to take up the harvesting and/or recharging activities will be linked up with the GWSSB for financial support.

Thus under the 'Water as regenerative activity' the Banasakanth DWCRA Mahila SEWA Association with the active support of SEWA and continued guidance of FPI made a state level impact for mass mobilisation at community level to take up water harvesting and recharging activities.

2.2 <u>Artisan Support Programme</u> :

The programme continued as per the project plan with 4000 women in 22 villages taking up the production and marketing in their own hands.

The major achievements of the programme are :

(a) The BDMSA was invited to participate in the Community Building by the Victoria and Albert Museum of the United Kingdom. A team of 10 women participated by creating a large hand embroidered panel for the world community.

(b) The BDMSA proved that crafts is a viable income generating activity, when the BDMSA from its own surplus, purchased a place for export marketing in central corporate office building.

The villagewise coverage of women and their earnings are given in table no. 2.

2.3 Eco-regeneration Programme (Nursery and Plantation)

As stated in the earlier progress report, the BDMSA tackled the drought and successfully raised the nurseries, because of detailed site specific planning. About 200 women from 11 village raised 2,00,000 saplings. The village wise details are given in Table no. 3 and 3A.

Thus the eco-regeneration programme also proved a major employment generation programme in drought. It not only provided income but also led to ecological regeneration involving the local women and communities.

Hence, SEWA supported the BDMSA in leading a policy campaign on decentralising the entire Forestry programme and make it a people's programme. This policy is called "Feminise our Forests".

SEWA commissioned a study by a university economist on the Nursery raising activity. The major highlights of the study showed that Nursery raising is a viable and profitable activity, in the rural areas of Banaskantha.

SEWA convened a meeting of all the Forestry women workers, who are members of SEWA on 30th January 1996, where Dr. Kamla Chowdhry, renowned Environmentalist attended the meeting. The charter of demands to make eco-regeneration programmes of the Government more people oriented were presented to Dr. Chowdhary, who was fully convinced of the demands. As a result, the Project co-ordinator was invited to make a presentation before the "World Commission on Forests and Sustainable Development", on 1st February 1996. The copy of the presentation is given in Annexure 1. It has attracted much interest from national agencies.

Again, the Banaskantha DWCRA Mahila SEWA Association, based on its real experience under the Eco-regeneration programme, is playing a leading role in having policy level changes at the State and National level, to make the programmes more people oriented. A meeting with the Inspector General of Forests, Government of India, the topmost authority in Forestry is planned on 6th July 1996. This will be the first ever such meeting in the entire country where the nursery women will demand charges at policy level.

2.4 Dairying and Fodder Security System :

As stated in the earlier progress report, during the reporting period, SEWA concentrated on formation of Women's dairy co-operatives in the tail-end villages of the SRWSS. In collaboration with the Appropriate Technology India, SEWA organised 10 new co-operatives in the tail-end desert villages. The first ever women's co-operatives in the desert areas of Gujarat are initiated. The details are given in Table No. 4.

After a long struggle SEWA successfully negotiated with the Banaskantha District Milk Producer's Union (BDMPU) in operationalising an exclusive milk procurement route for these desert village milk co-operatives. Thus after a long struggle of almost three years, a break-through has been acheived. The 10 women's dairy co-operatives have become operational from 22nd June 96.

SEWA's main task now will be to build up the managerial capability of these primary co-operatives and strengthen them.

Thus, a series of training programmes have been planned in the upcoming months.

The Fodder Security System was implemented as per the project plan in 5 milk co-operatives. The details are given in table No. 4A.

2.5 Salt Workers Producer Programme :

The 15 new DWCRA groups of the salt workers organised under the employment generation scheme of the Government of Gujarat, had a record production of 10,000 tonnes of salt, during the reporting period.

As per the policy guidelines formulated by the Foundation for Public Interest, the Gujarat State Rural Development Corporation supported the DWCRA groups in marketing of salt by linking them up with a major salt buying national industrial houses. As a result the groups were able to market their salt at record price of Rs. 360 per tonne, 100% higher price than, what they earned before Rs. 13 per tonne. This major policy intervention not only gave the salt farmers a "worker - producer" status which SEWA always promotes, but it increased their income 100% more. The details of production and income earned are given in Table No. 5.

This experience of direct marketing brought out major areas for support, to further strengthen the groups, improve their productivity and make them self reliant in the competing salt business. To highlight these areas of action and gain support a

tripartite meeting of salt workers was organised by SEWA on 21st June 1996 at Santalpur, where about 1000 salt workers attended and, shared their experiences. The meeting was presided over by the Additional Chief Secretary, Government of Gujarat; the Director, District Rural Development Agency; the Central Salt and Marine Research Institute; the Commissioner of Salt; and the General Manager, Nirma Chemical Works. The major players and supporters in the development of the programme were on one spot at the same time. The constraints in growth were discussed during the meeting, as a result :

(a) the Additional Chief Secretary, Government of Gujarat, promised to take up the much difficult issue of allotment of land to the salt workers DWCRA group with the Government of Gujarat. This will be a major step in strengthening the activity as salt farming is a land based activity, where the DWCRA groups should first have land to get lisence for manufacturing salt.

(b) The Commissioner of Salt, Government of India, agreed to allot railway wagon to the Banaskantha DWCRA Mahila SEWA Association DWCRA groups, to directly market the salt. Generally wagons are alloted only to big land holders having lisence of producing salt on 100 acres of land.

(c) The Central Salt and Marine Research Institute, initiated training programmes for the DWCRA groups to improve the quality of salt.

This was the first ever tripartite meeting where the Government, the salt producers and the salt buyers all met on a common platform, to evolve a need based development plan that benefited all the concerned parties.

The mobile health unit for salt workers operated during the salt farming season. About 2780 salt workers were treated for various types of diseases. The mobile health unit conducted educational classes on water related health issues of the salt workers.

The cresche for the salt workers are functioning regularly, with the total of 500 children attending daily.

As stated in the earlier progress report, the Housing Finance programme initiated by the BDMSA provided credit finance to about 100 salt farmers for housing upgradation worth Rs. 10,00,000. This had tremendous impact on the lives of the salt workers, as it led to asset building in the name of the poor women. The demand for housing credit finance has increased. Hence this year the BDMSA will provide credit worth Rs. 10 lakhs to about additional 225 salt workers.

2.6 Minor Forest Produce Collection :

The programme continued as per the project plan covering about 1000 Gum collecting women from 10 villages. The campaign demanding revision in the purchase price of Gum by the Gujarat State Forest Development Corporation (GSFDC) progressed steadily. In order to strengthen the campaign, as mentioned in the earlier report the BDMSA completed a study on gum collection. The major findings of the study are given in Annexure 2.

In order to sustain the income of the gum collector women, SEWA co-ordinated with the Development Science Centre, Vardha in Maharashtra. This Institue had developed a scientific technique of increasing the productivity (oozing of gum) from the Proscopis Juliflora. Training on use of this technique was organised on 5th and 6th June 1996 for the organisors and group leaders.

This will increase the productivity of gum from the trees, hence the women can collect more gum in lesser time. This will reduce the drudgery of the women and increase their income and productivity.

On a pilot basis the treatment was tried in one village. The oozing of gum from the trees increased by almost 60%. During the next season, it has been planned to introduce this technique from the beginning of the season in most pockets.

2.7 Rural Womens Savings and Credit Programme :

The Rural Womens Savings and Credit Programme is getting strengthened with more and more villages wanting to organise savings and credit groups. There are now about 69 savings groups with 1839 women and a total savings of Rs. 3,41,000. During the reporting period 126 women were provided credit worth Rs. 3,30,000/- for purchase of seeds, house repair, release of farms, purchase of tools and equipments for Agriculture.

The Management Information System (MIS) for savings and credit groups has also been designed for BDMSA by post graduate student of Department of Management of the George Mason University, USA.

The details of savings and credit are given in Table No. 6.

2.8 **Food Security Programme :**

Based on the outcome of the Campaign data analysis, the BDMSA co-ordinated with the Block administrator for Public Distribution System (PDS). The difficulties and irregularities faced with the supply of food commodities under the Public Distribution System at the village level were presented. Random inspections at the village PDS shops were held by the block administrator and the irregularities mostly streamlined.

The BDMSA is now invited by the block administrator to attend the monthly block level meetings of Public Distribution System. The BDMSA has submitted a proposal for initiating Mobile Van for distributing the food commodities under the PDS in remote, tail end villages. The proposal has been accepted by the Government and is under consideration for operational details.

3.0 **Related Project Activities :**

3.1 Efforts undertaken to strengthen integration with GWSSB and other implementing NGOs :

(a) SEWA participated in the NGO consultation organised by the GWSSB on 15th March 1996 and highlighted the need for centrality of women in water sector.

(b) SEWA convened the Water Advisory Body meeting on 16th May 96, where Executive Engineer GWSSB attended. Regular follow-up weekly meetings were held with the Dy. Executive Engineer, GWSSB to co-ordinate water supply during the summer. The prepardness help face drought.

(c) The GWSSB and BDMSA participated in the drought monitoring committee meetings at block level contributing towards more accountable and appropriate relief work.

(d) SEWA participated in the state level water harvesting and recharging committee meetings held by GWSSB on 22nd April 1996 and 26th June 1996 and emphasised decentralised, local, and augmenting solutions to water demands.

(e) SEWA attend the state level Steering Committee meeting on water supply on 25th May 1996 and suggested ways of further involvement of local people in O&M.

3.2 Efforts undertaken to enhance the awareness and willingness to pay for water :

- the village water committees of Gokhantar and Patrana prepared plan of action for the maintainence of village ponds from the village maintainence fund.

- Under the National Watershed Development Programme, the villagers contributed 10% amount of the total cost of following water harvesting and water recharging structures in the villages as follows :

Village	Type of structure	Total Cost (in Rs.)	Local Contribution (in Rs.)
Garamdi	Deepening of village pond.	47,600	4,760
Charanka	Digging of stepwell in village pond.	57,821	5,782
Bamroli	Stepwell repairing	27,265	2,726
Piprala	Recharging of village wells.		

4.0 Progress within the DWCRA Programme :

4.1 The BDMSA participated in the district level TRYSEM Advisory Committee meetings and DWCRA Advisory Committee meetings and highlighted the local non-farm on-farm economic activities.

4.2 The BDMSA is nominated as member of the Governing Body of the District Rural Development Agency where it is promoting women and water on the top of the agenda list.

4.3 The BDMSA attended the district level co-ordination committee of the National Watershed Development Programme where it is focusing on augmenting local sources.

4.4 The BDMSA was invited as resource person in the state level Satellite Communication programme on 17th June 96 by the department of Rural Development, Government of Gujarat. The project co-ordinator participated and reached out to estimated 1000 villages and 700 groups with the message of centrality of women in water sector.

4.5 The BDMSA was invited as resource organisation for conducting rural development trainings for state level officials which is a unique turn of events.

4.6 The BDMSA was invited as resource organisation for initiating self help groups and Associations in other districts of Gujarat by the World Bank and IFAD.

5.0 Recruitment of additional SEWA Project Staff and staff deployment:

Nil

6.0 Trainings :

6.1 Trainings to strengthen women's groups :

(a) DWCRA group leaders training was conducted on 6/2/96, 7/2/96 and 8/2/96 for about 10 DWCRA group leaders focusing on ways of going beyond administration to management.

(b) Training in preparing activity Business Plan and Marketing Plan was conducted on 20/4/96 and 22/5/96. This is a first exercise of its kind at such a level.

(c) Training in Accountancy was conducted on 23rd March 96 for the village level committees where flow of funds, cost recovery, and costing were introduced.

(d) Leadership trainings were conducted on 26/4/96, 27/4/96 and 10/6/96 and 11/6/96. To help women explore further how and when they can lend other women and also the village.

(e) Campaign monitoring and planning meeting was held on 4th May 96. To consolidate gains and plan future activities.

6.2 Water as regenerative Input :

- Watershed trainings and exercises were conducted by DMI on 22-3-96 and 28-3-96. Introducing integrated concept of water, vegetation, and land development.

- Water harvesting and water recharging trainings were conducted on 18th June 96 as a preparation of upcoming monsoon.

6.3 Artisan Support Programme :

- A team of craft organisors participated in three day workshop on Export Marketing from 10th to 12th March 96 learning about local to global market forces.

- A team of craft organisors attended apparel designing and finishing training for 15 days from 1/3/96 to 15/3/96 to improve quality control and standardisation.

6.4 Eco-regeneration Programme :

- Two day orientation programme for village Watershed Committee members on 22/3/96 and 23/3/96 to explain in detail the objectives and operational details of the Watershed Development programme.
  - Role of Watershed Committee;
  - Types of Watershed Development programmes; and
  - Accounting
- Training on Nursery raising techniques and its importance was held on 8th May 96.
- Training for village Watershed committee members on 18th July 96.
  - Water harvesting and recharging its importance and techniques
  - Land Development .

6.5 Rural Women's Savings and Credit Programme :

- Training on New Groups of Leaders held on 8/5/96 and 4/6/96

- What is SEWA, SEWA Bank
- How to organise Savings groups
- Why Savings
- Benefits of saving
- Different type of saving schemes
- Knowledge about SEWA Bank

- Training on Old Groups of Leaders held on 9/5/96 and 5/6/96
  - Information about Banking procedures
  - How to calculate Bank Interest
  - Strengthening of saving groups
  - Banks credit programme
  - Interest calculation on credit by SEWA Bank.

7.0 Planned Project activities for next half year :

7.1 Water as regenerative Input :

- Constructing water harvesting structures in village Madhutra and Garamdi.
- Water recharging through wells in village Piprala
- Implementation of plan of action for Watershed development.
- Convening Water Advisory Committee meeting in September 96.
- Consolidation of Water Campaign.

7.2 Artisan Support Programme :

- Organising promotional exhibition in Ahmedabad in September 96.

- One month product development and sampling workshop for export marketing in August 96 for artisan groups.

- Implementing the Production Plan as a training module.

7.3 Eco-regeneration Programme :

- Publishing "Feminise Our Forestry" document.

- Follow-up on the "Feminise our Forests at state and National level.

- To develop and train nurseries for raising 5 lakh saplings in 11 villages.

- Develop the four Fodder farms with the help of a scientist's Team of GAU.

- Monthly co-ordination and planning meeting with Agriculture and Forestry consultant.

7.4 Dairying and Fodder Security System :

- Strengthen the newly organised primary milk co-operatives.

- Organise Managerial, Accounting and Executive committee member training.

- Organise paravet trainings

- Facilitate and co-ordinate the daily co-operative operations.

7.5 Minor Forest Produce Collection :

- To strengthen the Campaign to increase price of gum and liberalise marketing.

- Organising treatments of Proscopis Juliflora trees to increase the productivity of trees and thereby gum collection in October 96.

- Organise training on gum processing.

7.6 Salt Workers Producer Programme :

- To initiate informal education scheme for salt workers children.
- To provide proper market to salt producer groups under BDMSA.
- To provide health care services to salt workers working in the desert.
- To provide Housing services to 100 new salt farmer families.
- Follow-up to tripartite consultation by getting land for the groups from the Government.
- Organise trainings on salt production in November 96 by Central Salt and Marine Research Institute.
- Strengthen market linkages.

7.7 Rural Womens Savings and Credit Programme :

- To give more credit for asset building and land purchase to saving group member.
- To form about 20 new savings groups.
- To provide operational awareness about savings management to newly formed groups.

7.8 Food Security Programme :

- Plan to launch Mobile Ration Van in remote, tailend villages.
- take lisence for operating PDS shops in the villages DWCRA groups in 10 villages.

8.0 Financial Statement :

As per the Annexure 3.

TABLE NO. 1

SUB COMPONENT PROJECT ACTIVITY	Status BWRDP July 1995 to Dec. 1995 (Cumulative Numbers) Jan to June 1996		PROGRESS ACHEIVED DURING LAST 6 MONTHS							
	Total Nos. Groups	Total Nos. Women	Addition Nos. Groups	Addition Nos. Women	Average Income Earned/Month (In Rs.)				Average Income Earned Month (Rs.)	Project Activity Implemented in following Taluka
					0-500	501-1000	1001-1500	1500->		
Artisan Support Programme	49	2390	22	1430	3000	820	-	-	500 To 1000	Radhanpur and Santalpur
Eco Regeneration Programme	16	114	6	31	145	-	-	-	500 To 1000	Radhanpur and Santalpur
Dairy Cooperatives	12	537	6	2301	375	1134	1329		500 To 1000	Radhanpur and Santalpur
Dairy Fodder Farms (FSS)	3 (Villages)	104	3	88	-	-	-	-	-	
Minor Forest Produce Collection	12	554	-	-	-	-	-	-	-	Radhanpur and Santalpur
Salt Farming	10	275	27	325	600	-	-	-	-	Santalpur

Water as Regenerative Input	2	940	-	34833	300		-	-		Santalpur

	Total No. Groups	Total No. Women	Add. No. Groups	Add. No. Women	Average Savings/ Month	Average Profit/ month (Rs.)	Programme Imple. in follow Taluka
Rural Women's Savings & Credit Groups	62	1839	10	374	10/-	//////// ////////	Radhanpur and Santalpur
Food Security Programme	7	1550	1	150	////////	283	Santalpur

TABLE NO. 2

Artisan Support Programme under BWRDP : Craftwise number of women's group's women employed, Average Income earned.

CRAFT	DWCRA GROUPS										SEWA GROUPS							
	Nos. of Women Group	Nos. of Women	Total Value Raw Materials	Total Value Labour	Total Value Sales (Rs)	Profit/ Loss	Average Income / Month	Finished Product stock value (Rs)	Nos. of Women Group	Nos. of Women	Opening Balance	Total value Raw Materials	Total value Labour	Total value sales (Rs)	Average Income / Month	Profit/Loss	Opening Balance	Finished product closing stock value (Rs)
Embroidery (in combination with e.g. patchwork/ mirror work)	41	820	136446	212023	304358	15067.90 P	117	Entire stock purchase by	27	3000		453548			700.00			
Patch Work	It is included in the Embroidery									Banas								
Mirror Work	It is included in the Embroidery									Craft								
Bead Work																		
Leather Work																		
Total	41	820	136446	212023	304358	15067.90	117	-	27	3000		453548			700.00			

TABLE NO. 3

VILLAGE WISE DETAILS OF WOMEN'S GROUPS RAISING NUMBERS, SEEDLINGS,NURSERY, PLANTATIONS UNDER BWRDP

NURSERY

S. N.	Village	Taluka	DWCRA Groups	No. of Women	SEWA Groups	No. of Women	No. of Saplings Grown	No. of Saplings sold	Total Production Inputs (Rs)	Total value sales (Rs.)	Net Profit (Rs.)	Total Value of Labour	Average Income Earned (Rs)	Remarks (Fodder Sold to FSS)
1.	Shergadh	Radhanpur	1	12	-	-	-	-	-	-	-	-	-	
2.	Nani Pipli	Radhanpur	-	-	1	7	-	-	-	-	-	-	-	
3.	Lakhapura	Santalpur	-	-	1	5	-	-	-	-	-	-	-	
4.	Varahi	Santalpur	-	-	1	3	25,000	-	3000	-	7315	-	-	
5.	Gadha	Santalpur	1	11	-	13	-	-	-	-	-	-	-	
6.	Jhandala	Radhanpur	1	16	-	-	-	-	-	-	-		-	
7.	Gokhantar	Santalpur	1	22	-	-	-	-	-	-	-	-	-	
8	Madhutra	Santalpur	-	-	1	3	-	-	-	-	-	-	-	
9.	Mehmadabad	Radhanpur	-	-	1	5	-	-	-	-	-	-	-	
10.	Lotiya	Radhanpur	-	-	1	2	-	-	-	-	-	-	-	
11.	Bamroli	Santalpur	-	-	1	4	-	-	-	-	-	-	-	
12.	Jhanzhansar	Santalpur	-	13	-	-	-	-	-	-	-	-	-	
13.	Anternesh	Santalpur	1	-	1	10	1,00,000	19,000	20,000	9100	37442	-	-	
14.	Navagam	Santalpur	-	-	1	6	30,000	15,000	300	7500	9747	-	-	
15.	Kolapur	Radhanpur	-	-	1	4	20,000		460		8082	-	-	
16.	Naliya	Santalpur	-	-	1	5	-	-	-	-	-	-	-	
17.	Nayatrada	Santalpur	-	-	-	-	-	-	-	-	-	-	-	
	Total		**5**	**74**	**11**	**67**	**1,75,000**	**34,000**	**26,460**	**16,600**	**62,586**	-	-	

TABLE NO. 3A

Plantation

S. N.	Village	Taluka	DWCRA Groups	No. of Women	SEWA Groups	No. of Women	No. of Saplings Grown	No. of Saplings sold	Total Production Inputs (Rs)	Total value sales (Rs.)	Net Profit (Rs.)	Total Value of Labour	Ave rage Income Earned (Rs)	Remarks (Fodder Sold to FSS)
1.	Shergadh	Santalpur	1	8	-	-	500		-	-	-	12,000	-	
2.	Naliya	Santalpur	-	5	-	-	700		-	-	-	6750	-	
3.	Lakhapura	Santalpur	-	-	-	-	500		-	-	-	-	-	
4.	Madhutra	Santalpur	-	-	-	-	927		-	-	-	-	-	
5.	Gokhantar	Santalpur	1	5	-	-	2200	1200 staker fodder sold	-	1,200		9,000	12,000	
6.	Jhanzhansar	Santalpur	1	5	-	-	-		-	375	-	7,500	375	
7.	Jhandala	Santalpur	1	16	-	-	-		-	-	-	60,300	50	
8.	Bamroli	Santalpur	-	4	-	-	1250	4	-	-	-	4,800	-	
	Total		**4**	**43**	**-**	**-**	**6077**	**1204**	**-**	**1,575**	**-**	**80,700**	**13,625**	

TABLE NO. 4

DAIRY COOPERATIVES UNDER BWRDP, ON NUMBER OF WOMEN'S COOPERATIVES, NUMBER OF MEMBERS, MILK PRODUCTION INPUTS, GROSS AND NET INCOMES OVER 6 MONTHS

S. N.	Village	Nos. of DWCRA Groups	Numbers of Milch		No. of women member	Total Milk Produced	Total Milk Collection during 6 (Rs) *	Total Gross Income Cooperative (Rs)	Total Amount Expenditure (Fodder etc) (Rs)	Remarks	TotalNet Income Cooperative (Rs.)	Total Net Income Member 6 (Rs)	Overall Remarks E.G.O. on	
			Cow	Buf									Profit Loss (+/-)	New Regi coop
1.	Gokhanar	Not Group	335	161	668	102128.01	103605	788244.69	30282.05	Banas Dairy	27381.74	760863.69		
2.	Kolhapur	Milk	143	125	443	46212	46138	393771.08	31513.15	Provide	20728.04	373223.04		
3.	Lotiya	Coopera tive	215	120	372	46586	47755	358439.49	65254.25	transport charges	23566.25	334940.55		
4.	Koliwada	project	120	90	183	14022	15546	128138.48	35588.86	and veternary	12344.73	115772.52	47.06	
5.	Moti Pipli		285	125	661	76856.04	77734	754303.88	139558.83	services	40188.70	716634.88	2590.45	
6.	Dhenk wadi		185	115	319	36558.04	36831	307389.19	10817.25		11500.62	295888.58		
7.	Vaghpura		50	100	18	-	-	-	-		-	-		
8.	Parsund		50	30	25	-	-	-	-		-	-		
9.	Daigamda		20	40	22	-	-	-	-		-	-		
10.	Garamdi		150	100	35	-	-	-	-		-	-		
11.	Madhutra		100	125	50	-	-	-	-		-	-		
12.	Bakutra		50	100	42	-	-	-			-	-		
	Total		**1076**	**591**	**190**	**322362.09**	**327609**	**2730386.81**	**313014.39**		**135710.03**	**2597323.24**	**2637.51**	

* Milk collection by Banas Dairy

TABLE NO. 5

Rural women's savings and credit programme under BWRDP : details of total no. of women and their savings

	Via SEWA Bank				Via DWCRA			
Sub. Comp. Project Activitty	Total Savings All Women Upto 6 months ago	Ave. Savings per women upto 6 months ago	Add. savings all women during six months	Ave. Add. savings per women last six months	Total Savings All Women Upto 6 months ago	Ave. Savings per women upto 6 months ago	Add. savings all women during six months	Ave. Add. savings per women last six months
Artisan Support Programme	39,020.00	15.00	130.00	15.00	-	-	-	-
Eco-Regenerative Programme	3,960.00	15.00	1,078.00	15.00	-	-	-	-
Dairy	8,640.00	15.00	106.00	15.00	-	-	-	-
Fodder Security System	11,940.00	15.00	101.00	15.00	-	-	-	-
Minor Forest Produce Collection	900.00	15.00	30.00	15.00				
Salt Workers Programme	7,050.00	15.00	50.00	15.00	-	-	-	-
Food Security Programme	6,500.00	15.00	40.00	15.00	-	-	-	-
Total	**78,010.00**		**1,535.00**		-	-	-	-

TABLE NO. 6

DETAILS OF NO. OF SALT WORKERS AVERAGE INCOME

S. No..	Sub component Activity	No. of Group	No. of Women	Additional No. of group	Additional No. of women six month	Average income earned				Average income earned/ month	Activity is implemented in following Taluka
					-	0-500	501-1000	1001-1500	1500->		
1.	January	11	132	-		100	100	50	50	500	Radhanpur /Santalpur
2.	February	11	132	-		100	100	50	50	500	Radhanpur /Santalpur
3.	March	11	132	-		100	100	50	50	500	Radhanpur /Santalpur
4.	April	11	132	-		100	100	50	50	500	Radhanpur /Santalpur
5.	May	11	132	-		100	100	50	50	500	Radhanpur /Santalpur
6.	June	36	132	-		100	100	50	50	500	Radhanpur /Santalpur

TABLE NO. 7

Details of Children covered under Day Care Centres

Sr. No.	Months	No. of Villages	No. of Children	Children immunised	No. of pregnant women	No. of pregnant women immmunised
1.	January	5	200	20	14	15
2.	February	6	300	25	28	17
3.	March	8	400	30	22	24
4.	April	10	500	35	26	29
5.	May	10	500	40	28	35
6.	June	10	500	42	30	40
	Average	**8**	**400**			

ANNEXURE - 1

CONSULTATION ON WORLD COMMISSION ON FORESTS AND SUSTAINABLE DEVELOPMENT

New Delhi February 1, 1996

FEMINISE OUR FORESTS

A Presentation

Reema Nanavaty

Self Employed Women's Association
Opp. Lok Manya Tilak Baug
Bhadra, Ahmedabad - 380 001.
Phone No. : 5506477, 556444
Fax No. : 5506446

Annexure - 2

STARVATION RATES FOR DESERT WOMEN

SEWA's members live in the driest part of Banakantha, most of the villages falling with the desert, the Rann of Kutch. When SEWA began work in this district in 1988, we found that without doubt water was an important issue for village women. However, we learned that even more important was the issue of migration of rural people in search of work. Families with their cattle migrated every year in thousands, in addition, the degradation and desertification of the land was increasing very rapidly.

Village people shared their experiences of eking out a living on this land, not succeeding and thus being forced to migrate for sheer survival. True, it is the people of this land who make the land productive. If they stayed and did not migrate, and instead were involved in the eco-regeneration of their land, then they would have hope for a better future, for both themselves and their children. Since then SEWA has been working for alternative employment in the area. Today, SEWA works in 72 villages in Banaskantha district. The most appropriate program was the Government's program of DWCRA. SEWA helped women to form village level DWCRA groups and to federate into a the district level Banakantha Women's DWCRA Association.

The women living in desert areas (Santalpur Taluka) of Banaskantha District survive mainly on gathering gum from the Babul trees planted by Forest department. The Forest Department insists on licenses for gum collection, and since the women have no licenses, they were collecting this gum `illegally' and selling to private traders. After joining SEWA they formed DWCRA groups and demanded licenses, so that they could `legally' sell the gum to the Forest Corporation. The rates for gum are fixed by the Forest Corporation, and to the women's dismay, their legality has resulted in the Forest Corporation, and to the women's dismay, their legality has resulted in the Forest Corporation actually reducing the rates, so that now these poorest of all women are near starvation. SEWA conducted a study of 80 women from 9 villages and found the following :

- 70% of the gum pickers are in 30 to 45 years age group. 9% are over 50 years.
- For 93% of the women, gum picking is their main occupation.

ANNEUXR - 3

BANASKANTHA WOMEN'S RURAL DEVELOPMENT PROJECT
Budgeted Headwise Expenses period from
1-1-96 to 30-06-96

Sr.No.	Budget Head	Expenses (Rs.)
1.	Water as regenerative Input	2,94,993.01
2.	Eco regenerative Programme	3,64,371.15
3.	Animal Husbandry and Dairying Development	4,81,724.50
4.	Women Artisan Support Programme	11,50,000.00
5.	Salt Worker-Producer Welfare and cooperativisation	2,82,397.24
6.	Management Services	12,45,170.18
	Total	38,18,656.08

ANNEX 9

PROGRESS REPORT CEE

Water Related Health and Sanitation issues : Awareness and Training programmes Lathi-Liliya, Gujarat

FOR: MR. WIJDEMANS HASKONING

31-10-96

Half Yearly Report
January-June,1996

Submitted by

Centre for Environment Education
Ahmedabad

Half Yearly Report
January-June 1996

Name of the Organisation	:	Centre for Environment Education Nehru Foundation for Development Thaltej Tekra, Ahmedabad 380 054
Telephone No	:	409751/442651/442642
Fax No	:	91-79-6420242
Name of the Project	:	Water Related Health and Sanitation Issues : Awareness and Training Programmes, Lathi-Liliya, Gujarat
Name of Project Director	:	Mr. Kiran Desai
Reporting period	:	January-June, 1996

1.0 Planned Activities/programmes for the reporting period

Planned activities/programmes for the reporting period include the following :

- Production of educational material
- Training of the members of Pani Samiti
- Follow up on the activities of the village women and to support them
- Meetings with the members of Pani Samitis at block level
- Meeting of the block level officials

2.0 Realised activities during reporting period

2.1 Meeting of the Members of the Block Level Officers

Half a day's meeting was organised on 10th January 1996 at the Taluka Panchayat office, Lathi, for the block level officers. The meeting focussed on the following topics :

1) Lathi-Liliya Regional Water Supply Scheme
2) Role and responsibilities of the Pani Samiti
3) Linkages among drinking water, health and sanitation
4) How coordination could be achieved among various departments

Thirty five officers participated in this meeting; the Taluka Panchayat President also remained present.

2.2 Training of Health Workers (Lathi block)

The health workers are the village level government functionaries, interacting directly with the villagers. They are also involved in creating awareness among the villagers about the linkages among drinking water, health and sanitation. These health workers during their visits to the villages and during meetings, could inform the people about the various aspects of the Lathi-Liliya Regional Water Supply Scheme. We shared this understanding with the District Health Officer and the Medical Officers of the various Primary Health Centres (P.H.Cs). It was then decided to organize a day- long training programme at the taluka level for the health workers to share this understanding with them.

The functionaries of the health department were informed about the need for the Regional Water Supply Scheme and the role of CEE. They were also informed about the need for and the role of the Pani Samitis. Finally, there was a discussion on collaborating our efforts to facilitate the educational programmes at village level.

Eighteen participants of the Health Department from Aansodar and Matirala P.H.C.s participated in this programme, details of which are as under :

Date	Venue	No. of Participants
11/1/96	G.W.S.S.B. Office, Bhingrad	1 B.I.C.O.
	Vacci. Supervisor	3
	M.P.H.W.	4
	F.H.W.	7
	A.N.M.	1
	Health Workers	2
		18

2.3 Training of Village Women

The project villages have been divided in to six clusters. Activities related to four clusters have already been reported. For the remaining two clusters, a two-day training was organised in which women from
different villages participated. The rationale for the training was that, these women in turn will conduct small group meetings in their neighbourhood. The content of the training programme focussed on the following topics :

a) Lathi-Liliya Regional Water Supply Scheme
b) Role and responsibilities of Pani Samitis
c) Linkages among drinking water, health and sanitation
d) How the villagers can contribute at an individual, family and community level

Different methods were employed during the training, such as small group discussions, pictorial presentations like exhibitions, flip charts, video etc.

At the end of the training programme, the participants, were asked to prepare a plan of action in terms of activities like cleaning the area surrounding the standposts, organising small group meetings etc. Most of the participants felt the need for a large meeting at the village level involving the villagers, which would prepare the ground for seeking cooperation from them. Taking this into consideration, the dates for the village meetings were finalised.

The information regarding the cluster level training is as under :

Cluster	Venue	Date/s	No. of Participants	Villages covered
V	Dharamshala, Haripar	16-17 January '96	30	Haripar Gundaran Eklera Sajantimba
VI	Davebhai's house Liliya Mota	24-25 February '96	23	Vaghaniya Kutana Bhesan

2.4 A Day in a village

'A Day in a village' was organised in the villages in the perview of this report. The whole day was spent in the village interacting with the villagers and developing rapport with them.

A Balsabha (Children's meeting) was organised in the morning in eachvillage, during which, the following topics were discussed :

- Concept of Safe Drinking Water
- Lathi-Liliya Regional Water Supply scheme
- Linkages among drinking water, health and sanitation
- Pani Samitis

After the meeting, a children's rally was organised which passed through the village. The children had prepared banners and were shouting slogans on conservation and proper usage of water.

In the afternoon, meetings with the Gram Panchayat members were organised at each village and later, meetings with the village women were organised. In both these meetings, the participants were informed about the Lathi-Liliya Regional Water Supply Scheme, role and responsibilities of Pani Samitis, linkages among drinking water, health and sanitation and how the villagers can contribute at an individual, family and community level.

'Snakes and Ladders' was played with children in the evening. The game highlighted messages on conserving water and care of village level facility. Information on 'A Day in a village' is as under :

Sr. No.	Date	Village	No. of villagers at the meetings
1	27/2/96	Gundaran	16 women
2	28/2/96	Kalyanpar	57 women
3	29/2/96	Shedhavadar	42 women
4	6/3/96	Bhensavadi	97 women + 12 men
5	7/3/96	Pipalva	22 women
6	8/3/96	Vaghaniya	21 women
7	9/3/96	Kutana	24 women
8	21/3/96	Suvagadh	
9	22/3/96	Dhrufaniya	
10	23/3/96	Muliyapat	

2.5 Meeting with the Pani Samiti Members

After the Panchayat elections, Six villages of the Lathi block formed new Pani Samitis. A day long meeting was organised for the members.
The objectives of the meeting were :

1) to familiarise them with CEE and its project at Amreli
2) to make them aware about roles and responsibilities as members of the Pani Samiti and
3) to develop an understanding among them about the linkages among water, health and sanitation

The content of the meeting included :

1) Lathi-Liliya Regional Water Supply Scheme
2) Roles and responsibilities of Pani Samitis
3) Linkages of drinking water, health and sanitation
4) Village level water and sanitation related problems

Information on the Pani Samiti's meeting is as under :

Venue	Date	No. of Participants	Villages covered
G.W.S.S.B. Office Bhingrad	26 March '96	22 men 4 women	Aansodar Pratapgadh Ingorala Bhalvav Chhabhadiya Bhingrad

2.6 Meeting with the Linemen

A day-long meeting was organised with the linemen. The agenda of the meeting was as follows :

- Lathi Liliya Regional Water Supply Scheme
- Pani Samiti - roles and responsibilities, their role as a member of the samiti
- Linkages among water, health and sanitation
- Problems faced while performing their duties

Since the people do not perceive the village level facilities as their own, they tend to neglect the maintenance aspects; they do not maintain the area surrounding the standposts and the cattle trough; they wash and clean their utensils on standpost and cattle trough.

The surrounding area is very dirty in most of the villages. What follows is a list of other problems which were described by the linemen :

- If the water is not supplied, people break the pipe line.
- Vaghari and Koli Community break the Dhangala -Khara pipeline because the rabbits come to drink the spilled water and they can easily hunt them.
- Village politics at times prevent the linemen from performing their duties efficiently.
- In one of the villages, some people drink liquor on the stroge-tank after evening hours.
- People open the valve themselves in many villages.

Problems at work

- Each lineman has to perform duties in two-three villages.
- In some villages,There is no ladder for climbing onto the tank.
- Some of the linemen expressed that they should be provided a torch as the task of filling the storage-tank is to be performed at night.
- Emptying of the storage-tank also poses some problems.

Information about linemen's meeting is given below :

Date	Venue	No. of Participants
27.3.96	GWSSB office Bhingrad	17

2.7 Meetings with Women

Woman is the manager of the house. Whether she is literate or illiterate, she manages the water and health related problems. therefore we wanted to share our experiences and knowledge on water, health and sanitation with women. It was our experience that, generally the women do not remain present in the combined meeting of both men and women.

With this understanding, separate small-group meetings of the womewereorganised. Some of these meetings were location specific, in thesense that the women of Harijanvas, Bhangivas, or Bharvadvas were gathered in the small-group. This became inevitable for reaching out to all the house holds at the village level.In all 79 meetings took place during the reporting period. Details of such meetings are given in the **Annexure-I**.

2.8 Night Meetings

While conducting small-group meetings with the women,the village level problems related to water, health and sanitation were identified and the possible solutions enlisted. However, it was realised that problems related to village can not be solved without involving the men. however, during the day-time, the men are occupied with either agricultural or diamond cutting work and they come back in the late evening. keeping these practical points in mind, the night meetings were organised. In all 10 villages were covered in the night meetings during the reporting period.Screenig of the vedio-films related to water and health were the attraction of this meetings. In some of the villages the women put forward their difficulties as well as opinions regarding the possible solutions. Details of the night-meetings are given in the **Annexure-II**

2.9 Meeting with the Diomond-cutting Workers

The dimond-cutting workers are not easily approachable as throughout the day they are occupied and at night they are too tired to come to the meeting. However, it is important theat they get involved in our activities. Because they are a group of youngsters, who are earning members, more exposed to the outer world, and their opinion is sought in making decisions at family level. In some villages, these groups are managing community functions.

A meeting with the diamond-cutting workers was organised on 20 April,1996 at the village Eklera which was attended by 45 men. In the meeting, they showed readiness to volunteer in cleaning of the Storage-tank, keep the surrouning of the Stand post clean and they will convince other villagers about need for the latrine and the soak pit.

2.10 Activities with the Children

While working in these villages, we are reassured that the children are very enthusiastic towards change. They can change, comparatively easily, because they do not have the stereotype views, mindsets and they are open to new information. We have developed a set of games and activities. These games and activities provide them opportunities to explore the happenings, collect data and analyse them, crtically examine some of the practices and understanding their implications. When all these things are offered in the forms of the games and activities, it incorporates an element of interest. The children learn each time they get involved in the activities. In 18 villages, the children are organised in to Bal Mandals. This will provide us an opportunity to work with the children outside the school system. A list of the villages in which the Bal Mandals are formed is given in the
Annexure-III.

We continue to work with school children on a regular basis. Details of the differant activities taken up with the school children, are given in the **Annexure-IV.**

The newly formed Bal Mandals have school children as well as other children. When we carry out various activities in the school, all the children do not get an opportunity to participate. As a result of this, we take up the same activities in the Bal Mandals. The details of the these activities are listed in the **Annexure-V.**

2.11 Training of Villge Women

Because of our earlier trainigs with the village women, now we have a group in each village which help us in carrying out various activities. The Panchayat elections got new women members elected,who required an orientation to the Regional Water Supply Scheme and the Pani Samiti. In all our discussions with women, we informed them that, the GWSSB head office is at Gandhinagar. So some women suggested that, the next training should be organised in Gandhinagar.

We explored possibilities with the GWSSB offcials and decided to organise a two-day training at the Gujarat Jalseva Training Institute,Gandhinagar. The participating women agreed to bear one-way travel cost as well as incidentals during the journey.

The training was organised during 30-31 May, 1996 and 32 women from 11 villages participated in the same. The schedule of the training is given in the **Annexure-VI,** alongwith the names of the villages from which the participants were identified.

The women got the opportunity of visiting the Swaminarayan Temple, Indroda Nature Education Park and ofcourse CEE.

Reporter of 'Indian express' and 'Jansatta' (Local news paper) visited and took interviews of these women and next day some of them were on the front page !

2.12 Development of Educational Materials

The following educational materials is developed:

- Flip-charts on 10 Water-related and Water borne diseases
- A Booklet on the same, also including Aayurvedic remedies
- A Booklet on the Lathi-Liliya Regional Water Supply Schme
- A Brochure on CEE's programme

These materils will be produced soon and distributed.

3.0 Results of internal evaluations, workshops, membership meetings

3.1 Formation of Pani Samitis

It is stated in our earlier reports that, the formation of the Pani Samitis is a critical factor in initiating activities involving 'Collective Action'. As the Panchayat elections are over, newly elected bodies in each village is in place. The newly elected members need an orientation to the RWSS and role of the Pani Samitis in it. The GWSSB should issue the guidelines for the functioning of the Pani Samitis.

3.2 Women are struggling to take initiative

Because of series of interventions in the form of training and small-group meetings, the women have realised that, they can actively participate in the management of village level facilities. However, as usual, this has met with resistence by the men in the form of non-cooperation. In the village Haripar, the women's initiative of 'All Women Pani Samiti' has generated response of non-cooperation from the men.

Newly elected women members and women Sarpanchs have yet to acquire knowledge as well as skills to actively and meaningfuly participate in the functioning of the Gram Panchayat.

3.3 Regularity and Punctuality of Water Supply

In almost all the meetings with the villagers, this topic is discussed. Our earlier reports mention that, what the villagers require is supply of water every day.In some villages, the people have suggested fixed timings for the supply. Many times, particularly during agriculture season, women remain without Kalubhar water because of the inconvenient timings.

The 'hard-core' and 'Tail-end' villages are still hoping for alternate solutions.

4.0 Financial Report

The report for the period October '95-March '96 is already submitted. The next report for the period April '96-September '96 will be submitted in the month of October '96.

5.0 Main Activities for the Coming Period

- Production of educational material
- Training of New Pani Samiti members
- District and State Level Seminar
- Activities with the School children and Bal Mandals
- Block Level and Village Level meetings in collaboration with SEU

Annexure-I Day Meetings

Sr.No.	Date	Village	No.of Villagers attending Meeting/Comments
1.	6-3-96	Bhensavadi	**97** Sarpanch announced that if anyone wants to build a soak pit, the panchayat will provide stones for it, free of cost.
2.	7-3-96	Pipalava	**22**
3.	8-3-96	Vaghaniya	**21**
4.	12-3-96	Kutana	**24**
5.	13-3-96	Pratapgadh	
6.	18-3-96	Hathigadh	**19**
7.	19-3-96	Bhensan	**27**
8.	19-3-96	Lonki	**25**
9.	20-3-96	Lonka	**17**
10.	20-3-96	Bhensan	**13**
11.	20-3-96	Bodiya	**21** After the meeting the lady Sarpanch promised to keep the Harijanvas clean.
12.	23-3-96	Dhrufaniya	The village do not get the water regularly
13.	2-4-96	Aansodar	
14.	8-4-96	Eklera	
15.	8-4-96	Pipalava	**17**
16.	9-4-96	Shedhavadar	**9** Harijanvas
17.	9-4-96	Krushnagadh	
18.	9-4-96	Kuishnagadh	**31**
19.	10-4-96	Godhavadar	**15** The lady sarpanch took responsibility for proper drainage system and soak pits.
20.	10-4-96	Sajantimba	**10** Patelvas & Harijanvas
21.	10-4-96	Sajantimba	Harijanvas, Bharvadvas & Kanabivas
22.	12-4-96	Hathigadh Harijanvas	
23.	12-4-96	Hathigadh	**11** Kolivas I.C.D.S. Worker & sarpanch promised to build courtyard around the tank & keep the place clean.

24.	13-4-96	Bhensan	**9** Harijanvas
25.	15-4-96	Plot area	
26.	15-4-96	Haripar	Bharvadvas
27.	15-4-96	Haripar	**10** Bharvadvas
28.	16-4-96	Gundaran	Patelvas
29.	16-4-96	Gundaran	**15** Patelvas
30.	17-4-96	Aantaliya	**10** Bharvadvas
31.	17-4-96	Aantaliya	Bharvadvas
32.	17-4-96	Dhangala	**41**
33.	17-4-96	Bhensavadi	Specially arranged for valand & *koli caste.*
34.	18-4-96	Lonka Harijanvas	**7**
35.	18-4-96	Eklera	**12** Patelvas
36.	18-4-96	Havtad	**35**
37.	19-4-96	Krushnagadh	
38.	19-4-96	Sajantimba	**10** Harijanvas
39.	19-4-96	Punjapadar-plot	
40.	22-4-96	Jatroda I.C.D.S Centre	
41.	22-4-96	Jatroda	
42.	22-4-96	Nana Liliya	
43.	23-4-96	Shedhavadar	
44.	24-4-96	Godhavadar	Specially arranged for valand caste
45.	26-4-96	Pipalava	Harijanvas
46.	26-4-96	Gundaran	Ghanchivad
47.	26-4-96	Jatroda	**19** Harijanvas & Bhangivas
48.	27-4-96	Nana Liliya	
49.	29-4-96	Haripar	Harijanvas
50.	29-4-96	Krushnagadh	
51.	30-4-96	Eklera	Bharvadvas
52.	30-4-96	Godhavadar	Harijanvas
53.	1-5-96	Lonki	Patelvas
54.	2-5-96	Lonka	
55.	2-5-96	Jatroda	Bharvadvas
56.	3-5-96	Hathigadh	
57.	3-5-96	Vaghaniya	Kolivas
58.	6-5-96	Sajantimba	Bharvadvas
59.	6-5-96	Bhensavadi	Harijanvas
60.	7-5-96	Punjapadar	
61.	8-5-96	Nana Liliya	Patelvas
62.	10-5-96	Hathigadh	Patelvas
63.	13-5-96	Aantaliya	Harijanvas
64.	15-5-96	Haripar	Mafatiyapara
65.	16-5-96	Eklera	Harijanvas

66.	16-5-96	Pipalava	Harijanvas
67.	17-5-96	Sajantimba	Kolivas
68.	17-5-96	Vaghaniya	Bharvadvas
69.	18-5-96	Jatroda	Vagharivas
70.	18-6-96	Chhabhadiya	
71.	20-6-96	Gundaran	Kolivas
72.	22-5-96	Lonka	Patelvas
73.	22-5-96	Bhensavadi	Harijanvas
74.	24-6-96	Pipalava	
75.	25-6-96	Jatroda	
76.	26-6-96	Luvariya	
77.	27-6-96	Khara	Bharvadvas

Annexure-II Night Meetings

Sr.No.	Date	Village
1.	1/3/96	Haripar
2.	1/4/96	Haripar
3.	1/4/96	Lonka
4.	2/4/96	Punjapadar
5.	2/4/96	Lonka
6.	10/4/96	Shedhavadar
7.	12/4/96	Godhavadar
8.	15/4/96	Kutana
9.	23/4/96	Bhensan
10.	23/5/96	Chhabhadiya
11.	10/6/96	Kalyanpar

Annexure-III 'Bal Mandal' Villages

1)	Shedhavadar	10) Sajantimba
2)	Godhavadar	11) Hathigadh
3)	Lonka	12) Aantaliya
4)	Lonki	13) Bhensan
5)	Pipalava	14) Bodiya
6)	Bhensavadi	15) Krushnagadh
7)	Punjapadar	16) Kutana
8)	Nana Liliya	17) Kalyanpar
9)	Haripar	18) Khara

Annexure-IV Activities with the School Childern

Sr. No.	Date	Village	Activities
1.	1/4/96	Lonka	Formation of Bal Mandal
2.	2/4/96	Shedhavadar	Songs, stories, games Cleaning of the souroundings near the school
3.	8/4/96	Pipalava	Monitoring of the personal hygiene forms and songs.
4.	9/4/96	Shedhavadar	Cleaning of the sourrounding of the school 'Survey of Laddle'
5.	10/4/96	Shedhavadar	The school children removed the garbage heaps which were in front of school and also cleaned the drainage. They also promised that they will do this regularly.
6.	12/4/96	Godhavadar	Formation of Bal Mandal
7.	17/4/96	Aantaliya	Explaining 'Survey of Laddle' and form on personal hygiene.
8.	17/4/96	Dhangala	'Survey of Laddle'-None of the house hold surveyed use it. The result was shared in the women's meeting.
9.	19/4/96	Punjapadar	Bal Mandal formed
10.	23/4/96	Eklera	Songs, Stories and explanation of water, health and sanitation through Flip-charts
11.	26/4/96	Pipalava	Bal Mandal was formed
12.	7/5/96	Aantaliya	Songs, monitoring of the personal hygiene, explaining through Flip-charts.
13.	7/5/96	Bodiya	Discussion on activities of Bal Mandal
14.	7/5/96	Kutana	Formation of Bal Mandal
15.	8/5/96	Haripar	Flip-charts, songs, distribution of stickers
16.	14/5/96	Lonki	The forms on ' Personal hygiene' discussed
17.	15/5/96	Dhangala	'Survey of Laddle'
18.	16/5/96	Eklera	Songs, Games
19.	16/5/96	Havtad	'Survey of Laddle'-18 house holds have it.
20.	22/5/96	Aantaliya	Game
21.	28/5/96	Hathigadh	Game
22.	28/5/96	Hathigadh	' Web of Life' game

23	3/6/96	Hathigadh	Monitoring of the forms (Personal hygiene) Survey of 'Garbage heaps'.
24.	7/6/96	Sajantimba	game 'Snakes & Ladders'
25.	10/6/96	Haripar	game' Web of Life'
26.	11/6/96	Eklera	game 'wwb of Life'
27.	11/6/96	Vaghaniya	Story on personal hygiene
28.	12/6/96	Lonka	game 'snakes & ladders' & monitoring of the 'personal hygiene' forms.
29.	12/6/96	Lonki	game, 'Snakes & ladders'
30.	13/6/96	Eklera	game' Snakes & ladders'
31.	14/6/96	Shedhavadar	Cleaned the drainage in front of the school.
32.	18/6/96	Chhabhadiya	game ' Web of Life'
33.	20/6/96	Gundaran	'Survey of Laddle'.
34.	20/6/96	Suvagadh	game
35.	21/6/96	Krushnagadh	game Discussion on the Bal Mandal
36.	24/6/96	Pipalave	game 'Find the solution'
37.	24/6/96	Thansa	game,survey of Latrines by the students of 6th std.
38.	25/6/96	Kutana	game ' Web of Life'
39.	26/6/96	Bhalvav	game ' Web of Life'
40.	26/6/96	Havtad	game
41.	27/6/96	Khara	game 'Snakes & ladders'
42.	28/6/96	Hajiradhar	game ' Snakes & ladders'.
43.	28/6/96	Dhamel	game ' Snakes & ladders'.

Annexure-V Activities with Bal Mandals

Sr. No.	Date	Village	Activities
1.	23/4/96	Kalyanpar	Selection of President & Vice Precident, The Mandal include 15 girls and 12 Boys
2.	30/4/96	Kalyanpar	Meeting, 'Survey of Laddles', Songs, stories.
3.	1/5/96	Lonki	Bal Mandal formed, 'survey of Laddles' The game ' Snacks & Ladder' is drawn on the terrace by a group of girls.
4.	2/5/96	Lonka	'Survey of Laddles'
5.	7/5/96	Bhesan	Formation of Bal Mandal
6.	10/5/96	Godhavadar	The game ' web of Life'
7.	10/5/96	Hathigadh	Fornation of Bal Mandal, songs, foms on personal hygiene & distribution of stickers.
8.	10/5/96	Bhensan	'Snakes & ladders', Contaminated water & water related diseases
9.	13/5/96	Bodiya	Meeting, 'Snakes & ladders', Water related diseases, how water is contaminated. Five rules programme : 1. Bathe regularly 2. Brush the teeth regularly 3. Use the laddle 4. Drink the filtered water 5. Comb & wash the hair regularly
10.	14/5/96	Kutana	Meeting, explaining activities of mandal,'Survey of Laddle' in 10 house holds by each child, Water born & Water related diseases.
11.	15/5/96	Lonka	Monitoring of personal hygiene, game 'web of Life' 'Snacks & ladders', distribution of forms on personal hygiene.
12.	15/5/96	Kalyanpar	Meeting, 'Snakes & Ladders', Monitoring of personal hygiene forms
13.	16/5/96	Eklera	Formation of Bal Mandal & selection of leader

14.	17/5/96	Sajantimba	Formation of the Bal Mandal, Flip-charts, songs,
15.	20/5/96	Shedhavadar	Explanation of the form on 'personal hygiene', Monitoring of personal hygiene, game 'web of Life'.
16.	21/5/96	Lonki	Meeting
17.	21/5/96	Hathigadh	'Snakes & ladders', evaluation of forms on personal hygiene, members decided to buy ladddles
18.	22/5/96	Lonka	Monitoring personal hygiene, songs
19.	31/5/96	Kutana	Infomation on personal hygiene and gave forms, songs, children involved in dimond cutting attends the meeting
20.	5/6/96	Lonki	Songs, stories, 'Snakes and Ladders'.
21.	5/6/96	Kalyanpar	Meeting, game, monitoring of the forms on personal hygiene

Annexure-VI Training of Village Women

Programme:

1.	Welcome	Mr. Mayank Joshi
2.	An Introduction to G.J.T.I.	Ms. P.K. Shah
3.	Lathi-Liliya Regional Water Supply Scheme	Mr. U.L. Buch
4.	Water born & Water related diseases	Dr. Pratimaben Mehta
5.	Experiences of Health Awarness conmpaign in Banaskantha district.	Mr. Vijay Jani -CHETNA Ms. Ranjanben Joshi (Bhansali Trust) Ms. Samuben Thakor-Shergadh, Banas Kantha
6.	Need for Pani Samiti	Dr. Pratimaben Mehta
7.	Presentation on drinking water problems in their own villages.	Participants.
8.	Visit to GJTI Laboratary	
9.	Importance of women's participation in Panchayati Raj	Mr. Siddique Panwala UNNATI, Ahmedabad
10.	Preparing Action Plan	Participants

During the evening hours video films related to Women's Status, Women's Role in Panchayati Raj were screened.

The Participants were from the following villages:

1. Shedhavadar
2. Godhavadar
3. Nana Liliya
4. Kutana
5. Haripar
6. Sajantimba
7. Ingorala
8. Aansodar
9. Bhingarad
10. Pratapgadh
11. Chhabhadiya

ANNEX 10

MINUTES OF NGO-PANEL MEETING ON

30 SEPTEMBER 1996

Minutes of the NGO Panel meeting held on 30th September 1996

The NGO panel meeting started at 11.45 on 30th September 1996, at the Circuit House Annexe, Ahmedabad. 26 participants from various bodies, NGOs, GWSSB and PRM were present; the participants list is enclosed, as also the Agenda.

After a round of self-introductions, Mr. Modha, Mission Leader, PRM, chairing the meeting, welcomed the participants. He explained about the nature of the current mission, which is a Progress Review Mission under an Indian Mission leader, unlike the earlier Review Support Missions.

A motion for the passing of the earlier NGO Panel meeting's minutes(GU-32) was taken up. Two points of clarifications were made:
CEE pointed out that the figures related to teachers participating in their programme needed correction and that CEE would send in the exact figure after verification.

Mr. Viren Joshi of ESI wanted correction on the number of latrines constructed by ESI as reported in the minutes; it was clarified to him that the figures referred to the situation as of September 1995 and not to date which is higher and will be reflected in the next report.

With these clarifications, the minutes of the previous NGO panel meeting was declared as accepted and passed.

At this point, 6 participants from the SEWA, BK Trust who had just arrived were introduced.

Mr. Modha initiated on reporting on the major findings of the present Mission. He reported on the field experiences of each scheme and on the technical aspects taken up in the Mission's Draft Aide Memoire, which had been circulated to the participants.

Mr. R.T.J. Wijdemans drew attention to the fact that GWSSB has established for more than one year a data base on number of days of water supplied and invited the NGOs to comment on this or offer their own data on this, if it is data that is comparable and of good reliability.

Mr. Mayank Joshi commented that the situation is reasonably good in the Lathi-Liliya scheme, but the tail end villages still face a problem. he pointed out that the days of no supply could be used for repairs of pipes and cleaning of cisterns. He also raised the issue that cisterns could not be fully emptied for cleaning, as the outlet valves at the base were 6 inches above the base in many cases. The concerned EE assured that this will be looked into and corrected wherever required, perhaps by raising the cistern floor with RCC.

At this point, Mr. Patel, MS, GWSSB, inquired from CEE if some of their field observations on water supply problems were being shared with the Board or only with RNE. Mr. Joshi clarified that CEE tries to sort out problems with field staff with whom they are in constant touch; the problem of irregular supply still persists in some villages and the Pani Samitis are becoming more active now.

Mr. Vasavada requested CEE to give feedback to the Board also, so that they can act at higher levels. Mr. Patel also asked if CEE could give their progress reports to the Board. Mr. M. Joshi said that they could if the RNE has no objections.
At this point, Mr. Zutshi of RNE, clarified that the Embassy sees the NGO-GWSSB partnership in a favourable way and appreciates any collaboration between these two. On the sending of NGO reports to the board in toto, he needs to get some clarifications from the Embassy.
Mr. Zutshi expressed that with the changed scope of Missions and setting up of the PSU, sharing of information between all concerned should improve.

Next, Dr. Vyasulu presented the findings of the Mission on non-technical aspects - on the formation and mobilisation of Pani samitis, on the role of NGOs in RWSS and on health education activities. She also explained that the IGP activities in Santalpur was not the main focus of the Mission's field visits. She reported the Mission's appreciation of the NGOs' contribution to RWSS goals, in their own unique ways. It was pointed out that activities related to non-technical aspects are far from completed and that until all the villages in all the three schemes are covered comprehensively on HEE and Pani Samitis' mobilisations, the role of NGOs will continue to be needed by RWSS.

Mr. Patel pointed out that Pani samitis need to be there in every village and a decentralised set up established right down to the village level, so that they can play the role of a 'watch dog'.

Mr. M. Joshi pointed out that since new PS members have come in after the recent elections, they will need another year to train new members; the Board also has to issue the guidelines and clarify on the Rs.5 that can be given back to the PS for O&M.

Next, SEWA presented its report, covering the progress of BDMSA - that the effort was on establishing linkages and finding long term solutions to the problems of water. At this point, Ms. Sharifaben was invited to present the views of women; her points were translated as problems experienced by women in tail end villages of the Santalpur scheme and how this has been ameliorated. The SEWA report also covered the Management Capability Study and other IGPs of SEWA.
At this point, Mr. Vasavada inquired if SEWA has looked at the linkages between RWSS and IGPs, Ms. Jigna replied that water supply is indeed useful, it affects the lives of people, the IGPs benefit from water supply facilities.

Mr. Patel inquired if SEWA had done any comparative studies on IGPs in villages with good water supply and in those without it, to establish how RWSS helps the IGPs; Mr. Vasavada added that a social cost-benefit analysis could be done.
At this point, Dr. Vyasulu pointed out the Missions' observation that data of all kinds seems to be a problem - data seems to be in diverse forms, at diverse locations, collected by different bodies, using diverse formats; sometimes contradictory.

On this issue there was considerable debate among the participants. Concluding the debate, Mr. Patel said that there is a need for 'bottom-up' flow of communication - data, information on village level situations and so on, the NGOs could give this as also the Pani Samitis.
Mr. Zutshi said that ultimately this would have to be taken up by the field staff and the Pani Samitis, NGOs could play a limited role for a limited period.
Mr. Patel said that the Board is tackling the engineering issues now.

Mr. Wijdemans pointed out the need to mobilise Pani Samitis and that in the future reports of NGOs, this aspect should be reported in their progress reports.

Next, CEE presented a report on their activities in Lathi-Liliya scheme villages, including the newsletter being brought out by them.
ESI reporting on their work said that they have achieved 25% coverage of all their villages with the low-cost latrine construction activities. They also reported on the 'Gokul Gram Scheme' for rural sanitation and other awareness programmes, including cost recovery and Pani Samiti training implemented by them.
Mr. Vasavada assured them that the Sanitation component proposal of RWSS is being processed and will be available as soon as possible.
ESI expressed its willingness to work as a collaborating NGO on any aspect of RWSS.

Mr. Wijdemans brought the focus back on to the need of Lathi-Liliya villages for latrines as a result of health awareness created and that pending clearance of the proposal, the Board may make the facilities under some other scheme which confirmed by GWSSB.

Next, the SEU presented a report on its work in collaboration with the NGOs, the orientation of Pani Samitis in some areas using the RNE funds. As a follow-up of the health monitoring work started with Chetana, they are analyzing data from health checklists, which is expected to be completed soon. SEU once again drew attention to the constraint of resources they face - no field staff, transport etc. Mr. Vasavada assured them that this will be looked into.

Mr. Patel recapped the technical issues that will be looked into by the Board and the meeting came to an end with a note of the contributions of NGOs and thanking all the participants.

Participants of the NGO Panel Meeting held on 30th September 1996 at the Annexe building, Ahmedabad

NAME	ORGANISATION
Mr. M.S. Patel	Member Secretary, GWSSB
Mr. P.M. Modha	Mission Leader,PRM
Mr. Rob Wijdemans	Member, PRM
Mr. Avinash Zutshi	Sr.Prog.officer, RNE, N.Delhi
Dr. Poornima Vyasulu	Member, PRM
Mr. Ishwarbhai Patel	Director, ESI, Ahmedabad
Mr. Mayank Joshi	CEE, Ahmedabad
Mr. Viren Joshi	ESI, Ahmedabad
Mr. Jayesh Patel	OSD, ESI, Ahmedabad
Ms. Jigna Trivedi	SEWA, Ahmedabad
Ms. Neela. S. Patel	Bhansali Trust, Radhanpur
6 Trustee members	SEWA BK, Radhanpur
Mr. R.L. Sayani	EE, PHW Div, Radhanpur
Mr. J.K. Patel	EE, PHW Div, Sidhpur
Mr. N.N. Laheru	EE, PHW Div, Amreli
Mr. D.C. Shah	SE, PH Circle, Bhavnagar
Mr. A.T. Vaishnav	Member, PRM
Mr. B.D. Shah	CE, Zone II, GWSSB, Ahmedabad
Mr. B.J. Vasavada	SE, Narmada Cell, GWSSB
Mr. A.M. Barve	DEE, GWSSB, Narmada Cell
Dr. P.M. Mehta	Public Health Expert, SEU, GWSSB

ANNEX 11

POSTER CEE

પાણી ની વાત

વ્હાલા ગ્રામજનો,

આપ સર્વે મજામાં હશો. મેઘરાજા એ પ્રથમ તો-પુરી મહેર કરી છે. વરસાદ ખૂબજ સારો થયો છે. આપ સર્વે ખેતીના કામમાં રોકાયેલા જ હશો. આ વર્ષ આપને દરેક રીતે સુખકારી નિવડે તેવી ભણસાલી ટ્રસ્ટ વતી શુભેચ્છા.

આપણુ કામ

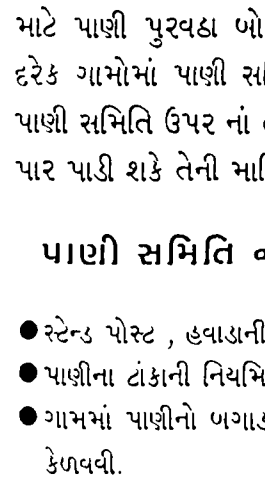
ભણસાલી ટ્રસ્ટ દ્વારા ચેતના ટીમ અમદાવાદના સહયોગથી બનાસકાંઠા જિલ્લાનાં રાધનપુર, સાંતલપુર તથા કાંકરેજ તાલુકામાં પાણી અને આરોગ્ય શિક્ષણની કામગીરી થઇ. પાણી પુરવઠા બોર્ડ , તાલુકા પંચાયત તથા આરોગ્ય ખાતાનાં ભાઇ-બહેનો , પ્રાથમિક શાળાના શિક્ષકો, લાઇનમેન ભાઇઓ, આંગણવાડી કાર્યકરો તેમજ પાણી પંચાયતની બહેનો એ આ કામગીરીમાં સક્રિય બની ઉત્સાહથી ભાગ લીધો અને અસરકારક બનાવ્યો આનાં સારા પરીણામોને ધ્યાને લઇને સમી-હારીજ જૂથ યોજનામાં પણ આરોગ્ય શિક્ષણ કાર્યક્રમની શરુઆત કરવાનું નક્કી થયું છે. ગામના લોકો સાથે મળીને ગામના પાણીની જાળવણી અને સમારકામ , આરોગ્ય અને આરોગ્યમય વાતાવરણની ઉપલબ્ધી અને પાણીવેરો વસુલ કરવાની કામગીરી અને વહીવટ ગોઠવે. તે માટે પાણી પુરવઠા બોર્ડ દ્વારા સમી-હારીજના નક્કી થયેલા દરેક ગામોમાં પાણી સમિતિની રચના કરવાનું નક્કી થયું છે. પાણી સમિતિ ઉપર નાં તમામ કામો અસરકારક રીતે કઇ રીતે પાર પાડી શકે તેની માહિતી આ અંક માં આપવામાં આવી છે.

પાણી સમિતિ ના કામો.

- સ્ટેન્ડ પોસ્ટ , હવાડાની સંભાળ અને ચોખ્ખાઇ રાખવી.
- પાણીના ટાંકાની નિયમિત સફાઇ કરાવવી.
- ગામમાં પાણીનો બગાડ ન થાય તે અંગે લોકોમાં જાગૃતિ કેળવવી.
- ગામમાંથી ઉકરડા યોગ્ય જગ્યાએ ખસેડવા.
- પાણી પુરવઠામાં જો કોઇ ખલેલ પડે કે મુશ્કેલી ઉભી થાય તો લાઇનમેન ભાઇ સાથે મળી અને પાણી પુરવઠા બોર્ડમાં રજુઆત કરી તેના નિવારણ અંગે પ્રયત્નો કરવા.
- પાણી અને ગંદકીથી ફેલાતા રોગો અંગે ગામમાં જાણકારી આપવી અને આરોગ્ય કાર્યકર અને આગંણવાડી બહેન સાથે મળી તે અટકાવવા માટેના પ્રયત્નો કરવા.
- પાણી સમિતિની મીટીંગો નિયમિતરૂપે થાય અને તેમાં બધા મુદ્દાઓની વિગતવાર ચર્ચા થાય તે અંગે સક્રીયપણે કામ કરવું.
- પાણી પુરવઠા બોર્ડમાં લોકફાળો નિયમિત ભરાય તે અંગે પ્રયત્નો કરવા.

પાણી સમિતિના સભ્યો શું કામ કરશે ?

૧. સરપંચશ્રી



દર મહિને પાણી સમિતિની મીટીંગ બોલાવવી. ગામમાં પાણીપુરવઠો નિયમિત રીતે આવે, તેમજ સ્ટેન્ટપોસ્ટ અને હવાડાની મરામત અને ચોખ્ખાઇ અંગે ધ્યાન આપશે.ઉકરડા દુર કરવા અંગે કાર્યવાહી કરશે.પાણી સમિતિની મીટીંગ નિયમિત બોલાવી પ્રશ્નોનું નિરાકરણ લાવશે અને આરોગ્ય શિક્ષણનું કામ નિયમિત ચાલે તે માટે જરૂરી પગલા લેશે.

૨. ગ્રામ પંચાયતના મહિલા સભ્ય

સરપંચશ્રીને આ કાર્યમાં સહકાર આપશે અને ગામની બહેનો-ભાઇઓને પાણી અને સ્વચ્છતાને લગતુ શિક્ષણઆપશે. પાણી સમિતિની બેઠકો નિયમિત થાય તે જોશે.પાણીને લગતી ગામ લોકોની મુશ્કેલીઓ વિષે સરપંચને સમયસર વાકેફ કરશે.

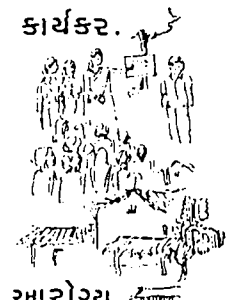
૩. તલાટી/મંત્રી

સરપંચશ્રી અને પાણી સમિતિના સભ્યોને મદદ કરશે અને પાણી પુરવઠા બોર્ડમાં લોક ફાળો નિયમિત રૂપે ભરાય તે અંગે પ્રયત્નો કરશે.

૪. લાઇનમેન

ગામમાં પૂરતો પાણી પુરવઠો નિયમિત પુરો પાડશે. ટાંકાની સફાઇ થાય, સ્ટેન્ડપોસ્ટ હવાડાની મરામત અને જાળવણીનું કામ નિયમિત થાય તેમજ પાણી પુરવઠામાં મુશ્કેલી ઉભી થાય તો તે અંગે પાણી પુરવઠા બોર્ડમાં રજૂઆત કરશે. પાણી સમિતિના કામમાં સહયોગ આપશે. લોકો અને બોર્ડ વચ્ચેની એક અગત્યની કડી બની રહેશે.

૫.શિક્ષિકા/શિક્ષક અને આંગણવાડી કાર્યકર.



બાળકોને નિયમિત આરોગ્ય શિક્ષણ આપશે.બાળકો સાથે પીવાનાપાણી અને પર્યાવરણની સ્વચ્છતાનેલગતી પ્રવૃતિઓ યોજી ગામને ચોખ્ખું રાખવા પ્રયત્ન કરશે. રોગોને અટકાવવામાં પોતાનું યોગદાન આપશે.

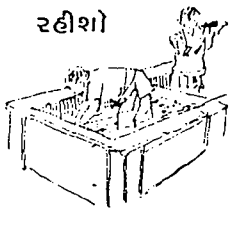
આરોગ્ય કાર્યકર

ગામ લોકોમાં પાણીથી ફેલાતા રોગોના અટકાવ વિષે જાણકારી આપશે અને જરૂર મુજબ અટકાવને લગતાંપગલાં લેશે.

૬.સહકારી મંડળીઓના સભ્ય

આરોગ્ય શિક્ષણના કામને આગળ વધારવા માં ભાગીદારી આપશે. લોકો પાણીનો ફાળો ભરે તે માટે પ્રોત્સાહન આપશે.

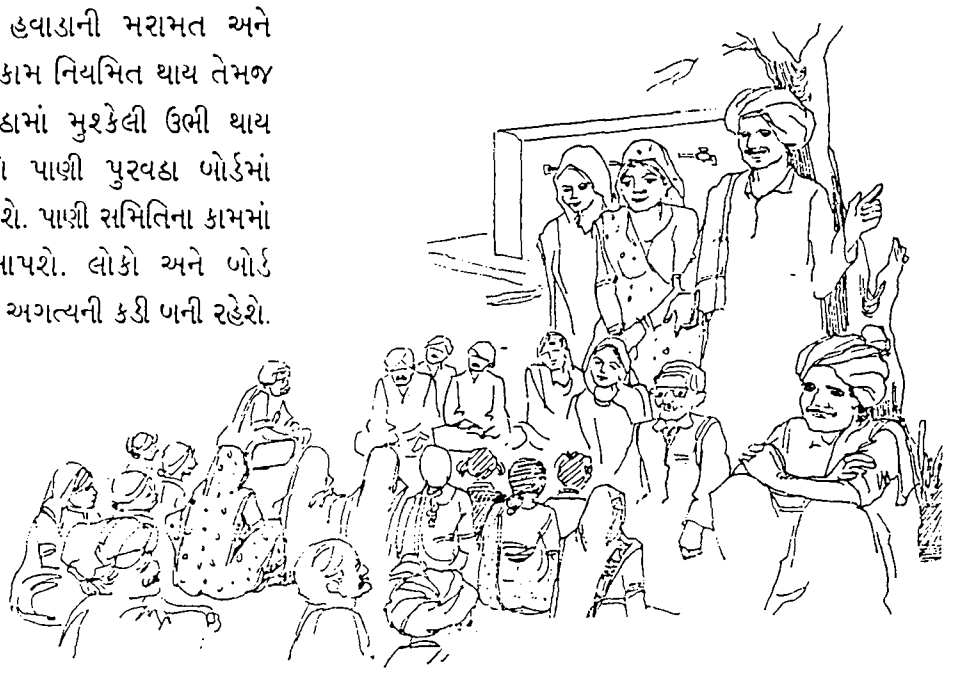
૭.સ્ટેન્ડ પોસ્ટની આસપાસના રહીશો



સ્ટેન્ડપોસ્ટ,હવાડાનીતેમજઆસપાસની ચોખ્ખાઈ અંગે જાગૃત રહેશે. જરૂર જણાય ત્યારે પાણી સમિતિનું ધ્યાન દોરશે.

૮.ગામના પાણીને પ્રશ્ને સક્રિય એવા બે કો-ઓપ્ટ સભ્યો

આરોગ્ય શિક્ષણ,પાણીની સંભાળ,ગામની સ્વચ્છતા, ઉકરડા દૂર કરવાની કાર્યવાહી અંગે લાઈનમેન, આરોગ્ય કાર્યકર, આંગણવાડી બહેન અને શિક્ષક સાથે મળી પ્રયત્ન કરશે.



એક જાગૃત નાગરિકની ફરજ

આપણે આપણા પાણીનાં પ્રત્યેક વપરાશ અંગે ધ્યાન રાખવું જોઈએ. જ્યાં બીન જરૂરી, વધુ પડતો પાણીનો વપરાશ હોય ત્યાં ઘટાડીએ અને પાણીનો બગાડ થતો હોય ત્યાં રોકીએ. પાણી પુરવઠા બોર્ડની યોજનાઓ એ સરકારની નહીં પણ સામજિક માલીકી ની અને સામાજિક જવાબદારીઓની યોજના છે. એટલે એને સાચવીએ, જાળવીએ, સામાન્યત: એવો ખ્યાલ હોય છે કે એક વ્યક્તિ શું કરી શકે ? તો યાદ કરીએ કે એક કહેવત છે કે ''ટીપે ટીપે સરોવર ભરાય''. આપણે ખુદ જાગૃત થઈએ અને અન્યને જાગૃત કરવાનો સંનિષ્ઠ પ્રયત્ન કરીએ.

નમ્ર અરજ

ભણસાલી ટ્રસ્ટે ચાલુ વર્ષે બનાસકાંઠા જીલ્લાના રાધનપુર, સાંતલપુર અને કાંકરેજ તથા મહેસાણા જીલ્લાના સમી અને હારીજ તાલુકાના ગામોમાં આરોગ્ય શિક્ષણ કાર્યક્રમની જવાબદારી સંભાળી છે. આ કામમાં સર્વેનો સહકાર મળી રહેશે તેવી આશા છે.

સંપર્ક

ભણસાલી ટ્રસ્ટ
હાઈવે,ચાર રસ્તા રાધનપુર,
જિ.બનાસકાંઠા
પીન: ૩૮૫૩૪૦
ફોન નં:૭૭૨૪૯, ૭૭૩૪૩.

સાભાર

મૂળ ડીઝાઈન અને પરીકલ્પના ''ચેતના''
લીલાવતીબેન લાલભાઈનો બંગલો.
સિવિલ કેમ્પ રોડ, શાહીબાગ.
અમદાવાદ.

ANNEX 12

DRAFT TERMS OF REFERENCE

FUTURE PROGRESS REVIEW MISSIONS

DRAFT
GENERAL TERMS OF REFERENCE
FUTURE PROJECT PROGRESS REVIEW MISSIONS

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1. **General**

The Rural Water Supply Programme in Gujarat started in 1978 with the technical design of the Santalpur Scheme. A second generation of projects, Santalpur II, Sami-Harij and Lathi-Liliya started in 1988. The first of the third generation of projects, Gogha RWSS, will be implemented in 1996. As is still valid today the main reason was the urgent need to improve the access to potable water for the rural population in Gujarat State.

A Project Support Unit will be established within the GWSSB, funded under technical assistance by RNE. The Project Support Unit will, amongst others, be responsible for day to day monitoring. For long term review, Progress Review Missions (PRM) are foreseen.

2. **Guidelines**

The PRM will review progress for technical, institutional, social and financial aspects of the project. The mission will have an advisory mandate and make recommendations on the execution of the project to the Government of Gujarat, Department of Health and Family Welfare, the Royal Netherlands Embassy New Delhi, and the implementing agencies.

As a general rule, the Progress Review Missions will be carried out by four persons, designated by name. The mission will be led by an independent senior generalist in rural water supply of Indian Nationality to be appointed by the Department of Health and family Welfare in Gujarat, assisted by a water and sanitation specialist to be nominated by the GWSSB.

The Netherlands delegation will comprise a generalist in rural water supply and a social scientist. All mission members should be able to visualise the different components and the total management of the project.

Mission members will be committed for their personal involvement during a period of at least three years.

In principle the Progress Review Missions will be fielded twice a year.

3. **Tasks of the Progress Review Missions**

On behalf of the Gujarat authorities the Progress Review Missions will:

- Review the technical, institutional, social and financial progress of on-going projects within the framework of the bilateral cooperation with the implementing agencies.

- Report on the status of the projects. Progress review will be based on progress and compliance reports made by the implementing agencies of technical and non-technical project components. Field visits will be made to assess progress.

- Provide factual and graphical information on physical and financial progress of the projects.

- Discuss progress and compliance reports with the implementing agencies.

- Liaise and coordinate between governmental and non-governmental implementing agencies involved in the projects.

- Identify constraints for the proper execution of the project.

- Assess the impact and efficiency of different project components and recommend on specific actions to be taken to reinforce or improve the quality of implementation of the project.

- Advice and recommend on institutional changes required for the proper execution of the project.

- Recommend on efficient and effective implementation of the different project components.

4. Procedures

The mission will be fielded by the Government of Gujarat, Department of Health and Family Welfare.

Briefing and debriefing of the mission will take place with the Secretary Water Supply, Department of Health and Family Welfare. The Netherlands delegation will receive a briefing and debrief at the Royal Netherlands Embassy in addition.

At the end of the mission the PRM will submit an Aide Memoire, including a summary of findings and conclusions.

In addition to the Aide Memoire a main report will be prepared.

A concise main report, including graphs and tables, will be submitted to the Secretary Water Supply, with a copy to the Member Secretary of GWSSB and the Secretary Water of the Royal Netherlands Embassy.

ANNEX 13

MONITORING INDICATORS

PRM/GWSSB MONITORING INDICATORS
RWS/S SCHEMES IN GUJARAT

PROGRESS REVIEW MISSION GU-33

October 1996

RSM/GWSSB MONITORING INDICATORS
RWS/S SCHEMES
GUJARAT

PROGRESS REVIEW
MISSION GU-33

October 1996

CONTENTS

INTRODUCTION

Since 1984 the Gujarat Water Supply and Sewerage Board (GWSSB) collects data of the wells in the Santalpur RWS/S. In a very early stage of the exploitation phase of this scheme it was realised that there is a continuous drop in waterlevels and an increase in the content of fluoride in the groundwater of the well fields. A major objective of the monitoring system is therefore to obtain long term records of reliable data in order to have an early warning system on the sustainability of the source.

On request of the Review of Support Mission (PRM) the number and type of data have considerably been extended also for other Netherlands assisted schemes. Although more and more different items are being taken into account, the monitoring system is essentially focused on the resources of the schemes.

The RSM has changed in 1996 into a PRM. However, GWSSB expressed their appreciation for the monitoring report which is consequently continued. Unfortunately monitoring in the field has been discontinued for some time in the second half of 1995 which is clearly shown in a number of graphs.

The data are processed by the PRM and represented in different types of graphs. The database is larger than the graphs presented, notably on aspects of quality of the water. For instance, with regard to irrigation return flow and the quality of the groundwater, nitrate and phosphate are monitored at the background.

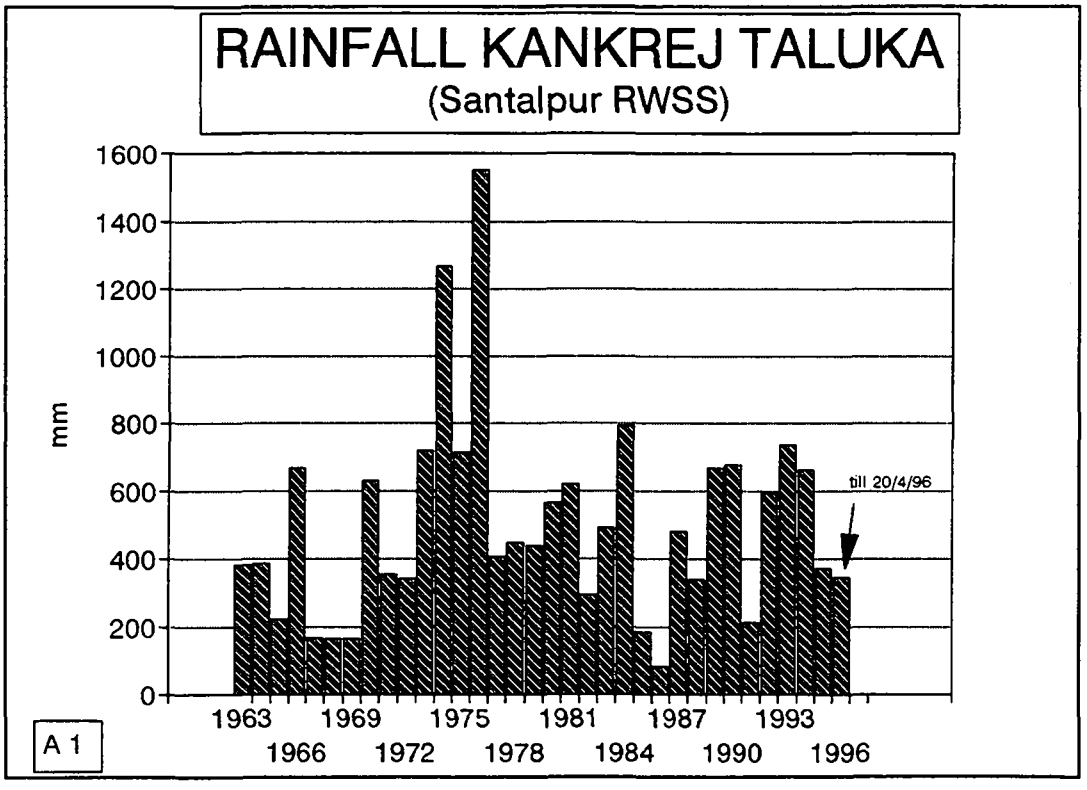
The set of graphs is not standard but may change over time. It is likely that the number of data will extend in future. The graphs hereafter have been grouped per scheme. Each graph is presented with a table with basic data and observations.

The database is maintained, for the time being, by the PRM. Eventually, the database and developed software for graphic representation will be transferred to GWSSB.

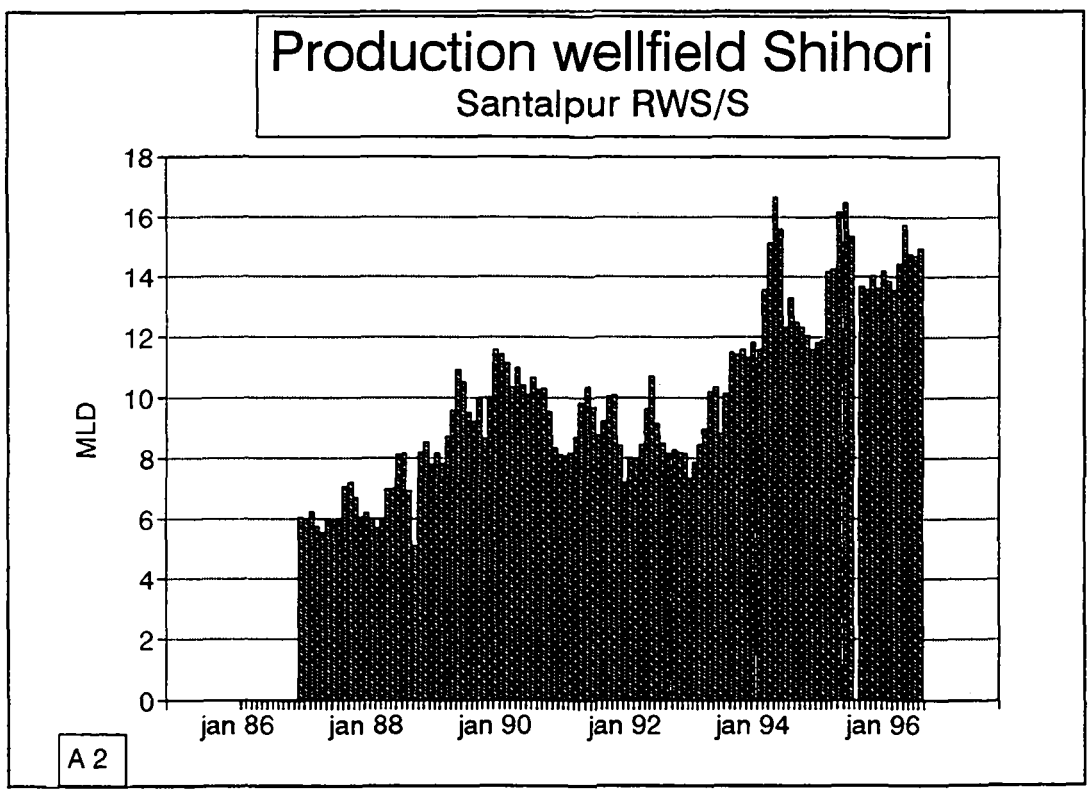
A.
SANTALPUR RWS/S SCHEME

1. Rainfall Kankrej Taluka
2. Monthly production wellfield Shihori
3. Waterlevels tubewells Shihori
   - 3.1 Static waterlevels nrs. 1, 2, 3, 4, 5 and 6
   - 3.2 Static waterlevels nrs. 1, 2 and 3
   - 3.3 Static waterlevels nrs. 4, 5 and 6
   - 3.4 Static waterlevels nrs. 1, 2 and radial well
   - 3.5 Averaged static waterlevels nrs. 1, 2, 3, 4, 5 and 6
   - 3.6 Dynamic waterlevels nrs. 1, 2, 3, 4, 5 and 6
   - 3.7 Drawdown waterlevels nrs. 1, 2, 3, 4, 5 and 6
4. Water quality tube wells Shihori
   - 4.1 Fluoride levels nrs. 1, 2, 3, 4, 5 and 6
   - 4.2 Fluoride levels nrs. 1, 2 and 3
   - 4.3 Fluoride levels nrs. 4, 5 and 6
   - 4.4 Fluoride levels blended water and radial well
   - 4.5 pH
   - 4.6 Alkalinity
   - 4.7 Calcium
   - 4.8 Chloride
   - 4.9 Hardness
   - 4.10 Magnesium
   - 4.11 Nitrate
   - 4.12 Sulphate
   - 4.13 Total Dissolved Solids nrs. 1, 2, 3 and 4
   - 4.14 Total Dissolved Solids nrs. 5, 6, 7 and 8
5. Water levels observation wells
6. Water levels piezometers
7. Water quality piezometers
   - 7.1 Fluoride nrs. 1, 2, 3 and 4
   - 7.2 Fluoride nrs. 5, 6, 7 and 8
   - 7.3 Nitrate nrs. 1, 2, 3 and 4
   - 7.4 Nitrate nrs. 5, 6, 7 and 8
   - 7.5 Sulphate nrs. 1, 2, 3 and 4
   - 7.6 Sulphate nrs. 5, 6, 7 and 8
   - 7.7 Chloride nrs. 1, 2, 3 and 4
   - 7.8 Chloride nrs. 5, 6, 7 and 8
   - 7.9 TDS nrs. 1, 2, 3 and 4
   - 7.10 TDS nrs 5, 6, 7 and 8
8. Service level water distribution

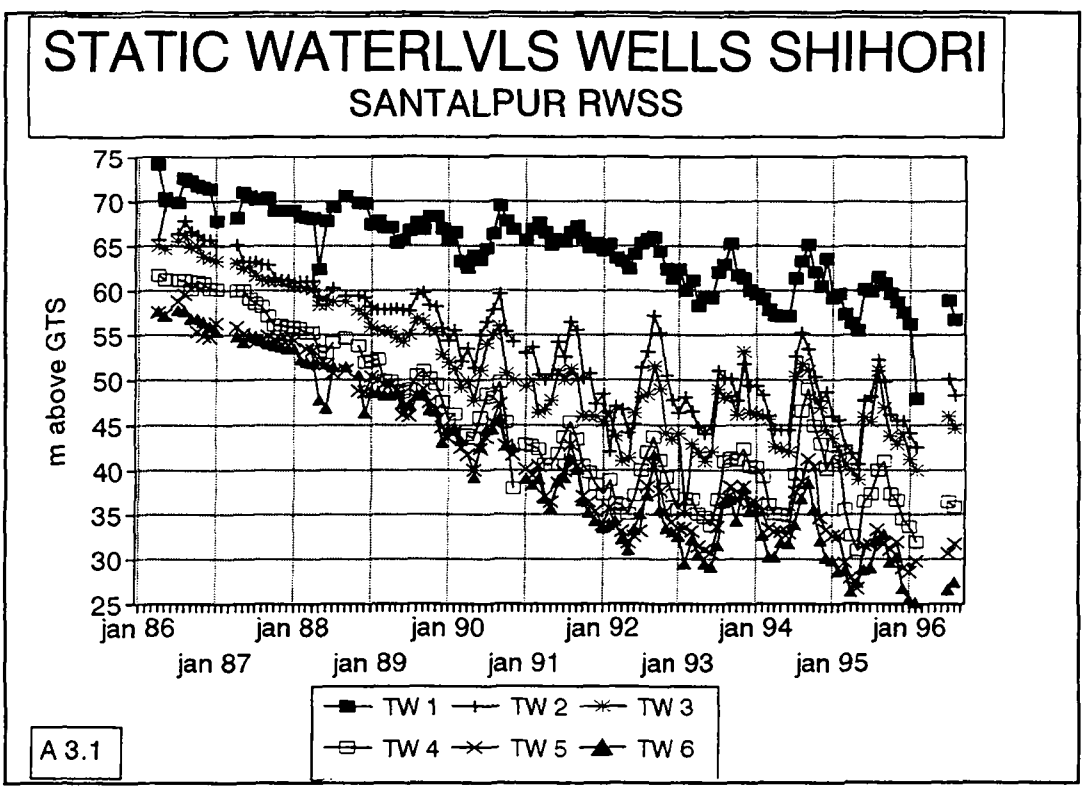
PRM/GWSSB MONITORING RWS/S SCHEMES GUJARAT			
SCHEME	:	**SANTALPUR RWS/S SCHEME**	
NAME OF GRAPH	:	**Rainfall Kankrej Taluka**	
SUB TITLE	:	**Yearly rainfall**	
NO.	:	**A 1**	
UPDATED	:	**October 1996**	
X AXIS	:	**Years**	**Y AXIS: mm precipitation**
OBSERVATIONS	:	**There are large fluctuations in the yearly total rainfall. The total rainfall in 1994 was for the third consecutive year above the yearly average. However, in most of the cases it was due to one exceptional convective rain. The 1995 and 1996 rainfall was below average.**	



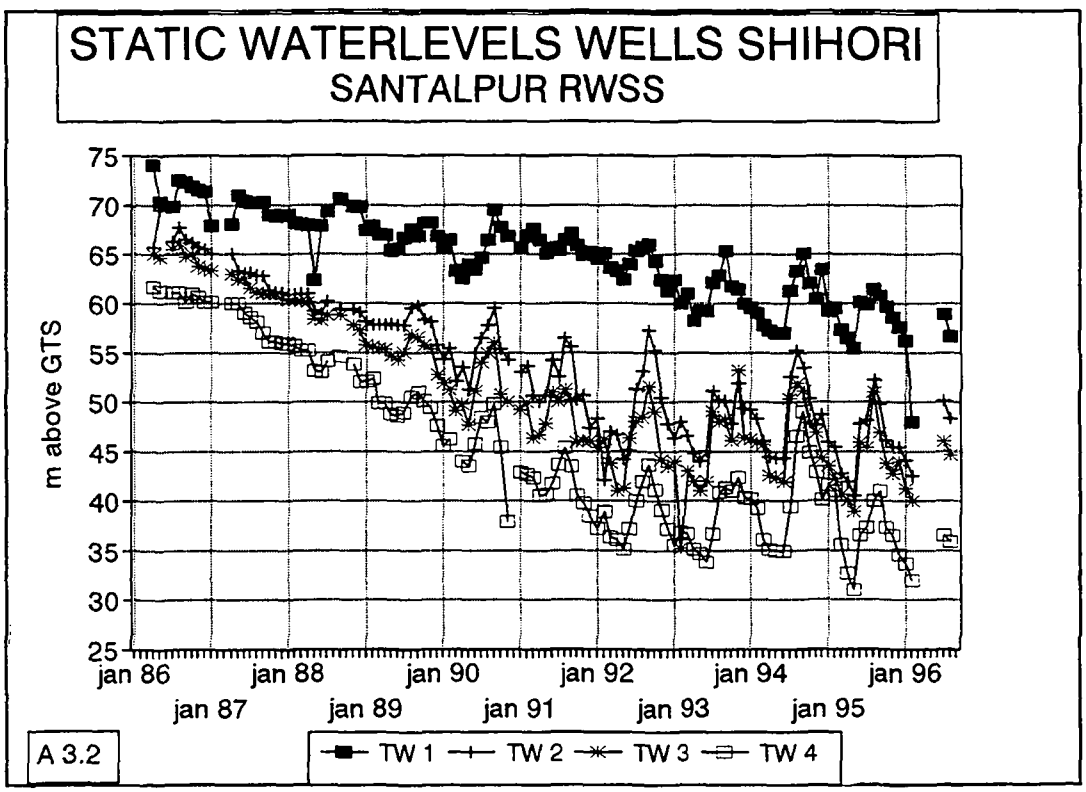
PRM/GWSSB MONITORING RWS/S SCHEMES GUJARAT			
SCHEME	:	SANTALPUR RWS/S SCHEME	
NAME OF GRAPH	:	Total production wellfield shihori	
SUB TITLE	:	(Six tubewells + Radial well)	
NO.	:	A 2	
UPDATED	:	October 1996	
X AXIS	:	Years	Y AXIS: MLD
OBSERVATIONS	:	Since May 1993, the production has been increased in order to commission new villages. In summer there is a very high demand when other sources fail.	



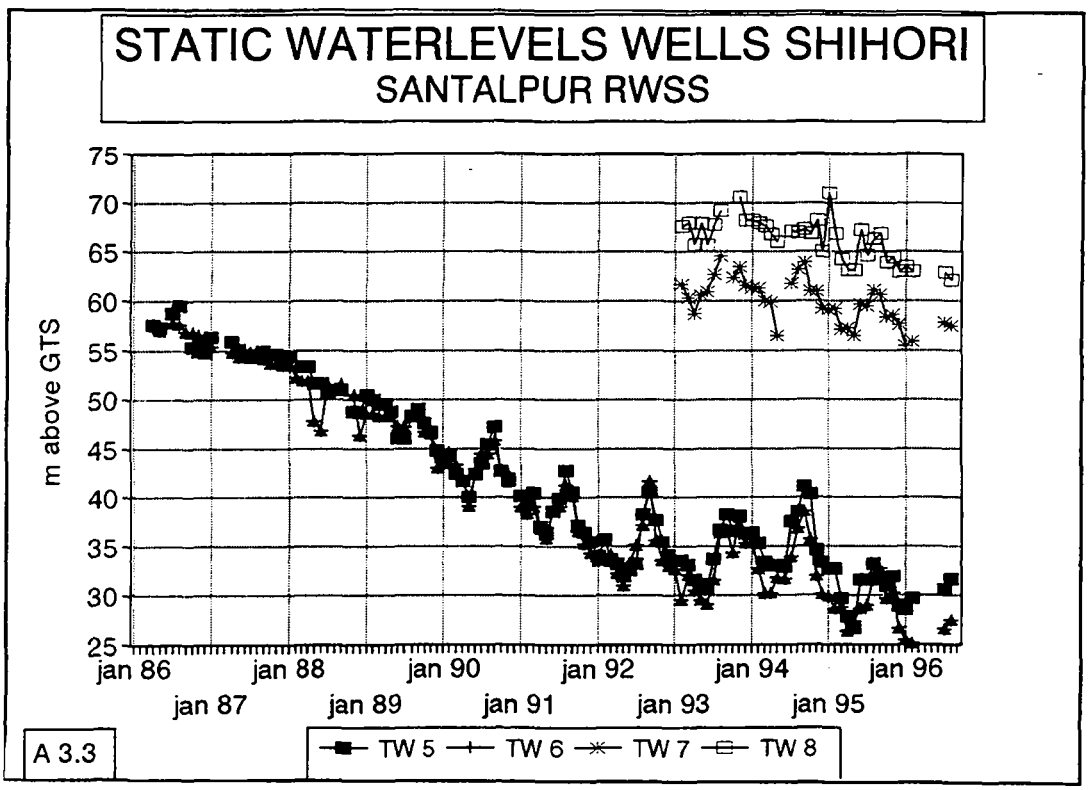
PRM/GWSSB MONITORING RWS/S SCHEMES GUJARAT			
SCHEME	:	SANTALPUR RWS/S SCHEME	
NAME OF GRAPH	:	Waterlevels tubewells Shihori	
SUB TITLE	:	Static water levels nrs. 1, 2, 3, 4, 5 and 6	
NO.	:	A 3.1	
UPDATED	:	October 1996	
X AXIS	:	Monthly	Y AXIS: Waterlevel in m above GTS
OBSERVATIONS	:	The static waterlevels show seasonal variations but have a general declining tendency of 3 to 4 m per year. Tubewell no. 1 is situated near the Banas river. In 1993 the recharge was reasonable; levels did not drop significantly. The 1994 waterlevels at the end of the dry season are as an average slightly above those of 1993. In 1995 again a decline in levels is observed. This is due to the increased production, as many more villages have been connected. In 1996 there was an unexplained discontinuity in data collection.	



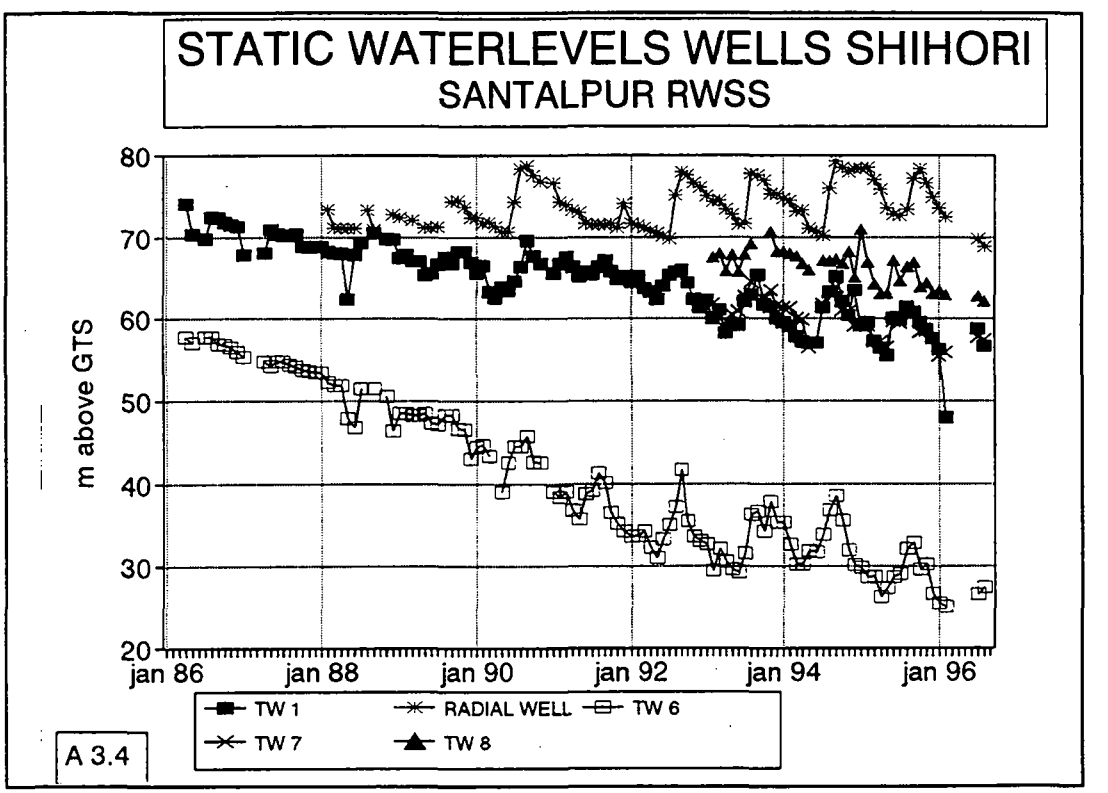
PRM/GWSSB MONITORING RWS/S SCHEMES GUJARAT			
SCHEME	:	**SANTALPUR RWS/S SCHEME**	
NAME OF GRAPH	:	**Water levels tubewells Shihori**	
SUB TITLE	:	**Static waterlevels *nrs* 1, 2, 3 *and* 4**	
NO.	:	**A 3.2**	
UPDATED	:	**October 1996**	
X AXIS	:	**Monthly**	**Y AXIS: Waterlevel in m above GTS**
OBSERVATIONS	:	**See also A 3.1 for explanation. The graph shows clearly the different hydrogeological conditions for tubewell no. 1 that is nearest to the Banas River.**	



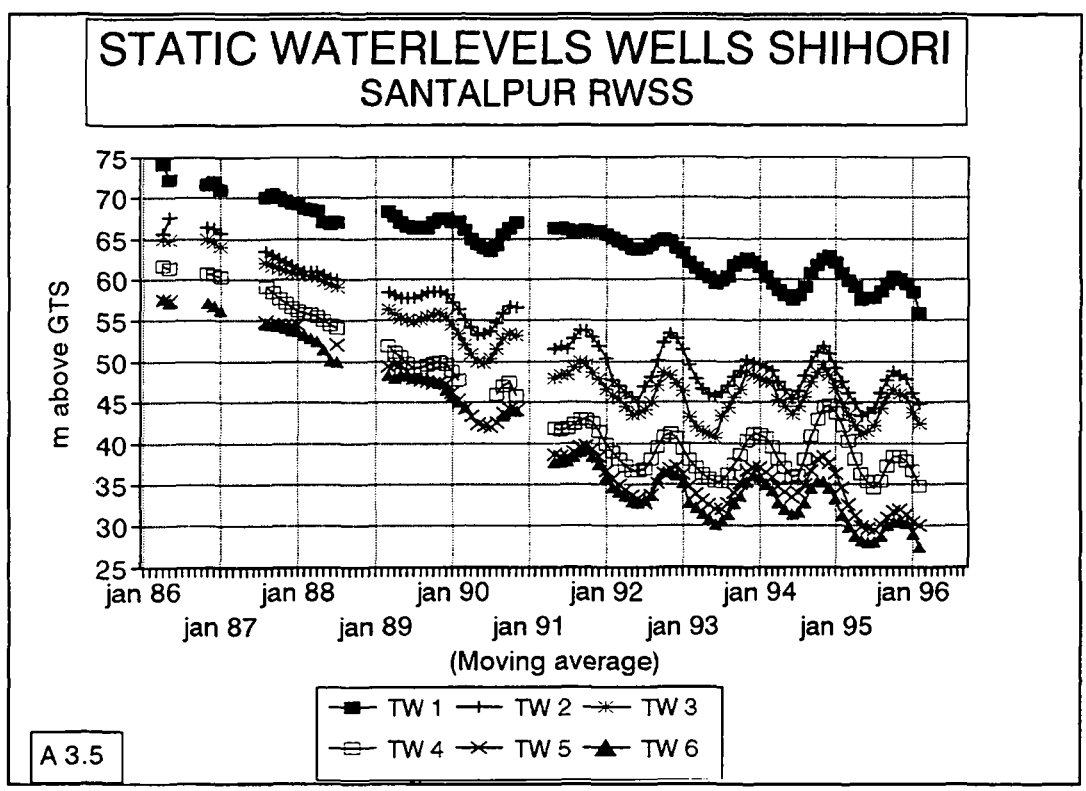
PRM/GWSSB MONITORING RWS/S SCHEMES GUJARAT			
SCHEME	:	SANTALPUR RWS/S SCHEME	
NAME OF GRAPH	:	Water levels tubewells Shihori	
SUB TITLE	:	Static waterlevels nrs. 5, 6, 7 and 8	
NO.	:	A 3.3	
UPDATED	:	October 1996	
X AXIS	:	Monthly	Y AXIS: Waterlevel in m above GTS
OBSERVATIONS	:	Tubewells no. 7 and 8 are new. Their waterlevels are comparable with tubewell no. 1, being considerably higher then those of no. 5 and 6.	



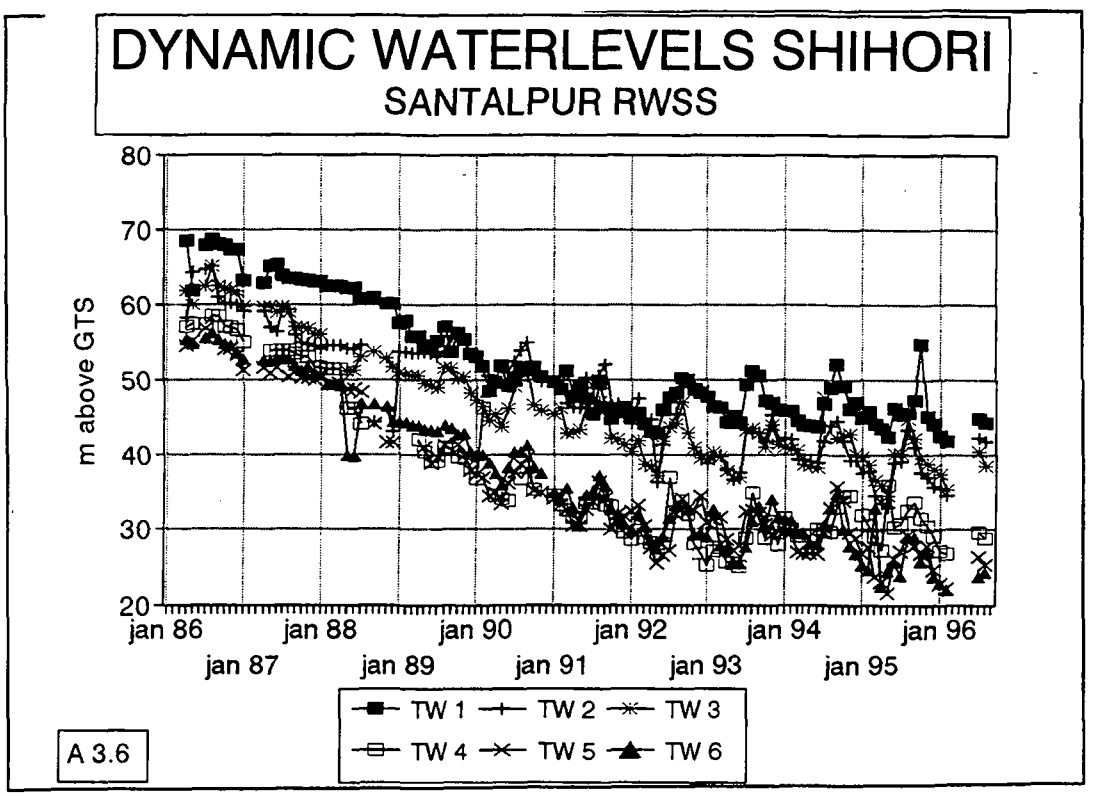
PRM/GWSSB MONITORING RWS/S SCHEMES GUJARAT			
SCHEME	:	**SANTALPUR RWS/S SCHEME**	
NAME OF GRAPH	:	**Water levels wells Shihori**	
SUB TITLE	:	**Static waterlevels no. 1, 6 and Radial well**	
NO.	:	**A 3.4**	
UPDATED	:	**October 1996**	
X AXIS	:	**Monthly**	**Y AXIS: Waterlevel in m above GTS**
OBSERVATIONS	:	**The watertable of the radial well is situated clearly above the water levels of the tubewells. The yearly variation (with recovery in normal years) is about 8 m. The waterlevel of tubewells no. 7 and 8 have been taken into account for reference. Quite likely the radial well will become dry during the next season.**	



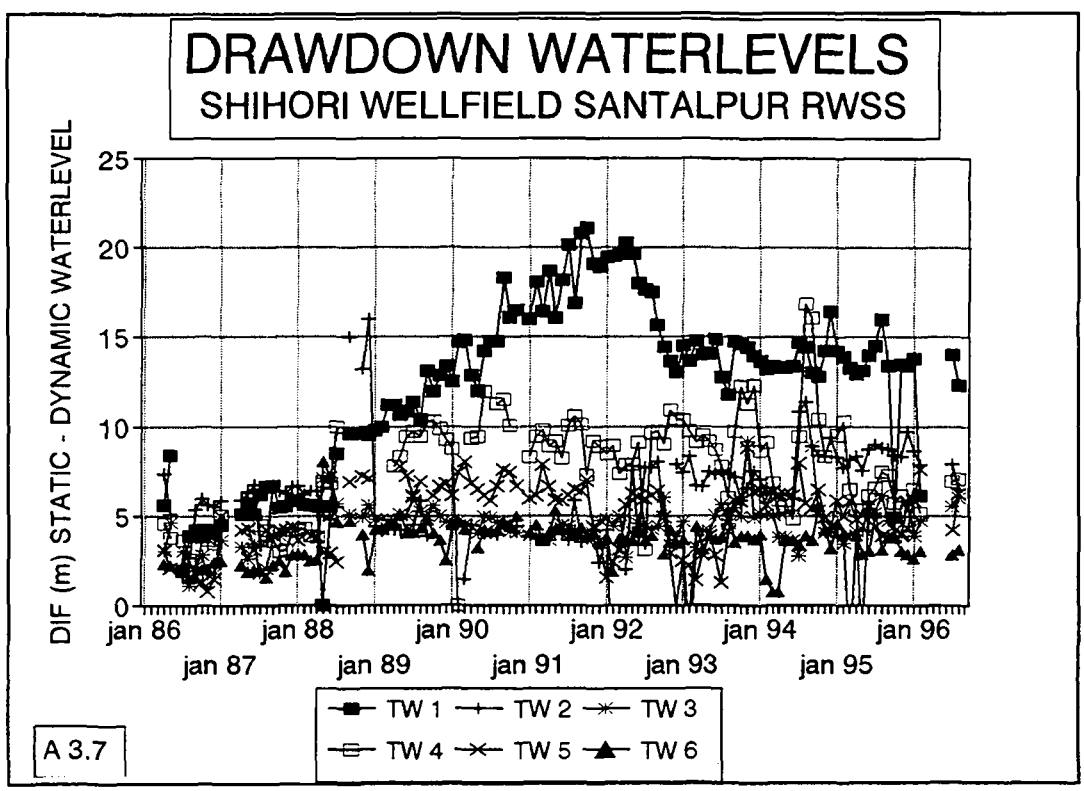
PRM/GWSSB MONITORING RWS/S SCHEMES GUJARAT				
SCHEME	:	**SANTALPUR RWS/S SCHEME**		
NAME OF GRAPH	:	**Water levels tube wells Shihori**		
SUB TITLE	:	**Averaged static water levels**		
NO.	:	**A 3.5**		
UPDATED	:	**October 1996**		
X AXIS	:	**Monthly**	**Y AXIS:**	**Moving average of waterlevels**
OBSERVATIONS	:	**This graph smooths the short term variation in waterlevels. A tendency of declining levels is shown due to increased production.**		



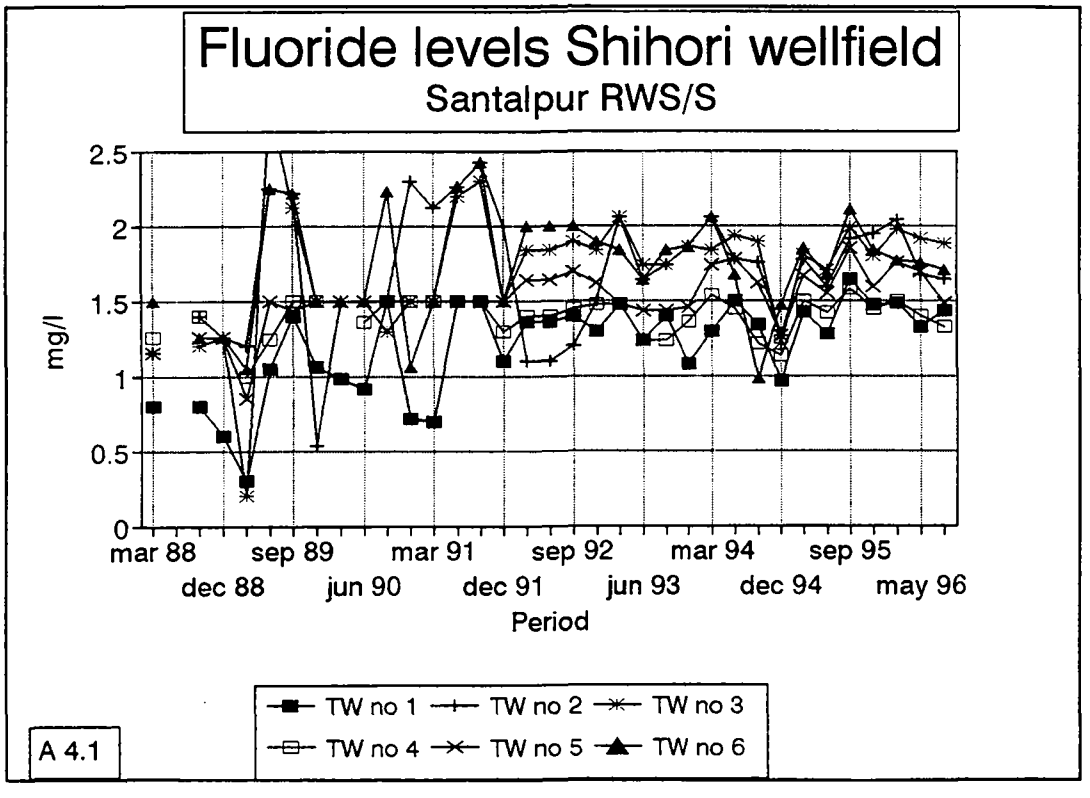
PRM/GWSSB MONITORING RWS/S SCHEMES GUJARAT				
SCHEME	:	**SANTALPUR RWS/S SCHEME**		
NAME OF GRAPH	:	**Water levels tube wells Shihori**		
SUB TITLE	:	**Dynamic water levels tube wells**		
NO.	:	**A 3.6**		
UPDATED	:	**October 1996**		
X AXIS	:	**Monthly**	**Y AXIS:**	**Pumped water levels in m above GTS**
OBSERVATIONS	:	**The pumped waterlevels are 5 to 15 m below the static water levels. The trend of water levels is similar to the static waterlevels. There is a difference between the pumped waterlevels of tubewells no. 1, 2 and 3 and tubewells no. 4, 5 and 6.**		



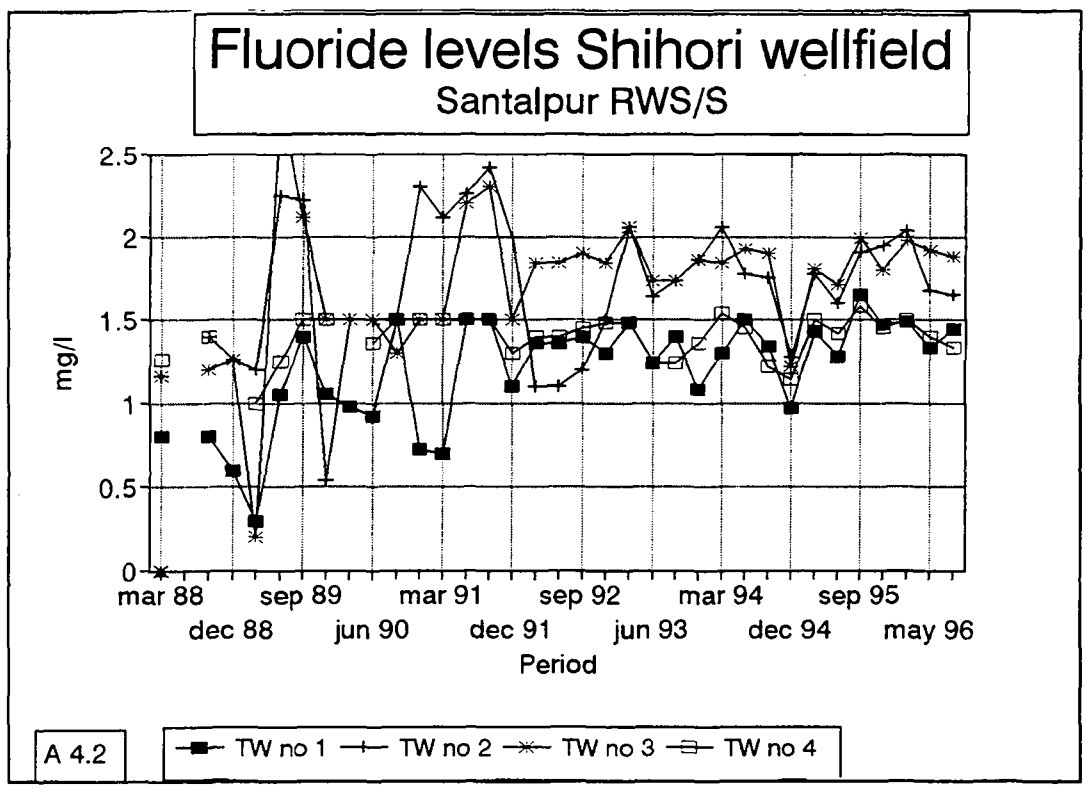
PRM/GWSSB MONITORING RWS/S SCHEMES GUJARAT			
SCHEME	:	***SANTALPUR RWS/S SCHEME***	
NAME OF GRAPH	:	***Water levels tubewells Shihori***	
SUB TITLE	:	**Drawdown in tubewells**	
NO.	:	**A 3.7**	
UPDATED	:	**October 1996**	
X AXIS	:	**Monthly**	**Y AXIS: Static-Dynamic level in m**
OBSERVATIONS	:	***The average drawdown is 5 to 10 m whereas tubewell no. 1 is at 15 m. Tubewell no. 4 showed large variations in the past.***	



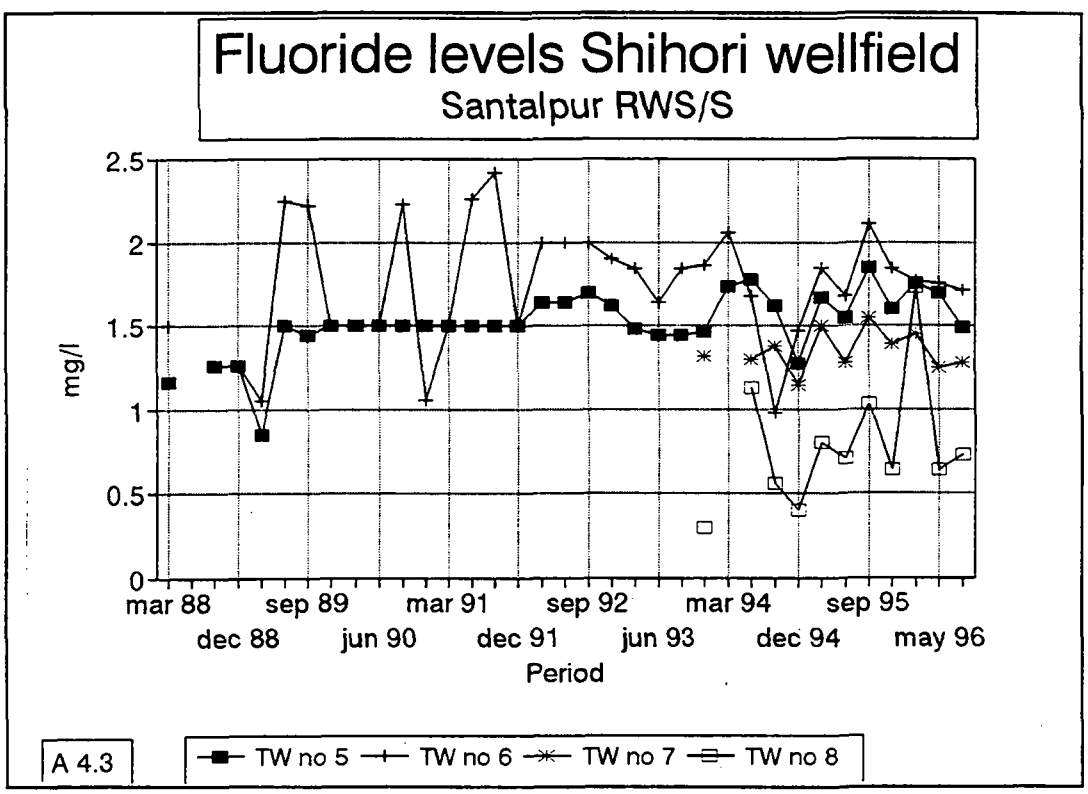
PRM/GWSSB MONITORING RWS/S SCHEMES GUJARAT			
SCHEME	:	SANTALPUR RWS/S SCHEME	
NAME OF GRAPH	:	Water quality tubewells Shihori	
SUB TITLE	:	Fluoride content nrs. 1, 2, 3, 4, 5 and 6	
NO.	:	A 4.1	
UPDATED	:	October 1996	
X AXIS	:	Quarterly	Y AXIS: mg/l fluoride
OBSERVATIONS	:	In 1989 and 1991 the fluoride content of several tubewells rose above the permissible limit of 1,5 mg/l. During the last years levels have stabilised.	



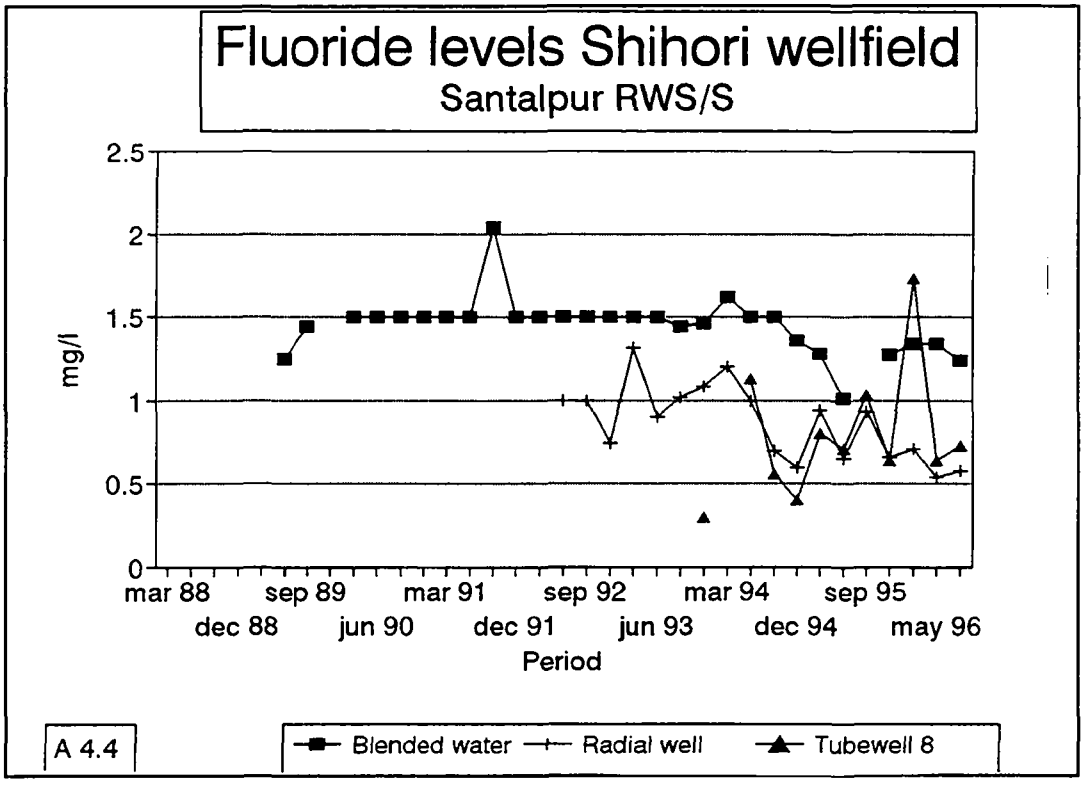
PRM/GWSSB MONITORING RWS/S SCHEMES GUJARAT				
SCHEME	:	SANTALPUR RWS/S SCHEME		
NAME OF GRAPH	:	Water quality tubewells Shihori		
SUB TITLE	:	Fluoride content nrs. 1, 2, 3 and 4		
NO.	:	A 4.2		
UPDATED	:	October 1996		
X AXIS	:	Quarterly	Y AXIS:	mg/l fluoride
OBSERVATIONS	:	See A 4.1		



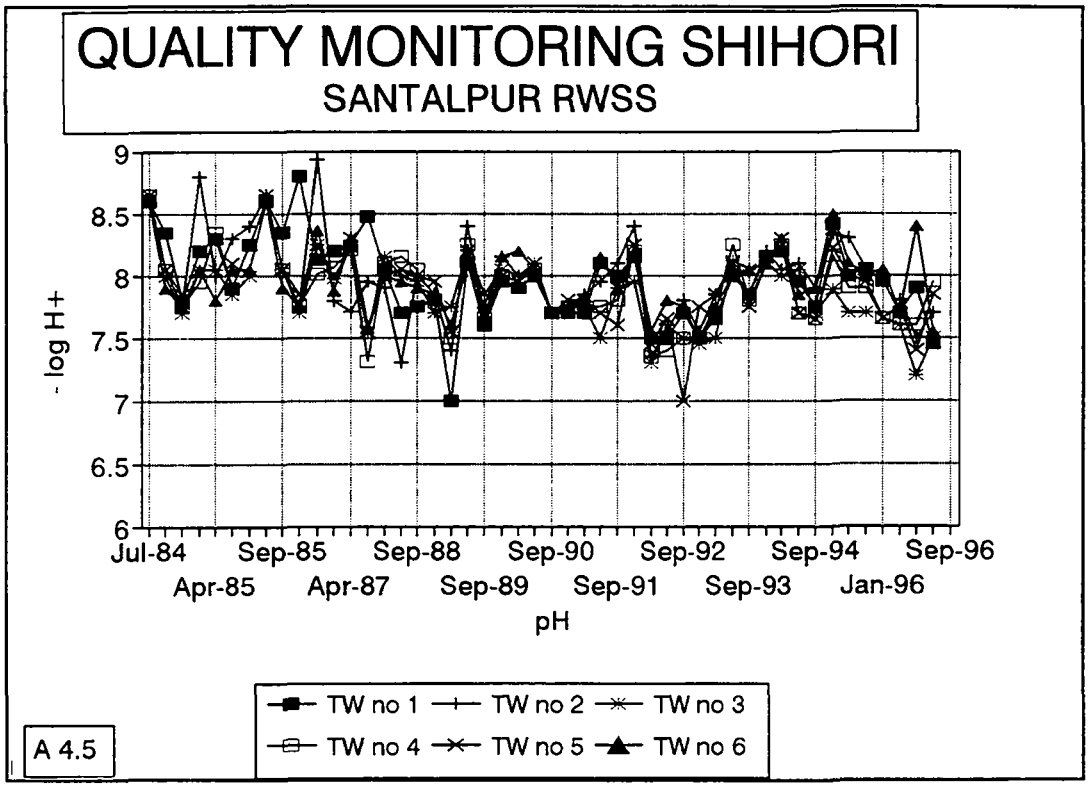
PRM/GWSSB MONITORING RWS/S SCHEMES GUJARAT				
SCHEME	:	SANTALPUR RWS/S SCHEME		
NAME OF GRAPH	:	Water quality tubewells Shihori		
SUB TITLE	:	Fluoride contents nrs. 5, 6, 7 and 8		
NO.	:	A 4.3		
UPDATED	:	October 1996		
X AXIS	:	Quarterly	Y AXIS:	mg/l fluoride
OBSERVATIONS	:	See A 4.1, tubewells 7 and 8 in operation since 1994. Tubewell no. 8 has a significantly lower level due to intentionally blinding of sand layers with high fluoride. There is a sudden increase in January 1996.		



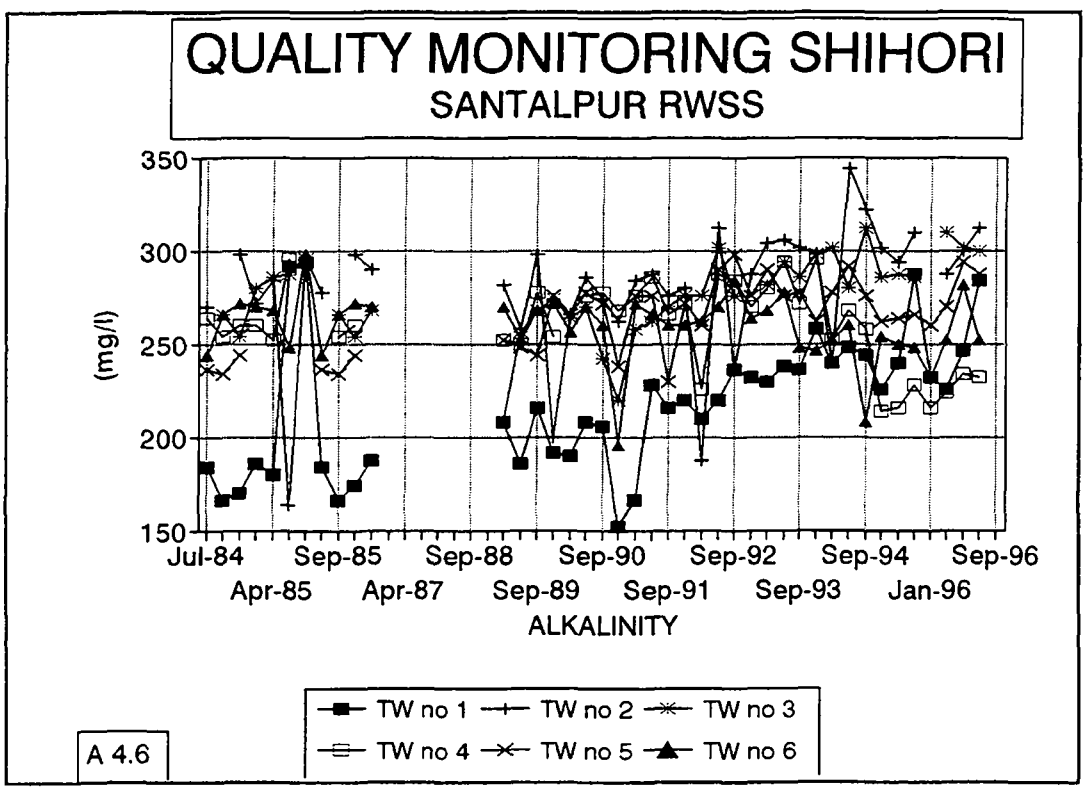
PRM/GWSSB MONITORING RWS/S SCHEMES GUJARAT			
SCHEME	:	**SANTALPUR RWS/S SCHEME**	
NAME OF GRAPH	:	**Water quality tubewells Shihori**	
SUB TITLE	:	**Fluoride content blended water and water from radial well**	
NO.	:	**A 4.4**	
UPDATED	:	**October 1996**	
X AXIS	:	**Quarterly**	**Y AXIS: mg/l fluoride**
OBSERVATIONS	:	**The fluoride content in the radial well and tubewell no. 8 is clearly below the average fluoride content of water from other tube wells. The fluoride content of the blended water has decreased consequently and is now below the permissible limit.**	



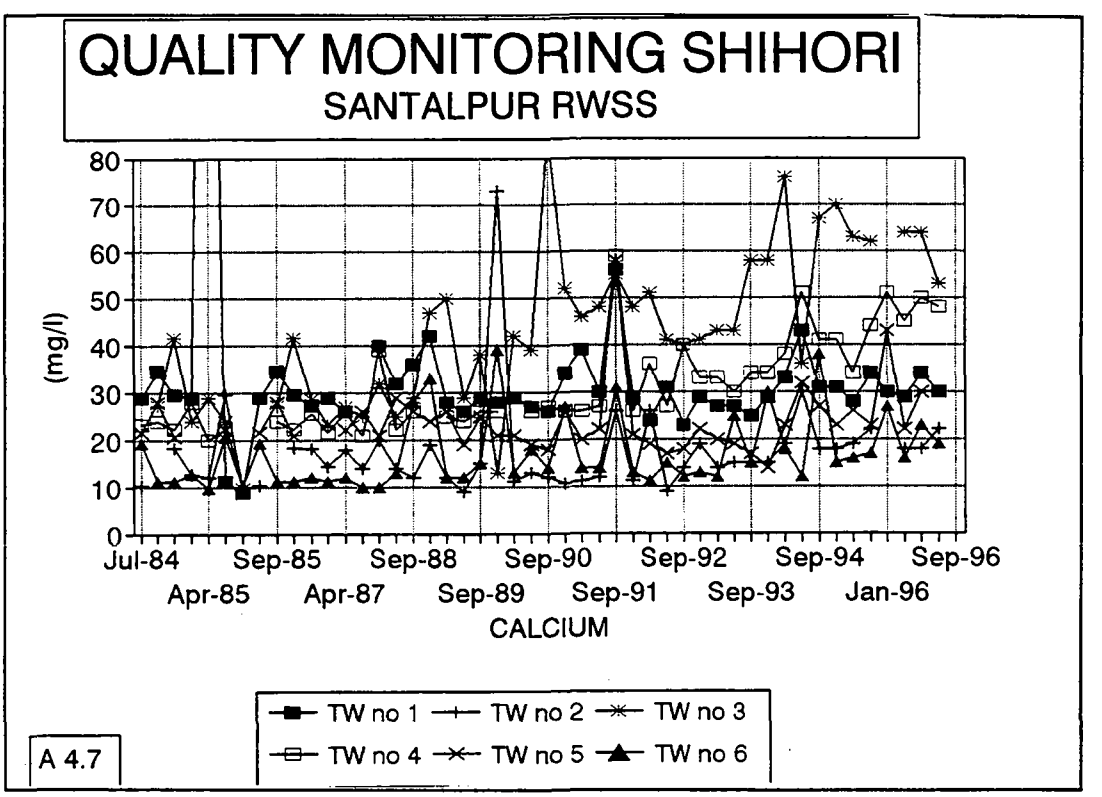
PRM/GWSSB MONITORING RWS/S SCHEMES GUJARAT		
SCHEME	:	**SANTALPUR RWS/S SCHEME**
NAME OF GRAPH	:	**Water quality tubewells Shihori**
SUB TITLE	:	**pH values**
NO.	:	**A 4.5**
UPDATED	:	**October 1996**
X AXIS	:	**Quarterly (irregular 1985-1988)** **Y AXIS: - log H^+**
OBSERVATIONS	:	**A slight decrease of pH is observed until 1993. Since three consecutive years of rain thereafter, the pH value recovered.**



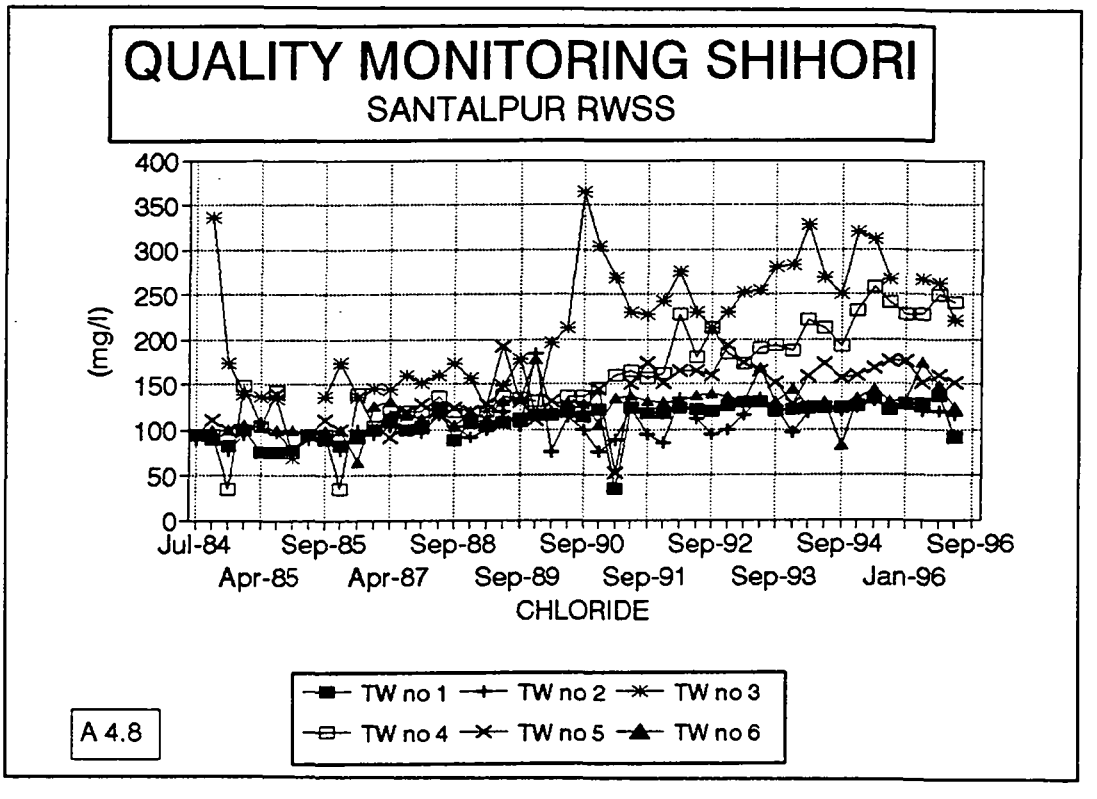
PRM/GWSSB MONITORING RWS/S SCHEMES GUJARAT		
SCHEME	:	**SANTALPUR RWS/S SCHEME**
NAME OF GRAPH	:	**Water quality tubewells Shihori**
SUB TITLE	:	**Alkalinity**
NO.	:	**A 4.6**
UPDATED	:	**October 1996**
X AXIS	:	***Quarterly*** **(irregular 1985-1988)** **Y AXIS: *Alkalinity***
OBSERVATIONS	:	--



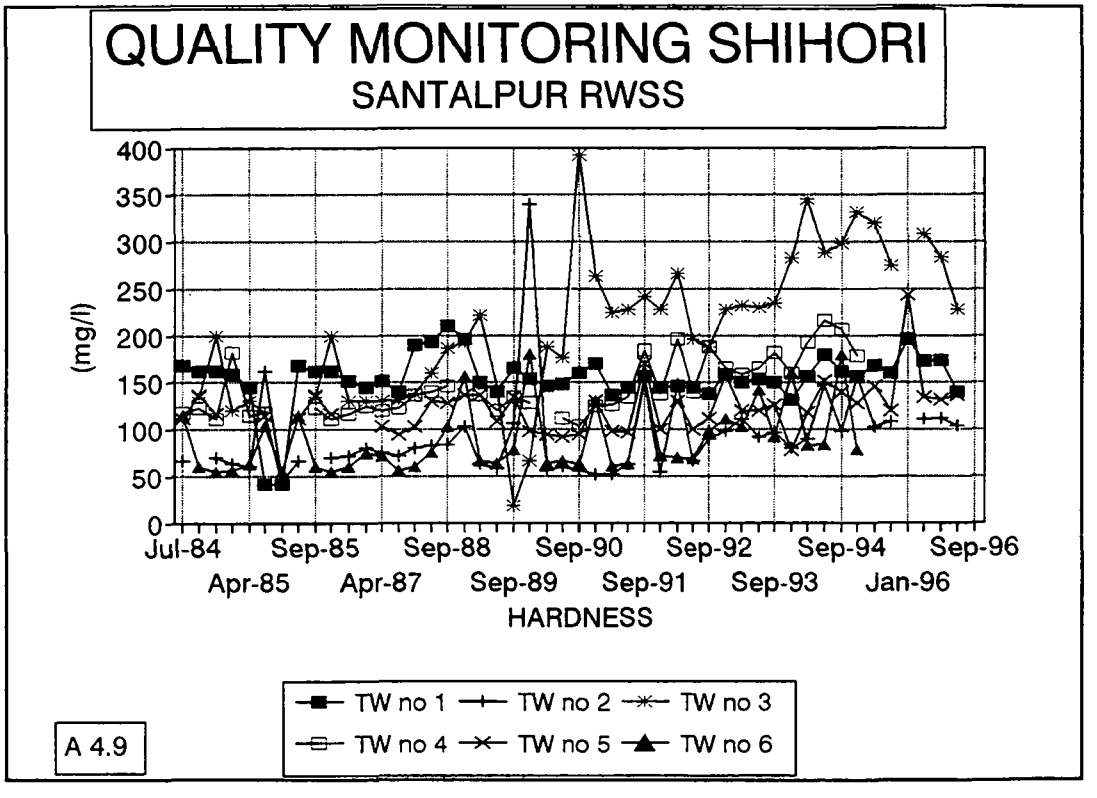
PRM/GWSSB MONITORING RWS/S SCHEMES GUJARAT		
SCHEME	:	**SANTALPUR RWS/S SCHEME**
NAME OF GRAPH	:	**Water quality tubewells Shihori**
SUB TITLE	:	**Calcium content tubewells**
NO.	:	**A 4.7**
UPDATED	:	**October 1996**
X AXIS	:	**Quarterly (irregular 1985-1988)** **Y AXIS: mg/l Calcium as Ca.**
OBSERVATIONS	:	**There is a remarkable difference in the calcium content in tubewell no. 3. Tubewells no. 3 and 4 are the center of the abstraction.**



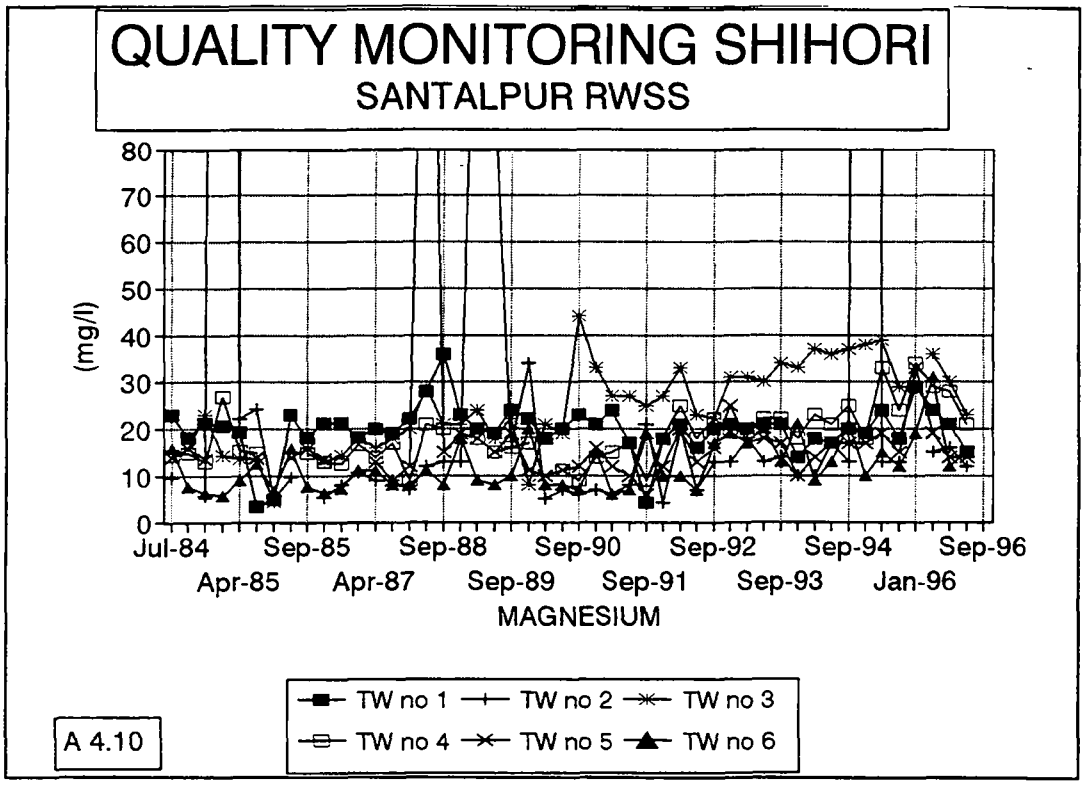
PRM/GWSSB MONITORING RWS/S SCHEMES GUJARAT		
SCHEME	:	SANTALPUR RWS/S SCHEME
NAME OF GRAPH	:	Water quality tubewells Shihori
SUB TITLE	:	Chloride content tubewells
NO.	:	A 4.8
UPDATED	:	October 1996
X AXIS	:	Quarterly (irregular 1985-1988) Y AXIS: mg/l Chloride
OBSERVATIONS	:	Chloride stays well within the limits. A slight increasing trend is to be noticed. Tubewell no. 3 has distinct higher levels. Both graphs A 4.7 and 4.8 show that tubewell no. 3 attracts $CaCl_2$-type water.



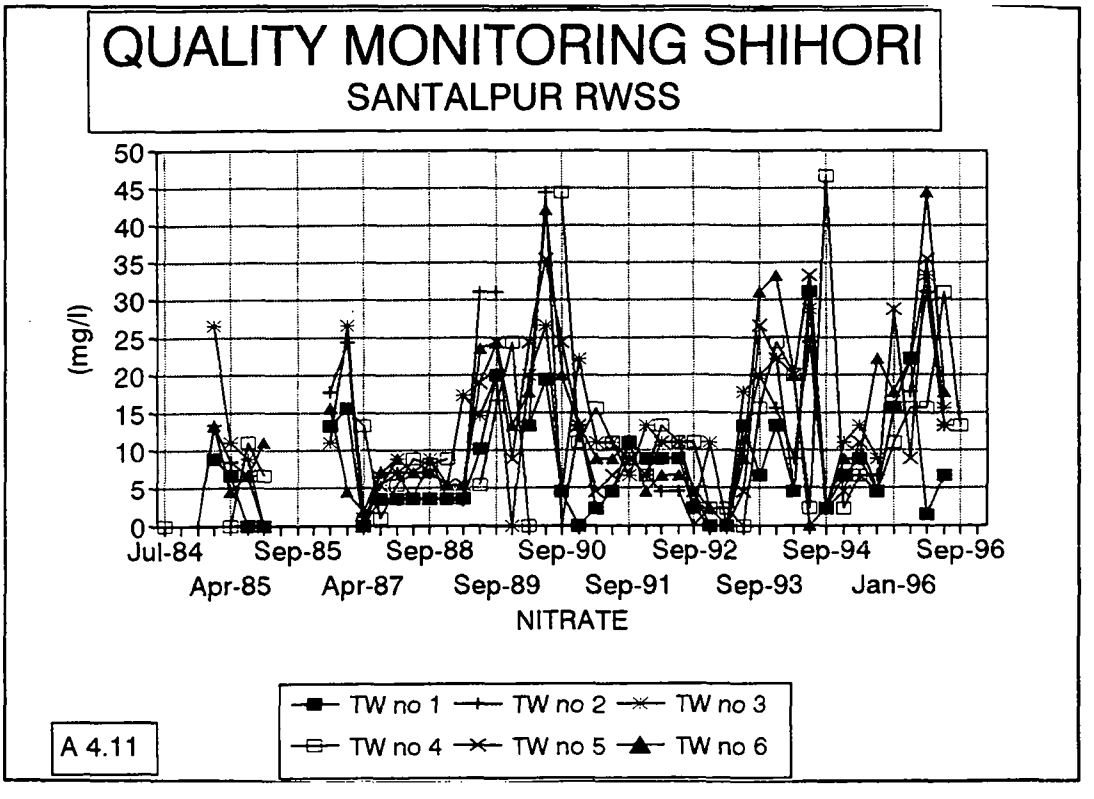
PRM/GWSSB MONITORING RWS/S SCHEMES GUJARAT				
SCHEME	:	SANTALPUR RWS/S SCHEME		
NAME OF GRAPH	:	Water quality tubewells Shihori		
SUB TITLE	:	Hardness tubewells		
NO.	:	A 4.9		
UPDATED	:	October 1996		
X AXIS	:	Quarterly (irregular 1985-1988)	Y AXIS:	Hardness
OBSERVATIONS	:	--		



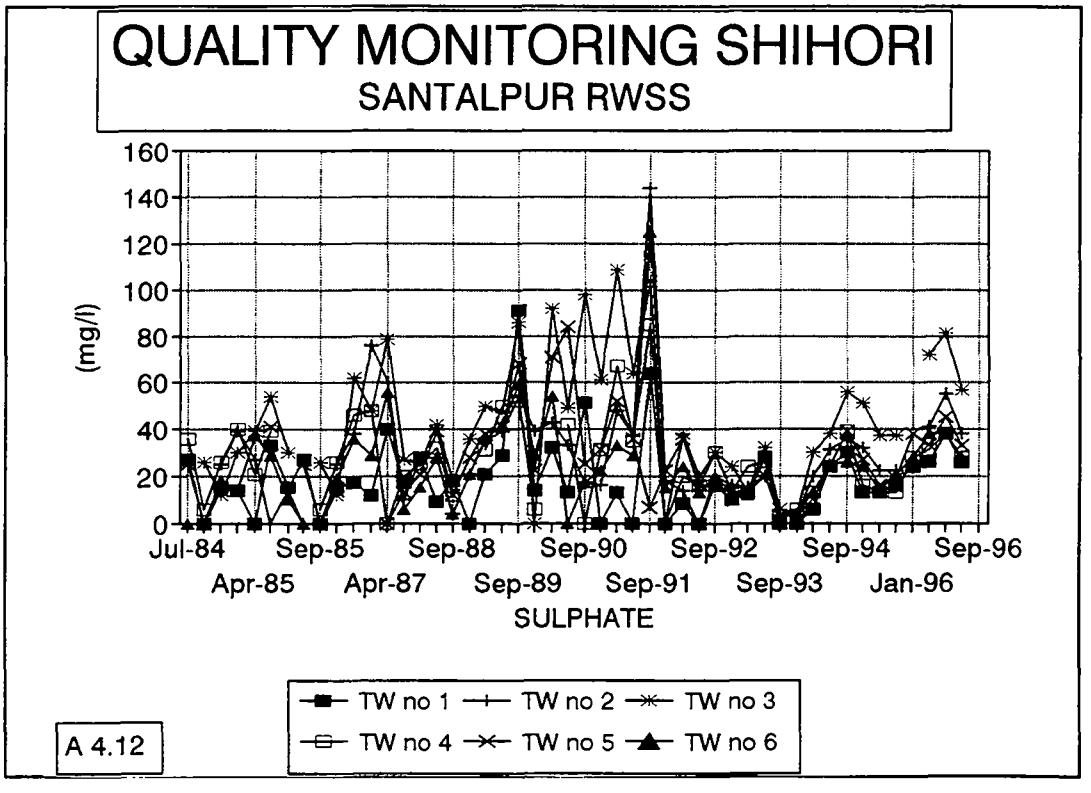
PRM/GWSSB MONITORING RWS/S SCHEMES GUJARAT		
SCHEME	:	SANTALPUR RWS/S SCHEME
NAME OF GRAPH	:	Water quality tubewells Shihori
SUB TITLE	:	Magnesium content tubewells
NO.	:	A 4.10
UPDATED	:	October 1996
X AXIS	:	Quarterly (irregular 1984-1988) Y AXIS: mg/l Magnesium as Mg
OBSERVATIONS	:	--



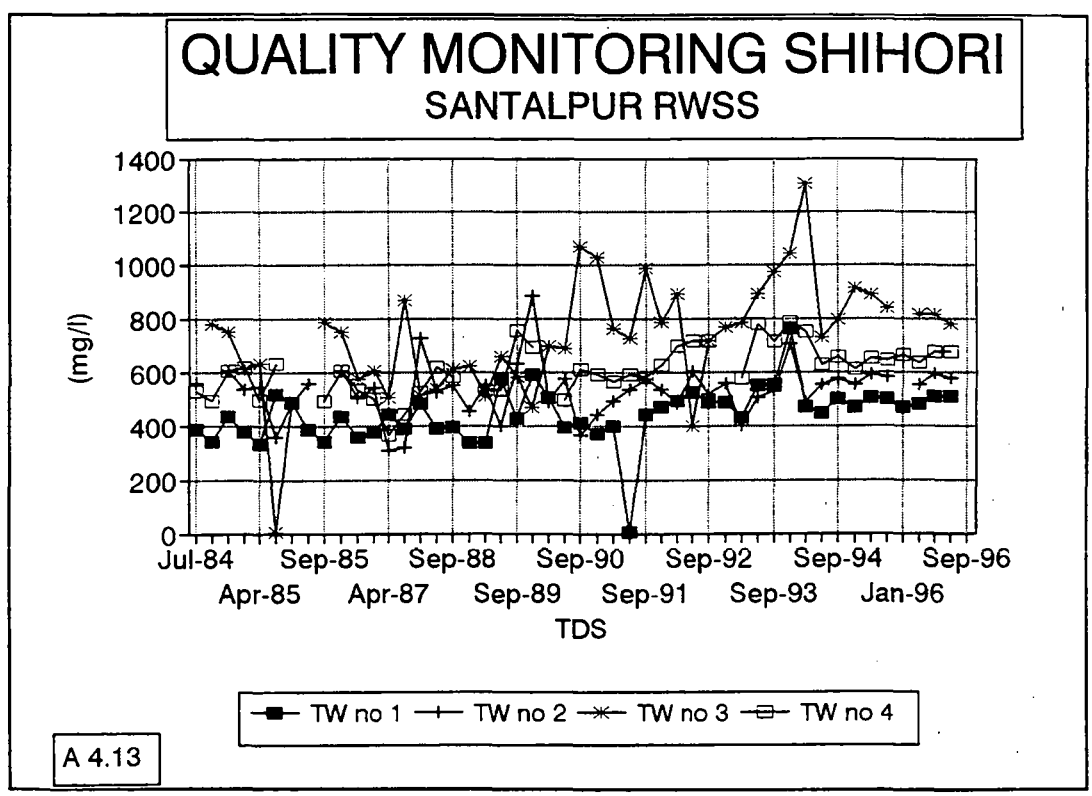
PRM/GWSSB MONITORING RWS/S SCHEMES GUJARAT		
SCHEME	:	**SANTALPUR RWS/S SCHEME**
NAME OF GRAPH	:	**Water quality tubewells Shihori**
SUB TITLE	:	**Nitrate content tubewells**
NO.	:	**A 4.11**
UPDATED	:	**October 1996**
X AXIS	:	**Quarterly (irregular 1984-1988)** **Y AXIS: mg/l Nitrate as NO_3**
OBSERVATIONS	:	**All wells react more or less the same. Incidently higher levels occur, most likely due to irrigation return flow.**



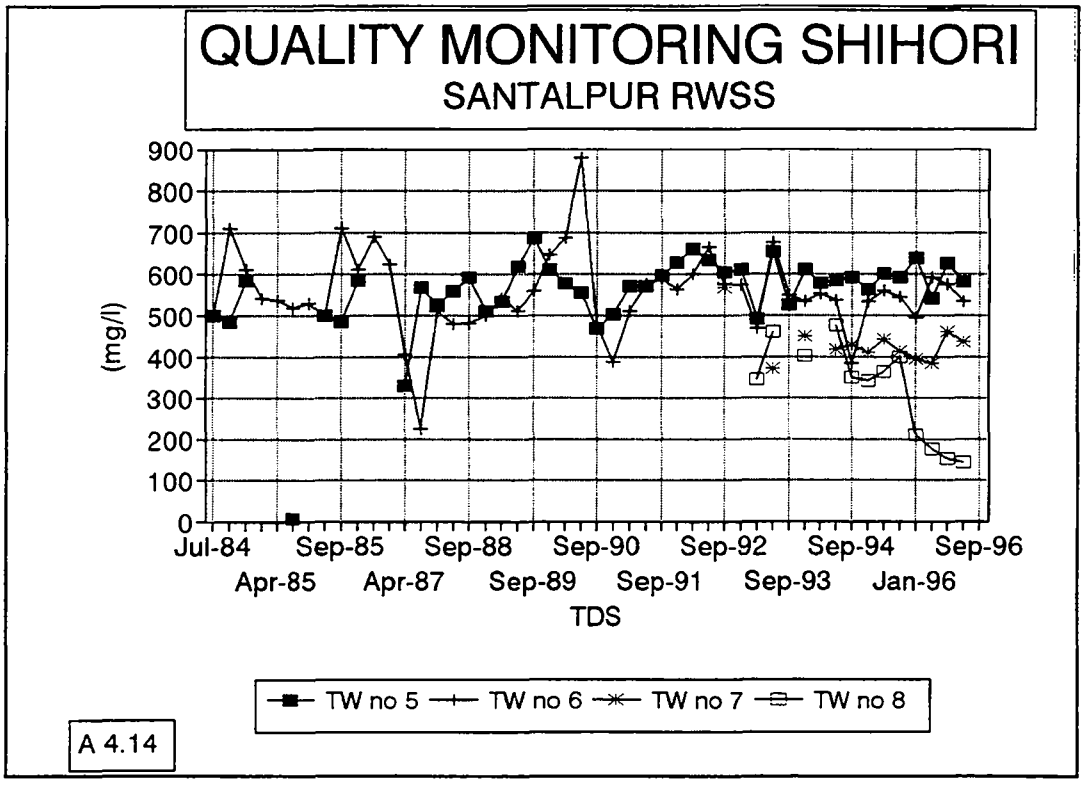
PRM/GWSSB MONITORING RWS/S SCHEMES GUJARAT		
SCHEME	:	**SANTALPUR RWS/S SCHEME**
NAME OF GRAPH	:	**Water quality tubewells Shihori**
SUB TITLE	:	**Sulphate content tubewells**
NO.	:	**A 4.12**
UPDATED	:	**October 1996**
X AXIS	:	**Quarterly (irregular 1984-1988)** **Y AXIS: mg/l Sulphate as SO_4**
OBSERVATIONS	:	**High levels occurred from 1989-1992. Presently the levels are rahter low.**



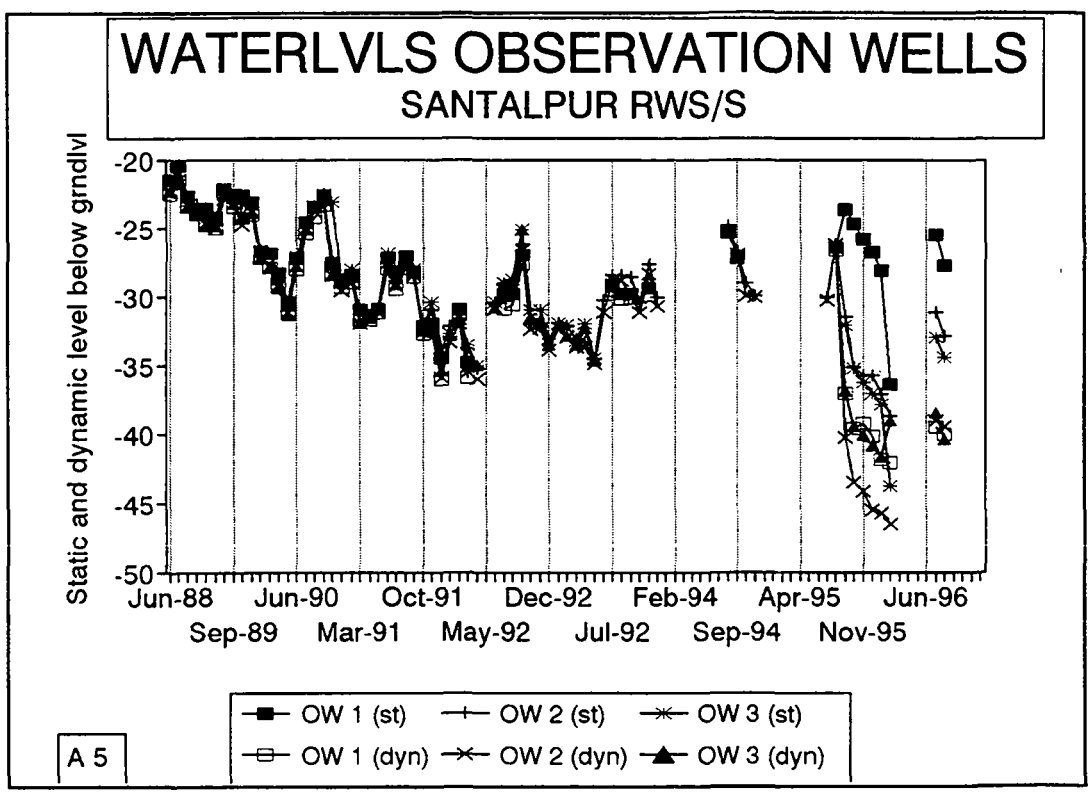
PRM/GWSSB MONITORING RWS/S SCHEMES GUJARAT		
SCHEME	:	SANTALPUR RWS/S SCHEME
NAME OF GRAPH	:	Water quality tubewells Shihori
SUB TITLE	:	Total dissolved solids tubewells 1, 2, 3 and 4
NO.	:	A 4.13
UPDATED	:	October 1996
X AXIS	:	Quarterly (irregular 1984-1988) Y AXIS: mg/l TDS
OBSERVATIONS	:	All wells are stable. Tubewell no. 3 showed an increasing tendency but has stabilised now.



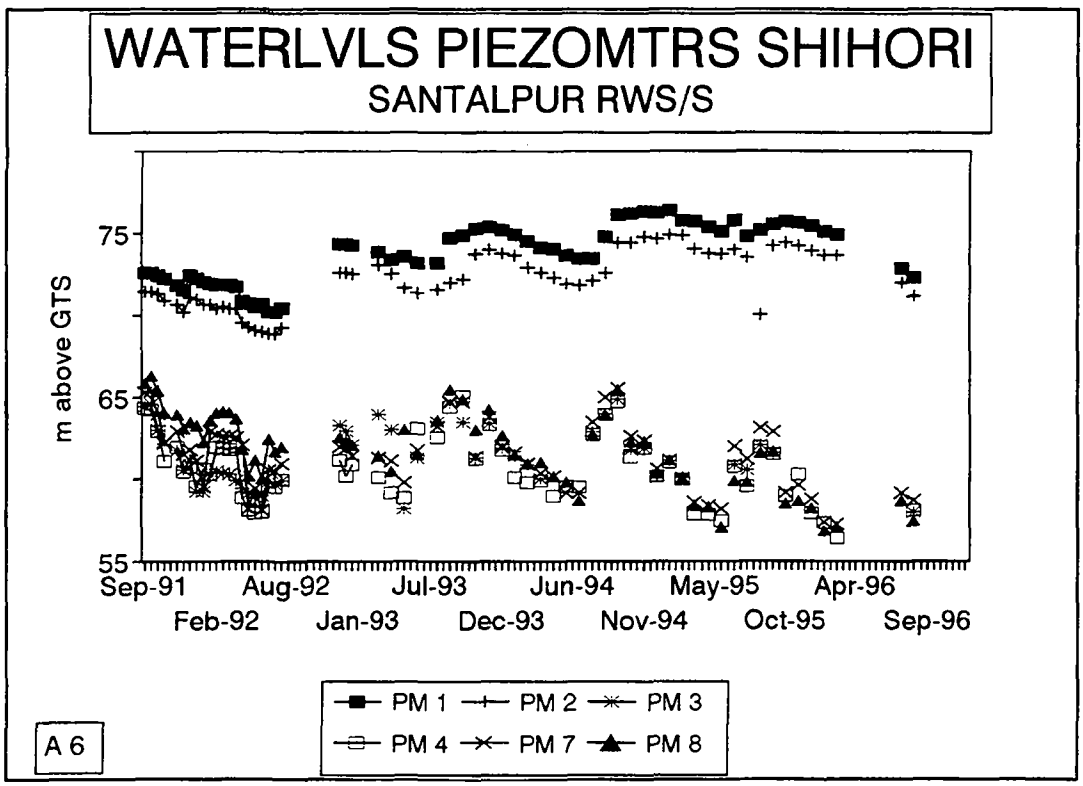
PRM/GWSSB MONITORING RWS/S SCHEMES GUJARAT		
SCHEME	:	**SANTALPUR RWS/S SCHEME**
NAME OF GRAPH	:	**Water quality tubewells Shihori**
SUB TITLE	:	**Total dissolved solids tubewells 5, 6, 7 and 8**
NO.	:	**A 4.14**
UPDATED	:	**October 1996**
X AXIS	:	**Quarterly (irregular 1984-1988)** **Y AXIS: mg/l TDS**
OBSERVATIONS	:	**See A 4.13. Tubewell no. 8 is remarkably low.**



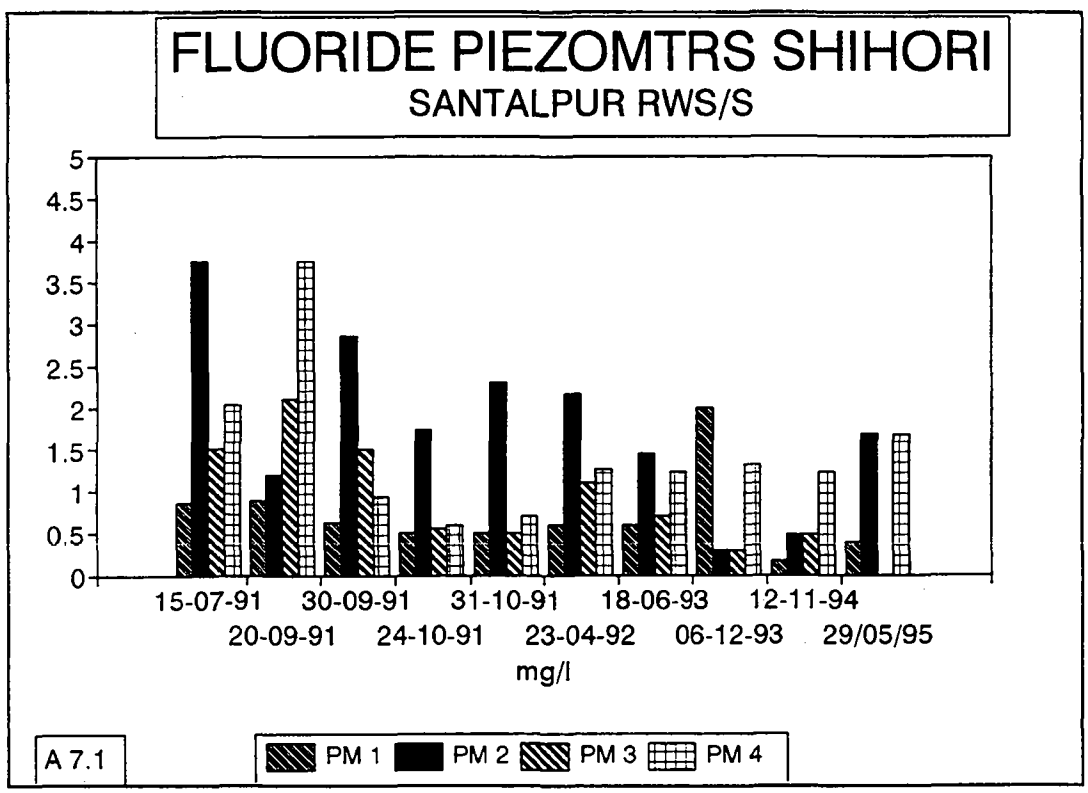
PRM/GWSSB MONITORING RWS/S SCHEMES GUJARAT				
SCHEME	:	**SANTALPUR RWS/S SCHEME**		
NAME OF GRAPH	:	**Water levels observation wells**		
SUB TITLE	:	--		
NO.	:	**A 5**		
UPDATED	:	**October 1996**		
X AXIS	:	**Monthly**	**Y AXIS:**	**Static and Dynamic level *below groundlevel***
OBSERVATIONS	:	**The observation wells are situated in a line perpendicular to tube well no. 3. The trend is similar as in the tube wells. The difference between static and pumping conditions is small. The periods without record mean that the well is dry.**		



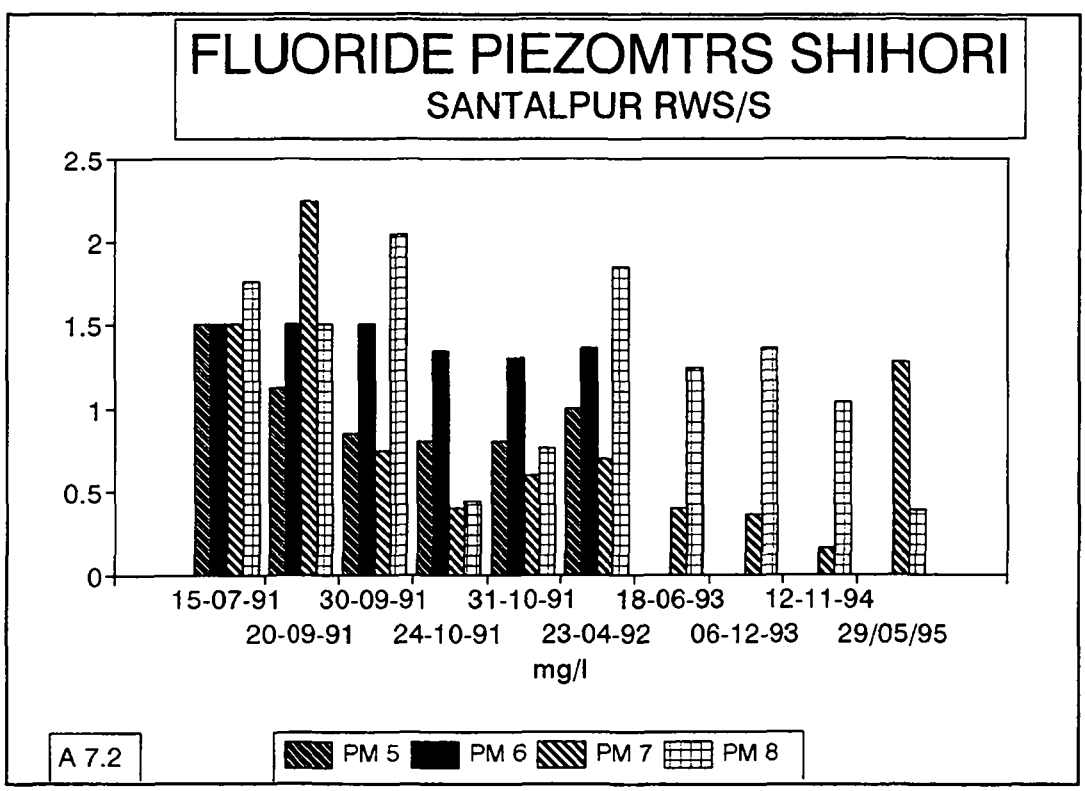
PRM/GWSSB MONITORING RWS/S SCHEMES GUJARAT			
SCHEME	:	**SANTALPUR RWS/S SCHEME**	
NAME OF GRAPH	:	**Water levels piezometers**	
SUB TITLE	:	**Piezometers nrs. 1, 2, 3, 5, 6 and 8**	
NO.	:	**A 6**	
UPDATED	:	**October 1996**	
X AXIS	:	**Two-weekly**	**Y AXIS: Waterlevel in m above GTS**
OBSERVATIONS	:	**The piezometers are situated near tubewell no. 7 that was taken into operation in 1994. The levels seem stable and the timeserie looks similar to the one of tube well no. 1. Some of the piezometers are obstructed.**	



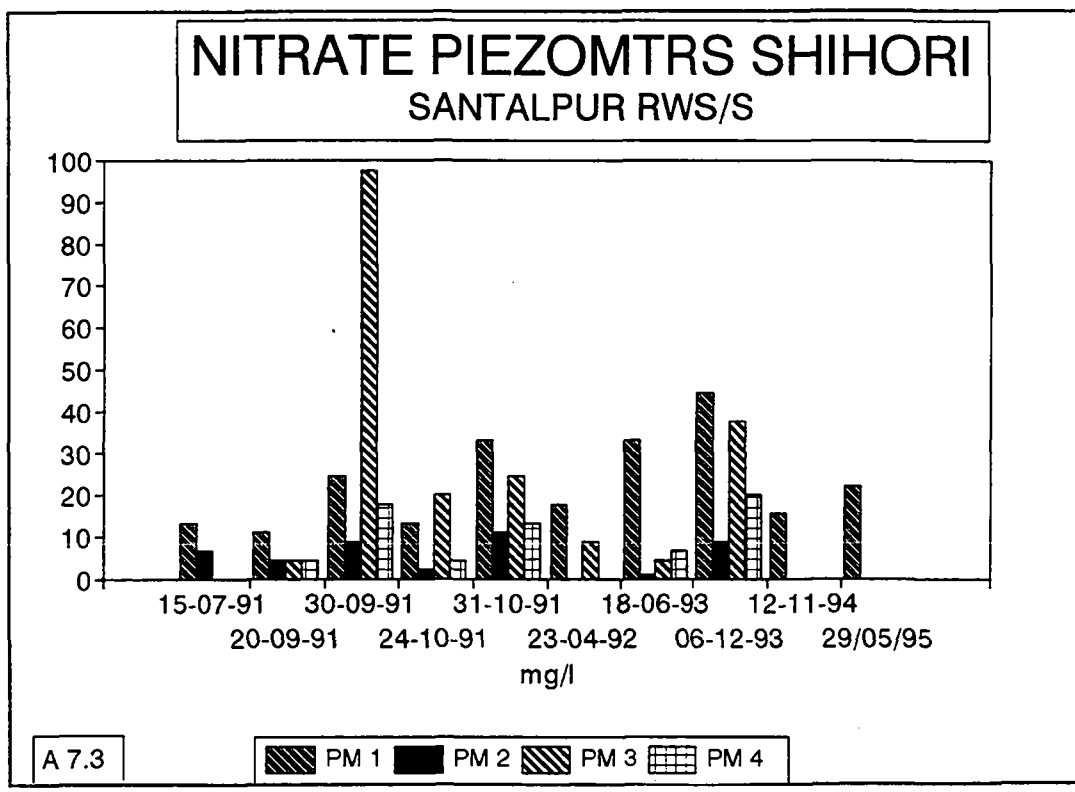
PRM/GWSSB MONITORING RWS/S SCHEMES GUJARAT				
SCHEME	:	SANTALPUR RWS/S SCHEME		
NAME OF GRAPH	:	Water quality piezometers		
SUB TITLE	:	Fluoride content nrs. 1, 2, 3 and 4		
NO.	:	A 7.1		
UPDATED	:	October 1996		
X AXIS	:	Quarterly	Y AXIS:	Fluoride in mg/l
OBSERVATIONS	:	Decreasing tendency in stagnant water. No additional data since May 1995.		



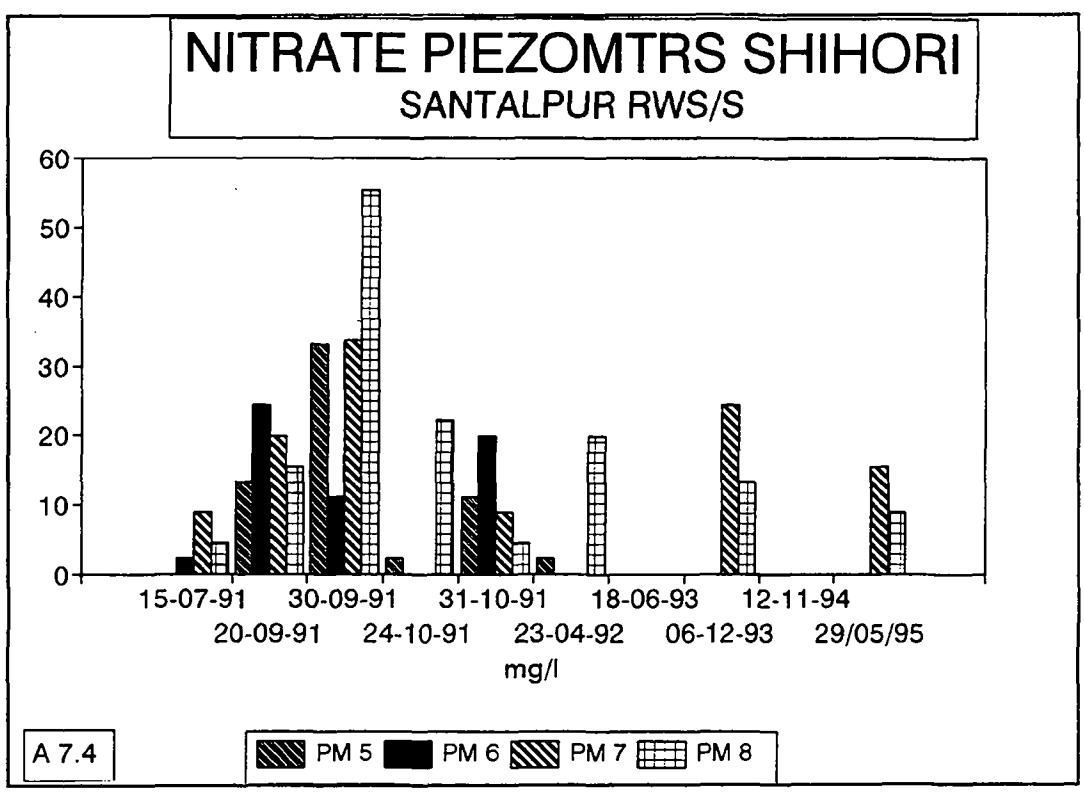
PRM/GWSSB MONITORING RWS/S SCHEMES GUJARAT				
SCHEME	:	SANTALPUR RWS/S SCHEME		
NAME OF GRAPH	:	Water quality piezometers		
SUB TITLE	:	Fluoride content nrs. 5, 6, 7 and 8		
NO.	:	A 7.2		
UPDATED	:	October 1996		
X AXIS	:	Quarterly	Y AXIS:	Fluoride in mg/l
OBSERVATIONS	:	See A 7.1. (Piezometers no. 5 and 6 out of function)		



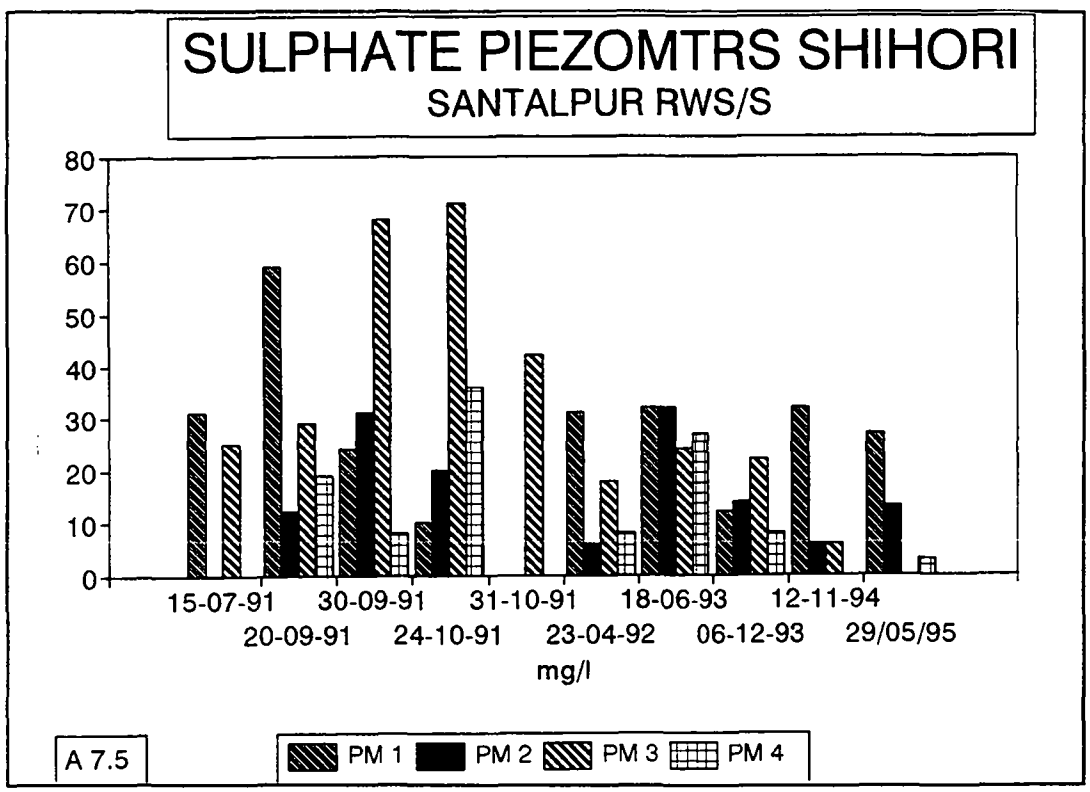
PRM/GWSSB MONITORING RWS/S SCHEMES GUJARAT				
SCHEME	:	SANTALPUR RWS/S SCHEME		
NAME OF GRAPH	:	Water quality piezometers		
SUB TITLE	:	Nitrate content nrs. 1, 2, 3 and 4		
NO.	:	A 7.3		
UPDATED	:	October 1996		
X AXIS	:	Quarterly	Y AXIS:	Fluoride in mg/l
OBSERVATIONS	:	See A 7.1.		



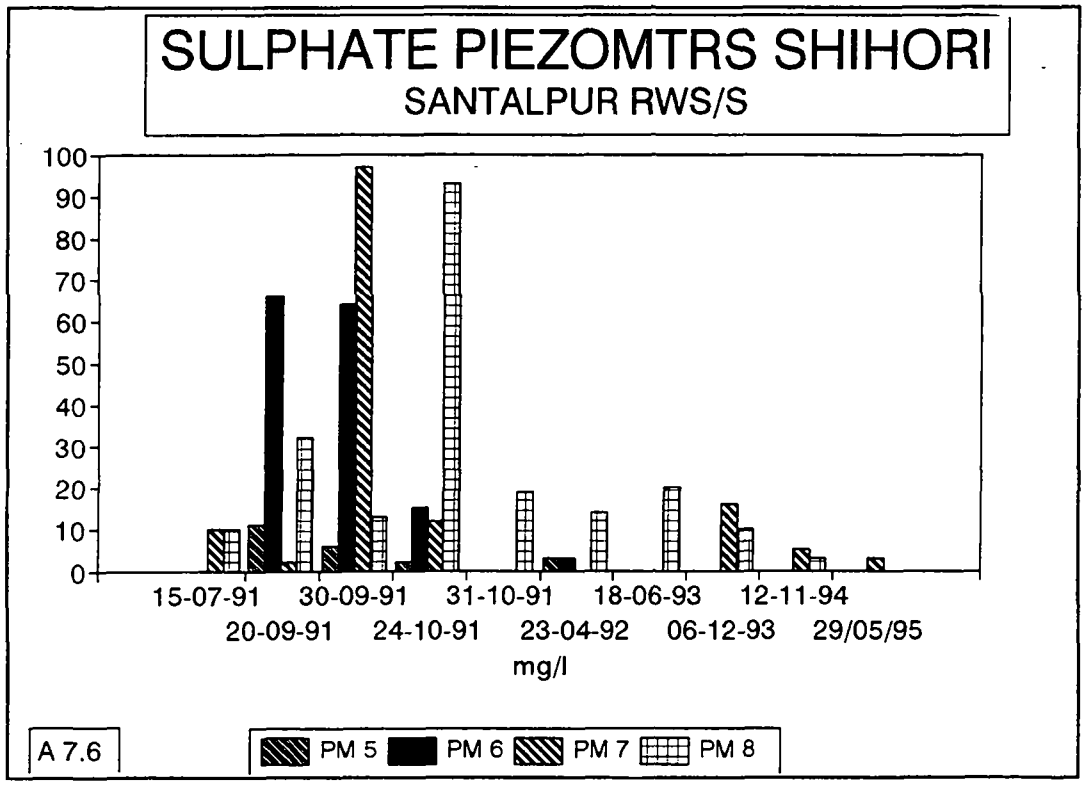
PRM/GWSSB MONITORING RWS/S SCHEMES GUJARAT				
SCHEME	:	**SANTALPUR RWS/S SCHEME**		
NAME OF GRAPH	:	**Water quality piezometers**		
SUB TITLE	:	**Nitrate content nrs. 5, 6, 7 and 8**		
NO.	:	**A 7.4**		
UPDATED	:	***October 1996***		
X AXIS	:	**Quarterly**	**Y AXIS:**	**Nitrate as NO_3in mg/l**
OBSERVATIONS	:	**See A 7.3**		



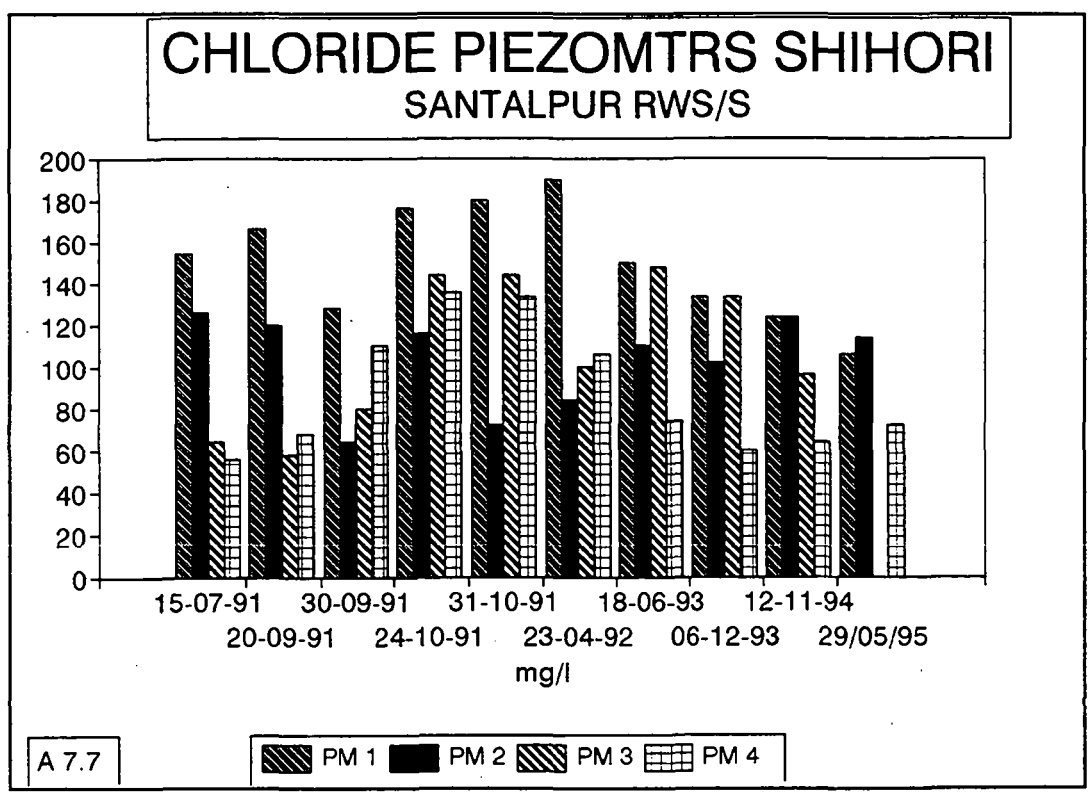
PRM/GWSSB MONITORING RWS/S SCHEMES GUJARAT				
SCHEME	:	SANTALPUR RWS/S SCHEME		
NAME OF GRAPH	:	Water quality piezometers		
SUB TITLE	:	Sulphate nrs. 1, 2, 3 and 4		
NO.	:	A 7.5		
UPDATED	:	October 1996		
X AXIS	:	Quarterly	Y AXIS:	Sulphate as SO_4 in mg/l
OBSERVATIONS	:	See A 7.1		



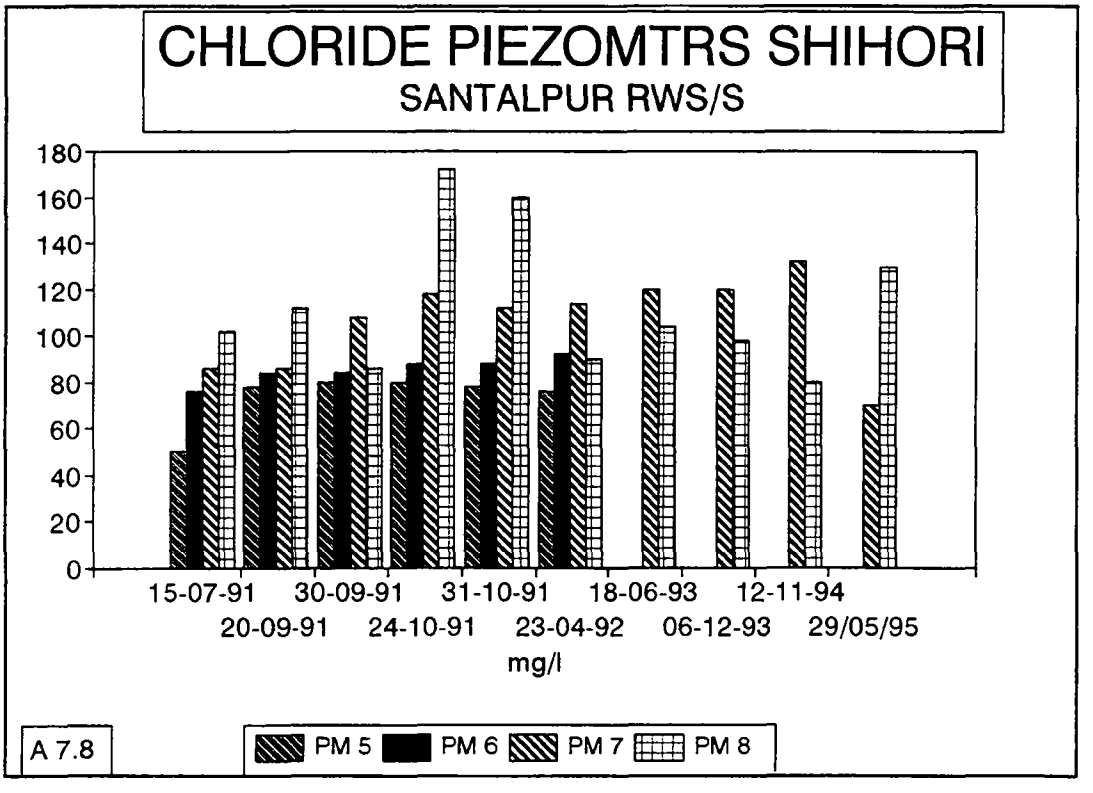
PRM/GWSSB MONITORING RWS/S SCHEMES GUJARAT				
SCHEME	:	SANTALPUR RWS/S SCHEME		
NAME OF GRAPH	:	Water quality piezometers		
SUB TITLE	:	Sulphate nrs. 5, 6, 7 and 8		
NO.	:	A 7.6		
UPDATED	:	October 1996		
X AXIS	:	Quarterly	Y AXIS:	Sulphate as SO_4 in mg/l
OBSERVATIONS	:	See A 7.3		



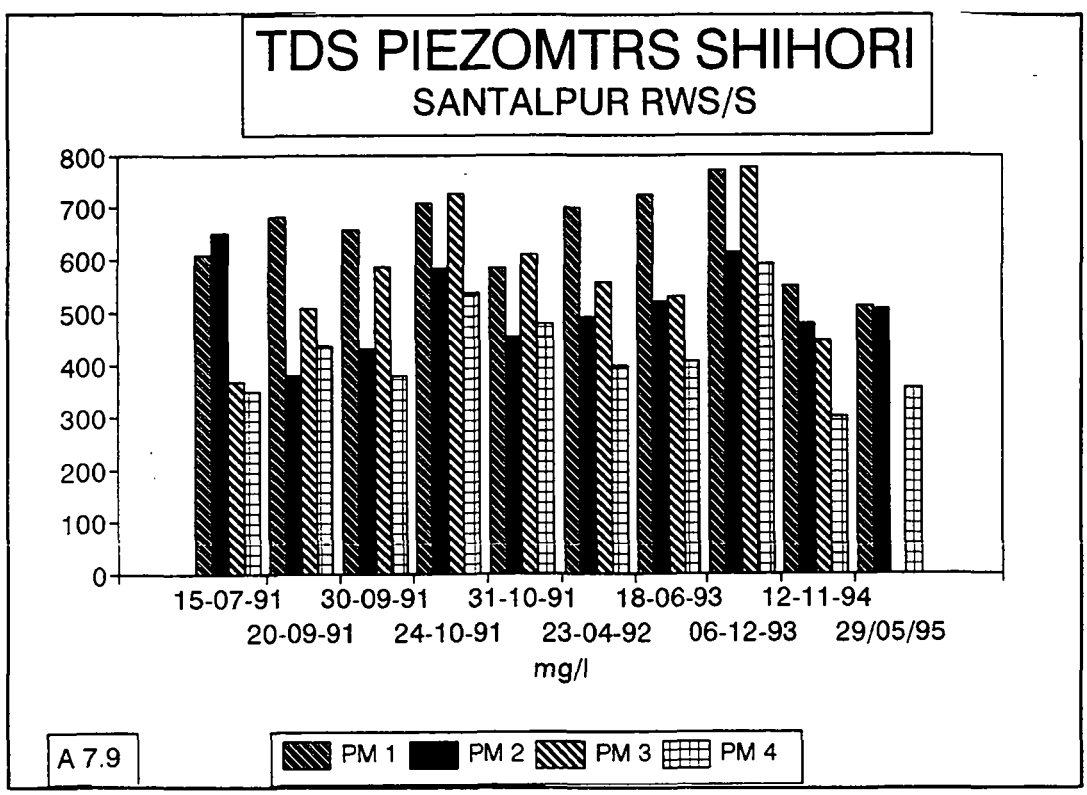
PRM/GWSSB MONITORING RWS/S SCHEMES GUJARAT				
SCHEME	:	SANTALPUR RWS/S SCHEME		
NAME OF GRAPH	:	Water quality piezometers		
SUB TITLE	:	Chloride nrs. 1, 2, 3 and 4		
NO.	:	A 7.7		
UPDATED	:	October 1996		
X AXIS	:	Quarterly	Y AXIS:	Chloride in mg/l
OBSERVATIONS	:	See A 7.1		



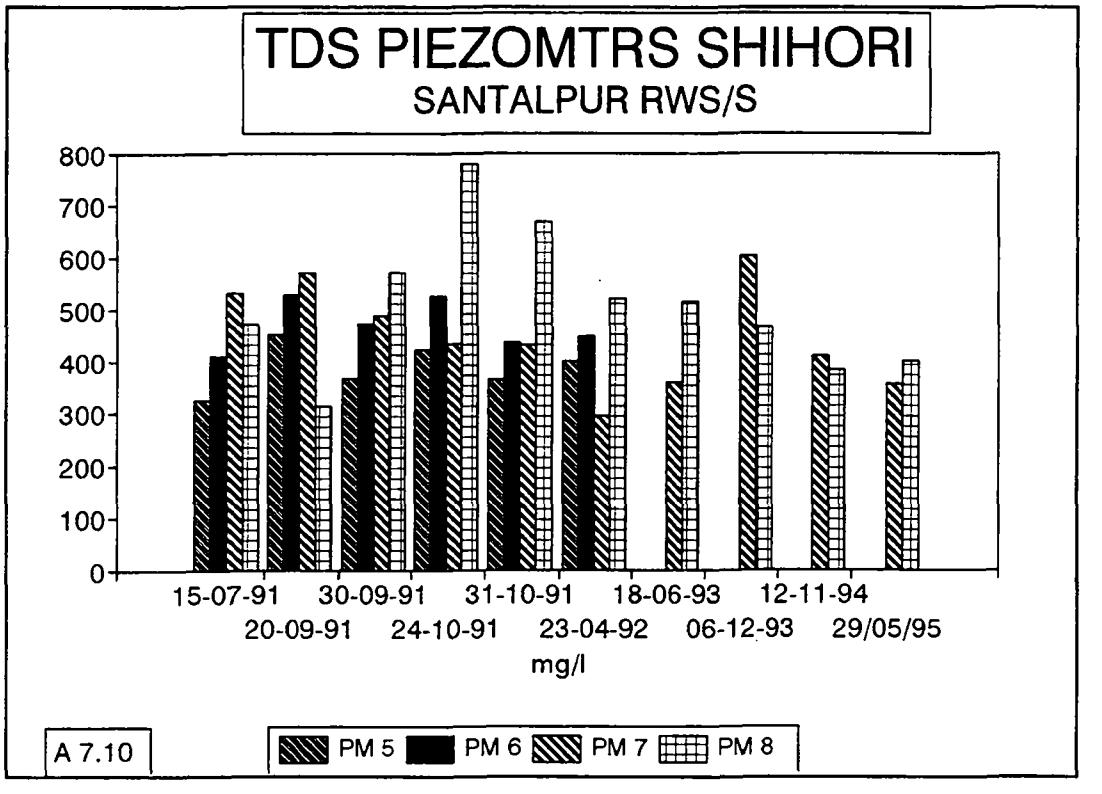
PRM/GWSSB MONITORING RWS/S SCHEMES GUJARAT				
SCHEME	:	SANTALPUR RWS/S SCHEME		
NAME OF GRAPH	:	Water quality piezometers		
SUB TITLE	:	Chloride nrs. 5, 6, 7 and 8		
NO.	:	A 7.8		
UPDATED	:	October 1996		
X AXIS	:	Quarterly	Y AXIS:	Chloride in mg/l
OBSERVATIONS	:	See A 7.3		



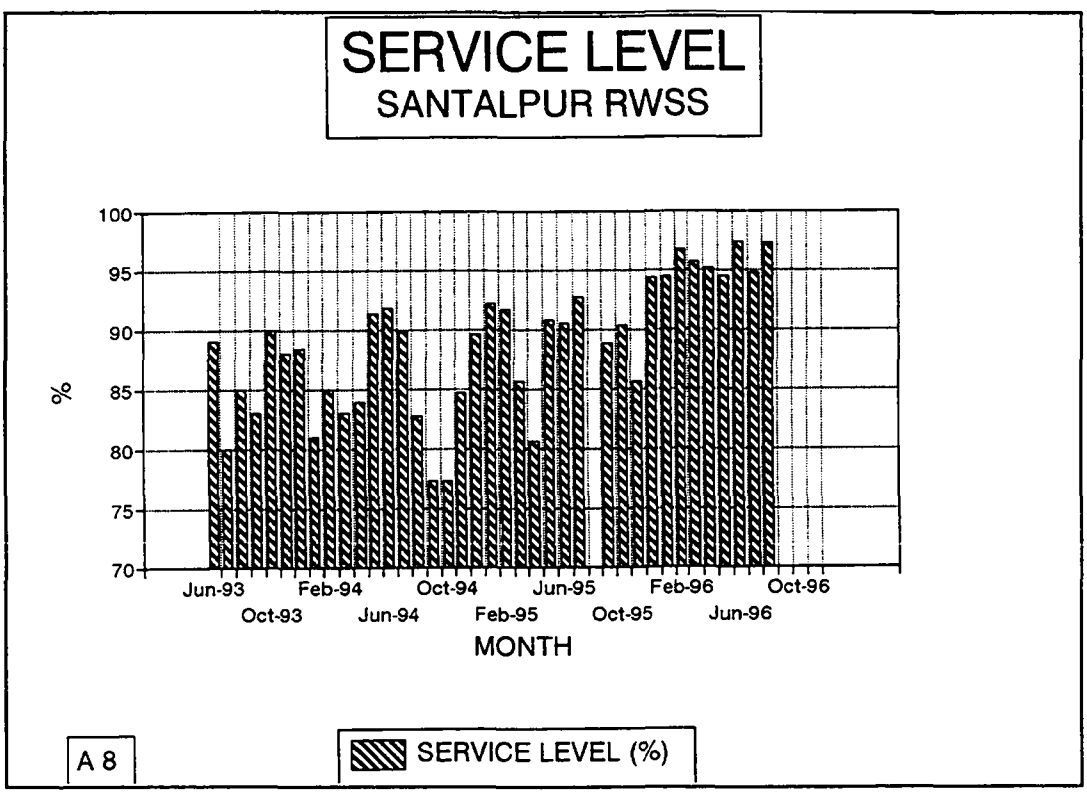
PRM/GWSSB MONITORING RWS/S SCHEMES GUJARAT			
SCHEME	:	SANTALPUR RWS/S SCHEME	
NAME OF GRAPH	:	Water quality piezometers	
SUB TITLE	:	Total dissolved solid nrs. 1, 2, 3 and 4	
NO.	:	A 7.9	
UPDATED	:	October 1996	
X AXIS	:	Quarterly	Y AXIS: TDS in mg/l
OBSERVATIONS	:	See A 7.1	



PRM/GWSSB MONITORING RWS/S SCHEMES GUJARAT			
SCHEME	:	SANTALPUR RWS/S SCHEME	
NAME OF GRAPH	:	Water quality piezometers	
SUB TITLE	:	Total dissolved solids nrs. 5, 6, 7 and 8	
NO.	:	A 7.10	
UPDATED	:	October 1996	
X AXIS	:	Quarterly	Y AXIS: TDS in mg/l
OBSERVATIONS	:	See A 7.3	



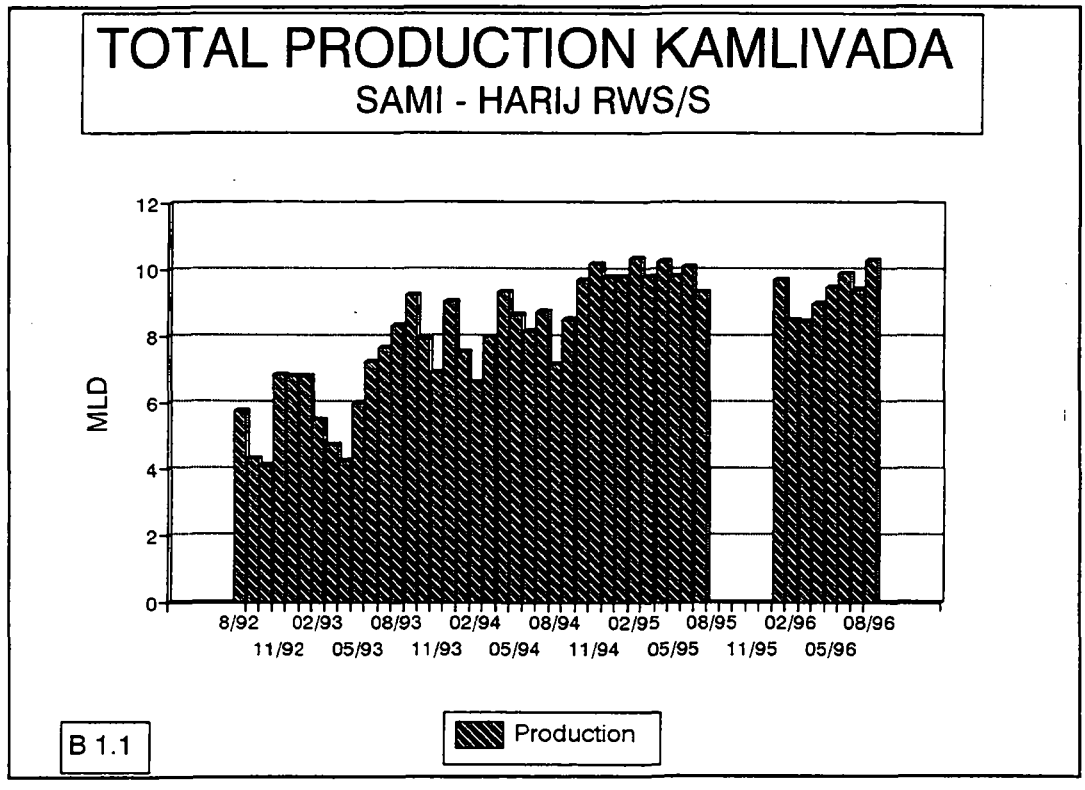
PRM/GWSSB MONITORING RWS/S SCHEMES GUJARAT				
SCHEME	:	**SANTALPUR RWS/S SCHEME**		
NAME OF GRAPH	:	**Service level water distribution**		
SUB TITLE	:	**Santalpur RWS/S Scheme**		
NO.	:	**A 8**		
UPDATED	:	**October 1996**		
X AXIS	:	**Month**	**Y AXIS:**	**Percentage (Number of days with supply per village, versus total number of days in month)**
OBSERVATIONS	:	**Service level is varying and shows improvement.**		



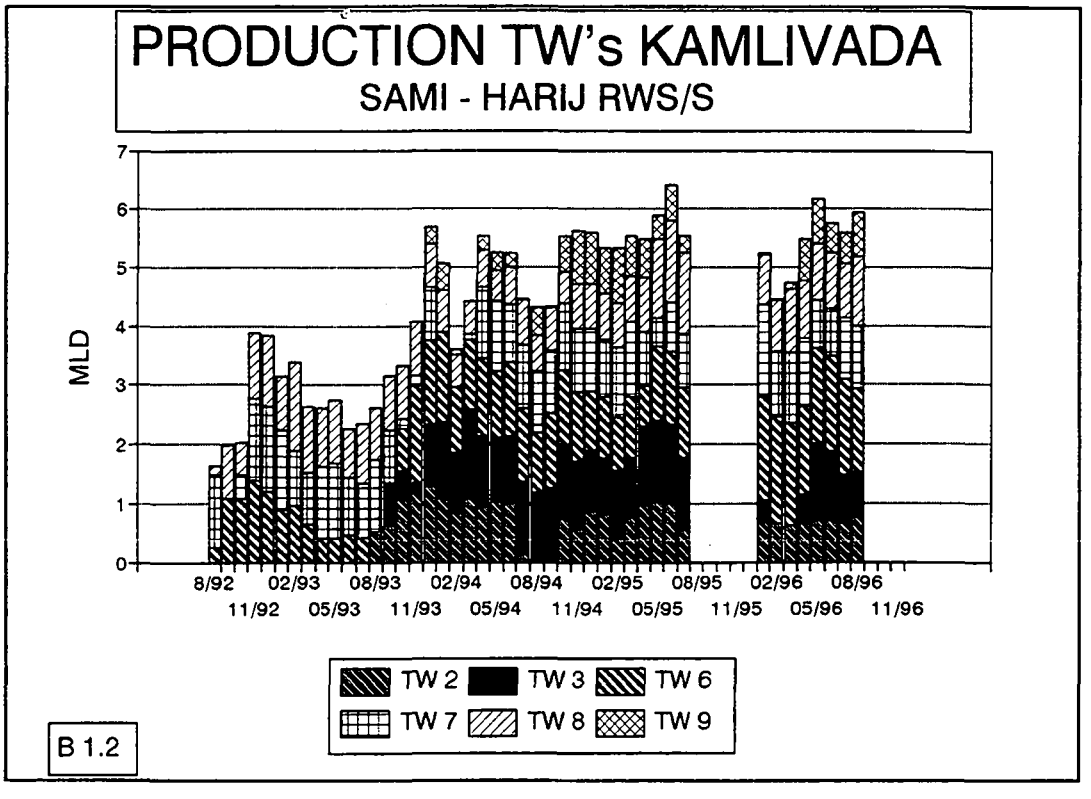
B.
SAMI-HARIJ RWS/S SCHEME

1. Production Kamlivada
   - 1.1 Total production well field
   - 1.2 Production per tubewell (nrs 2, 3, 6, 7, 8)
   - 1.3 Production per tubewell (nrs 10, 11, 12, 13)
2. Quality produced water Kamlivada
   - 2.1 Fluoride content blended water
   - 2.2 Total Dissolved Solids blended water
3. Waterlevels Tubewells Kamlivada
   - 3.1 Static waterlevels tubewells 1 to 7
   - 3.2 Static water levels tubewells 8 to 13
4. Fluoride Tubewells Kamlivada
   - 4.1 Fluoride content tubewells 1 to 7
   - 4.2 Fluoride content tubewells 8 to 13
5. TDS Tubewells Kamlivada
   - 5.1 TDS content tubewells 1 to 7
   - 5.2 TDS content tubewells 8 to 13
6. Waterlevels piezometers Kamlivada
   - 6.1 Waterlevels selected piezometers
   - 6.2 Waterlevels piezometers at selected dates
7. Fluoride piezometers Kamlivada
   - 7.1 Fluoride content in piezometers at selected dates
   - 7.2 Fluoride content in piezometers 1 to 4
   - 7.3 Fluoride content in piezometers 5 to 10
8. Rainfal Patan Taluka
9. Repair of leakages
10. Service level water distribution

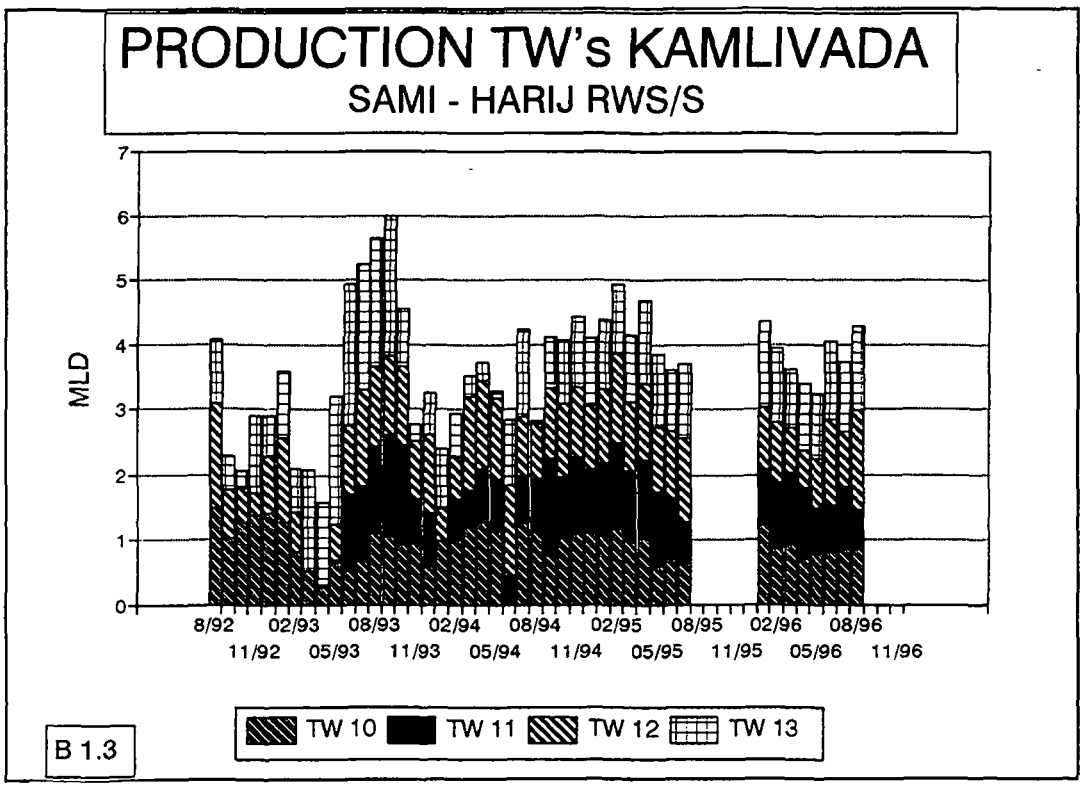
PRM/GWSSB MONITORING RWS/S SCHEMES GUJARAT		
SCHEME	:	Sami-Harij RWS/S
NAME OF GRAPH	:	Production Kamlivada well field
SUB TITLE	:	Total Production
NO.	:	B 1.1
UPDATED	:	October 1996
X AXIS	:	Monthly production Y AXIS: MLD
OBSERVATIONS	:	The production has been increased in May 1993 and January 1995 in order to connect more villages. Presently about 9.5 mld is produced.



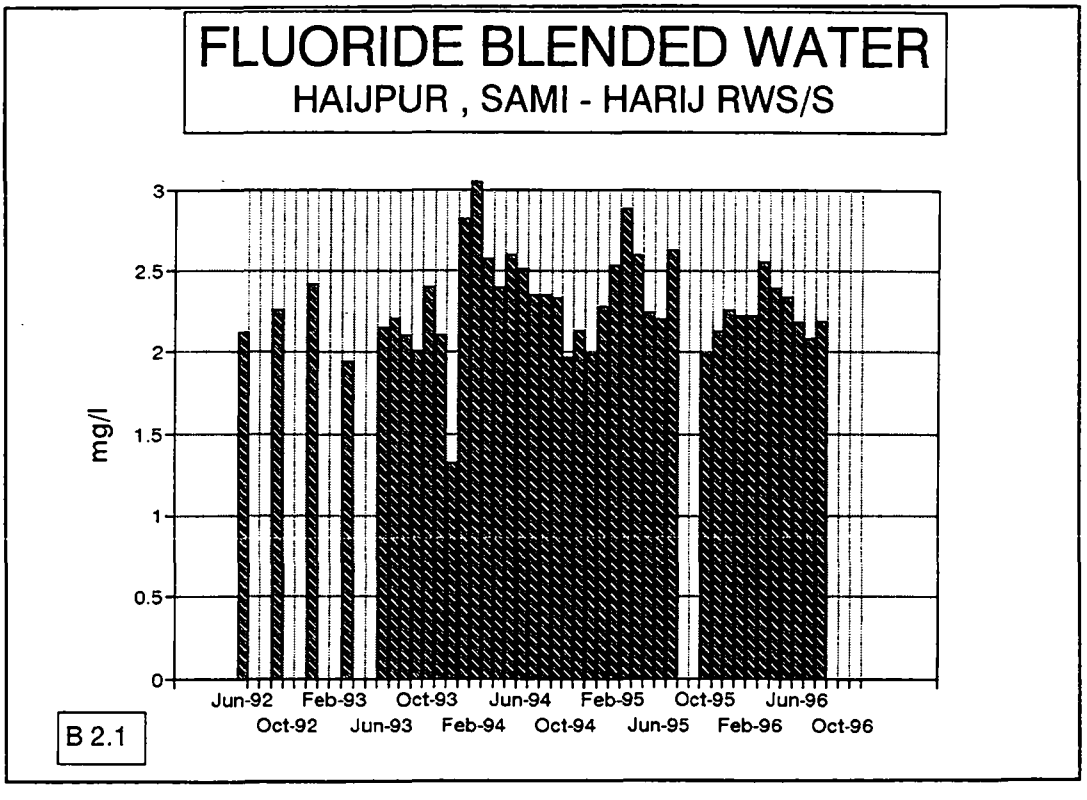
PRM/GWSSB MONITORING RWS/S SCHEMES GUJARAT		
SCHEME	:	Sami-Harij RWS/S
NAME OF GRAPH	:	Production per tubewell Kamlivada well field
SUB TITLE	:	Nrs 2, 3, 6, 7 and 8
NO.	:	B 1.2
UPDATED	:	October 1996
X AXIS	:	Monthly production Y AXIS: MLD
OBSERVATIONS	:	--



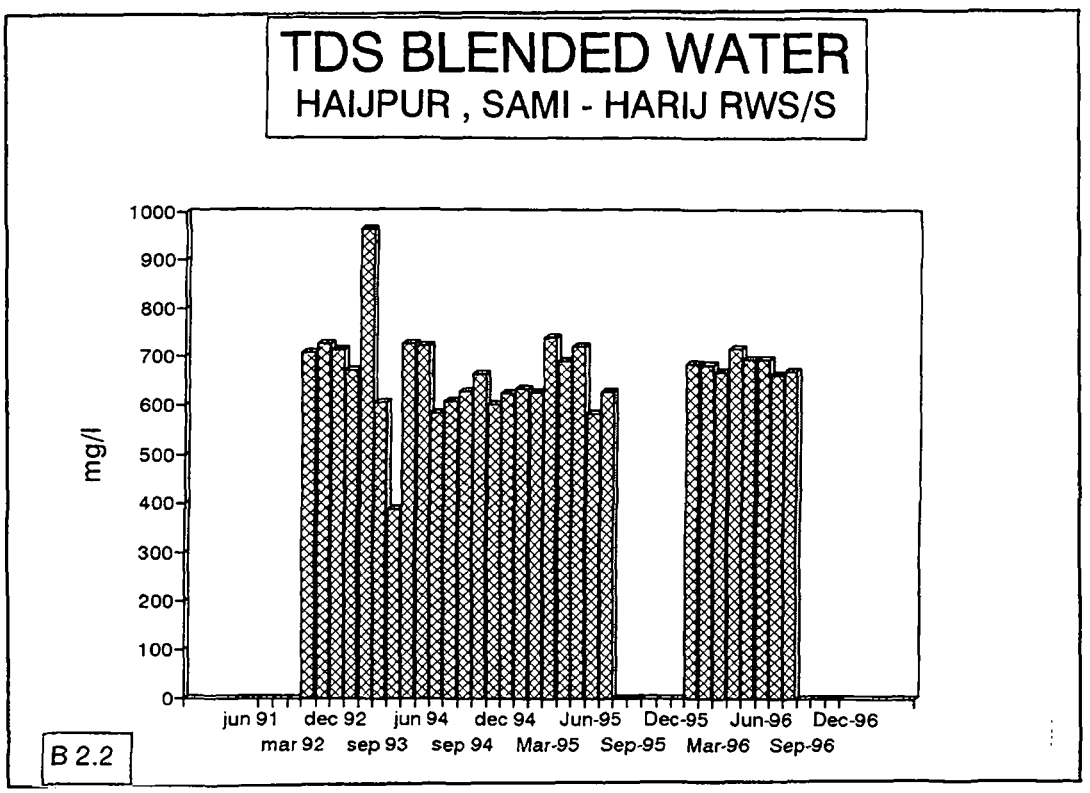
PRM/GWSSB MONITORING RWS/S SCHEMES GUJARAT				
SCHEME	:	Sami-Harij RWS/S		
NAME OF GRAPH	:	Production per tubewell Kamlivada well field		
SUB TITLE	:	Nrs 10, 11, 12 and 13		
NO.	:	B 1.3		
UPDATED	:	October 1996		
X AXIS	:	Monthly production	Y AXIS:	MLD
OBSERVATIONS	:	--		



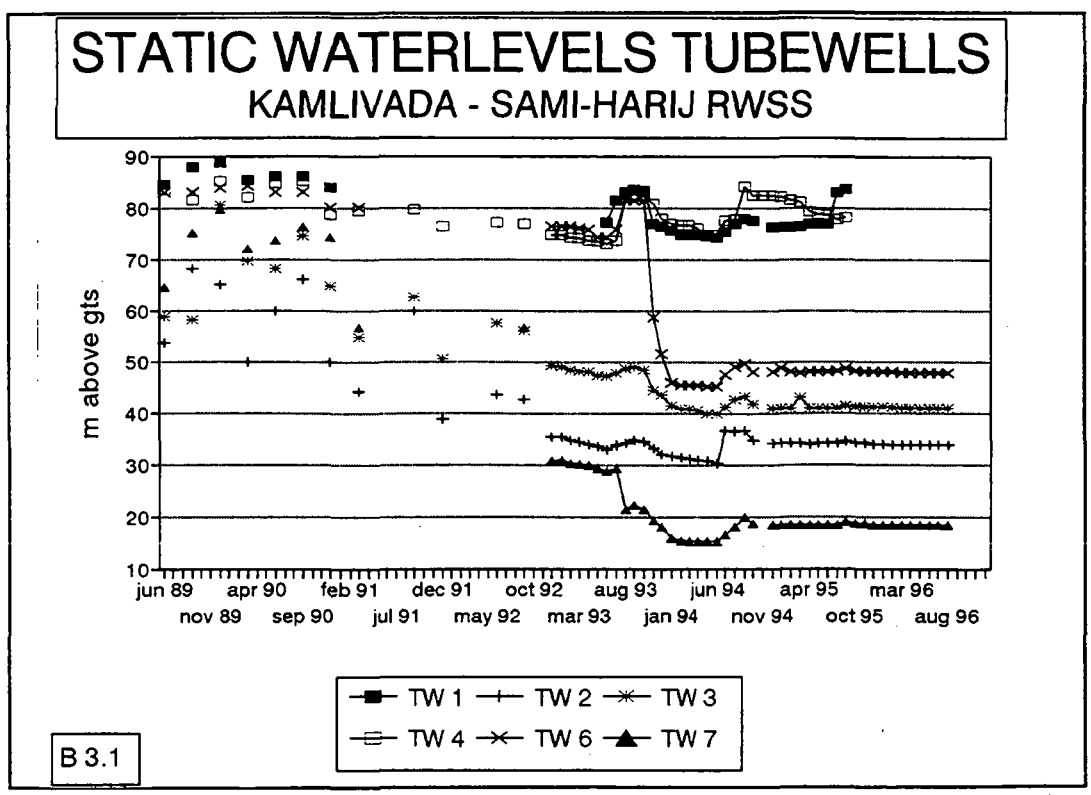
PRM/GWSSB MONITORING RWS/S SCHEMES GUJARAT		
SCHEME	:	**Sami-Harij RWS/S**
NAME OF GRAPH	:	**Quality produced water Kamlivada**
SUB TITLE	:	**Fluoride content blended water**
NO.	:	**B 2.1**
UPDATED	:	**October 1996**
X AXIS	:	**Quarterly and monthly levels** **Y AXIS: mg/l Fluoride**
OBSERVATIONS	:	**The present fluoride level of blended water is somewhat lower than in the past, at about 2.2 mg/l. (Permissible limit: 1,5 mg/l).**



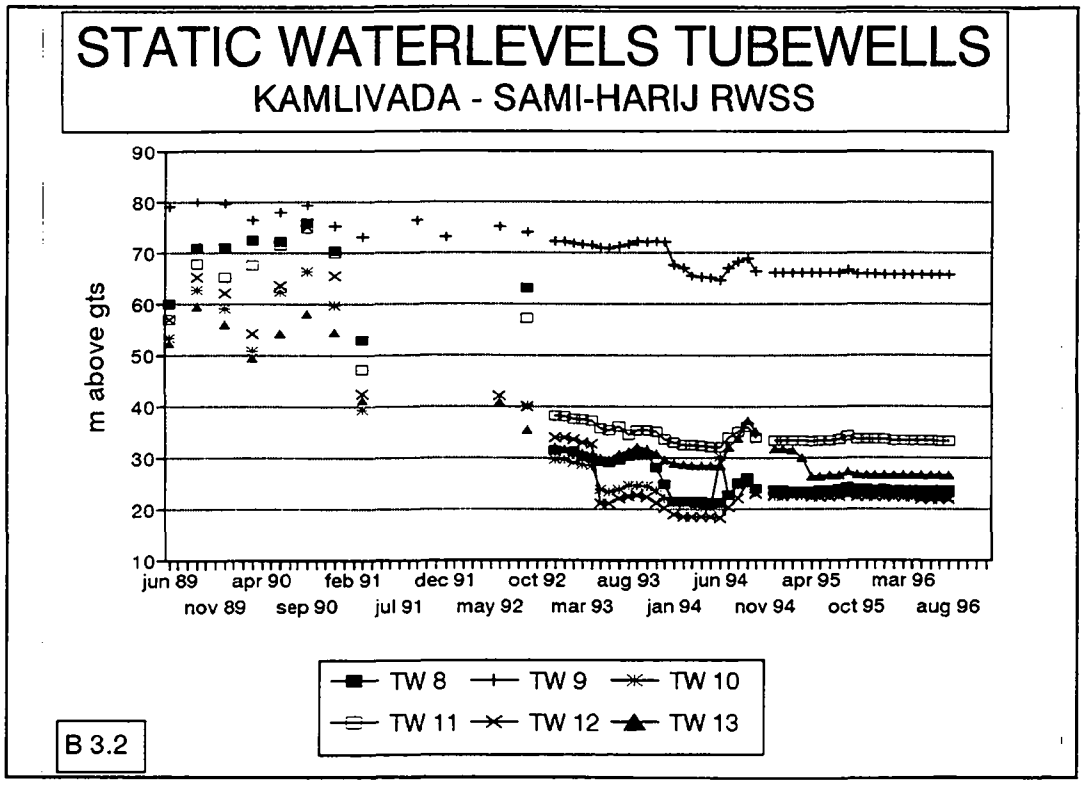
PRM/GWSSB MONITORING RWS/S SCHEMES GUJARAT		
SCHEME	:	Sami-Harij RWS/S
NAME OF GRAPH	:	Quality produced water Kamlivada
SUB TITLE	:	Content total dissolved solids blended water
NO.	:	B 2.2
UPDATED	:	October 1996
X AXIS	:	Monthly analyses Y AXIS: mg/l TDS
OBSERVATIONS	:	Relatively high levels that remain more or less constant.



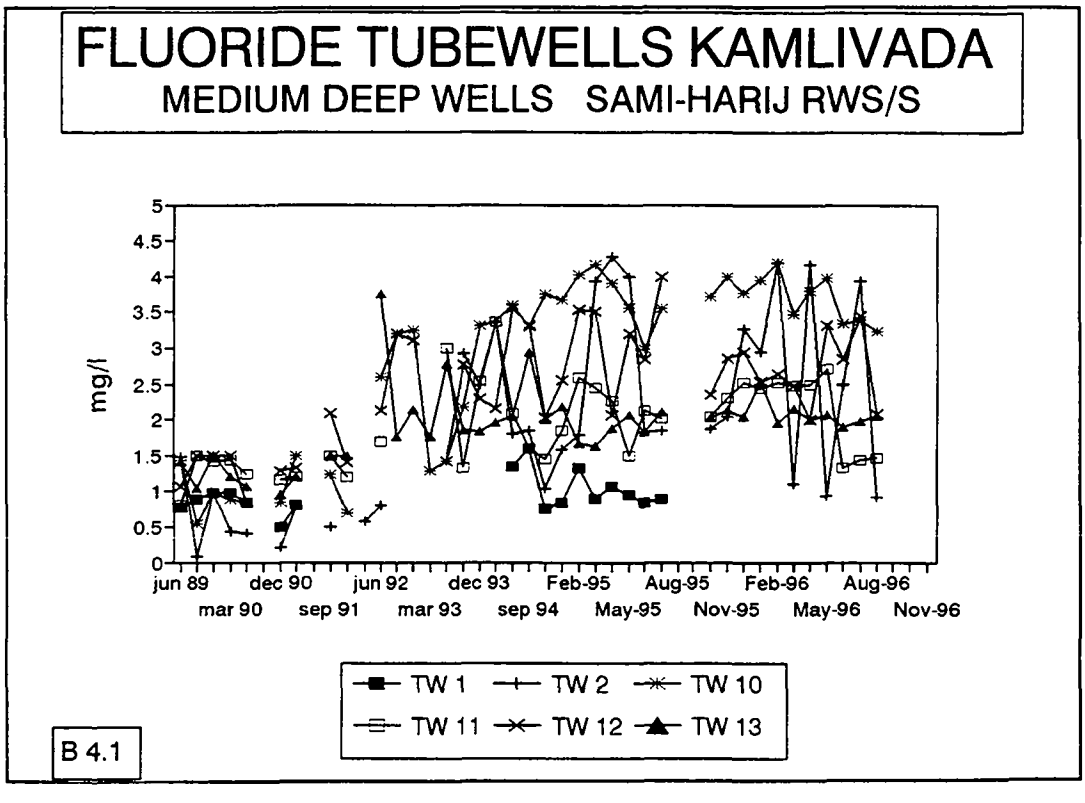
PRM/GWSSB MONITORING RWS/S SCHEMES GUJARAT				
SCHEME	:	Sami-Harij RWS/S		
NAME OF GRAPH	:	Static waterlevels tubewells Kamlivada		
SUB TITLE	:	Nrs 1, 2, 3, 4, 6 and 7		
NO.	:	B 3.1		
UPDATED	:	October 1996		
X AXIS	:	Monthly records	Y AXIS:	Water level in m above GTS
OBSERVATIONS	:	The static waterlevels are low with regard to the mean sealevel, but remain at a constant level.		



PRM/GWSSB MONITORING RWS/S SCHEMES GUJARAT				
SCHEME	:	Sami-Harij RWS/S		
NAME OF GRAPH	:	Static water levels tubewells Kamlivada		
SUB TITLE	:	Nrs 8, 9, 10, 11, 12 and 13		
NO.	:	B 3.2		
UPDATED	:	October 1996		
X AXIS	:	Monthly records	Y AXIS:	Waterlevel in m above GTS
OBSERVATIONS	:	See B 3.1		



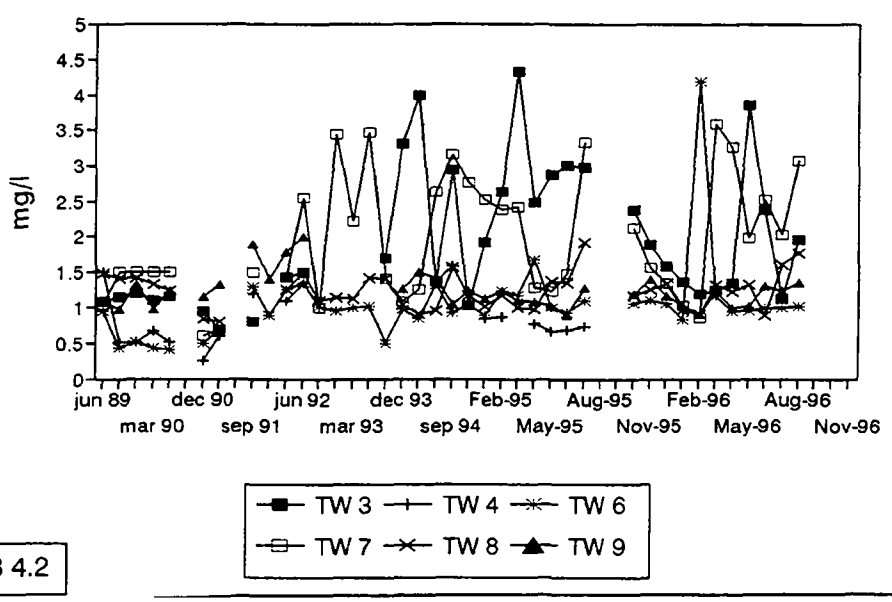
PRM/GWSSB MONITORING RWS/S SCHEMES GUJARAT		
SCHEME	:	***Sami-Harij RWS/S***
NAME OF GRAPH	:	**Quality water tubewells Kamlivada**
SUB TITLE	:	**Fluoride content nrs 1, 2, 10, 11, 12 and 13**
NO.	:	**B 4.1**
UPDATED	:	**October 1996**
X AXIS	:	**Quarterly analysis** **Y AXIS: mg/l Fluoride**
OBSERVATIONS	:	**This graph represents the medium deep wells. Since June 1992 the fluoride content in most wells increases. Different layers are tapped by these wells.**



PRM/GWSSB MONITORING RWS/S SCHEMES GUJARAT		
SCHEME	:	**Sami-Harij RWS/S**
NAME OF GRAPH	:	**Quality water tubewells Kamlivada**
SUB TITLE	:	**Fluoride content nrs 3, 4, 6, 7, 8, and 9**
NO.	:	**B 4.2**
UPDATED	:	**October 1996**
X AXIS	:	**Quarterly analysis** **Y AXIS: mg/l Fluoride**
OBSERVATIONS	:	**This graph contains the deep tubewells. For observations see B 4.1.**

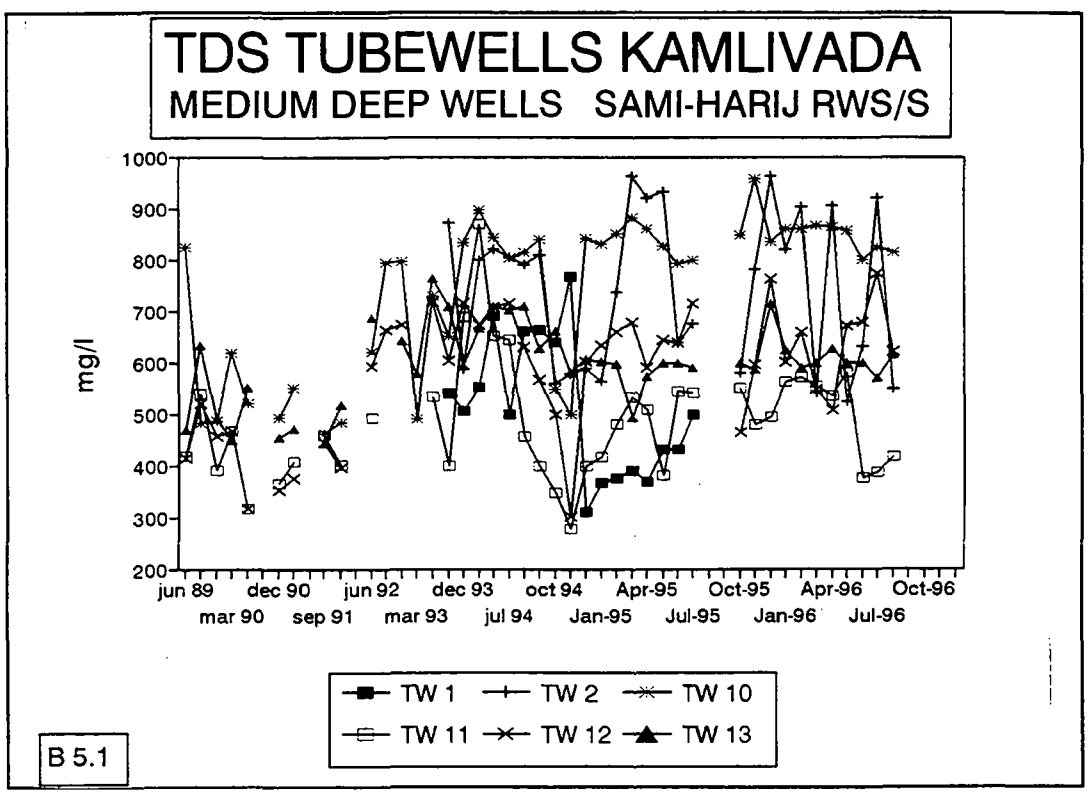
FLUORIDE TUBEWELLS KAMLIVADA

DEEP WELLS SAMI-HARIJ RWS/S

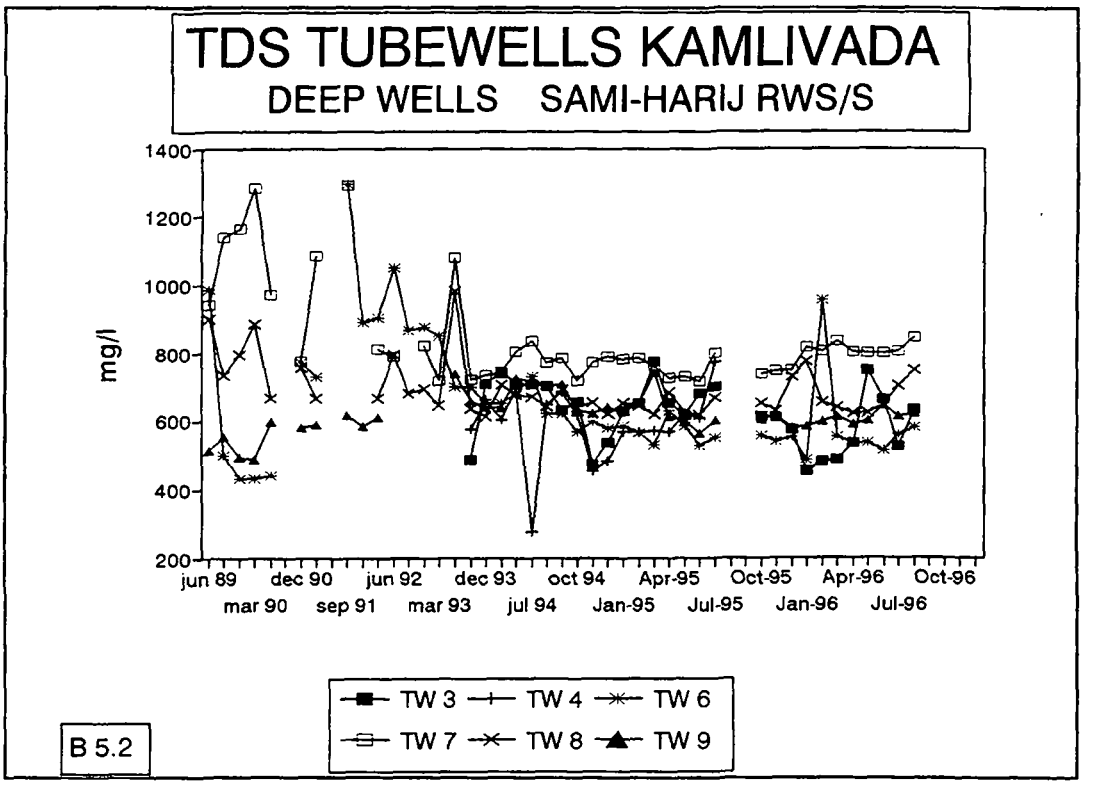


B 4.2

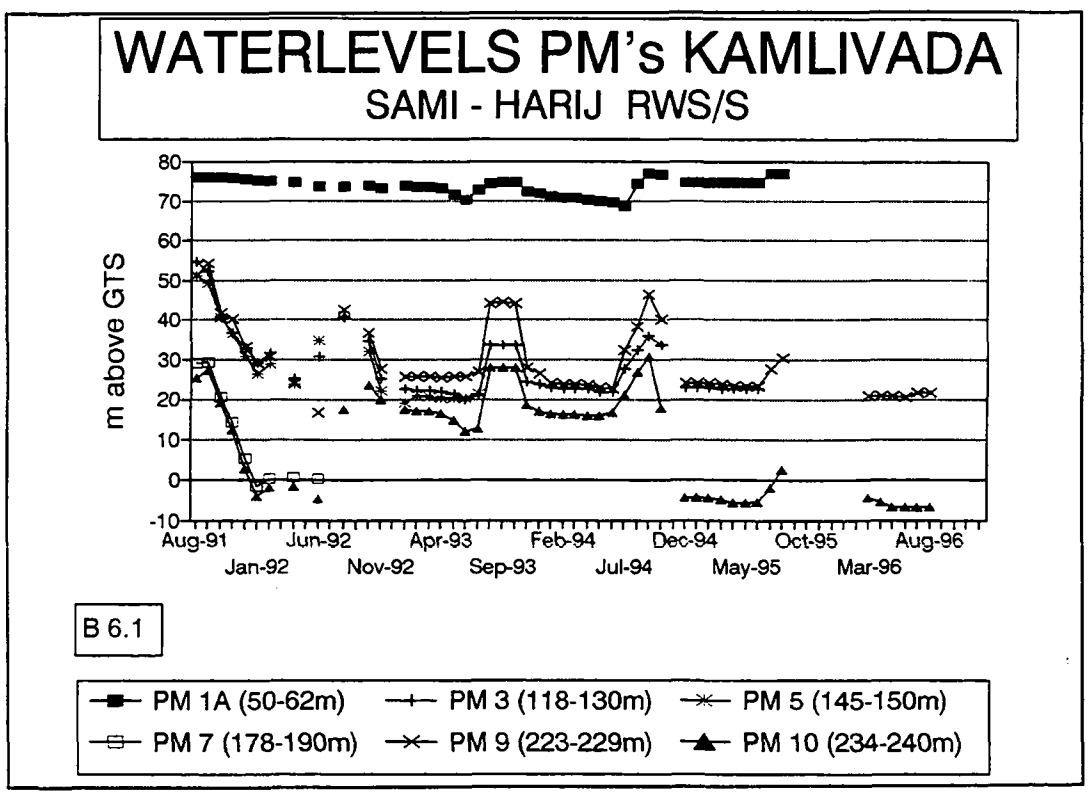
PRM/GWSSB MONITORING RWS/S SCHEMES GUJARAT		
SCHEME	:	**Sami-Harij RWS/S**
NAME OF GRAPH	:	**Quality water tubewells Kamlivada**
SUB TITLE	:	**Total dissolved solids content nrs 1, 2, 10, 11, 12 and 13**
NO.	:	**B 5.1**
UPDATED	:	**October 1996**
X AXIS	:	**Quarterly analysis** **Y AXIS: mg/l TDS**
OBSERVATIONS	:	**Medium deep wells. Average level is around 600 ppm.**



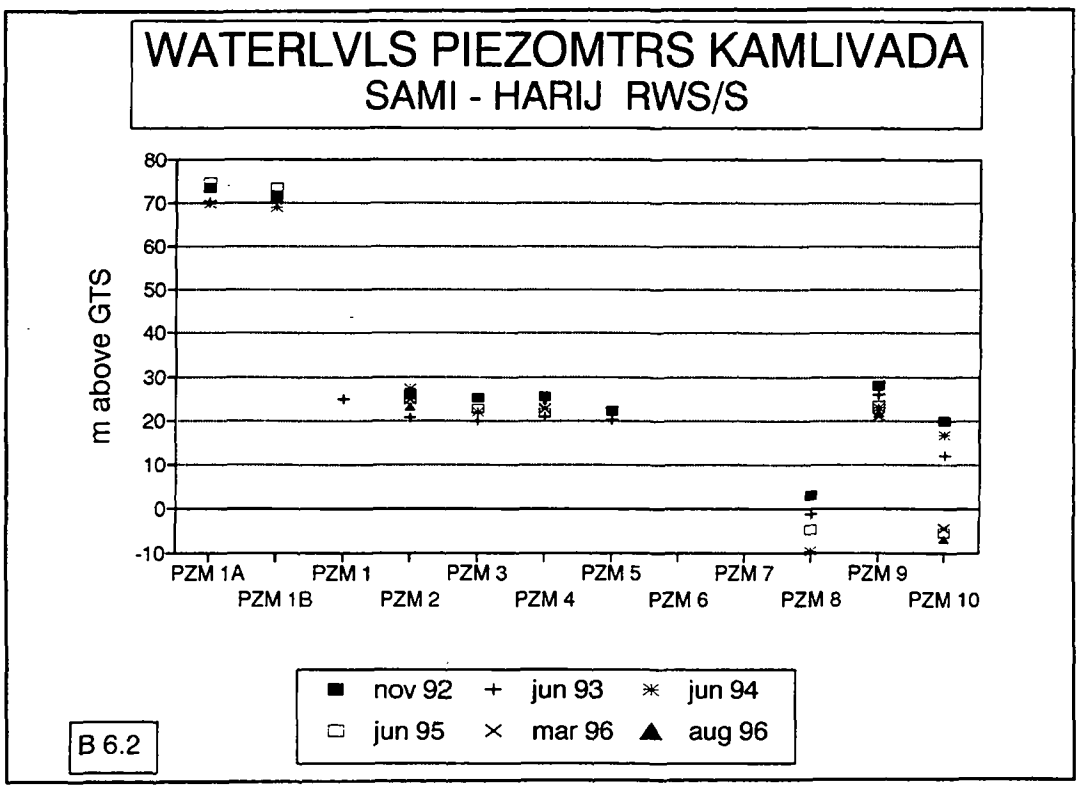
PRM/GWSSB MONITORING RWS/S SCHEMES GUJARAT		
SCHEME	:	Sami-Harij RWS/S
NAME OF GRAPH	:	Quality water tubewells Kamlivada
SUB TITLE	:	Total dissolved solids contents nrs 3, 4, 6, 7, 8 and 9
NO.	:	B 5.2
UPDATED	:	October 1996
X AXIS	:	Quarterly analysis Y AXIS: mg/l TDS
OBSERVATIONS	:	Deep tube wells. For observations see B 5.1.



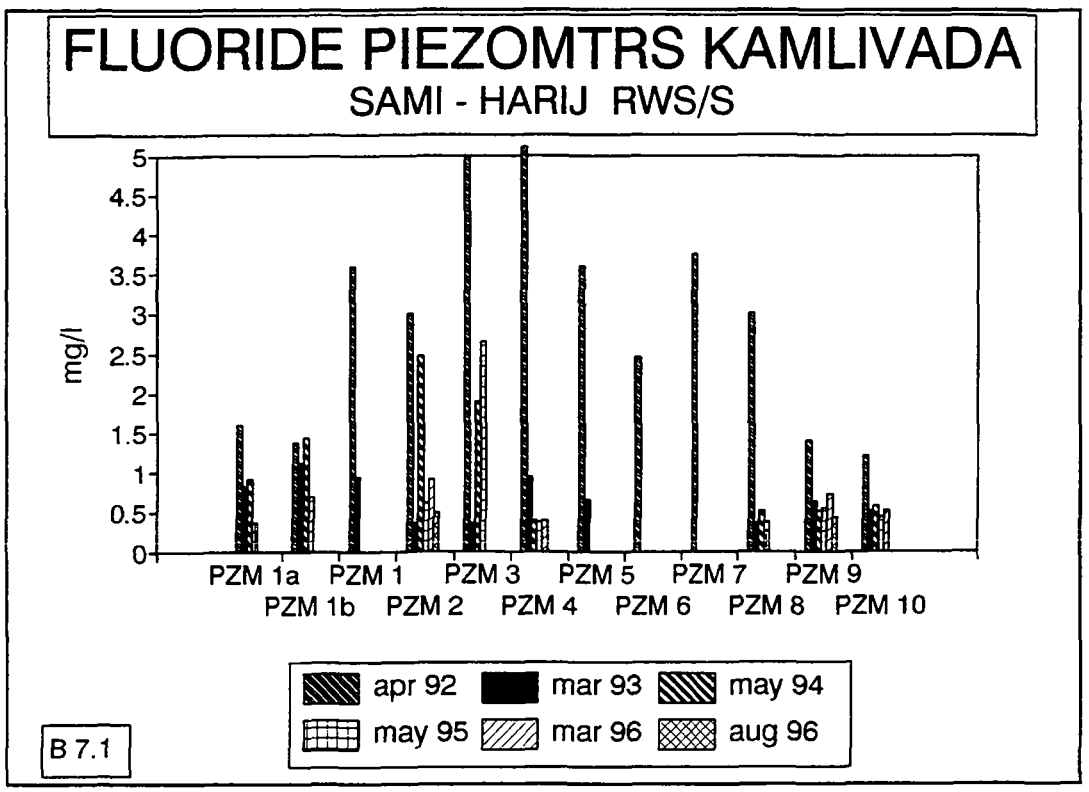
PRM/GWSSB MONITORING RWS/S SCHEMES GUJARAT		
SCHEME	:	Sami-Harij RWS/S
NAME OF GRAPH	:	Water levels piezometers Kamlivada
SUB TITLE	:	Selected piezometers
NO.	:	B 6.1
UPDATED	:	October 1996
X AXIS	:	Irregular data from 1991 to December 1992; monthly from December 1992 onwards Y AXIS: Waterlevel in m above GTS
OBSERVATIONS	:	Upper level remains stable but consists of aquifer with low yield. All deep piezometers react similar. Piezometers no. 5 and 7 are obstructed.



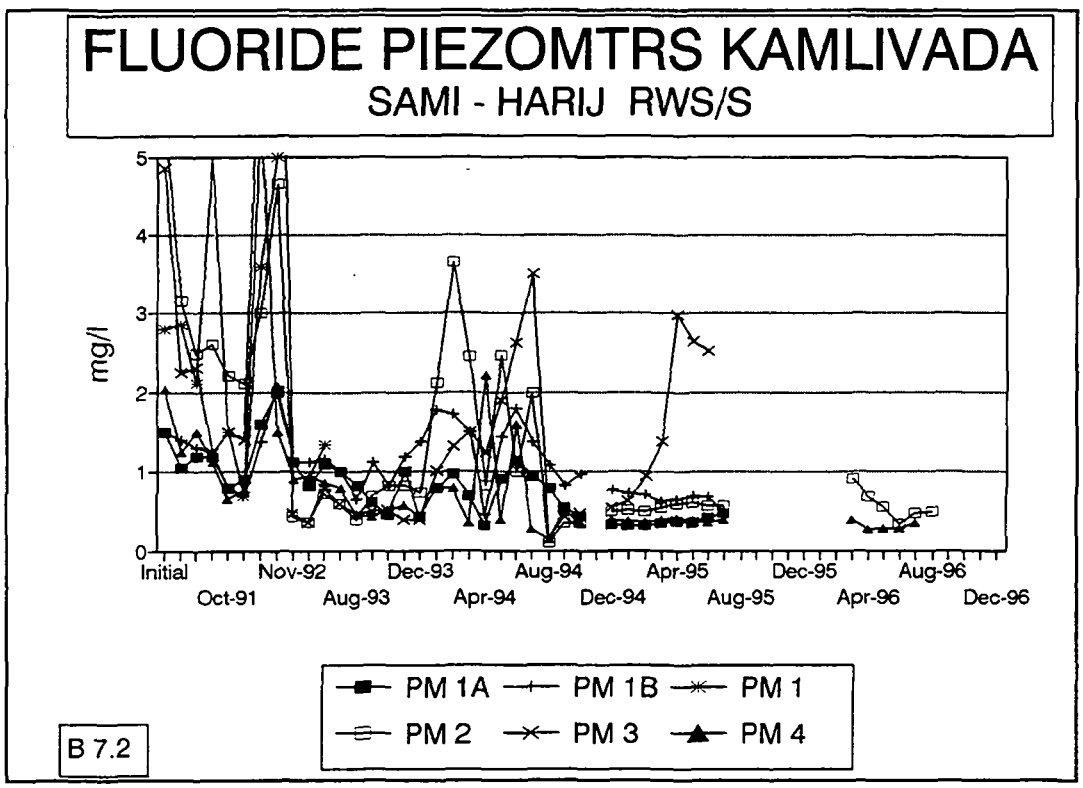
PRM/GWSSB MONITORING RWS/S SCHEMES GUJARAT				
SCHEME	:	**Sami-Harij RWS/S**		
NAME OF GRAPH	:	**Waterlevels piezometers Kamlivada**		
SUB TITLE	:	**Selected dates**		
NO.	:	**B 6.2**		
UPDATED	:	**October 1996**		
X AXIS	:	**Piezometers**	**Y AXIS:**	**Waterlevels in m above GTS at selected date**
OBSERVATIONS	:	**Three different systems can be distinguished: a shallow level (1A and 1B), an intermediate level (1 to 5) and a deep level (6 to 10).**		



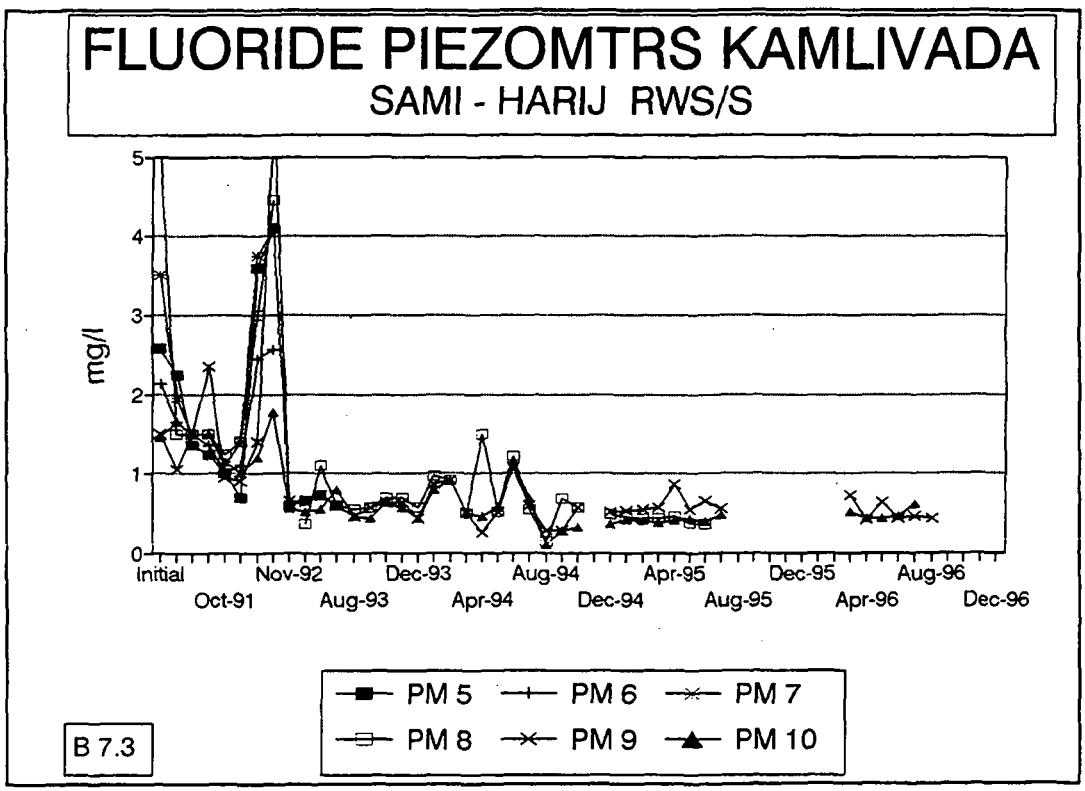
PRM/GWSSB MONITORING RWS/S SCHEMES GUJARAT				
SCHEME	:	Sami-Harij RWS/S		
NAME OF GRAPH	:	Quality water piezometers Kamlivada		
SUB TITLE	:	Content of fluoride at selected dates		
NO.	:	B 7.1		
UPDATED	:	October 1996		
X AXIS	:	Piezometers	Y AXIS:	mg/l fluoride at selected dates
OBSERVATIONS	:	The shallow levels and the deepest level contain water with a lower fluoride content.		
NOTE	:	Piezometers are not pumped before sampling.		



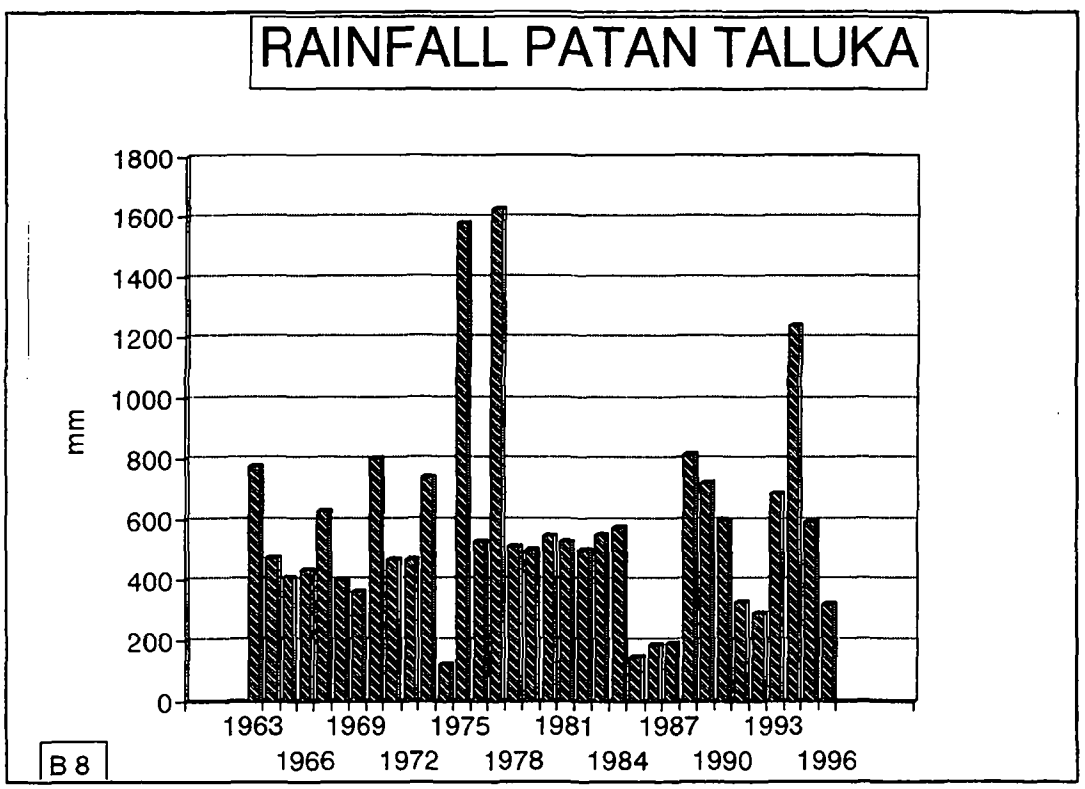
PRM/GWSSB MONITORING RWS/S SCHEMES GUJARAT				
SCHEME	:	Sami-Harij RWS/S		
NAME OF GRAPH	:	Quality water piezometers Kamlivada		
SUB TITLE	:	Fluoride content nrs 1A, 1B, 1, 2, 3 and 4		
NO.	:	B 7.2		
UPDATED	:	October 1996		
X AXIS	:	*Irregular intervals at beginning; monthly analysis from 1992 onwards*	Y AXIS:	*mg/l fluoride*
OBSERVATIONS	:	Some important variations occur.		
NOTE	:	Piezometers are not pumped before sampling.		



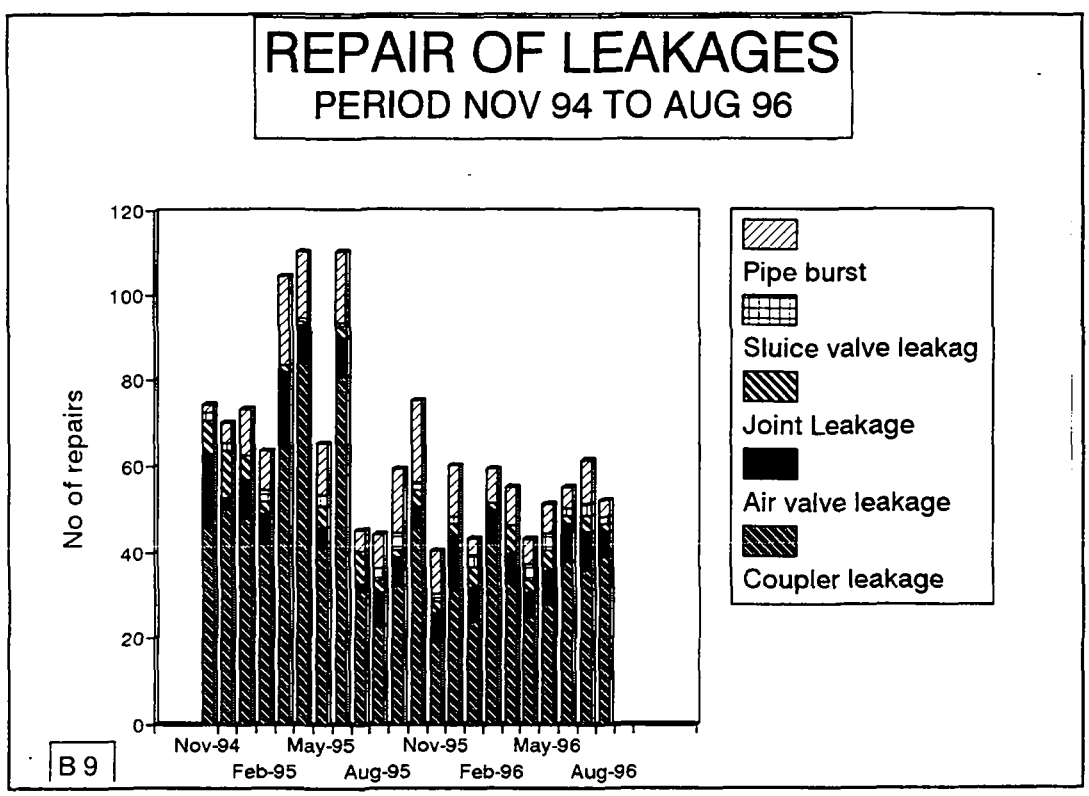
PRM/GWSSB MONITORING RWS/S SCHEMES GUJARAT			
SCHEME	:	***Sami-Harij RWS/S***	
NAME OF GRAPH	:	**Quality water piezometers Kamlivada**	
SUB TITLE	:	**Fluoride content nrs 5, 6, 7, 8, 9 and 10**	
NO.	:	**B 7.3**	
UPDATED	:	**October 1996**	
X AXIS	:	**Irregular intervals at beginning; monthly analysis from 1992 onwards**	**Y AXIS: mg/l fluoride**
OBSERVATIONS	:	**Same as B 7.2**	
NOTE	:	***Piezometers are not pumped before sampling.***	



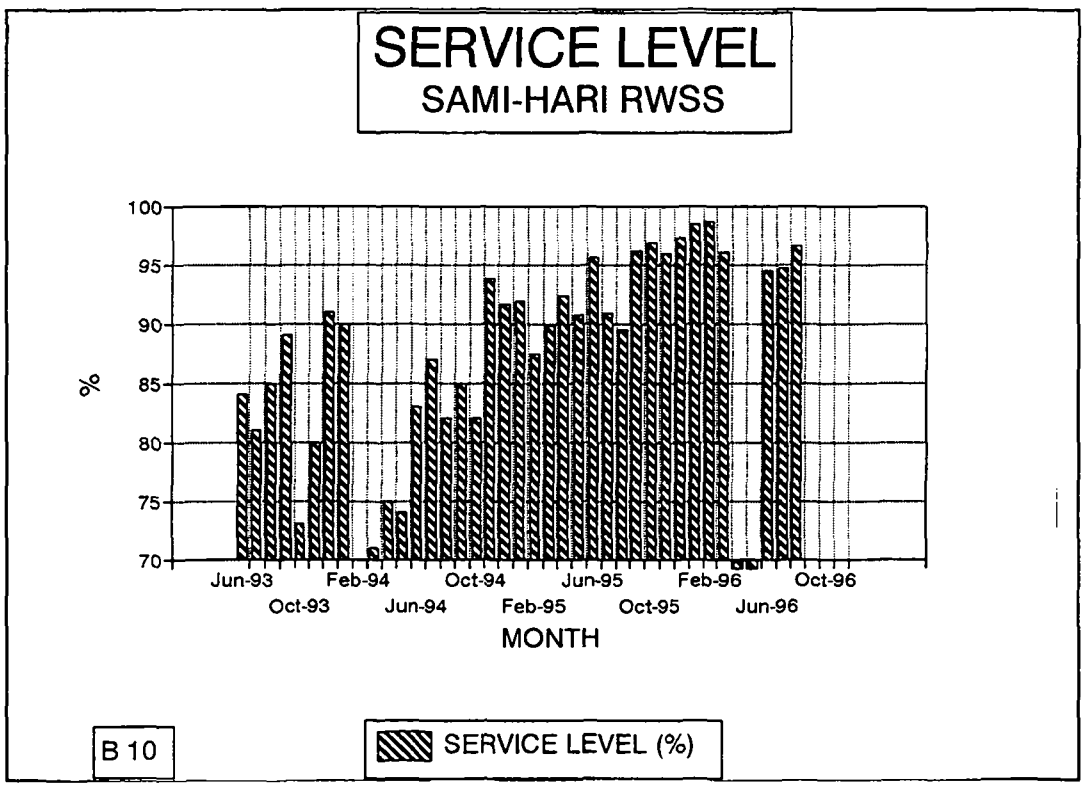
PRM/GWSSB MONITORING RWS/S SCHEMES GUJARAT			
SCHEME	:	Sami-Harij RWS/S	
NAME OF GRAPH	:	Quality water piezometers Kamlivada	
SUB TITLE	:	Rainfall Patan Taluka	
NO.	:	B 8	
UPDATED	:	October 1996	
X AXIS	:	Years	Y AXIS: mm
OBSERVATIONS	:	After good rains in the period 1992 to 1994, the rains of the last years remain below average.	



PRM/GWSSB MONITORING RWS/S SCHEMES GUJARAT				
SCHEME	:	Sami-Harij RWS/S		
NAME OF GRAPH	:	Monitoring repair of leakages		
SUB TITLE	:	Period November 1994 to July 1995		
NO.	:	B 9		
UPDATED	:	*October 1996*		
X AXIS	:	Month	Y AXIS:	Number of repairs
OBSERVATIONS	:	An important number of leakages has been executed. The main course of repairs is due to leaking couplers.		



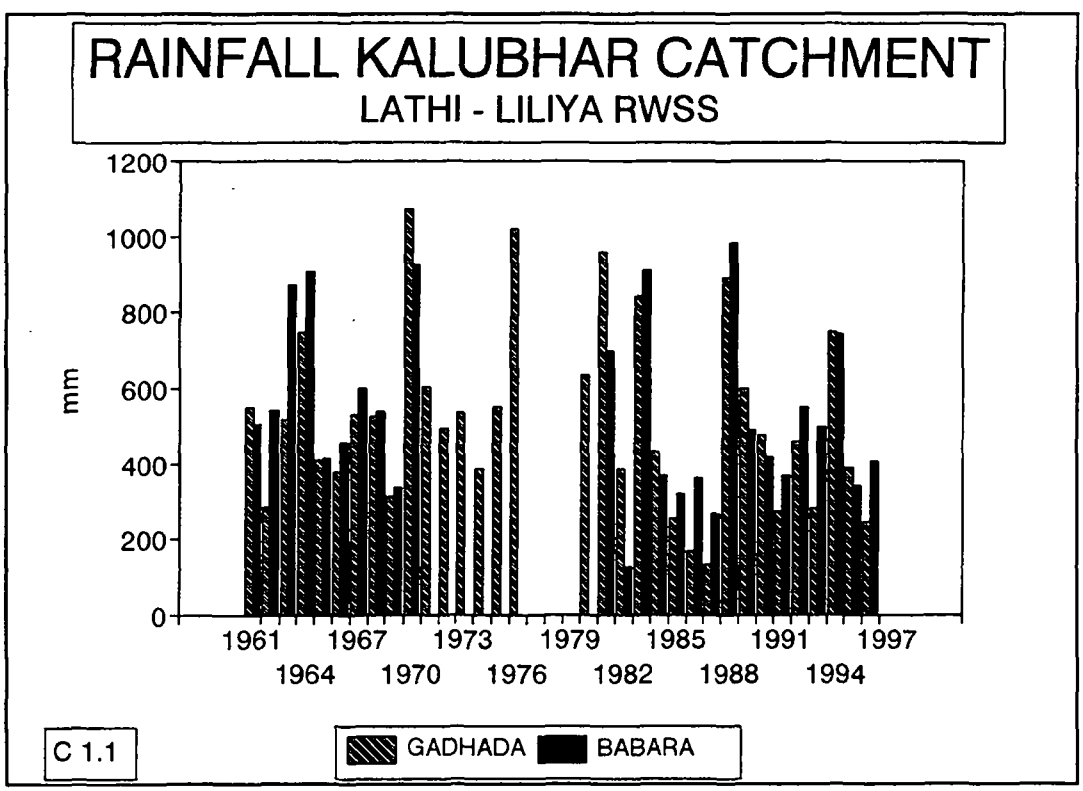
PRM/GWSSB MONITORING RWS/S SCHEMES GUJARAT				
SCHEME	:	**Sami-Harij RWS/S**		
NAME OF GRAPH	:	**Service level water distribution**		
SUB TITLE	:	**Sami-Harij RWS/S scheme**		
NO.	:	**B 10**		
UPDATED	:	**October 1996**		
X AXIS	:	**Month**	**Y AXIS:**	**Percentage (Number of days with supply per *village, versus total number* of days in month)**
OBSERVATIONS	:	**Service level is relatively good.**		



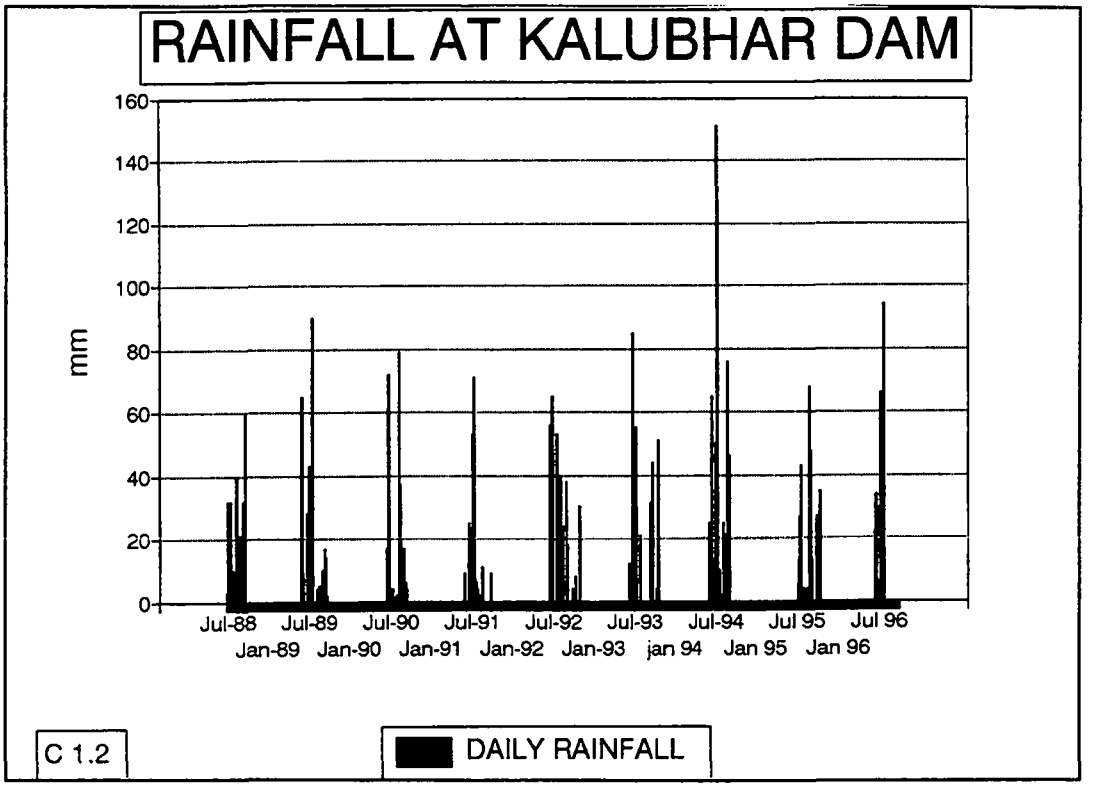
C.
LATHI-LILIYA RWS/S SCHEME

1. Rainfall
   - 1.1 Rainfall in Kalubhar catchment
   - 1.2 Rainfall at Kalubhar dam
2. Reservoir Kalubhar dam
   - 2.1 Waterlevel
   - 2.2 Storage
   - 2.3 Quality
     - 2.3.1 Turbidity
     - 2.3.2 Fluoride
     - 2.3.3 TDS and Chloride
     - 2.3.4 Nitrate and Sulphate
3. Production Lathi-Liliya scheme
   - 3.1 Pumped production
   - 3.2 Pumping efficiency
4. Repair of leakages
5. Service level water distribution

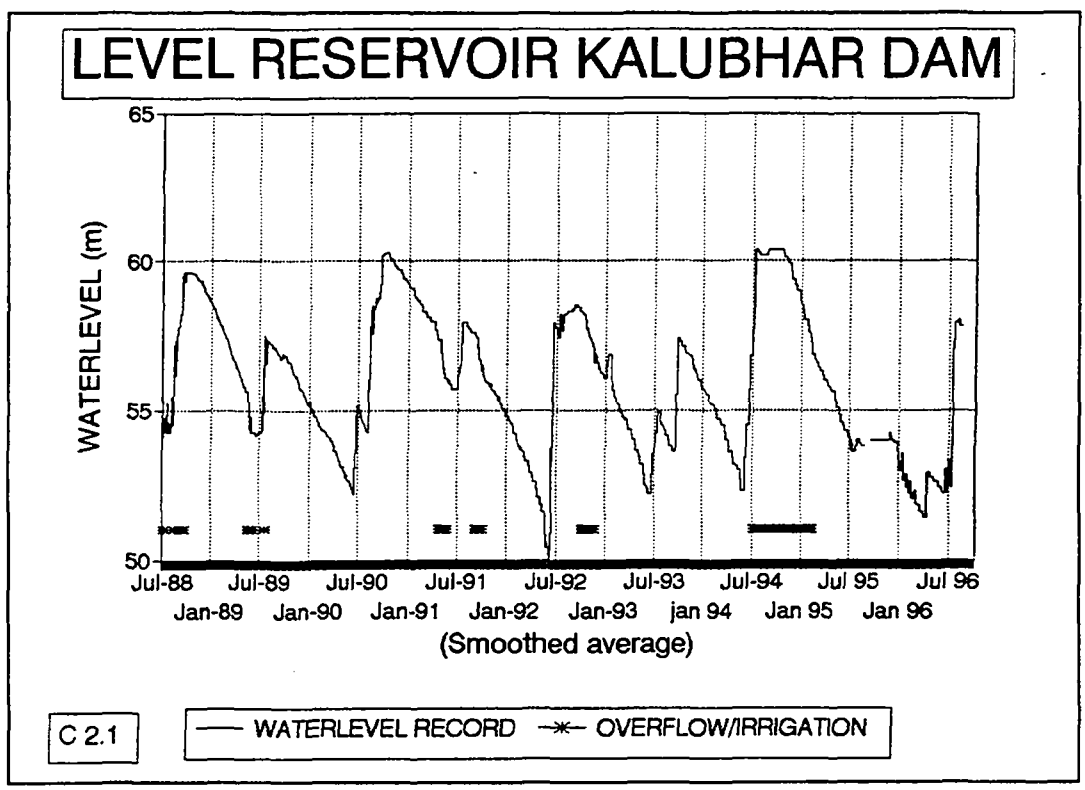
PRM/GWSSB MONITORING RWS/S SCHEMES GUJARAT			
SCHEME	:	Lathi-Liliya RWS/S	
NAME OF GRAPH	:	Rainfall Kalubhar catchment	
SUB TITLE	:	(Gadhada and Babara)	
NO.	:	C 1.1	
UPDATED	:	October 1996	
X AXIS	:	Years	Y AXIS: mm
OBSERVATIONS	:	The monsoon rains of 1996 were over. The quantity of rain remained again below expectations.	



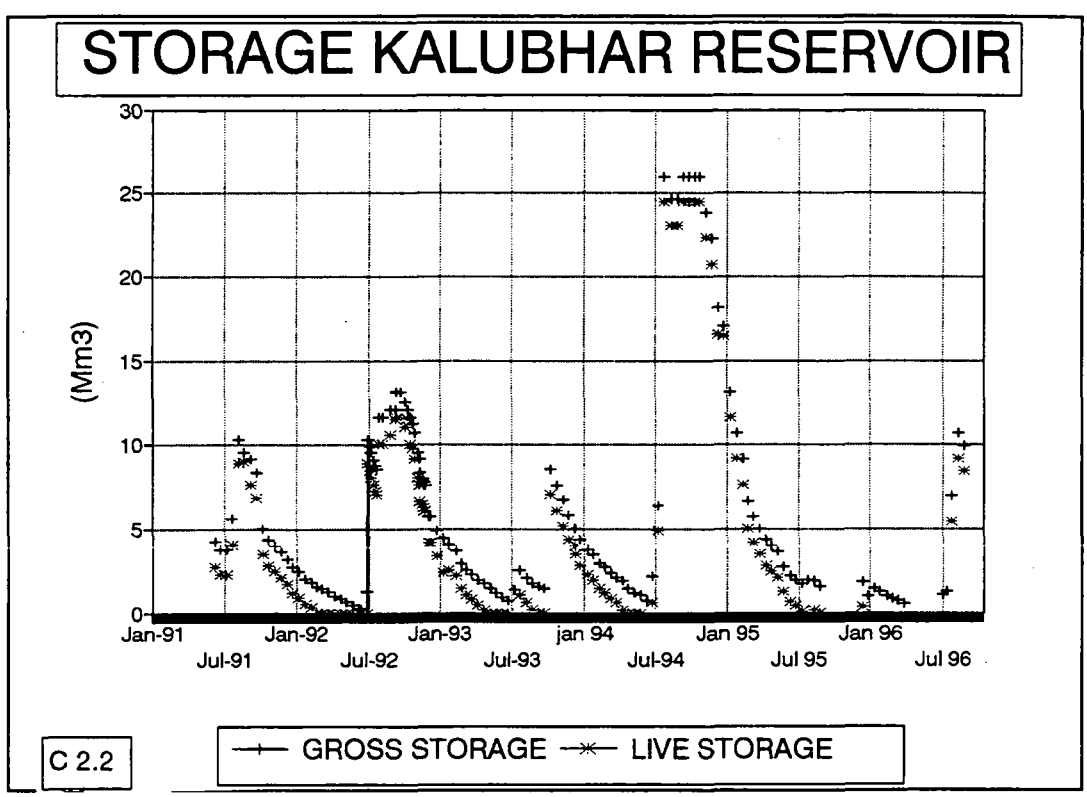
PRM/GWSSB MONITORING RWS/S SCHEMES GUJARAT				
SCHEME	:	**Lathi-Liliya RWS/S**		
NAME OF GRAPH	:	**Rainfall at Kalubhar dam**		
SUB TITLE	:	**Station irrigation department**		
NO.	:	**C 1.2**		
UPDATED	:	**October 1996**		
X AXIS	:	**Daily**	**Y AXIS:**	**mm**
OBSERVATIONS	:	**The graph shows daily records.**		



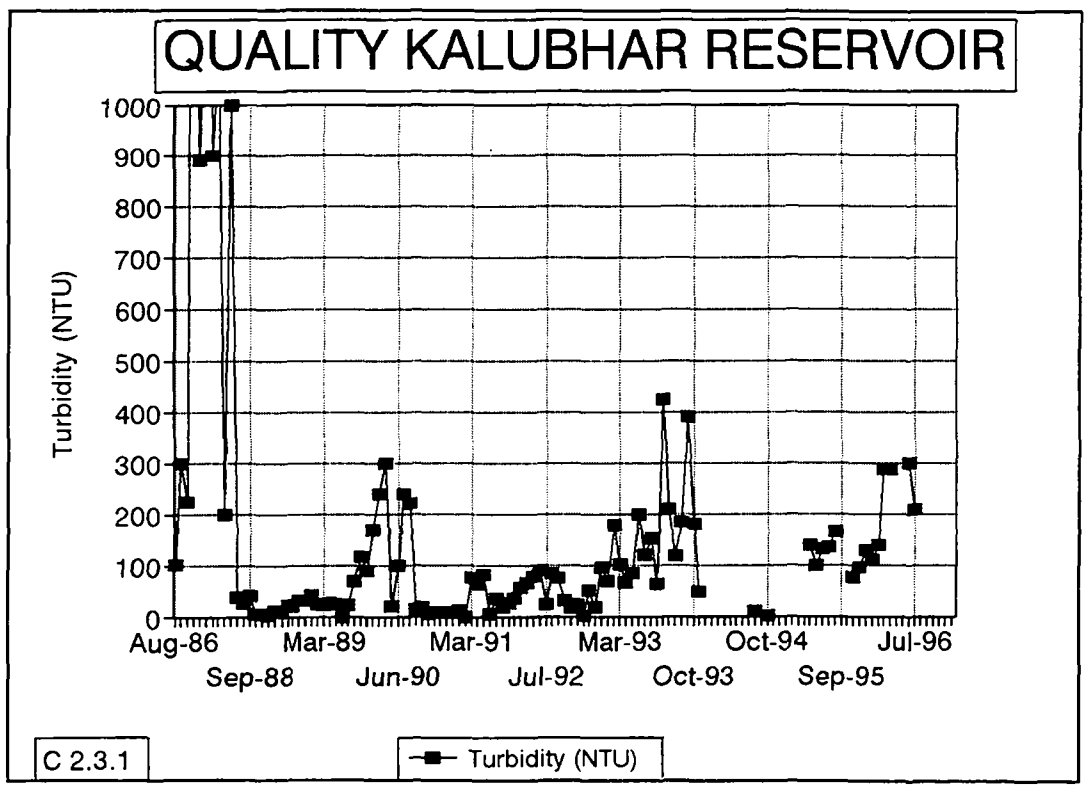
PRM/GWSSB MONITORING RWS/S SCHEMES GUJARAT				
SCHEME	:	Lathi-Liliya RWS/S		
NAME OF GRAPH	:	Level reservoir Kalubhar dam		
SUB TITLE	:	(Smoothed average)		
NO.	:	C 2.1		
UPDATED	:	October 1996		
X AXIS	:	Two weekly	Y AXIS:	m above GTS
OBSERVATIONS	:	In 1996 the supply was stopped due to depletion of the reservoir.		



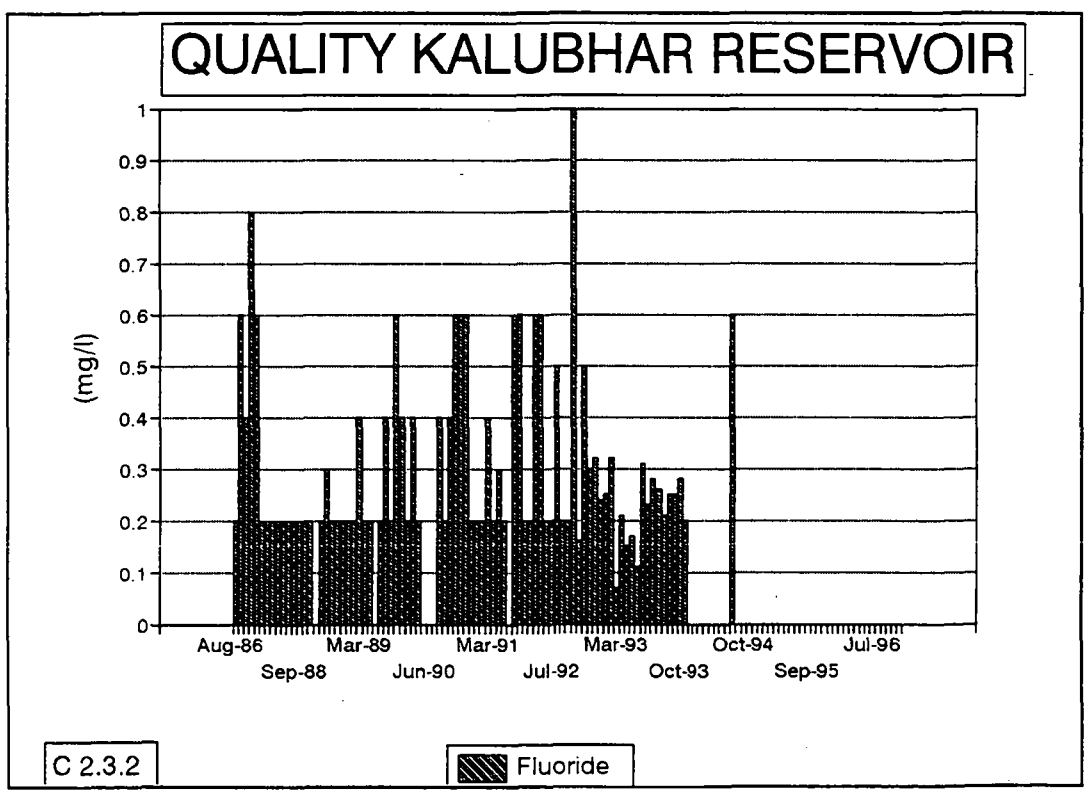
PRM/GWSSB MONITORING RWS/S SCHEMES GUJARAT				
SCHEME	:	Lathi-Liliya RWS/S		
NAME OF GRAPH	:	Storage Kalubhar reservoir		
SUB TITLE	:	Gross storage and live storage		
NO.	:	C 2.2		
UPDATED	:	October 1996		
X AXIS	:	Two weekly	Y AXIS:	Mm^3
OBSERVATIONS	:	The reservoir has replenished to sustain to the end of the dry season 1997.		



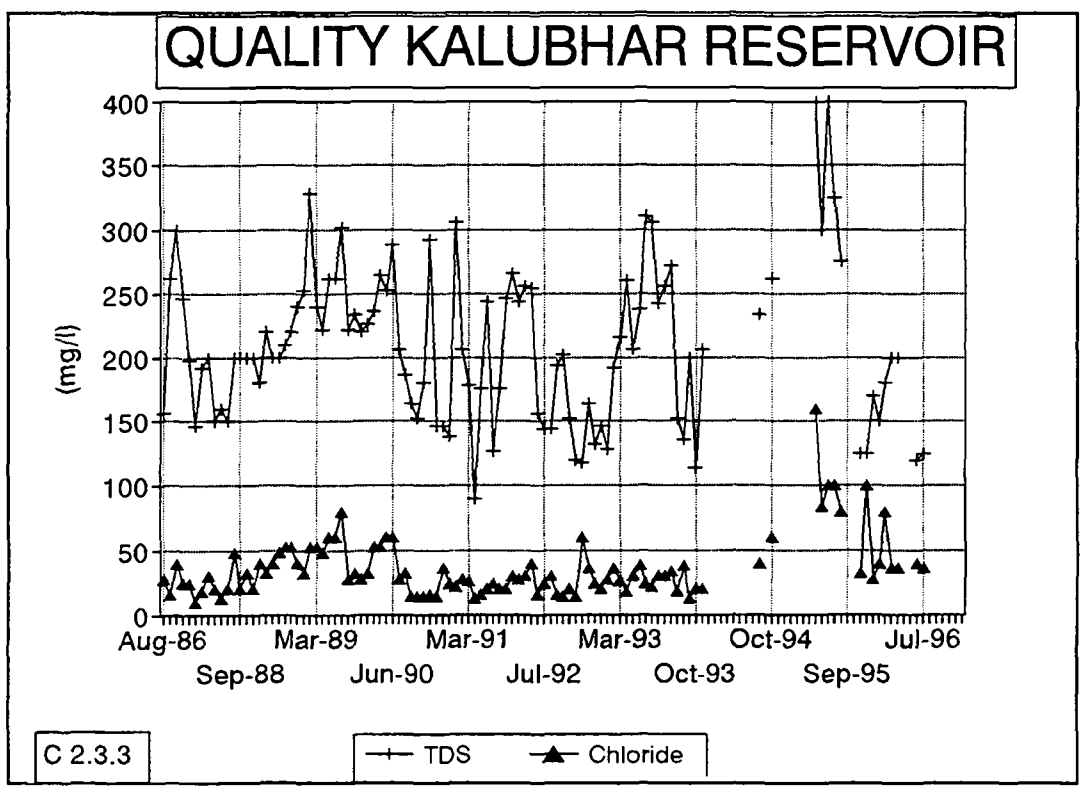
PRM/GWSSB MONITORING RWS/S SCHEMES GUJARAT		
SCHEME	:	**Lathi-Liliya RWS/S**
NAME OF GRAPH	:	**Quality Kalubhar reservoir**
SUB TITLE	:	**Turbidity raw water**
NO.	:	**C 2.3.1**
UPDATED	:	**October 1996**
X AXIS	:	**Irregular time intervals Y AXIS: NTU**
OBSERVATIONS	:	**The high turbidity peaks are related to intensive rainfall periods.**



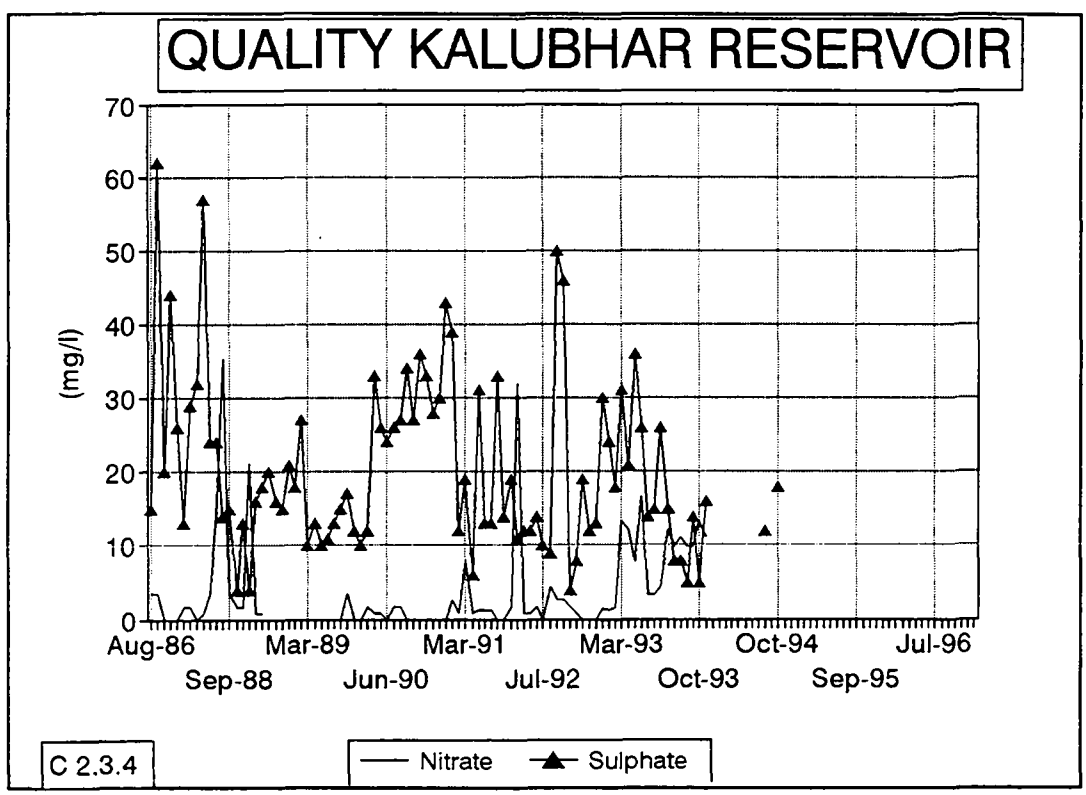
PRM/GWSSB MONITORING RWS/S SCHEMES GUJARAT		
SCHEME	:	**Lathi-Liliya RWS/S**
NAME OF GRAPH	:	**Quality Kalubhar reservoir**
SUB TITLE	:	**Fluoride content raw water**
NO.	:	**C 2.3.2**
UPDATED	:	**October 1996**
X AXIS	:	**Irregular time intervals Y AXIS: mg/l**
OBSERVATIONS	:	**The fluoride content stays well below the permissible limit of 1,5 mg/l. New analysis were not done for unknown reasons. See also C 2.3.1**



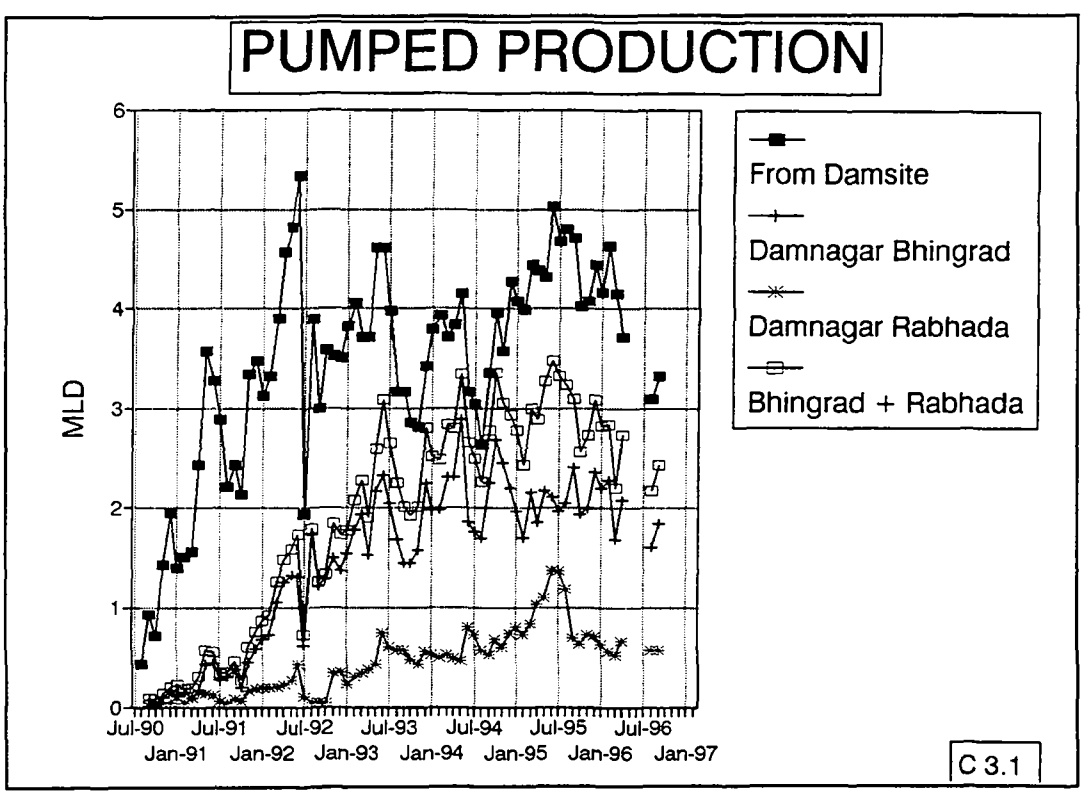
PRM/GWSSB MONITORING RWS/S SCHEMES GUJARAT		
SCHEME	:	*Lathi-Liliya RWS/S*
NAME OF GRAPH	:	Quality Kalubhar reservoir
SUB TITLE	:	Total dissolved solids and chloride
NO.	:	C 2.3.3
UPDATED	:	October 1996
X AXIS	:	Irregular time intervals **Y AXIS:** mg/l
OBSERVATIONS	:	There seems to be an increase in the Chloride level in 1995.



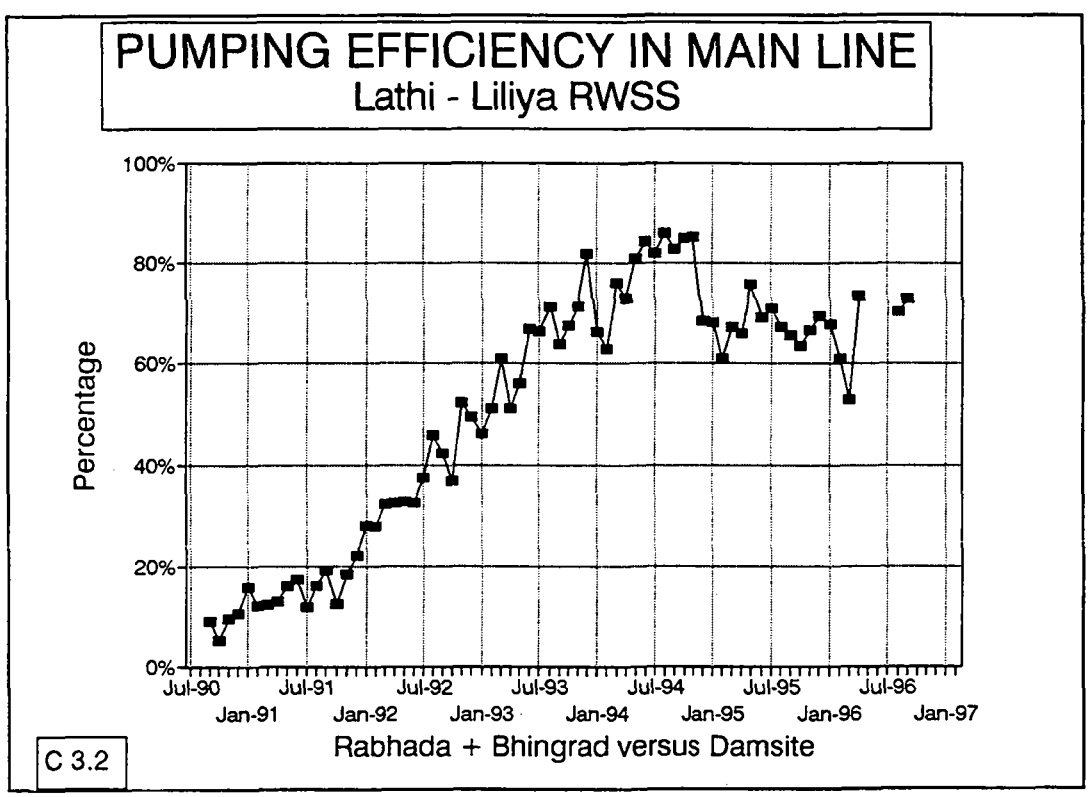
PRM/GWSSB MONITORING RWS/S SCHEMES GUJARAT		
SCHEME	:	**Lathi-Liliya RWS/S**
NAME OF GRAPH	:	**Quality Kalubhar reservoir**
SUB TITLE	:	**Nitrate and Phosphate content raw water**
NO.	:	**C 2.3.4**
UPDATED	:	**October 1996**
X AXIS	:	**Irregular time intervals Y AXIS: mg/l**
OBSERVATIONS	:	**Important variations, notably in phosphate levels, that seem to reduce after 1988. Increased levels are most likely due to fertilizer application in agriculture. Recent analysis are lacking for unknown reasons. See C 2.3.1.**



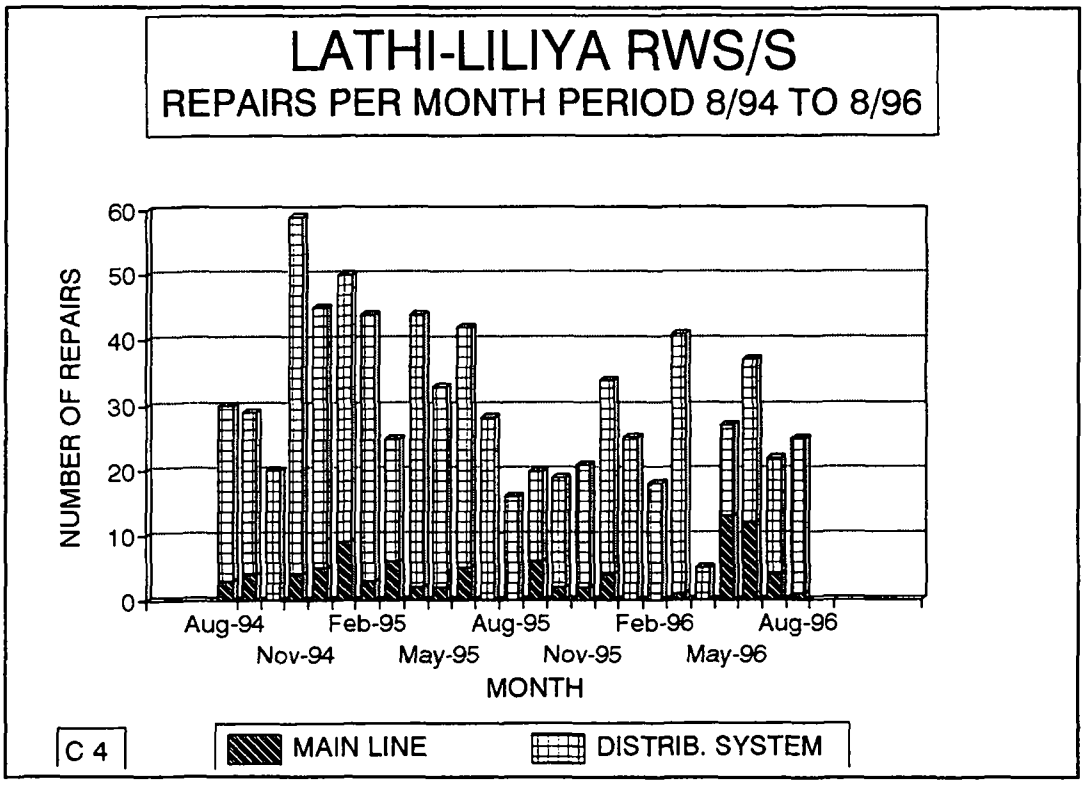
PRM/GWSSB MONITORING RWS/S SCHEMES GUJARAT		
SCHEME	:	**Lathi-Liliya RWS/S**
NAME OF GRAPH	:	**Pumped production**
SUB TITLE	:	**(Main pumping stations)**
NO.	:	**C 3.1**
UPDATED	:	**October 1996**
X AXIS	:	**Monthly production** **Y AXIS: MLD**
OBSERVATIONS	:	**The figures are calculated on the basis of the number of pumping hours. Total pumping capacity from the damsite has lately decreased.**



PRM/GWSSB MONITORING RWS/S SCHEMES GUJARAT				
SCHEME	:	**Lathi-Liliya RWS/S**		
NAME OF GRAPH	:	**Pumping efficiency**		
SUB TITLE	:	**(Rabhada + Bhingrad versus Damsite)**		
NO.	:	**C 3.2**		
UPDATED	:	**October 1996**		
X AXIS	:	**Monthly pumped quantities**	**Y AXIS:**	**Percentage**
OBSERVATIONS	:	**The efficiency of water transport through the main line has remarkebly reduced from about 85% to less than 70%.**		



PRM/GWSSB MONITORING RWS/S SCHEMES GUJARAT				
SCHEME	:	Lathi-Liliya RWS/S		
NAME OF GRAPH	:	Monthly number of repairs in scheme.		
SUB TITLE	:	Period August 1994 to July 1995		
NO.	:	C 4		
UPDATED	:	October 1996		
X AXIS	:	Months	Y AXIS:	Repairs
OBSERVATIONS	:	A large number of repairs were executed. The attention to repairs has rightly been shifted to the distribution system. On 15/8/95 13 major and 53 minor leakages were remaining.		



PRM/GWSSB MONITORING RWS/S SCHEMES GUJARAT				
SCHEME	:	**Lathi-Liliya RWS/S**		
NAME OF GRAPH	:	**Service level water distribution**		
SUB TITLE	:	**Lathi-Liliya RWS/S Scheme**		
NO.	:	**C 5**		
UPDATED	:	**October 1996**		
X AXIS	:	**Month**	**Y AXIS:**	**Percentage (Number of days with supply per *village, versus* total number of days in month)**
OBSERVATIONS	:	**Service level is varying and incidently below standard. In July 1995 the target level of 95-98% was achieved. Presently the service level is too low.**